



Knolls Zone Water Facilities Project

Draft Initial Study – Mitigated Negative Declaration

prepared by

Ventura County Waterworks District No. 8

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Simi Valley, California 93063

prepared with the assistance of

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Initial Study

1. Project Title

Knolls Zone Water Facilities Project

2. Lead Agency/Project Sponsor and Contact

Lead Agency/Project Sponsor

Ventura County Waterworks District No. 8
2929 Tapo Canyon Road
Simi Valley, California 93063

Contact Person

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3. Project Location

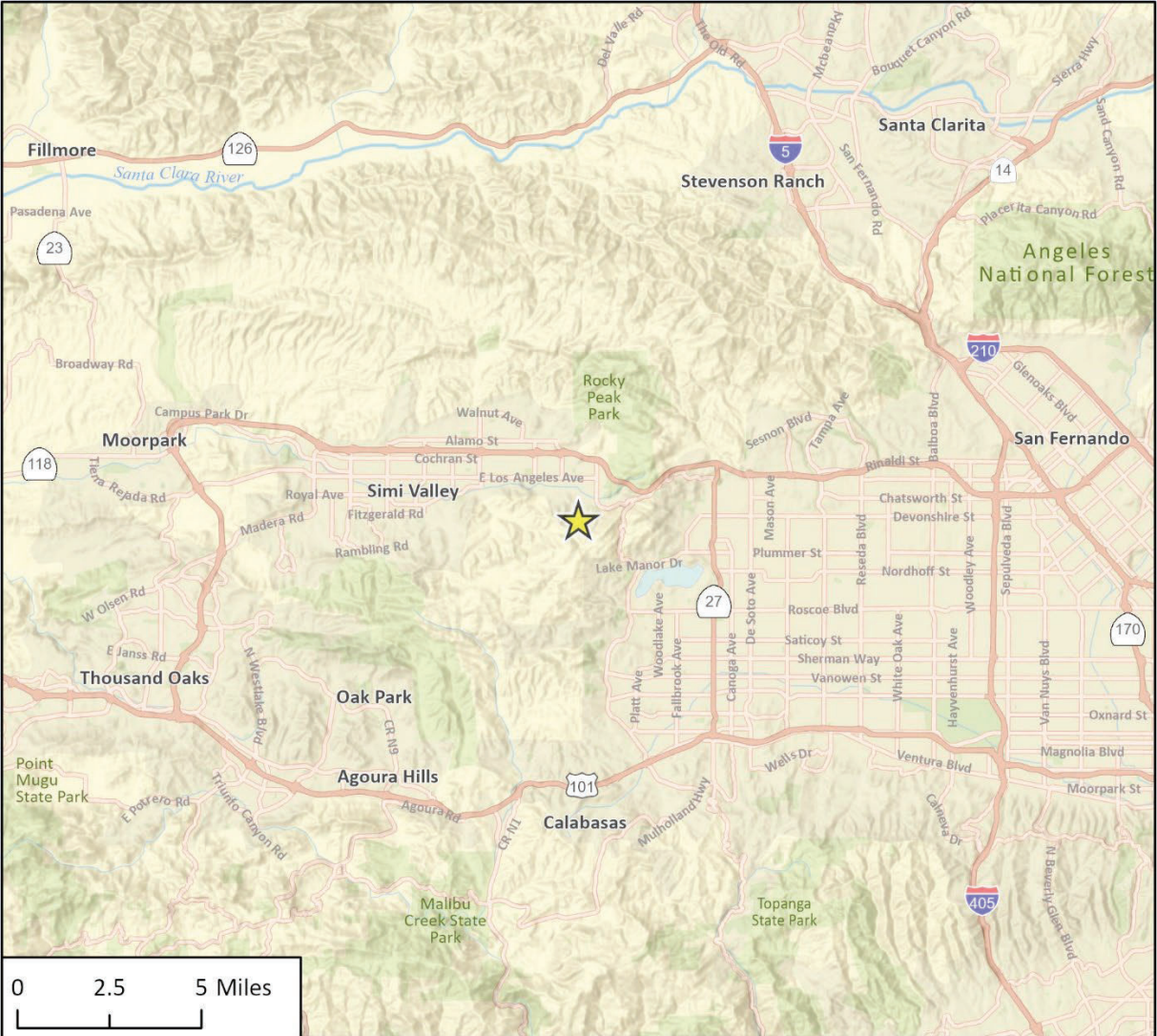
The Knolls Zone Water Facilities Project (project) is located in unincorporated Ventura County, at the southern terminus of Crown Hill Drive in the unincorporated community of Santa Susana along the southern city limits of Simi Valley. The project site encompasses portions of Assessor's Parcel Nos. (APNs) 646016207, 646016106, 646016102, and the right-of-way of Crown Hill Drive between Lyon Place and its southern terminus. The project site is located within the Simi Valley Groundwater Basin. The project site includes the existing two Alta Vista Tanks, located west of the intersection of Crown Hill Drive and Lyon Place.

Figure 1 shows the regional location of the project site, and Figure 2 and shows the project site at a local scale. Figure 3 shows photographs of the project site.

4. Surrounding Land Uses

The project site is surrounded by single family residences to the north, east, and west, and undeveloped areas to the south. A single family residence is located immediately west of the project site along Crown Hill Drive, and another is located approximately 120 feet north of the project site east of Crown Hill Drive.

Figure 1 Regional Project Location



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Fig 1 Regional Location

★ Project Location

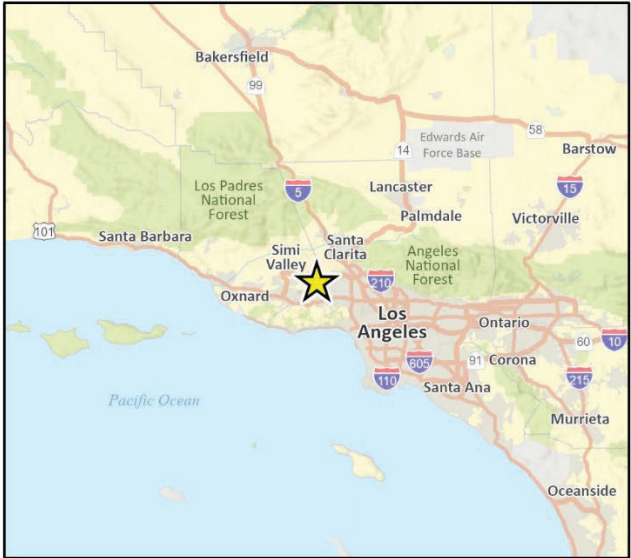
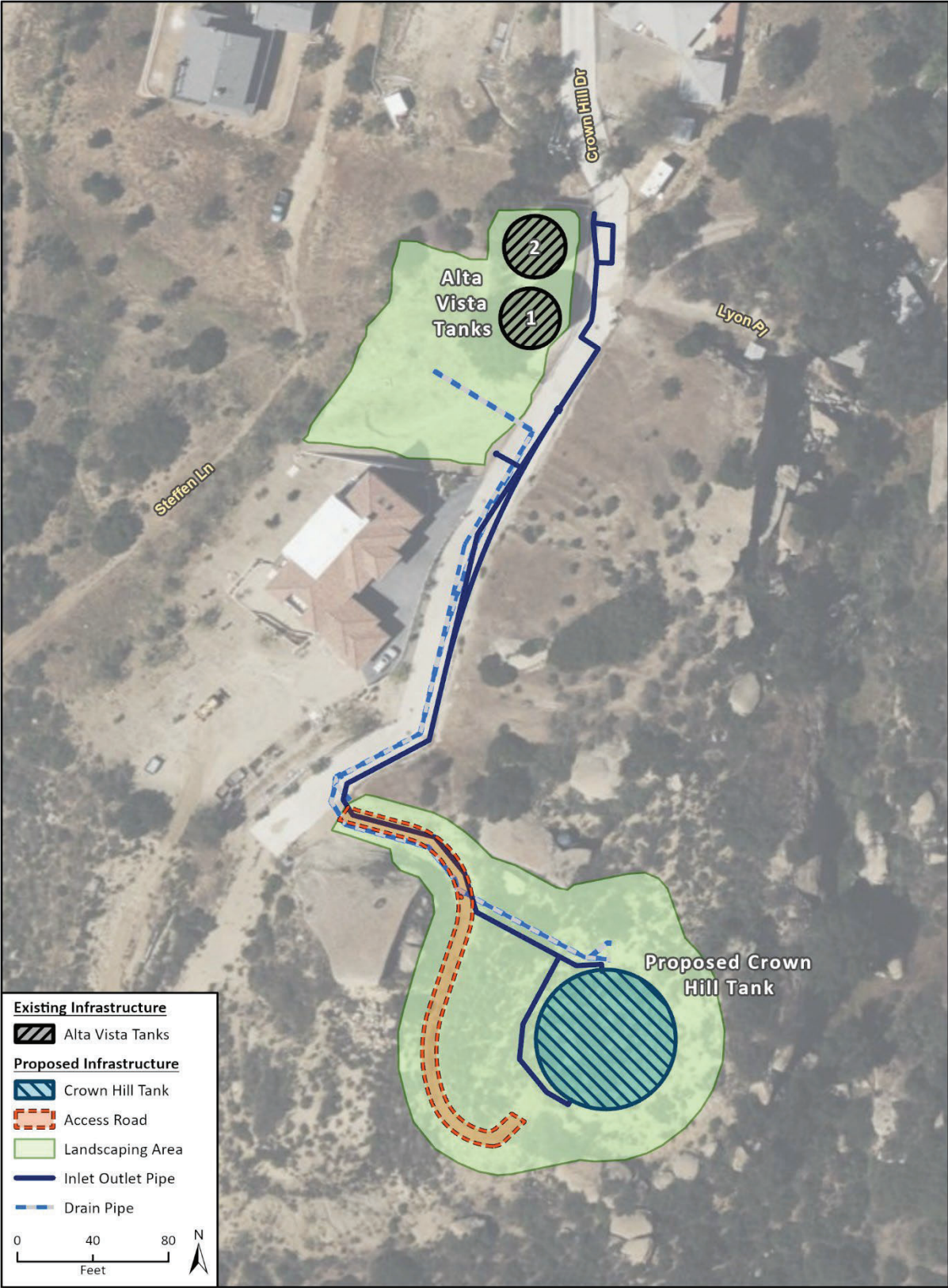
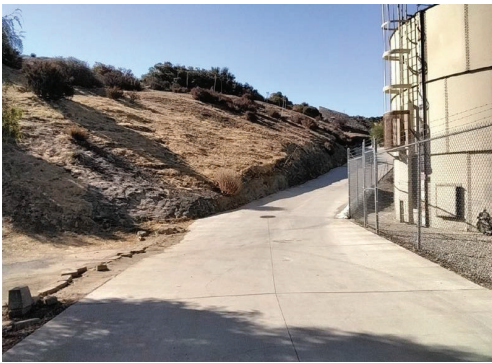


Figure 2 Project Site Location



Ventura County Waterworks District No. 8
Knolls Zone Water Facilities Project

Figure 3 Site Photographs



Photograph 1. Existing paved access road adjacent to Alta Vista Tank No. 1, facing south toward the proposed Crown Hill Tank site.



Photograph 2. Existing paved access road adjacent to Alta Vista Tank No. 1, facing north toward the Alta Vista tanks and nearby residence.



Photograph 3. Proposed Crown Hill Tank site, facing west.



Photograph 4. Proposed Crown Hill Tank site, facing north.

5. General Plan Designation

The project site is designated as Very Low Density Residential by the Ventura County 2040 General Plan, which typically allows for four dwelling units per acre. A portion of the project site would be located within the public right-of-way within Crown Hill Drive, which does not have a Ventura County 2040 General Plan designation (County of Ventura 2020).

6. Zoning

The project site is zoned Rural Exclusive with a minimum lot area of 10,000 square feet (RE-10,000). The Rural Exclusive zone is intended to provide for and maintain rural residential areas in conjunction with horticultural activities, and to provide for a limited range of services and institutional uses which are compatible with and complementary to rural residential communities. A portion of the project site would be located within the public right-of-way of Crown Hill Drive which does not have a County of Ventura zoning designation (County of Ventura Resource Management Agency 2024).

7. Description of Project

Project Background

Water services in Simi Valley and surrounding unincorporated areas are provided by two suppliers: Golden State Water Company, a private water company, and the Ventura County Waterworks District No. 8 (District), which is managed by the City of Simi Valley and governed by the Simi Valley City Council/Board of Directors. The District provides approximately 60 percent of the city's water supply via approximately 24,000 service connections, and operates 40 water storage facilities, 22 pump stations, and approximately 357 miles of water pipeline. The District primarily sources water from the Calleguas Municipal Water District, and also operates two wells in the Tapo Canyon area which supply water to the Tapo Canyon Water Treatment Plant.

The District's service area includes the western, northern, and eastern areas of the city of Simi Valley and several areas of unincorporated Ventura County beyond Simi Valley city limits, including the project site. The project site is located in the Knolls Pressure Zone, which is currently provided water via the two existing Alta Vista Tanks located along Crown Hill Drive. The Alta Vista Tanks have a total storage capacity of approximately 250,000 gallons. The District has identified a need for additional water storage in the Knolls Pressure Zone in order to increase and improve water storage capacity and to provide proper water pressure to some higher elevation lots in the Knolls Pressure Zone.

Project Description

To improve water storage capacity and to provide proper water pressure to some higher elevation lots in the Knolls Pressure Zone, the District proposes to construct a new water storage tank, the Crown Hill Tank, and associated piping and electrical infrastructure. The Crown Hill Tank would be a welded steel aboveground tank approximately 74 feet in diameter and 35 feet in height, with a storage capacity of one million gallons. In addition to the tank, the project would also include installation of a 10-inch pipeline and appurtenances to connect the Crown Hill Tank to the existing Alta Vista Tank No. 2 (the northernmost Alta Vista Tank, as shown in Figure 2), construction of an

access roadway and retaining walls, and demolition of Alta Vista Tank No. 1 (the southernmost Alta Vista Tank, as shown in Figure 2). Anticipated construction activities are discussed further below.

Construction Activities

Project construction would occur over approximately 14 months. Project construction would occur in stages and are anticipated to include the construction of Crown Hill Tank; installation of pipelines, an access roadway and retaining walls; and demolition of Alta Vista Tank No. 1. The specific construction stages and the order in which they occur would be determined by the District's construction contractor.

Construction work is anticipated to occur between 8:00 a.m. and 4:00 p.m. on Mondays through Fridays. No weekend or nighttime work is anticipated. Construction occurring on weekends, during nighttime, or outside of the hours of 8:00 a.m. and 4:00 p.m. would require special permission from the District. If construction lighting is required during construction hours, it would be shielded and downcast.

Partial or full closures of Crown Hill Drive may be required during certain stages of project construction. The District's construction contractor would coordinate closures with applicable agencies, such as the Ventura County Fire Department, the Simi Valley Police Department, and the Ventura County Sheriff's Office, and would implement traffic control measures.

The maximum depth of excavation during project construction would be approximately 10 feet. Based on the Geotechnical Report prepared for the project (Appendix A), groundwater levels at the project site are beneath the anticipated depth of excavation and it not anticipated that groundwater dewatering would be required. However, groundwater levels vary seasonally, and it is possible that groundwater would be encountered during project excavation activities. If groundwater dewatering is necessary, the construction contractor would operate a dewatering system which would lower groundwater levels to six inches below the depth of excavation. Dewatered groundwater would be discharged consistent with the waste discharge requirements of the Los Angeles Regional Water Quality Control Board for discharges of groundwater from construction and project dewatering (Order No. R4-2023-0429; General National Pollutant Discharge Elimination System [NPDES] Permit No. CAG994004).

CROWN HILL TANK CONSTRUCTION

The Crown Hill Tank would be constructed on an existing excavated pad near the southern terminus of Crown Hill Drive, approximately 500 feet south of the existing Alta Vista Tanks, within APN 646016207 (Photographs 3 and 4 in Figure 3). The proposed tank site is partially underlain by sandstone bedrock and artificial fill. To provide a foundation with uniform thickness and soil strength for the tank, the project would involve excavation and removal of the artificial fill and replacing it with soil cement. The tank site would be graded and covered with an aggregate base prior to construction of the Crown Hill Tank. The tank itself would have a stairway, roof hatches, and inlet and drain pipes installed along its exterior for operation and maintenance.

Due to the difference in elevations between the tank site elevation and surrounding areas, two retaining walls would be constructed adjacent to the tank pad. Retaining Wall 1 would be located on the southern side of the tank pad, extending from the terminus of the access roadway toward the eastern side of the tank. Retaining Wall 1 would be approximately 90 feet in length and would vary between two to five feet in height. Retaining Wall 2 would be located northwest of the tank and would generally follow the alignment of the proposed access roadway. Retaining Wall 2 would be

approximately 170 feet in length and would vary between two and five feet in height. Both retaining walls would be constructed with concrete blocks.

PIPELINE AND ACCESS ROADWAY INSTALLATION

The project would involve installation of a 10-inch welded steel inlet-outlet pipe, which would connect Alta Vista Tank No. 2. The inlet-outlet pipe would travel from Alta Vista Tank No. 2 along Crown Hill Drive and a portion of the proposed access roadway alignment. West of the Crown Hill Tank, the pipeline would fork into two separate inlet and outlet pipelines; the inlet pipeline would connect to the northern side of the Crown Hill Tank and the outlet pipeline would connect to the southern side. The common inlet-outlet pipe would be used to both fill and empty the Crown Hill Tank. The project would also involve installation of an 8-inch drainpipe, which would follow a similar alignment to the inlet-outlet pipe. Pipelines would be installed via open-cut excavation.

Upon completion of pipeline installation, the project would involve construction of an access roadway from the terminus of Crown Hill Drive to the tank site, as shown in Figure 2. Soil within the proposed access roadway alignment would be excavated to a depth of approximately 12 inches to expose bedrock prior to installation of the concrete roadway. Curbs and gutters would be constructed on either side of the roadway. A gate, approximately eight feet in height and 13 feet wide, would be constructed at the terminus of the access roadway to prevent public access to the tank site.

ALTA VISTA TANK NO. 1 DEMOLITION

Water storage in Alta Vista Tank No. 1 would no longer be required once the Crown Hill Tank is operational. The District may demolish Alta Vista Tank No. 1 to provide space for additional future facilities at the Alta Vista Tank site. To provide a conservative analysis, it is assumed that demolition of Alta Vista Tank No. 1 would occur as part of the project.

LANDSCAPING

Demolition of Alta Vista Tank No. 1 would require the removal of up to 10 trees. Three trees, as well as several shrubs, would be planted to the north and west of the Alta Vista Tank No. 1 site to visually screen the tank site from surrounding residences. At the proposed Crown Hill Tank site, approximately 50 percent of existing vegetation within 10 feet of the access roadway and tank pad would be removed. Four trees and several shrubs would be planted in the area west of the proposed tank and east of the access roadway to visually screen the tank from surrounding residences.

Post-Construction Testing and Disinfection

After completion of construction, the District would test and disinfect the Crown Hill Tank, pipelines, and appurtenances with chlorinated water prior to operation. Once testing and disinfection is complete, the chlorinated water would be treated to neutralize residual chlorine and would either be discharged via the proposed drainpipe or into the City's sewer system. Either discharge method would require approval from the District.

Operation and Maintenance

Once the Crown Hill Tank is operational, water would be pumped to the tank via the Oak Knolls Pump Station, a pump station operated by the District that is being improved under a separate project. The Oak Knolls Pump Station would pump existing water supplies to the Crown Hill Tank. Water would

flow down the inlet-outlet pipe via gravity to fill Alta Vista Tank No. 2; once full, water would fill the Crown Hill Tank.

Electricity would be provided to the project site via existing Southern California Edison (SCE) utility infrastructure. The project would include a small emergency generator (anticipated to be approximately 20 kilowatts/less than 50 horsepower), which would be used to power radios, tank valves, and motor-operated gates in the event of a power outage.

The project would include exterior lighting. Four light poles, located in the northwest, northeast, southwest, and southeast portions of the tank site, would provide exterior lighting. Light poles would be approximately 23 feet tall. Lighting would be downcast to focus light within the tank site.

Maintenance activities are anticipated to occur approximately every five years. If maintenance activities require flushing of the tank and/or pipelines, water would be discharged via the proposed drain. *Instruction Testing and Disinfection.* The project's anticipated lifetime is approximately 50 years.

8. Other Public Agencies Whose Approval is Required

The Ventura County Waterworks District No. 8 is the lead agency for this project.

The project may also require approval from the California State Water Resources Control Board, Division of Drinking Water.

Environmental Factors Potentially Affected

This project would potentially affect the environmental factors checked below, involving at least one impact that is “Potentially Significant” or “Less than Significant with Mitigation Incorporated” as indicated by the checklist on the following pages.

- | | | |
|--|---|--|
| ☐ Aesthetics | ☐ Agriculture and Forestry Resources | ☒ Air Quality |
| ☒ Biological Resources | ☒ Cultural Resources | ☐ Energy |
| ☒ Geology and Soils | ☐ Greenhouse Gas Emissions | ☐ Hazards and Hazardous Materials |
| ☐ Hydrology and Water Quality | ☐ Land Use and Planning | ☐ Mineral Resources |
| ☒ Noise | ☐ Population and Housing | ☐ Public Services |
| ☐ Recreation | ☐ Transportation | ☒ Tribal Cultural Resources |
| ☐ Utilities and Service Systems | ☐ Wildfire | ☒ Mandatory Findings of Significance |

Determination

Based on this initial evaluation:

- ☐ I find that the proposed project COULD NOT have a significant effect on the environment, and a NEGATIVE DECLARATION will be prepared.
- ☒ I find that although the proposed project could have a significant effect on the environment, there will not be a significant effect in this case because revisions to the project have been made by or agreed to by the project proponent. A MITIGATED NEGATIVE DECLARATION will be prepared.
- ☐ I find that the proposed project MAY have a significant effect on the environment, and an ENVIRONMENTAL IMPACT REPORT is required.
- ☐ I find that the proposed project MAY have a “potentially significant impact” or “less than significant with mitigation incorporated” impact on the environment, but at least one effect (1) has been adequately analyzed in an earlier document pursuant to applicable legal standards, and (2) has been addressed by mitigation measures based on the earlier analysis as described on attached sheets. An ENVIRONMENTAL IMPACT REPORT is required, but it must analyze only the effects that remain to be addressed.

- ☐ I find that although the proposed project could have a significant effect on the environment, because all potential significant effects (a) have been analyzed adequately in an earlier EIR or NEGATIVE DECLARATION pursuant to applicable standards, and (b) have been avoided or mitigated pursuant to that earlier EIR or NEGATIVE DECLARATION, including revisions or mitigation measures that are imposed upon the proposed project, nothing further is required.

Michel Kadah

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E=mkadah@simivalley.org,
O=City of Simi Valley, OU=PW,
CN=Michel Kadah
Date: 2025.10.15 15:26:43-07'00'

10/15/2025

Signature

Date

Michel Kadah

Principal Engineer

Printed Name

Title

Environmental Checklist

1 Aesthetics

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
Except as provided in Public Resources Code Section 21099, would the project:				
a. Have a substantial adverse effect on a scenic vista?	☐	☐	☐	☒
b. Substantially damage scenic resources, including but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?	☐	☐	☐	☒
c. In non-urbanized areas, substantially degrade the existing visual character or quality of public views of the site and its surroundings? (Public views are those that are experienced from a publicly accessible vantage point). If the project is in an urbanized area, would the project conflict with applicable zoning and other regulations governing scenic quality?	☐	☐	☒	☐
d. Create a new source of substantial light or glare that would adversely affect daytime or nighttime views in the area?	☐	☐	☒	☐

a. *Would the project have a substantial adverse effect on a scenic vista?*

The City of Simi Valley General Plan Environmental Impact Report (EIR) defines scenic resources and viewsheds, and establishes areas of scenic resources and locations of viewsheds. "Scenic resources" can include natural open spaces, topographic formations, and landscapes, as well as urban open spaces and the built environment. A "viewshed" is typically the range of vision in which scenic resources may be observed (City of Simi Valley 2012a). Figure 4.1-1 of the General Plan EIR identifies visual resources. The nearest visual resources to the project site includes deciduous woodlands and evergreen woodlands west of Black Canyon Road, approximately 0.2 mile west of the project site.

The project would involve construction of a new water storage tank and associated piping and electrical infrastructure. During construction, equipment and construction worker vehicles would be staged on site and would be visible from surrounding public roadways and pathways. However, construction and equipment staging would be temporary, and views of open space and hillsides would return to their existing conditions once construction is completed. In addition, the project site is not located within an identified scenic resource area and would not result in adverse effects to scenic

resources. In operation, the project site generally would not be visible from surrounding publicly-accessible areas due to intervening trees and topography. The project would also include planting trees and shrubs alongside the tank sites to visually screen the project site from surrounding areas. Therefore, the project would not affect the view from a scenic vista and no impact to scenic vistas would occur.

NO IMPACT

- b. Would the project substantially damage scenic resources, including but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?*

The nearest officially designated state scenic highway is State Route (SR) 118, which is located approximately 1.6 miles west of the project site (California Department of Transportation [Caltrans] 2019). The project site is not visible from SR 118 due to distance and intervening development and topography. Furthermore, there are no scenic resources within the project site. Therefore, the project would result in no impacts related to scenic resources within a state scenic highway.

NO IMPACT

- c. Would the project, in non-urbanized areas, substantially degrade the existing visual character or quality of public views of the site and its surroundings? (Public views are those that are experienced from a publicly accessible vantage point). If the project is in an urbanized area, would the project conflict with applicable zoning and other regulations governing scenic quality?*

The project site is within the City of Simi Valley, which is an urbanized area. There are policies in the Simi Valley General Plan and standards within Simi Valley Municipal Code (SVMC) that pertain to scenic quality. Specifically, General Plan Policy LU-4.2 requires development to integrate natural scenic features, such as mature trees, rock outcroppings, watercourses, and views into project design, except where infeasible for public safety (City of Simi Valley 2012b). Additionally, Municipal Code Chapter 9-24.020 outlines standards for Residential and Open Space zones in Simi Valley that intend to provide a range of housing types that are affordable and attractive, in well-designed residential neighborhood and maintain community open space resources for purposes ranging from conservation, to preserving community land use options.

The project involves construction of a welded steel, aboveground water storage tank and associated piping and electrical infrastructure. During construction, equipment and construction worker vehicles would be staged on site and would be visible from surrounding public roadways and pathways. However, construction and equipment staging would be temporary, and views of the surrounding area would return to their existing conditions once construction is completed. In addition, the project would not involve the removal of trees or rock outcroppings, and would not interrupt views of scenic resources as the project site would not be publicly accessible. The project would include planting trees and shrubs alongside the tank sites to visually screen the project site from surrounding areas. Accordingly, the project would not conflict with General Plan Policy LU-4.2.

The project would improve water storage capabilities and would provide proper water pressure to some higher elevation lots in the Knolls Pressure Zone. The project would not impact community open space resources, and, thus, would be consistent with Municipal Code Chapter 9-24. Therefore, the project would result in a less-than-significant impact related to conflict with applicable zoning and other regulations governing scenic quality.

LESS THAN SIGNIFICANT IMPACT

- d. *Would the project create a new source of substantial light or glare that would adversely affect daytime or nighttime views in the area?*

Existing sources of light in the vicinity of the project site include lights from nearby residences, vehicle headlights, and glare associated with windows and vehicles. During construction, equipment and construction worker vehicles would be staged on site and would be visible from surrounding public roadways and pathways. Construction equipment would create a new source of light from vehicle headlights and glare from windshields and materials, and would affect daytime views in the area. However, these new sources of light and glare would be temporary and limited to the construction period (approximately 14 months), and views of the project area would return to existing conditions once construction is complete. Construction would occur between 8:00 a.m. and 4:00 p.m. and no nighttime construction is anticipated; accordingly, project construction activities would not adversely affect nighttime views in the area. If construction lighting is required during construction hours, it would be shielded and downcast. Therefore, project construction would not create a new source of substantial light or glare that would adversely affect daytime or nighttime views in the area.

The project would include exterior lighting during project operations. Four light poles, located in the northwest, northeast, southwest, and southeast portions of the tank site and each light pole would be approximately 23 feet tall. Exterior lighting would not adversely affect daytime views in the area, and lighting would only be turned on at night during emergency repair work. If nighttime emergency repair work is needed, lighting would be downcast to focus light within the tank site and minimally spill into nearby residential properties. Therefore, the project would result in a less-than-significant impact related to creation of new sources of light or glare affecting nighttime and daytime views in the area.

LESS THAN SIGNIFICANT IMPACT

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2 Agriculture and Forestry Resources

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
Would the project:				
a. Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?	☐	☐	☐	☒
b. Conflict with existing zoning for agricultural use or a Williamson Act contract?	☐	☐	☐	☒
c. Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code Section 12220(g)); timberland (as defined by Public Resources Code Section 4526); or timberland zoned Timberland Production (as defined by Government Code Section 51104(g))?	☐	☐	☐	☒
d. Result in the loss of forest land or conversion of forest land to non-forest use?	☐	☐	☐	☒
e. Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland to non-agricultural use or conversion of forest land to non-forest use?	☐	☐	☐	☒

- a. *Would the project convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?*
- b. *Would the project conflict with existing zoning for agricultural use or a Williamson Act contract?*
- c. *Would the project conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code Section 12220(g)); timberland (as defined by Public Resources Code Section 4526); or timberland zoned Timberland Production (as defined by Government Code Section 51104(g))?*
- d. *Would the project result in the loss of forest land or conversion of forest land to non-forest use?*

- e. *Would the project involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland to non-agricultural use or conversion of forest land to non-forest use?*

The project site is designated as Urban and Built-Up Land and is not located on or near mapped Farmland (California Department of Conservation 2022) and is not designated or zoned for agricultural use. The project site is not enrolled in a Williamson Act contract (California Department of Conservation 2023). Furthermore, the project would not convert important farmland to non-agricultural use or conflict with existing zoning, no impact to agricultural resources would occur.

The project site and surrounding area is not designated or zoned as forest land, timberland, or timberland zoned Timberland Production. Implementation of the project would not convert any forest land to non-forest use, nor would it conflict with existing zoning for such lands. No impact would occur.

The project would not involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland to non-agricultural use or conversion of forest land to non-forest use. No impact would occur.

NO IMPACT

3 Air Quality

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
Would the project:				
a. Conflict with or obstruct implementation of the applicable air quality plan?	☐	☐	☐	☒
b. Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard?	☐	☒	☐	☐
c. Expose sensitive receptors to substantial pollutant concentrations?	☐	☒	☐	☐
d. Result in other emissions (such as those leading to odors) adversely affecting a substantial number of people?	☐	☐	☐	☒

The California Clean Air Act requires that air districts create a Clean Air Plan that describes how the jurisdiction will meet air quality standards. The federal Clean Air Act (CAA) and State of California CAA mandate the control and reduction of certain air pollutants. These laws are administered by the United States Environmental Protection Agency (USEPA) and the California Air Resources Board (CARB), respectively, which have established the National Ambient Air Quality Standards (NAAQS) and the California Ambient Air Quality Standards (CAAQS) for “criteria pollutants” and other pollutants. Some pollutants are emitted directly from a source (e.g., vehicle tailpipe, an exhaust stack of a factory, etc.) into the atmosphere, including carbon monoxide, volatile organic compounds (VOCs) and reactive organic gases (ROG)¹, nitrogen oxide (NO_x), particulate matter (PM) with diameter of ten microns or less (PM₁₀) and 2.5 microns or less (PM_{2.5}), sulfur dioxide, and lead. Other pollutants are created indirectly through chemical reactions in the atmosphere, such as ozone, which is created by atmospheric chemical and photochemical reactions primarily between VOC and NO_x. Secondary pollutants include oxidants and ozone, as well as sulfate and nitrate particulates (smog).

Air pollutant emissions are generated by stationary and mobile sources. Stationary sources can be divided into two major subcategories:

- Point sources occur at a specific location and are often identified by an exhaust vent or stack. Examples include boilers or combustion equipment that produce electricity or generate heat.

¹ CARB defines VOC and ROG similarly as, “any compound of carbon excluding carbon monoxide, carbon dioxide, carbonic acid, metallic carbides or carbonates, and ammonium carbonate,” with the exception that VOC are compounds that participate in atmospheric photochemical reactions. For the purposes of this analysis, ROG and VOC are considered comparable in terms of mass emissions, and the term ROG is used in this IS-MND.

- Area sources are widely distributed and include such sources as residential and commercial water heaters, painting operations, lawn mowers, agricultural fields, landfills, and some consumer products.

Mobile sources refer to emissions from motor vehicles, including tailpipe and evaporative emissions, and can also be divided into two major subcategories:

- On-road sources that may be legally operated on roadways and highways.
- Off-road sources include aircraft, ships, trains, and self-propelled construction equipment.

Air pollutants can also be generated by the natural environment, such as when high winds suspend fine dust particles.

a. Would the project conflict with or obstruct implementation of the applicable air quality plan?

According to the Ventura County Air Pollution Control District's (VCAPCD's) Guidelines, a project may be inconsistent with the applicable air quality plan if it would cause the existing population to exceed forecasts contained in the most recently adopted Air Quality Management Plan (AQMP). The VCAPCD adopted the 2022 Ventura County Air Quality Management Plan (AQMP) to demonstrate a strategy for, and reasonable progress toward, attainment of the federal 8-hour ozone standard. The 2022 Ventura County AQMP relies on the Southern California Association of Governments (SCAG) 2020 Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS) forecasts of regional population growth in its AQMP population projections.

According to SCAG, Ventura County's population in 2020 was 887,000 with projected growth of 29,000 persons to 906,000 by 2030. Employment in 2020 was 348,000 with projected growth of 21,000 employees by 2030 to 369,000 (SCAG 2020).

The project includes the construction and operation of a water tank and ancillary facilities, and would not result in either additional residents or new full-time employees. Therefore, the project would not result in the County exceeding forecasts used in the 2020 RTP/SCS and no impact would occur.

NO IMPACT

b. Would the project result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard?

Criteria pollutants include some pollutants that are emitted directly from a source (e.g., vehicle tailpipe, an exhaust stack of a factory, etc.) into the atmosphere, including carbon monoxide, ROG, NO_x, PM₁₀ and PM_{2.5}, sulfur dioxide, and lead. Other air pollutants are created indirectly through chemical reactions in the atmosphere, such as ozone, which is created by atmospheric chemical and photochemical reactions primarily between ROG and NO_x. Secondary pollutants include oxidants, ozone, and sulfate and nitrate particulates (i.e., smog).

VCAPCD is the designated air quality control agency in the South Central Coast Air Basin (Basin), which is designated nonattainment for the 8-hour federal and State ozone standard, federal hourly ozone standard and State PM₁₀ standards (CARB 2024a; CARB 2024b). The Basin is designated unclassifiable or in attainment for all other federal and State standards (CARB 2024b; USEPA 2022).

Construction Impacts

Construction activities associated with development of the project would temporarily generate emissions associated with equipment and fugitive dust. Construction emissions modeled include emissions generated by construction equipment used on the site and emissions generated by vehicle trips associated with construction, such as worker and vendor trips. It is assumed all construction equipment used would be diesel-powered. ROG generated primarily during architectural coating phases of project construction.

Estimated maximum daily ROG, NO_x, CO, SO₂, PM₁₀, and PM_{2.5} construction emissions are shown in Table 1. The VCAPCD's 25 pounds per day thresholds for ROG and NO_x do not apply to construction emissions because such emissions are temporary; however, VCAPCD requires that ROG and NO_x emissions should be mitigated if estimated emissions from heavy-duty construction equipment exceed the 25 pounds per day threshold. Table 1 shows NO_x emissions would exceed the 25 pounds per day threshold during construction, without mitigation. Therefore, construction-related emissions would be potentially significant without mitigation. Mitigation Measure AQ-1 would be required to reduce construction impacts.

Table 1 Project Average Daily Construction Emissions (lbs/day)

Construction Year	Maximum Emissions (lbs/day)					
	ROG	NO _x	CO	SO ₂	PM ₁₀	PM _{2.5}
2025	3	29	29	<1	5	2
2026	1	5	9	<1	1	<1
Maximum Daily Construction Emissions	3	29	29	<1	5	2
VCAPCD Regional Thresholds	25	25	N/A	N/A	N/A	N/A
Threshold Exceeded?	No	Yes	N/A	N/A	N/A	N/A

lbs/day = pounds per day; ROG = reactive organic gases; NO_x = nitrogen oxide; CO = carbon monoxide; PM₁₀ = particulate matter with a diameter no more than 10 microns; PM_{2.5} = particulate matter with a diameter no more than 2.5 microns; SO_x = sulfur oxide

Notes: All emissions modeling was completed using CalEEMod. See Appendix B for modeling results. Some numbers may not add up due to rounding. Emission data is pulled from "mitigated" results, which account for compliance with regulatory compliance measures. Emissions presented are the highest of the winter and summer modeled emissions. Maximum daily construction emissions are the highest total emissions from a construction phase or overlapping construction phases. Emissions from overlapping construction phases are added together.

Operational Impacts

Operational emissions are comprised of area source emissions, energy emissions, and mobile source emissions. Area source emissions are generated by consumer products such as solvents and propellants contained in aerosol and non-aerosol products and architectural coating. Emissions attributed to energy use include electricity consumption for pumping water. Mobile source emissions are generated by the increase in motor vehicle trips to and from the project site associated with the periodic maintenance and testing of the generator (typically monthly) and maintenance and cleaning of the tank itself (every five years).

Table 2 summarizes the project's operational emissions by emission source. Project operation would not exceed the VCAPCD 25 pounds per day emission thresholds for ROG and NO_x. Therefore, operation of the project would not contribute substantially to an existing or projected air quality violation. In addition, because criteria pollutant emissions and regional thresholds are cumulative in nature, the project would not result in a cumulatively considerable net increase of criteria pollutants. Operational impacts would be less than significant.

Table 2 Project Maximum Daily Operational Period Emissions

Emission Source	Maximum Daily Emissions (lbs./day)					
	ROG	NO _x	CO	SO ₂	PM ₁₀	PM _{2.5}
Area	<1	<1	<1	<1	<1	<1
Energy	0	0	0	0	0	0
Mobile	<1	<1	2	<1	<1	<1
Stationary Source	<1	<1	<1	<1	<1	<1
Total Project Emissions	<1	<1	2	<1	<1	<1
VCAPCD Regional Thresholds	25	25	N/A	N/A	N/A	N/A
Threshold Exceeded?	No	No	N/A	N/A	N/A	N/A

lbs/day = pounds per day; ROG = reactive organic gases; NO_x = nitrogen oxide; CO = carbon monoxide; PM₁₀ = particulate matter with a diameter no more than 10 microns; PM_{2.5} = particulate matter with a diameter no more than 2.5 microns; SO₂ = sulfur dioxide.

Notes: Area, energy, and mobile emissions modeling was completed using CalEEMod; see Appendix B for modeling results. Some numbers may not add up due to rounding. Emission data is pulled from “mitigated” results that include compliance with regulatory compliance measures. Emissions presented are the highest of the winter and summer modeled emissions.

Mitigation Measure

AQ-1 Construction Emissions Reduction

Prior to the issuance of grading permits, the following measures shall be noted on all construction plans. These requirements shall be incorporated into the contract agreement with the construction contractor. A copy of the equipment’s certification or model year specifications shall be available upon request for all equipment on-site.

- All mobile off-road equipment (wheeled or tracked) greater than 50 horsepower used during construction activities shall meet the U.S. EPA Tier 4 interim standards. Tier 4 certification can be for the original equipment or equipment that is retrofitted to meet the Tier 4 interim standards.
- Alternative fuel (natural gas, propane, electric, etc.) construction equipment shall be incorporated for all vehicles less than 50 horsepower, and for equipment greater than 50 horsepower where available.
- Electricity shall be supplied to the site from the existing power grid to support the electric construction equipment. If connection to the grid is determined to be infeasible for portions of the project, a non-diesel fueled generator shall be used.
- The project shall be required to comply with the CARB Air Toxics Control Measure that limits diesel powered equipment and vehicle idling to no more than five minutes at a location, and the CARB In-Use Off-Road Diesel Vehicle Regulation; compliance with these would minimize emissions of TACs during construction.

With incorporation of Mitigation Measure AQ-1, the construction contractor would be required to use off-road diesel-powered construction equipment that meets or exceeds the most stringent and environmentally protective CARB and USEPA Tier 4 off-road emissions standards, or alternatively fueled equipment which would substantially reduce criteria pollutant emissions. As shown in Table 3 NO_x emissions would not exceed the 25 lbs/day threshold for any construction phase with implementation of Mitigation Measure AQ-1. Impacts would be reduced to a less than significant level.

Table 3 Mitigated Project Construction Emissions

Construction Phase	Maximum Emissions (lbs/day)					
	ROG	NO _x	CO	SO ₂	PM ₁₀	PM _{2.5}
2025	1	9	33	<1	4	2
2026	<1	1	10	<1	1	<1
Maximum Daily Construction Emissions	1	9	32	<1	4	2
VCAPCD Regional Thresholds	25	25	N/A	N/A	N/A	N/A
Threshold Exceeded?	No	No	N/A	N/A	N/A	N/A

lbs/day = pounds per day; ROG = reactive organic gases; NO_x = nitrogen oxide; CO = carbon monoxide; PM₁₀ = particulate matter with a diameter no more than 10 microns; PM_{2.5} = particulate matter with a diameter no more than 2.5 microns; SO_x = sulfur oxide

Notes: All emissions modeling was completed using CalEEMod. See Appendix B for modeling results. Some numbers may not add up due to rounding. Emission data is pulled from “mitigated” results, which account for compliance with regulatory compliance measures. Emissions presented are the highest of the winter and summer modeled emissions. Maximum daily construction emissions are the highest total emissions from a construction phase or overlapping construction phases. Emissions from overlapping construction phases are added together.

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c. *Would the project expose sensitive receptors to substantial pollutant concentrations?*

Sensitive receptors are members of the population that are particularly sensitive to the effects of air pollutants, such as children, the elderly, and people with illnesses. The closest sensitive receptors are single-family located approximately 25 feet north of the project site during the installation of the pipeline. The VCAPCD states that localized air quality impacts to sensitive receptors typically result from fugitive dust, CO, toxic air contaminants, and entrained fungal spores that cause Valley Fever (VCAPCD 2003). The project’s impacts related to each of these pollutants is detailed below.

Fugitive Dust

The VCAPCD recommends that the fugitive dust control measures described in Section 7.4.1 of the *Air Quality Assessment Guidelines* be implemented as part of all project-related dust-generating operations and activities (VCAPCD 2003). These measures address both PM₁₀ and PM_{2.5} emissions from construction activities. Further, the project would be subject to the following rules associated with fugitive dust emissions.

- **Rule 50 (Opacity).** This rule sets opacity standards on the discharge from sources of air contaminants. This rule would apply during construction of the project.
- **Rule 51 (Nuisance).** This rule prohibits any person from discharging air contaminants or any other material from a source that would cause injury, detriment, nuisance, or annoyance to any considerable number of persons or the public or which endangers the comfort, health, safety, or repose to any considerable number of persons or the public. The rule would apply during construction and operational activities.
- **Rule 55 (Fugitive Dust).** This rule requires fugitive dust generators, including construction and demolition projects, to implement control measures limiting the amount of dust from vehicle track-out, earth moving, bulk material handling, and truck hauling activities. The rule would apply during construction activities.

- **Rule 55.1 (Paved Roads and Unpaved Roads).** This rule requires fugitive dust generators to begin the removal of visible roadway accumulation within 72 hours of any written notification from the VCAPCD. The use of blowers is expressly prohibited under any circumstances. This rule also requires controls to limit the amount of dust from any construction activity or any earthmoving activity on a public unpaved road. This rule would apply during construction activities.
- **Rule 55.2 (Street Sweeping Equipment).** This rule requires the use of PM₁₀-efficient street sweepers for routine street sweeping and for removing vehicle track-out pursuant to Rule 55. This rule would apply during construction activities.

The project would be required to implement all appropriate fugitive dust control measures through compliance with the above VCAPCD rules. Therefore, project construction would not expose sensitive receptors to substantial pollutant concentrations and impacts would be less than significant.

Carbon Monoxide

The VCAPCD has not established quantitative thresholds for CO for either construction or operation. However, the VCAPCD states a CO hotspot screening analysis should be conducted for any project with indirect CO emissions greater than the applicable ozone project significance thresholds (i.e., 25 pounds per day) that may significantly impact roadway intersections currently operating at, or that are expected to operate at a Level of Service (LOS) of E or F.

Areas with high vehicle density, such as congested intersections, have the potential to create high concentrations of CO, known as CO hotspots. A project's localized air quality impact is considered significant if CO emissions create a hotspot where either the California one-hour standard of 20 parts per million or the federal and State eight-hour standard of 9.0 parts per million is exceeded. This typically occurs at severely congested intersections (LOS E or worse).

As shown in Table 2, operational CO emissions would not be greater than 25 pounds per day. As shown in Table 3, CO emissions would exceed the 25 pounds per day; however, the project would not have daily traffic that would substantially impact any roadway. Traffic is anticipated to one or two trips per month for general inspection and testing/maintenance of the emergency generator. Maintenance of the project would occur approximately every five years and is estimated at 20 or less vehicle trips per day during this limited time.

Existing CO levels in Ventura County have been historically low enough that VCAPCD monitoring stations throughout Ventura County ceased monitoring ambient CO concentrations in March and July 2004. Because ambient CO concentrations in Ventura County are relatively low, and because the project would not result in a substantial addition of traffic or congestion to any area intersection (especially not any high-volume or already-congested intersection), the project would not be expected to result in a CO hotspot. Impacts would be less than significant.

Toxic Air Contaminants

Construction-related activities would result in temporary project-generated emissions of diesel particulate matter (DPM) exhaust emissions from off-road, heavy-duty diesel equipment for demolition, site preparation, trenching, infrastructure installation, paving, and other construction activities. DPM was identified as a toxic air contaminant (TAC) by CARB in 1998 (CARB 2022a).

Generation of DPM from construction projects typically occurs in a single area for a short period of time. Construction of the project would occur in phases over approximately 14 months. The dose to which the receptors are exposed is the primary factor used to determine health risk. Dose is a function

of the concentration of a substance or substances in the environment and the extent of exposure that person has with the substance. Dose is positively correlated with time, meaning that a longer exposure period would result in a higher exposure level for the maximally exposed individual. The risks estimated for a Maximally Exposed Individual are higher if a fixed exposure occurs over a longer period of time. However, young children are more sensitive to exposure to some carcinogens than adults. Therefore, the California Office of Environmental Health Hazard Assessment has implemented age sensitivity factors that take into account the increased sensitivity of children during early development stages (i.e. 3rd trimester exposure to 16 years). Given the age sensitivity factors, exposure at a young age to even short term projects have the potential to result in substantial risk exposure.

The maximum daily PM₁₀ emissions would range from less than 0.19 to 1.11 pounds per day of exhaust (assumed to be DPM), with the maximum emissions occurring during grading activities. The project would be consistent with the applicable AQMP requirements and control strategies intended to reduce emissions from construction equipment and activities. The project would comply with the CARB Air Toxics Control Measure that limits diesel powered equipment and vehicle idling to no more than five minutes at a location, and the CARB In-Use Off-Road Diesel Vehicle Regulation; compliance with these requirements would minimize emissions of TACs during construction. Given the pounds per day of PM₁₀ exhaust, and the close sensitive receptors, there is the potential for construction of the project to result in a significant TAC impact without mitigation.

According to VCAPCD's *Air Quality Assessment Guidelines* (2003) and CARB's *Air Quality and Land Use Handbook: A Community Health Perspective* (2005), typical sources of acutely and chronically hazardous TACs include industrial manufacturing processes (e.g., chrome plating, electrical manufacturing, and petroleum refining). Operation of the project would not include these types of potential industrial manufacturing process sources. The project does include the implementation of an emergency generator, but this would need to be permitted through the VCAPCD and therefore would not result in emissions that would result in potential significant health risks. Therefore, impacts from TACs during operation would be less than significant.

San Joaquin Valley Fever

Construction activities, including site preparation and grading, would have the potential to release *Coccidioides immitis* spores. However, the population of Simi Valley has been and will continue to be exposed to Valley Fever from agricultural and construction activities occurring throughout the region, not just from construction of the project. In addition, substantial increases in the number of reported cases of Valley Fever tend to occur only after major ground-disturbing events such as the 1994 Northridge earthquake (VCAPCD 2003). Construction of the project would not result in a comparable major ground disturbance, and because of compliance with VCAPCD Rule 55 (Fugitive Dust), the project would not release a large number of spores. As discussed under Air Pollutant Emission Thresholds, the VCAPCD does not have a recommended threshold for Valley Fever Impacts, but instead recommends consideration of the following factors that may indicate a project's potential to result in significant impacts related to Valley Fever:

- Disturbance of the topsoil of undeveloped land (to a depth of about 12 inches)
- Dry, alkaline, sandy soils
- Virgin, undisturbed, non-urban areas
- Windy areas
- Archaeological resources probable or known to exist in the area (Native American midden sites)

- Special events (fairs, concerts) and motorized activities (motocross track, All Terrain Vehicle activities) on unvegetated soil (non-grass)
- Non-native population (i.e., out-of-area construction workers)

The project would involve grading of previously undisturbed soils on the edge of a rural residential area. Due to the relatively small size of the project, it is anticipated that construction workers would be from the local or regional area and would therefore have previous exposure to and immunity from Valley Fever. However, with disturbance of previously undisturbed areas, construction of the project would have the potential to result in a substantial increase in entrained fungal spores that cause Valley Fever above existing background levels. Impacts related to Valley Fever would be potentially significant without mitigation. Mitigation Measure AQ-1 (above) and Mitigation Measure AQ-2 (presented below) would be required.

Mitigation Measures

AQ-2 Valley Fever Mitigation Measures

The following measures shall be implemented to reduce potential exposure of workers and nearby sensitive receptors to the exposure of Valley Fever spores:

- Implementation of Fugitive Dust Mitigation Measures in Section 7.4.1 of the APCD Guidance including:
 - The area disturbed by clearing, grading, earth moving, or excavation operations shall be minimized to prevent excessive amounts of dust.
 - Pre-grading/excavation activities shall include watering the area to be graded or excavated before commencement of grading or excavation operations. Application of water (preferably reclaimed, if available) should penetrate sufficiently to minimize fugitive dust during grading activities.
 - Fugitive dust produced during grading, excavation, and construction activities shall be controlled by the following activities:
 - All trucks shall be required to cover their loads as required by California Vehicle Code Section 23114.
 - All graded and excavated material, exposed soil areas, and active portions of the construction site, including unpaved on-site roadways, shall be treated to prevent fugitive dust. Treatment shall include, but not necessarily be limited to, periodic watering, application of environmentally-safe soil stabilization materials, and/or roll-compaction as appropriate. Watering shall be done as often as necessary and reclaimed water shall be used whenever possible.
 - Graded and/or excavated inactive areas of the construction site shall be monitored by the construction contractor at least weekly for dust stabilization. Soil stabilization methods, such as water and roll-compaction, and environmentally-safe dust control materials, shall be periodically applied to portions of the construction site that are inactive for over four days. If no further grading or excavation operations are planned for the area, the area should be seeded and watered until grass growth is evident, or periodically treated with environmentally-safe dust suppressants, to prevent excessive fugitive dust.
 - Signs shall be posted on-site limiting traffic to 15 miles per hour or less.

- During periods of high winds (i.e., wind speed sufficient to cause fugitive dust to impact adjacent properties), all clearing, grading, earth moving, and excavation operations shall be curtailed to the degree necessary to prevent fugitive dust created by on-site activities and operations from being a nuisance or hazard, either off-site or on-site. The site superintendent/supervisor shall use his/her discretion in conjunction with the APCD in determining when winds are excessive.
- Adjacent streets and roads shall be swept at least once per day, preferably at the end of the day, if visible soil material is carried over to adjacent streets and roads.
- Personnel involved in grading operations, including contractors and subcontractors, should be advised to wear respiratory protection in accordance with California Division of Occupational Safety and Health regulations.
- Restrict employment to persons with positive coccidioid in skin tests where feasible (since those with positive tests can be considered immune to reinfection).
- Hire crews from local populations where possible, since it is more likely that they have been previously exposed to the fungus and are therefore immune.
- Require crews to use respirators during project clearing, grading, and excavation operations in accordance with California Division of Occupational Safety and Health regulations.
- Require that the cabs of grading and construction equipment be air-conditioned.
- Require crews to work upwind from excavation sites.
- Pave construction roads.
- Where acceptable to the fire department, control weed growth by mowing instead of discing, thereby leaving the ground undisturbed and with a mulch covering.
- During rough grading and construction, the access way into the project site from adjoining paved roadways should be paved or treated with environmentally-safe dust control agents.

Significance after Mitigation

With incorporation of Mitigation Measure AQ-1, the project would be required to use off-road diesel-powered construction equipment that meets or exceeds the most stringent and environmentally protective CARB and USEPA Tier 4 off-road emissions standards, or alternatively fueled equipment which would substantially reduce DPM emissions. The Tier 4 standards reduce DPM emissions by approximately 81 to 96 percent as compared to equipment that meet the Tier 2 off-road emissions standards, depending on the specific horsepower rating of each piece of equipment. Thus, with implementation of Mitigation Measure AQ-1, construction activities would not expose sensitive receptors to substantial TAC concentrations that would potentially exceed cancer risk greater than ten per one million population. Construction-related health impacts would be reduced to a less-than-significant level.

Implementation of Mitigation Measure AQ-2 would require measures to further reduce fugitive dust emissions and limit the exposure of onsite workers and offsite sensitive receptors to Valley Fever spores that may be disturbed during the grading of the top foot of the site during grading activities. Based on VCAPCD guidance, the implementation of these measures would reduce potential impacts from exposure to Valley Fever spores to less-than-significant levels.

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- d. *Would the project result in other emissions (such as those leading to odors) adversely affecting a substantial number of people?*

For construction activities, odors would be short-term in nature and are subject to VCAPCD Rule 51, *Nuisance*. Construction activities would be temporary and transitory and associated odors would cease upon construction completion. Accordingly, the project would not create objectionable odors affecting a substantial number of people during construction, and short-term impacts would be less than significant.

Based on the VCAPCD *Ventura County Air Quality Assessment Guidelines* (2003), a project may have a significant impact if it would generate an objectionable odor to a degree that would cause injury, detriment, nuisance, or annoyance to a considerable number of persons or to the public, or which would endanger the comfort, repose, health, or safety of any such persons or the public, or which would cause, or have a natural tendency to cause, injury or damage to business or property. Land uses and industrial operations known to emit objectionable odors include wastewater treatment facilities, food processing facilities, coffee roasters, fiberglass operations, refineries, feed lots/dairies, and composting facilities (VCAPCD 2003). The project would include the construction and operation of new water tank that would not have daily activities. Therefore, because the project would not directly or indirectly generate any objectionable odors or other emissions that would adversely affect a substantial number of people, there would be no impact.

NO IMPACT

4 Biological Resources

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
Would the project:				
a. Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?	☐	☒	☐	☐
b. Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?	☐	☐	☐	☒
c. Have a substantial adverse effect on state or federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?	☐	☐	☐	☒
d. Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?	☐	☐	☒	☐
e. Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?	☐	☐	☒	☐
f. Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?	☐	☐	☐	☒

The analysis presented in this section is based on Rincon's desktop review of available technical information (literature and databases) on biological resources in the project vicinity and a biological reconnaissance survey of the project site and a 50-foot survey buffer area. The literature review included: a nine United States Geological Survey (USGS) quadrangle (9-quad) search, including the *Santa Susana* quadrangle in which the project site is located, and the eight surrounding quadrangles (*Val Verde*, *Newhall*, *Oat Mountain*, *Canoga Park*, *Calabasas*, *Thousand Oaks*, *Simi*, and *Piru*); a refined five-mile radius search of the California Natural Diversity Database (CNDDB) and the California Native Plant Society (CNPS) online inventory; the California Department of Fish and Wildlife (CDFW) special-status species list, and the United States Fish and Wildlife Service (USFWS) Information for Planning and Consultation database.

A Rincon biologist conducted a biological reconnaissance field survey of the project location and 50-foot survey buffer on September 24, 2024. The purpose of the field survey was to document existing biological conditions, including plant and wildlife species, vegetation communities, and riparian resources. Rincon evaluated the potential for presence of special-status species, jurisdictional waters and/or sensitive vegetation communities in the study area and assessed the potential for significant impacts to these resources under CEQA. The results of the field survey, literature and database review, and review of previous mapping and documentation were used to inform the baseline environmental setting and the following impact analysis, as presented below.

Regional and Project Site Setting

The project site occurs in the southern edge of Simi Valley in unincorporated Ventura County at the terminus of Crown Hill Drive. The project site encompasses approximately 0.6 acre along a north-facing slope. Elevations range from 1,377 feet above mean sea level (amsl) at the northern boundary to 1,464 feet amsl at the site's southern boundary. The site contains a developed water storage facility, existing access road, and graded area for the proposed tank location. Two existing water tanks (the Alta Vista Tanks) are in a graded area that has a paved driveway leading to the tanks. The adjacent area surrounding the project site contains mostly yerba santa – deerweed scrub, ornamental woodland, annual grassland, and residential development west and north of the project site.

Soils

The U.S. Department of Agriculture (USDA) Natural Resources Conservation Service (NRCS) Web Soil Survey (USDA NRCS 2024) depicts a single soil type throughout the project site: loam soils in the Gaviota rocky sandy loam, 15 to 50 percent slopes series. This soil series is not hydric and is well-drained.

Vegetation

The project site where work would occur is historically disturbed by the existing water storage facility, access roads, and historical grading. Vegetation communities documented within the 50-foot buffer area consist of coastal sage scrub and include yerba santa-deerweed scrub, California sagebrush scrub, and non-native brome grassland. Vegetation classification was based on the classification system provided in *A Manual of California Vegetation* (Sawyer et al. 2009). Additionally, some non-native ornamental trees occur along the western side of the existing tanks.

Deerweed - silver lupine - yerba santa scrub (*Lotus scoparius* - *Lupinus albifrons* - *Eriodictyon* spp. Shrubland Alliance; Sawyer et al. 2009) consists primarily of thick-leaved yerba santa (*Eriodictyon crassifolium*) and deerweed (*Acmispon glaber*) and occurs in the southern portion of the project site, bordering the access route and proposed tank location.

Wild oats and annual brome grasslands (*Avena* spp. – *Bromus* spp. Herbaceous Semi-Natural Alliance; Sawyer et al. 2009) is present to the east of the access road, which appeared to be disturbed through vegetation management practices, such as mowing. California sagebrush scrub (*Artemisia californica* Shrubland Alliance; Sawyer et al. 2009) is located between the proposed tank location and the access route.

Native species observed within the project site and 50-foot survey buffer include deerweed, thick-leaved yerba santa, California sagebrush (*Artemisia californica*), California buckwheat (*Eriogonum fasciculatum*), chamise (*Adenostoma fasciculatum*), Brickell bush (*Brickellia californica*), common sandaster (*Corethrogyne filaginifolia* var. *filaginifolia*), chalk dudleya (*Dudleya pulverulenta*), chaparral yucca (*Hesperoyucca whipplei*), toyon (*Heteromeles arbutifolia*), telegraph weed (*Heterotheca grandiflora*), laurel sumac (*Malosma laurina*), branching phacelia (*Phacelia ramosissima*), coast live oak (*Quercus agrifolia*), black sage (*Salvia mellifera*), and poison oak (*Toxicodendron diversilobum*).

Non-native species observed within the project site and 50-foot survey buffer includes slim oat (*Avena barbata*), ripgut brome (*Bromus diandrus*), red brome (*Bromus rubens*), totalote (*Centaurea melitensis*), rattail six-week grass (*Festuca myuros*), summer mustard (*Hirschfeldia incana*), tree tobacco (*Nicotiana glauca*), jersey cudweed (*Pseudognaphalium luteoalbum*), and spiny sowthistle (*Sonchus asper*).

Wildlife

The coastal sage scrub and yerba santa – deerweed scrub communities adjacent to the project site provide habitat for many wildlife species. Common wildlife species are expected to utilize the vegetation areas that surround the project site for foraging, shelter, and or nesting. Wildlife detected during the survey included acorn woodpecker (*Melanerpes formicivorus*), Anna's hummingbird (*Calypte anna*), California scrub jay (*Aphelocoma californica*), California towhee (*Melospiza crissalis*), house finch (*Haemorrhous mexicanus*), lesser goldfinch (*Spinus psaltria*), and wrentit (*Chamaea fasciata*). Crotch's bumble bee (*Bombus crotchii*), a candidate species for listing under the California Endangered Species Act (CESA), has a high potential to occur within the 50-foot survey buffer area. Coastal California gnatcatcher (*Poliophtila californica californica*), a federally listed Threatened species and California Species of Special Concern, has a moderate potential to occur within the coastal sage scrub community.

Regulatory Setting

Regulatory authority over biological resources is shared by federal, state, and local authorities under a variety of statutes and guidelines. Primary authority for general biological resources lies with the land use control and planning authority of local jurisdictions. The CDFW is a trustee agency for biological resources throughout the State under CEQA and has authority to regulate impacts to protected species under the Fish and Game Code of California. Under CESA and the Federal Endangered Species Act (FESA), the CDFW and the USFWS, respectively, have direct regulatory authority over species formally listed as Threatened or Endangered. The United States Army Corps of Engineers (USACE) and the Los Angeles Regional Water Quality Control Board have regulatory authority over specific biological resources, namely wetlands and waters of the United States under Section 404 of the Federal Clean Water Act, and waters of the State under Section 401 of the Act, respectively.

Special-status species are those plants and wildlife listed, proposed for listing, or candidates for listing as Threatened or Endangered by the USFWS under the FESA; those listed or candidates for listing as

Threatened or Endangered by the CDFW under the CESA or Rare under the Native Plant Protection Act; animals designated as “Fully Protected” by the California Fish and Game Code (CFGF); wildlife listed as “Species of Special Concern” by the CDFW; and CDFW Special Plants, specifically those with California Rare Plant Ranks (CRPR) of 1 (Presumed endangered/extinct in California and endangered/extinct elsewhere) and 2 (Presumed endangered/extinct in California but common elsewhere) in the CNPS Inventory of Rare and Endangered Vascular Plants of California (CNPS 2024). A list of special-status plant and wildlife species with potential to occur on site was developed based on a review of a 9-quad and 5-mile search of the CNDDDB (CDFW 2024a) and a 9-quad search of the CNPS online Inventory of Rare and Endangered Vascular Plants of California (CNPS 2024). The potential for each special-status species to occur on the project site was evaluated according to the following criteria.

- **Not Expected.** Habitat on and adjacent to the project site is clearly unsuitable for the species requirements (foraging, breeding, cover, substrate, elevation, hydrology, plant community, site history, disturbance regime).
- **Low Potential.** Few of the habitat components meeting the species requirements are present, and/or the majority of habitat on and adjacent to the project site is unsuitable or of very poor quality. The species is not likely to be found on the project site.
- **Moderate Potential.** Some of the habitat components meeting the species requirements are present, and/or only some of the habitat on or adjacent to the project site is unsuitable. The species has a moderate probability of being found on the project site.
- **High Potential.** All of the habitat components meeting the species requirements are present and/or most of the habitat on or adjacent to the project site is highly suitable. The species has a high probability of being found on the project site.
- **Present.** Species is observed or has been recorded (e.g., CNDDDB, other reports) on the project site recently (within the last two years).

While common birds are not designated as special-status-species, destruction of their eggs, nests, and nestlings is prohibited by federal and State law. Section 3503.5 of the Fish and Game Code of California specifically protects birds of prey, and their nests and eggs against take, possession, or destruction. Sections 3503 and 3513 of the CFGF incorporate restrictions imposed by the federal Migratory Bird Treaty Act (MBTA) with respect to migratory birds (which includes most native bird species).

Impact Analysis

- a. *Would the project have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?*

Special-Status Plants

Fifteen special-status plant species were identified to have occurrence records within 5 miles surrounding the project site (CDFW 2024a; CNPS 2024; USFWS 2024a). Species with the potential to occur have specific habitat requirements (e.g., soil type, elevation, hydrologic condition, etc.) that may or may not be present within the survey area. Ten of the fifteen species with occurrence records were determined to have no potential to occur on the project site based on existing conditions (land

cover disturbed by development, mowing, and grading), a lack of suitable physical or biological features, and the age of the CNDDDB records or distance of the records from the project site. The five remaining species were determined to have low potential to occur within the coastal sage scrub or grassland vegetation where landscaping activities will occur, including Braunton's milk-vetch (*Astragalus brauntonii*, federally endangered, CRPR 1B.1), Nevin's barberry (*Berberis nevinii*, federal and State endangered, CRPR 1B.1), slender mariposa lily (*Calochortus clavatus* var. *gracilis*, CRPR 1B.2), Plummer's mariposa lily (*Calochortus plummerae*, CRPR 4.2), and chaparral nolina (*Nolina cismontana*; CRPR 1B.2). Nevin's barberry and chaparral nolina are perennial species identifiable year round and were not observed during the biological reconnaissance survey. These two plant species are determined not to be present within the project site or the 50-foot survey buffer. None of the remaining three plant species was observed during the biological reconnaissance survey; however, the survey was performed outside of the typical blooming period for these species. While the project site contains some habitat characteristics for each of the five special-status plant species, the potential habitat is classified as poor quality, limited, and/or fragmented (i.e., very limited portion of the project site and general area), or CNDDDB records for the species are over 20 years old or not within 5 miles of the project site.

Braunton's milk, slender mariposa lily, and Plummer's mariposa lily are considered to have a low potential to occur in the project site; however, each of these species is potentially subject to impacts, if present, in areas where landscaping activities will occur. Therefore, mitigation is required to reduce potential impacts to less than significant. Mitigation Measure BIO-1 requires installation of fencing around the work area to avoid impacts to the adjacent native vegetation community where these plant species may occur, Mitigation Measure BIO-2 includes worker environmental awareness training that would provide all on-site workers with information to help recognize sensitive environments and environmental conditions to avoid impacts to special-status plants, and Mitigation Measure BIO-3 requires rare plant surveys to be performed prior to the start of construction. Impacts related to special-status plant species would be less than significant with the above mitigation incorporated.

Special-Status Wildlife

Eighteen special-status wildlife species have occurrence records within 5 miles of the project site (CDFW 2024a, 2024c). The list of species with potential to occur within the project site was reviewed, and the potential for species to be present was determined (i.e., Not Expected, Low Potential, Moderate Potential, High Potential, Present). Of the 18 species identified during the desktop analysis, 16 species were determined to have no or low potential to occur and are not discussed further herein. Of the remaining two species, Crotch's bumble bee has a moderate potential to occur within the 50-foot survey buffer area, and coastal California gnatcatcher has a moderate potential to occur within the 50-foot survey buffer area. Given the landscaping activities will occur where native scrub vegetation is present, both species are potentially subject to impacts. These two special-status wildlife species are further evaluated below based on their regional significance and listing status.

Crotch's Bumblebee

Crotch's bumble bee is a state candidate endangered species with a high potential to occur within the survey buffer adjacent to the project site. Crotch's bumble bee occurs in coastal California, east to the Sierra-Cascade crest, and south into Mexico. They require food from plant species in the genera *Antirrhinum*, *Phacelia*, *Clarkia*, *Dendromecon*, *Eschscholzia*, and *Eriogonum*. Five occurrences of Crotch's bumble bee have been recorded within a 5-mile radius of the project site (USFWS 2024a; CDFW 2024a). No individuals or sign (e.g., burrows) were observed on the project site; however, suitable habitat for Crotch's bumble bee is present throughout the survey buffer adjacent to the project site in the form of *Eriogonum* spp. and *Phacelia* spp., and therefore, the potential for this species to occur is high. If Crotch's bumble bee individuals or burrows are present adjacent to the project site during work and are injured or killed during construction activities (e.g., grading, excavation), or struck by equipment or vehicles, impacts to individuals would be significant. The species is currently a candidate for State listing under CESA; therefore, injury, mortality, or harassment of individuals would be considered "take" and a significant impact. Mitigation Measures BIO-2 and BIO-4 would reduce potential impacts related to the Crotch's bumble bee to less-than-significant levels by requiring environmental training for all workers, conducting pre-construction surveys for the species, and avoiding impacts to the species, if detected. In accordance with Mitigation Measure BIO-4, if direct impacts to individuals cannot be avoided, and if the species becomes formally listed or is still a candidate for listing under CESA, the District shall obtain a Fish and Game Code 2081(b) Incidental Take Permit in coordination with CDFW before any ground disturbance occurs.

Coastal California Gnatcatcher

Coastal California gnatcatcher is a federally threatened species and California Species of Special Concern and has a moderate potential to occur within the survey buffer adjacent to the project site. Coastal California gnatcatcher are found in coastal sage scrub below 2,500 ft elevation in southern California and are permanent residents. They are frequently found in low-growing coastal sage scrub in arid washes, mesas, and slopes. There are four recorded occurrences of coastal California gnatcatcher within a 5-mile radius of the project site; the most recent of which was in 2016 (CDFW 2024a), with the closest CNDDDB record occurrence approximately 4.5 miles from the project site in the city of Simi Valley. Despite habitat fragmentation and the residential development bordering the project site to the north and west, coastal California gnatcatcher has a moderate potential to occur on the project site where landscaping activities will occur in areas with coastal sage scrub vegetation suitable to support the species. This species is unlikely to be directly impacted by project construction activities unless individuals traverse through the coastal sage scrub vegetation during foraging or dispersal movement. If the species is determined to be present within 300 feet of the site during construction, impacts could occur to the species, including injury or mortality of individuals from construction activities (e.g., grading, excavation) or strikes by equipment or vehicles. Injury, mortality, or harassment of individuals is considered "take" under the federal Endangered Species Act and would be a significant impact. Mitigation Measures BIO-2 and BIO-5 are provided here to reduce potential impacts related to coastal California gnatcatcher to less-than-significant by requiring environmental training for all workers, conducting pre-construction surveys for the species, and establishing measures to avoid impacts to the species through the use of avoidance buffer and biological monitoring for nests, if detected. If avoidance of the species is not possible during construction activities, Mitigation Measure BIO-6 is required to obtain take permission for impacts to the species.

Nesting Birds

Nesting bird species are protected under the MBTA and CFGC and have potential to occur within the vegetation that surrounds the project site during the nesting season (February 1 to September 15). If nesting birds are present during construction, direct impacts could occur to individuals, nests, and young. Direct impacts can include the destruction of nests through construction activities or the disturbance of nesting behavior through construction noise and activities. Indirect impacts to nesting birds could include the destruction or disturbance of nesting habitat. Nest destruction or abandonment would be a violation of CFGC code and the MBTA. However, Mitigation Measures BIO-2 and BIO-5 are provided to help assure compliance with the MBTA and CFGC by requiring worker environmental awareness training, pre-construction bird nest surveys, and establishing avoidance buffers around active nests of birds protected under the MTBA and CFGC.

Potential impacts to special-status wildlife species would be less than significant with mitigation incorporated.

Mitigation Measures

BIO-1 Plant Impact Avoidance

Before the start of construction, the contractor shall install high-visibility fencing between the work area and adjacent native vegetation to ensure no vehicle or foot traffic impacts the vegetation community surrounding the work site. The fencing shall be sturdy, weather-resistant, and secured with T-posts or other durable anchoring methods and shall be repaired or replaced as needed to be maintained in good condition. Signs indicating “Environmentally Sensitive Area – Keep Out” shall be posted at regular intervals along the fencing.

BIO-2 Prepare and Implement Worker Environmental Awareness Program

Before initiation of construction activities (including staging and mobilization), all personnel associated with project construction shall attend a Worker Environmental Awareness Program (WEAP) training, provided by a qualified biologist. The intent of this training is to review the sensitive biological resources that may be present during construction activities (e.g., special-status species and nesting birds). This program will include an overview of the habitats of special-status species with potential to occur, a description of the regulatory status and general ecological characteristics of sensitive biological resources, and a review of the limits of construction. Additionally, the biologist will go over the mitigation measures required to reduce impacts to biological resources within the work area. A fact sheet conveying this information shall be prepared by the qualified biologist for distribution to all contractors, their employers, and other personnel involved with construction. All personnel shall sign a form provided by the biologist providing the WEAP training, indicating they have attended the WEAP and understand the information presented to them.

BIO-3 Pre-Construction Surveys for Special-Status Plants

A qualified botanist shall be retained by the District or its contractor to conduct a preconstruction survey on the project site for special-status plant species during the appropriate species-specific identification periods, specifically, May through July when the plants are in bloom, and within one year before ground disturbance. The survey will be in accordance with CNPS’s Botanical Survey Guidelines (CNPS 2001), CDFW’s Protocols for Surveying and Evaluating Impacts to Special Status Native Plant Populations and Natural Communities (CDFW 2018), and USFWS’s

Guidelines for Conducting and Reporting Botanical Inventories for Federally Listed, Proposed and Candidate Plants (USFWS 1996).

If the survey confirms that no special-status plant species are present on the project site, no further actions will be required. If the plant survey reveals the presence of special-status plants on the project site, individuals will be flagged for avoidance during construction. If the populations cannot be avoided during construction, the District or its contractor will retain a qualified botanist or restoration ecologist to prepare a salvage, relocation, or propagation and monitoring plan for special-status plants before construction is initiated. The plan will include provisions that address the techniques, location, and procedures required for the successful establishment of the plant populations. The plan will include provisions for performance that address survivability requirements, maintenance, monitoring, implementation, adaptive management, and the annual reporting requirements. All directly impacted special-status plants will be documented by a qualified botanist. Documentation of impacts special-status plants will include locations, quantity, density and percent cover; key habitat characteristics, including soil type, associated species, hydrology, and topography; and photo documentation of preconstruction conditions.

BIO-4 Crotch's Bumble Bee Pre-Construction Survey and Impact Avoidance

Pre-construction surveys for Crotch's bumble bee, including ground nests, shall be conducted within all suitable habitats adjacent to the project site within the 50-foot buffer before initial ground-disturbing activities (e.g., grubbing/removing vegetation, excavation, grading, construction). These surveys aim to identify individuals and/or active nest colonies in areas adjacent to the site. The pre-construction surveys shall follow the methodologies set out in the CDFW Survey Considerations for CESA Candidate Bumble Bee (CDFW 2023) or other survey methodology approved by CDFW.

If the pre-construction surveys identify individuals or active nest colonies adjacent to the project footprint:

- An appropriate no-disturbance buffer zone shall be established around the active nest colony to reduce the risk of disturbance or accidental take. The buffer distance shall be established by a qualified biologist.
- The project proponent/operator shall consult with a qualified biologist to discuss considerations and recommendations on implementing project activities to avoid take of Crotch's bumble bee.

If an avoidance buffer is required as described above, construction activities shall not occur within that buffer zone until a qualified biologist determines the nest to no longer be active (i.e., no Crotch's bumble bee are seen flying in or out of the nest for three consecutive days [during suitable weather conditions when Crotch's bumble bee are typically active] indicating the colony has completed its nesting season and the queens have dispersed from the colony), after which construction activities may resume within that buffer zone.

BIO-5 Nesting Bird Pre-construction Survey and Impact Avoidance

To avoid impacting active bird nests, juveniles or adults, project activities, including vegetation clearing and tree removal, shall be conducted outside of the breeding season (February 1 through September 15) to the extent feasible.

If project activities occur between February 1 and September 15, a pre-construction nesting bird survey shall be conducted by a qualified biologist no more than 7 working days before the activity to survey for bird nests. The survey area shall include the project footprint and a 100-foot buffer for

passerine species and a 300-foot buffer for coastal California gnatcatcher and raptor species. Following the survey, the following shall be implemented:

- A nesting bird survey report shall be submitted to the District prior to the initiation of project activities. The report shall detail the results of the survey including identification of the location of any active nests and shall describe any nest monitoring that shall be conducted and/or whether any avoidance buffers shall be established.
- If active nests are identified during the survey and/or work is scheduled to take place within 100 feet of active passerine nests or 300 feet of active coastal California gnatcatcher and raptor nests, a qualified biologist shall determine appropriate avoidance buffers. The buffer shall be the minimum distance required to avoid take of the nest and shall be determined based on the species identified, activities proposed, level of existing noise, and location of the nest.
- A qualified biologist shall determine when nesting is completed and when any avoidance buffers may be removed.
- If nesting bird monitoring is conducted, a nesting bird monitoring report shall be submitted to the District detailing the results of monitoring activities and measures implemented that avoided impacts to the nest. The report shall be submitted within 30 days of the completion of the nesting bird monitoring.

BIO-6 Coastal California Gnatcatcher Protocol Surveys

Before the start of construction, the District or its contractor shall retain a qualified biologist to conduct protocol coastal California gnatcatcher surveys in accordance with the guidelines issued by the USFWS (USFWS 1997). Surveys shall be conducted by a USFWS-permitted biologist before the start of construction. The results of the survey shall be provided in a report to USFWS within 45 days of completion of the survey, and no less than 30 days before the start of groundbreaking activities.

If protocol surveys determine that occupied habitat is present in the project footprint plus a 300-foot buffer where accessible, the following measures shall be implemented during project construction to avoid or minimize direct take of coastal California gnatcatcher:

1. All grubbing or grading taking place within occupied habitat of the coastal California gnatcatcher (defined as within 300 feet of any gnatcatcher sightings) during construction shall be conducted from September 1 through February 14, which is outside the coastal California gnatcatcher breeding season.
2. When conducting any construction activities during the California gnatcatcher breeding season, February 15 through August 30, within or adjacent to occupied coastal California gnatcatcher habitat, a USFWS permitted biologist shall survey for nesting coastal California gnatcatcher approximately once per week within 300 feet of the construction area, where accessible, for the duration of the activity in that area during the breeding season.
3. If an active nest is located, a 300-foot avoidance buffer shall be established around each nest site; however, there may be a reduction of this buffer zone depending on site-specific conditions such as topography, line-of-sight to the nest, or the existing ambient level of activity. The District shall contact USFWS to determine the appropriate buffer zone. No construction shall take place within this buffer until the biologist can verify that the nest is no longer active.
4. Conspicuous construction fencing shall be maintained in place to protect all habitat outside the approved construction area until the conclusion of construction. Before commencement of grading, the project biologist shall confirm with the contractor or a licensed surveyor that the construction fencing has been placed at the outer edge of the construction area.

5. All construction activities shall take place only on the construction side (i.e., inside) of the fenced area. Grading materials shall be stored either inside the fenced development area or in an area approved by the project biologist.
6. A biological monitor familiar with coastal California gnatcatcher and its habitat shall be present during all vegetation clearing and other activities within coastal sage scrub and shall monitor the project to ensure that there are no unanticipated impacts to the species and its habitat.
7. Access to the site shall be via pre-existing access routes to the greatest extent possible.
8. All active coastal California gnatcatcher nests shall be reported within 24 hours to the USFWS upon detection.
9. The biological monitor shall halt work if it is determined that active nests would be disturbed by construction activities, until further direction or approval to work is obtained from the appropriate agencies.
10. The project site shall be kept as clean of debris as possible. All food-related trash items shall be enclosed in sealed containers and regularly removed from the site.
11. In the event that coastal California gnatcatcher individuals or occupied habitat cannot be avoided and incidental take is expected, the District or its contractor shall obtain necessary take authorization from the USFWS.

COMPENSATION FOR CALIFORNIA GNATCATCHER HABITAT IMPACTS

Impacts requiring mitigation include permanent and temporary impacts to occupied and unoccupied habitat. Permanent impacts to occupied habitat shall require acquisition and preservation of occupied habitat off-site at a location approved by USFWS. Mitigation for permanent impacts to coastal California gnatcatcher shall be at a ratio of 2:1 for preserved to impacted habitat. In the event occupied habitat is not available at an off-site location, mitigation credits shall be purchased at a USFWS-approved mitigation bank. Temporary impacts to occupied habitat and impacts to all unoccupied habitat (as determined by protocol surveys) shall be mitigated at a 1:1 ratio and can include 1:1 on-site restoration and 1:1 acquisition and preservation of occupied habitat off-site.

Coastal sage scrub habitat that is not designated for removal shall be avoided and protected with appropriate buffer zones marked with high-visibility material. Project work areas shall be clearly flagged or similarly marked at the outer boundaries to define the limit of work activities. No unauthorized entry or construction disturbance shall be permitted within protective buffer zones.

LESS THAN SIGNIFICANT WITH MITIGATION INCORPORATED

- b. *Would the project have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?*

No riparian habitat or sensitive natural communities were observed within the project site. Therefore, no impacts related to riparian habitat or sensitive natural communities would occur.

NO IMPACT

- c. *Would the project have a substantial adverse effect on state or federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?*

No federal or state jurisdictional waters exist within the project site; as such, no impacts would occur on State or federally protected wetlands. The National Wetland Institute maps the nearest potentially jurisdictional drainage as a freshwater forested wetland approximately 0.2 mile west of the project site. However, this wetland area is separated from the project site by coastal sage scrub and Black Canyon Road. There are no drainages or hydrologic features connecting the project site to this wetland. Therefore, no impacts related to protected wetlands would occur as a result of the project.

NO IMPACT

- d. *Would the project interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?*

Some potential exists for wildlife to use the project site as a movement corridor due to its connections to adjacent open space. However, given the considerable amount of open space adjacent to the project site to the east and south, the small footprint of the project, and the temporary nature of work activities, substantial impacts on wildlife movement are not expected. Impacts would be less than significant.

LESS THAN SIGNIFICANT IMPACT

- e. *Would the project conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?*

Mature native trees, including oaks, are protected by the City of Simi Valley Mature Tree Preservation Ordinance (City of Simi Valley 2023), the Ventura County Tree Protection Ordinance (County of Ventura 1992), and the Ventura County Non-Coastal Zoning Ordinance. Two coast live oaks (*Quercus agrifolia*) occur within the outer boundary of the 50-foot buffer portion of the project site. One oak is located in the northern portion of the project site, northeast of the existing water tanks, west of the access road. The other oak tree is in the central portion of the project site, northwest of the proposed tank location, east of the access road. No ground disturbing activity is planned within 5 feet of the oak trees' dripline or within 15 feet of the trees' root zone from the trunk. Accordingly, no impacts to the oak trees are anticipated.

Demolition of Alta Vista Tank No. 1 would require removal of up to 10 trees. The District would obtain a tree removal permit prior to initiation of project construction. In addition, the project would involve planting of shrubs and four replacement trees in the areas surrounding the Alta Vista Tanks. Therefore, impacts related to consistency with local policies protecting biological resources would be less than significant.

LESS THAN SIGNIFICANT IMPACT

- f. Would the project conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?*

The project site does not occur within the boundaries of a Habitat Conservation Plan, Natural Conservation Community Plan, or other approved local, regional, or State habitat conservation plan. Therefore, there would be no impact related to consistency with approved habitat conservation plans.

NO IMPACT

5 Cultural Resources

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
Would the project:				
a. Cause a substantial adverse change in the significance of a historical resource pursuant to §15064.5?	☐	☐	☐	☒
b. Cause a substantial adverse change in the significance of an archaeological resource pursuant to §15064.5?	☐	☒	☐	☐
c. Disturb any human remains, including those interred outside of formal cemeteries?	☐	☐	☒	☐

Between August 2024 and June 2025, Rincon conducted a Cultural Resources Assessment in support of the project, which included: a cultural resources records search of the California Historical Resources Information System (CHRIS) through the South Central Coastal Information Center located at California State University, Fullerton; a Native American Heritage Commission (NAHC) Sacred Lands File (SLF) search; pedestrian field surveys; and historical map and aerial imagery review. The cultural resources assessment also included background research and a field survey of built environment resources. This section incorporates the results of the Cultural Resources Assessment.

This section provides an analysis of the project's impacts on cultural resources, including historical and archaeological resources, as well as human remains. CEQA requires a lead agency to determine whether a project may have a significant effect on historical resources (Public Resources Code [PRC], Section 21084.1). A historical resource is a resource listed in, or determined to be eligible for listing in, the California Register of Historical Resources (CRHR); a resource included in a local register of historical resources; or any object, building, structure, site, area, place, record, or manuscript a lead agency determines to be historically significant (CEQA Guidelines, Section 15064.5[a] [1-3]).

Pursuant to CRHR criteria, a resource is considered historically significant if it:

1. Is associated with events that have made a significant contribution to the broad patterns of California's history and cultural heritage;
2. Is associated with the lives of persons important in our past;
3. Embodies the distinctive characteristics of a type, period, region, or method of construction, or represents the work of an important creative individual, or possesses high artistic values; or
4. Has yielded, or may be likely to yield, information important in prehistory or history.

This analysis also evaluated potential historical resources under the criteria of the National Register of Historic Places (NRHP). Pursuant to NRHP criteria, a resource is considered historically significant if it:

- A. Is associated with events that have made a significant contribution to the broad patterns of our history;
- B. Is associated with the lives of persons significant in our past;
- C. Embodies the distinctive characteristics of a type, period, or method of installation, or that represent the work of a master, or that possess high artistic values, or that represent a significant and distinguishable entity whose components may lack individual distinction; or
- D. Has yielded, or may be likely to yield, information important in prehistory or history

In addition, if it can be demonstrated that a project would cause damage to a unique archaeological resource, the lead agency may require reasonable efforts be made to permit any or all of these resources to be preserved in place or left in an undisturbed state. To the extent that resources cannot be left undisturbed, mitigation measures are required (PRC, Section 21083.2[a], [b]).

PRC, Section 21083.2(g) defines a unique archaeological resource as an archaeological artifact, object, or site about which it can be clearly demonstrated that, without merely adding to the current body of knowledge, there is a high probability that it:

- 1. Contains information needed to answer important scientific research questions and that there is a demonstrable public interest in that information;
- 2. Has a special and particular quality such as being the oldest of its type or the best available example of its type; or
- 3. Is directly associated with a scientifically recognized important prehistoric or historic event or person.

- a. Would the project cause a substantial adverse change in the significance of a historical resource pursuant to §15064.5?*

The field surveys and background research completed for the project identified the presence of one historic-age structure within the project site, Alta Vista Tank No. 1. The project would include potentially demolishing Alta Vista Tank No. 1, and, if the tank is eligible to be listed as a historical resource, the project would cause a substantial adverse change in the significance of a historical resource and have significant impacts.

Alta Vista Tank No. 1 was visually inspected, photographed, and its overall condition, construction history, and integrity were evaluated under the historical significance criteria of the CRHR and the NRHP. Alta Vista Tank No. 1 was constructed in Simi Valley to provide water to support the area's growing population and suburban development. However, research conducted as part of the Cultural Resources Assessment did not indicate that the resource significantly contributed to the area within the context of drinking water development, Post-World War II development, or any other context. It is a utilitarian structure constructed to meet the demands of the day rather than an impetus for growth. Therefore, Alta Vista Tank No. 1 is recommended ineligible for listing in the NRHP under Criterion A and ineligible for listing in the CRHR under Criterion 1.

Research conducted as part of the Cultural Resources Assessment did not indicate that Alta Vista Tank No. 1 is associated with any individuals significant in national, state, or local history. The tank is therefore recommended ineligible for listing in the NRHP under Criterion B and ineligible for listing in the CRHR under Criterion 2.

Alta Vista Tank No. 1 is a bolted steel reservoir constructed around 1960. Steel reservoirs are ubiquitous throughout the surrounding area, and throughout California. Popularized in the 1890s,

they typically serve as reservoirs for potable drinking water or water for emergencies. The resource is not a significant example of a bolted steel reservoir, nor does it represent any other type, style, period, or method of construction. It was not designed by a master architect, nor does it possess high artistic value. It is therefore recommended ineligible for listing in the NRHP under Criterion C and ineligible for listing in the CRHR under Criterion 3.

Alta Vista Tank No.1 is not likely to yield valuable information that will contribute to our understanding of human history because the recorded resource is not and never was the principal source of important information pertaining to subjects such as mid-twentieth century reservoirs. It is therefore recommended ineligible for listing in the NRHP under Criterion D and ineligible for listing in the CRHR under Criterion 4.

Therefore, Alta Vista Tank No. 1 does not qualify as a historic resource pursuant to CEQA, and the project would not result in a substantial adverse change in the significance of a historic resource. No impact would occur.

NO IMPACT

- b. Would the project cause a substantial adverse change in the significance of an archaeological resource pursuant to §15064.5?*

The cultural resources field survey identified one historic-period archaeological resource in the Project site, Rincon-Knolls-01H. Rincon-Knolls-01H consists of a historic-period refuse scatter consisting of glass, ceramics, and bullet casings.. Rincon-Knolls-01H appears to be associated with mid-20th-century recreational activities, possibly related to hunting and camping, and may be loosely connected to the Mortimer Park/Susana Knolls development.

Rincon-Knolls-01H was evaluated for listing in the NRHP and CRHR. However, research conducted as part of the Cultural Resources Assessment did not indicate that the resource significantly contributed to the area's historical development or recreational trends in a meaningful way. Therefore, Rincon-Knolls-01H is recommended ineligible for listing in the NRHP under Criterion A and ineligible for listing in the CRHR under Criterion 1.

Research did not identify any individuals of historical significance directly associated with Rincon-Knolls-01H. Although Lewis Mortimer, a local land developer, was linked to the broader area, there is insufficient evidence to suggest he played a significant role in regional development or that the resource is directly associated with his achievements. Therefore, Rincon-Knolls-01H is recommended ineligible for listing in the NRHP under Criterion B and ineligible for listing in the CRHR under Criterion 2.

No features or artifacts were identified within the resource boundary that would qualify Rincon-Knolls-01H as a significant example of a type, period, or method of construction. The resource does not represent the work of a master, nor does it possess high artistic value. It is therefore recommended ineligible for listing in the NRHP under Criterion C and ineligible for listing in the CRHR under Criterion 3.

Rincon-Knolls-01H is not likely to yield valuable information that will contribute to our understanding of human history. Given the limited number of diagnostic artifacts the resource lacks sufficient data potential, and the resource is also unlikely to contain intact subsurface deposits. Any research value has been exhausted through documentation of the existing materials. Therefore, Rincon-Knolls-01H is recommended ineligible for listing in the NRHP under Criterion D and ineligible for listing in the CRHR under Criterion 4.

Under PRC Section 21083.2(g), a unique archaeological resource must meet specific criteria related to scientific value, rarity, or association with significant events or individuals. Rincon-Knolls-01H does not meet these criteria, as it lacks research potential, is not the oldest or best example of its type, and is not directly linked to any important historic event or person. Accordingly, Rincon-Knolls-01H does not qualify as a historic resource pursuant to CEQA, and it is not considered a unique archaeological resource.

The geoarchaeological review concluded that the project site is considered to have a low to no potential for subsurface archaeological resources and it is unlikely that archaeological deposits will be encountered during project-related ground disturbance. However, the absence of archaeological resources does not preclude their existence and it is possible that unanticipated archaeological deposits could be encountered and damaged during the ground-disturbing activities associated with construction (such as grading and excavation), especially if those activities occur in less-disturbed buried sediments. Consequently, the following mitigation measures are required to reduce potential impacts related to archaeological resources. Therefore, with the implementation of Mitigation Measures CUL-1, CUL-2, and CUL-3, the project would result in a less-than-significant impacts to archeological resources.

Mitigation Measures

CUL-1 Worker Environmental Awareness Program Training

All construction personnel and monitors who are not trained archaeologists shall be briefed regarding unanticipated discoveries prior to the start of construction activities. A basic presentation shall be prepared and presented by a Qualified Archaeologist or other designated archaeologist working under the direction of the Qualified Archaeologist to inform all personnel working on the Project about the archaeological sensitivity of the area. The purpose of the training is to provide specific details on the kinds of archaeological materials that may be identified during construction of the Project and explain the importance of and legal basis for the protection of significant archaeological resources. Each worker shall also learn the proper procedures to follow in the event that archaeological resources or human remains are uncovered during ground-disturbing activities. These procedures include work curtailment or redirection and the immediate notification of the on-call archaeologist and if appropriate, Native American representative. The necessity of training attendance shall be stated on all construction plans, and the District shall maintain records demonstrating construction worker training participation.

CUL-2 Retention of a Qualified Archaeologist

Prior to the start of ground-disturbing activities, the District shall retain an archaeologist meeting the Secretary of the Interior's Professional Qualifications Standards (Qualified Archaeologist) to respond to and address any inadvertent discoveries identified for the duration of construction activities and to oversee the implementation of all cultural resources mitigation measures. The Qualified Archaeologist shall possess experience and familiarity with historic-period and prehistoric archaeological resources in the region.

CUL-3 Inadvertent Discovery of Archaeological Resources

In the event that archaeological resources are inadvertently encountered during ground-disturbing activities that have not been previously identified, work in a 50-foot radius of the find shall be halted and redirected, and the Qualified Archaeologist shall be contacted immediately. The Qualified

Archaeologist or other designated archaeologist working under the direction of the Qualified Archaeologist, shall provide recommendations regarding the resource's potential significance and potential treatment in coordination with the District. If the resource is determined by the Qualified Archaeologist to be indigenous in origin, then a Native American representative shall also be contacted to participate in the evaluation of the resource. If the Qualified Archaeologist and/or Native American representative determines it to be appropriate, archaeological testing for CRHR eligibility shall be completed. If the resource proves to be eligible for the CRHR and significant impacts to the resource cannot be avoided via project redesign, the Qualified Archaeologist shall prepare a data recovery plan tailored to the physical nature and characteristics of the resource, pursuant to the requirements of the California Code of Regulations (CCR) Guidelines Section 15126.4(b)(3)(C). The data recovery plan shall identify data recovery excavation methods, measurable objectives, and data thresholds to reduce any significant impacts related to the resource. Pursuant to the data recovery plan, the Qualified Archaeologist and Native American representative, as appropriate, shall recover and document the scientifically consequential information that justifies the resource's significance. The District's project manager or their designee shall review and approve the treatment plan and archaeological testing as appropriate, and the resulting documentation shall be submitted to the regional repository of the CHRIS, pursuant to CCR Guidelines Section 15126.4(b)(3)(C).

Significance after Mitigation

Implementation of Mitigation Measures CUL-1, CUL-2, and CUL-3 would reduce potentially significant impacts to a less-than-significant level by identifying and avoiding archaeological resources to the extent feasible and evaluating and recovering possible archaeological resources in the event that they are discovered during project construction.

LESS THAN SIGNIFICANT WITH MITIGATION INCORPORATED

- c. *Would the project disturb any human remains, including those interred outside of formal cemeteries?*

No prehistoric or historic-period burials within or outside formal cemeteries were identified within the project site as a result of the CHRIS records search, SLF search, or pedestrian survey. In the event human remains are inadvertently encountered during ground-disturbing activities, they would be treated consistent with state and local regulations including California Health and Safety Code Section 7050.5, PRC Section 5097.98, and CCR Guidelines Section 15064.5(e). In accordance with these regulations, if human remains are found, the County Coroner must be immediately notified of the discovery. No further disturbance shall occur until the County Coroner has made a determination of origin and disposition pursuant to PRC Section 5097.98. If the County Coroner determines the remains are, or believed to be Native American origin, he or she is required to notify the NAHC, which shall then notify those persons believed to be the Most Likely Descendant. The Most Likely Descendant has 48 hours from being granted site access to make recommendations for the disposition of the remains. If the Most Likely Descendant does not make recommendations within 48 hours, the landowner shall reinter the remains in an area of the property secure from subsequent disturbance. Adherence to existing regulations would reduce potential project impacts to human remains to a less-than-significant level.

LESS THAN SIGNIFICANT IMPACT

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6 Energy

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
Would the project:				
a. Result in a potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation?	☐	☐	☒	☐
b. Conflict with or obstruct a state or local plan for renewable energy or energy efficiency?	☐	☐	☒	☐

- a. *Would the project result in a potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation?*

California, as a state, is one of the lowest per-capita-energy users in the United States, ranked 48th in the nation due to its energy efficiency programs and mild climate (United States Energy Information Administration 2022). The project would only require the usage of energy in the form of petroleum fuels (i.e., gasoline and diesel) for construction activities and maintenance trips. As such, project-related gasoline and diesel consumption are the focus of this analysis.

Construction

Project construction activities would include demolition of Alta Vista Tank No. 1, construction of an access roadway and retaining walls, construction of the Crown Hill Tank, and installation of pipelines. During these construction activities, energy would be consumed in the form of petroleum-based fuels used to power off-road construction vehicles and equipment on the project site, construction worker travel to and from the project site, and vehicles used to transport materials to and from the site.

Energy use during construction would be temporary in nature, and construction equipment used would be typical of similar-sized construction projects in the region. In addition, construction contractors would be required to comply with the provisions of California Code of Regulations Title 13 Sections 2449 and 2485, which prohibit diesel-fueled commercial motor vehicles and off-road diesel vehicles from idling for more than five minutes and would minimize unnecessary fuel consumption. Construction equipment would be also subject to the United States Environmental Protection Agency Construction Equipment Fuel Efficiency Standard, so would be required to minimize inefficient, wasteful, or unnecessary fuel consumption. These practices would result in efficient use of energy necessary to construct the project. In the interest of project cost efficiency, construction contractors also would not utilize fuel in a manner that is wasteful or unnecessary. As such, the project would not involve the inefficient, wasteful, and unnecessary consumption of energy during construction.

Operation

The project would require routine operational maintenance vehicle trips. Energy consumption associated with maintenance trips would be relatively minimal and would only occur as needed. Water would be pumped into the Crown Hill Tank via the existing Oak Knolls Pump Station, which is being improved under a separate project, and water would flow from the Crown Hill Tank to Alta Vista Tank No. 2; accordingly, the project would not require new sources of energy for water pumping. The project would require electricity from existing SCE infrastructure to operate radios, tank valves and gates, and energy required for operational activities would be minimal. Furthermore, the project would not introduce new permanent staffing needs. As such, the project would not involve the wasteful, inefficient, or unnecessary consumption of energy resources during operation.

Therefore, the project would not result in the wasteful, inefficient, or unnecessary consumption of energy resources during project construction or operation and impacts would be less than significant.

LESS THAN SIGNIFICANT IMPACT

- b. Would the project conflict with or obstruct a state or local plan for renewable energy or energy efficiency?*

The Simi Valley General Plan and Simi Valley Climate Action Plan do not contain goals or policies related to the energy consumption or energy efficiency of water infrastructure. The project would comply with energy efficiency standards set forth in Title 24 of the California Building Code, which would minimize the wasteful, inefficient, or unnecessary consumption of energy resources during operation. Further, the project would comply with the California Green Building Standards Code (CALGreen) which requires implementation of energy-efficient light fixtures and building materials into the design of new construction projects, and the Building Energy Efficiency Standards, which requires newly constructed buildings to meet energy performance standards set by the California Energy Commission. These standards are specifically crafted for new buildings to achieve energy efficient performance.

In addition to these requirements, the use of nonrenewable energy resources would be further reduced as the percentage of electricity generated by renewable resources provided by SCE continues to increase to comply with state requirements through Senate Bill 100), which requires electricity providers to increase procurement from eligible renewable energy resources to 60 percent by 2030 and 100 percent by 2045. These regulations would result in the efficient use of energy necessary to construct the project.

With the project's consumption of gasoline and diesel nonrenewable fuels only during construction and in compliance with California Code of Regulations Title 13 Sections 2449 and 2485, USEPA Construction Equipment Fuel Efficiency Standard, and CALGreen, the project would not conflict with or obstruct a State or local plan for renewable energy or energy efficiency. Therefore, there would be a less-than-significant impact related to consistency with local and State renewable energy and energy efficiency plans.

LESS THAN SIGNIFICANT IMPACT

7 Geology and Soils

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
Would the project:				
a. Directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving:				
1. Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault?	☐	☐	☐	☒
2. Strong seismic ground shaking?	☐	☐	☒	☐
3. Seismic-related ground failure, including liquefaction?	☐	☐	☐	☒
4. Landslides?	☐	☐	☐	☒
b. Result in substantial soil erosion or the loss of topsoil?	☐	☐	☒	☐
c. Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction, or collapse?	☐	☐	☒	☐
d. Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial direct or indirect risks to life or property?	☐	☐	☐	☒
e. Have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater?	☐	☐	☐	☒
f. Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?	☐	☒	☐	☐

The following analysis is based in part on the geotechnical report prepared for the project by Oakridge Geoscience, Inc. in December 2016. The report is included as Appendix A.

- a.1. Would the project directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault?*

The nearest Alquist-Priolo Earthquake Fault Zone is the Simi-Santa Rosa Fault Zone, which is located approximately 3.8 miles northwest of the project site (California Department of Conservation 2021; Appendix A). Therefore, the project site does not overlie a known fault and would not result in the risk of loss, injury, or death involving rupture of a known earthquake fault. No impact would occur.

NO IMPACT

- a.2. Would the project directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving strong seismic ground shaking?*

Similar to all of Southern California, the project site is subject to strong ground shaking associated with active or potentially active faults within the region. Faults in proximity to the project site include the Northridge Fault approximately 2.1 miles to the south, Simi-Santa Rosa Fault 3.8 miles to the northwest, the Santa Susana Fault 5 miles to the northeast, and the San Cayetano Fault 13 miles to the north (California Department of Conservation 2021; Appendix A).

The project involves demolition of an existing water storage tank and construction of a new water storage tank and pipelines. The project would not include habitable structures which could put people at risk of loss, injury, or death involving strong seismic ground shaking. Design and construction of the project would consider the seismic environment and would comply with applicable seismic design standards, including the American Water Works Association D100 Seismic Design Parameters. These design standards incorporate seismic design and strength standards for water tanks, including those that may be used for post-earthquake fire suppression (Appendix A). A large seismic event, such as a fault rupture, seismic shaking, or ground failure, could result in breakage of the tank or pipelines and/or underground leakage from the tank or pipelines. In the event an earthquake compromises the pipelines during operation, the District would conduct emergency repairs as soon as practicable.

Although the project site is located within a seismically active area and would place infrastructure in an area that could be affected by seismic activity, impacts related to the risk of loss, injury, or death involving rupture of a known earthquake fault or strong seismic ground shaking would be less than significant.

LESS THAN SIGNIFICANT IMPACT

- a.3. Would the project directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving seismic-related ground failure, including liquefaction?*

Liquefaction occurs when strong, cyclic motions during an earthquake cause water-saturated soils to lose their cohesion and take on a liquid state. Liquefied soils are unstable and can subject overlying structures to substantial damage. The project site is underlain by bedrock and does not contain groundwater (Appendix A). Therefore, the project would not result in the risk of loss, injury, or death involving seismic related ground failure including liquefaction and no impact would occur.

NO IMPACT

- a.4. Would the project directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving landslides?*

The proposed tank site is located within moderately steep hillside terrain, but is not located within a landslide hazard zone (California Department of Conservation 2021). Because the proposed tank and pipelines would be located within bedrock soil layers and the topography of the tank site itself is relatively flat, the potential for slope instability and landslides is low (Appendix A). Therefore, the project would not result in the risk of loss, injury, or death involving landslides and no impact would occur.

NO IMPACT

- b. Would the project result in substantial soil erosion or the loss of topsoil?*

Soil erosion or the loss of topsoil may occur when soils are disturbed but not secured or restored, such that wind or rain events may mobilize disturbed soils, resulting in their transport off the project site. The project site is relatively flat; however, construction of the proposed pipeline would require grading and open cut trenching on land that is currently undeveloped, which would involve exposing soil such that erosion and topsoil loss could occur.

Section 9-32.110 of SVMC establishes grading standards, which require preparation of a soil stabilization report and implementation of erosion control measures to prevent soil loss. Construction activities would be required to comply with this ordinance and soil erosion would be controlled to the extent feasible. With adherence to the requirements of this ordinance, impacts related to substantial soil erosion or loss of topsoil would be less than significant.

LESS THAN SIGNIFICANT IMPACT

- c. Would the project be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction, or collapse?*

As discussed under checklist items (a.1), (a.3), and (a.4), the project would not result in on- or off-site landslide, liquefaction, or collapse. In addition, the project is not anticipated to adversely affect soil stability or increase the potential for local or regional liquefaction, lateral spreading, subsidence or collapse, as excavated areas would be properly backfilled in accordance with applicable compaction requirements. The project would not include habitable structures and impacts related to landslide, lateral spreading, subsidence, liquefaction, or collapse would be less than significant.

LESS THAN SIGNIFICANT IMPACT

- d. Would the project be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial direct or indirect risks to life or property?*

Expansive soils are soils with high shrink-swell potential. The bedrock and granular fill soils that underlie the project site are considered to have low expansion potential (Appendix A). Accordingly, the project would not be located on expansive soil and would not create risks to life or property. No impact would occur.

NO IMPACT

- e. *Would the project have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater?*

The project does not include the use of septic tanks or alternative wastewater disposal systems. Therefore, no impact would occur.

NO IMPACT

- f. *Would the project directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?*

Paleontological resources, or fossils, are the evidence of once-living organisms preserved in the rock record. They include both the fossilized remains of ancient plants and animals and the traces thereof (e.g., trackways, imprints, burrows, etc.). Paleontological resources are not found in “soil” but are contained within the geologic deposits or bedrock that underlies the soil layer. Typically, fossils are greater than 5,000 years old (i.e., older than middle Holocene in age) and are typically preserved in sedimentary rocks. Although rare, fossils can also be preserved in volcanic rocks and low-grade metamorphic rocks under certain conditions (Society of Vertebrate Paleontology [SVP] 2010). Fossils occur in a non-continuous and often unpredictable distribution within some sedimentary units, and the potential for fossils to occur within sedimentary units depends on several factors. It is possible to evaluate the potential for geologic units to contain scientifically important paleontological resources, and therefore evaluate the potential for impacts to those resources and provide mitigation for paleontological resources if they are discovered during construction of a development project.

The paleontological sensitivity of the geologic units that underlie the project site was evaluated to assess the project’s potential for significant impacts to scientifically important paleontological resources. The analysis was based on the results of a paleontological locality search and a review of existing information in the scientific literature regarding known fossils within geologic units mapped at the project site. According to the SVP (2010) classification system, geologic units can be assigned a high, low, undetermined, or no potential for containing scientifically significant nonrenewable paleontological resources. Following the literature review, a paleontological sensitivity classification was assigned to each geologic unit mapped within the project site. This criterion is based on rock units within which vertebrate or significant invertebrate fossils have been determined by previous studies to be present or likely to be present. The potential for impacts to significant paleontological resources is based on the potential for ground disturbance to directly impact paleontologically sensitive geologic units.

The project site is situated in the Transverse Ranges geomorphic province, one of the eleven geomorphic provinces in California (California Geological Survey 2002). The Transverse Ranges extend approximately 275 miles west-east from Point Arguello in Santa Barbara County, east to the San Bernardino Mountains, and south to the Anacapa-Santa Monica-Hollywood-Raymond-Cucamonga fault zone (Yerkes and Campbell 2005). Locally, the project site is in the Simi Hills, an approximately 13-mile-long range formed of Cretaceous to Miocene-aged marine sedimentary rocks. The Simi Hills are bordered to the north by the Simi Valley, to the east by the San Fernando Valley, to the south by the Santa Monica Mountains, and to the west by the Santa Rosa Valley.

The project is located in the *Simi Valley East, California* United States Geological Survey 7.5-minute topographic quadrangle. The geology of the region surrounding the project site was mapped by Campbell et al. (2016), who identified a single geologic unit, Chatsworth Formation, within the project site. The geotechnical report (Appendix A) identifies artificial fill and Quaternary colluvium as well as

the Chatsworth Formation. The geotechnical investigation represents a much more localized analysis of the project site's geology, so its interpretations will be primarily relied upon for this report. A records search was conducted with the Natural History Museum of Los Angeles County on September 8, 2024. This locality search recovered no known fossil localities within the project site (Bell 2024). Bell (2024) reported many localities from the Chatsworth Formation within the Simi Hills, which have produced shark (Chondrichthyes) teeth and invertebrates. The nearest locality to the project site comes from Dayton Canyon approximately 2 miles south of the project site.

Artificial fill underlies the proposed Crown Hill Tank location (Appendix A). The depth of this artificial fill varies across the proposed tank location since it was seemingly placed on the naturally sloped land to provide level building surfaces, but the layer is up to 10 feet thick within the tank footprint. The artificial fill within the remainder of project site consists of sandy silt and silty sand. Artificial fill represents human-deposited sediment and, therefore, has no paleontological sensitivity.

A 1- to 3-foot-thick layer of Quaternary colluvium was found beneath artificial fill within the Crown Hill Tank location (Appendix A). This layer likely represents native soil that was not removed prior to placement of the artificial fill and it consists of dark reddish-brown silty sand. Fossils generally are not preserved within active soils (SVP 2010); therefore, Quaternary colluvium has low paleontological sensitivity.

The Chatsworth Formation is mapped across the entire project site (Campbell et al. 2016) and was found at the surface or beneath the artificial fill and Quaternary colluvium by Oakridge Geoscience, Inc. (2016). The Chatsworth Formation is Late Cretaceous in age (Campbell et al. 2016), and it consists of light brown, thick- or massive-bedded, sandstone with siltstone interbeds at various stages of weathering (Appendix A). The Chatsworth Formation has produced numerous fossil localities within the Simi Hills, yielding taxa such as sharks, ammonites, echinoderms, bivalves, and gastropods (Bell 2024; Paleobiology Database 2024). Given this fossil producing history, the Chatsworth Formation has high paleontological sensitivity.

Table 4 summarizes project construction activities and their potential to impact paleontological resources. As shown therein, the retaining wall, access road, and pipeline alignments are located within geologic units with high paleontological sensitivity and therefore have the potential to impact paleontological resources within the project site.

Table 4 Construction Activity Potential to Impact Paleontological Resources

Project Component	Geologic Unit(s) Affected	Potential to Impact Paleontological Resources?
Crown Hill Tank	artificial fill; Quaternary colluvium	No
Retaining Wall	artificial fill; Quaternary colluvium; Chatsworth Formation	Yes
Inlet/Outlet Drain Pipeline	artificial fill; Quaternary colluvium; Chatsworth Formation	Yes
Alta Vista Tank No. 1 (Demolition)	artificial fill	No
Access Road	artificial fill; Chatsworth Formation	Yes

Construction of the Crown Hill Tank would involve the excavation and replacement/re-compaction of existing artificial fill sediments at the tank site. Therefore, these excavations would not impact previously disturbed sediments and would not pose a risk to paleontological resources. In addition, ground disturbance required for demolition of Alta Vista Tank No. 1 would disturb fill sediments and would not have the potential to impact paleontological resources. Trenching for the inlet-outlet and

drain pipelines is expected to reach up to 6 feet below the surface. The proposed path for these pipelines crosses the existing tank site, which contains up to 10 feet of artificial fill, the existing access road with 1-3 feet of artificial fill, and the hillside which has no artificial fill. Therefore, pipeline installation likely will affect previously undisturbed parts of the Chatsworth Formation, so this activity does have the potential to significantly impact paleontological resources.

Ground-disturbing activities within previously undisturbed sediments with high paleontological sensitivity, such as the Chatsworth Formation, could result in significant impacts to paleontological resources. Impacts would be significant if construction activities result in the destruction, damage, or loss of scientifically important paleontological resources and associated stratigraphic and paleontological data. Excavations for the installation of the retaining walls, particularly Wall 1 on the southern and eastern portions of the Crown Hill Tank site, could impact previously undisturbed portions of the Chatsworth Formation and could significantly impact paleontological resources. Further, the new access road would involve grading all loose sediment down to bedrock and the installation of curbs and gutters along the side of this roadway. Little to no artificial fill is found in this access road alignment, so these activities could impact previously undisturbed parts of the Chatsworth Formation and significantly impact paleontological resources. Impacts would be potentially significant and implementation of Mitigation Measure GEO-1 is required.

Mitigation Measure GEO-1 would reduce potential impacts to paleontological resources to a less-than-significant level by educating construction personnel on the appearance of paleontological resources; monitoring for paleontological resources; and, if discovered, recovering, identifying, and curating paleontological resources.

Mitigation Measure

GEO-1 Paleontological Resources Monitoring and Mitigation

Qualified Professional Paleontologist. Prior to excavation, the District shall retain a Qualified Professional Paleontologist, as defined by the Society of Vertebrate Paleontology (SVP 2010) to direct all mitigation measures related to paleontological resources.

Paleontological Worker Environmental Awareness Program. Prior to the start of construction, the Qualified Professional Paleontologist or their designee shall conduct a paleontological Worker Environmental Awareness Program (WEAP) training for construction personnel regarding the appearance of fossils and the procedures for notifying paleontological staff shall fossils be discovered by construction personnel.

Paleontological Monitoring and Salvage. Full-time paleontological monitoring shall be conducted during ground-disturbing activities that could impact previously undisturbed sediments (e.g., inlet-outlet and drain pipeline trenching, retaining wall installation, access road construction). Paleontological monitoring shall be conducted by a paleontological monitor with experience with collection and salvage of paleontological resources and who meets the minimum standards of the SVP (2010) for a Paleontological Resources Monitor.

The Qualified Professional Paleontologist may recommend that monitoring be reduced in frequency or ceased entirely based on geologic observations. Such decisions shall be subject to review and approval by the District. In the event of a fossil discovery by the paleontological monitor or construction personnel, all construction activity within 50 feet of the find shall cease, and the Qualified Professional Paleontologist shall evaluate the find. If the fossil(s) is (are) not scientifically

significant, then construction activity may resume. If it is determined that the fossil(s) is (are) scientifically significant, the following shall be completed:

- **Fossil Salvage.** The paleontological monitor shall salvage (excavate and recover) the fossil to protect it from damage/destruction. Typically, fossils can be safely salvaged quickly by a single paleontological monitor with minimal disruption to construction activity. In some cases, larger fossils (such as complete skeletons or large mammal fossils) require more extensive excavation and longer salvage periods. Bulk matrix sampling may be necessary to recover small invertebrates or microvertebrates from within paleontologically sensitive deposits. After the fossil(s) is (are) salvaged, construction activity may resume.
- **Fossil Preparation and Curation.** Fossils shall be identified to the lowest (most-specific) possible taxonomic level, prepared to a curation-ready condition, and curated in a scientific institution with a permanent paleontological collection along with all pertinent field notes, photos, data, and maps. Fossils of undetermined significance at the time of collection may also warrant curation at the discretion of the Qualified Professional Paleontologist.

Final Paleontological Mitigation Report. Upon completion of ground-disturbing activities (or laboratory preparation and curation of fossils, if necessary), the Qualified Professional Paleontologist shall prepare a final report describing the results of the paleontological monitoring efforts. The report shall include a summary of the field and laboratory methods employed; an overview of project geology; and, if fossils were discovered, an analysis of the fossils, including physical description, taxonomic identification, and scientific significance. The report shall be submitted to the District and, if fossil curation occurred, the designated scientific institution.

LESS THAN SIGNIFICANT WITH MITIGATION INCORPORATED

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8 Greenhouse Gas Emissions

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
Would the project:				
a. Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?	☐	☐	☒	☐
b. Conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of greenhouse gases?	☐	☐	☒	☐

- a. *Would the project generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?*
- b. *Conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of greenhouse gases?*

The vast majority of individual projects do not generate sufficient greenhouse gas (GHG) emissions to directly influence climate change. However, physical changes caused by a project can contribute incrementally to significant cumulative effects, even if individual changes resulting from a project are limited. As a result, the issue of climate change typically involves an analysis of whether a project's contribution towards an impact would be cumulatively considerable. "Cumulatively considerable" means that the incremental effects of an individual project are significant when viewed in connection with the effects of past projects, other current projects, and probable future projects (CEQA Guidelines Section 15064[h][1]).

According to the VCAPCD *Initial Study Assessment Guidelines* (VCAPCD Guidelines) (VCAPCD 2003) the VCAPCD has not yet adopted a threshold of significance for GHG emissions from land use development projects, nor has the VCAPCD developed its own method of determining significance in the area of project GHG emissions. The VCAPCD Guidelines state:

When adopting thresholds of significance, a lead agency may consider thresholds of significance previously adopted or recommended by other public agencies or recommended by experts, provided the decision of the lead agency to adopt such thresholds is supported by substantial evidence." CEQA Guidelines § 15064.7(c).

According to *CEQA Guidelines* Section 15183.5, project analysis can tier from a qualified GHG reduction plan, which allows for project-level evaluation of GHG emissions through the comparison of the project's consistency with the GHG reduction policies included in a qualified GHG reduction plan. This approach is considered by the Association of Environmental Professionals (AEP) in their white paper, *Beyond Newhall and 2020*, to be the most defensible approach presently available under CEQA to determine the significance of a project's GHG emissions (AEP 2016). However, the City of Simi Valley has not published a qualified GHG reduction plan. The City of Simi Valley Climate Action

Plan published in June 2012 established goals to reduce the City's GHG emissions to 1990 levels by 2020 but did not identify methods to further reduce emissions by 2030. In addition, the document is not a qualified GHG reduction plan. Therefore, as neither Simi Valley nor VCAPCD have adopted qualified GHG reduction plans, the analysis is based on the comparison of the project to the SCAG 2022 Scoping Plan Update and the RTP/SCS. In addition, the emissions of GHGs with respect to construction and operation have been quantified for informational purposes.

Construction Emissions

Construction facilitated by the project would generate temporary GHG emissions primarily from the operation of construction equipment on-site, as well as from vehicles transporting construction workers to and from the project site and heavy trucks to transport building materials and soil export.

Construction activities for the project would generate an estimated 646 metric tons (MT) of carbon dioxide equivalents (CO₂e) as shown in Table 5. Amortized over a 30-year period, construction of the project would generate approximately 22 MT of CO₂e per year.

Table 5 Estimated Construction GHG Emissions

Year	Annual Emissions (MT of CO ₂ e/year)
2023	525
2024	121
Total Emissions	646
Amortized Over 30 Years	22

MT CO₂e = metric tons of carbon dioxide equivalent.
Source: Appendix B

Operational and Total Project Emissions

Operation of the project would generate GHG emissions associated with architectural coating, area, and vehicle trips for the five-year maintenance and cleaning activities. Annual operational emissions during these years are summarized in Table 6. The annual operational GHG emissions are combined with the amortized construction emissions. The project would generate approximately 405 MT of CO₂e per year during the 5-year maintenance and cleaning years, and during the off-years would result in less mobile emissions as the only mobile emission would occur during testing and maintenance of the emergency generator or regular inspections.

Table 6 Operational GHG Emissions

Emission Source	Annual Emissions (MT of CO ₂ e/year)
Construction	
Amortized over 30 years	22
Operational	
Area	1
Energy	30
Mobile	329
Stationary Source	23
Total Project Emissions	383

MT CO₂e = metric tons of carbon dioxide equivalent
Source: Appendix B

Consistency with State, Regional, and Local Plans

The following subsections demonstrate the project's consistency with state, regional, and local plans, policies, or regulations adopted for the purpose of reducing the emissions of GHGs.

Senate Bill 32 and 2022 Scoping Plan

There are numerous state plans, policies, and regulations adopted for the purpose of reducing GHG emissions. The principal overall state plan is Senate Bill (SB) 32, the follow up to Assembly Bill (AB) 32, the California Global Warming Solutions Act of 2006. The goal of SB 32 is to reduce GHG emissions to 40 percent below 1990 levels by 2030. CARB's 2022 Scoping Plan outlines a framework to achieve targets for carbon neutrality and reduce anthropogenic GHG emissions by 85 percent below 1990 levels no later than 2045, as directed by AB 1279. The 2022 Scoping Plan emphasizes innovation, adoption of existing technology, and strategic investment to support its strategies for GHG emissions reductions. Statewide plans and regulations in support of these strategies, such as GHG emissions standards for vehicles (AB 1493), the Low Carbon Fuel Standard, and regulations requiring an increasing fraction of electricity to be generated from renewable sources, are being implemented at the statewide level; as such, compliance at a project-level would occur as implementation continues statewide. Therefore, the project would be consistent with SB 32 and the 2022 Scoping Plan.

2024 – 2050 Regional Transportation Plan/Sustainable Communities Strategy

SCAG's 2024 - 2050 RTP/SCS is forecast to help California reach its GHG reduction goals. According to the RTP/SCS, the updated target for the SCAG region is 19 percent below 2005 per capita emissions levels by 2035. The revised 2035 target is higher than the previous CARB target of 13 percent for the SCAG region. The RTP/SCS includes implementation strategies for focusing growth near destinations and mobility options, promoting diverse housing choices, leveraging technology innovations, supporting implementation of sustainability policies, and promoting a green region. The project's consistency with the RTP/SCS is discussed in Table 7. As shown therein, the project would be consistent with the GHG emission reduction strategies contained in the RTP/SCS.

Table 7 Consistency with Applicable SCAG RTP/SCS GHG Emission Reduction Strategies

Strategy/Action	Project Consistency
Focus Growth Near Destinations and Mobility Options	
▪ Emphasize land use patterns that facilitate multimodal access to work, educational and other destinations ▪ Focus on a regional jobs/housing balance to reduce commute times and distances and expand job opportunities near transit and along center-focused main streets ▪ Plan for growth near transit investments and support implementation of first/last mile strategies. ▪ Prioritize infill and redevelopment of underutilized land to accommodate new growth, increase amenities and connectivity in existing neighborhoods ▪ Encourage design and transportation options that reduce the reliance on and number of solo car trips (this could include mixed uses or locating and orienting close to existing destinations) ▪ Identify ways to “right size” parking requirements and promote alternative parking strategies (e.g., shared parking or smart parking)	No Conflict. The project is the construction and operation of a water tank and does not result in either residential or employment growth. Therefore, the project would not conflict with the focus of growth near destinations and mobility options.
Leverage Technology Innovations	
▪ Promote low emission technologies such as neighborhood electric vehicles, shared rides hailing, car sharing, bike sharing and scooters by providing supportive and safe infrastructure such as dedicated lanes, charging and parking/drop-off space ▪ Identify ways to incorporate “micro-power grids” in communities, for example solar energy, hydrogen fuel cell power storage and power generation	No Conflict. The project is the construction and operation of a water tank and does not result in either residential or employment growth. Therefore, the project would not conflict with leveraging of technological innovations.
Support Implementation of Sustainability Policies	
▪ Pursue funding opportunities to support local sustainable development implementation projects that reduce GHG emissions ▪ Support statewide legislation that reduces barriers to new construction and that incentivizes development near transit corridors and stations ▪ Support local jurisdictions in the establishment of Enhanced Infrastructure Financing Districts (EIFDs), Community Revitalization and Investment Authorities (CRIAs), or other tax increment or value capture tools to finance sustainable infrastructure and development projects, including parks and open space ▪ Work with local jurisdictions/communities to identify opportunities and assess barriers to implement sustainability strategies ▪ Enhance partnerships with other planning organizations to promote resources and best practices in the SCAG region ▪ Continue to support long range planning efforts by local jurisdictions ▪ Provide educational opportunities to local decision makers and staff on new tools, best practices and	Consistent. The project would be designed and operated to meet the applicable requirements of all applicable CALGreen. The project would not result in additional water consumption. Therefore, the project would support implementation of sustainability policies.

Strategy/Action	Project Consistency
policies related to implementing the Sustainable Communities Strategy	
Promote a Green Region	
▪ Support local policies for renewable energy production, reduction of urban heat islands and carbon sequestration ▪ Promote more resource efficient development focused on conservation, recycling, and reclamation ▪ Preserve, enhance, and restore regional wildlife connectivity ▪ Reduce consumption of resource areas, including agricultural land ▪ Identify ways to improve access to public park space	Consistent. The project would comply with applicable conservation policies such as the City's General Plan, Title 24, and CALGreen. The project has no water consumption or waste generation. Therefore, the project would support development of a green region.
Source: SCAG 2020	

LESS THAN SIGNIFICANT IMPACT

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9 Hazards and Hazardous Materials

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
Would the project:				
a. Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?	☐	☐	☒	☐
b. Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?	☐	☐	☒	☐
c. Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within 0.25 mile of an existing or proposed school?	☐	☐	☐	☒
d. Be located on a site that is included on a list of hazardous material sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?	☐	☐	☐	☒
e. For a project located in an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard or excessive noise for people residing or working in the project area?	☐	☐	☐	☒
f. Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?	☐	☐	☐	☒
g. Expose people or structures, either directly or indirectly, to a significant risk of loss, injury, or death involving wildland fires?	☐	☐	☒	☐

- a. *Would the project create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?*

Construction of the project would require the use of limited quantities of construction-related hazardous materials and petroleum products (e.g., diesel fuel, lubricants, and solvents). The transport, use, and storage of hazardous materials would be conducted pursuant to applicable local, state, and federal regulations regarding the handling of potentially hazardous materials, including Title 49 of the Code of Federal Regulations and Title 13 of the California Code of Regulations. Title 49 of the Code of Federal Regulations requires training of every employee who handles hazardous materials to ensure proper handling, transport, and disposal of the hazardous materials. Title 13 of the California Code of Regulations regulates transport of hazardous materials to ensure the safe transport of hazardous materials. With adherence to these regulations, project construction would not create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials. This impact would be less than significant.

Operation of the project would use fuels, including the use of maintenance equipment to at the Crown Hill Tank site and its associated pipelines. As discussed above, the project would comply with applicable regulations regarding the use of potentially hazardous materials. Therefore, operation of the project would not create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials. No impact would occur.

LESS THAN SIGNIFICANT IMPACT

- b. *Would the project create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?*

The presence of hazardous materials during project construction activities could result in an accidental upset or release of hazardous materials if they are not properly stored and secured. Hazardous materials used during project construction would be disposed of off-site in accordance with all applicable laws and regulations. In the event groundwater dewatering is required, the construction contractor would operate a dewatering system which would lower groundwater levels to six inches below the depth of excavation. Dewatered groundwater would be discharged consistent with the waste discharge requirements of the Los Angeles Regional Water Quality Control Board (LARWQB) for discharges of groundwater from construction and project dewatering (Order No. R4-2023-0429; General National Pollutant Discharge Elimination System [NPDES] Permit No. CAG994004). Therefore, the project would have a less-than-significant impact related to creating hazards through upset and accident conditions.

LESS THAN SIGNIFICANT IMPACT

- c. *Would the project emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within 0.25 mile of an existing or proposed school?*

The nearest school to the project site is Knolls Elementary School, located approximately 0.5 mile northeast of the project site. As discussed above under checklist items (a) and (b), project construction would involve the temporary transport, storage, use, and disposal of hazardous materials, but would not involve the emission of hazardous materials. such, the project would not be able to potentially emit hazardous emissions or handle hazardous materials within 0.25 mile of an existing school, and no impact would occur.

NO IMPACT

- d. *Would the project be located on a site that is included on a list of hazardous material sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?*

The following databases compiled pursuant to Government Code Section 65962.5 were reviewed with regard to the project site for known hazardous materials contamination:

- EnviroStor Database, California Department of Toxic Substances Control (DTSC)
- GeoTracker Database, State Water Resources Control Board (SWRCB)
- California Environmental Protection Agency (CalEPA) Cortese List

According to these database searches, there are no known hazardous material sites within the project site or within 0.25 mile of the project site (DTSC 2024; SWRCB 2024; CalEPA 2024). As such, the project would not be located on a hazardous materials site on a list compiled pursuant to Government Code Section 65962.5 and would not create a significant hazard to the public or the environment. No impact would occur.

NO IMPACT

- e. *For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard or excessive noise for people residing or working in the project area?*

The nearest airport is the Van Nuys Airport, located approximately 11 miles southeast of the project site. The project site is not located within the airport's influence area or within its mapped noise contours (LAWA 2024). Therefore, the project would not result in a safety hazard or excessive noise to workers in the project area. Therefore, the project would result in no impact related to safety hazards or excessive noise associated with an airport.

NO IMPACT

- f. *Would the project impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?*

The project would not involve habitable development nor new facilities that would interfere with adopted emergency plans. Partial or full closures of Crown Hill Drive may be required during certain stages of project construction, which could affect access to an existing residence south of the Alta Vista Tanks. Temporary lane or road closures could be required. The District shall notify the affected residence of planned construction activities. The District's construction contractor would coordinate closures with applicable agencies, such as the Ventura County Fire Department, the Simi Valley Police Department, and the Ventura County Sheriff's Office, and would implement traffic control measures. In addition, the project would not require the construction of new public roadways that could be used as emergency evacuation routes. As such, the project would not block emergency response or evacuation routes or interfere with adopted emergency response and emergency evacuation plans. Therefore, the project would result in no impact related to impairment or interference with implementation of an emergency response or evacuation plan.

NO IMPACT

- g. Would the project expose people or structures, either directly or indirectly, to a significant risk of loss, injury, or death involving wildland fires?*

According to maps prepared by the California Department of Forestry and Fire Protection (CAL FIRE), the project site is designated as a Very High Fire Hazard Severity Zone (FHSZ) and is within a Local Responsibility Area (CAL FIRE 2024). The project does not include habitable development that could be subject to wildland fire, nor would it result in other physical changes to the environment that could increase the risk of a wildland fire. As described further under Environmental Checklist Section 20, *Wildfire*, the project would not expose people or structures to a substantial risk of loss, injury, or death involving wildland fires. Further, one of the purposes of the project is to provide additional water storage in the Knolls Pressure Zone to provide additional water supplies for firefighting. Therefore, project impacts related to risks associated with exposure to wildland fires would be less than significant.

LESS THAN SIGNIFICANT IMPACT

10 Hydrology and Water Quality

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
Would the project:				
a. Violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or ground water quality?	☐	☐	☒	☐
b. Substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the Basin?	☐	☐	☒	☐
c. Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would:				
(i) Result in substantial erosion or siltation on- or off-site;	☐	☐	☒	☐
(ii) Substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site;	☐	☐	☒	☐
(iii) Create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff; or	☐	☐	☒	☐
(iv) Impede or redirect flood flows?	☐	☐	☒	☐
d. In flood hazard, tsunami, or seiche zones, risk release of pollutants due to project inundation?	☐	☐	☐	☒
e. Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?	☐	☐	☒	☐

- a. *Would the project violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or ground water quality?*

The project site is located in the South Coast hydrologic region, which includes areas of Ventura, Los Angeles, Orange, Riverside, San Bernardino, and San Diego Counties. The nearest surface water bodies to the project site are Arroyo Simi wetland, located approximately 1.0 miles north of the project site; Chatsworth Creek, approximately 2.9 miles southeast of the project site; and Chatsworth Reservoir, approximately 3.0 miles southeast of the project site (USFWS 2024b).

Construction

The project would involve excavation, grading, and other construction activities which could adversely impact water quality due to increased erosion and sedimentation resulting from exposed soils and the generation of pollutants such as trash, construction materials, and equipment fluids.

The project site is less than one acre and would not be required to comply with the National Pollutant Discharge Elimination System (NPDES) Construction Stormwater General Permit. Rather, Section 9-32.110 of SVMC establishes grading standards, which require preparation of a soil stabilization report and implementation of erosion control measures to prevent soil loss. Construction activities would be required to comply with this ordinance and soil erosion would be controlled to the extent feasible. In addition, Section 9-32.110 of SVMC also requires compliance with Chapter 70 of the Uniform Building Code, and Chapter 7 of the Ventura County Land Development Manual. Chapter 70 of the Uniform Building Code outlines general grading requirements for structural foundations and requires professional oversight of grading activities and the maintenance of protective devices (e.g., retaining walls, drainage structures, etc) to reduce potential erosion and runoff. Chapter 7, *Construction*, of the Ventura County Land Development Manual requires review of grading plans and inspection of grading activities and drainages, and activities that are not in compliance with grading requirements may be required to stop work (County of Ventura 1995). With compliance with SVMC, Chapter 70 of the Uniform Building Code, and Chapter 7 of the Ventura County Land Development Manual, construction activities would not substantially degrade surface or ground water quality.

It is possible groundwater may be encountered and dewatering may be required during construction activities.. In the event groundwater dewatering is required, the construction contractor would operate a dewatering system which would lower groundwater levels to six inches below the depth of excavation. Dewatered groundwater would be discharged consistent with the waste discharge requirements of the LARWQB for discharges of groundwater from construction and project dewatering (Order No. R4-2023-0429; NPDES Permit No. CAG994004).

Compliance with the requirements of SVMC, the Uniform Building Code, the Ventura County Land Development Manual, and NPDES dewatering requirements would minimize the project's potential to degrade surface or groundwater quality. This impact would be less than significant.

Operation

The project would not modify the District's water supply and would not increase water supply production beyond existing permitted operations. The proposed water tank and access road would increase the amount of impervious surfaces on the project site. Precipitation on the water tank would flow into existing natural drainages, and the access road would include the installation of curbs and gutters to manage stormwater on-site. Accordingly, project operation would not substantially degrade surface or ground water quality and impacts would be less than significant.

LESS THAN SIGNIFICANT IMPACT

- b. *Would the project substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin?*

The project site overlies the Simi Valley Groundwater Basin, which is designated as a low-priority groundwater basin by the California Department of Water Resources (DWR; DWR 2024). The project would not increase the District's groundwater pumping regime in the Simi Valley Groundwater Basin and would not increase water supply production beyond existing permitted conditions. Accordingly, the project would not decrease groundwater supplies. While the project would increase the amount of impervious surfaces at the project site, the installation of new surfaces would be minimal and would not substantially interfere with groundwater recharge. Impacts would be less than significant.

LESS THAN SIGNIFICANT IMPACT

- c.(i) *Would the project substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would result in substantial erosion or siltation on- or off-site?*
- c.(ii) *Would the project substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site?*
- c.(iii) *Would the project substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner that would create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff?*
- c.(iv) *Would the project substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would impede or redirect flood flows?*

The project would not alter the course of a stream or river and would not substantially alter the existing drainage pattern of the site or area. While the project would introduce new impervious surfaces to the project site, the area of impervious surfaces would be minimal; precipitation on the water tank would flow into existing natural drainages, and the proposed access road would include curbs and gutters which would control stormwater flows. Additionally, as discussed in Section 7, *Geology and Soils* and above under checklist question (a), the project would be required to comply with applicable grading ordinances and regulations of the SVMC, Uniform Building Code, and Ventura County Land Development Manual which would reduce the potential for erosion or siltation.

The curbs and gutters along the proposed access road would collect stormwater and would not result in increased runoff from the project site or flooding. In addition, the proposed retaining walls would further stabilize slopes on the project site, reduce stormwater runoff flows, and prevent ponding and overflow from precipitation, which would reduce erosion, stormwater runoff, and the potential for flooding at the project site. According to the Federal Emergency Management Agency (FEMA), the project site is not located within a flood hazard zone (FEMA 2010). Therefore, the Project would result in minimal alterations to the existing drainage pattern of the project site and would have no potential to result in substantial erosion on or off site; substantially increase the rate or amount of surface runoff in a manner which would result in flooding on or off site; create or contribute runoff water that

would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff water; or impede or redirect flood flows. Impacts would be less than significant.

LESS THAN SIGNIFICANT IMPACT

- d. *In flood hazard, tsunami, or seiche zones, would the project risk release of pollutants due to project inundation?*

As discussed above, the project site is not located within a flood hazard zone. The project site is not proximate to the ocean or a large body of water and is therefore not at risk of tsunami or seiche. The project would not involve the storage of potentially hazardous materials on site. The project would not risk release of pollutants due to project inundation and no impact would occur.

NO IMPACT

- e. *Would the project conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?*

The Water Quality Control Plan for the Los Angeles Region Basin, in which the Simi Valley Groundwater Basin is located, is the water quality control plan applicable to the project site. This plan defines beneficial uses, sets forth water quality objectives, and establishes programs to manage the quality of surface water and groundwater and achieve those water quality objectives for protection of beneficial uses (Los Angeles Regional Water Quality Control Board 2024). As stated under checklist item 10(a), the project would be required to comply with applicable grading ordinances and regulations of the SVMC, Uniform Building Code, and Ventura County Land Development Manual which would reduce the potential for erosion or siltation. Compliance with these ordinances and regulations would ensure project construction would not impair beneficial uses of surface water and groundwater identified in the Water Quality Control Plan for the Los Angeles Region Basin. Operation of the project would utilize site controls and general housekeeping to prevent debris and pollutants from entering surface waters or the Simi Valley Groundwater Basin. Therefore, the project would not conflict with or obstruct implementation of a water quality control plan. Impacts would be less than significant.

As described in Item 10(b), the project site overlies the Simi Valley Groundwater Basin, which is designated as a low priority basin. Because this basin is designated as low priority, there is no sustainable groundwater management plan with which the project could comply. Therefore, the project would not conflict with obstruct implementation of a groundwater management plan. No impact would occur.

LESS THAN SIGNIFICANT IMPACT

11 Land Use and Planning

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
Would the project:				
a. Physically divide an established community?	☐	☐	☐	☒
b. Cause a significant environmental impact due to a conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect?	☐	☐	☐	☒

a. Would the project physically divide an established community?

The project would involve the construction of a new water storage tank, associated piping and electrical infrastructure, and an access road in a rural residential area of unincorporated Ventura County. The project would not impede access between existing surrounding residential areas and would not conflict with residential development. As such, the project would not physically divide an established community. No impact would occur.

NO IMPACT

b. Would the project cause a significant environmental impact due to a conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect?

Pursuant to California Government Code 53091, the building and zoning ordinances of a county or city do not apply to the location or construction of facilities for the production, storage, or transmission of water, wastewater, or electrical energy by a local agency. Therefore, the project is only evaluated for consistency with the City of Simi Valley General Plan.

The City's General Plan identifies policies to provide a sustainable water supply and support public safety. The project's potential consistency with applicable policies is described in Table 8. As shown therein, the project would actively support General Plan policies related to water supply, water quality protection, and public safety. Accordingly, the project would not cause a significant environmental impact due to a conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect. No impact would occur.

Table 8 Project General Plan Consistency

General Plan Goal or Policy	Project Consistency
Goal IU-1. Reliable Water Supply. A high-quality water supply, water treatment, distribution, pumping, and storage system that is reliable for meeting the current and projected future daily and peak water demands of Simi Valley residents is provided for the community.	Consistent. The purpose of the project is to improve water storage capacity and to provide proper water pressure to some lots in the Knolls Pressure Zone. The proposed water storage tank would provide water storage for existing development and provide additional water supplies for firefighting. Therefore, the project is consistent with this policy.
Policy IU-1.6. Water Supply During Emergencies. Maintain an adequate water supply during emergencies.	Consistent. As discussed above, one of the purposes of the project is to improve water storage and provide additional water supplies for firefighting in the project area. Therefore, the project would contribute to adequate water supply during emergencies and would be consistent with this policy.
NR-2.1 Tree Preservation. Encourage the preservation of trees and native vegetation in development projects. Require that new development utilize creative land planning techniques to preserve any existing healthy, protected trees to the greatest extent possible.	Consistent. It is not anticipated that the project would require the removal of trees.
Source: City of Simi Valley 2012b	

NO IMPACT

12 Mineral Resources

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
Would the project:				
a. Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of The state?	☐	☐	☐	☒
b. Result in the loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan, or other land use plan?	☐	☐	☐	☒

- a. *Would the project result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?*
- b. *Would the project result in the loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan, or other land use plan?*

According to the City's General Plan EIR Aggregate Resource Areas Map, the project site is in an area containing deposits whose significance cannot be evaluated from available data (City of Simi Valley 2012a). Within the City, the primary resource suitable for mining and conservation is oil. Simi Valley also contains areas of construction aggregate resources that, according to the State Mining and Geology Board Reclamation Regulations, are designated to be of regional significance. These areas include hillside deposits on Oak Ridge and the Simi Hills, portions of Oak Ridge extending from Long Canyon eastward to the Ventura County line, and areas above Meier and Runkle Canyons in the Simi Hills (City of Simi Valley 2012b). The project site is approximately 3.5 miles northeast of the Simi Hills. Further, the project would not involve mineral extraction or changes in land use that could affect the availability of mineral resources, and the project site is not currently used for mineral resource extraction. Therefore, no impact related to availability of mineral resources would occur.

NO IMPACT

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13 Noise

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
Would the project result in:				
a. Generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?	☐	☒	☐	☐
b. Generation of excessive groundborne vibration or groundborne noise levels?	☐	☐	☒	☐
c. For a project located within the vicinity of a private airstrip or an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?	☐	☐	☐	☒

Noise Background

Sound is a vibratory disturbance created by a moving or vibrating source, which is capable of being detected by the hearing organs. Noise is defined as sound that is loud, unpleasant, unexpected, or undesired and may therefore be classified as a more specific group of sounds. Noise levels are commonly measured in decibels (dB) using the A-weighted sound pressure level (dBA). The A-weighting scale is an adjustment to the actual sound pressure levels so that they are consistent with the human hearing response. Decibels are measured on a logarithmic scale that quantifies sound intensity in a manner similar to the Richter scale used to measure earthquake magnitudes. A doubling of the energy of a noise source, such as doubling of traffic volume, would increase the noise level by 3 dB; dividing the energy in half would result in a 3 dB decrease (Crocker 2007).

Human perception of noise has no simple correlation with sound energy: the perception of sound is not linear in terms of dBA or in terms of sound energy. Two sources do not “sound twice as loud” as one source. It is widely accepted that the average healthy ear can barely perceive changes of 3 dBA, increase or decrease (i.e., twice the sound energy); that a change of 5 dBA is readily perceptible (8 times the sound energy); and that an increase (or decrease) of 10 dBA sounds twice (half) as loud as what is readily perceptible (Crocker 2007).

Sound changes occur in both level and frequency spectrum as it travels from the source to the receptor. The most obvious change is the decrease in level as the distance from the source increases. The manner by which noise reduces with distance depends on factors such as the type of sources

(e.g., point or line, the path the sound will travel, site conditions, and obstructions). Noise levels from a point source typically attenuate, or drop off, at a rate of 6 dBA per doubling of distance (e.g., construction, industrial machinery, ventilation units). Noise from a line source (e.g., roadway, pipeline, railroad) typically attenuates at about 3 dBA per doubling of distance (Caltrans 2013). Noise levels may also be reduced by intervening structures; the amount of attenuation provided by this “shielding” depends on the size of the object and the frequencies of the noise levels.

The impact of noise is not a function of loudness alone. The time of day when noise occurs, and the duration of the noise are also important factors of project noise impact. Most noise that lasts for more than a few seconds is variable in its intensity. Consequently, a variety of noise descriptors have been developed by academics and industry professionals. One of the most frequently used noise metrics is the equivalent noise level (L_{eq}); it considers both duration and sound power level. L_{eq} is defined as the single steady A-weighted level equivalent to the same amount of energy as that contained in the actual fluctuating levels over time. Noise that occurs at night tends to be more disturbing than noise occurring during the day.

Existing Noise Setting

To determine ambient noise levels in the project area, two 15-minute sound level measurements were taken using a Soft dB Piccolo-II, Type 2 integrating sound level meter equipped with a windscreen. The meter was placed 5 feet above ground level. Measurements were conducted during the morning hours on Monday, October 28, 2024. Noise measurement location ST-1 was selected to capture ambient noise near the Crown Hill Tank site, and ST-2 was selected to capture ambient noise near the entrance to the private road portion of Crown Hill Drive. The results of the measurements are shown in Table 9, with noise measurement locations shown on Figure 4.

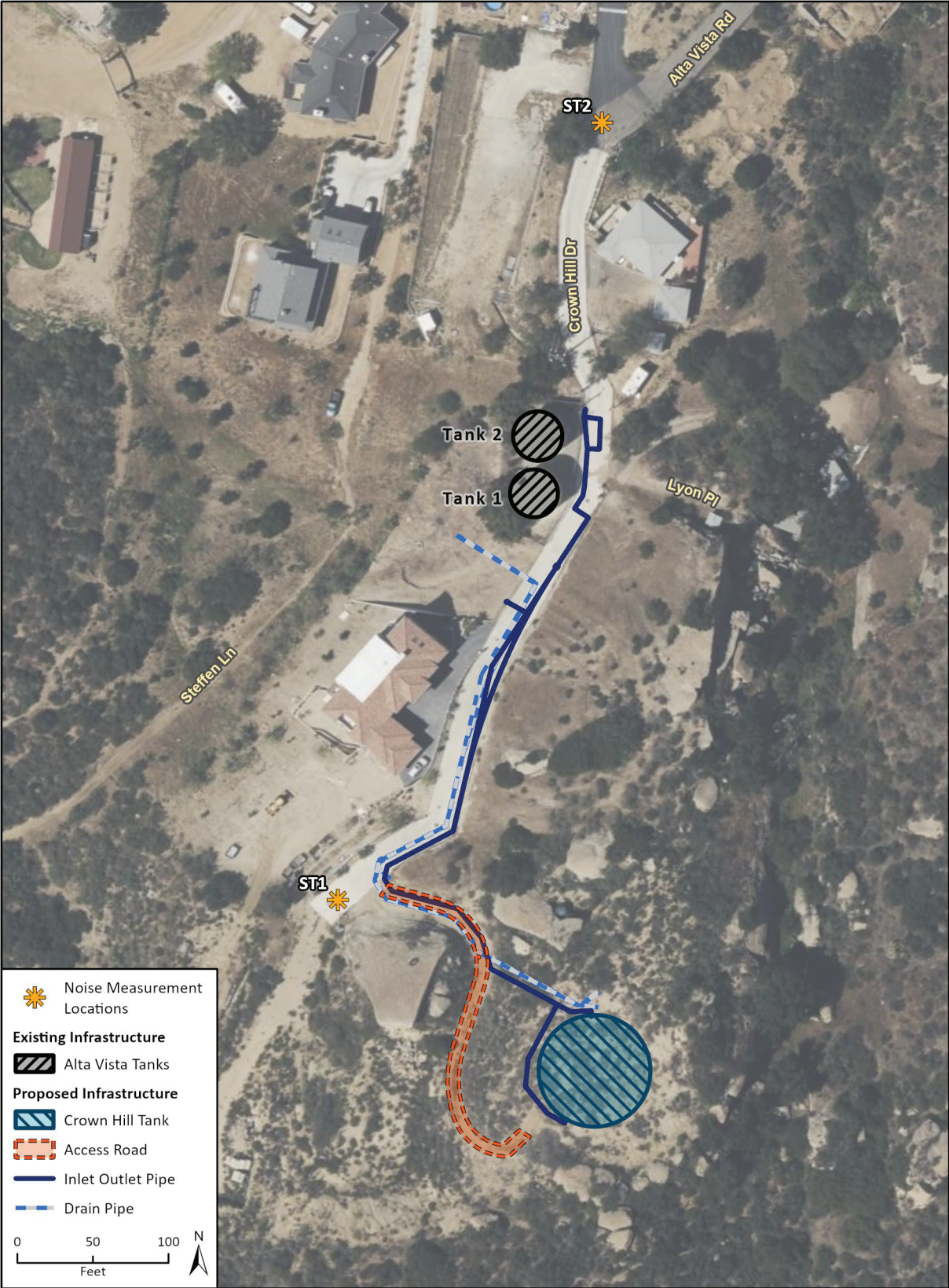
Table 9 Short-Term Noise Level Measurement Results

Measurement Location	Measurement Location	Sample Times	Approximate Distance to Primary Noise Source or Project Site	L_{eq} (dBA)	L_{min} (dBA)	L_{max} (dBA)
ST1	Southernmost portion of Crown Hill Drive, near access road to Crown Hill Tank site.	9:46 – 10:01 a.m.	No dominant noise sources; wind noise through trees and distance vehicle traffic noise were observed.	47	37	64
ST2	Near the entrance to the private road portion of Crown Hill Drive (intersection with Alta Vista Drive)	10:09 – 10:24 a.m.	No dominant noise sources; wind noise through trees and distance vehicle traffic noise were observed.	49	40	67

dBA = A-weighted decibels; L_{eq} = equivalent noise level; L_{min} = minimum noise level, L_{max} = maximum noise level

Noise- and vibration-sensitive land uses are locations where people reside or where the presence of unwanted sound and vibration could adversely affect the use of the land. The closest noise-sensitive receptors to the project site are the residences located at the following approximate distances from project components:

Figure 4 Noise Measurement Locations



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24-16201.EPS
Fig X Noise Measurement Locations

- Alta Vista Tank No. 1 Demolition: 100 feet to the north; 150 feet to the west; 150 feet to the east; and 125 feet to the south.
- Pipeline and Access Roadway Installation: 50 feet to the west; 180 feet to the northeast; and 175 feet to the northwest.
- Crown Hill Tank Construction: 200 feet to the west and 370 feet to the north.

Noise Standards

The City of Simi Valley's noise ordinance is codified in Chapter 16, *Noise*, of the SVMC. The noise ordinance establishes hours of operation for certain uses, standards for identifying noise disturbances, and legal remedies for violations.

SVMC Section 5-16.02(a) states that, in addition to conducting activities that are specifically identified as unlawful in the noise ordinance, the willful making or continuation of any loud, unnecessary, or unusual noise that disturbs the peace or quiet, or which causes discomfort or annoyance to a reasonable person of normal sensitiveness in an adjacent residence or business, shall be considered a nuisance.

Section 5-16.02(b-k) lists specific noise-producing acts that are considered to be nuisances, including excessive noise from radios, engines, mechanical devices, and domestic animals. For engines and mechanical devices, the code states that operation shall not be allowed between 11:00 p.m. and 7:00 a.m. on Friday or Saturday and between the hours of 10:00 p.m. and 7:00 a.m. on Sunday through Thursday unless the device is enclosed within a sound-insulated structure so as to prevent noise and sounds from being plainly audible at a distance of 50 feet from such structure or within 10 feet of any residence.

SVMC Section 5-16.02(i) prohibits the erection, excavation, demolition, alteration, construction, or repair of any structure or building outside the hours of 7:00 a.m. and 7:00 p.m., except when the urgent necessity, in the interests of the public health and safety, requires the work and the Simi Valley Engineer consents.

Because the City does not have a daytime construction noise limit, the Federal Transit Administration's (FTA) 2018 *Transit Noise and Vibration Impact Assessment* guidance document was used to evaluate construction noise levels. The guidance provides reasonable criteria for assessing construction noise impacts based on the potential for adverse community reaction, which are presented in Table 10.

Table 10 FTA Daytime Construction Noise Criteria

Receiving Land Use	Noise Criterion (dBA L_{eq} [8-hour])
Residential	80
Commercial	85
Industrial	90

dBA = A-weighted decibel; L_{eq} = average noise level equivalent
Source: FTA 2018

The City has not adopted vibration limits in the SVMC or the City's General Plan Noise Element. Therefore, FTA criteria for evaluating the potential for architectural damage to buildings, which are summarized in Table 11, are used in this analysis.

Table 11 FTA Groundborne Vibration Criteria – Architectural Damage

Building Category	PPV (in/sec)
I. Reinforced-concrete, steel, or timber (no plaster)	0.5
II. Engineered concrete and masonry (no plaster)	0.3
III. Non-engineered timber and masonry buildings	0.2
IV. Buildings extremely susceptible to vibration damage	0.12
PPV = peak particle velocity; in/sec = inches per second	
Source: FTA 2018	

- a. *Would the project result in generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?*

Construction

Temporary noise levels caused by construction activity would be a function of the noise generated by construction equipment, the location and sensitivity of nearby land uses, and the timing and duration of noise-generating activities. Construction noise was estimated using the Federal Highway Administration (FHWA) Roadway Construction Noise Model Version 1.1. Construction equipment used in modeling was taken from the CalEEMod outputs, described further in Initial Study Checklist Section 3, *Air Quality*. Construction equipment would not all operate at the same time or location, and construction equipment would not be in constant use during the eight-hour operating day. Distances used in the analysis are considered the closest approximate center point of construction over one day to the receptors.

Table 12, Table 13, and Table 14 presents estimated combined noise level from construction equipment used during Alta Vista Tank No. 1 demolition, pipeline and access roadway installation, and Crown Hill Tank construction, respectively. As shown therein, construction noise levels would not exceed the FTA's daytime construction noise limit of 80 dBA L_{eq} (8-hour) for Alta Vista Tank No. 1 demolition and Crown Hill Tank construction. For pipeline and access roadway installation, construction noise levels would exceed the FTA's daytime construction noise limit of 80 dBA L_{eq} (8-hour) at the residence to the west (943 Crown Hill Drive) with a noise level of 86 dBA L_{eq} (8-hour) at 50 feet (noise levels would exceed 80 dBA L_{eq} within 100 feet of the residence). Therefore, construction activities from the pipeline and access roadway installation would be potentially significant to this residence. Mitigation Measure NOI-1 would be required.

Table 12 Estimated Construction Noise Levels - Alta Vista Tank No. 1 Demolition

Construction Phase	Estimated Noise Levels (dBA L_{eq} [8-hour])			
	Residence to the North (100 feet)	Residence to the West (150 feet)	Residence to the East (150 feet)	Residence to the South (125 feet)
Demolition	78	75	75	76
Threshold¹	80	80	80	80
Threshold Exceeded?	No	No	No	No

dBA = A-weighted decibel; L_{eq} = average noise level equivalent

¹ Source: FTA 2018

Roadway Construction Noise Model data sheets and assumptions are included in Appendix C.

Table 13 Estimated Construction Noise Levels - Pipeline and Access Roadway Installation

Construction Phase	Estimated Noise Levels (dBA L _{eq} [8-hour])		
	Residence to the West (50 feet)	Residence to the Northeast (180 feet)	Residence to the Northwest (175 feet)
Linear, Grubbing & Land Clearing	82	71	71
Linear, Drainage, Utilities, & Sub-Grade	86	75	75
Linear, Paving	80	69	69
Threshold¹	80	80	80
Threshold Exceeded?	Yes	No	No

dBA = A-weighted decibel; L_{eq} = average noise level equivalent

¹ Source: FTA 2018

Roadway Construction Noise Model data sheets and assumptions are included in Appendix C.

Table 14 Estimated Construction Noise Levels – Crown Hill Tank Construction

Construction Phase	Estimated Noise Levels (dBA L _{eq} [8-hour])	
	Residence to the North (370 feet)	Residence to the West (200 feet)
Grading	66	71
Tank Construction	66	72
Threshold¹	80	80
Threshold Exceeded?	No	No

dBA = A-weighted decibel; L_{eq} = average noise level equivalent

¹ Source: FTA 2018

Roadway Construction Noise Model data sheets and assumptions are included in Appendix C.

Operation

On-site noise sources associated with the project would include the 20-kW emergency generator, located at the Crown Hill Tank site. An example generator of this size is the Caterpillar D20, which would generate a noise level of 67 dBA at a distance of 23 feet (see Appendix C for generator specifications). The nearest residences to this location are 200 feet to the west and 370 feet to the north. Conservatively assuming no attenuation from topography or structures, the generator's noise levels would be 48 dBA at 200 feet and 43 dBA at 370 feet.

The District does not have a quantitative threshold for stationary sources. The SVMC does state that mechanical devices shall not operate during the nighttime hours “unless the device is enclosed within a sound-insulated structure so as to prevent noise and sounds from being plainly audible at a distance of 50 feet from such structure or within 10 feet of any residence.” As stated under *Noise Background*, the average healthy ear can barely perceive an increase of 3 dBA and a change of 5 dBA is readily perceptible. For the purposes of this analysis, “plainly audible” will be considered a barely perceptible noise increase of 3 dBA. As shown in Table 9, measured noise levels in the area were 47 dBA L_{eq}. A noise level of 48 dBA from the generator at the nearest residence would only be a 1 dBA increase, well below a barely perceptible increase of 3 dBA. Therefore, operational noise impacts would be less than significant.

Off-site Roadway Noise

During project operation, maintenance activities would only be expected to occur once every 5 years. This minor amount of additional vehicle trips on nearby roadways would result in a negligible addition of roadway traffic noise. Therefore, the project would not generate a substantial permanent increase in ambient off-site roadway noise levels at the nearest sensitive receptors, and impacts would be less than significant.

Mitigation Measure

NOI-1 Construction Noise Reduction Measures

For construction of the pipeline and access road that occurs within 100 feet of the residence to the west (943 Crown Hill Drive), the District or its construction contractor shall reduce construction noise levels so as not to exceed a noise level of 80 dBA L_{eq} (8-hour). Strategies to achieve this may include, but are not limited to, the following noise reduction measures:

- Heavy duty construction equipment will be controlled with the best available noise control technology. For example, noise control may be achieved by shrouding the equipment, shielding the equipment from the residence with temporary noise barriers, and/or by reducing exhaust noise with a sound-absorbing muffler.
- Where feasible, hydraulic equipment shall be used instead of pneumatic impact tools, and electric powered equipment shall be used instead of diesel-powered equipment.
- At least 21 days prior to the start of construction activities, the residence at 943 Crown Hill Drive shall be notified of the planned construction activities. The written notification shall include a brief description of the project, the activities that would occur, the hours when construction would occur, and the construction period's overall duration. The notification shall include the telephone numbers of the District's and the contractor's authorized representatives that are assigned to respond in the event of a noise complaint.
- If a construction noise complaint(s) is registered, the contractor shall retain a qualified noise consultant to conduct noise measurements at the properties that registered the complaint. The noise measurements shall be conducted for a minimum of eight hours. The consultant shall prepare a letter report for the District summarizing the measurement results and potential measures to reduce construction noise to 80 dBA L_{eq} (8-hour) at the residence at 943 Crown Hill Drive.

Significance After Mitigation

Implementation of Mitigation Measure NOI-1 would reduce construction noise during pipeline and access road construction through best available noise control technology. Blocking the line of sight between a noise source and a receptor typically provides at least a 10-dBA reduction in source noise levels at the receptor. With implementation of Mitigation Measure NOI-1, construction noise levels would be reduced to approximately 76 dBA L_{eq} (8-hour) at the nearest residence to the west and would not exceed the FTA's construction noise threshold of 80 dBA L_{eq} (8-hour). Therefore, this impact would be less than significant with mitigation.

LESS THAN SIGNIFICANT WITH MITIGATION INCORPORATED

- b. Would the project result in generation of excessive groundborne vibration or groundborne noise levels?*

Construction activities at the project site have the potential to generate low levels of groundborne vibration because the operation of heavy equipment (e.g., dozers, rollers, loaded trucks) generates vibrations that propagate through the ground and diminish in intensity with distance from the source. The greatest anticipated source of vibration during project construction would be a roller if a vibratory roller is used during paving. This equipment may be used within 50 feet of the nearest residential structure to the west. A vibratory roller would generate a vibration level of 0.21 peak particle velocity (PPV) inches per second (in/sec) at a distance of 25 feet (Caltrans 2020); vibration from the roller would attenuate to 0.074 PPV in/sec at a distance of 50 feet. This level of vibration would be well below the FTA's vibration damage potential threshold for non-engineered timber and masonry building structures of 0.2 PPV in/sec. Therefore, project construction would not generate excessive groundborne vibration or groundborne noise levels, and impacts would be less than significant.

The project does not include any substantial vibration sources associated with operation, such as railroad or subway lines. As a result, project operation would not generate excessive groundborne vibration or groundborne noise levels, and no impact would occur.

LESS THAN SIGNIFICANT IMPACT

- c. For a project located within the vicinity of a private airstrip or an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?*

The nearest airport to the project site is Van Nuys Airport, located approximately 10.5 miles to the east of the site. The project site is located outside of the airport's influence area, and therefore would not be within the airport's noise contours (Los Angeles County Department of Regional Planning 2009). As such, the project would not expose workers to excessive noise in the project area. Therefore, the project would result in no impacts related to airport noise exposure.

NO IMPACT

14 Population and Housing

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
Would the project:				
a. Induce substantial unplanned population growth in an area, either directly (e.g., by proposing new homes and businesses) or indirectly (e.g., through extension of roads or other infrastructure)?	☐	☐	☐	☒
b. Displace substantial numbers of existing people or housing, necessitating the construction of replacement housing Elsewhere?	☐	☐	☐	☒

- a. *Would the project induce substantial unplanned population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?*
- b. *Would the project displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere?*

The project would involve the construction of a new water storage tank, associated piping and electrical infrastructure, and an access road. The project would not include housing or other infrastructure that would lead directly to population growth. The purpose of the project is to provide water storage for existing development with adequate water pressure, and to provide additional water supplies for firefighting. As a result, the project would not indirectly induce substantial unplanned population growth. In addition, the project would not include components that displace existing people or result in the removal of housing. Therefore, no impacts related to population and housing would occur.

NO IMPACT

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15 Public Services

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
a. Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, or the need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the public services:				
1 Fire protection?	☐	☐	☐	☒
2 Police protection?	☐	☐	☐	☒
3 Schools?	☐	☐	☐	☒
4 Parks?	☐	☐	☐	☒
5 Other public facilities?	☐	☐	☐	☒

a. *Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, or the need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the public services:*

- 1 *Fire protection?*
- 2 *Police protection?*
- 3 *Schools?*
- 4 *Parks?*
- 5 *Other public facilities?*

As described in Environmental Checklist Section 14, *Population and Housing*, the project would not include development of structures or infrastructure that would directly or indirectly increase the population in Simi Valley. The project would not introduce new habitable structures that require additional police or fire protection services and would not introduce a new population to the area that would require new or physically altered schools, parks, or other public facilities. Therefore, the project would not result in the need for new or physically altered governmental facilities and no impact would occur.

NO IMPACT

16 Recreation

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
a. Would the project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?	☐	☐	☐	☒
b. Does the project include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment?	☐	☐	☐	☒

- a. *Would the project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?*
- b. *Does the project include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment?*

As described in Environmental Checklist Section 14, *Population and Housing*, the project would not include development of structures or infrastructure that would directly or indirectly increase the population in Simi Valley. As such, the project would not increase the population served by local recreation facilities or otherwise result in increased demand for or degradation of those facilities. In addition, the project also would not include recreational facilities or require the construction or expansion of recreational facilities. Therefore, no project impacts related to recreation facilities would occur.

NO IMPACT

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17 Transportation

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
Would the project:				
a. Conflict with a program, plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities?	☐	☐	☒	☐
b. Conflict or be inconsistent with CEQA Guidelines section 15064.3, subdivision (b)?	☐	☐	☒	☐
c. Substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible use (e.g., farm equipment)?	☐	☐	☒	☐
d. Result in inadequate emergency access?	☐	☐	☐	☒

- a. *Would the project conflict with a program, plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities?*

The City's General Plan Mobility and Infrastructure Element includes goals to promote transportation options and independent mobility, increase community safety, and minimize impacts related to vehicle emissions. Other regional plans and policies addressing the circulation system include the SCAG 2024 – 2050 RTP/SCS (City of Simi Valley 2012b; SCAG 2024). Access to the project site would be provided by Crown Hill Drive. No transit stops, paved sidewalks, or bicycle facilities are located along Crown Hill Drive near the project site. Construction traffic associated with the project would be temporary (approximately 14 months).

The proposed pipelines would be installed via open-cut excavation, and would require crossing Crown Hill Drive near an existing residence. Temporary lane or road closures could be required. The District shall notify the affected residence of planned construction activities. Project construction would not otherwise substantially interfere with traffic on Crown Hill Drive.

The District would conduct regular operations and maintenance trips to the Crown Hill Tank site. These trips would be combined with existing trips to the Alta Vista Tanks, and accordingly the project would not result in a substantial increase in operations and maintenance activities. Operations and maintenance trips to the project site would not require road closures or otherwise substantially impact transit, roadway, bicycle, or pedestrian facilities. Therefore, impacts related to potentially conflicts with a program, plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities would be less than significant.

LESS THAN SIGNIFICANT IMPACT

- b. *Would the project conflict or be inconsistent with CEQA Guidelines section 15064.3, subdivision (b)?*

CEQA Guidelines Section 15064.3(b) identifies criteria for evaluating transportation impacts. Specifically, the guidelines state vehicle miles traveled (VMT) exceeding an applicable threshold of significance may indicate a significant impact. According to Section 15064.3(b)(3) of the CEQA Guidelines, a lead agency may include a qualitative analysis of operational and construction traffic if existing models or methods are not available to estimate the VMT for the project being considered. Such a qualitative analysis would evaluate factors such as the availability of transit, proximity to other destinations, etc. United has not adopted VMT thresholds.

A VMT calculation is typically conducted on a daily or annual basis, for long-range planning purposes. As discussed above under checklist question 17(a), construction of the project would temporarily increase vehicle trips due to the transport of construction workers, vehicles, and equipment to and from the project site. Increases in VMT from construction would be short-term, minimal, and temporary. While the project would involve operations and maintenance trips, additional operations would not increase vehicle trips or generate substantial VMT compared to existing conditions because workers already conduct regular trips to the Alta Vista Tanks. Therefore, impacts related to conflict or inconsistency with CEQA Guidelines Section 15064.3(b) would be less than significant.

LESS THAN SIGNIFICANT IMPACT

- c. *Would the project substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible use (e.g., farm equipment)?*

The project would not involve the construction of new roads or reconfiguration of any roadways or intersections that could result in a substantial increase in traffic hazards. During construction, staging and worker parking would occur on-site and would not inhibit use of Crown Hill Drive. Partial or full closures of Crown Hill Drive may be required during certain stages of project construction. The District's construction contractor shall coordinate closures with applicable agencies, such as the Ventura County Fire Department, the Simi Valley Police Department, and the Ventura County Sheriff's Office, and would implement traffic control measures.

Upon the completion of construction, the proposed tank would not be publicly accessible. The pipelines would be located underground and thus would not substantially increase traffic hazards. Therefore, impacts related to substantially increasing hazards due to a geometric design feature or incompatible use would be less than significant.

LESS THAN SIGNIFICANT IMPACT

- d. *Would the project result in inadequate emergency access?*

Partial or full closures of Crown Hill Drive may be required during certain stages of project construction, which could affect access to an existing residence south of the Alta Vista Tanks. Temporary lane or road closures could be required. The District shall notify the affected residence of planned construction activities. The District's construction contractor would coordinate closures with applicable agencies, such as the Ventura County Fire Department, the Simi Valley Police Department, and the Ventura County Sheriff's Office, and would implement traffic control measures. Project operation would not result in substantial vehicle travel which could impede emergency access. Therefore, project operation would not result in inadequate emergency access, and no impact would occur.

NO IMPACT

18 Tribal Cultural Resources

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
Would the project cause a substantial adverse change in the significance of a tribal cultural resource, defined in a Public Resources Code Section 21074 as either a site, feature, place, or cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is:				
a. Listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code Section 5020.1(k)?	☐	☒	☐	☐
b. A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision I of Public Resources Code Section 5024.1? In applying the criteria set forth subdivision(c) of Public Resources Code Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe.	☐	☒	☐	☐
a. <i>Would the project cause a substantial adverse change in the significance of a tribal cultural resource as defined in Public Resources Code Section 21074 that is listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code Section 5020.1(k)?</i>				
b. <i>Would the project cause a substantial adverse change in the significance of a tribal cultural resource as defined in Public Resources Code 21074 that is a resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set in subdivision (c) of Public Resources Code Section 5024.1?</i>				

On July 1, 2015, Assembly Bill 52 (AB 52) was enacted, expanding CEQA by defining a new resource category, "tribal cultural resources." AB 52 states, "a project with an effect that may cause a substantial adverse change in the significance of a tribal cultural resource is a project that may have a significant effect on the environment" (PRC Section 21084.2). It further states the lead agency shall

establish measures to avoid damaging effects to tribal cultural resources, when feasible (PRC Section 21084.3).

PRC Sections 21074 (a)(1)(A-B) and 21074 (a)(2) define tribal cultural resources as “sites, features, places, cultural landscapes, sacred places, and objects with cultural value to a California Native American tribe” and are:

1. Listed or eligible for listing in the CRHR or in a local register of historical resources as defined in PRC Section 5020.1(k); or
2. A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in PRC Section 5024.1(c). In applying these criteria, the lead agency shall consider the significance of the resource to a California Native American tribe.

AB 52 also established a formal consultation process for California Native American tribes regarding those resources. The consultation process must be completed before a CEQA document can be certified or adopted. Under AB 52, lead agencies are required to “begin consultation with a California Native American tribe that is traditionally and culturally affiliated with the geographic area of the proposed project.” California Native American tribes to be included in the process are those having requested notice of projects proposed in the jurisdiction of the lead agency.

Rincon contacted the Native American Heritage Commission (NAHC) to request a search of the Sacred Lands File (SLF) as well as an AB 52 specific contact list of Native Americans culturally affiliated with the project site vicinity. On September 13, 2024, the NAHC responded to Rincon’s request, stating the results of the SLF search were negative. On October 3, 2024, the District distributed AB 52 consultation letters for the project, including project information, a map, and District contact information to the following California Native American tribes:

- Fernandeno Tataviam Band of Mission Indians (FTBMI)
- Barbareño/Ventureño Band of Mission Indians
- Gabrieleno San Gabriel Band of Mission Indians (SGBMI)

Pursuant to AB 52, California Native American tribes have 30 days from receipt of the notification letter to request formal consultation. Responses were received from the FTBMI and the SGBMI. No response was received from the Barbareño/Ventureño Band of Mission Indians.

On October 7, 2024, the FTBMI responded via email and stated the project does not require a consultation form, and provided mitigation measures that they requested to be required for the project. These measures included protocols to stop work and evaluate cultural resources and human remains in the event of an inadvertent discovery, and to initiate tribal consultation in the event that any tribal cultural resource is encountered during ground disturbing activities. The District reviewed and considered the FTBMI’s mitigation measures. The FTBMI did not identify tribal cultural resources in or near the project site.

On November 2, 2024, Adrian Morales of the SGBMI responded via email and stated the project would have a high potential to cause significant adverse effects tribal resources and requested consultation with the District. However, the letter did not identify specific tribal cultural resources in or near the project site that could be affected. The District acknowledged receipt of this request for consultation on November 19, 2024. On December 17, 2024, the District proposed via email to hold a consultation meeting on January 9, 2025, and did not receive a response. The District followed up with Mr. Morales via email on January 7, 2025 and

requested that the SGBMI confirm their attendance at the proposed January 9, 2025 meeting or propose different dates. The District did not receive a response.

On January 13, 2025, District staff called the telephone number of Mr. Morales provided on the NAHC AB 52 contact list, and left a message regarding the District's email communications for the proposed consultation meeting. On January 29, 2025, the District followed up via email and requested that the SGBMI propose dates and times to conduct a consultation meeting. On February 6, District staff called Mr. Morales and left a message regarding the proposed consultation meeting.

On February 11, 2025, the District received a call from Mr. Morales and agreed to a consultation meeting on February 19, 2025. The District provided the administrative draft Cultural Resources Assessment to the SGBMI via email on February 11, 2025 for their review prior to the proposed meeting on February 19, 2025. On February 18, 2025, Mr. Morales sent the District an email requesting additional time to review the administrative draft Cultural Resources Assessment, and the proposed meeting for February 19, 2025 was cancelled.

On March 18, 2025, Mr. Morales provided recommended mitigation measures to the District via email. These measures included a Native American monitoring program to occur during ground disturbance activities and protocols for identifying and reporting on human remains and tribal cultural resources. On March 26, 2025, the District sent an email to the SGBMI acknowledging receipt of their recommendations, and requested documentation supporting the need for the recommended mitigation measures. The District followed up with Mr. Morales via telephone on March 26, 2025 and left a message regarding the requested supporting documentation. The District did not receive a response.

On April 1, 2025, District staff called Mr. Morales and left a message requesting supporting documentation for the recommended mitigation measures by April 9, 2025. On April 10, 2025, the District received an email from Mr. Morales providing his justification for the recommended mitigation measures. Mr. Morales stated there are at least five recorded prehistoric sites consisting of ceremonial landscapes/rock shelters within 0.5 miles of the project site, which would indicate that such resources could exist within the project site.² On May 5, 2025, the District responded via email confirming receipt of the justification, and informed Mr. Morales that the project site would include an additional work area for project-related landscaping. The District provided an updated site figure to Mr. Morales and informed him the administrative draft Cultural Resources Assessment would be updated to include this area.

On July 30, 2025, the District followed up via email and requested the SGBMI's input on the updated administrative draft Cultural Resources Assessment or the revised mitigation measures, and no response was received. On August 27, 2025, the District followed up via telephone and left a message again requesting the SGBMI's input, and no response was received.

In accordance with AB 52, consultation is considered concluded when a tribe does not respond to a written notification within 30 days, or when a mutual agreement cannot be reached after a good faith effort. The District has documented all outreach efforts and has made a reasonable and good faith effort to engage the SGBMI in meaningful consultation. As no response was received, the agency is proceeding with the release of this IS-MND for public review in compliance with CEQA and AB 52.

² Surveys performed by Rincon Consultants on September 24, 2024, and May 29, 2025 did not identify rock shelters or other pre-contact resources within the project site.

No tribal cultural resources listed or eligible for listing in the CRHR or in a local register of historical resources were identified within the project site. In addition, no tribal cultural resources were identified within or near the project site that have been determined by the District (the lead agency) to be significant. Therefore, the project would not cause a substantial adverse change in the significance of a tribal cultural resource as defined in PRC Section 21074 that is listed or eligible for listing in the CRHR, or in a local register of historical resources as defined in PRC Section 5020.1(k) or that is a resource determined by the District (the lead agency), in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in PRC Section 5024.1(c). However, the SGBMI indicated that the project site is culturally sensitive given the presence of previously recorded Native American resources within a 0.5-mile radius of the project site. As such, the District is including mitigation measures for Native American monitoring (TCR-1) and procedures to follow in the event of the inadvertent discovery of cultural resources (CUL-3) to reduce potential impacts related to tribal cultural resources. Therefore, with the implementation of Mitigation Measures TCR-1 and CUL-3, along with adherence to the provisions of California Health and Safety Code Section 7050.5, PRC Section 5097.98, and CCR Guidelines Section 15064.5(e), the project would result in a less-than-significant impacts to tribal cultural resources.

Mitigation Measures

TCR-1 Native American Monitoring

Prior to the start of construction and any ground-disturbing activities, the District shall retain a Native American monitor from a California Native American tribe that is culturally and geographically affiliated with the project site and that consulted on this project. The Native American monitor shall attend the pre-construction meeting and participate in the Worker Environmental Awareness Program Training required by Mitigation Measure CUL-1. The Native American monitor shall observe all ground-disturbing activities in native, undisturbed soils (such as pot-holing or augering, grubbing, tree removal, boring, grading, excavation, drilling, and trenching); activities in previously disturbed soils and backfilling shall not require the presence of a Native American monitor.

The District shall provide the Native American monitor with at least 48 hours' notice prior to the pre-construction meeting and any ground-disturbing activities that require monitoring. In the event that a Native American monitor is not available or fails to report to the site, construction may proceed without the presence of a Native American monitor. The Native American monitor shall complete daily monitoring logs detailing observed construction activities and locations, soil types, and any cultural materials identified and provide non-confidential copies to the District.

In the event of a discovery of potential tribal cultural resources, the Native American monitor shall have the authority to temporarily halt construction activities within 50 feet of the discovery, shall establish an exclusion zone while the discovery is investigated, and shall notify the onsite construction supervisor or foreman. The Qualified Archaeologist shall be contacted and the procedures outlined in CUL-3 shall be implemented. The District shall consult with the appropriate Native American representatives in determining the significance and treatment of any potential tribal cultural resources discoveries. For any significant resources, avoidance through project redesign shall be the preferred manner of treatment. Construction activities in the vicinity of any discovery may not resume until the significance of the resource has been determined and any data recovery treatment, if necessary, has been completed. Additional treatment may also be required for tribal cultural resources to address significance beyond scientifically consequential information, which could include but would not be limited to installation of a landscaping to include native plants, plaque or mural to inform the public, or other educational or interpretive elements. If the discovery includes human

remains, the District shall implement the procedures outlined in California Health and Safety Code Section 7050.5, PRC Section 5097.98, and CCR Guidelines Section 15064.5(e).

Native American monitoring shall cease when the onsite ground-disturbing activities in native, undisturbed soils are completed or when the Native American monitor indicates that there is a low potential for tribal cultural resources to be encountered during further ground-disturbing activities. The California Native American tribe providing monitoring services shall prepare a final report documenting compliance with this measure and submit it to the District within 60 days of the completion of Native American monitoring. Should tribal cultural resources or human remains be discovered, the California Native American tribe shall also file a final report of findings with the Native American Heritage Commission for inclusion in the Sacred Lands File database.

LESS THAN SIGNIFICANT WITH MITIGATION INCORPORATED

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19 Utilities and Service Systems

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
Would the project:				
a. Require or result in the relocation or construction of new or expanded water, wastewater treatment or storm water drainage, electric power, natural gas, or telecommunications facilities, the construction or relocation of which could cause significant environmental effects?	☐	☐	☒	☐
b. Have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry and multiple dry years?	☐	☐	☒	☐
c. Result in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?	☐	☐	☒	☐
d. Generate solid waste in excess of State or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals?	☐	☐	☒	☐
e. Comply with federal, state, and local management and reduction statutes and regulations related to solid waste?	☐	☐	☒	☐

- a. *Would the project require or result in the relocation or construction of new or expanded water, wastewater treatment or storm water drainage, electric power, natural gas, or telecommunications facilities, the construction or relocation of which could cause significant environmental effects?*

The project would involve construction of a new water storage tank, associated piping and electrical infrastructure, and an access road, the potential environmental effects of which are analyzed throughout this IS-MND. As discussed throughout this IS-MND, the project would not result in significant environmental effects and would include implementation of mitigation measures when necessary to reduce potentially significant environmental effects. As such, the project would not result in significant environmental effects related to the construction of new water supply facilities.

Therefore, impacts related to provision of new or expanded water supply facilities would be less than significant.

The project would not involve construction and operation of wastewater facilities or result in the need for new or expanded wastewater facilities. Therefore, no impact would result related to provision or new or expanded wastewater facilities.

As discussed under Environmental Checklist Section 10, *Hydrology and Water Quality*, the project would not have a substantial effect on the amount of impervious surfaces as compared to existing conditions. Therefore, the project would not increase stormwater flow such that new or expanded stormwater drainage systems would be necessary. Therefore, no impact would result related to provision or new or expanded stormwater facilities.

As discussed under Environmental Checklist Section 6, *Energy*, the project would connect to existing SCE infrastructure and would not require a substantial amount of additional electricity. The project would also not require natural gas or telecommunication connections or use. As such, the project would not require or result in the relocation or construction of new or expanded electricity, natural gas, or telecommunication facilities. Therefore, no impact would result related to provision or new or expanded electricity, natural gas, or telecommunication facilities.

Overall, the project would not require or result in the relocation or construction of new or expanded water, wastewater, stormwater, electric power, natural gas, or telecommunications facilities in a manner that could cause significant environmental effects. Therefore, project impacts related to the provision of utility facilities would be less than significant.

LESS THAN SIGNIFICANT IMPACT

- b. *Would the project have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry and multiple dry years?*

The project would not modify the District's water supply and would not increase water supply production beyond existing permitted operations. Consistent with the City of Simi Valley's 2020 Urban Water Management Plan (City of Simi Valley 2021), the project would facilitate water storage for existing development. In addition, the project would not include habitable uses and would have negligible water demand itself. Therefore, the project would have sufficient water supplies available in normal, dry, and multiple dry years and impacts would be less than significant.

LESS THAN SIGNIFICANT IMPACT

- c. *Would the project result in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?*

After completion of construction, the District would test and disinfect the Crown Hill Tank, pipelines, and appurtenances with chlorinated water prior to operation. Once testing and disinfection is complete, the chlorinated water would be treated to neutralize residual chlorine and would either be discharged via the proposed drainpipe or into the City's sewer system. Either discharge method would require approval from the District. Testing and disinfection would be a temporary event; in operation, the project would not generate wastewater or discharge water into the wastewater collection system. Therefore, the project would not result in inadequate wastewater capacity and impacts would be less than significant.

LESS THAN SIGNIFICANT IMPACT

- d. *Would the project generate solid waste in excess of State or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals?*
- e. *Would the project comply with federal, state, and local management and reduction statutes and regulations related to solid waste?*

Construction activities may temporarily generate solid waste, including soils and construction waste, which would be disposed of in accordance with all applicable federal, State, and local statutes and regulations. Soil not used as fill in different construction sites and other construction debris would be transported to the Simi Valley Landfill & Recycling Center, approximately 8 miles northwest of the project site. The Simi Valley Landfill & Recycling Center has a remaining capacity of 82.9 million cubic yards, and soils excavated during project construction would represent less than 1 percent of the landfill's remaining capacity (California Department of Recycling and Resource Recovery 2019). As such, the project would not generate solid waste in excess of the capacity of local infrastructure.

The project would be required to comply with all applicable laws and regulations related to solid waste generation, collection, and disposal. The project would result in a short-term and temporary increase in solid waste generation during construction but would not substantially affect standard solid waste operations of any landfill accepting waste. Recycling and reuse activities during construction would comply with the California Integrated Waste Management Act of 1989 (AB 939). Once operational, the project would include unmanned facilities that would not generate solid waste. Therefore, project impacts related to solid waste generation and consistency with solid waste reduction regulations would be less than significant.

LESS THAN SIGNIFICANT IMPACT

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20 Wildfire

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
If located in or near state responsibility areas or lands classified as very high fire hazard severity zones, would the project:				
a. Substantially impair an adopted emergency response plan or Emergency evacuation plan?	☐	☐	☒	☐
b. Due to slope, prevailing winds, and other factors, exacerbate wildfire risks and thereby expose project occupants to pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire?	☐	☐	☒	☐
c. Require the installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines or other utilities) that may exacerbate fire risk or that may result in temporary or ongoing impacts to the environment?	☐	☐	☒	☐
d. Expose people or structures to significant risks, including downslopes or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes?	☐	☐	☒	☐

- a. *If located in or near state responsibility areas or lands classified as very high fire hazard severity zones, would the project substantially impair an adopted emergency response plan or emergency evacuation plan?*

According to maps prepared by CAL FIRE, the project site is designated as a Very High FHSZ and is within a State Responsibility Area (SRA). The project site is surrounded by Very High FHSZ in all directions (CAL FIRE 2024).

The project would not involve habitable development nor new facilities that would interfere with adopted emergency plans. Partial or full closures of Crown Hill Drive may be required during certain stages of project construction, which could affect access to an existing residence south of the Alta Vista Tanks. Temporary lane or road closures could be required. The District shall notify the affected residence of planned construction activities. The District's construction contractor would coordinate closures with applicable agencies, such as the Ventura County Fire Department, the Simi Valley Police Department, and the Ventura County Sheriff's Office, and would implement traffic

control measures. In addition, the project would not require the construction of new public roadways that could be used as emergency evacuation routes. As such, the project would not substantially impair an adopted emergency response plan or emergency response plan, and impacts would be less than significant.

LESS THAN SIGNIFICANT IMPACT

- b. *If located in or near state responsibility areas or lands classified as very high fire hazard severity zones, would the project, due to slope, prevailing winds, and other factors, exacerbate wildfire risks and thereby expose project occupants to pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire?*

The proposed water tank would be located at the top of a hill, which generally slopes steeply downward to the south and gently downward toward the north and existing residential development. In addition, although the city has historical patterns of east wind driven fires (City of Simi Valley 2012b), localized shifts in wind direction can occur at any time, and nearby sensitive receptors may be exposed to wildfire pollutants. The project site is surrounded by existing rural residential areas and undeveloped lands.

To minimize fire risk during construction, construction personnel would adhere to PRC Section 4442, which requires earth-moving and portable construction equipment with internal combustion engines to use spark arrestors when operating on any forest-covered, brush-covered, or grass-covered land. In addition, PRC Section 4428 requires construction contractors to maintain fire suppression equipment during the highest fire danger period (April 1 to December 1) when operating on or near any forest-covered, brush-covered, or grass-covered land. The Crown Hill Tank site contains limited vegetation, which would reduce the potential for spark-induced wildfire. Therefore, impacts related to exposure of construction workers to pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire would be less than significant.

One of the purposes of the project is to provide additional water storage in the Knolls Pressure Zone in order to provide additional water supplies for firefighting. Therefore, in operation, the project would reduce the risk of pollutant concentrations resulting from a wildfire and also reduce the potential for an uncontrolled spread of a wildfire. Implementation of the project would have a beneficial impact to the community as it relates to impacts associated with wildfire and impacts would be less than significant.

LESS THAN SIGNIFICANT IMPACT

- c. *If located in or near state responsibility areas or lands classified as very high fire hazard severity zones, would the project require the installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines or other utilities) that may exacerbate fire risk or that may result in temporary or ongoing impacts to the environment?*

The project itself involves the construction and operation of a water storage tank, pipelines, and an access road, which in part would be used to provide emergency water sources for firefighting. As described in this section, the project would not substantially exacerbate fire risk, rather it reduces the potential for the risk of wildfire spreading. During construction, construction personnel would adhere to PRC Section 4442, which requires earth-moving and portable construction equipment with internal combustion engines to use spark arrestors. In operation, the project would involve routine vehicle trips along paved roadways, which would have minimal fire risk; the project would not involve other

operational activities that would exacerbate fire risk or result in temporary or ongoing impacts to the environment. Therefore, impacts would be less than significant.

LESS THAN SIGNIFICANT IMPACT

- d. *If located in or near state responsibility areas or lands classified as very high fire hazard severity zones, would the project expose people or structures to significant risks, including downslopes or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes?*

Vegetation on hillslopes helps to stabilize soil, slow water flow, and support percolation into the soil. Severe wildfires damage trees, the shrub canopy, vegetation, and soil. Once vegetation burns, a greater surface area of soil is exposed to the elements, and the lack of roots decreases the structural integrity of the soil. Thus, wildfire burn areas typically endure an increased runoff after intense rainfall, which can put residences and structures downslope of a burned area at risk of localized floods and landslides.

As discussed in Environmental Checklist Section 7, *Geology and Soils*, the project site is not located within a landslide hazard zone. Because the proposed tank and pipelines would be located within bedrock soil layers and the topography of the tank site itself is relatively flat, the potential for slope instability and landslides is low (Appendix A). Further, as discussed in Environmental Checklist Section 10, *Hydrology and Water Quality*, the project would conform to design requirements associated with proper site preparation and grading practices and would implement surface drainage improvements and erosion control measures. Control measures would be implemented during grading operations, to stabilize graded slopes and prevent excessive runoff and erosion. The project would also include retaining walls to stabilize slopes on the project site, which would reduce runoff, overflow from precipitation, and would reduce the risk for flooding or landslides at the project site. Accordingly, the project would not expose people or structures to significant risks as a result of runoff, post-fire slope instability, or drainage changes, and impacts would be less than significant.

LESS THAN SIGNIFICANT IMPACT

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21 Mandatory Findings of Significance

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
Does the project:				
a. Have the potential to substantially degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, substantially reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory?	☐	☐	☐	☒
b. Have impacts that are individually limited, but cumulatively considerable? ("Cumulatively considerable" means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects)?	☐	☒	☐	☐
c. Have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?	☐	☒	☐	☐

- a. *Does the project have the potential to substantially degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, substantially reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory?*

As discussed in Section 4, *Biological Resources*, the project would not have the potential to substantially degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, or substantially reduce the number or restrict the range of a rare or endangered plant or animal. In addition, as discussed in Section 5, *Cultural Resources*, the project would not eliminate important examples of the major periods of California history or prehistory. No impact would occur.

NO IMPACT

- b. *Does the project have impacts that are individually limited, but cumulatively considerable? (“Cumulatively considerable” means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects)?*

Cumulative impacts are defined as two or more individual (and potentially less than significant) project effects which, when considered together or in concert with other projects, combine to result in a significant impact within an identified geographic area. Cumulative development in the vicinity of the project site includes the following (City of Simi Valley 2024):

- **Simi Country Mobile Home Park Solar Canopy:** Planned Development Permit for the installation of a new solar panel canopy structure at a mobile home park. This project is located approximately 0.9 mile northeast of the project site.
- **Stow Villas:** Construction of 16 townhomes on East Los Angeles Avenue. This project is under construction and located approximately 1.2 miles northeast of the project site.

Project impacts are primarily temporary, localized effects that would occur during construction activities. As discussed throughout this IS-MND, the project would result in no impacts to agriculture and forestry resources, land use and planning, mineral resources, population and housing, public services, recreation, and tribal cultural resources, and therefore the project would not contribute to cumulative impacts to these resources. The potential for the project to contribute to cumulative impacts would be limited to the infrequent periods of project activities and the following specific issue areas, for which the project is anticipated to have less-than-significant impacts (with or without mitigation):

- **Air Quality:** Because the Basin is designated as being in nonattainment for the ozone NAAQS and CAAQS and nonattainment for the PM₁₀ CAAQS, significant cumulative air quality impacts currently exist for these pollutants. As discussed in Section 3, *Air Quality*, with implementation of Mitigation Measure AQ-1, the project would not generate emissions of these air pollutants which exceed the VCAPCD significance thresholds, which are intended to assess whether a project’s contribution to existing cumulative air quality impacts is considerable. Therefore, the project’s contribution to significant cumulative air quality impacts would not be cumulatively considerable.
- **Biological Resources:** Cumulative development in the region would continue to disturb areas with the potential to contain or provide habitat for biological resources. Cumulative development projects have undergone or would be required to undergo CEQA review, which would determine the extent of potential biological resources impacts and mitigate those impacts appropriately. If these cumulative projects would result in impacts to biological resources, impacts to such resources would be addressed on a case-by-case basis. Given the uncertainty in the extent of impacts associated with these projects, this analysis conservatively assumes a significant cumulative impact to biological resources would occur. Nevertheless, the project would be required to implement Mitigation Measure BIO-1 through BIO-4 to reduce its impacts to biological resources to a less-than-significant level such that project-level impacts would not result in a cumulatively considerable contribution to this cumulative impact.

- **Cultural Resources:** Cumulative development in the region would continue to disturb areas with the potential to contain cultural and tribal cultural resources. As mentioned above, cumulative development projects have undergone or would be required to undergo CEQA review, which would determine the extent of potential cultural resources impacts and mitigate those impacts appropriately. If cumulative projects would result in impacts to known or unknown cultural resources, impacts to such resources would be addressed on a case-by-case basis. Given the uncertainty in the extent of impacts associated with these projects, this analysis conservatively assumes a significant cumulative impact to cultural resources would occur. Nevertheless, the project would be required to implement Mitigation Measures CUL-1 through CUL-3 and TCR-1 to reduce its impacts to cultural resources to a less-than-significant level such that project-level impacts would not result in a cumulatively considerable contribution to this cumulative impact.
- **Geology and Soils:** Cumulative development in the region would continue to disturb areas with the potential to contain paleontological resources. As discussed above, cumulative development projects have undergone or would be required to undergo CEQA review, which would determine the extent of potential paleontological resources impacts and mitigate those impacts appropriately. This analysis conservatively assumes a significant cumulative impact to paleontological resources would occur. Nevertheless, the project would be required to implement Mitigation Measure GEO-1 to reduce its impacts to paleontological resources to a less-than-significant level such that project-level impacts would not result in a cumulatively considerable contribution to this cumulative impact.
- **Greenhouse Gas Emissions:** GHG emissions and climate change are, by definition, cumulative impacts. As discussed in Environmental Checklist Section 8, *Greenhouse Gas Emissions*, the adverse environmental impacts of cumulative GHG emissions, including increased average temperatures, more drought years, and more frequent large wildfires, are already occurring. As a result, cumulative impacts related to GHG emissions are significant. Thus, the issue of climate change involves an analysis of whether a project's contribution towards an impact is cumulatively considerable. As discussed in Section 8, *Greenhouse Gas Emissions*, project emissions would be consistent with adopted plans and would therefore not be cumulatively considerable.
- **Hazards and Hazardous Materials:** Similar to the project, cumulative projects would be required to comply with regulations applicable to the use, disposal, and transportation of hazardous materials during construction activities, and compliance with applicable regulations would reduce potential cumulative impacts to less-than-significant levels. With respect to the use and accidental release of hazardous materials in the environment during construction, effects are generally limited to site-specific conditions. Therefore, cumulative impacts related to accidental release of hazardous materials would not be significant.
- **Hydrology and Water Quality:** As discussed in Section 10, *Hydrology and Water Quality*, the project's construction-related water quality impacts would be less than significant with local ordinance and regulatory compliance. The cumulative projects listed above would have less-than-significant impacts related to hydrology and water quality, as they would be required to comply with existing NPDES and/or local regulations to ensure they do not result in substantial erosion or stormwater discharges that would substantially affect water quality in the area. Implementation of these regulations minimizes and avoids the potential for cumulative impacts to occur. Therefore, the project's contribution to significant cumulative hydrology and water quality impacts would not be cumulatively considerable.

- **Transportation:** The cumulative development projects listed above may occur at the same time as the project. However, the cumulative development projects and the project would not require roadway closures such that they would result in a significant cumulative transportation impact.
- **Utilities and Service Systems:** The project would involve construction of a new water storage tank and would not modify the District's water supply and would not increase water supply production beyond existing permitted operations. The project would temporarily generate minimal wastewater and solid waste during construction. Therefore, the project's contribution to cumulative impacts related to solid waste or wastewater would not be considerable.
- **Wildfire:** As described in Section 20, *Wildfire*, potential wildfire impacts associated with the project would be limited to heavy-duty construction equipment possibly producing sparks to ignite vegetation, which would be less than significant with compliance with applicable law. Project operation would not involve potentially flammable activities. In addition, the project would not introduce habitable structures, and therefore, would not expose new residents to pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire. The cumulative projects listed above would generally involve the continued operation of existing activities, and would not contribute considerably to cumulative wildfire impacts. Since there would be no long-term project operational wildfire impacts and potential construction-related wildfire impacts would be limited, the project's contribution to cumulative impact wildfire impacts would not be considerable.

Given the above discussion, the project would not result in a cumulatively considerable contribution to a significant cumulative impact with mitigation incorporated.

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- c. *Does the project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?*

In general, impacts to human beings are associated with air quality, hazards and hazardous materials, noise, and wildfire. These are discussed in detail in Environmental Checklist Section 3, *Air Quality*, Section 9, *Hazards and Hazardous Materials*, Section 13, *Noise*, and Section 20, *Wildfire*. The project would include Mitigation Measure AQ-1, which would require implementation of construction emissions reduction measures including the use of Tier 4 construction equipment and limiting vehicle idling. Further, the project would also include Mitigation Measure NOI-1, which would require implementation of construction noise reduction measures to reduce noise levels so as not to exceed a noise level of 80 dBA at the nearest residence. The project's impact on hazards and hazardous materials and wildfire would be less than significant. Therefore, with incorporation of Mitigation Measures AQ-1 and NOI-1, the project's impact on human beings would be reduced to a less-than-significant level.

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Appendix A

Geotechnical Report

OAKRIDGE GEOSCIENCE, INC.



CROWN HILL DRIVE TANK AND PUMP STATION PROJECT

Simi Valley, California

Prepared for:
Perlitter & Ingalsbe

December 2016
Job No. 032.002



www.Oakridgegeo.com

805-368-7765

December 21, 2016

Project No. 032.002

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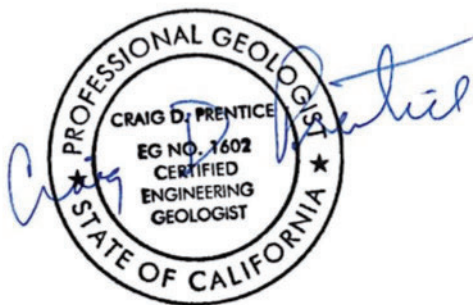
Subject: Geotechnical Report, Crown Hill Drive Tank and Pump Station, Simi Valley, California

Dear Mr. Shah:

Oakridge Geoscience, Inc. is pleased to present this geotechnical report for the Crown Hill Drive Tank and Pump Station Project in Simi Valley, California. The proposed project will consist of construction of a 1-million-gallon potable water tank, pump station, and associated piping. The purpose of this report is to summarize the anticipated geotechnical conditions at the project sites and provide geotechnical recommendations in support of the project design by Perlitter & Ingalsbe.

Closure

We appreciate the opportunity to provide geotechnical services to Perlitter & Ingalsbe for the Crown Hill Drive Tank and Pump Station Project. Please contact us if you have any questions regarding information presented herein.



Craig D. Prentice, CEG
Principal

SINCERELY,
OAKRIDGE GEOSCIENCE, INC.



Rory "Tony" Robinson, PE, GE
Geotechnical Engineer

Copies Submitted: 4 hard copies and 1 pdf copy (via email)

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1.0 INTRODUCTION

1.1 GENERAL STATEMENT

This geotechnical report summarizes the findings and recommendations of the geotechnical study performed by Oakridge Geoscience, Inc. (OGI) for the Crown Hill Drive Tank and Pump Station Project in Simi Valley, California. The proposed project will consist of construction of a 74-foot-diameter, 35-foot-high welded steel potable water storage tank, a pump station, and associated piping as summarized below. The location of the proposed project site shown on Plate 1.

1.2 PURPOSE AND UNDERSTANDING

The purpose of this geotechnical study is to evaluate the geotechnical conditions in the vicinity of the proposed project elements and provide opinions and geotechnical recommendations for design and construction of the tank and pump station project. Our understanding of the project and requirements are based on review of the Request for Proposal (RFP) by the City of Simi Valley dated February 22, 2016 and discussions with Perliter & Ingalsbe (P&I).

1.3 PROJECT DESCRIPTION

As indicated in the RFP, the proposed project consists of the following elements:

- Crown Hill Pump Station located in a masonry block building at the City's Alta Vista Pump Station site.
- Crown Hill Tank, a 1-million-gallon welded steel tank (74 feet in diameter, 35 feet high, with a high-water-level of elevation +1,490 feet. The tank will be located on District-owned property (Ventura County Assessor's parcel No. 646-0-162-070).
- 1,100 feet of 8-inch diameter ductile iron water pipeline connecting the existing Alta Vista Tanks to the Crown Hill Pump Station and Crown Hill Tank.
- Crown Hill Pressure Reducing Station to deliver water from the Crown Hill Tanks to the Alta Vista Tanks.

1.4 WORK PERFORMED

Our proposed work scope for the project was presented in our proposal dated May 3, 2016 and was authorized by a P&I Agreement for Professional Consulting Services, dated July 22, 2016. The work performed for this study consists of project-specific field exploration, laboratory testing, geotechnical engineering evaluation, and preparation of this report.

1.4.1 Data Review and Project Coordination

We reviewed readily available published geologic data and site-specific data provided by the City of Simi Valley. Prior to subsurface exploration, we contacted Underground Service Alert (USA) for utility coordination.

1.4.2 Field Exploration

Field exploration for the project consisted of advancing 13 backhoe test pits to evaluate the subsurface conditions at the proposed tank and pump station sites. Nine backhoe test pits (TP-1 through TP-9) were advanced at the tank site and four backhoe test pits (TP-A through TP-D) were advanced at the pump station site on August 5, 2016 near the locations indicated on Plates 2a and 2b. The test pits were excavated with a Case 580E backhoe equipped with a 24-inch bucket by Buzza Backhoe Service of Calabasas, California. The test pits generally met refusal at about 3 to 10 feet on sandstone bedrock. The test pits were logged by our field geologist to document excavation conditions and material types. Bulk samples were collected from selected intervals from the test pits for laboratory testing as indicated on the test pit logs presented in Appendix A.

The test pits were backfilled to the surface with the excavated materials, tamped and wheel-rolled upon completion of the excavation and logging effort at each location.

1.4.3 Laboratory Testing

Geotechnical laboratory testing was performed on selected earth materials sampled in the test pits to characterize the materials and estimate relevant engineering design parameters. The testing consists of moisture content, grainsize, compaction, and limited chemical testing (sulfates, sulfides, chlorides, pH, resistivity, and redox potential).

The laboratory test results are presented on the test pit logs (Appendix A) and in Appendix B.

1.4.4 Geotechnical Analyses and Report

We evaluated the field and laboratory geotechnical data, developed geotechnical engineering recommendations for design and construction of the project, and prepared this report to summarize our findings, opinions and recommendations. Our report includes the following:

- Summary of work performed and results of our data review,
- Test pit logs, cross-sections of interpreted subsurface conditions, and exploration location maps,
- Summary of the subsurface soil and groundwater conditions encountered,
- Laboratory test results,
- Assessment of seismically-related geohazards such as strong ground motion, fault rupture potential, liquefaction potential, liquefaction-related settlement, and seismically induced settlement,
- Assessment of geologic hazards such as flooding, erosion, slope instability, expansive or collapsible soils,
- California Building Code (CBC) and AWWA D100 seismic design,
- Earthwork and grading recommendations, including clearing and grubbing, subgrade soil preparation, compaction requirements, and earthen roadways,

- Suitability of excavated materials for use as fill and select fill; suggested specifications for on-site and imported materials used as fill,
- Foundation parameters including allowable active and passive pressure, allowable bearing pressure, coefficient of friction, lateral earth pressures, and
- Corrosion potential.

2.0 FINDINGS

2.1 SITE DESCRIPTION

The proposed water tank and pump station sites are located near the crest of a north-south trending ridgeline in the southeastern portion of Simi Valley. The elevations along the ridgeline range from about +1,460 feet at the proposed tank site to about +1,370 to +1,390 at the proposed pump station site. The tank site has been previously graded for residential development and consists of a relatively level pad with a northeast-trending cut/fill contact near the mid-portion of the pad as discussed below. Natural slopes in the project vicinity are inclined at about 2 horizontal to 1 vertical (2h:1v) and appear to form a dip-slope nearly parallel to the bedding within the Chatsworth Formation sandstone bedrock. Locally, the bedrock has been cut at steeper inclinations approaching 1h:1v to create access roads. A thin colluvial soil cover was observed overlying the sandstone bedrock in many areas.

2.2 GEOLOGIC SETTING

2.2.1 Regional Geology

The project site is located within the Transverse Ranges geologic/geomorphic province of California. That province is characterized by generally east-west-trending mountain ranges composed of sedimentary and volcanic rocks ranging in age from Cretaceous to Recent. Major east-trending folds, reverse faults, and left-lateral strike-slip faults reflect regional north-south compression and are characteristic of the Transverse Ranges. Several authors including Dibblee (1992), and Weber (1973) have mapped the Simi Valley area.

2.2.2 Local Geology

As mapped by the Dibblee (1992), the bedrock in the vicinity of the Crown Hill Drive tank and pump station sites consists of sandstone of the Chatsworth Formation. Dibblee describes the Chatsworth Formation sandstone as massive, thickly bedded sandstone and minor conglomerate interbedded with thinly bedded siltstone and mudstone. Dibblee indicates the Chatsworth Formation strata strike about N75 to 80E and dip about 24 to 28 degrees to the northwest (downslope direction at the project sites).

2.3 PREVIOUS SITE GRADING DATA REVIEW

The RFP by the City of Simi Valley included an interim soils engineering and geologic report of completed rough grading for a proposed single family residence, Lot F, APN 6460-162-070 by Gold Coast Geoservices, Inc. (GCG), dated May 8, 2009 (File No. GC04-091973F). The grading report by GCG indicates the finished lot is a roughly triangular-shaped pad about 150 feet by 150 feet with a finished elevation of about +1,458 to +1,459 feet. Based on mapping by

GCG provided in the RFP, the lot has a cut/fill line near the center of the graded pad; the southeastern portion of the lot is underlain by sandstone bedrock of the Chatsworth Formation (Kcs) and the northwestern portion of the lot is underlain by artificial fill placed to create a level building pad. The GCG map suggests the northern portion of the fill is up to 8 feet thick. GCG indicated the in-place densities of the granular fill materials ranged from 112 to 118 pcf and were compacted to greater than 90 percent relative compaction (based on a maximum density of 122 to 125 pcf at an optimum moisture content of 10 to 11 percent). In their report, GCG provided foundation design criteria for the residence and recommended the building foundations be founded in Chatsworth Formation sandstone bedrock with an allowable bearing capacity of 4,000 psf.

2.4 SUBSURFACE CONDITIONS AND ENGINEERING PROPERTIES

Earth materials encountered in the test pits advanced for this study consist of artificial fill, colluvial soil, and sandstone bedrock of the Chatsworth Formation to the depths explored (about 1.5 to 10 feet; Appendix A). Descriptions of the earth materials are presented in the following sections. Geologic cross-sections depicting the interpreted subsurface conditions and distribution of the earth materials at the proposed tank and pump station sites are presented on Cross Sections A-A' through C-C' (Plates 3a to 3b).

2.4.1 Artificial Fill (af)

Artificial fill materials were encountered in the majority of the test pits excavated at proposed the tank and pump station sites. The fill materials observed in the test pits consist primarily of silty sand and sand with silt as described on the test pit logs and summarized by site below.

Proposed Tank Site. The fill materials at the proposed tank site consist of compacted fill placed for grading operations to create a residential pad as described in Section 2.3 above. The fill described in GCG's report (2009) and observed in our test pits consists primarily of silty sand with lesser amounts of sand with silt. The fill materials observed in the test pits appeared to be medium dense to dense based on excavation with the Case 580E backhoe. GCG reports the fill was placed at a minimum of 90 percent relative compaction. The thickness of the fill material varies from less than a foot to about 10 feet as depicted by the interpreted fill thickness contours presented on Plate 2a developed from our subsurface exploration. We note the interpreted fill thickness includes a zone of colluvial soil encountered below the fill materials in several test pits advanced in the northwestern portion of the tank pad.

Proposed Pump Station Site. The fill materials encountered in the test pits advanced at the proposed pump station site consist of loose, dry, sand with silt and silty sand. The fill at the pump station site does not appear to be a compacted ("engineered") fill; it appears to be loose soil generated from the cut grading operations to create the dirt access road extending from the southern extent of the existing Alta Vista Tank pad, southwesterly, downslope to the southwestern corner of the site (Plate 2b). The granular soil encountered in the test pits ranges from less than a foot to about six feet thick (Appendix A). The contact between the fill soil material and underlying bedrock was sharp and appears to slope to the northwest at about the slope inclination (2h:1v).

2.4.2 Colluvium (Qc)

Granular soil interpreted to be colluvium was encountered beneath the fill soils and above the Chatsworth Formation sandstone bedrock in test pits TP-6 through TP-8 excavated in the northwestern portion of the proposed tank pad (Plate 2a; Appendix A). The colluvium consisted of dark reddish brown silty sand with a higher fines content than the overlying yellowish brown sandy fill. The zone of colluvium ranged from one to three feet thick in the test pits (Appendix A) and appears to be a soil horizon that formed on the bedrock that was not removed prior to placement of the fill during prior grading operations.

2.4.3 Chatsworth Formation (Kcs)

Based on our site observations, the Chatworth Formation (Kcs) in the vicinity of the water tank and pump station sites consists of sandstone that is slightly to moderately weathered, soft to moderately hard, thickly bedded to massive, with thinly interbedded siltstone layers. Siltstone beds were observed in the cut-slopes for the access roads leading to the tank site but not in the excavations advanced at the tank site (TP-1 through TP-9). The sandstone was difficult to excavate with the 580E backhoe equipped with a 24-inch bucket; typically, the backhoe met practical refusal after advancing one to two feet into the sandstone rock.

Based on mapping by OGI, the siltstone beds in the access road strike about N55E to N60E and dip 30 degrees to the northwest. Mapping by GCG at the tank site indicates the bedrock strikes about N45E and dip about 31 to 33 degrees to the northwest.

The existing 2h:1v, 5-foot-high cut slopes along the southeastern portion of the pad and the 1.5h:1v, to about 8-foot-high cut slopes for the access road to the pad were excavated in the Chatsworth Formation sandstone as part of the residential development in 2009. Based on discussions with Mr. Scott Holgreffe with GCS (S. Holgreffe, 2016), the developer's contractor used a large excavator equipped with a hydraulic breaker (hoe-ram) to excavate the Chatsworth Formation sandstone bedrock cut slopes.

Fugro West, Inc. (FWI) performed a geotechnical study that included rock coring and laboratory testing for Building 4059 at the Rocketdyne (Boeing) Facility about 3 miles southwest of proposed Crown Hill Road tank site. FWI advanced three rock core holes to depths of 60 feet in Chatsworth Formation sandstone similar to the rock exposed at the tank site. According to FWI, the Chatsworth Formation bedrock consisted of sandstone (with one 10-foot thick clay interbed) with the following parameters:

- Rock Core Rate: 2.6 to 7.3 minutes/foot; average 4 minutes/foot.
- Percent Core recovery: 25 to 100 percent; average 90 percent.
- Rock Quality Designation (RQD): 25 to 100 percent, average 75 percent.
- Rock Density: 146.3 to 149.3 pounds per cubic foot (pcf).
- Rock Unconfined Compressive Strength – pounds per square inch (psi): 433 to 1,624 psi (four samples)
- Shear Strength along slightly undulating joint surface in sandstone: friction angle 35 degrees and a shear intercept of 2.6 to 3.2 psi.

2.4.4 Engineering Properties

A summary of the general engineering parameters for the earth materials encountered in the test pits advanced for this study consists of:

- Moisture contents of tested fill soils ranged from 3 to 6 percent.
- A compaction test (ASTM D1557) was performed on a selected bulk sample of granular fill materials from the tank site to evaluate the compaction characteristics. The test results indicate a maximum dry density of about 123 pcf and an optimum moisture content of 11 percent for the tested sample, which is consistent with the previous maximum density value reported by GCG (2009).
- The results of grainsize analyses indicate fines contents (percent passing No. 200 sieve) ranging from about 8 to 14 percent for the tested granular soil samples. The materials classify as sand with silt and silty sand.
- The results of the grainsize determinations also suggest that gravel contents range from negligible to about 16 percent for the tested samples.
- The results of the soil chemistry tests are summarized in Section 3.2 below.

2.5 GROUNDWATER

Groundwater was not encountered to the depths explored for this study. Groundwater data available from the City of Simi Valley indicate groundwater in the Simi Valley area is primarily within the alluvial deposits within the main valley portion of Simi Valley. Also, CGS (2002) suggests historical high groundwater is greater than 50 feet below the ground surface in the project vicinity. Groundwater is not anticipated within the excavations for the site grading, however, there is a potential for groundwater seepage along the soil/bedrock contact and from fractures in the rock following rainfall.

2.6 POTENTIAL VARIATION OF SUBSURFACE MATERIALS

There is a potential for variation in the consistency, density, and strength/hardness of the materials from what was encountered in our explorations. The potential exists to encounter perched water, zones of poorly consolidated soils, or other conditions not indicated on the exploration logs. If significant variation in the geologic conditions is observed during construction, we recommend the geotechnical engineer, in conjunction with the project designer, evaluate the impact of those variations on the project design.

2.7 SEISMIC CONSIDERATIONS AND GEOHAZARDS

2.7.1 Faults

The project site is located in the seismically active southern California area and the project most likely will be subjected to strong earthquake ground motion during its lifetime. As summarized in Table 1, numerous active or potentially active faults are known or postulated to exist within about 15 miles of the proposed reservoir and pump station site.

Table 1. Nearby Faults

Fault	Approximate Distance (miles)	Maximum Moment Magnitude (Mmax)
Northridge	2.1	6.9
Simi-Santa Rosa	3.8	6.9
Santa Susana	5.0	6.9
Oak Ridge (Onshore)	10.8	7.2
San Gabriel	12.7	7.2

Earthquake magnitudes obtained from the USGS website

2.7.2 Ground Rupture Potential

The site is not located within a State of California Earthquake Fault Zone (formerly Alquist-Priolo Special Studies Zone) and no known active or potentially active faults cross or trend toward the site. The potential for fault rupture to affect the site is considered low.

2.7.3 Seismic Considerations for 2013 CBC

We estimated the probabilistic seismic hazards for the proposed tank and pump station sites using the USGS 2008 Interactive Deaggregations web application (USGS). Due to close proximity of the two sites and similar geotechnical conditions, a single ground acceleration value is reported for the sites. On the basis of the web-based analyses, the peak horizontal ground acceleration (pga) at the proposed tank and pump station sites is estimated to be about 0.75g for an earthquake event with a 2,475-year return period (2 percent probability of exceedance in 50 years) assuming Site Class B¹ soil conditions. Table 2 summarizes the probabilistically estimated strong ground motion parameters for the project site.

¹. The Chatsworth Formation sandstone bedrock materials are soft to moderately hard, met backhoe refusal within 1 to 2 feet, and have an estimated unconfined compressive strength ranging from about 500 psi to 1,600 psi based on similarity with previous studies in the area. The Chatsworth Formation sandstone bedrock is consistent with a Class B designation for rock (shear wave velocity of 2,500 to 5,000 ft./sec). The Class B (Rock) designation is based on a shear wave velocity of 2,500 to 5,000 ft./sec. ASCE 7-10 criteria require an onsite shear wave velocity measurement to characterize the site as Class A or B. This study did not include a seismic survey to characterize the shear wave velocity to a depth of 100 feet as required by ASCE 7-10. Without site-specific shear wave velocity measurements, geotechnical reviewers lower the rock designation to Site Class C - very dense soil and soft rock. Site Class C is defined in the California Building Code as the soft rock or stiff soil having the following average parameters for the upper 100 foot of the site: 1) shear wave velocity of 1,250 to 2,500 ft./sec, N value >50, and Su>2,000 psf. We have provided seismic design parameters for both Site B and Site C conditions.

Table 2. Summary of USGS Probabilistic Seismic Hazard Deaggregation Results

Return Period (years)	Mean Magnitude (Mw)	Mean Source Distance (km)	Peak Horizontal Ground Acceleration
2,475	6.8	13.0	0.75g

2.7.4 2013 CBC Seismic Design Parameters

In accordance with Chapter 16, Section 1613 of the 2013 CBC, the following parameters have been obtained from the USGS Seismic Design Maps web application and shall be incorporated into the seismic design at the project site. The subsurface conditions at the site are considered to satisfy the parameters for Site Class B as described in footnote on Page 8 of this report. The associated seismic design parameters for both Site Classes B and C for use in generating the risk-targeted maximum considered earthquake and design level spectra are summarized in Table 3.

Table 3. 2013 CBC Seismic Design Parameters

2013 California Building Code Section 1613	Seismic Parameter	Site Class B Values	Site Class C Values
---	Latitude	34.2550	34.2550
---	Longitude	-118.6699	-118.6699
Figure 1613.3.1(1)	Mapped Acceleration Response Parameter (S_s)	1.819g	1.819g
Figure 1613.3.1(2)	Mapped Acceleration Response Parameter (S_1)	0.602g	0.602g
Section 1613.3.2	Site Class	B	C
Section 1613.3.3 and Table 1613.3.3(1)	Site Coefficient (F_a)	1.0	1.0
Section 1613.3.3 and Table 1613.3.3(2)	Site Coefficient (F_v)	1.0	1.3
Section 1613.3.3	PGA_M Equation 11.8-1 $PGA_M = F_{PGA} PGA$	0.75g	0.75g
Section 1613.3.3	Adjusted Acceleration Response Parameter (S_{MS})	1.819g	1.819g
Section 1613.3.3	Adjusted Acceleration Response Parameter (S_{M1})	0.602g	0.782g
Section 1613.3.3	Adjusted Acceleration Response Parameter (S_{DS})	1.219g	1.212g
Section 1613.3.3	Adjusted Acceleration Response Parameter (S_{D1})	0.403g	0.521g

2.7.5 American Water Works Association (AWWA) D100 Seismic Design Parameters

The AWWA D100 seismic design criteria incorporates the design earthquake ground motion procedure presented in ASCE 7 for an earthquake caused by an event with a 2 percent probability of exceedance within a 50-year period (recurrence interval of approximately 2,500 years). The estimated peak horizontal ground motion with a 2 percent probability of exceedance in 2,475 years is 0.75g as summarized in Table 2. The ASCE 7 earthquake ground procedures are incorporated into the 2013 CBC seismic design parameters presented in Table 3; therefore, the parameters presented in Table 3 can be utilized for design of the proposed tank and pump station.

The AWWA D100 seismic design criteria includes a Seismic Use Group (SUG; Section 13.2) and seismic importance factor (I_E ; Table 24). The SUG is a classification assigned to the tank based on its intended use and expected performance during a seismic event. If the tank is expected to provide post-earthquake fire suppression, it should have a SUG III designation which incorporates a seismic importance factor I_E of 1.5. The response modification factors, R_i (impulsive component) and R_c (convective component) can be selected from AWWA D100 Table 28 based on the type of tank. The design response spectrum for impulsive components including factors T_s , T_i , T_L , and S_{ai} can be developed using AWWA D100 equations 13-9, 13-10, and 3-11 based on the natural period of the tank and using a region-dependent transition period for T_L equal to zone 8 (AWWA D100, Figure 19).

2.7.6 Liquefaction Potential

Liquefaction is described as the sudden loss of soil strength because of a rapid increase in soil pore water pressures due to cyclic loading during a seismic event. In order for liquefaction to occur, three general geotechnical characteristics must be present: 1) groundwater must be present within the potentially liquefiable zone; 2) the potentially liquefiable soil must meet certain grain size and classification characteristics; and 3) the potentially liquefiable granular soil must be of low to moderate relative density. If those criteria are met and strong ground motion occurs, then those soils may liquefy, depending upon the intensity and cyclic nature of the strong ground motion. Liquefaction that produces surface effects generally occurs in the upper 40 to 50 feet of the soil column, although the phenomenon is not restricted to depths of less than 50 feet.

The site is underlain by bedrock of the Chatsworth Formation at a shallow depth and groundwater was not encountered during this study and is estimated to be in excess of 50 feet below the ground surface. Based on the available information, the potential for liquefaction to occur as a result of a seismic event is considered to be low.

2.7.7 Landsliding

No large-scale landslides are mapped in the vicinity based on regional geologic maps or were observed during our field reconnaissance. Both the tank site and pump station are located in moderately steep hillside terrain. The Chatsworth Formation bedrock at the tank and pump station sites consists primarily of sandstone with thinly interbedded siltstone layers dipping unfavorably (downslope) to the northwest. The sandstone bedrock and siltstone layers observed in the access road cut-slopes can be daylighted in cuts steeper than the bedding

orientations (slope steeper than about 1.5h:1v). Based on our site observations and mapping, the bedding at the tank and pump station sites appears to be supported in the down-dip direction and the potential for slope instability to affect the sites is considered low.

2.7.8 Expansive and Collapsible Soils

The onsite bedrock and granular fill soils encountered in during site exploration are considered to have low expansion potential. Based on the density of the fill soils and bedrock, the potential for hydroconsolidation (soil collapse) also is considered to be low.

3.0 OPINIONS AND RECOMMENDATIONS

3.1 SUMMARY OF SUBSURFACE SITE CONDITIONS

The geotechnical conditions for the project were evaluated based on the test pits advanced for this study supplemented by data from previous geotechnical reports from the site and project area.

3.1.1 Tank Site

A northeast-trending cut/fill contact is located near the mid-portion of the tank pad site creating a dissimilar materials condition across the tank pad (Plate 2a). Chatsworth Formation sandstone bedrock is exposed in the southeastern portion of the tank pad and granular fill derived from the Chatsworth Formation is exposed in the northwestern portion of pad. On the basis of findings from our field exploration, the previous site grading did not remove a colluvial soil horizon on top of the bedrock in the vicinity of test pits TP-6 through TP-8. As depicted on Plates 2a and 3a, the fill and colluvial soil thickness beneath the existing pad is up to 10 feet thick in the northwest portion of the potential tank footprint area based on the work performed for this study. Overexcavation should remove all old soil zones down to bedrock, the bedrock surfaces should be prepared in accordance with Greenbook Section 300-3, and all fill should be placed in accordance with City of Simi Valley and/or Greenbook Section 300-4 requirements.

Plans by P&I indicate the 74-foot-diameter tank and surrounding access road will span the width of the pad in the northwest-southeast direction, straddling the cut-fill line. We recommend the Crown Hill Drive tank pad be founded on a uniform material type (entirely on bedrock or equivalent; or entirely on a uniform thickness of compacted fill) based on our previous experience with differential settlement of the Madera 1031 Zone tank in the western part of Simi Valley. The Madera 1031 Zone tank was constructed over a cut/fill line and experienced differential settlement of about 4 inches and deflection of the steel tank wall.

Bedrock or Equivalent Foundation. The tank foundation could be founded entirely on bedrock (or equivalent) either by: 1) lower the tank pad elevation until bedrock is exposed across the entire excavation, or 2) overexcavate the soil (fill and colluvial soil) on the northwestern portion of the site from beneath the proposed tank footprint plus 3 feet laterally outward from the foundation to expose sandstone bedrock and replace the excavated soil with concrete, sand-cement slurry, or soil cement to the base of the proposed footing (see Section 3.4.6).

Uniform Thickness of Compacted Fill Foundation. A second approach to providing a uniform foundation material would be to overexcavate the tank foundation area plus a minimum of 3 feet horizontally beyond the edge of the footing to a depth that will provide for a uniform thickness of compacted fill beneath the entire tank footprint. The tank excavation could then be backfilled to grade with onsite granular fill compacted to 95 percent relative compaction.

Opinion. In our opinion, given the remote project location, limited work area, and presence of competent bedrock material in the southeastern portion of the site, the option to overexcavate the fill and colluvial soil materials to competent bedrock in the northwest portion of the site and replace the excavated soil with concrete, sand-cement slurry, or soil cement appears to be a reasonable approach to provide for a uniform foundation material beneath the Crown Hill Drive tank.

3.1.2 Pump Station Site

Based on the test pits excavated at the proposed pump station site, the pump station site has a fill cover of variable thickness ranging from about 1 foot near the base of the cut slope for the dirt access road (southern side of site) to about 5 to 6 feet on the outside downslope northern edge of the access road (see cross-sections Plate 3b). The fill is dry, loose, and appears to have been “spoiled” over the edge of the slope during construction of the access road; it does not appear to have been compacted or benched into the underlying sandstone bedrock. The underlying bedrock surface appears to slope northwesterly at about 2h:1v. Based on our observations, we suggest the loose fill materials be removed and the foundations for the pump station and any associated retaining structures be embedded into sandstone bedrock. All bedrock surfaces should be prepared in accordance with Greenbook Section 300-3 and all fill should be keyed and benched into the sandstone bedrock in accordance with Greenbook Section 300-4 requirements. The existing onsite granular soils (SP, SW, SP-SM, and SM) are suitable for use as compacted fill once the soils have been moisture conditioned.

3.2 SOIL CHEMISTRY AND CORROSION

3.2.1 Test Results

Selected soil samples obtained from our explorations were provided to Cooper Testing Laboratories for resistivity, pH, chloride, and sulfate testing. Test results are summarized below in Table 4 and the laboratory test report is included in Appendix B.

Table 4. Summary of Chemical Test Results

Drill Hole	USCS Classification	Depth (feet)	Sulfate (mg/kg)/%	Chloride (mg/kg)	Resistivity (ohm-cm)	pH
TP-5	Silty Sand (SM)	0 - 3	29 / 0.0029	2	6,800	7.8

3.2.2 Corrosion and Cement Considerations

As summarized in the table above, the measured pH of the tested sample (ASTM G51) is 7.8, the measured electrical resistivity (ASTM G57) is 6,800 ohm-centimeters, the chloride

content (ASTM D4327) of the measured samples is 2 mg/kg, and the sulfate content (ASTM D4327) of the measured sample is 29 mg/kg (0.0029 percent).

Caltrans (2012) classifies soils as non-corrosive if the earth materials have less than 500 ppm chlorides, less than 0.20 percent sulfates (i.e., 2,000 mg/kg or ppm), a pH of 5.5 or more, or an electrical resistivity of 1,000 ohm-centimeters or more. The data suggest the tested soil materials are not corrosive to underground steel. If applicable, the test results should be evaluated by a corrosion engineer to determine how underground utilities should be protected from corrosion.

The cement type should be selected with consideration of the sulfate content of the tested soils. Available sulfate content data suggest that, per Table 4-3-1 of ACI 318, Type II cement can be used for concrete that will be in contact with onsite granular soils.

3.3 GENERAL SITE CLEARING AND GRUBBING

Soil containing debris, organics, trees and root systems, and other unsuitable materials should be excavated and removed from improvement areas prior to commencing grading operations. Areas should be cleared of old foundations, slabs, pavement, abandoned utilities, and soils disturbed during the demolition process. Depressions or disturbed areas left from the removal of such material should be replaced with compacted fill.

3.4 SITE GRADING

3.4.1 Subgrade Preparation

Tank Site Preparation – Limited Excavation with Concrete, Sand-Cement Slurry, or Soil-Cement Backfill. If the limited excavation option is selected, the existing fill and colluvial soil (if encountered) should be removed to expose clean intact sandstone bedrock and the bedrock surface prepared in accordance with Greenbook Section 300-3. The excavation should extend a minimum of 3 feet horizontally beyond the edge of the footing. The resulting bedrock surface should be clean of debris and loose soil prior to placement of concrete, sand-cement slurry, or soil-cement fill materials.

Tank Site Preparation – Compacted Fill Option. Following site clearing, we recommended the existing fill and colluvial soils be removed down to intact bedrock, the bedrock excavated to a uniform elevation across the entire tank footprint, and the site be brought back up to grade as a uniform thickness of compacted fill in the tank foundation area. This likely will require excavation of bedrock in the southeastern portion of the tank pad to create a nearly level bedrock surface under the entire tank footprint. The excavation of bedrock should extend a minimum distance of 3 feet horizontally beyond the foundation of the tank footprint to provide for a uniform layer of compacted fill under the entire tank footprint. The bedrock surface does not need to be scarified.

Pump Station Site. It is anticipated the foundations for the pump station and associated retaining wall(s) will be founded on sandstone bedrock. All fill and loose soil beneath the building area should be removed to expose intact, sandstone bedrock and the bedrock surface prepared in accordance with Greenbook Section 300-3.

3.4.2 Fill Material Selection

Recommended fill material selection requirements for subgrade fill, aggregate base, and use of onsite materials are presented below. Areas or zones where the various fill materials may be used are described below.

Use of Onsite Materials. As described above, onsite materials consist of granular soils with some gravel and cobble size rock fragments. Material derived from the bedrock overexcavation can be expected to generate oversize material that will need to be processed to use as onsite fill. The material generated from the overexcavation can be utilized as compacted fill as long as those materials satisfy criteria for general fill.

General Fill. General fill should consist of granular soil materials (SP, SW, SP-SM, and SM) free of organics, oversize rock (greater than 6 inches in diameter), trash, debris, and other deleterious or unsuitable materials, and should have an expansion index less than 20. The fill materials should have less than 15 percent larger than 3 inches in diameter.

Aggregate and Miscellaneous Base. Base materials should consist of material conforming to Caltrans Standard Specifications for Class 2 Aggregate Base, Section 26-1.02 (Caltrans, 2015) or Section 200-2.5 of the Greenbook (2015) for Processed Miscellaneous Base.

Imported Fill. Although importing fill is not anticipated, if material is imported, the imported subgrade fill materials should comply with recommendations for general fill or as appropriate for its intended use. Imported fill should be reviewed by the geotechnical engineer prior to being transported to the site.

3.4.3 Dewatering

On the basis of our subsurface exploration and previous studies on-site, we do not anticipate groundwater will be encountered during site grading activities. Although we do not anticipate the need for dewatering, groundwater levels may vary seasonally and it is possible some seepage may be encountered in the excavations following rain events.

3.4.4 Fill Placement

Fill should be placed, moisture conditioned, and compacted to a minimum of 95 percent relative compaction beneath the tank and pump station structures and 90 percent relative compaction adjacent to structures. In general, we recommend the moisture content of the fill should be 0 to 2 percent above the optimum. We note the tested on-site soils have low moisture contents in the range of 3 to 6 percent. On the basis of the test results, water will need to be added during grading to bring the moisture content up near the optimum moisture content of about 10 to 11 percent. Each layer should be spread evenly and should be thoroughly blade-mixed during the spreading to provide relative uniformity of material within each layer. Soft or

yielding materials should be removed and be replaced with properly compacted fill material prior to placing the next layer.

Rock, cobbles, and other oversized material greater than 6 inches in dimension in any direction should be removed from the fill material being placed. The contractor should be prepared to screen all native materials prior to placement as compacted fill. Rocks should not be nested and voids should be filled with compacted material. Organics, foreign matter, and other deleterious materials also should be removed from any material used in constructed fills.

Fill and backfill materials should be placed in layers that can be compacted with the equipment being used. Fill should be spread in lifts no thicker than approximately 8 inches prior to being compacted. Fill and backfill materials may need to be placed in thinner lifts to achieve the recommended compaction depending on the equipment being used. All fill should be keyed and benched into the sandstone bedrock in accordance with City of Simi Valley and Greenbook requirements.

3.4.5 Compaction

Fill placement and grading operations should be performed according to the City of Simi Valley, Greenbook Specification 300-4, and the grading recommendations of this report. Relative compaction should be assessed based on the latest approved edition of ASTM D1557. The tank pad over-excavation (if performed) and upper 1-foot of access road sections (subgrade plus base materials) should be compacted to 95 percent relative compaction. Existing bedrock does not need to be scarified and compacted. We recommend general fill be compacted to a minimum of 90 percent relative compaction. Recommended specified relative compaction should extend to a minimum of 3 feet horizontally beyond the limits of the improvements.

3.4.6 Concrete, Sand-Cement Slurry, and Soil-Cement

If the partial tank excavation method is selected to remove the existing soil materials beneath the northwestern portion of the tank foundation, the excavation should be backfilled with concrete, sand-cement slurry, or soil-cement to the base of the proposed tank in the excavation area. The intent of the “strengthened” backfill is to match the engineering parameters of the adjacent sandstone bedrock beneath the southeastern portion of the tank.

We recommend the following material specifications for the excavation fill materials:

- Concrete utilized to fill the excavation should meet project specifications for structural concrete,
- Sand-cement slurry utilized to fill the excavation should have a minimum compressive strength of 500 psi and should meet Greenbook requirements,
- Soil-cement utilized to fill the excavation should have a minimum compressive strength (7 days) of 500 psi and should be constructed in accordance with Soil-Cement Handbook published by the Portland Cement Association (PCA). Site-specific testing was not performed to evaluate the percentage of cement required to achieve a minimum strength of 500 psi. Based on past experience, we estimate a

minimum of 8 percent cement will need to be added to the onsite granular soil to achieve a minimum strength of 500 psi. If the contractor elects to backfill the excavation with soil-cement, they should submit test results from a certified laboratory documenting the minimum cement content required to achieve a strength of 500 psi and a work plan documenting quality control procedures to achieve uniform soil-cement mixing, moisture conditioning, and compacting. Soil-cement should be compacted to 95 percent relative compaction of the cement-modified maximum soil density in accordance with the Soil-Cement Handbook.

3.5 FOUNDATION DESIGN

3.5.1 Shallow Foundation Design

The proposed improvements tank and pump station improvements can be supported on a shallow foundation system consisting of isolated and continuous footings designed in accordance with current CBC and Greenbook requirements.

3.5.2 Allowable Bearing Pressure

Continuous and isolated spread footings will be supported on recompacted onsite granular fill materials underlain by Chatsworth Formation sandstone bedrock. For these conditions, we recommend shallow footings be designed using a maximum allowable bearing pressure of 2,500 pounds per square foot (psf). The allowable value incorporates a factor of safety of at least 3. A one-third increase in the allowable bearing pressure may be used for transient loads such as seismic or wind forces.

Foundations embedded at least 1-foot in sandstone bedrock can utilize a maximum allowable bearing pressure of 4,000 psf. A one-third increase in the allowable bearing pressure may be used for transient loads such as seismic or wind forces.

3.5.3 Minimum Embedment Depth and Width

In general, footings embedded in fill materials should extend to at least 2 feet below the lowest adjacent grade and have a minimum width of 18 inches. Isolated pad footings should be at least 3 feet in least dimension. Footings bearing in bedrock should extend at least 1-foot in intact sandstone rock.

3.5.4 Sliding and Passive Resistance

Ultimate sliding resistance (friction) generated at the interface of concrete foundations and compacted soils can be computed by multiplying the total dead weight structural load by a coefficient of 0.4. The ultimate net passive resistance developed from lateral bearing of foundations against compacted backfill or undisturbed native soil can be estimated using an equivalent fluid weight of 300 pcf. The passive resistance for the upper 1 foot of soil should be neglected unless the soils are confined at the ground surface by slab-on-grade or pavement. The passive resistance should be reduced to 150 pcf if the ground surface in front of the wall descends at a 2h:1v slope. Sliding resistance and passive pressure may be used together without reduction, when used with the recommended minimum factors of safety. For static conditions, minimum factors of safety of 1.5 and 2.0 are recommended for foundation overturning and sliding, respectively. The factor of safety for sliding can be reduced to 1.5 if

passive resistance is neglected. The factor of safety for transient (seismic, wind) conditions should be at least 1.1.

3.5.5 Static Settlements

Static settlements generally will occur in response to foundation loads on the foundation support material. The structure should be designed to accommodate static differential settlements of at least ½-inch over a distance of 30 feet (i.e., a distortion ratio of approximately 1/720) for similarly sized and loaded footings.

3.5.6 Lateral Earth Pressures

Retaining structures free to rotate or translate laterally (e.g., cantilevered retaining walls) through a horizontal distance to wall height ratio of greater than about 0.004 can be assumed as unrestrained or yielding retaining structures. Such walls can generally move enough to develop active conditions. Retaining structures unable to rotate or deflect laterally (e.g., restrained below-grade or basement walls) are referred to as restrained or rigid walls. We have assumed the below grade walls for vaults and manholes will be rigid and should be designed for at-rest conditions.

Lateral earth pressures (equivalent fluid weights) for design of the proposed pump station and miscellaneous walls are summarized in Table 5 below.

Table 5. Equivalent Fluid Weights for Estimating Lateral Earth Pressures

Backfill Slope Inclination Behind Wall	Equivalent Fluid Weights (pcf) At-Rest Conditions	
	Restrained (At-rest), Drained	Unrestrained (active), Drained
Level Granular Backfill	45	40
2h:1v Soil Backfill	75	65
1.5h:1v Soil Backfill	95	95

The equivalent fluid weight for undrained conditions accounts for the buoyant unit weight of soil and includes the unit weight of water. Drained conditions can be utilized if perimeter subsurface drainage devices are provided.

The estimated equivalent fluid pressures should be applied to a vertical plane passing through the backmost extension of the wall. The height of the vertical plane should extend from the point where the vertical plane intersects the ground surface down to the elevation of the lowest retaining wall foundation.

3.5.7 Backfill

We anticipate the retaining walls will be constructed adjacent to temporary bedrock cuts and it is unlikely that a significant volume of backfill materials will be placed behind the walls. However, where backfill soils are required, the materials should consist of onsite or imported granular soil with less than 20 percent passing the No. 200.

3.6 CONSTRUCTION CONSIDERATIONS

3.6.1 Excavation Conditions

Subsurface materials encountered in the exploratory test pits consisted of: 1) loose to dense granular soils with varying amounts of gravel- to cobble-size rock fragments, and 2) slightly weathered, soft to moderately hard, thickly bedded to massive, sandstone bedrock. The bedrock was difficult to excavate with the Case 580E backhoe and resulted in refusal to the exploration equipment as described above. We expect excavations in the onsite soil materials can be excavated with heavy duty earthwork equipment in good working order. We anticipate the sandstone bedrock will require heavy ripping with a single shank on a large bulldozer to excavate the thickly bedded to massive sandstone bedrock. The excavation likely will generate oversized material (greater than 6-inches in diameter) that will need to be processed on-site to place as compacted fill.

3.6.2 Temporary Slopes and Excavations

The contractor should be responsible for the design of temporary slopes. Within the anticipated depths of excavation, the soil profile is anticipated to consist of loose to dense granular soil materials and intact sandstone bedrock. Temporary slopes should be braced or sloped according to the requirements of OSHA.

As input to design, excavations in granular soil without shoring can be classified as Type C and should be sloped no steeper than 1.5h:1v as deemed appropriate based upon classification Type determined in the field per OSHA guidelines. Rock excavations classify as a Type A soil although we recommend temporary cut slopes higher than 4 feet be cut at 1h:1v due to the presence of interbedded siltstone layers dipping northward out of slope (downslope). We recommend all temporary excavations be monitored for signs of instability and appropriate actions (such as flattening the slope, providing shoring, and controlling groundwater, if encountered) should be undertaken if evidence of potential instability is observed. Table 6 summarizes parameters for consideration in the design of temporary slopes or shoring systems.

Table 6. Engineering Parameters for Design of Temporary Slopes and Shoring¹

Soil Unit	Total Unit Weight (pcf)	Friction Angle (degrees)	Cohesion (psf)
Fill consisting of a mixture of sand (SP-SM/SM)	130	32	0

¹ Parameters provided here are valid only for the design of temporary slopes and shoring.

3.6.3 Permanent Slopes

Permanent cut-slopes exposing granular soil units susceptible to erosion should be inclined at 2h:1v or flatter. Cut-slopes in bedrock can be inclined at 1.5h:1v; if the bedrock is massive, without bedding or siltstone and/or claystone layers, the cut-slopes could be steepened to 1h:1v. However, if 1h:1v permanent bedrock slopes higher than 4 feet are proposed, OGI and the designer should evaluate them on a site-specific basis.

3.6.4 Site Drainage

Site grading should be provided such that positive drainage away from improvements is provided. Water should not be allowed to pond near the improvements. We recommend the construction of finished slopes of 1 to 2 percent away from the improvements. Erosion control and maintenance of the slopes should be provided to reduce the potential for erosion.

3.6.5 Water Pipeline and Dry Utilities

A water pipeline connecting the new tank to the pump station adjacent to the Alta Vista Tank site will be constructed as part of the project. The pipeline alignment is being defined as part of the preliminary design. Depending on the alignment selected, the site conditions along the alignment likely will consist of shallow sandstone bedrock. Support options could include anchoring the pipeline to the rock above ground or placement in a standard trench. If the pipeline and/or dry utilities are placed in a trench, we suggest they be bedded in a minimum of 6 inches of clean sand and covered with a minimum of 12 inches of clean sand. The sand should have a minimum sand equivalent of 30 and should be compacted to a minimum of 90 percent relative compaction. Flooding of the sand should not be allowed. Onsite materials could potentially be used as trench bedding materials if the granular soil is screened through a 1-inch screen to produce a uniform granular soil without large gravel, cobbles, or boulders.

The trench zone above the bedding can be backfilled with general fill and compacted to a minimum of 90 percent relative compaction. Ditch plugs such as sacked concrete, should be provided every 30 feet along the length of the trench in areas where the pipeline gradient is steeper than 5h:1v. The ditch plugs should extend from the bottom of the trench to the ground surface to help reduce runoff. In addition, the trench surface should be protected from allowing surface water to run down the length of the trench.

4.0 LIMITATIONS

4.1 REPORT USE

This report has been prepared for the exclusive use of Perlitter & Ingalsbe and the City of Simi Valley and its agents for the design and construction of the proposed Crown Hill Drive Tank and Pump Station project in Simi Valley, California. The findings, conclusions, and recommendations presented herein were prepared in accordance with generally accepted geotechnical engineering practices of the project region. No other warranty, express or implied, is made.

Although information contained in this report may be of some use for other purposes, it may not contain sufficient information for other parties or uses. If any changes are made to the project as described in this report, the conclusions and recommendations in this report shall not be considered valid unless the changes are reviewed and the conclusions and recommendations of this report are modified or validated in writing by OGI.

4.2 HAZARDOUS MATERIALS

This report does not provide information regarding the presence of hazardous/toxic materials in the soil, surface water, groundwater, or atmosphere.

4.3 LOCAL PRACTICE

In performing our professional services, we have used generally accepted geologic and geotechnical engineering principles and have applied the degree of care and skill ordinarily exercised under similar circumstances by reputable geotechnical engineers currently practicing in this or similar localities. No other warranty, express or implied, is made as to the professional advice included in this report.

4.4 PLAN REVIEW

We recommend OGI be provided the opportunity to review and comment on the geotechnical aspects of any project plans and specifications prepared for this project before they are finalized. The purpose of that review will be to evaluate if the recommendations in this report have been properly interpreted and implemented in the design and specifications.

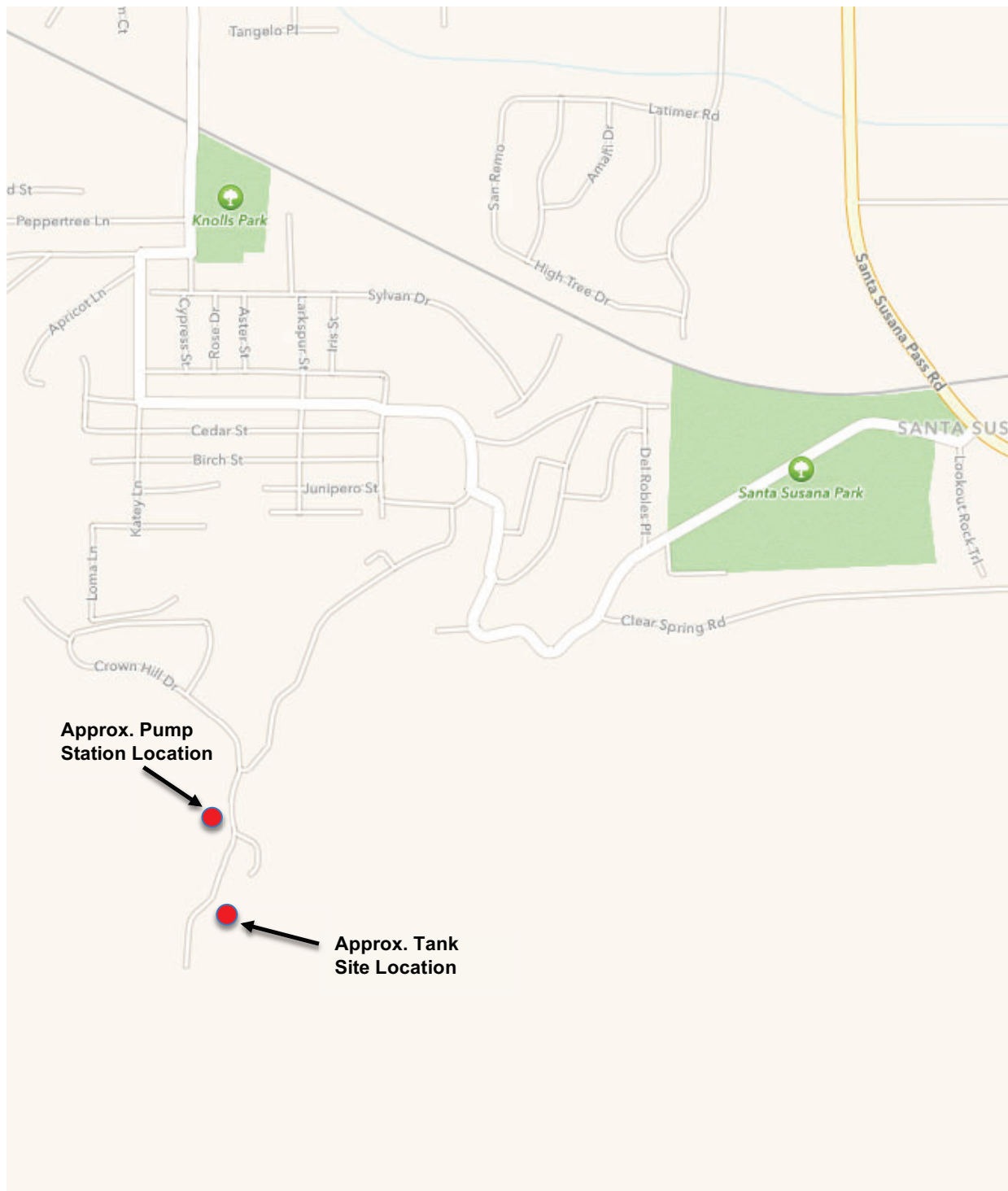
4.5 CONSTRUCTION MONITORING

Users of this report should recognize the construction process is an integral design component with respect to the geotechnical aspects of a project, and geotechnical engineering is inexact due to the variability of natural and man-induced processes, which can produce unanticipated or changed conditions. Proper geotechnical observation and testing during construction is imperative in allowing the geotechnical engineer the opportunity to verify assumptions made during the design process. Therefore, we recommend OGI be retained during project construction to observe compliance with project plans and specifications and to recommend design changes, if needed, in the event that subsurface conditions differ from those anticipated.

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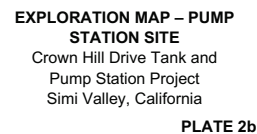
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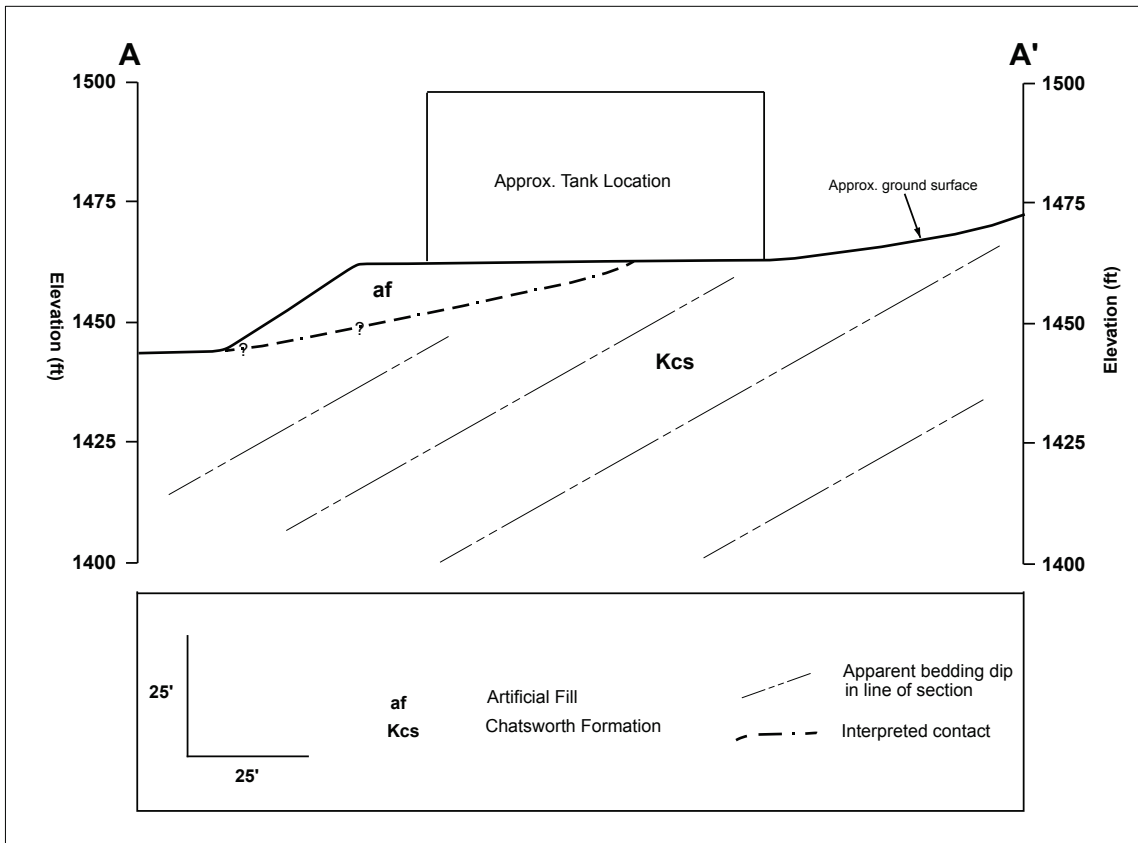
PLATES



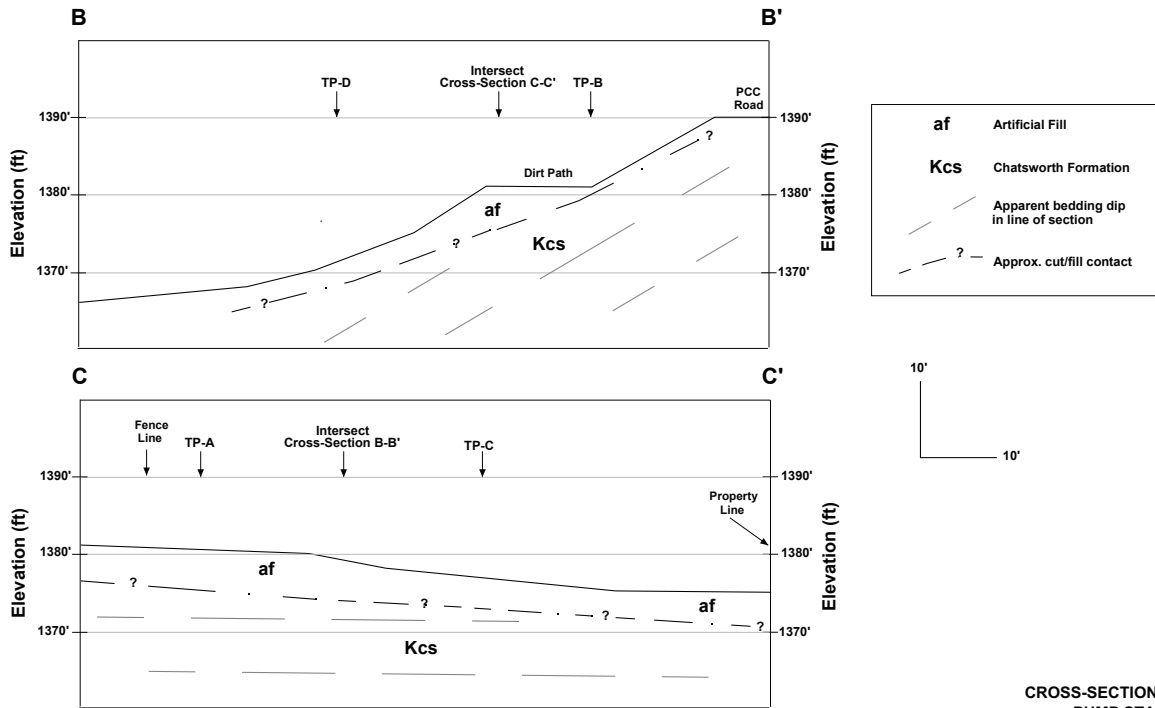
SITE LOCATION MAP
Crown Hill Drive Tank and Pump Station Project
Simi Valley, California







CROSS-SECTION A-A'
TANK SITE
Crown Hill Drive Tank and
Pump Station Project
Simi Valley, California



CROSS-SECTIONS B-B' AND C-C'
PUMP STATION SITE
Crown Hill Drive Tank and
Pump Station Project
Simi Valley, California

APPENDIX A
FIELD EXPLORATION

LOG OF TEST PIT NO. TP-1								
DEPTH (FEET)	SAMPLE NUMBER	MATERIAL SYMBOL	LOCATION: Tank Area - See Map SURFACE EL. (ft): 1458'	MATERIAL DESCRIPTION	MOISTURE CONTENT (%)	PLASTICITY (LL/PI)	PASSING No. 200 (%)	TV or PP (tsf)
				The log and data presented herein are a simplification of actual subsurface conditions encountered at the time of exploration at the specific location explored. Subsurface conditions may differ at other locations and at this location with the passage of time.				
1		Kcs	CHATSWORTH FORMATION (Kcs)					
			Silty SANDSTONE (Rx): slightly weathered, soft, medium to coarse grained					
3			with 1/2"-thick siltstone lens					
			- moderately indurated, moderately hard below 1'.					
5			- bedding N55E 30NW					
7								
9								
11								
13								
15								

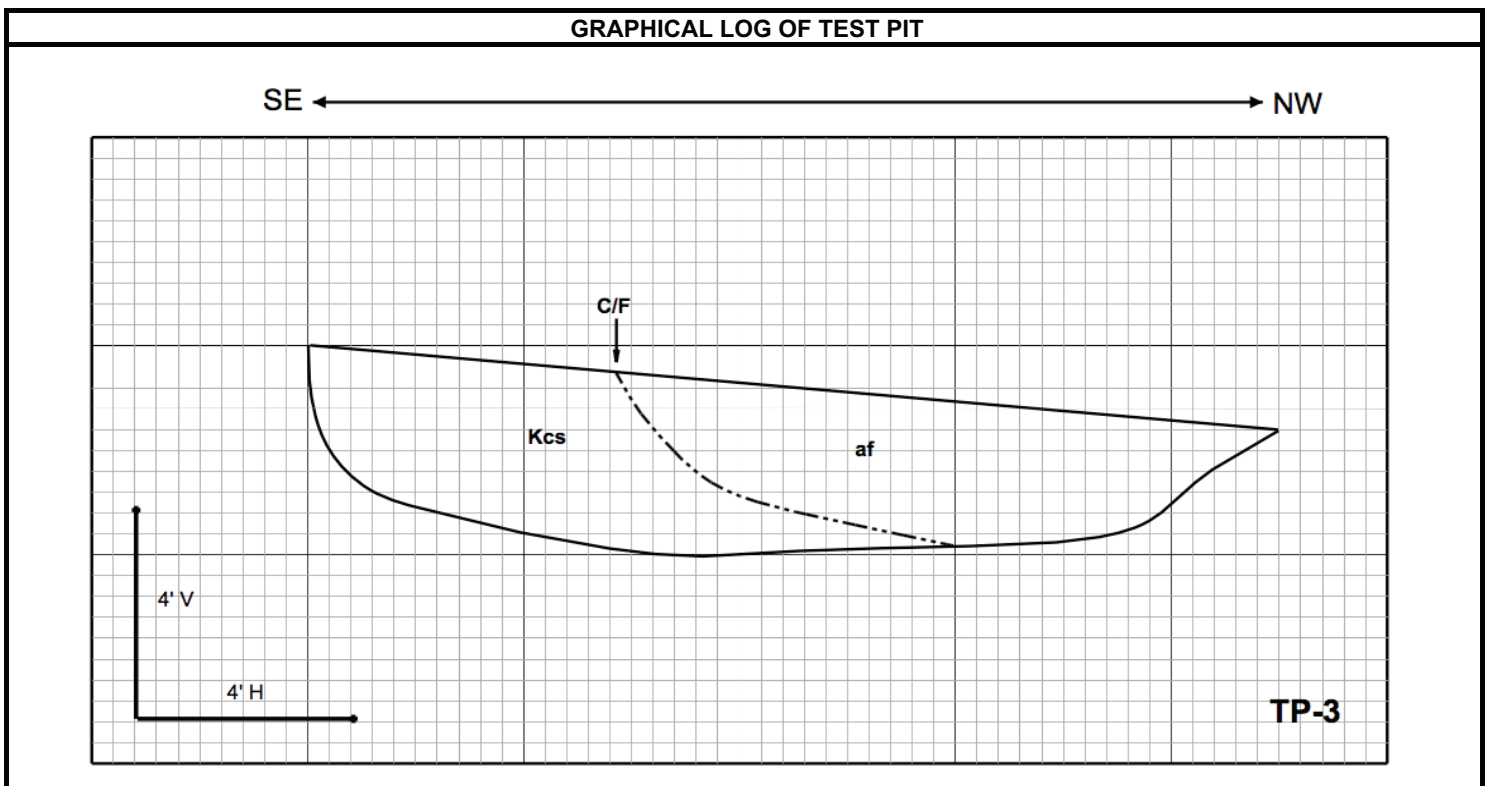
CONTRACTOR:	<u>Buzza Backhoe</u>	COMPLETION DEPTH (ft):	<u>1.5'</u>
METHOD:	<u>Backhoe, 24" bucket</u>	WATER DEPTH (ft):	<u>Not Encountered</u>
BACKFILL:	<u>Excavated material</u>	LOGGED BY:	<u>C Prentice</u>
DATE:	<u>August 5, 2016</u>	CHECKED BY:	<u>L Prentice</u>

LOG OF TEST PIT NO. TP-2								
DEPTH (FEET)	SAMPLE NUMBER	MATERIAL SYMBOL	LOCATION: Tank Area - See Map SURFACE EL. (ft): 1458'	MATERIAL DESCRIPTION	MOISTURE CONTENT (%)	PLASTICITY (LL/PI)	PASSING No. 200 (%)	TV or PP (tsf)
				The log and data presented herein are a simplification of actual subsurface conditions encountered at the time of exploration at the specific location explored. Subsurface conditions may differ at other locations and at this location with the passage of time.				
1			CHATSWORTH FORMATION (Kcs)					
		Kcs	Silty SANDSTONE (Rx): slightly weathered, soft, medium to coarse grained, massive					
3								
5								
7								
9								
11								
13								
15								

CONTRACTOR:	<u>Buzza Backhoe</u>	COMPLETION DEPTH (ft):	<u>2'</u>
METHOD:	<u>Backhoe, 24" bucket</u>	WATER DEPTH (ft):	<u>Not Encountered</u>
BACKFILL:	<u>Excavated material</u>	LOGGED BY:	<u>C Prentice</u>
DATE:	<u>August 5, 2016</u>	CHECKED BY:	<u>L Prentice</u>

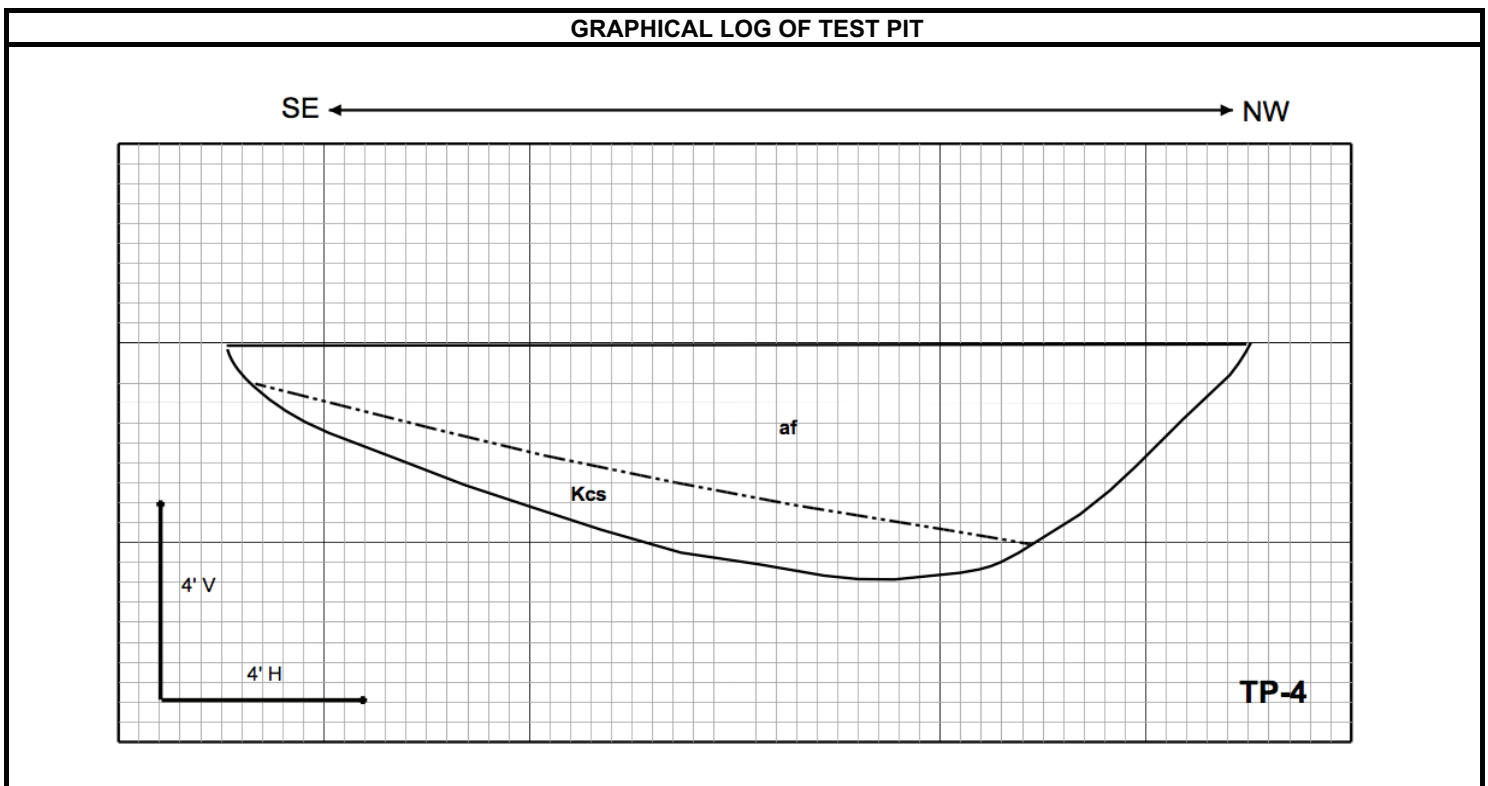
LOG OF TEST PIT NO. TP-3							
DEPTH (FEET)	SAMPLE NUMBER	MATERIAL SYMBOL	LOCATION: Tank Area - See Map SURFACE EL. (ft): 1458' MATERIAL DESCRIPTION The log and data presented herein are a simplification of actual subsurface conditions encountered at the time of exploration at the specific location explored. Subsurface conditions may differ at other locations and at this location with the passage of time.	MOISTURE CONTENT (%)	PLASTICITY (LL/PI)	PASSING No. 200 (%)	TV or PP (tsf)
1		af	ARTIFICIAL FILL (af) Silty SAND (SM): medium dense, light brown, damp, with sandstone rock fragments				
2							
3		Kcs	CHATSWORTH FORMATION (Kcs) Silty SANDSTONE (Rx): slightly weathered, soft to moderately hard, light brown, massive				
4							
5							
6							
7							
8							

CONTRACTOR:	<u>Buzza Backhoe</u>	COMPLETION DEPTH (ft):	<u>4'</u>
METHOD:	<u>Backhoe, 24" bucket</u>	WATER DEPTH (ft):	<u>Not Encountered</u>
BACKFILL:	<u>Excavated material</u>	LOGGED BY:	<u>C Prentice</u>
DATE:	<u>August 5, 2016</u>	CHECKED BY:	<u>L Prentice</u>

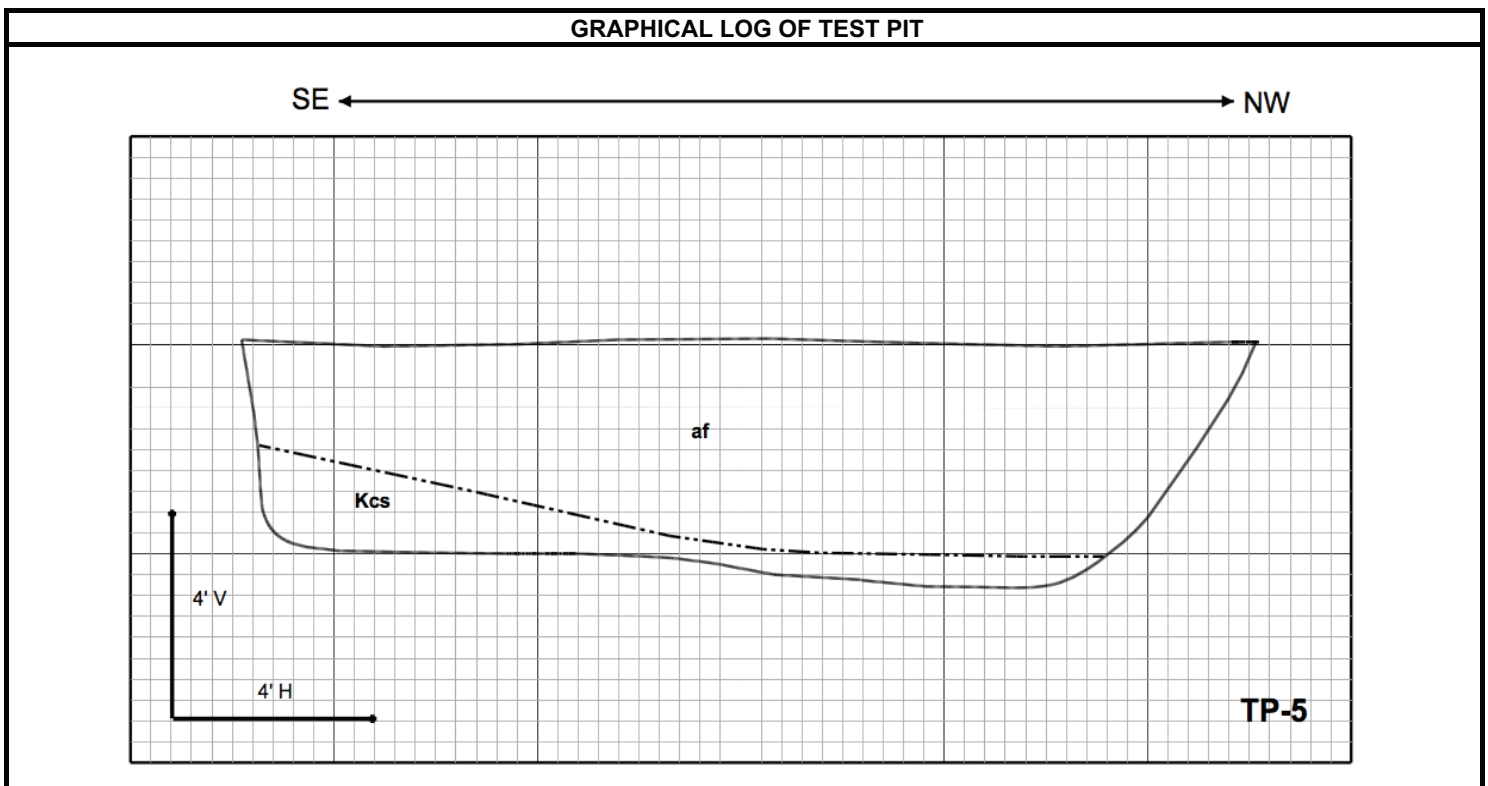


LOG OF TEST PIT NO. TP-4							
DEPTH (FEET)	SAMPLE NUMBER	MATERIAL SYMBOL	LOCATION: Tank Area - See Map SURFACE EL. (ft): 1458' MATERIAL DESCRIPTION The log and data presented herein are a simplification of actual subsurface conditions encountered at the time of exploration at the specific location explored. Subsurface conditions may differ at other locations and at this location with the passage of time.	MOISTURE CONTENT (%)	PLASTICITY (LL/PI)	PASSING No. 200 (%)	TV or PP (tsf)
1		af	ARTIFICIAL FILL (af) Silty SAND (SM): medium dense to dense, light brown, damp, with sandstone rock fragments				
2		Kcs	CHATSWORTH FORMATION (Kcs) Silty SANDSTONE (Rx): slightly weathered, soft to moderately hard, light brown, massive				
3							
4							
5							
6							
7							
8							

CONTRACTOR:	Buzza Backhoe	COMPLETION DEPTH (ft):	4.5'
METHOD:	Backhoe, 24" bucket	WATER DEPTH (ft):	Not Encountered
BACKFILL:	Excavated material	LOGGED BY:	C Prentice
DATE:	August 5, 2016	CHECKED BY:	L Prentice

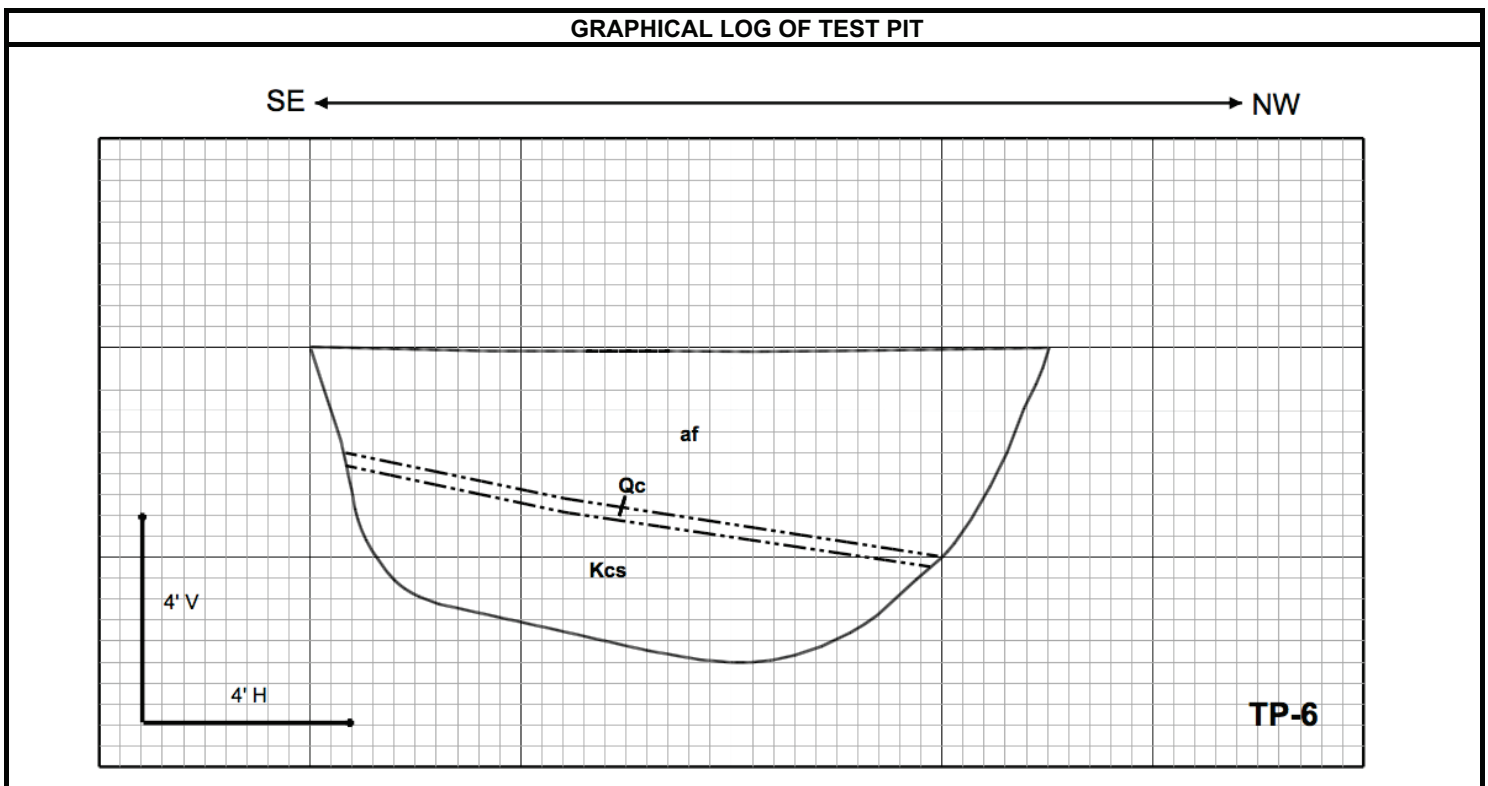


LOG OF TEST PIT NO. TP-5												
DEPTH (FEET)	SAMPLE	NUMBER	MATERIAL SYMBOL	LOCATION: Tank Area - See Map SURFACE EL. (ft): 1458'					MOISTURE CONTENT (%)	PLASTICITY (LL/PI)	PASSING No. 200 (%)	TV or PP (tsf)
MATERIAL DESCRIPTION												
The log and data presented herein are a simplification of actual subsurface conditions encountered at the time of exploration at the specific location explored. Subsurface conditions may differ at other locations and at this location with the passage of time.												
1		1	af	ARTIFICIAL FILL (af)					4		8	
				SAND with Silt (SW-SM): medium dense to dense, light brown, damp, with sandstone								
				rock fragments and pods of dark brown sandy clay near contact with Chatsworth								
2				Formation bedrock								
			Kcs	CHATSWORTH FORMATION (Kcs)								
3				Silty SANDSTONE (Rx): slightly weathered, soft to moderately hard, light brown, massive								
4												
5												
6												
7												
8												
CONTRACTOR:				Buzza Backhoe					COMPLETION DEPTH (ft): 5'			
METHOD:				Backhoe, 24" bucket					WATER DEPTH (ft): Not Encountered			
BACKFILL:				Excavated material					LOGGED BY: C Prentice			
DATE:				August 5, 2016					CHECKED BY: L Prentice			



LOG OF TEST PIT NO. TP-6							
DEPTH (FEET)	SAMPLE NUMBER	MATERIAL SYMBOL	LOCATION: Tank Area - See Map SURFACE EL. (ft): 1458'	MOISTURE CONTENT (%)	PLASTICITY (LL/PI)	PASSING No. 200 (%)	TV or PP (tsf)
MATERIAL DESCRIPTION							
The log and data presented herein are a simplification of actual subsurface conditions encountered at the time of exploration at the specific location explored. Subsurface conditions may differ at other locations and at this location with the passage of time.							
1		af	ARTIFICIAL FILL (af) Silty SAND (SM): medium dense to dense, light brown, damp, with sandstone rock fragments and with pods of dark brown sandy clay near contact with Chatsworth Formation bedrock				
2							
3		Qc	COLLUVIUM (Qc) Sandy CLAY (CL): dark brown, damp, about 4"-thick, appears to be weathered soil profile				
4		Kcs	CHATSWORTH FORMATION (Kcs) Silty SANDSTONE (Rx): slightly weathered, soft to moderately hard, light brown, massive				
5							
6							
7							
8							

CONTRACTOR:	Buzza Backhoe	COMPLETION DEPTH (ft):	6'
METHOD:	Backhoe, 24" bucket	WATER DEPTH (ft):	Not Encountered
BACKFILL:	Excavated material	LOGGED BY:	C Prentice
DATE:	August 5, 2016	CHECKED BY:	L Prentice



LOG OF TEST PIT NO. TP-7													
DEPTH (FEET)	SAMPLE NUMBER	MATERIAL SYMBOL	LOCATION: Tank Area - See Map SURFACE EL. (ft): 1458'							MOISTURE CONTENT (%)	PLASTICITY (LL/PI)	PASSING No. 200 (%)	TV or PP (tsf)
MATERIAL DESCRIPTION													
The log and data presented herein are a simplification of actual subsurface conditions encountered at the time of exploration at the specific location explored. Subsurface conditions may differ at other locations and at this location with the passage of time.													
2		af	ARTIFICIAL FILL (af)							6			
			Silty SAND (SM): medium dense to dense, light brown, damp, with sandstone rock fragments										
4													
6													
8													
10	1	Qc	COLLUVIUM (Qc)							6		8	
			SAND with Silt (SP-SM): dark brown, damp, loose to medium dense/medium stiff, with organics and with roots to about 1/2"-diameter										
12		Kcs	CHATSWORTH FORMATION (Kcs)										
			Silty SANDSTONE (Rx): slightly weathered, soft to moderately hard, light brown, massive										
14													
16													
CONTRACTOR:			Buzza Backhoe				COMPLETION DEPTH (ft):			11'			
METHOD:			Backhoe, 24" bucket				WATER DEPTH (ft):			Not Encountered			
BACKFILL:			Excavated material				LOGGED BY:			C Prentice			
DATE:			August 5, 2016				CHECKED BY:			L Prentice			

LOG OF TEST PIT NO. TP-8													
DEPTH (FEET)	SAMPLE	NUMBER	MATERIAL SYMBOL	LOCATION: Tank Area - See Map SURFACE EL. (ft): 1458'						MOISTURE CONTENT (%)	PLASTICITY (LL/PI)	PASSING No. 200 (%)	TV or PP (tsf)
MATERIAL DESCRIPTION													
The log and data presented herein are a simplification of actual subsurface conditions encountered at the time of exploration at the specific location explored. Subsurface conditions may differ at other locations and at this location with the passage of time.													
2			af	ARTIFICIAL FILL (af)									
				Silty SAND (SM): medium dense to dense, light brown, damp, with sandstone rock fragments									
4													
6													
8													
10			Qc	COLLUVIUM (Qc)									
				Sandy SILT (ML); dark brown, damp, loose									
				CHATSWORTH FORMATION (Kcs)									
12			Kcs	Silty SANDSTONE (Rx): slightly weathered, weak to moderately hard, light brown, massive									
14													
16													
CONTRACTOR:				Buzza Backhoe				COMPLETION DEPTH (ft):		11'			
METHOD:				Backhoe, 24" bucket				WATER DEPTH (ft):		Not Encountered			
BACKFILL:				Excavated material				LOGGED BY:		C Prentice			
DATE:				August 5, 2016				CHECKED BY:		L Prentice			

LOG OF TEST PIT NO.								
DEPTH (FEET)	SAMPLE NUMBER	MATERIAL SYMBOL	LOCATION: SURFACE EL. (ft):	MATERIAL DESCRIPTION	MOISTURE CONTENT (%)	PLASTICITY (LL/PI)	PASSING No. 200 (%)	TV or PP (tsf)
The log and data presented herein are a simplification of actual subsurface conditions encountered at the time of exploration at the specific location explored. Subsurface conditions may differ at other locations and at this location with the passage of time.								
2								
4								
6								
8								
10								
12								
14								
16								

CONTRACTOR:
METHOD:
BACKFILL:
DATE:

COMPLETION DEPTH (ft):
WATER DEPTH (ft):
LOGGED BY:
CHECKED BY:

LOG OF TEST PIT NO. TP-A													
DEPTH (FEET)	SAMPLE	NUMBER	MATERIAL SYMBOL	LOCATION: Pump Station - See Map SURFACE EL. (ft): 1,382'						MOISTURE CONTENT (%)	PLASTICITY (LL/PI)	PASSING No. 200 (%)	TV or PP (tsf)
MATERIAL DESCRIPTION													
The log and data presented herein are a simplification of actual subsurface conditions encountered at the time of exploration at the specific location explored. Subsurface conditions may differ at other locations and at this location with the passage of time.													
1		1	af	ARTIFICIAL FILL (af)									
3				Silty SAND (SM): loose, light brown, dry, with subrounded to subangular gravel to cobble-size rock fragments									
5													
7													
9			Kcs	CHATSWORTH FORMATION (Kcs)									
7				Silty SANDSTONE (Rx): slightly weathered, soft to moderately hard, light brown, massive									
9				Note: Refusal on bedrock at 6'.									
11													
13													
15													
17													
CONTRACTOR:				Buzza Backhoe				COMPLETION DEPTH (ft):		6' (refusal)			
METHOD:				Backhoe, 24" bucket				WATER DEPTH (ft):		Not Encountered			
BACKFILL:				Excavated material				LOGGED BY:		C Prentice			
DATE:				August 5, 2016				CHECKED BY:		L Prentice			

LOG OF TEST PIT NO. TP-B												
DEPTH (FEET)	SAMPLE	NUMBER	MATERIAL SYMBOL	LOCATION: Pump Station - See Map SURFACE EL. (ft): 1,382'					MOISTURE CONTENT (%)	PLASTICITY (LL/PI)	PASSING No. 200 (%)	TV or PP (tsf)
MATERIAL DESCRIPTION												
The log and data presented herein are a simplification of actual subsurface conditions encountered at the time of exploration at the specific location explored. Subsurface conditions may differ at other locations and at this location with the passage of time.												
1		1	af	ARTIFICIAL FILL (af)					3		12	
				SAND with Silt (SP-SM): loose, light brown, damp, with sandstone rock fragments								
3				CHATSWORTH FORMATION (Kcs)								
				Kcs Silty SANDSTONE (Rx): slightly weathered, soft to moderately hard, light brown, massive								
5				Note: Refusal on bedrock at 2'.								
7												
9												
11												
13												
15												
CONTRACTOR:				Buzza Backhoe				COMPLETION DEPTH (ft):		2' (refusal)		
METHOD:				Backhoe, 24" bucket				WATER DEPTH (ft):		Not Encountered		
BACKFILL:				Excavated material				LOGGED BY:		C Prentice		
DATE:				August 5, 2016				CHECKED BY:		L Prentice		

LOG OF TEST PIT NO. TP-C													
DEPTH (FEET)	SAMPLE NUMBER	MATERIAL SYMBOL	LOCATION: Pump Station - See Map SURFACE EL. (ft): 1,378'							MOISTURE CONTENT (%)	PLASTICITY (LL/PI)	PASSING No. 200 (%)	TV or PP (tsf)
			MATERIAL DESCRIPTION										
The log and data presented herein are a simplification of actual subsurface conditions encountered at the time of exploration at the specific location explored. Subsurface conditions may differ at other locations and at this location with the passage of time.													
1		af	ARTIFICIAL FILL (af)										
			Silty SAND (SM): loose, light brown, dry, with subangular gravel to cobble-size rock fragments										
3													
5		Kcs	CHATSWORTH FORMATION (Kcs)										
			Silty SANDSTONE (Rx): slightly weathered, soft to moderately hard, light brown										
7			Note: Refusal on bedrock at 4'.										
9													
11													
13													
15													
CONTRACTOR:			Buzza Backhoe				COMPLETION DEPTH (ft):			4' (refusal)			
METHOD:			Backhoe, 24" bucket				WATER DEPTH (ft):			Not Encountered			
BACKFILL:			Excavated material				LOGGED BY:			C Prentice			
DATE:			August 5, 2016				CHECKED BY:			L Prentice			

LOG OF TEST PIT NO. TP-D													
DEPTH (FEET)	SAMPLE NUMBER	MATERIAL SYMBOL	LOCATION: Pump Station - See Map SURFACE EL. (ft): 1,370'							MOISTURE CONTENT (%)	PLASTICITY (LL/PI)	PASSING No. 200 (%)	TV or PP (tsf)
			MATERIAL DESCRIPTION										
The log and data presented herein are a simplification of actual subsurface conditions encountered at the time of exploration at the specific location explored. Subsurface conditions may differ at other locations and at this location with the passage of time.													
1		af	ARTIFICIAL FILL (af)										
			Silty SAND (SM): loose, moderate brown, dry, with subangular gravel to cobble-size										
3			rock fragments, contact with bedrock below roughly parallel to slope										
		Kcs	CHATSWORTH FORMATION (Kcs)										
			Silty SANDSTONE (Rx): slightly weathered, soft to moderately hard, light brown, massive										
5													
7			Note: Refusal on bedrock at 3'.										
9													
11													
13													
15													
CONTRACTOR:			Buzza Backhoe				COMPLETION DEPTH (ft):			3'			
METHOD:			Backhoe, 24" bucket				WATER DEPTH (ft):			Not Encountered			
BACKFILL:			Excavated material				LOGGED BY:			C Prentice			
DATE:			August 5, 2016				CHECKED BY:			L Prentice			

Summary of Sampling Details

<u>Symbol</u>	<u>Number</u>	<u>Blowcount</u> <u>Push,</u> <u>or grab</u>	<u>Sampler Type</u>	<u>Blowcount Information</u>	
	1	Bulk	Bulk Sample		
	2	23	Standard Penetration Test (SPT) Sampler (1-3/8" ID/2" OD) driven	63	63 blows for 1' penetration after initial 6" seating
				89/11	89 blows for 11" penetration after initial 6" seating
				33/6	33 blows for 6" drive after initial 6" seating
	3	(23)	Modified California Liner Sampler driven (2-3/8" ID/3" OD)	Ref	>50 blows for initial 6" seating
				(23)	Blowcounts for modified California sampler
	4	Push	Thin-walled sampler pushed (2-7/8" ID/3" OD)		

Material Symbols and Classifications

	LEAN CLAY (CL)		Sandy SILT (ML)		CLAYSTONE		PAVING
	FAT CLAY (CH)		Silty SAND (SM)		SILTSTONE		CONCRETE
	Sandy CLAY (CL)		SAND with Silt (SP-SM)		SANDSTONE		
	SILT (ML)		SAND (SP)		VOLCANIC		
	ELASTIC SILT (MH)		Clayey SAND (SC)		DOLOMITIC		
			GRAVEL (GP)		SILICEOUS		
			Silty SAND w/Gravel (SM)				
			SAND w/Gravel (SP)				
Other Symbols							
	Groundwater						
	Strata break						

SUMMARY OF TERMS AND SYMBOLS
USED ON LOGS

Summary of Rock Logging Descriptions

Weathering for Intact Rock (after USBR 2001)

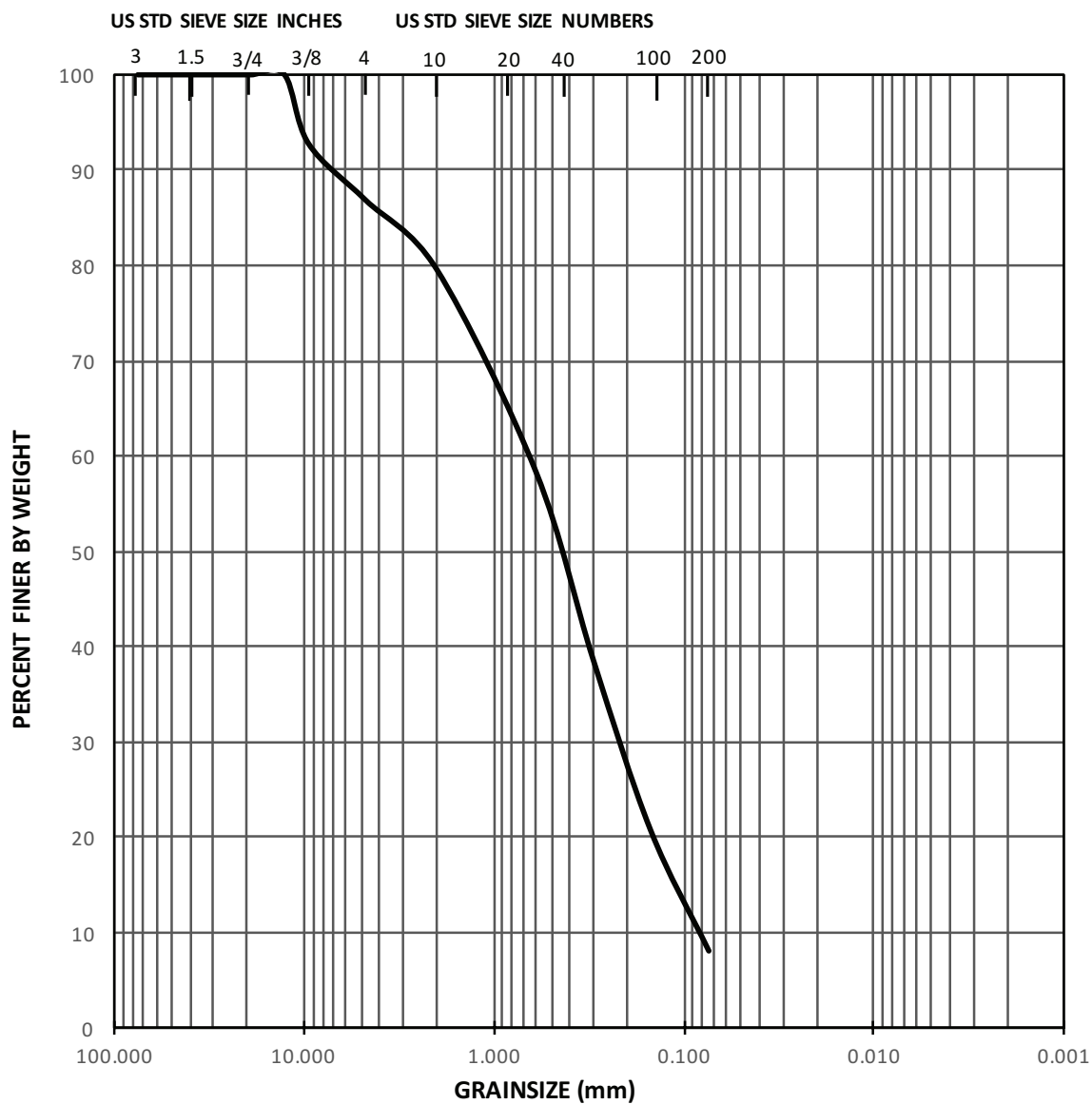
Descriptors	Diagnostic Features					General characteristics (strength, excavation, etc.) §
	Chemical weathering-Discoloration And/or oxidation		Mechanical weathering- Grain boundary conditions (disaggregation) primarily for granitics and some coarse- grained sediments	Texture and solutioning		
	Body of rock	Fracture Surfaces		Texture	Leaching	
Fresh	No discoloration, not Oxidized	No discoloration or oxidation	No separation, intact (tight)	No change	No leaching	Hammer rings when crystalline rocks are struck. Almost always rock excavation except for naturally weak or weakly cemented rocks such as siltstones or shales.
Slightly weathered	Discoloration or oxidation is Limited to surface of, or short distance from, fractures; some feldspar crystals are dull	Minor to complete discoloration or oxidation of most surfaces	No visible separation, intact (tight)	Preserved	Minor leaching of some soluble minerals may be noted	Hammer rings when crystalline rocks are stuck. Body of rock not weakened. With few exceptions, such as siltstones or shales, classified as rock excavation.
Moderately Weathered	Discoloration or oxidation extends from fractures usually throughout; Fe-Mg minerals are "rusty" feldspar crystals are "cloudy"	All fracture surfaces are discolored or oxidized	Partial separation of boundaries visible	Generally preserved	Soluble minerals may be mostly leached	Hammer does not ring when rock is struck. Body of rock is slightly weakened. Depending on fracturing, usually is rock excavation except in naturally weak rocks such as siltstones or shales.
Intensely Weathered	Discoloration or oxidation throughout; all feldspars and Fe-Mg minerals are altered to clay to some extent; or chemical alteration produces in situ disaggregation, see grain boundary conditions	All fracture surfaces are discolored or oxidized, surfaces friable	Partial separation, rock is friable; in semiarid conditions granitics are disaggregated	Texture altered by chemical disintegra- -tion (hy- dration, argillation)	Leaching of soluble minerals may be complete	Dull sound when struck with hammer, usually can be broken with moderate to heavy manual pressure or by light hammer blow without reference to planes of weakness such as incipient or hairline fractures, or veinlets. Rock is significantly weakened. Usually common excavation.
Decomposed	Discolored or oxidized throughout, but resistant minerals such as quartz may be unaltered; all feldspars and Fe-Mg minerals are completely altered to clay		Complete separation of grain boundaries (disaggregated)	Resembles a soil, partial or complete remnant rock structure may be preserved; leaching of soluble minerals usually complete		Can be granulated by hand. Always common excavation. Resistant minerals such as quartz may be present as "stringers" or "dikes."

Rock Hardness (after USBR 2001)

Descriptor	Criteria
Extremely hard	Cannot be scratched with a pocketknife or sharp knife. Can only be chipped with repeated hammer blows.
Very hard	Cannot be scratched with a pocketknife. Breaks with repeated hammer blows.
Hard	Can be scratched with a pocketknife with difficulty (heavy pressure). Breaks with heavy hammer blows.
Moderately hard	Can be scratched with a pocketknife with light or moderate pressure. Breaks with light hammer blow or heavy manual pressure.
Moderately soft	Can be grooved 2 mm (1/6 inch) deep with a pocketknife with moderate or heavy pressure. Breaks with light hammer blow or heavy manual pressure.
Soft	Can be grooved or gouged easily with a pocketknife or sharp pick with light pressure, can be scratched with fingernail. Breaks with light to moderate manual pressure.
Very soft	Can be readily indented, grooved or gouged with fingernail, or carved with a pocketknife. Breaks with light manual pressure.

SUMMARY OF ROCK TERMS USED ON LOGS

APPENDIX B
LABORATORY TESTING



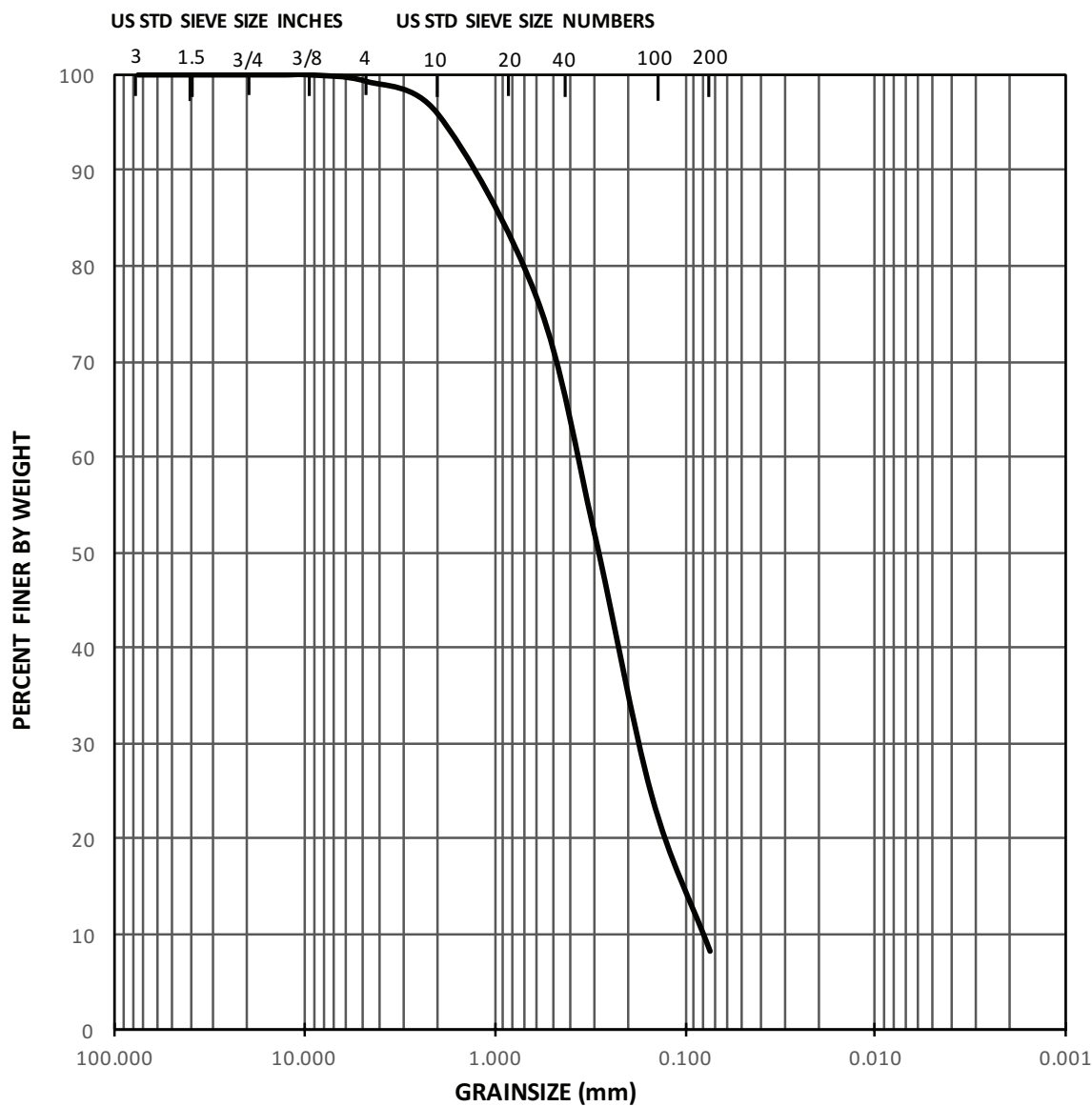
GRAVEL		SAND			SILT or CLAY
Coarse	Fine	Coarse	Medium	Fine	

LOCATION TP-5 (Tank Site)
DEPTH 0 - 3'

CLASSIFICATION
SAND with Silt (SW-SM)

PASSING NO. 200 (%)
8

GRAINSIZE DISTRIBUTION
Crown Hill Drive Tank and Pump Station Project
Location, California



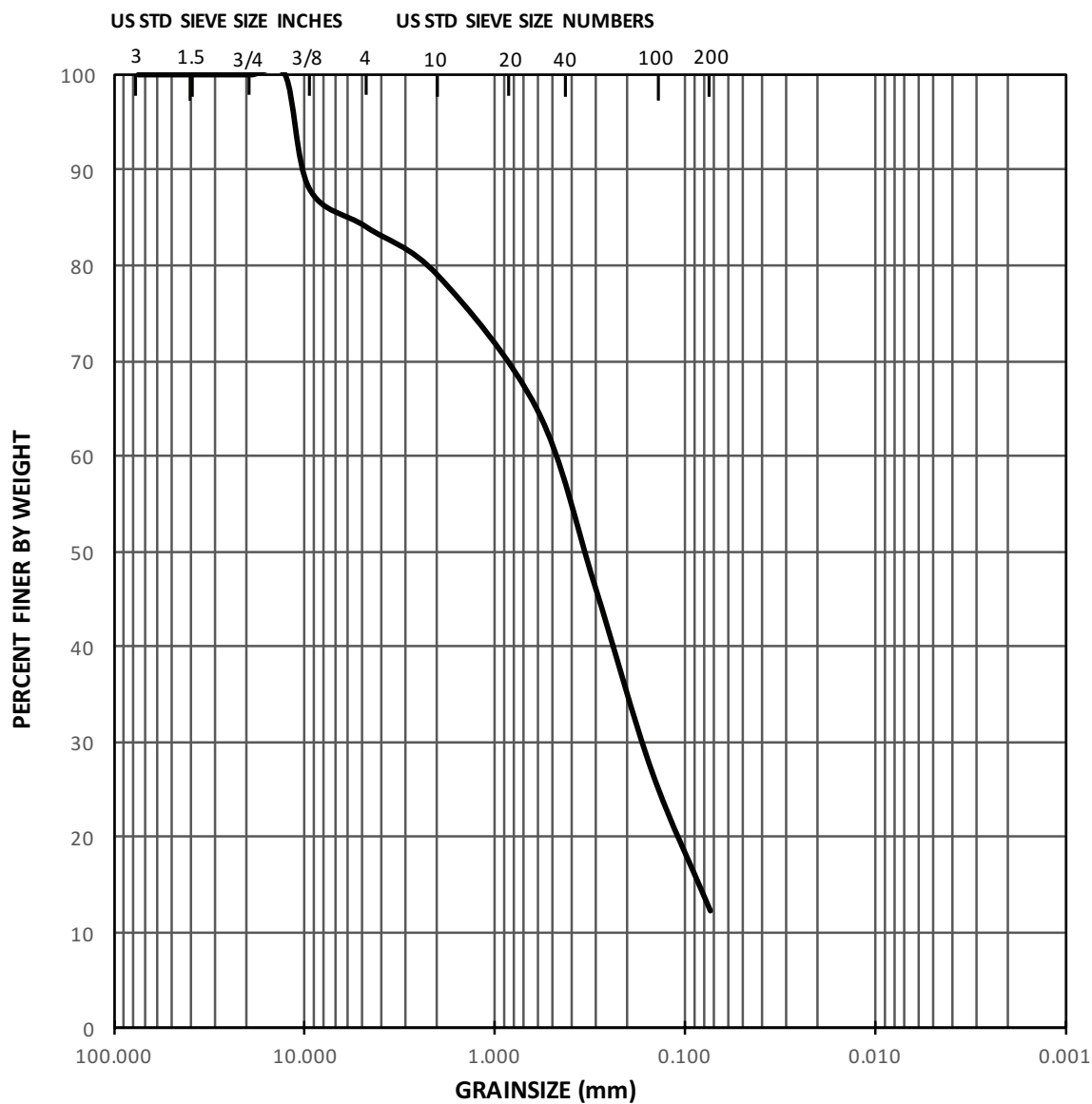
GRAVEL		SAND			SILT or CLAY
Coarse	Fine	Coarse	Medium	Fine	

LOCATION TP-7 (Tank Site)
DEPTH 7.5 - 10'

CLASSIFICATION
SAND with Silt (SP-SM)

PASSING NO. 200 (%)
8

GRAINSIZE DISTRIBUTION
Crown Hill Drive Tank and Pump Station Project
Location, California



GRAVEL		SAND			SILT or CLAY
Coarse	Fine	Coarse	Medium	Fine	

LOCATION TP-A (Pump Sta.)
DEPTH 0 - 3'

CLASSIFICATION
SAND with Silt (SP-SM)

PASSING NO. 200 (%)
12

GRAINSIZE DISTRIBUTION
Crown Hill Drive Tank and Pump Station Project
Location, California



Checked:	PJ
Proj. No:	032.002

[illegible]

Appendix B

CalEEMod Modeling Results

Simi Valley Water Tank Detailed Report

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5.18.2.2. Mitigated

6. Climate Risk Detailed Report

6.1. Climate Risk Summary

6.2. Initial Climate Risk Scores

6.3. Adjusted Climate Risk Scores

6.4. Climate Risk Reduction Measures

7. Health and Equity Details

7.1. CalEnviroScreen 4.0 Scores

7.2. Healthy Places Index Scores

7.3. Overall Health & Equity Scores

7.4. Health & Equity Measures

7.5. Evaluation Scorecard

7.6. Health & Equity Custom Measures

8. User Changes to Default Data

1. Basic Project Information

1.1. Basic Project Information

Data Field	Value
Project Name	Simi Valley Water Tank
Construction Start Date	1/1/2025
Operational Year	2026
Lead Agency	—
Land Use Scale	Project/site
Analysis Level for Defaults	County
Windspeed (m/s)	2.50
Precipitation (days)	19.2
Location	34.25525630963109, -118.6700124101058
County	Ventura
City	Unincorporated
Air District	Ventura County APCD
Air Basin	South Central Coast
TAZ	3519
EDFZ	8
Electric Utility	Southern California Edison
Gas Utility	Southern California Gas
App Version	2022.1.1.28

1.2. Land Use Types

Land Use Subtype	Size	Unit	Lot Acreage	Building Area (sq ft)	Landscape Area (sq ft)	Special Landscape Area (sq ft)	Population	Description
Enclosed Parking Structure	4.30	1000sqft	0.10	4,300	0.00	0.00	—	Tank

Parking Lot	0.22	Acre	0.22	0.00	0.00	0.00	—	Grading Acreage
Industrial Park	0.31	1000sqft	0.01	308	0.00	0.00	—	Pump Station Bldg
Road Construction	0.05	Mile	0.08	0.00	0.00	—	—	Access Road
User Defined Linear	0.29	Mile	0.10	0.00	0.00	—	—	Pipeline

1.3. User-Selected Emission Reduction Measures by Emissions Sector

Sector	#	Measure Title
Construction	C-5	Use Advanced Engine Tiers

2. Emissions Summary

2.1. Construction Emissions Compared Against Thresholds

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Un/Mit.	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	3.56	2.94	28.8	28.9	0.07	1.11	3.81	4.91	1.02	1.36	2.38	—	8,360	8,360	0.29	0.49	7.79	8,520
Mit.	1.01	0.93	8.65	32.8	0.07	0.20	3.81	4.00	0.19	1.36	1.55	—	8,360	8,360	0.29	0.49	7.79	8,520
% Reduced	72%	68%	70%	-14%	—	82%	—	18%	81%	—	35%	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	3.55	2.94	29.0	28.7	0.07	1.11	3.81	4.91	1.02	1.36	2.38	—	8,343	8,343	0.29	0.49	0.20	8,495
Mit.	1.01	0.88	8.81	32.7	0.07	0.20	3.81	4.00	0.19	1.36	1.55	—	8,343	8,343	0.29	0.49	0.20	8,495
% Reduced	72%	70%	70%	-14%	—	82%	—	18%	81%	—	35%	—	—	—	—	—	—	—

Average Daily (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	1.35	1.12	10.4	12.4	0.02	0.40	1.27	1.68	0.37	0.42	0.79	—	3,124	3,124	0.12	0.15	1.40	3,174
Mit.	0.41	0.37	2.91	13.8	0.02	0.06	1.27	1.33	0.06	0.42	0.48	—	3,124	3,124	0.12	0.15	1.40	3,174
% Reduced	70%	67%	72%	-11%	—	85%	—	20%	84%	—	39%	—	—	—	—	—	—	—
Annual (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	0.25	0.20	1.90	2.26	< 0.005	0.07	0.23	0.31	0.07	0.08	0.14	—	517	517	0.02	0.03	0.23	525
Mit.	0.07	0.07	0.53	2.51	< 0.005	0.01	0.23	0.24	0.01	0.08	0.09	—	517	517	0.02	0.03	0.23	525
% Reduced	70%	67%	72%	-11%	—	85%	—	20%	84%	—	39%	—	—	—	—	—	—	—

2.2. Construction Emissions by Year, Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Year	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily - Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2025	3.56	2.94	28.8	28.9	0.07	1.11	3.81	4.91	1.02	1.36	2.38	—	8,360	8,360	0.29	0.49	7.79	8,520
2026	0.77	0.66	5.04	9.28	0.01	0.19	0.54	0.73	0.17	0.13	0.30	—	1,889	1,889	0.06	0.04	2.12	1,904
Daily - Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2025	3.55	2.94	29.0	28.7	0.07	1.11	3.81	4.91	1.02	1.36	2.38	—	8,343	8,343	0.29	0.49	0.20	8,495
2026	0.77	0.66	5.08	9.05	0.01	0.19	0.54	0.73	0.17	0.13	0.30	—	1,866	1,866	0.06	0.04	0.05	1,879
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2025	1.35	1.12	10.4	12.4	0.02	0.40	1.27	1.68	0.37	0.42	0.79	—	3,124	3,124	0.12	0.15	1.40	3,174
2026	0.31	0.27	1.96	3.54	< 0.005	0.07	0.22	0.29	0.07	0.05	0.12	—	725	725	0.02	0.02	0.38	730
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

2025	0.25	0.20	1.90	2.26	< 0.005	0.07	0.23	0.31	0.07	0.08	0.14	—	517	517	0.02	0.03	0.23	525
2026	0.06	0.05	0.36	0.65	< 0.005	0.01	0.04	0.05	0.01	0.01	0.02	—	120	120	< 0.005	< 0.005	0.06	121

2.3. Construction Emissions by Year, Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Year	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily - Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2025	1.01	0.93	8.65	32.8	0.07	0.20	3.81	4.00	0.19	1.36	1.55	—	8,360	8,360	0.29	0.49	7.79	8,520
2026	0.31	0.29	0.87	10.5	0.01	0.03	0.54	0.57	0.03	0.13	0.15	—	1,889	1,889	0.06	0.04	2.12	1,904
Daily - Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2025	1.01	0.88	8.81	32.7	0.07	0.20	3.81	4.00	0.19	1.36	1.55	—	8,343	8,343	0.29	0.49	0.20	8,495
2026	0.31	0.29	0.91	10.2	0.01	0.03	0.54	0.57	0.03	0.13	0.15	—	1,866	1,866	0.06	0.04	0.05	1,879
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2025	0.41	0.37	2.91	13.8	0.02	0.06	1.27	1.33	0.06	0.42	0.48	—	3,124	3,124	0.12	0.15	1.40	3,174
2026	0.13	0.12	0.41	3.97	< 0.005	0.01	0.22	0.23	0.01	0.05	0.06	—	725	725	0.02	0.02	0.38	730
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2025	0.07	0.07	0.53	2.51	< 0.005	0.01	0.23	0.24	0.01	0.08	0.09	—	517	517	0.02	0.03	0.23	525
2026	0.02	0.02	0.07	0.72	< 0.005	< 0.005	0.04	0.04	< 0.005	0.01	0.01	—	120	120	< 0.005	< 0.005	0.06	121

2.4. Operations Emissions Compared Against Thresholds

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Un/Mit.	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

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Unmit.	0.21	0.20	0.36	1.58	< 0.005	0.02	0.30	0.32	0.02	0.08	0.10	0.00	377	377	0.01	0.01	1.30	382
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	0.18	0.16	0.38	1.32	< 0.005	0.02	0.30	0.32	0.02	0.08	0.10	0.00	365	365	0.01	0.01	0.11	369
Average Daily (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	0.03	0.03	0.03	0.14	< 0.005	< 0.005	< 0.005	0.01	< 0.005	< 0.005	< 0.005	0.00	37.7	37.7	< 0.005	< 0.005	0.09	38.0
Annual (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	0.01	0.01	0.01	0.03	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	0.00	6.24	6.24	< 0.005	< 0.005	0.01	6.28

2.5. Operations Emissions by Sector, Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Sector	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	0.12	0.11	0.13	1.20	< 0.005	< 0.005	0.30	0.30	< 0.005	0.08	0.08	—	324	324	0.01	0.01	1.22	329
Area	0.04	0.04	< 0.005	0.20	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	0.82	0.82	< 0.005	< 0.005	—	0.83
Energy	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	29.9	29.9	< 0.005	< 0.005	—	30.0
Water	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Waste	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.08	0.08
Stationary	0.05	0.04	0.23	0.18	< 0.005	0.02	0.00	0.02	0.02	0.00	0.02	0.00	22.7	22.7	< 0.005	< 0.005	0.00	22.7
Total	0.21	0.20	0.36	1.58	< 0.005	0.02	0.30	0.32	0.02	0.08	0.10	0.00	377	377	0.01	0.01	1.30	382
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	0.12	0.11	0.15	1.14	< 0.005	< 0.005	0.30	0.30	< 0.005	0.08	0.08	—	312	312	0.01	0.01	0.03	317

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Area	0.01	0.01	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Energy	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	29.9	29.9	< 0.005	< 0.005	—	30.0
Water	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Waste	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.08	0.08
Stationary	0.05	0.04	0.23	0.18	< 0.005	0.02	0.00	0.02	0.02	0.00	0.02	0.00	22.7	22.7	< 0.005	< 0.005	0.00	22.7
Total	0.18	0.16	0.38	1.32	< 0.005	0.02	0.30	0.32	0.02	0.08	0.10	0.00	365	365	0.01	0.01	0.11	369
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	< 0.005	< 0.005	< 0.005	0.02	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	4.30	4.30	< 0.005	< 0.005	0.01	4.37
Area	0.03	0.03	< 0.005	0.10	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	0.41	0.41	< 0.005	< 0.005	—	0.41
Energy	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	29.9	29.9	< 0.005	< 0.005	—	30.0
Water	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Waste	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.08	0.08
Stationary	0.01	0.01	0.03	0.02	< 0.005	< 0.005	0.00	< 0.005	< 0.005	0.00	< 0.005	0.00	3.11	3.11	< 0.005	< 0.005	0.00	3.12
Total	0.03	0.03	0.03	0.14	< 0.005	< 0.005	< 0.005	0.01	< 0.005	< 0.005	< 0.005	0.00	37.7	37.7	< 0.005	< 0.005	0.09	38.0
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	0.71	0.71	< 0.005	< 0.005	< 0.005	0.72
Area	< 0.005	< 0.005	< 0.005	0.02	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	0.07	0.07	< 0.005	< 0.005	—	0.07
Energy	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	4.95	4.95	< 0.005	< 0.005	—	4.96
Water	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Waste	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.01	0.01
Stationary	< 0.005	< 0.005	0.01	< 0.005	< 0.005	< 0.005	0.00	< 0.005	< 0.005	0.00	< 0.005	0.00	0.51	0.51	< 0.005	< 0.005	0.00	0.52
Total	0.01	0.01	0.01	0.03	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	0.00	6.24	6.24	< 0.005	< 0.005	0.01	6.28

2.6. Operations Emissions by Sector, Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Sector	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	0.12	0.11	0.13	1.20	< 0.005	< 0.005	0.30	0.30	< 0.005	0.08	0.08	—	324	324	0.01	0.01	1.22	329
Area	0.04	0.04	< 0.005	0.20	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	0.82	0.82	< 0.005	< 0.005	—	0.83
Energy	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	29.9	29.9	< 0.005	< 0.005	—	30.0
Water	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Waste	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.08	0.08
Stationary	0.05	0.04	0.23	0.18	< 0.005	0.02	0.00	0.02	0.02	0.00	0.02	0.00	22.7	22.7	< 0.005	< 0.005	0.00	22.7
Total	0.21	0.20	0.36	1.58	< 0.005	0.02	0.30	0.32	0.02	0.08	0.10	0.00	377	377	0.01	0.01	1.30	382
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	0.12	0.11	0.15	1.14	< 0.005	< 0.005	0.30	0.30	< 0.005	0.08	0.08	—	312	312	0.01	0.01	0.03	317
Area	0.01	0.01	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Energy	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	29.9	29.9	< 0.005	< 0.005	—	30.0
Water	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Waste	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.08	0.08
Stationary	0.05	0.04	0.23	0.18	< 0.005	0.02	0.00	0.02	0.02	0.00	0.02	0.00	22.7	22.7	< 0.005	< 0.005	0.00	22.7
Total	0.18	0.16	0.38	1.32	< 0.005	0.02	0.30	0.32	0.02	0.08	0.10	0.00	365	365	0.01	0.01	0.11	369
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	< 0.005	< 0.005	< 0.005	0.02	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	4.30	4.30	< 0.005	< 0.005	0.01	4.37

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Area	0.03	0.03	< 0.005	0.10	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	0.41	0.41	< 0.005	< 0.005	—	0.41
Energy	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	29.9	29.9	< 0.005	< 0.005	—	30.0
Water	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Waste	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.08	0.08
Stationary	0.01	0.01	0.03	0.02	< 0.005	< 0.005	0.00	< 0.005	< 0.005	0.00	< 0.005	0.00	3.11	3.11	< 0.005	< 0.005	0.00	3.12
Total	0.03	0.03	0.03	0.14	< 0.005	< 0.005	< 0.005	0.01	< 0.005	< 0.005	< 0.005	0.00	37.7	37.7	< 0.005	< 0.005	0.09	38.0
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	0.71	0.71	< 0.005	< 0.005	< 0.005	0.72
Area	< 0.005	< 0.005	< 0.005	0.02	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	0.07	0.07	< 0.005	< 0.005	—	0.07
Energy	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	4.95	4.95	< 0.005	< 0.005	—	4.96
Water	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Waste	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.01	0.01
Stationary	< 0.005	< 0.005	0.01	< 0.005	< 0.005	< 0.005	0.00	< 0.005	< 0.005	0.00	< 0.005	0.00	0.51	0.51	< 0.005	< 0.005	0.00	0.52
Total	0.01	0.01	0.01	0.03	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	0.00	6.24	6.24	< 0.005	< 0.005	0.01	6.28

3. Construction Emissions Details

3.1. Linear, Grubbing & Land Clearing (2025) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

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Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.46	0.39	3.39	3.49	< 0.005	0.21	—	0.21	0.19	—	0.19	—	490	490	0.02	< 0.005	—	492
Dust From Material Movement	—	—	—	—	—	—	0.21	0.21	—	0.02	0.02	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.03	0.02	0.19	0.19	< 0.005	0.01	—	0.01	0.01	—	0.01	—	26.9	26.9	< 0.005	< 0.005	—	27.0
Dust From Material Movement	—	—	—	—	—	—	0.01	0.01	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	0.03	0.03	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	4.45	4.45	< 0.005	< 0.005	—	4.46
Dust From Material Movement	—	—	—	—	—	—	< 0.005	< 0.005	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.04	0.03	0.04	0.43	0.00	0.00	0.10	0.10	0.00	0.02	0.02	—	95.8	95.8	< 0.005	< 0.005	0.01	97.1
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.02	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	5.29	5.29	< 0.005	< 0.005	0.01	5.37
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.88	0.88	< 0.005	< 0.005	< 0.005	0.89
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.2. Linear, Grubbing & Land Clearing (2025) - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

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Off-Road Equipm ent	0.05	0.05	0.84	3.43	< 0.005	0.01	—	0.01	0.01	—	0.01	—	490	490	0.02	< 0.005	—	492
Dust From Material Movement	—	—	—	—	—	—	0.21	0.21	—	0.02	0.02	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipm ent	< 0.005	< 0.005	0.05	0.19	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	26.9	26.9	< 0.005	< 0.005	—	27.0
Dust From Material Movement	—	—	—	—	—	—	0.01	0.01	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipm ent	< 0.005	< 0.005	0.01	0.03	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	4.45	4.45	< 0.005	< 0.005	—	4.46
Dust From Material Movement	—	—	—	—	—	—	< 0.005	< 0.005	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

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Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.04	0.03	0.04	0.43	0.00	0.00	0.10	0.10	0.00	0.02	0.02	—	95.8	95.8	< 0.005	< 0.005	0.01	97.1
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.02	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	5.29	5.29	< 0.005	< 0.005	0.01	5.37
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.88	0.88	< 0.005	< 0.005	< 0.005	0.89
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.3. Linear, Drainage, Utilities, & Sub-Grade (2025) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipm ent	1.99	1.67	15.0	16.1	0.03	0.61	—	0.61	0.56	—	0.56	—	3,509	3,509	0.14	0.03	—	3,521
Dust From Material Movement	—	—	—	—	—	—	0.62	0.62	—	0.07	0.07	—	—	—	—	—	—	—

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Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.99	1.67	15.0	16.1	0.03	0.61	—	0.61	0.56	—	0.56	—	3,509	3,509	0.14	0.03	—	3,521
Dust From Material Movement	—	—	—	—	—	—	0.62	0.62	—	0.07	0.07	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.42	0.35	3.16	3.39	0.01	0.13	—	0.13	0.12	—	0.12	—	740	740	0.03	0.01	—	743
Dust From Material Movement	—	—	—	—	—	—	0.13	0.13	—	0.01	0.01	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.08	0.06	0.58	0.62	< 0.005	0.02	—	0.02	0.02	—	0.02	—	123	123	< 0.005	< 0.005	—	123
Dust From Material Movement	—	—	—	—	—	—	0.02	0.02	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

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Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.11	0.10	0.10	1.41	0.00	0.00	0.29	0.29	0.00	0.07	0.07	—	301	301	0.01	0.01	1.21	306
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.11	0.09	0.12	1.28	0.00	0.00	0.29	0.29	0.00	0.07	0.07	—	287	287	0.01	0.01	0.03	291
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.02	0.02	0.03	0.27	0.00	0.00	0.06	0.06	0.00	0.01	0.01	—	61.1	61.1	< 0.005	< 0.005	0.11	62.0
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.05	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	10.1	10.1	< 0.005	< 0.005	0.02	10.3
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.4. Linear, Drainage, Utilities, & Sub-Grade (2025) - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

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Off-Road	0.58	0.54	4.06	20.3	0.03	0.13	—	0.13	0.12	—	0.12	—	3,509	3,509	0.14	0.03	—	3,521
Dust From Material Movement	—	—	—	—	—	—	0.62	0.62	—	0.07	0.07	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipm ent	0.58	0.54	4.06	20.3	0.03	0.13	—	0.13	0.12	—	0.12	—	3,509	3,509	0.14	0.03	—	3,521
Dust From Material Movement	—	—	—	—	—	—	0.62	0.62	—	0.07	0.07	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipm ent	0.12	0.11	0.86	4.27	0.01	0.03	—	0.03	0.03	—	0.03	—	740	740	0.03	0.01	—	743
Dust From Material Movement	—	—	—	—	—	—	0.13	0.13	—	0.01	0.01	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipm ent	0.02	0.02	0.16	0.78	< 0.005	0.01	—	0.01	< 0.005	—	< 0.005	—	123	123	< 0.005	< 0.005	—	123

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Dust From Material Movement	—	—	—	—	—	—	0.02	0.02	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.11	0.10	0.10	1.41	0.00	0.00	0.29	0.29	0.00	0.07	0.07	—	301	301	0.01	0.01	1.21	306
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.11	0.09	0.12	1.28	0.00	0.00	0.29	0.29	0.00	0.07	0.07	—	287	287	0.01	0.01	0.03	291
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.02	0.02	0.03	0.27	0.00	0.00	0.06	0.06	0.00	0.01	0.01	—	61.1	61.1	< 0.005	< 0.005	0.11	62.0
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.05	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	10.1	10.1	< 0.005	< 0.005	0.02	10.3
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.5. Linear, Paving (2025) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

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Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.60	0.51	4.83	6.90	0.01	0.22	—	0.22	0.20	—	0.20	—	1,046	1,046	0.04	0.01	—	1,050
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.03	0.03	0.26	0.38	< 0.005	0.01	—	0.01	0.01	—	0.01	—	57.3	57.3	< 0.005	< 0.005	—	57.5
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	0.01	0.05	0.07	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	9.49	9.49	< 0.005	< 0.005	—	9.52
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.06	0.05	0.05	0.79	0.00	0.00	0.16	0.16	0.00	0.04	0.04	—	167	167	0.01	0.01	0.67	170
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

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Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.04	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	8.81	8.81	< 0.005	< 0.005	0.02	8.94
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	1.46	1.46	< 0.005	< 0.005	< 0.005	1.48
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.6. Linear, Paving (2025) - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.11	0.11	1.11	7.33	0.01	0.02	—	0.02	0.02	—	0.02	—	1,046	1,046	0.04	0.01	—	1,050
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

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Off-Road Equipment	0.01	0.01	0.06	0.40	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	57.3	57.3	< 0.005	< 0.005	—	57.5
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	0.01	0.07	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	9.49	9.49	< 0.005	< 0.005	—	9.52
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.06	0.05	0.05	0.79	0.00	0.00	0.16	0.16	0.00	0.04	0.04	—	167	167	0.01	0.01	0.67	170
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.04	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	8.81	8.81	< 0.005	< 0.005	0.02	8.94
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	1.46	1.46	< 0.005	< 0.005	< 0.005	1.48
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.7. Demolition (2025) - Unmitigated

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Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.56	0.47	4.33	5.65	0.01	0.16	—	0.16	0.14	—	0.14	—	852	852	0.03	0.01	—	855
Demolition	—	—	—	—	—	—	0.21	0.21	—	0.03	0.03	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.56	0.47	4.33	5.65	0.01	0.16	—	0.16	0.14	—	0.14	—	852	852	0.03	0.01	—	855
Demolition	—	—	—	—	—	—	0.21	0.21	—	0.03	0.03	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.08	0.07	0.65	0.85	< 0.005	0.02	—	0.02	0.02	—	0.02	—	128	128	0.01	< 0.005	—	129
Demolition	—	—	—	—	—	—	0.03	0.03	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

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Off-Road Equipment	0.02	0.01	0.12	0.16	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	21.3	21.3	< 0.005	< 0.005	—	21.3
Demolition	—	—	—	—	—	—	0.01	0.01	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.05	0.04	0.04	0.63	0.00	0.00	0.13	0.13	0.00	0.03	0.03	—	134	134	0.01	< 0.005	0.54	136
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.01	0.01	0.35	0.08	< 0.005	< 0.005	0.07	0.07	< 0.005	0.02	0.02	—	261	261	0.01	0.04	0.59	274
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.05	0.04	0.05	0.57	0.00	0.00	0.13	0.13	0.00	0.03	0.03	—	128	128	0.01	< 0.005	0.01	129
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.01	0.01	0.36	0.09	< 0.005	< 0.005	0.07	0.07	< 0.005	0.02	0.02	—	261	261	0.01	0.04	0.02	273
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.01	0.09	0.00	0.00	0.02	0.02	0.00	< 0.005	< 0.005	—	19.4	19.4	< 0.005	< 0.005	0.04	19.7
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	< 0.005	< 0.005	0.05	0.01	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	39.3	39.3	< 0.005	0.01	0.04	41.2
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.02	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	3.21	3.21	< 0.005	< 0.005	0.01	3.26
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	< 0.005	< 0.005	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	6.51	6.51	< 0.005	< 0.005	0.01	6.82

3.8. Demolition (2025) - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

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Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.10	0.10	1.47	5.63	0.01	0.02	—	0.02	0.02	—	0.02	—	852	852	0.03	0.01	—	855
Demolition	—	—	—	—	—	—	0.21	0.21	—	0.03	0.03	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.10	0.10	1.47	5.63	0.01	0.02	—	0.02	0.02	—	0.02	—	852	852	0.03	0.01	—	855
Demolition	—	—	—	—	—	—	0.21	0.21	—	0.03	0.03	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	0.01	0.22	0.85	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	128	128	0.01	< 0.005	—	129
Demolition	—	—	—	—	—	—	0.03	0.03	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

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Off-Road	< 0.005	< 0.005	0.04	0.15	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	21.3	21.3	< 0.005	< 0.005	—	21.3
Demolition	—	—	—	—	—	—	0.01	0.01	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.05	0.04	0.04	0.63	0.00	0.00	0.13	0.13	0.00	0.03	0.03	—	134	134	0.01	< 0.005	0.54	136
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.01	0.01	0.35	0.08	< 0.005	< 0.005	0.07	0.07	< 0.005	0.02	0.02	—	261	261	0.01	0.04	0.59	274
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.05	0.04	0.05	0.57	0.00	0.00	0.13	0.13	0.00	0.03	0.03	—	128	128	0.01	< 0.005	0.01	129
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.01	0.01	0.36	0.09	< 0.005	< 0.005	0.07	0.07	< 0.005	0.02	0.02	—	261	261	0.01	0.04	0.02	273
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.01	0.09	0.00	0.00	0.02	0.02	0.00	< 0.005	< 0.005	—	19.4	19.4	< 0.005	< 0.005	0.04	19.7
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	< 0.005	< 0.005	0.05	0.01	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	39.3	39.3	< 0.005	0.01	0.04	41.2
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.02	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	3.21	3.21	< 0.005	< 0.005	0.01	3.26
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	< 0.005	< 0.005	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	6.51	6.51	< 0.005	< 0.005	0.01	6.82

3.9. Grading (2025) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

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Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.29	1.09	10.1	10.0	0.02	0.46	—	0.46	0.43	—	0.43	—	1,714	1,714	0.07	0.01	—	1,720
Dust From Material Movement	—	—	—	—	—	—	2.08	2.08	—	1.00	1.00	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.29	1.09	10.1	10.0	0.02	0.46	—	0.46	0.43	—	0.43	—	1,714	1,714	0.07	0.01	—	1,720
Dust From Material Movement	—	—	—	—	—	—	2.08	2.08	—	1.00	1.00	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.34	0.28	2.62	2.62	< 0.005	0.12	—	0.12	0.11	—	0.11	—	446	446	0.02	< 0.005	—	448
Dust From Material Movement	—	—	—	—	—	—	0.54	0.54	—	0.26	0.26	—	—	—	—	—	—	—

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Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipm ent	0.06	0.05	0.48	0.48	< 0.005	0.02	—	0.02	0.02	—	0.02	—	73.9	73.9	< 0.005	< 0.005	—	74.1
Dust From Material Movement	—	—	—	—	—	—	0.10	0.10	—	0.05	0.05	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.04	0.03	0.03	0.47	0.00	0.00	0.10	0.10	0.00	0.02	0.02	—	100	100	< 0.005	< 0.005	0.40	102
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.13	0.06	3.62	0.88	0.02	0.03	0.71	0.75	0.03	0.20	0.24	—	2,736	2,736	0.06	0.43	6.17	2,871
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.04	0.03	0.04	0.43	0.00	0.00	0.10	0.10	0.00	0.02	0.02	—	95.8	95.8	< 0.005	< 0.005	0.01	97.1
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.12	0.06	3.75	0.89	0.02	0.03	0.71	0.75	0.03	0.20	0.24	—	2,736	2,736	0.06	0.43	0.16	2,866
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.01	0.11	0.00	0.00	0.03	0.03	0.00	0.01	0.01	—	25.1	25.1	< 0.005	< 0.005	0.05	25.5
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.03	0.02	0.98	0.23	< 0.005	0.01	0.18	0.19	0.01	0.05	0.06	—	712	712	0.02	0.11	0.69	746
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.02	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	4.16	4.16	< 0.005	< 0.005	0.01	4.22

Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.01	< 0.005	0.18	0.04	< 0.005	< 0.005	0.03	0.04	< 0.005	0.01	0.01	—	118	118	< 0.005	0.02	0.11	124

3.10. Grading (2025) - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.16	0.16	0.84	9.79	0.02	0.03	—	0.03	0.03	—	0.03	—	1,714	1,714	0.07	0.01	—	1,720
Dust From Material Movement	—	—	—	—	—	—	2.08	2.08	—	1.00	1.00	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.16	0.16	0.84	9.79	0.02	0.03	—	0.03	0.03	—	0.03	—	1,714	1,714	0.07	0.01	—	1,720
Dust From Material Movement	—	—	—	—	—	—	2.08	2.08	—	1.00	1.00	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

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Off-Road Equipment	0.04	0.04	0.22	2.55	< 0.005	0.01	—	0.01	0.01	—	0.01	—	446	446	0.02	< 0.005	—	448
Dust From Material Movement	—	—	—	—	—	—	0.54	0.54	—	0.26	0.26	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	0.01	0.04	0.47	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	73.9	73.9	< 0.005	< 0.005	—	74.1
Dust From Material Movement	—	—	—	—	—	—	0.10	0.10	—	0.05	0.05	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.04	0.03	0.03	0.47	0.00	0.00	0.10	0.10	0.00	0.02	0.02	—	100	100	< 0.005	< 0.005	0.40	102
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.13	0.06	3.62	0.88	0.02	0.03	0.71	0.75	0.03	0.20	0.24	—	2,736	2,736	0.06	0.43	6.17	2,871
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.04	0.03	0.04	0.43	0.00	0.00	0.10	0.10	0.00	0.02	0.02	—	95.8	95.8	< 0.005	< 0.005	0.01	97.1
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.12	0.06	3.75	0.89	0.02	0.03	0.71	0.75	0.03	0.20	0.24	—	2,736	2,736	0.06	0.43	0.16	2,866
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.01	0.11	0.00	0.00	0.03	0.03	0.00	0.01	0.01	—	25.1	25.1	< 0.005	< 0.005	0.05	25.5

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Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.03	0.02	0.98	0.23	< 0.005	0.01	0.18	0.19	0.01	0.05	0.06	—	712	712	0.02	0.11	0.69	746
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.02	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	4.16	4.16	< 0.005	< 0.005	0.01	4.22
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.01	< 0.005	0.18	0.04	< 0.005	< 0.005	0.03	0.04	< 0.005	0.01	0.01	—	118	118	< 0.005	0.02	0.11	124

3.11. Building Construction (2025) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.62	0.52	5.14	6.94	0.01	0.22	—	0.22	0.20	—	0.20	—	1,305	1,305	0.05	0.01	—	1,309
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.62	0.52	5.14	6.94	0.01	0.22	—	0.22	0.20	—	0.20	—	1,305	1,305	0.05	0.01	—	1,309
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

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Off-Road Equipm ent	0.28	0.24	2.33	3.15	0.01	0.10	—	0.10	0.09	—	0.09	—	592	592	0.02	< 0.005	—	594
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipm ent	0.05	0.04	0.43	0.57	< 0.005	0.02	—	0.02	0.02	—	0.02	—	98.1	98.1	< 0.005	< 0.005	—	98.4
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.19	0.17	0.18	2.51	0.00	0.00	0.52	0.52	0.00	0.12	0.12	—	535	535	0.02	0.02	2.16	543
Vendor	< 0.005	< 0.005	0.08	0.02	< 0.005	< 0.005	0.02	0.02	< 0.005	< 0.005	0.01	—	61.6	61.6	< 0.005	0.01	0.17	64.6
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.19	0.17	0.21	2.28	0.00	0.00	0.52	0.52	0.00	0.12	0.12	—	511	511	0.03	0.02	0.06	518
Vendor	< 0.005	< 0.005	0.08	0.02	< 0.005	< 0.005	0.02	0.02	< 0.005	< 0.005	0.01	—	61.7	61.7	< 0.005	0.01	< 0.005	64.5
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.08	0.08	0.10	1.04	0.00	0.00	0.23	0.23	0.00	0.05	0.05	—	234	234	0.01	0.01	0.42	237
Vendor	< 0.005	< 0.005	0.04	0.01	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	28.0	28.0	< 0.005	< 0.005	0.03	29.3
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.02	0.01	0.02	0.19	0.00	0.00	0.04	0.04	0.00	0.01	0.01	—	38.7	38.7	< 0.005	< 0.005	0.07	39.3

Vendor	< 0.005	< 0.005	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	4.63	4.63	< 0.005	< 0.005	0.01	4.85
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.12. Building Construction (2025) - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.12	0.12	0.64	8.10	0.01	0.02	—	0.02	0.02	—	0.02	—	1,305	1,305	0.05	0.01	—	1,309
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.12	0.12	0.64	8.10	0.01	0.02	—	0.02	0.02	—	0.02	—	1,305	1,305	0.05	0.01	—	1,309
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.06	0.06	0.29	3.68	0.01	0.01	—	0.01	0.01	—	0.01	—	592	592	0.02	< 0.005	—	594
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

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Off-Road Equipment	0.01	0.01	0.05	0.67	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	98.1	98.1	< 0.005	< 0.005	—	98.4
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.19	0.17	0.18	2.51	0.00	0.00	0.52	0.52	0.00	0.12	0.12	—	535	535	0.02	0.02	2.16	543
Vendor	< 0.005	< 0.005	0.08	0.02	< 0.005	< 0.005	0.02	0.02	< 0.005	< 0.005	0.01	—	61.6	61.6	< 0.005	0.01	0.17	64.6
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.19	0.17	0.21	2.28	0.00	0.00	0.52	0.52	0.00	0.12	0.12	—	511	511	0.03	0.02	0.06	518
Vendor	< 0.005	< 0.005	0.08	0.02	< 0.005	< 0.005	0.02	0.02	< 0.005	< 0.005	0.01	—	61.7	61.7	< 0.005	0.01	< 0.005	64.5
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.08	0.08	0.10	1.04	0.00	0.00	0.23	0.23	0.00	0.05	0.05	—	234	234	0.01	0.01	0.42	237
Vendor	< 0.005	< 0.005	0.04	0.01	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	28.0	28.0	< 0.005	< 0.005	0.03	29.3
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.02	0.01	0.02	0.19	0.00	0.00	0.04	0.04	0.00	0.01	0.01	—	38.7	38.7	< 0.005	< 0.005	0.07	39.3
Vendor	< 0.005	< 0.005	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	4.63	4.63	< 0.005	< 0.005	0.01	4.85
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.13. Building Construction (2026) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

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Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipm ent	0.59	0.49	4.81	6.91	0.01	0.19	—	0.19	0.17	—	0.17	—	1,304	1,304	0.05	0.01	—	1,309
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipm ent	0.59	0.49	4.81	6.91	0.01	0.19	—	0.19	0.17	—	0.17	—	1,304	1,304	0.05	0.01	—	1,309
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipm ent	0.22	0.18	1.77	2.54	< 0.005	0.07	—	0.07	0.06	—	0.06	—	480	480	0.02	< 0.005	—	482
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipm ent	0.04	0.03	0.32	0.46	< 0.005	0.01	—	0.01	0.01	—	0.01	—	79.5	79.5	< 0.005	< 0.005	—	79.7
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

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Worker	0.18	0.16	0.16	2.35	0.00	0.00	0.52	0.52	0.00	0.12	0.12	—	524	524	0.01	0.02	1.97	532
Vendor	< 0.005	< 0.005	0.07	0.02	< 0.005	< 0.005	0.02	0.02	< 0.005	< 0.005	0.01	—	60.6	60.6	< 0.005	0.01	0.16	63.4
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.18	0.16	0.20	2.12	0.00	0.00	0.52	0.52	0.00	0.12	0.12	—	501	501	0.01	0.02	0.05	507
Vendor	< 0.005	< 0.005	0.08	0.02	< 0.005	< 0.005	0.02	0.02	< 0.005	< 0.005	0.01	—	60.6	60.6	< 0.005	0.01	< 0.005	63.3
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.07	0.06	0.07	0.78	0.00	0.00	0.19	0.19	0.00	0.04	0.04	—	186	186	< 0.005	0.01	0.31	188
Vendor	< 0.005	< 0.005	0.03	0.01	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	22.3	22.3	< 0.005	< 0.005	0.03	23.3
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.01	0.14	0.00	0.00	0.03	0.03	0.00	0.01	0.01	—	30.7	30.7	< 0.005	< 0.005	0.05	31.2
Vendor	< 0.005	< 0.005	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	3.69	3.69	< 0.005	< 0.005	< 0.005	3.86
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.14. Building Construction (2026) - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.12	0.12	0.64	8.10	0.01	0.02	—	0.02	0.02	—	0.02	—	1,304	1,304	0.05	0.01	—	1,309

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Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.12	0.12	0.64	8.10	0.01	0.02	—	0.02	0.02	—	0.02	—	1,304	1,304	0.05	0.01	—	1,309
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.05	0.05	0.24	2.98	< 0.005	0.01	—	0.01	0.01	—	0.01	—	480	480	0.02	< 0.005	—	482
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	0.01	0.04	0.54	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	79.5	79.5	< 0.005	< 0.005	—	79.7
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.18	0.16	0.16	2.35	0.00	0.00	0.52	0.52	0.00	0.12	0.12	—	524	524	0.01	0.02	1.97	532
Vendor	< 0.005	< 0.005	0.07	0.02	< 0.005	< 0.005	0.02	0.02	< 0.005	< 0.005	0.01	—	60.6	60.6	< 0.005	0.01	0.16	63.4
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

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Worker	0.18	0.16	0.20	2.12	0.00	0.00	0.52	0.52	0.00	0.12	0.12	—	501	501	0.01	0.02	0.05	507
Vendor	< 0.005	< 0.005	0.08	0.02	< 0.005	< 0.005	0.02	0.02	< 0.005	< 0.005	0.01	—	60.6	60.6	< 0.005	0.01	< 0.005	63.3
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.07	0.06	0.07	0.78	0.00	0.00	0.19	0.19	0.00	0.04	0.04	—	186	186	< 0.005	0.01	0.31	188
Vendor	< 0.005	< 0.005	0.03	0.01	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	22.3	22.3	< 0.005	< 0.005	0.03	23.3
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.01	0.14	0.00	0.00	0.03	0.03	0.00	0.01	0.01	—	30.7	30.7	< 0.005	< 0.005	0.05	31.2
Vendor	< 0.005	< 0.005	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	3.69	3.69	< 0.005	< 0.005	< 0.005	3.86
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.15. Architectural Coating (2026) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.15	0.12	0.86	1.13	< 0.005	0.02	—	0.02	0.02	—	0.02	—	134	134	0.01	< 0.005	—	134
Architectural Coatings	0.06	0.06	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

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Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	0.01	0.08	0.11	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	12.8	12.8	< 0.005	< 0.005	—	12.8
Architectural Coatings	0.01	0.01	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	0.01	0.02	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	2.12	2.12	< 0.005	< 0.005	—	2.13
Architectural Coatings	< 0.005	< 0.005	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.09	0.08	0.08	1.17	0.00	0.00	0.26	0.26	0.00	0.06	0.06	—	262	262	< 0.005	0.01	0.98	266
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.01	0.10	0.00	0.00	0.02	0.02	0.00	0.01	0.01	—	24.2	24.2	< 0.005	< 0.005	0.04	24.5
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.02	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	4.01	4.01	< 0.005	< 0.005	0.01	4.06
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.16. Architectural Coating (2026) - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.02	0.02	0.65	0.96	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	134	134	0.01	< 0.005	—	134
Architectural Coatings	0.06	0.06	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

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Off-Road	< 0.005	< 0.005	0.06	0.09	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	12.8	12.8	< 0.005	< 0.005	—	12.8
Architectural Coatings	0.01	0.01	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	0.01	0.02	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	2.12	2.12	< 0.005	< 0.005	—	2.13
Architectural Coatings	< 0.005	< 0.005	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.09	0.08	0.08	1.17	0.00	0.00	0.26	0.26	0.00	0.06	0.06	—	262	262	< 0.005	0.01	0.98	266
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.01	0.10	0.00	0.00	0.02	0.02	0.00	0.01	0.01	—	24.2	24.2	< 0.005	< 0.005	0.04	24.5
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Worker	< 0.005	< 0.005	< 0.005	0.02	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	4.01	4.01	< 0.005	< 0.005	0.01	4.06
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

4. Operations Emissions Details

4.1. Mobile Emissions by Land Use

4.1.1. Unmitigated

Mobile source emissions results are presented in Sections 2.6. No further detailed breakdown of emissions is available.

4.1.2. Mitigated

Mobile source emissions results are presented in Sections 2.5. No further detailed breakdown of emissions is available.

4.2. Energy

4.2.1. Electricity Emissions By Land Use - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Enclosed Parking Structure	—	—	—	—	—	—	—	—	—	—	—	—	21.9	21.9	< 0.005	< 0.005	—	22.0
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Industrial Park	—	—	—	—	—	—	—	—	—	—	—	—	7.93	7.93	< 0.005	< 0.005	—	7.96
Total	—	—	—	—	—	—	—	—	—	—	—	—	29.9	29.9	< 0.005	< 0.005	—	30.0

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Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Enclosed Parking Structure	—	—	—	—	—	—	—	—	—	—	—	—	21.9	21.9	< 0.005	< 0.005	—	22.0
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Industrial Park	—	—	—	—	—	—	—	—	—	—	—	—	7.93	7.93	< 0.005	< 0.005	—	7.96
Total	—	—	—	—	—	—	—	—	—	—	—	—	29.9	29.9	< 0.005	< 0.005	—	30.0
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Enclosed Parking Structure	—	—	—	—	—	—	—	—	—	—	—	—	3.63	3.63	< 0.005	< 0.005	—	3.65
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Industrial Park	—	—	—	—	—	—	—	—	—	—	—	—	1.31	1.31	< 0.005	< 0.005	—	1.32
Total	—	—	—	—	—	—	—	—	—	—	—	—	4.95	4.95	< 0.005	< 0.005	—	4.96

4.2.2. Electricity Emissions By Land Use - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Enclosed Parking Structure	—	—	—	—	—	—	—	—	—	—	—	—	21.9	21.9	< 0.005	< 0.005	—	22.0

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Parking Lot	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Industrial Park	—	—	—	—	—	—	—	—	—	—	—	—	7.93	7.93	< 0.005	< 0.005	—	7.96
Total	—	—	—	—	—	—	—	—	—	—	—	—	29.9	29.9	< 0.005	< 0.005	—	30.0
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Enclosed Parking Structure	—	—	—	—	—	—	—	—	—	—	—	—	21.9	21.9	< 0.005	< 0.005	—	22.0
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Industrial Park	—	—	—	—	—	—	—	—	—	—	—	—	7.93	7.93	< 0.005	< 0.005	—	7.96
Total	—	—	—	—	—	—	—	—	—	—	—	—	29.9	29.9	< 0.005	< 0.005	—	30.0
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Enclosed Parking Structure	—	—	—	—	—	—	—	—	—	—	—	—	3.63	3.63	< 0.005	< 0.005	—	3.65
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Industrial Park	—	—	—	—	—	—	—	—	—	—	—	—	1.31	1.31	< 0.005	< 0.005	—	1.32
Total	—	—	—	—	—	—	—	—	—	—	—	—	4.95	4.95	< 0.005	< 0.005	—	4.96

4.2.3. Natural Gas Emissions By Land Use - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
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Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Enclosed Parking Structure	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Parking Lot	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Industrial Park	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Total	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Enclosed Parking Structure	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Parking Lot	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Industrial Park	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Total	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Enclosed Parking Structure	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Parking Lot	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Industrial Park	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Total	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00

4.2.4. Natural Gas Emissions By Land Use - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Enclosed Parking Structure	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Parking Lot	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Industrial Park	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Total	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Enclosed Parking Structure	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Parking Lot	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Industrial Park	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Total	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Enclosed Parking Structure	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00

Parking Lot	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Industrial Park	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Total	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00

4.3. Area Emissions by Source

4.3.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Source	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Consumer Products	0.01	0.01	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	< 0.005	< 0.005	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Landscape Equipment	0.04	0.03	< 0.005	0.20	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	0.82	0.82	< 0.005	< 0.005	—	0.83
Total	0.04	0.04	< 0.005	0.20	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	0.82	0.82	< 0.005	< 0.005	—	0.83
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Consumer Products	0.01	0.01	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Architect Coatings	< 0.005	< 0.005	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	0.01	0.01	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Consumer Products	< 0.005	< 0.005	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	< 0.005	< 0.005	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Landscape Equipment	< 0.005	< 0.005	< 0.005	0.02	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	0.07	0.07	< 0.005	< 0.005	—	0.07
Total	< 0.005	< 0.005	< 0.005	0.02	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	0.07	0.07	< 0.005	< 0.005	—	0.07

4.3.2. Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Source	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Consumer Products	0.01	0.01	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	< 0.005	< 0.005	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Landscape Equipment	0.04	0.03	< 0.005	0.20	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	0.82	0.82	< 0.005	< 0.005	—	0.83

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Total	0.04	0.04	< 0.005	0.20	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	0.82	0.82	< 0.005	< 0.005	—	0.83
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Consumer Products	0.01	0.01	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	< 0.005	< 0.005	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	0.01	0.01	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Consumer Products	< 0.005	< 0.005	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	< 0.005	< 0.005	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Landscape Equipment	< 0.005	< 0.005	< 0.005	0.02	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	0.07	0.07	< 0.005	< 0.005	—	0.07
Total	< 0.005	< 0.005	< 0.005	0.02	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	0.07	0.07	< 0.005	< 0.005	—	0.07

4.4. Water Emissions by Land Use

4.4.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
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Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Enclosed Parking Structure	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Industrial Park	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Enclosed Parking Structure	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Industrial Park	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Enclosed Parking Structure	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Industrial Park	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00

4.4.2. Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Enclosed Parking Structure	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Industrial Park	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Enclosed Parking Structure	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Industrial Park	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Enclosed Parking Structure	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00

Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Industrial Park	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00

4.5. Waste Emissions by Land Use

4.5.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Enclosed Parking Structure	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Industrial Park	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Enclosed Parking Structure	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00

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Industrial Park	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Enclosed Parking Structure	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Industrial Park	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00

4.5.2. Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Enclosed Parking Structure	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Industrial Park	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

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Enclose Parking Structure	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Industria l Park	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Enclose d Parking Structure	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Industria l Park	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00

4.6. Refrigerant Emissions by Land Use

4.6.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Industria l Park	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.08	0.08
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.08	0.08

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Industrial Park	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.08	0.08
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.08	0.08
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Industrial Park	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.01	0.01
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.01	0.01

4.6.2. Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Industrial Park	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.08	0.08
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.08	0.08
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Industrial Park	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.08	0.08
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.08	0.08
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Industrial Park	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.01	0.01
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.01	0.01

4.7. Offroad Emissions By Equipment Type

4.7.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Equipment Type	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.7.2. Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Equipment Type	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.8. Stationary Emissions By Equipment Type

4.8.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Equipment Type	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Emergency Generator	0.05	0.04	0.23	0.18	< 0.005	0.02	0.00	0.02	0.02	0.00	0.02	0.00	22.7	22.7	< 0.005	< 0.005	0.00	22.7
Total	0.05	0.04	0.23	0.18	< 0.005	0.02	0.00	0.02	0.02	0.00	0.02	0.00	22.7	22.7	< 0.005	< 0.005	0.00	22.7
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Emergency Generator	0.05	0.04	0.23	0.18	< 0.005	0.02	0.00	0.02	0.02	0.00	0.02	0.00	22.7	22.7	< 0.005	< 0.005	0.00	22.7
Total	0.05	0.04	0.23	0.18	< 0.005	0.02	0.00	0.02	0.02	0.00	0.02	0.00	22.7	22.7	< 0.005	< 0.005	0.00	22.7
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Emergency Generator	< 0.005	< 0.005	0.01	< 0.005	< 0.005	< 0.005	0.00	< 0.005	< 0.005	0.00	< 0.005	0.00	0.51	0.51	< 0.005	< 0.005	0.00	0.52

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Total	< 0.005	< 0.005	0.01	< 0.005	< 0.005	< 0.005	0.00	< 0.005	< 0.005	0.00	< 0.005	0.00	0.51	0.51	< 0.005	< 0.005	0.00	0.52
-------	---------	---------	------	---------	---------	---------	------	---------	---------	------	---------	------	------	------	---------	---------	------	------

4.8.2. Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Equipm ent Type	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Emerge ncy Generat or	0.05	0.04	0.23	0.18	< 0.005	0.02	0.00	0.02	0.02	0.00	0.02	0.00	22.7	22.7	< 0.005	< 0.005	0.00	22.7
Total	0.05	0.04	0.23	0.18	< 0.005	0.02	0.00	0.02	0.02	0.00	0.02	0.00	22.7	22.7	< 0.005	< 0.005	0.00	22.7
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Emerge ncy Generat or	0.05	0.04	0.23	0.18	< 0.005	0.02	0.00	0.02	0.02	0.00	0.02	0.00	22.7	22.7	< 0.005	< 0.005	0.00	22.7
Total	0.05	0.04	0.23	0.18	< 0.005	0.02	0.00	0.02	0.02	0.00	0.02	0.00	22.7	22.7	< 0.005	< 0.005	0.00	22.7
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Emerge ncy Generat or	< 0.005	< 0.005	0.01	< 0.005	< 0.005	< 0.005	0.00	< 0.005	< 0.005	0.00	< 0.005	0.00	0.51	0.51	< 0.005	< 0.005	0.00	0.52
Total	< 0.005	< 0.005	0.01	< 0.005	< 0.005	< 0.005	0.00	< 0.005	< 0.005	0.00	< 0.005	0.00	0.51	0.51	< 0.005	< 0.005	0.00	0.52

4.9. User Defined Emissions By Equipment Type

4.9.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Equipm Type	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.9.2. Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Equipm ent Type	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10. Soil Carbon Accumulation By Vegetation Type

4.10.1. Soil Carbon Accumulation By Vegetation Type - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Vegetation	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.2. Above and Belowground Carbon Accumulation by Land Use Type - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.3. Avoided and Sequestered Emissions by Species - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Species	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
---------	-----	-----	-----	----	-----	-------	-------	-------	--------	--------	--------	------	-------	------	-----	-----	---	------

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Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.4. Soil Carbon Accumulation By Vegetation Type - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Vegetation	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.5. Above and Belowground Carbon Accumulation by Land Use Type - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.6. Avoided and Sequestered Emissions by Species - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Species	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

5. Activity Data

5.1. Construction Schedule

Phase Name	Phase Type	Start Date	End Date	Days Per Week	Work Days per Phase	Phase Description
Linear, Grubbing & Land Clearing	Linear, Grubbing & Land Clearing	1/1/2025	1/28/2025	5.00	20.0	—
Linear, Drainage, Utilities, & Sub-Grade	Linear, Drainage, Utilities, & Sub-Grade	1/29/2025	5/15/2025	5.00	77.0	—
Linear, Paving	Linear, Paving	5/16/2025	6/12/2025	5.00	20.0	—
Demolition	Demolition	8/26/2025	11/10/2025	5.00	55.0	—
Grading	Grading	1/1/2025	5/13/2025	5.00	95.0	—
Building Construction	Building Construction	5/14/2025	7/7/2026	5.00	300	—
Architectural Coating	Architectural Coating	7/8/2026	8/25/2026	5.00	35.0	—

5.2. Off-Road Equipment

5.2.1. Unmitigated

Phase Name	Equipment Type	Fuel Type	Engine Tier	Number per Day	Hours Per Day	Horsepower	Load Factor
Linear, Grubbing & Land Clearing	Signal Boards	Electric	Average	1.00	8.00	6.00	0.82
Linear, Grubbing & Land Clearing	Crawler Tractors	Diesel	Average	1.00	8.00	87.0	0.43

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Linear, Grubbing & Land Clearing	Excavators	Diesel	Average	1.00	8.00	36.0	0.38
Linear, Drainage, Utilities, & Sub-Grade	Signal Boards	Electric	Average	1.00	8.00	6.00	0.82
Linear, Drainage, Utilities, & Sub-Grade	Tractors/Loaders/Back hoes	Diesel	Average	1.00	8.00	84.0	0.37
Linear, Drainage, Utilities, & Sub-Grade	Scrapers	Diesel	Average	1.00	8.00	423	0.48
Linear, Drainage, Utilities, & Sub-Grade	Rough Terrain Forklifts	Diesel	Average	1.00	8.00	96.0	0.40
Linear, Drainage, Utilities, & Sub-Grade	Plate Compactors	Diesel	Average	1.00	8.00	8.00	0.43
Linear, Drainage, Utilities, & Sub-Grade	Pumps	Diesel	Average	1.00	8.00	11.0	0.74
Linear, Drainage, Utilities, & Sub-Grade	Air Compressors	Diesel	Average	1.00	8.00	37.0	0.48
Linear, Drainage, Utilities, & Sub-Grade	Graders	Diesel	Average	1.00	8.00	148	0.41
Linear, Drainage, Utilities, & Sub-Grade	Generator Sets	Diesel	Average	1.00	8.00	14.0	0.74
Linear, Paving	Rollers	Diesel	Average	1.00	8.00	36.0	0.38
Linear, Paving	Pavers	Diesel	Average	1.00	8.00	81.0	0.42
Linear, Paving	Paving Equipment	Diesel	Average	1.00	8.00	89.0	0.36
Linear, Paving	Signal Boards	Electric	Average	1.00	8.00	6.00	0.82
Linear, Paving	Tractors/Loaders/Back hoes	Diesel	Average	1.00	8.00	84.0	0.37
Demolition	Tractors/Loaders/Back hoes	Diesel	Average	2.00	6.00	84.0	0.37
Demolition	Rubber Tired Dozers	Diesel	Average	1.00	1.00	367	0.40
Demolition	Concrete/Industrial Saws	Diesel	Average	1.00	8.00	33.0	0.73
Grading	Graders	Diesel	Average	1.00	6.00	148	0.41
Grading	Rubber Tired Dozers	Diesel	Average	1.00	6.00	367	0.40

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Grading	Tractors/Loaders/Back	Diesel	Average	1.00	7.00	84.0	0.37
Building Construction	Cranes	Diesel	Average	1.00	4.00	367	0.29
Building Construction	Forklifts	Diesel	Average	2.00	6.00	82.0	0.20
Building Construction	Tractors/Loaders/Back hoes	Diesel	Average	2.00	8.00	84.0	0.37
Architectural Coating	Air Compressors	Diesel	Average	1.00	6.00	37.0	0.48

5.2.2. Mitigated

Phase Name	Equipment Type	Fuel Type	Engine Tier	Number per Day	Hours Per Day	Horsepower	Load Factor
Linear, Grubbing & Land Clearing	Signal Boards	Electric	Average	1.00	8.00	6.00	0.82
Linear, Grubbing & Land Clearing	Crawler Tractors	Diesel	Tier 4 Final	1.00	8.00	87.0	0.43
Linear, Grubbing & Land Clearing	Excavators	Diesel	Tier 4 Final	1.00	8.00	36.0	0.38
Linear, Drainage, Utilities, & Sub-Grade	Signal Boards	Electric	Average	1.00	8.00	6.00	0.82
Linear, Drainage, Utilities, & Sub-Grade	Tractors/Loaders/Back hoes	Diesel	Tier 4 Final	1.00	8.00	84.0	0.37
Linear, Drainage, Utilities, & Sub-Grade	Scrapers	Diesel	Tier 4 Final	1.00	8.00	423	0.48
Linear, Drainage, Utilities, & Sub-Grade	Rough Terrain Forklifts	Diesel	Tier 4 Final	1.00	8.00	96.0	0.40
Linear, Drainage, Utilities, & Sub-Grade	Plate Compactors	Diesel	Average	1.00	8.00	8.00	0.43
Linear, Drainage, Utilities, & Sub-Grade	Pumps	Diesel	Average	1.00	8.00	11.0	0.74
Linear, Drainage, Utilities, & Sub-Grade	Air Compressors	Diesel	Tier 4 Final	1.00	8.00	37.0	0.48
Linear, Drainage, Utilities, & Sub-Grade	Graders	Diesel	Tier 4 Final	1.00	8.00	148	0.41
Linear, Drainage, Utilities, & Sub-Grade	Generator Sets	Diesel	Average	1.00	8.00	14.0	0.74

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Linear, Paving	Rollers	Diesel	Tier 4 Final	1.00	8.00	36.0	0.38
Linear, Paving	Pavers	Diesel	Tier 4 Final	1.00	8.00	81.0	0.42
Linear, Paving	Paving Equipment	Diesel	Tier 4 Final	1.00	8.00	89.0	0.36
Linear, Paving	Signal Boards	Electric	Average	1.00	8.00	6.00	0.82
Linear, Paving	Tractors/Loaders/Back hoes	Diesel	Tier 4 Final	1.00	8.00	84.0	0.37
Demolition	Tractors/Loaders/Back hoes	Diesel	Tier 4 Final	2.00	6.00	84.0	0.37
Demolition	Rubber Tired Dozers	Diesel	Tier 4 Final	1.00	1.00	367	0.40
Demolition	Concrete/Industrial Saws	Diesel	Tier 4 Final	1.00	8.00	33.0	0.73
Grading	Graders	Diesel	Tier 4 Final	1.00	6.00	148	0.41
Grading	Rubber Tired Dozers	Diesel	Tier 4 Final	1.00	6.00	367	0.40
Grading	Tractors/Loaders/Back hoes	Diesel	Tier 4 Final	1.00	7.00	84.0	0.37
Building Construction	Cranes	Diesel	Tier 4 Final	1.00	4.00	367	0.29
Building Construction	Forklifts	Diesel	Tier 4 Final	2.00	6.00	82.0	0.20
Building Construction	Tractors/Loaders/Back hoes	Diesel	Tier 4 Final	2.00	8.00	84.0	0.37
Architectural Coating	Air Compressors	Diesel	Tier 4 Final	1.00	6.00	37.0	0.48

5.3. Construction Vehicles

5.3.1. Unmitigated

Phase Name	Trip Type	One-Way Trips per Day	Miles per Trip	Vehicle Mix
Demolition	—	—	—	—
Demolition	Worker	10.0	18.5	LDA,LDT1,LDT2
Demolition	Vendor	0.00	10.2	HHDT,MHDT
Demolition	Hauling	3.76	20.0	HHDT
Demolition	Onsite truck	—	—	HHDT

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Grading	—	—	—	—
Grading	Worker	7.50	18.5	LDA,LDT1,LDT2
Grading	Vendor	0.00	10.2	HHDT,MHDT
Grading	Hauling	39.5	20.0	HHDT
Grading	Onsite truck	—	—	HHDT
Building Construction	—	—	—	—
Building Construction	Worker	40.0	18.5	LDA,LDT1,LDT2
Building Construction	Vendor	2.00	10.2	HHDT,MHDT
Building Construction	Hauling	0.00	20.0	HHDT
Building Construction	Onsite truck	—	—	HHDT
Architectural Coating	—	—	—	—
Architectural Coating	Worker	20.0	18.5	LDA,LDT1,LDT2
Architectural Coating	Vendor	0.00	10.2	HHDT,MHDT
Architectural Coating	Hauling	0.00	20.0	HHDT
Architectural Coating	Onsite truck	—	—	HHDT
Linear, Grubbing & Land Clearing	—	—	—	—
Linear, Grubbing & Land Clearing	Worker	7.50	18.5	LDA,LDT1,LDT2
Linear, Grubbing & Land Clearing	Vendor	0.00	10.2	HHDT,MHDT
Linear, Grubbing & Land Clearing	Hauling	0.00	20.0	HHDT
Linear, Grubbing & Land Clearing	Onsite truck	—	—	HHDT
Linear, Drainage, Utilities, & Sub-Grade	—	—	—	—
Linear, Drainage, Utilities, & Sub-Grade	Worker	22.5	18.5	LDA,LDT1,LDT2
Linear, Drainage, Utilities, & Sub-Grade	Vendor	0.00	10.2	HHDT,MHDT
Linear, Drainage, Utilities, & Sub-Grade	Hauling	0.00	20.0	HHDT
Linear, Drainage, Utilities, & Sub-Grade	Onsite truck	—	—	HHDT

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Linear, Paving	—	—	—	—
Linear, Paving	Worker	12.5	18.5	LDA,LDT1,LDT2
Linear, Paving	Vendor	0.00	10.2	HHDT,MHDT
Linear, Paving	Hauling	0.00	20.0	HHDT
Linear, Paving	Onsite truck	—	—	HHDT

5.3.2. Mitigated

Phase Name	Trip Type	One-Way Trips per Day	Miles per Trip	Vehicle Mix
Demolition	—	—	—	—
Demolition	Worker	10.0	18.5	LDA,LDT1,LDT2
Demolition	Vendor	0.00	10.2	HHDT,MHDT
Demolition	Hauling	3.76	20.0	HHDT
Demolition	Onsite truck	—	—	HHDT
Grading	—	—	—	—
Grading	Worker	7.50	18.5	LDA,LDT1,LDT2
Grading	Vendor	0.00	10.2	HHDT,MHDT
Grading	Hauling	39.5	20.0	HHDT
Grading	Onsite truck	—	—	HHDT
Building Construction	—	—	—	—
Building Construction	Worker	40.0	18.5	LDA,LDT1,LDT2
Building Construction	Vendor	2.00	10.2	HHDT,MHDT
Building Construction	Hauling	0.00	20.0	HHDT
Building Construction	Onsite truck	—	—	HHDT
Architectural Coating	—	—	—	—
Architectural Coating	Worker	20.0	18.5	LDA,LDT1,LDT2
Architectural Coating	Vendor	0.00	10.2	HHDT,MHDT
Architectural Coating	Hauling	0.00	20.0	HHDT
Architectural Coating	Onsite truck	—	—	HHDT

Linear, Grubbing & Land Clearing	—	—	—	—
Linear, Grubbing & Land Clearing	Worker	7.50	18.5	LDA,LDT1,LDT2
Linear, Grubbing & Land Clearing	Vendor	0.00	10.2	HHDT,MHDT
Linear, Grubbing & Land Clearing	Hauling	0.00	20.0	HHDT
Linear, Grubbing & Land Clearing	Onsite truck	—	—	HHDT
Linear, Drainage, Utilities, & Sub-Grade	—	—	—	—
Linear, Drainage, Utilities, & Sub-Grade	Worker	22.5	18.5	LDA,LDT1,LDT2
Linear, Drainage, Utilities, & Sub-Grade	Vendor	0.00	10.2	HHDT,MHDT
Linear, Drainage, Utilities, & Sub-Grade	Hauling	0.00	20.0	HHDT
Linear, Drainage, Utilities, & Sub-Grade	Onsite truck	—	—	HHDT
Linear, Paving	—	—	—	—
Linear, Paving	Worker	12.5	18.5	LDA,LDT1,LDT2
Linear, Paving	Vendor	0.00	10.2	HHDT,MHDT
Linear, Paving	Hauling	0.00	20.0	HHDT
Linear, Paving	Onsite truck	—	—	HHDT

5.4. Vehicles

5.4.1. Construction Vehicle Control Strategies

Non-applicable. No control strategies activated by user.

5.5. Architectural Coatings

Phase Name	Residential Interior Area Coated (sq ft)	Residential Exterior Area Coated (sq ft)	Non-Residential Interior Area Coated (sq ft)	Non-Residential Exterior Area Coated (sq ft)	Parking Area Coated (sq ft)
Architectural Coating	0.00	0.00	655	175	0.00

5.6. Dust Mitigation

5.6.1. Construction Earthmoving Activities

Phase Name	Material Imported (Cubic Yards)	Material Exported (Cubic Yards)	Acres Graded (acres)	Material Demolished (Building Square Footage)	Acres Paved (acres)
Linear, Grubbing & Land Clearing	0.00	0.00	0.18	0.00	—
Linear, Drainage, Utilities, & Sub-Grade	0.00	0.00	0.18	0.00	—
Demolition	0.00	0.00	0.00	18,000	—
Grading	15,000	15,000	71.3	0.00	—

5.6.2. Construction Earthmoving Control Strategies

Control Strategies Applied	Frequency (per day)	PM10 Reduction	PM2.5 Reduction
Water Exposed Area	2	61%	61%
Water Demolished Area	2	36%	36%

5.7. Construction Paving

Land Use	Area Paved (acres)	% Asphalt
Enclosed Parking Structure	0.10	100%
Parking Lot	0.22	100%
Industrial Park	0.00	0%
Road Construction	0.08	100%
User Defined Linear	0.10	100%

5.8. Construction Electricity Consumption and Emissions Factors

kWh per Year and Emission Factor (lb/MWh)

Year	kWh per Year	CO2	CH4	N2O
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2025	88.1	532	0.03	< 0.005
2026	0.00	532	0.03	< 0.005

5.9. Operational Mobile Sources

5.9.1. Unmitigated

Land Use Type	Trips/Weekday	Trips/Saturday	Trips/Sunday	Trips/Year	VMT/Weekday	VMT/Saturday	VMT/Sunday	VMT/Year
Total all Land Uses	20.0	0.00	0.00	100	425	0.00	0.00	2,125

5.9.2. Mitigated

Land Use Type	Trips/Weekday	Trips/Saturday	Trips/Sunday	Trips/Year	VMT/Weekday	VMT/Saturday	VMT/Sunday	VMT/Year
Total all Land Uses	20.0	0.00	0.00	100	425	0.00	0.00	2,125

5.10. Operational Area Sources

5.10.1. Hearths

5.10.1.1. Unmitigated

5.10.1.2. Mitigated

5.10.2. Architectural Coatings

Residential Interior Area Coated (sq ft)	Residential Exterior Area Coated (sq ft)	Non-Residential Interior Area Coated (sq ft)	Non-Residential Exterior Area Coated (sq ft)	Parking Area Coated (sq ft)
0	0.00	0.00	175	0.00

5.10.3. Landscape Equipment

Season	Unit	Value
Snow Days	day/yr	0.00

Summer Days	day/yr	180
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5.10.4. Landscape Equipment - Mitigated

Season	Unit	Value
Snow Days	day/yr	0.00
Summer Days	day/yr	180

5.11. Operational Energy Consumption

5.11.1. Unmitigated

Electricity (kWh/yr) and CO2 and CH4 and N2O and Natural Gas (kBTU/yr)

Land Use	Electricity (kWh/yr)	CO2	CH4	N2O	Natural Gas (kBTU/yr)
Enclosed Parking Structure	15,056	532	0.0330	0.0040	0.00
Parking Lot	0.00	532	0.0330	0.0040	0.00
Industrial Park	5,442	532	0.0330	0.0040	0.00

5.11.2. Mitigated

Electricity (kWh/yr) and CO2 and CH4 and N2O and Natural Gas (kBTU/yr)

Land Use	Electricity (kWh/yr)	CO2	CH4	N2O	Natural Gas (kBTU/yr)
Enclosed Parking Structure	15,056	532	0.0330	0.0040	0.00
Parking Lot	0.00	532	0.0330	0.0040	0.00
Industrial Park	5,442	532	0.0330	0.0040	0.00

5.12. Operational Water and Wastewater Consumption

5.12.1. Unmitigated

Land Use	Indoor Water (gal/year)	Outdoor Water (gal/year)
Enclosed Parking Structure	0.00	0.00

Parking Lot	0.00	0.00
Industrial Park	0.00	0.00

5.12.2. Mitigated

Land Use	Indoor Water (gal/year)	Outdoor Water (gal/year)
Enclosed Parking Structure	0.00	0.00
Parking Lot	0.00	0.00
Industrial Park	0.00	0.00

5.13. Operational Waste Generation

5.13.1. Unmitigated

Land Use	Waste (ton/year)	Cogeneration (kWh/year)
Enclosed Parking Structure	0.00	—
Parking Lot	0.00	—
Industrial Park	0.00	—

5.13.2. Mitigated

Land Use	Waste (ton/year)	Cogeneration (kWh/year)
Enclosed Parking Structure	0.00	—
Parking Lot	0.00	—
Industrial Park	0.00	—

5.14. Operational Refrigeration and Air Conditioning Equipment

5.14.1. Unmitigated

Land Use Type	Equipment Type	Refrigerant	GWP	Quantity (kg)	Operations Leak Rate	Service Leak Rate	Times Serviced
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Industrial Park	Other commercial A/C and heat pumps	R-410A	2,088	0.30	4.00	4.00	18.0
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5.14.2. Mitigated

Land Use Type	Equipment Type	Refrigerant	GWP	Quantity (kg)	Operations Leak Rate	Service Leak Rate	Times Serviced
Industrial Park	Other commercial A/C and heat pumps	R-410A	2,088	0.30	4.00	4.00	18.0

5.15. Operational Off-Road Equipment

5.15.1. Unmitigated

Equipment Type	Fuel Type	Engine Tier	Number per Day	Hours Per Day	Horsepower	Load Factor
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5.15.2. Mitigated

Equipment Type	Fuel Type	Engine Tier	Number per Day	Hours Per Day	Horsepower	Load Factor
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5.16. Stationary Sources

5.16.1. Emergency Generators and Fire Pumps

Equipment Type	Fuel Type	Number per Day	Hours per Day	Hours per Year	Horsepower	Load Factor
Emergency Generator	Diesel	1.00	1.00	50.0	27.0	0.73

5.16.2. Process Boilers

Equipment Type	Fuel Type	Number	Boiler Rating (MMBtu/hr)	Daily Heat Input (MMBtu/day)	Annual Heat Input (MMBtu/yr)
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5.17. User Defined

Equipment Type	Fuel Type
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5.18. Vegetation

5.18.1. Land Use Change

5.18.1.1. Unmitigated

Vegetation Land Use Type	Vegetation Soil Type	Initial Acres	Final Acres
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5.18.1.2. Mitigated

Vegetation Land Use Type	Vegetation Soil Type	Initial Acres	Final Acres
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5.18.1. Biomass Cover Type

5.18.1.1. Unmitigated

Biomass Cover Type	Initial Acres	Final Acres
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5.18.1.2. Mitigated

Biomass Cover Type	Initial Acres	Final Acres
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5.18.2. Sequestration

5.18.2.1. Unmitigated

Tree Type	Number	Electricity Saved (kWh/year)	Natural Gas Saved (btu/year)
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5.18.2.2. Mitigated

Tree Type	Number	Electricity Saved (kWh/year)	Natural Gas Saved (btu/year)
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6. Climate Risk Detailed Report

6.1. Climate Risk Summary

Cal-Adapt midcentury 2040–2059 average projections for four hazards are reported below for your project location. These are under Representation Concentration Pathway (RCP) 8.5 which assumes GHG emissions will continue to rise strongly through 2050 and then plateau around 2100.

Climate Hazard	Result for Project Location	Unit
Temperature and Extreme Heat	17.0	annual days of extreme heat
Extreme Precipitation	6.65	annual days with precipitation above 20 mm
Sea Level Rise	—	meters of inundation depth
Wildfire	31.3	annual hectares burned

Temperature and Extreme Heat data are for grid cell in which your project are located. The projection is based on the 98th historical percentile of daily maximum/minimum temperatures from observed historical data (32 climate model ensemble from Cal-Adapt, 2040–2059 average under RCP 8.5). Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.

Extreme Precipitation data are for the grid cell in which your project are located. The threshold of 20 mm is equivalent to about ¾ an inch of rain, which would be light to moderate rainfall if received over a full day or heavy rain if received over a period of 2 to 4 hours. Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.

Sea Level Rise data are for the grid cell in which your project are located. The projections are from Radke et al. (2017), as reported in Cal-Adapt (Radke et al., 2017, CEC-500-2017-008), and consider inundation location and depth for the San Francisco Bay, the Sacramento-San Joaquin River Delta and California coast resulting different increments of sea level rise coupled with extreme storm events. Users may select from four scenarios to view the range in potential inundation depth for the grid cell. The four scenarios are: No rise, 0.5 meter, 1.0 meter, 1.41 meters

Wildfire data are for the grid cell in which your project are located. The projections are from UC Davis, as reported in Cal-Adapt (2040–2059 average under RCP 8.5), and consider historical data of climate, vegetation, population density, and large (> 400 ha) fire history. Users may select from four model simulations to view the range in potential wildfire probabilities for the grid cell. The four simulations make different assumptions about expected rainfall and temperature are: Warmer/drier (HadGEM2-ES), Cooler/wetter (CNRM-CM5), Average conditions (CanESM2), Range of different rainfall and temperature possibilities (MIROC5). Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.

6.2. Initial Climate Risk Scores

Climate Hazard	Exposure Score	Sensitivity Score	Adaptive Capacity Score	Vulnerability Score
Temperature and Extreme Heat	2	0	0	N/A
Extreme Precipitation	N/A	N/A	N/A	N/A
Sea Level Rise	1	0	0	N/A
Wildfire	1	0	0	N/A
Flooding	N/A	N/A	N/A	N/A
Drought	N/A	N/A	N/A	N/A
Snowpack Reduction	N/A	N/A	N/A	N/A
Air Quality Degradation	0	0	0	N/A

The sensitivity score reflects the extent to which a project would be adversely affected by exposure to a climate hazard. Exposure is rated on a scale of 1 to 5, with a score of 5 representing the greatest exposure.

The adaptive capacity of a project refers to its ability to manage and reduce vulnerabilities from projected climate hazards. Adaptive capacity is rated on a scale of 1 to 5, with a score of 5 representing the greatest ability to adapt.

The overall vulnerability scores are calculated based on the potential impacts and adaptive capacity assessments for each hazard. Scores do not include implementation of climate risk reduction measures.

6.3. Adjusted Climate Risk Scores

Climate Hazard	Exposure Score	Sensitivity Score	Adaptive Capacity Score	Vulnerability Score
Temperature and Extreme Heat	2	1	1	3
Extreme Precipitation	N/A	N/A	N/A	N/A
Sea Level Rise	1	1	1	2
Wildfire	1	1	1	2
Flooding	N/A	N/A	N/A	N/A
Drought	N/A	N/A	N/A	N/A
Snowpack Reduction	N/A	N/A	N/A	N/A
Air Quality Degradation	1	1	1	2

The sensitivity score reflects the extent to which a project would be adversely affected by exposure to a climate hazard. Exposure is rated on a scale of 1 to 5, with a score of 5 representing the greatest exposure.

The adaptive capacity of a project refers to its ability to manage and reduce vulnerabilities from projected climate hazards. Adaptive capacity is rated on a scale of 1 to 5, with a score of 5 representing the greatest ability to adapt.

The overall vulnerability scores are calculated based on the potential impacts and adaptive capacity assessments for each hazard. Scores include implementation of climate risk reduction measures.

6.4. Climate Risk Reduction Measures

7. Health and Equity Details

7.1. CalEnviroScreen 4.0 Scores

The maximum CalEnviroScreen score is 100. A high score (i.e., greater than 50) reflects a higher pollution burden compared to other census tracts in the state.

Indicator	Result for Project Census Tract
Exposure Indicators	—
AQ-Ozone	75.4

AQ-PM	43.9
AQ-DPM	4.01
Drinking Water	72.3
Lead Risk Housing	11.8
Pesticides	0.76
Toxic Releases	23.5
Traffic	11.4
Effect Indicators	—
CleanUp Sites	85.8
Groundwater	54.5
Haz Waste Facilities/Generators	93.0
Impaired Water Bodies	96.3
Solid Waste	91.0
Sensitive Population	—
Asthma	44.0
Cardio-vascular	52.6
Low Birth Weights	12.4
Socioeconomic Factor Indicators	—
Education	21.7
Housing	8.50
Linguistic	10.4
Poverty	20.8
Unemployment	30.9

7.2. Healthy Places Index Scores

The maximum Health Places Index score is 100. A high score (i.e., greater than 50) reflects healthier community conditions compared to other census tracts in the state.

Indicator	Result for Project Census Tract
Economic	—

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Above Poverty	94.08443475
Employed	69.52393173
Median HI	91.09457205
Education	—
Bachelor's or higher	71.83369691
High school enrollment	100
Preschool enrollment	81.0727576
Transportation	—
Auto Access	85.40998332
Active commuting	15.98870781
Social	—
2-parent households	86.68035416
Voting	75.91428205
Neighborhood	—
Alcohol availability	97.0101373
Park access	59.05299628
Retail density	16.6944694
Supermarket access	20.2232773
Tree canopy	68.98498653
Housing	—
Homeownership	76.19658668
Housing habitability	91.32554857
Low-inc homeowner severe housing cost burden	83.19004235
Low-inc renter severe housing cost burden	75.86295393
Uncrowded housing	91.95431798
Health Outcomes	—
Insured adults	84.28076479
Arthritis	84.5

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Asthma ER Admissions	62.2
High Blood Pressure	65.9
Cancer (excluding skin)	42.8
Asthma	72.9
Coronary Heart Disease	88.8
Chronic Obstructive Pulmonary Disease	86.1
Diagnosed Diabetes	92.6
Life Expectancy at Birth	41.4
Cognitively Disabled	56.3
Physically Disabled	52.4
Heart Attack ER Admissions	24.4
Mental Health Not Good	79.6
Chronic Kidney Disease	90.3
Obesity	79.9
Pedestrian Injuries	19.6
Physical Health Not Good	89.8
Stroke	91.3
Health Risk Behaviors	—
Binge Drinking	8.9
Current Smoker	79.5
No Leisure Time for Physical Activity	87.6
Climate Change Exposures	—
Wildfire Risk	66.4
SLR Inundation Area	0.0
Children	65.5
Elderly	84.2
English Speaking	83.2
Foreign-born	25.6

Outdoor Workers	74.9
Climate Change Adaptive Capacity	—
Impervious Surface Cover	86.1
Traffic Density	19.9
Traffic Access	23.0
Other Indices	—
Hardship	8.5
Other Decision Support	—
2016 Voting	86.2

7.3. Overall Health & Equity Scores

Metric	Result for Project Census Tract
CalEnviroScreen 4.0 Score for Project Location (a)	30.0
Healthy Places Index Score for Project Location (b)	89.0
Project Located in a Designated Disadvantaged Community (Senate Bill 535)	No
Project Located in a Low-Income Community (Assembly Bill 1550)	No
Project Located in a Community Air Protection Program Community (Assembly Bill 617)	No

a: The maximum CalEnviroScreen score is 100. A high score (i.e., greater than 50) reflects a higher pollution burden compared to other census tracts in the state.
b: The maximum Health Places Index score is 100. A high score (i.e., greater than 50) reflects healthier community conditions compared to other census tracts in the state.

7.4. Health & Equity Measures

No Health & Equity Measures selected.

7.5. Evaluation Scorecard

Health & Equity Evaluation Scorecard not completed.

7.6. Health & Equity Custom Measures

No Health & Equity Custom Measures created.

8. User Changes to Default Data

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Screen	Justification
Construction: Construction Phases	Based on Project Information
Construction: Off-Road Equipment	all defaults set to 0. made all defaults 1.
Construction: Trips and VMT	based on size of tank structure
Construction: Architectural Coatings	No striping of paved areas
Operations: Architectural Coatings	maintenance every 5 years, just outside of tank. no striping for parking
Operations: Energy Use	No parking lot lighting. Electricity for parking structure estimated for tank usage. Industrial building is electric only for pump station activities. No natural gas usage.
Operations: Water and Waste Water	no water usage onsite.
Operations: Solid Waste	no solid waste collection or generation onsite

Appendix C

Roadway Construction Noise Model Results

Roadway Construction Noise Model (RCNM),Version 1.1

Report date: 11/1/2024

Case Description: Simi Valley Water Tank - Demolition

---- Receptor #1 ----

Description	Land Use	Baselines (dBA)		
		Daytime	Evening	Night
Residential	Residential	80	80	80

Description	Impact Device	Usage(%)	Equipment			
			Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Backhoe	No	40		77.6	50	0
Dozer	No	40		81.7	50	0
Concrete Saw	No	20		89.6	50	0

Equipment	Results							
	Calculated (dBA)				Noise Limits (dBA)			
			Day		Evening		Night	
	*Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	
Backhoe	77.6	73.6	N/A	N/A	N/A	N/A	N/A	
Dozer	81.7	77.7	N/A	N/A	N/A	N/A	N/A	
Concrete Saw	89.6	82.6	N/A	N/A	N/A	N/A	N/A	
Total	89.6	84.2	N/A	N/A	N/A	N/A	N/A	

*Calculated Lmax is the Loudest value.

Roadway Construction Noise Model (RCNM), Version 1.1

Report date: 11/1/2024

Case Description: Simi Valley Water Tank - Grubbing/Land Clearing

---- Receptor #1 ----

Baselines (dBA)

Description	Land Use	Daytime	Evening	Night
Residential	Residential	80	80	80

Equipment

Description	Impact Device	Usage(%)	Spec	Actual	Receptor	Estimated
			Lmax (dBA)	Lmax (dBA)	Distance (feet)	Shielding (dBA)
Tractor	No	40	84		50	0
Excavator	No	40		80.7	50	0

Results

	Calculated (dBA)			Noise Limits (dBA)			
	*Lmax	Leq	Day Lmax	Leq	Evening Lmax	Night Lmax	
Equipment							
Tractor	84	80	N/A	N/A	N/A	N/A	N/A
Excavator	80.7	76.7	N/A	N/A	N/A	N/A	N/A
Total	84	81.7	N/A	N/A	N/A	N/A	N/A

*Calculated Lmax is the Loudest value.

Roadway Construction Noise Model (RCNM),Version 1.1

Report date: 11/1/2024

Case Description: Simi Valley Water Tank - Drainage

---- Receptor #1 ----

Description	Land Use	Baselines (dBA)		
		Daytime	Evening	Night
Residential	Residential	80	80	80

Description	Impact Device	Usage(%)	Equipment			
			Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Backhoe	No	40		77.6	50	0
Scraper	No	40		83.6	50	0
Backhoe	No	40		77.6	50	0
Pumps	No	50		80.9	50	0
Compactor (ground)	No	20		83.2	50	0
Compressor (air)	No	40		77.7	50	0
Grader	No	40	85		50	0
Generator (<25KVA, VMS signs)	No	50		72.8	50	0

Results

Equipment	Calculated (dBA)			Noise Limits (dBA)			
	*Lmax	Leq	Day	Leq	Evening		Night
			Lmax		Lmax	Leq	Lmax
Backhoe	77.6	73.6	N/A	N/A	N/A	N/A	N/A
Scraper	83.6	79.6	N/A	N/A	N/A	N/A	N/A
Backhoe	77.6	73.6	N/A	N/A	N/A	N/A	N/A
Pumps	80.9	77.9	N/A	N/A	N/A	N/A	N/A
Compactor (ground)	83.2	76.2	N/A	N/A	N/A	N/A	N/A
Compressor (air)	77.7	73.7	N/A	N/A	N/A	N/A	N/A
Grader	85	81	N/A	N/A	N/A	N/A	N/A
Generator (<25KVA, VMS signs)	72.8	69.8	N/A	N/A	N/A	N/A	N/A
Total	85	86	N/A	N/A	N/A	N/A	N/A

*Calculated Lmax is the Loudest value.

Roadway Construction Noise Model (RCNM),Version 1.1

Report date: 11/1/2024

Case Description: Simi Valley Water Tank - Paving

---- Receptor #1 ----

Description	Land Use	Baselines (dBA)		
		Daytime	Evening	Night
Residential	Residential	80	80	80

Description	Equipment					
	Impact		Spec	Actual	Receptor	Estimated
	Device	Usage(%)	Lmax (dBA)	Lmax (dBA)	Distance (feet)	Shielding (dBA)
Roller	No	20		80	50	0
Paver	No	50		77.2	50	0
Paver	No	50		77.2	50	0
Backhoe	No	40		77.6	50	0

Equipment	Results							
	Calculated (dBA)				Noise Limits (dBA)			
			Day		Evening		Night	
	*Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	
Roller	80	73	N/A	N/A	N/A	N/A	N/A	N/A
Paver	77.2	74.2	N/A	N/A	N/A	N/A	N/A	N/A
Paver	77.2	74.2	N/A	N/A	N/A	N/A	N/A	N/A
Backhoe	77.6	73.6	N/A	N/A	N/A	N/A	N/A	N/A
Total	80	79.8	N/A	N/A	N/A	N/A	N/A	N/A

*Calculated Lmax is the Loudest value.

Roadway Construction Noise Model (RCNM),Version 1.1

Report date: 11/1/2024

Case Description: Simi Valley Water Tank - Grading

---- Receptor #1 ----

Description	Land Use	Baselines (dBA)		
		Daytime	Evening	Night
Residential	Residential	80	80	80

Description	Device	Impact	Usage(%)	Equipment		
				Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)
Dozer	No		40		81.7	50
Backhoe	No		40		77.6	50
Grader	No		40	85		50

Equipment	Results				Noise Limits (dBA)		
	Calculated (dBA)		Day		Evening		Night
	*Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax
Dozer	81.7	77.7	N/A	N/A	N/A	N/A	N/A
Backhoe	77.6	73.6	N/A	N/A	N/A	N/A	N/A
Grader	85	81	N/A	N/A	N/A	N/A	N/A
Total	85	83.2	N/A	N/A	N/A	N/A	N/A

*Calculated Lmax is the Loudest value.

Roadway Construction Noise Model (RCNM),Version 1.1

Report date: 11/1/2024

Case Description: Simi Valley Water Tank - Building Construction

---- Receptor #1 ----

Description	Land Use	Baselines (dBA)		
		Daytime	Evening	Night
Residential	Residential	80	80	80

Description	Equipment					
	Impact Device	Usage(%)	Spec Lmax	Actual Lmax	Receptor Distance	Estimated Shielding
			(dBA)	(dBA)	(feet)	(dBA)
Crane	No	16		80.6	50	0
Backhoe	No	40		77.6	50	0
Backhoe	No	40		77.6	50	0
Backhoe	No	40		77.6	50	0
Backhoe	No	40		77.6	50	0
Grader	No	40	85		50	0

Results

Equipment	Calculated (dBA)			Noise Limits (dBA)			
	*Lmax	Leq	Day	Leq	Evening		Night
			Lmax		Lmax	Leq	Lmax
Crane	80.6	72.6	N/A	N/A	N/A	N/A	N/A
Backhoe	77.6	73.6	N/A	N/A	N/A	N/A	N/A
Backhoe	77.6	73.6	N/A	N/A	N/A	N/A	N/A
Backhoe	77.6	73.6	N/A	N/A	N/A	N/A	N/A
Backhoe	77.6	73.6	N/A	N/A	N/A	N/A	N/A
Grader	85	81	N/A	N/A	N/A	N/A	N/A
Total	85	83.7	N/A	N/A	N/A	N/A	N/A

*Calculated Lmax is the Loudest value.