Stone Beetland Project

(P21-042)

Draft Sustainable Communities Environmental Assessment Initial Study

City of SACRAMENTO
Community Development

Contact:

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June 2023

SUSTAINABLE COMMUNITIES ENVIRONMENTAL ASSESSMENT

This Sustainable Communities Environmental Assessment Initial Study (SCEA IS) has been prepared pursuant to Section 21155.2 of the Public Resources Code (PRC).

PROJECT TITLE: Stone Beetland Project (P21-042)

PROJECT DESCRIPTION: The Stone Beetland Project (proposed project) would include development of the project site with approximately 1,163 residential units spread between four villages: the Transit Village, North Village, Central Village, and West Village. Implementation of the proposed project would require City approval of a General Plan Amendment, Rezone, Planned Unit Development (PUD) Establishment/Schematic Plan, Master Tentative Parcel Map, Tentative Subdivision Map, Public Facilities Financing Plan, Development Agreement, Tree Removal Permit, and amendment to the City's Bicycle Master Plan. (NOTE: References to the number of residential units in the respective villages are approximate. Minor changes in the number of units would not affect the environmental analysis or determinations.)

PROJECT LOCATION: The project site consists of approximately 140.7 acres, located northwest of the intersection of Cosumnes River Boulevard and Delta Shores Circle South, in the City of Sacramento, California.

NAME OF PUBLIC AGENCY APPROVING PROJECT: City of Sacramento

CONTACT PERSON/INFORMATION: Ron Bess, Associate Planner, (916) 808-8272, rbess@cityofsacramento.org.

NAME OF AGENCY CARRYING OUT PROJECT: City of Sacramento

REQUIRED FINDINGS: The City of Sacramento has determined that:

1) the project is consistent with the general use designations, density, building intensity, and applicable policies specified for the project area in the Metropolitan Transportation Plan/Sustainable Communities Strategy (MTP/SCS) prepared by the Sacramento Area Council of Governments (SACOG) for the Sacramento Region (see page 20 regarding additional discussion about the MTP/SCS);
2) the project qualifies as a Transit Priority Project pursuant to PRC Section 21155(b);
3) the project is a residential or mixed-use project as defined by PRC Section 21159.28(d);
4) the project as mitigated incorporates all relevant and feasible mitigation measures, performance standards, or criteria set forth in both the MTP/SCS Program Environmental Impact Report (EIR) and the 2035 General Plan Master EIR;
5) all potentially significant or significant effects required to be identified and analyzed pursuant to the California Environmental Quality Act (CEQA) have been identified and analyzed in an initial study; and
6) the project, as mitigated, either avoids or mitigates to a level of insignificance all potentially significant or significant effects of the project required to be analyzed pursuant to CEQA.

Therefore, the City of Sacramento finds that the proposed project complies with the requirements of CEQA for using an SCEA as authorized pursuant to PRC Section 21155.2(b).

The attached Environmental Checklist has been prepared by the City of Sacramento in support of this SCEA IS. Further information including the project file and supporting reports and studies may be reviewed at the Community Development Department, 300 Richards Boulevard, Third Floor, Sacramento, CA 95811.

MITIGATION MEASURES: Pursuant to Section 21155.2 of the PRC, this SCEA IS: (1) incorporates all feasible mitigation measures, performance standards, or criteria set forth in the prior applicable EIRs, including the MTP/SCS EIR, and adopted in findings made pursuant to Section 21081; and (2) includes measures that either avoid or mitigate to a level of insignificance all potentially significant or significant effects of the project required to be identified in this Initial Study.

Environmental Services Manager, City of Sacramento
California, a Municipal Corporation

By: Scott Johnson for Tom Buford Date: 6-22-2023

SUSTAINABLE COMMUNITIES ENVIRONMENTAL ASSESSMENT INITIAL STUDY

Project Title: Stone Beetland Project (P21-042)

Lead Agency: City of Sacramento
Community Development Department
300 Richards Boulevard, Third Floor
Sacramento, CA 95811

Lead Agency Contact: Ron Bess, Associate Planner
(916) 808-8272
rbess@cityofsacramento.org

Project Location: The project site consists of approximately 140.7 acres, located northwest of the intersection of Cosumnes River Boulevard and Delta Shores Circle South, in the City of Sacramento, California.

Project Applicant: Avdis & Cucchi, LLP
1415 L Street, Suite 410
Sacramento, CA 95814

Property Owners: JP Land Holdings, LLC
508 Gibson Drive, Suite 260
Roseville, CA 95678
Assessor's Parcel Numbers (APNs): 053-0010-048, -049, and -076.

Sacramento County Regional Sanitation District (SCRSD)
APNs: 119-0090-014 (portion), 119-0080-001 and 119-0080-029 (portion).

Land Use Designations: The existing general plan land use and zoning designations for the project site are discussed in further detail below.

2035 General Plan

The current 2035 General Plan land use designations for the project site include Traditional Neighborhood (High, Medium, and Low), Traditional Center, Public/Quasi-Public, and Parks and Recreation.

The Traditional Neighborhood designation is defined as follows:

> *Traditional neighborhoods and the characteristics associated with them are highly desirable and expected to be highly sought after in the future. Many existing traditional neighborhoods are well-established and generally well-preserved; thus, changes to these areas will be relatively modest. Conversely some traditional neighborhoods, such as Oak Park, have many of the key formal characteristics of a traditional neighborhood, but have declined over time. These neighborhoods will experience more substantial change related to rehabilitation of units, infill development, and streetscape improvements. Changes proposed in these*

traditional neighborhoods will focus on preserving and restoring the quality of such areas by protecting and enhancing features such as scale and quality of housing, neighborhood character, and housing choice. It should be noted that Traditional Neighborhoods contain a wide diversity of development and thus some houses and buildings fall outside the allowed development standards. The City expects to retain this diversity. It is also anticipated that future new development areas will be planned with attributes that emulate the traditional neighborhood form and character and include adequate neighborhood-serving uses.

The Traditional Center designation is defined as follows:

Sacramento's traditional centers are a critical element of sustainable, walkable traditional neighborhoods that provide essential daily services within walking distance of surrounding residents. Infill development in areas designated as Traditional Center can create additional character and spatial definition. Residential and office uses can also be integrated into traditional centers to create a more balanced mix of uses and additional job opportunities for surrounding residents. Sidewalks integrated with pedestrian amenities can also provide an active pedestrian component and physical connections to adjoining neighborhoods.

The Public/Quasi-Public designation is defined as follows:

The Public/Quasi-Public designation describes areas with unique uses and typically unique urban forms. These areas host community services and/or educational, cultural, administrative, and recreational facilities often located within a well-landscaped setting. Most of these areas provide a public function and as a result, existing buildings often include a significant amount of surface parking lots and structured parking to accommodate users of the facilities. It should be noted that many Public/Quasi-Public uses are also allowed and are located in other land use and urban form designations.

The Parks and Recreation designation is defined as follows:

The designation includes greenways, large developed parks, and other areas primarily used for recreation (smaller parks and recreation facilities are included as elements within other urban form types). Typically, these areas are characterized by a high degree of open area, and a limited number of buildings. Recreational facilities frequently include sports fields, playground equipment, picnic areas, sitting areas, concession businesses, open turf and natural areas, trails, and golf courses. Examples of this designation in Sacramento include regional parks, such as Granite and William Land, and the Bing Maloney Golf Course.

Zoning (Title 17, City Code, Planning and Development Code)

The project site is currently zoned Single-Family Alternative (R-1A), Standard Single Family (R-1), and Agricultural (A). As defined in Chapter 17 of the Sacramento City Code, the purpose of the R-1 zone is to accommodate low-density residential uses composed of single-unit detached residences and duplex dwellings on corner lots, and the R-1A zone is intended to permit single-unit or duplex dwellings, whether attached or detached, at a higher density than is permitted in

the R-1 zone. The purpose of the A zone is to restrict the use of land primarily to agriculture and farming. The A district is also considered an open space zone.

MTP/SCS Community Type

The 2020 MTP/SCS identifies the project site as within the "Blue Line Station Areas-Meadowview to CRC" Center/Corridor Community designation. According to the MTP/SCS, almost two-thirds of the Sacramento region's new housing and 85 percent of its job growth is expected to occur in Center and Corridor Communities and Established Communities. Center and Corridor Communities typically have more compact development patterns, a greater mix of uses, and a wider variety of transportation infrastructure compared to the rest of the region. Some have frequent transit service, either bus or rail, and all have pedestrian and bicycling infrastructure that is more supportive of walking and bicycling than other Community Types.

Surrounding Land Uses and Setting: The project site is located south of the Detroit Boulevard Neighborhood and west of the Mesa Grande Neighborhood, separated by Sacramento Regional Transit's (SacRT) Blue Line light rail route and Morrison Creek (see Figure 1 and Figure 2). The south boundary of the project site is Cosumnes River Boulevard; the west boundary is the extension of 24th Avenue beyond which is the Delta Shores community; the east boundary is along Morrison Creek; and the north boundary is irregular, abutting City-owned 102-acre vacant property and the Detroit Boulevard Neighborhood in the northeast corner of the project site. The Morrison Creek SacRT Station is located on the eastern portion of the project site.

Description of Project: The Stone Beetland Project would include development of the project site with approximately 1,163 residential units spread between four villages: the Transit Village, North Village, Central Village, and West Village (see Figure 3 and Figure 4).The Transit Village would be mixed-use, with both high-density residential and commercial uses. The remaining villages would include primarily residential land uses. Each of the four villages would be designed with a park or open space as a central focal element. The proposed project includes parks, landscape corridors, open spaces, landscape lots, and drainage basins. The proposed project would include construction of an internal roadway system, with primary site access provided by Cosumnes River Boulevard. Implementation of the proposed project would require City approval of a General Plan Amendment, Rezone, PUD Establishment/Schematic Plan, Master Tentative Parcel Map, Tentative Subdivision Map, Public Facilities Financing Plan, and Development Agreement. Further information related to each component of the project is provided below.

Proposed Land Uses

The Transit Village would be located in the eastern portion of the project site, adjacent to the Morrison Creek SacRT Station, and would consist of 6.1 acres of commercial uses and 711 residential units among three high-density residential communities. The North Village would be located in the northeastern corner of the project site and consist of two low-density residential communities with a total of 90 units, open space along the northern and western boundaries of the North Village, and a park along the northern boundary. The West Village would be located in the western portion of the project site and consist of one low-density residential community with 100 units, open space along the northern site boundary, and a park/drainage basin.

Figure 1
Regional Project Location

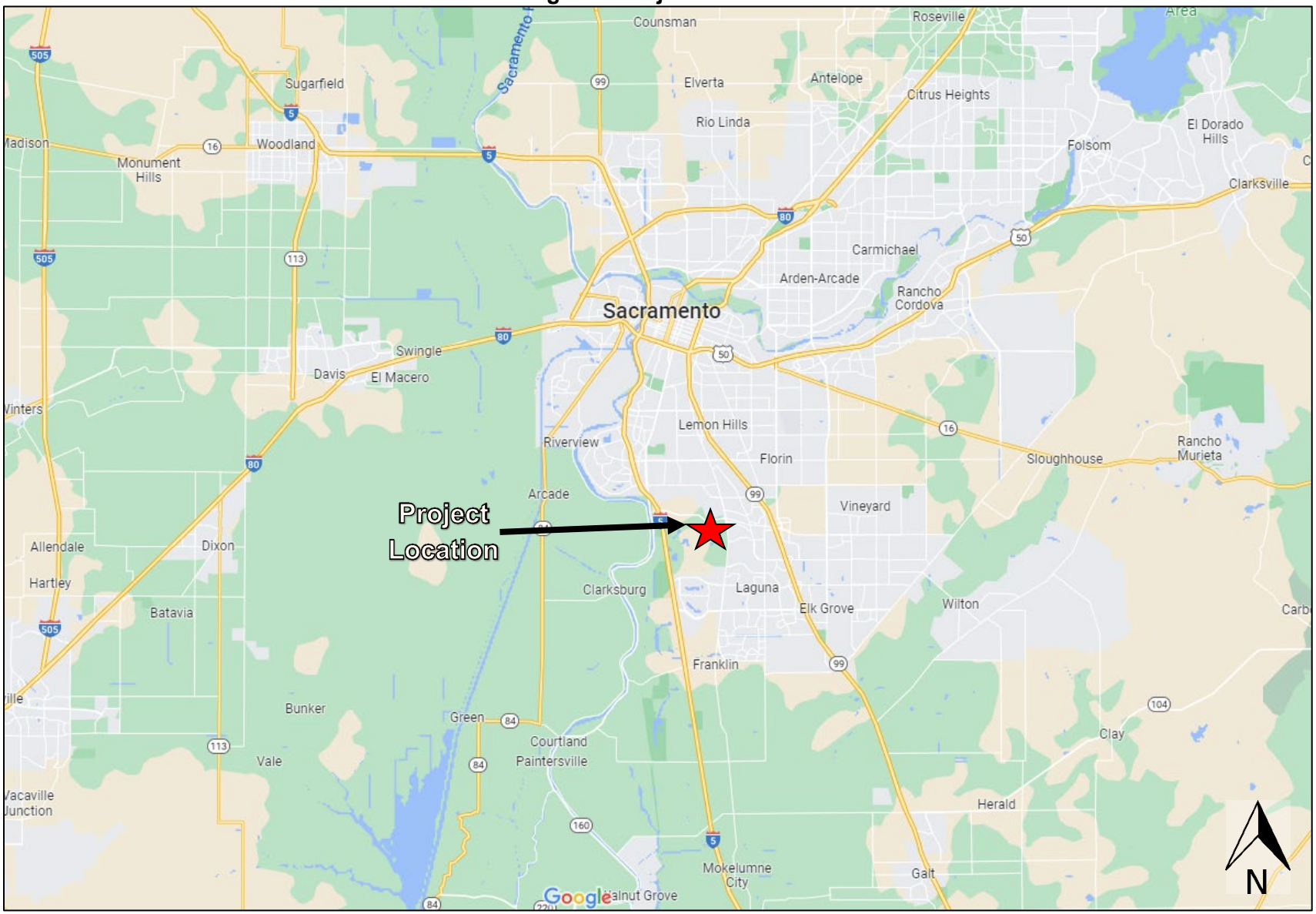


Figure 2
Project Vicinity Map



Figure 3
Villages Layout

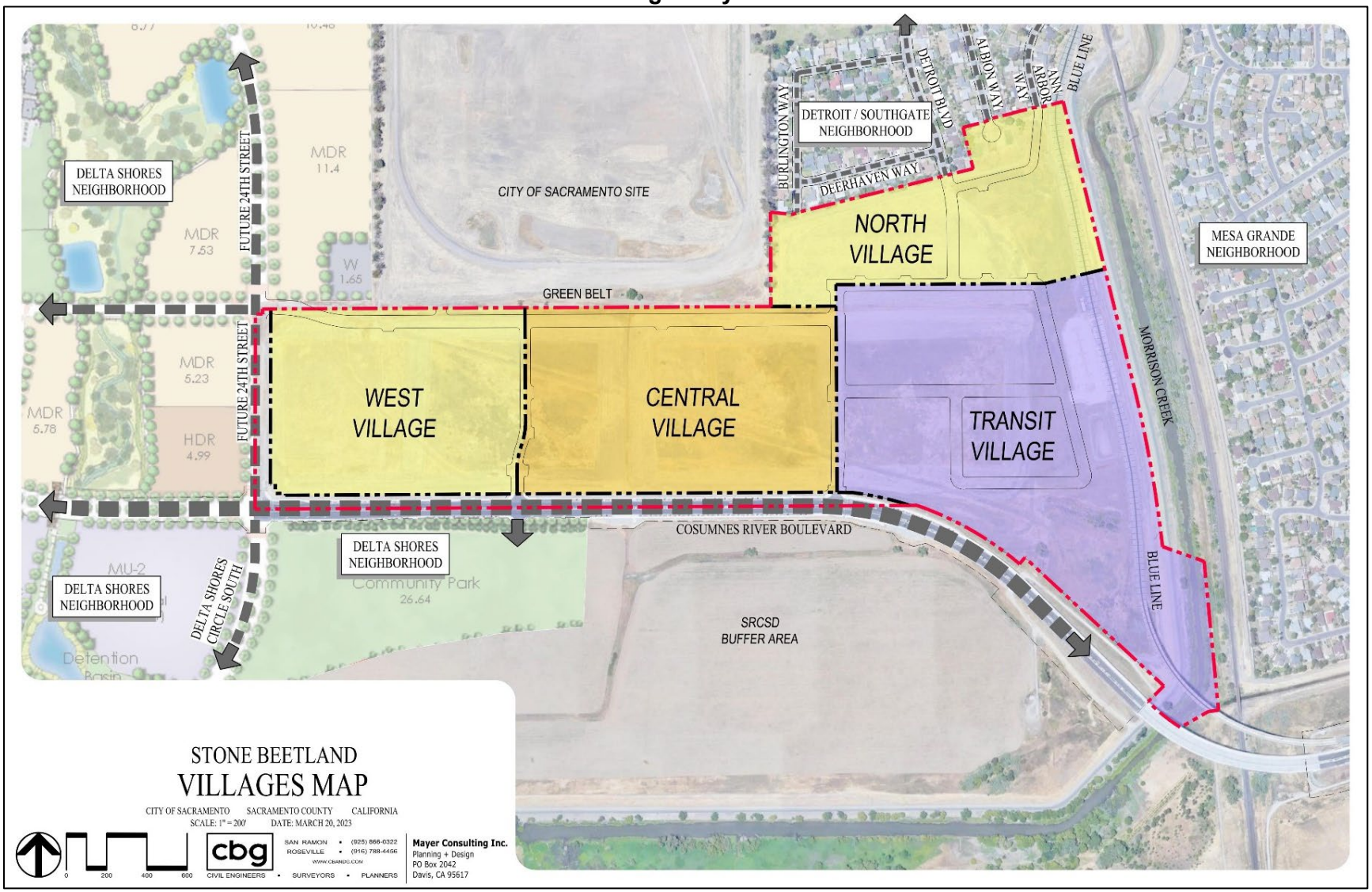
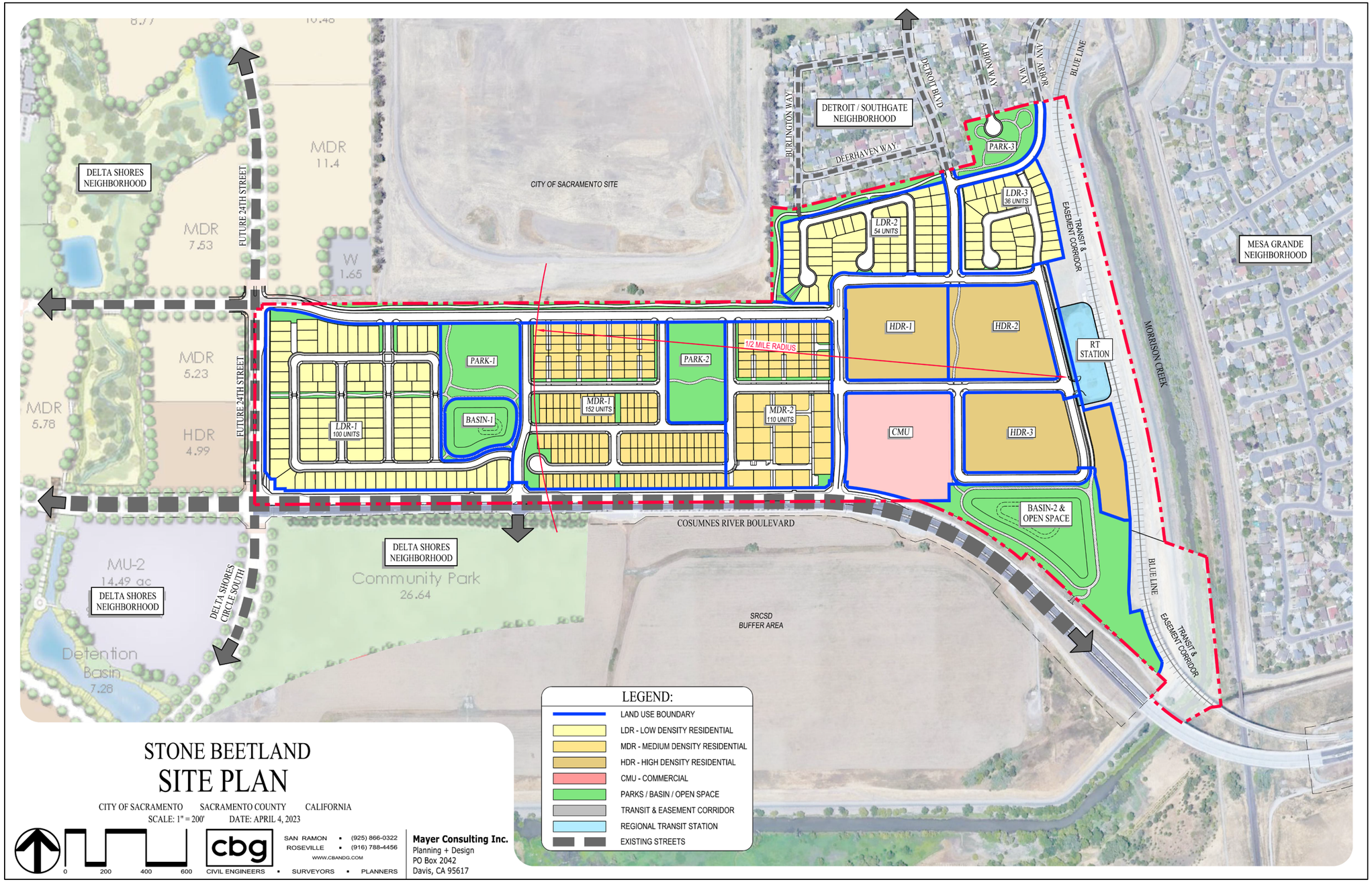


Figure 4
Site Plan



The Central Village would be located between the West Village and the Transit Village and consist of two medium-density residential communities with a total of 262 units, open space along the northern site boundary, and a centrally located park. The Central Village is anticipated to include a variety of lot types, such as compact detached lots, half-plexes, I-courts, courtyard homes, bungalows, condominiums, and townhomes.

A Land Use Summary is included as Table 1. The overall net density of the project site would not be less than 20 units per net residential acre, and the total number of dwelling units in the West Village would not exceed 100 units.

Development Standards

According to the PUD Guidelines for the project, with the exception of the Central Village, all development within the project site would conform to existing zoning and development standards as follows:

1. West Village LDR: R1-A (PUD) Single Unit/ Duplex Dwelling Zone;
2. North Village LDR: R1-A (PUD) Single Unit/ Duplex Dwelling Zone;
3. Transit Village HDR: R-4 (PUD) Multi Unit Zone; and
4. Transit Village CMU: C-1 (PUD) Limited Commercial Zone.

The underlying zone for the Central Village is R-2A (PUD); however, the anticipated housing products may not exactly conform to the minimum area, dimensions, and setback requirements of the R-2A zone. In order to provide the flexibility needed to address innovative housing products, all necessary deviations to the R-2A development standards within the Central Village (R-2A zone) will be determined through the site plan and design review process or as determined by the Stone Beetland PUD Guidelines.

Site Access and Circulation

Primary vehicle access to the project site would be provided from three new roadways off of Cosumnes River Boulevard, two of which would be signalized. The westernmost access roadway would be a northerly extension of Delta Shores Circle and would constitute the future 24th Street. As part of the project, the existing Cosumnes River Boulevard would be improved to include a landscaped area and Class 1 multiuse trail along the project frontage. Access would also be provided to the site through the Detroit Boulevard Neighborhood, through southerly extensions of Ann Arbor Way and Detroit Boulevard. A Class 1 multiuse trail would be installed along the eastern side of the Detroit Boulevard extension, providing pedestrian and bicycle access to the Morrison Creek light rail SacRT Station, located on the eastern portion of the project site. This Class 1 multiuse trail would also extend west along the northern boundary of the project, providing a connection to future 24th Street.

The internal roadway and circulation plan would provide connectivity between the four villages, as well as access to north, west, and south arterial roadways surrounding the project site (see Figure 5). The configuration of streets is based on a grid pattern. Complete streets with separated five-foot-wide sidewalks and Class II bike lanes would be implemented throughout the project site. Additionally, a 16-foot-wide Class I multi-use trail would extend through the project site, as shown in Figure 5.

Utilities

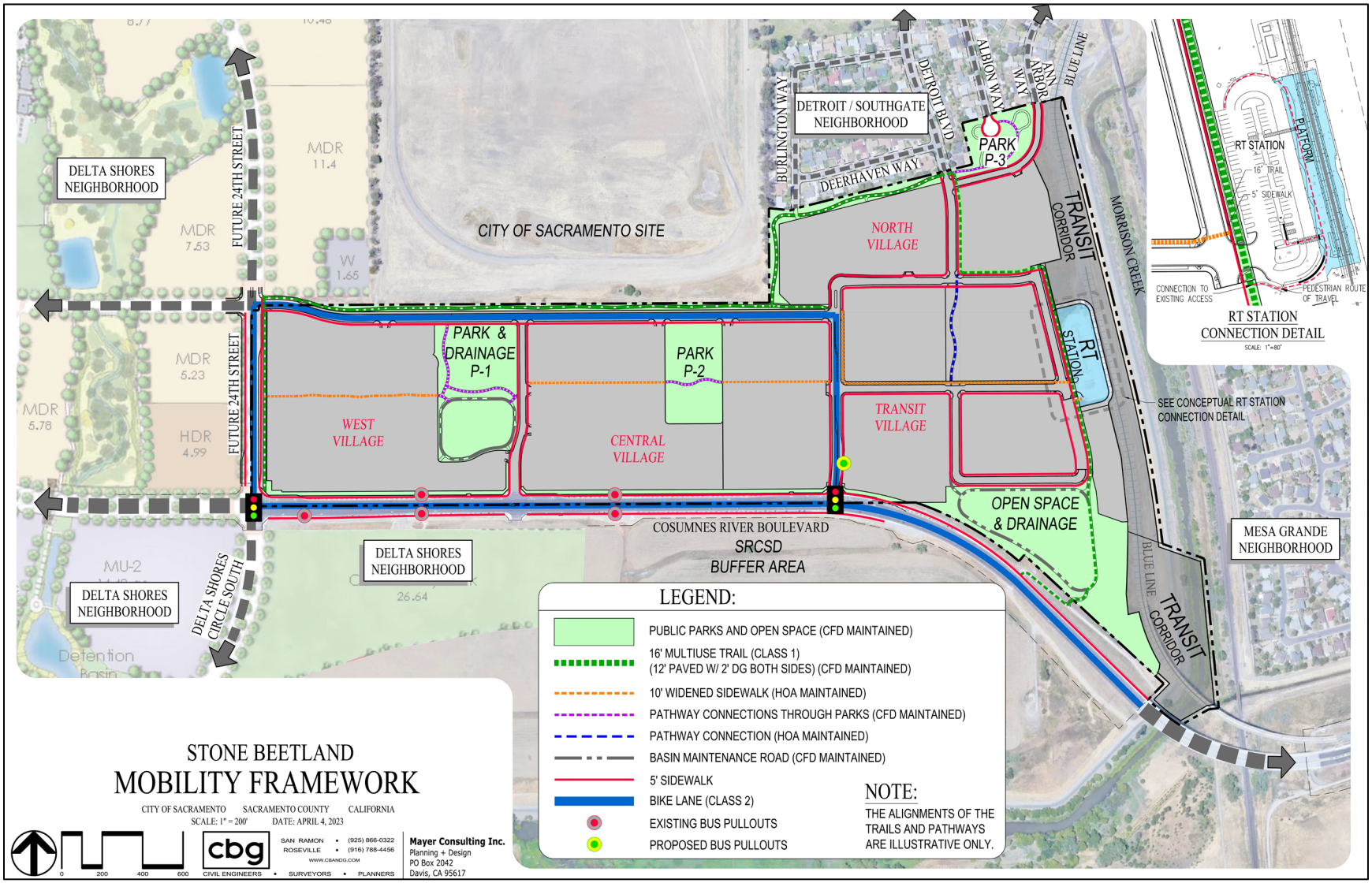
Details regarding the provision of water, sewer, and stormwater services for the proposed project are included below.

Table 1
Land Use Summary

Zoning Designation	*Max Density*	*Density Range*	*PUD Land Use*	*PUD Density Range*	*Acres*	*Target DU*	*Net Acres*	*Net Density*	*% of DUs*
R1-A (PUD)	2/lot	8-36	LDR-1	8.0 – 17.0	17.6	100[1]	11.9	8.4	
R1-A (PUD)	2/lot	8-36	LDR-2	8.0 – 17.0	7.5	54	5.7	9.5	
R1-A (PUD)	2/lot	8-36	LDR-3	8.0 – 17.0	5.1	36	3.7	9.7	
			LDR SUBTOTAL:		**30.2**	**190[2]**	**21.3**	**8.9**	16.4%
R2-A(PUD)	17	8-36	MDR-1	8.0 – 17.0	15.1	152	10.0	15.2	
R2-A(PUD)	17	8-36	MDR-2	8.0 – 17.0	9.9	110	7.5	14.8	
			MDR SUBTOTAL:		**25.0**	**262[2]**	**17.5**	**15.0**	22.5%
R-4 (PUD)	60	33-110	HDR-1	17.0 - 45.0	5.4	241	5.4	44.6	
R-4 (PUD)	60	33-110	HDR-2	17.0 - 45.0	5.3	198	4.6	43.0	
R-4 (PUD)	60	33-110	HDR-3	17.0 - 45.0	7.2	272	6.5	41.8	
			HDR SUBTOTAL:		**17.9**	**711[2]**	**16.5**	**43.1**	61.1%
			RESIDENTIAL TOTAL:		**73.1**	**1,163[2]**	**55.3**	**21.0**	100%
C-1 (PUD)			CMU	-	6.1		6.1		
			CMU SUBTOTAL:		**6.1**		**6.1**		
PQP (PUD)			PQP	-	10.4		10.4		
			PQP SUBTOTAL:		**10.4**		**10.4**		
R1-A (PUD)			P	-	9.1		9.1		
R1-A (PUD)			OS/G	-	6.1		6.1		
A-1			OS/G- SCRSD	-	6.6		6.6		
R1-A (PUD)			OS/B	-	3.8		3.8		
A-1			OS/B- SCRSD	-	7.4		7.4		
			LANDSCAPE SUBTOTAL:		**33.0**		**33.0**		
			R-EXT[3]	-	4.7		4.7		
			R-INT[3]	-	13.3		13.3		
			ROADWAYS SUBTOTAL:		**18.1**		**18.1**		
			PROJECT TOTAL:		**140.7**		**122.9**		

Notes:
1. LDR-1 is capped at 100 maximum dwelling units.
2. In order to achieve the minimum density of 20.0 units per net acre per the Transit Priority Project policy, total of LDR, MDR and HDR must achieve 1,106 units, as a minimum.
3. R-Ext and R-Int are roadway right of ways either “external” (CRB & 24th) or “internal” to the project.

Figure 5
Site Access and Circulation



Water

The project would connect to the City of Sacramento's potable water system through a new network of distribution pipelines, services, and fire hydrants, throughout the project site (see Figure 6) for residential and landscaping purposes. The water system would connect into the water facilities planned within the Delta Shores development, immediately west of the project site; this would include a 24-inch diameter transmission main in both 24th Street and Cosumnes River Boulevard. The Delta Shores water system has been planned to provide capacity for the development of the Stone Beetland Project, as presented in the Delta Shores Water Master Plan, dated June 6, 2013.

Sanitary Sewer

The project would connect to the City of Sacramento's sanitary sewer system through a new network of collection pipelines, laterals and manholes (see Figure 6). The sewer system would convey wastewater from east to west, and would connect to the gravity 24-inch diameter pipeline planned in 24th Street. The 24-inch pipeline would convey the wastewater to the south, across Cosumnes River Boulevard, and into Sewer Sump 53. From Sewer Sump 53, an 18-inch diameter force main pipeline would convey flows to the east, approximately 10,000 linear feet along the south side of Cosumnes River Boulevard, to connect to the existing SCRSD Central Interceptor pipeline located in Franklin Boulevard. The off-site facilities would be constructed by the Delta Shores development and are part of the Delta Shores Finance Plan. The Delta Shores sanitary sewer system would provide capacity for the development of the Stone Beetland Project as presented in the Delta Shores Sewer Master Plan, dated July 23, 2014.

Stormwater

The project site is located within the City's Sump 89 watershed. Two existing stormwater lines bisect the project site: a 24-inch to 30-inch diameter pipeline that conveys excess runoff from the City 102-acre Property to the north, and a 27-inch to 42-inch diameter pipeline that conveys runoff from the Detroit Avenue Neighborhood. The existing pipelines convey runoff from north to south, across Cosumnes River Boulevard, and connect into Sump 89. Additional drainage facilities exist, including a basin, treatment swale, and culverts, that convey runoff from the SacRT Station to Sump 89. The sump consists of one 18-inch and three 42-inch welded steel pipes that penetrate the Morrison Creek levee and outfall into the creek.

As part of the proposed project, a new on-site stormwater system would be developed (see Figure 7). The existing pipelines bisecting the project site would be rerouted to include the proposed street framework. The western portion of the project site would have a new system of inlets and pipelines that would collect and convey stormwater runoff to a new multi-function basin facility located near the middle of the project site, in the West Village. The central basin would provide water quality treatment and detention for the western portion of the project site.

The eastern portion of the project would include a new system of inlets and pipelines that would collect and convey stormwater runoff to another basin facility, located in the southeast corner of the project site and within the Transit Village (currently the SCRSD properties). The off-site runoff from the Detroit Street Neighborhood would be rerouted to this basin. The basin would provide water quality treatment and detention for the eastern portion of the project site and for the existing runoff flows from the Detroit Street Neighborhood.

Figure 6
Preliminary Utility Plan

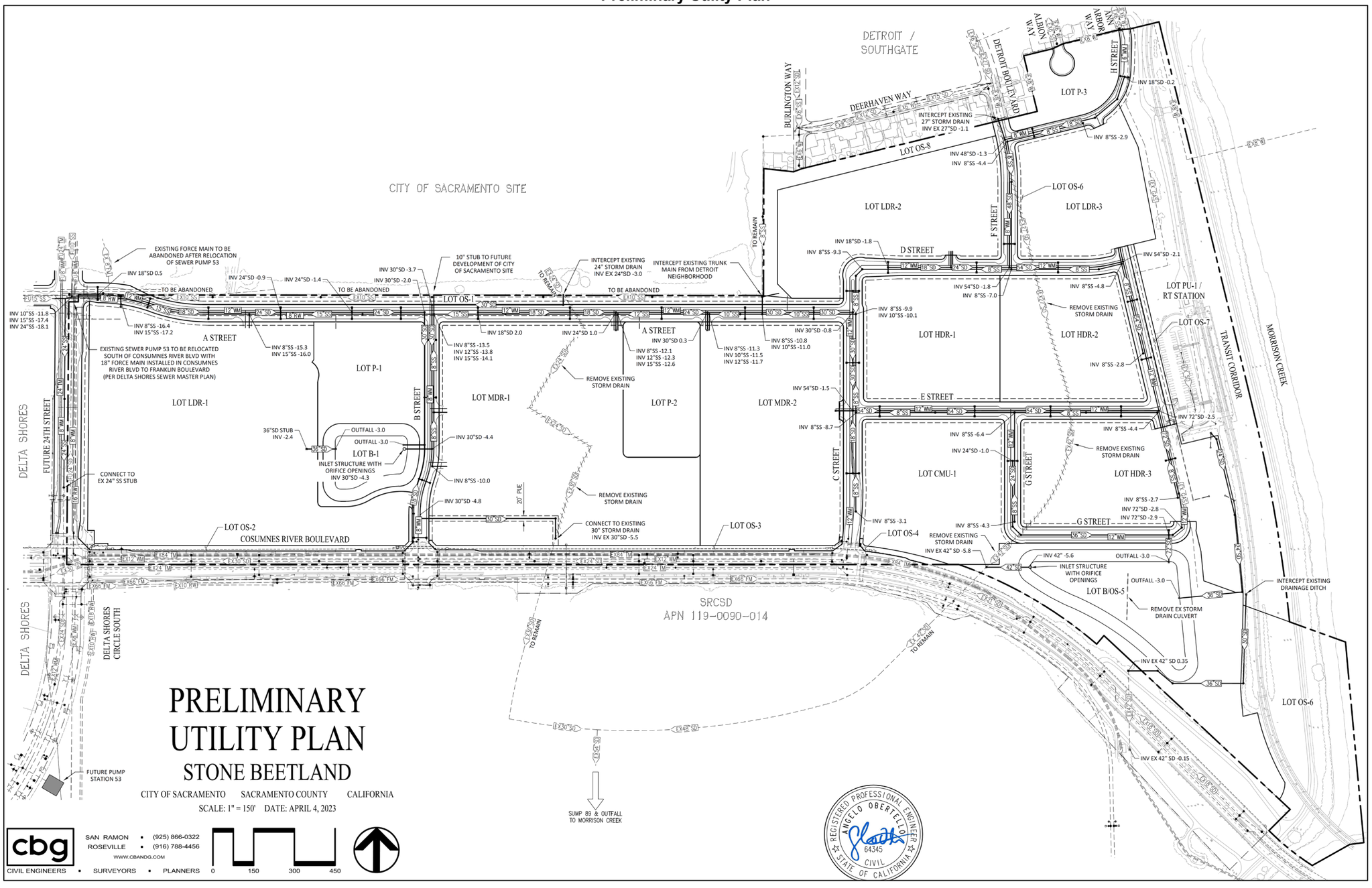
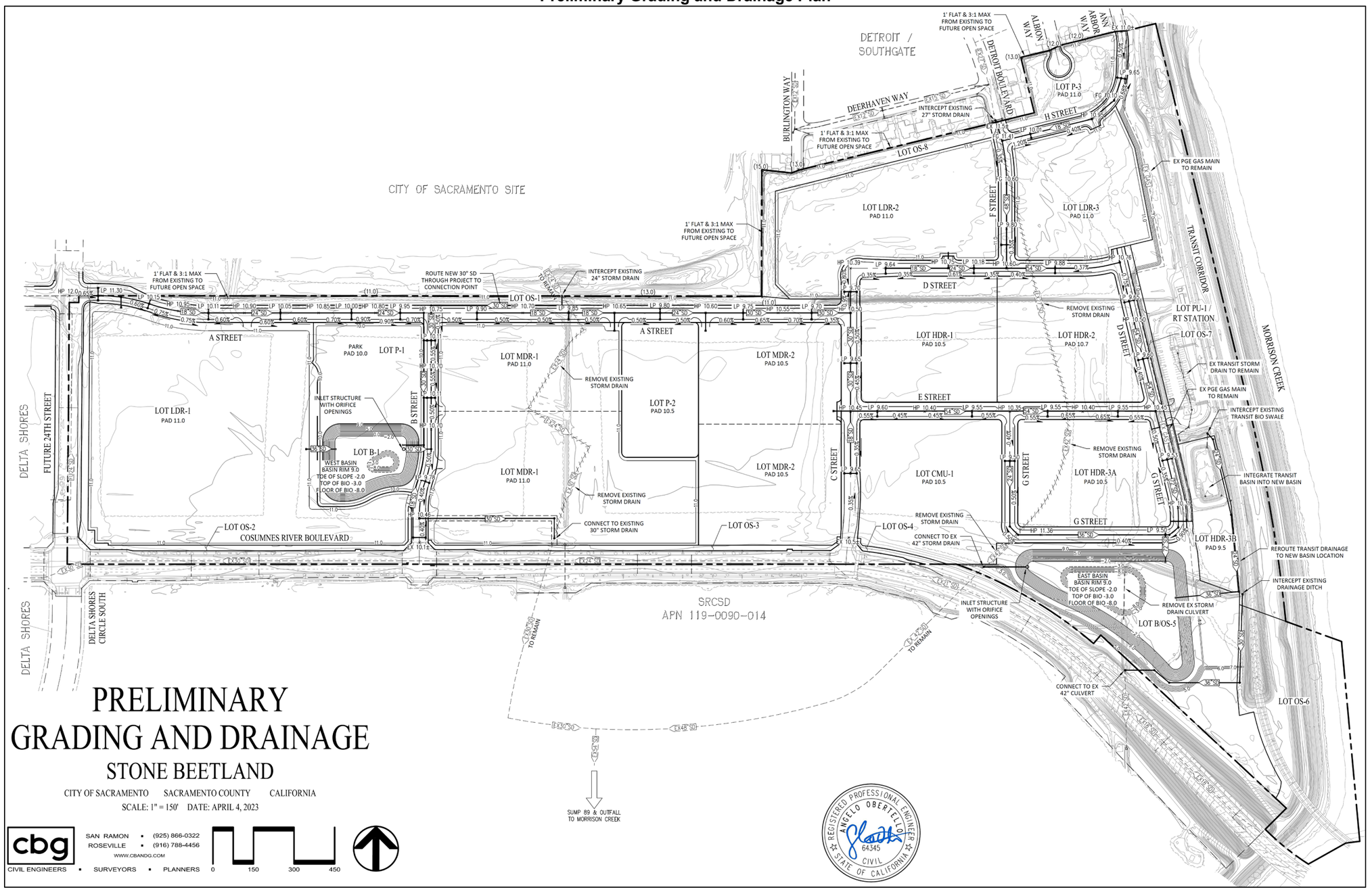


Figure 7
Preliminary Grading and Drainage Plan



PRELIMINARY GRADING AND DRAINAGE

STONE BEETLAND

CITY OF SACRAMENTO SACRAMENTO COUNTY CALIFORNIA

SCALE: 1" = 150' DATE: APRIL 4, 2023

cbg
CIVIL ENGINEERS ▪ SURVEYORS ▪ PLANNERS
SAN RAMON ▪ (925) 866-0322
ROSEVILLE ▪ (916) 788-4456
WWW.CBANDG.COM

0 150 300 450

REGISTERED PROFESSIONAL ENGINEER
ANGELO OBERTELLO
64345
CIVIL
STATE OF CALIFORNIA

Both proposed basins would detain peak flows to ensure the downstream water surface elevations are not increased. The existing RT Station facilities, including the existing basin, would be relocated to integrate into the proposed larger basin in the southeast portion of the project site.

Requested Approvals for the Project

The requested project entitlements for Project implementation are as follows:

- Adoption of the CEQA SCEA IS;
- Adoption of the Mitigation Monitoring Program;
- General Plan Amendment;
- Rezone;
- Planned Unit Development (PUD) Establishment/Schematic Plan;
- Master Tentative Parcel Map;
- Tentative Subdivision Map;
- Public Facilities Financing Plan;
- Development Agreement;
- Tree Removal Permit; and
- Bicycle Master Plan Amendment.

General Plan Amendment

The proposed project includes a request to amend the current General Plan land use designations of the project site (excluding the SCRSD parcels) from Traditional Neighborhood (High, Medium, and Low), Traditional Center, Public/Quasi-Public, and Parks and Recreation to Traditional Neighborhood Medium, Parks and Recreation, Traditional Center, Urban Neighborhood Medium, and Public/Quasi Public, as shown in Figure 8.

Rezone

The proposed project includes a request to amend the current zoning districts of the project site (excluding the SCRSD parcels) from R-1-R, R-1A, and A to R-1A PUD, Multi-Family (R-2A) PUD, Limited Commercial (C-1) PUD, Multi-Family (R-4) PUD, and A, as shown in Figure 9.

PUD Establishment/Schematic Plan

As required by Section 17.452.040 of the City Code, development within a PUD shall not be approved until the City Council has adopted a schematic plan and development guidelines for the entire area subject to the PUD designation. The project applicant has prepared PUD Guidelines for the Stone Beetland project, which include development standards and design guidelines.

Master Tentative Parcel Map

As presented in Figure 10, the project site would be divided into 22 parcels, which generally correspond with the land uses proposed in the PUD Schematic Plan (refer to Figure 4).

Figure 8
General Plan Amendment

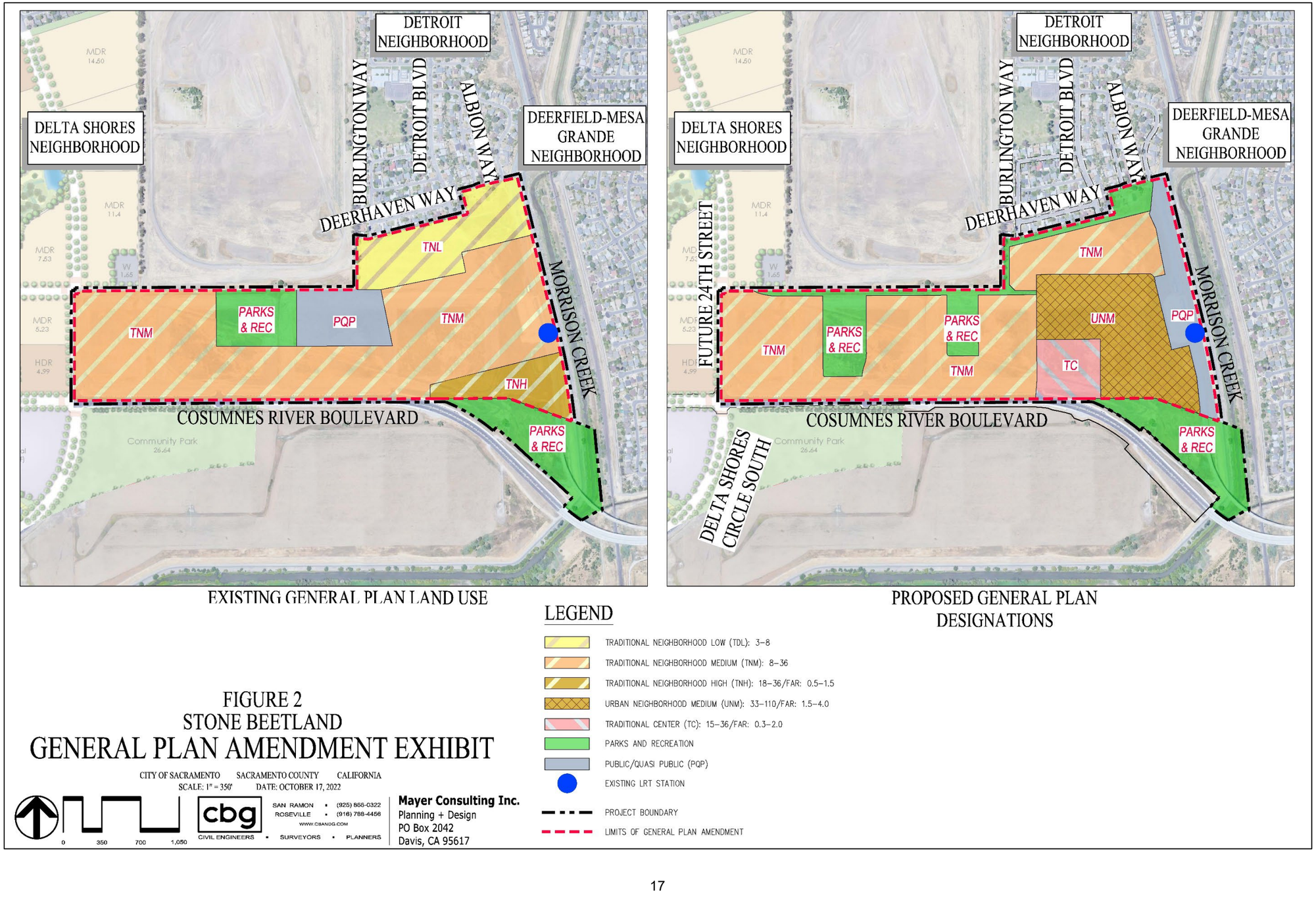


Figure 9
Rezone

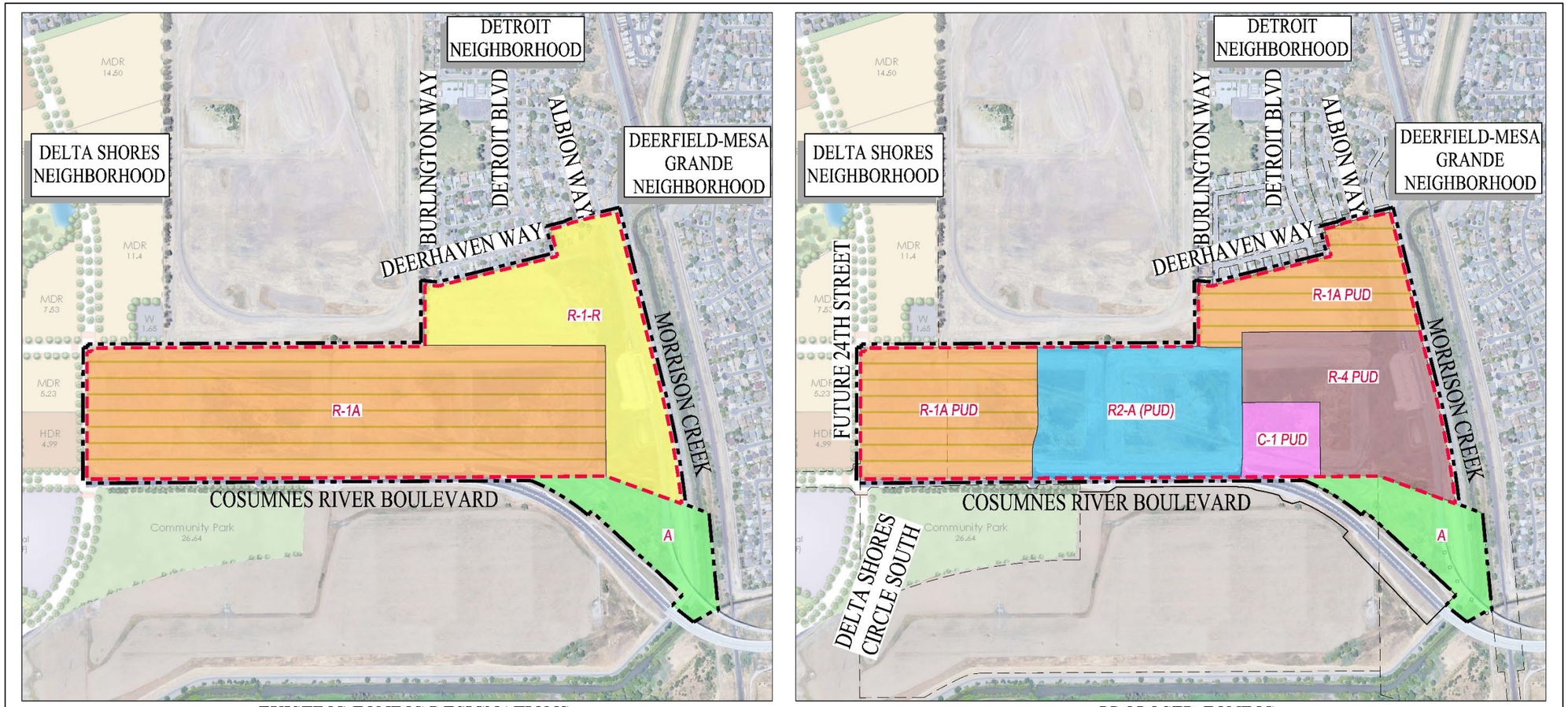
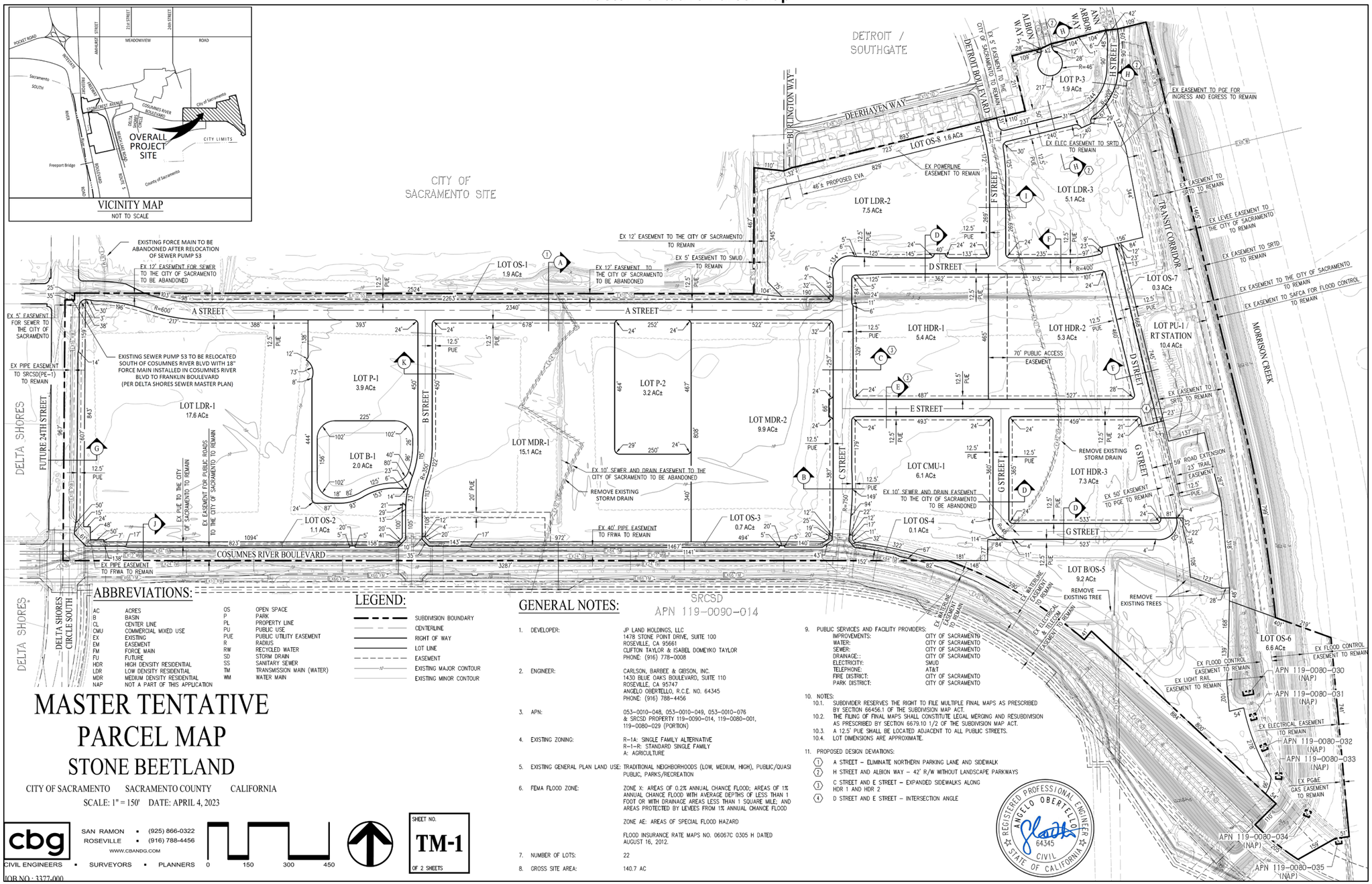


Figure 10
Master Tentative Parcel Map



ABBREVIATIONS:

AC	ACRES	OS	OPEN SPACE
B	BASIN	P	PARK
CL	CENTER LINE	PL	PROPERTY LINE
CMU	COMMERCIAL MIXED USE	PU	PUBLIC USE
EX	EXISTING	PUE	PUBLIC UTILITY EASEMENT
EM	EASEMENT	R	RADIUS
FM	FORCE MAIN	RW	RECYCLED WATER
FU	FUTURE	SD	STORM DRAIN
HDR	HIGH DENSITY RESIDENTIAL	SS	SANITARY SEWER
LDR	LOW DENSITY RESIDENTIAL	TM	TRANSMISSION MAIN (WATER)
MDR	MEDIUM DENSITY RESIDENTIAL	WM	WATER MAIN
NAP	NOT A PART OF THIS APPLICATION		

LEGEND:

- SUBDIVISION BOUNDARY
- CENTERLINE
- RIGHT OF WAY
- LOT LINE
- EASEMENT
- EXISTING MAJOR CONTOUR
- EXISTING MINOR CONTOUR

MASTER TENTATIVE PARCEL MAP
STONE BEETLAND

CITY OF SACRAMENTO SACRAMENTO COUNTY CALIFORNIA

SCALE: 1" = 150' DATE: APRIL 4, 2023

GENERAL NOTES:

1. DEVELOPER: JP LAND HOLDINGS, LLC
1478 STONE POINT DRIVE, SUITE 100
ROSEVILLE, CA 95661
CLIFTON TAYLOR & ISABEL DOMEYKO TAYLOR
PHONE: (916) 778-0008
2. ENGINEER: CARLSON, BARBEE & GIBSON, INC.
1430 BLUE OAKS BOULEVARD, SUITE 110
ROSEVILLE, CA 95747
ANGELO OBERTELLO, R.C.E. NO. 64345
PHONE: (916) 788-4456
3. APN: 053-0010-048, 053-0010-049, 053-0010-076 & SRCSD PROPERTY 119-0090-014, 119-0080-001, 119-0080-029 (PORTION)
4. EXISTING ZONING: R-1A: SINGLE FAMILY ALTERNATIVE
R-1-R: STANDARD SINGLE FAMILY
A: AGRICULTURE
5. EXISTING GENERAL PLAN LAND USE: TRADITIONAL NEIGHBORHOODS (LOW, MEDIUM, HIGH), PUBLIC/QUASI PUBLIC, PARKS/RECREATION
6. FEMA FLOOD ZONE: ZONE X: AREAS OF 0.2% ANNUAL CHANCE FLOOD; AREAS OF 1% ANNUAL CHANCE FLOOD WITH AVERAGE DEPTHS OF LESS THAN 1 FOOT OR WITH DRAINAGE AREAS LESS THAN 1 SQUARE MILE; AND AREAS PROTECTED BY LEVEES FROM 1% ANNUAL CHANCE FLOOD
ZONE AE: AREAS OF SPECIAL FLOOD HAZARD
FLOOD INSURANCE RATE MAPS NO. 06067C 0305 H DATED AUGUST 16, 2012.
7. NUMBER OF LOTS: 22
8. GROSS SITE AREA: 140.7 AC
9. PUBLIC SERVICES AND FACILITY PROVIDERS:

IMPROVEMENTS:	CITY OF SACRAMENTO
WATER:	CITY OF SACRAMENTO
SEWER:	CITY OF SACRAMENTO
DRAINAGE::	CITY OF SACRAMENTO
ELECTRICITY:	SMUD
TELEPHONE:	AT&T
FIRE DISTRICT:	CITY OF SACRAMENTO
PARK DISTRICT:	CITY OF SACRAMENTO

10. NOTES:
10.1. SUBDIVIDER RESERVES THE RIGHT TO FILE MULTIPLE FINAL MAPS AS PRESCRIBED BY SECTION 66456.1 OF THE SUBDIVISION MAP ACT.
10.2. THE FILING OF FINAL MAPS SHALL CONSTITUTE LEGAL MERGING AND RESUBDIVISION AS PRESCRIBED BY SECTION 6679.10 1/2 OF THE SUBDIVISION MAP ACT.
10.3. A 12.5' PUE SHALL BE LOCATED ADJACENT TO ALL PUBLIC STREETS.
10.4. LOT DIMENSIONS ARE APPROXIMATE.
11. PROPOSED DESIGN DEVIATIONS:
(1) A STREET – ELIMINATE NORTHERN PARKING LANE AND SIDEWALK
(2) H STREET AND ALBION WAY – 42' R/W WITHOUT LANDSCAPE PARKWAYS
(3) C STREET AND E STREET – EXPANDED SIDEWALKS ALONG HDR 1 AND HDR 2
(4) D STREET AND E STREET – INTERSECTION ANGLE

REGISTERED PROFESSIONAL ENGINEER ANGELO OBERTELLO 64345 CIVIL STATE OF CALIFORNIA

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JOB NO: 3377-000

0 150 300 450

SHEET NO. TM-1 OF 2 SHEETS

Tentative Subdivision Maps

As presented in Figure 11, Lots LDR-1, LDR-2, LDR-3, MDR-1, and MDR-2 would be further subdivided into residential lots.

Public Facilities Financing Plan

The project includes an update to the Delta Shores Public Facilities Financing Plan (PFFP). The PFFP sets forth a strategy to finance the backbone infrastructure and other public facilities required to serve the proposed land uses.

Development Agreement

The proposed project includes a Development Agreement between the City and the applicant to assure the City that the proposed project would be completed in compliance with the plans submitted by the applicant and assure the applicant of vested rights to develop the project.

Tree Removal Permit

Pursuant to Sacramento City Code (SCC) 12.56, the removal of private protected trees requires a tree removal permit. The project will necessitate removal of private protected trees, and thus, a tree removal permit is required.

Bicycle Master Plan Amendment

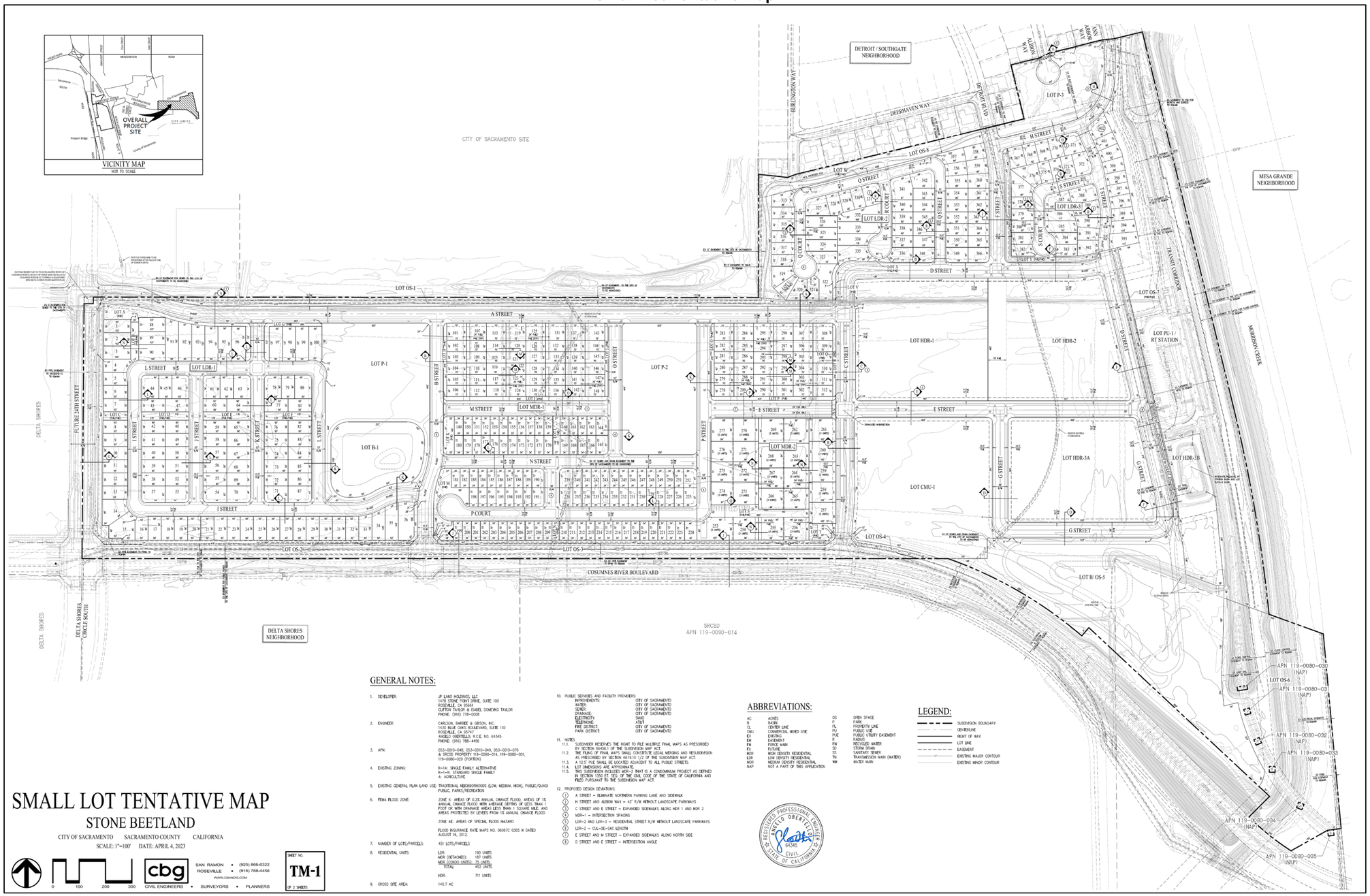
The proposed project necessitates an amendment to the City of Sacramento Bicycle Master Plan to add the proposed Class 1 multiuse trails to the Plan.

Previous Relevant Environmental Analysis: Development within the immediate area was assumed as part of the SACOG 2020 MTP/SCS and analyzed as part of the cumulative conditions assumed in the MTP/SCS EIR (SCH # 2019049139) certified November 18, 2019 and in the Sacramento 2035 General Plan Master EIR (SCH # 2012122006) adopted March 3, 2015.

Sustainable Communities and Transit Priority Projects: The Sustainable Communities and Climate Protection Act of 2008 (Senate Bill [SB] 375) was passed by the California Senate with the goal of reducing greenhouse gas emissions through coordination between transportation and land use planning, fostering environmentally sustainable communities. SACOG has applied the goals of SB 375 to regional planning through the implementation of the MTP/SCS.

One of the key goals of SB 375 and the MTP/SCS is the reduction of greenhouse gas (GHG) emissions from passenger vehicles. To achieve such reductions, the MTP/SCS seeks to improve connections between the housing stock and employment centers within the planning area through compact and mixed use developments. The MTP/SCS pursues this strategy by identifying High Frequency Transit Areas (HFTAs), which are defined as areas within one-half mile of a light rail station stop or a high-quality transit corridor with bus service intervals of 15 minutes or less. Businesses or residences developed or densified within HFTAs would afford commuters convenient access to alternative means of transportation.

Figure 11
Small Lot Tentative Map



GENERAL NOTES:

1. DEVELOPER: JP LAND HOLDINGS, LLC.
1478 STONE POINT DRIVE, SUITE 100
ROSEVILLE, CA 95661
CLIFTON TAYLOR & ISABEL DOWLING TAYLOR
PHONE: (916) 778-0008

2. ENGINEER: CARLSON, BARBEE & GIBSON, INC.
1470 BLUE OAKS BOULEVARD, SUITE 110
ROSEVILLE, CA 95747
ANGELO OBERTELLO, R.C.E. NO. 64345
PHONE: (916) 788-4456

3. APN: 053-0010-048, 053-0010-049, 053-0010-076
& SRCSD PROPERTY 119-0090-014, 119-0080-001, 119-0080-029 (PORTION)

4. EXISTING ZONING: R-1A: SINGLE FAMILY ALTERNATIVE
R-1-SR: STANDARD SINGLE FAMILY
A: AGRICULTURE

5. EXISTING GENERAL PLAN LAND USE: TRADITIONAL NEIGHBORHOODS (LOW, MEDIUM, HIGH), PUBLIC/QUASI PUBLIC, PARKS/RECREATION

6. FEMA FLOOD ZONE: ZONE X: AREAS OF 0.2% ANNUAL CHANCE FLOOD; AREAS OF 1% ANNUAL CHANCE FLOOD WITH AVERAGE DEPTHS OF LESS THAN 1 FOOT OR WITH DRAINAGE AREAS LESS THAN 1 SQUARE MILE; AND AREAS PROTECTED BY LEVEES FROM 1% ANNUAL CHANCE FLOOD
ZONE AE: AREAS OF SPECIAL FLOOD HAZARD
FLOOD INSURANCE RATE MAPS NO. 06067C 0305 H DATED AUGUST 16, 2012.

7. NUMBER OF LOTS/PARCELS: 451 LOTS/PARCELS

8. RESIDENTIAL UNITS:

LDR:	190 UNITS
MDR (DETACHED):	187 UNITS
MDR (CONDO UNITS):	75 UNITS
TOTAL:	452 UNITS
HDR:	711 UNITS

9. GROSS SITE AREA: 142.7 AC

10. PUBLIC SERVICES AND FACILITY PROVIDERS:

IMPROVEMENTS:	CITY OF SACRAMENTO
WATER:	CITY OF SACRAMENTO
SEWER:	CITY OF SACRAMENTO
SCHOOLS:	CITY OF SACRAMENTO
ELECTRICITY:	SMUD
TELEPHONE:	AT&T
FIRE DISTRICT:	CITY OF SACRAMENTO
PARK DISTRICT:	CITY OF SACRAMENTO

11. NOTES
11.1. SUBDIVIDER RESERVES THE RIGHT TO FILE MULTIPLE FINAL MAPS AS PRESCRIBED BY SECTION 66456.1 OF THE SUBDIVISION MAP ACT.
11.2. THE FILING OF FINAL MAPS SHALL CONSTITUTE LEGAL MERGING AND RESUBDIVISION AS PRESCRIBED BY SECTION 66479.10 1/2 OF THE SUBDIVISION MAP ACT.
11.3. A 12.5' PUE SHALL BE LOCATED ADJACENT TO ALL PUBLIC STREETS.
11.4. LOT DIMENSIONS ARE APPROXIMATE.
11.5. THIS SUBDIVISION INCLUDES MDR-2 THAT IS A CONDOMINIUM PROJECT AS DEFINED IN SECTION 1350 ET. SEQ. OF THE CIVIL CODE OF THE STATE OF CALIFORNIA AND FILED PURSUANT TO THE SUBDIVISION MAP ACT.

12. PROPOSED DESIGN DEVIATIONS:
1. A STREET – ELIMINATE NORTHERN PARKING LANE AND SIDEWALK
2. H STREET AND ALBION WAY – 42' R/W WITHOUT LANDSCAPE PARKWAYS
3. C STREET AND E STREET – EXPANDED SIDEWALKS ALONG MDR 1 AND MDR 2
4. MDR-1 – INTERSECTION SPACING
5. LDR-2 AND LDR-3 – RESIDENTIAL STREET R/W WITHOUT LANDSCAPE PARKWAYS
6. LDR-2 – CUL-DE-SAC LENGTH
7. E STREET AND M STREET – EXPANDED SIDEWALKS ALONG NORTH SIDE
8. D STREET AND E STREET – INTERSECTION ANGLE

ABBREVIATIONS:

AC	ACRES	OS	OPEN SPACE
B	BASIN	P	PARK
CL	CENTER LINE	PL	PROPERTY LINE
CMU	COMMERCIAL MIXED USE	PU	PUBLIC USE
EX	EXISTING	PUE	PUBLIC UTILITY EASEMENT
EM	EASEMENT	R	RADIUS
FM	FORCE MAIN	RW	RECYCLED WATER
FU	FUTURE	SD	STORM DRAIN
HDR	HIGH DENSITY RESIDENTIAL	SS	SANITARY SEWER
LDR	LOW DENSITY RESIDENTIAL	TW	TRANSMISSION MAIN (WATER)
MDR	MEDIUM DENSITY RESIDENTIAL	WM	WATER MAIN
NAP	NOT A PART OF THIS APPLICATION		

LEGEND:

- SUBDIVISION BOUNDARY
- CENTERLINE
- RIGHT OF WAY
- LOT LINE
- EASEMENT
- EXISTING MAJOR CONTOUR
- EXISTING MINOR CONTOUR

SMALL LOT TENTATIVE MAP

STONE BEETLAND

CITY OF SACRAMENTO SACRAMENTO COUNTY CALIFORNIA

SCALE: 1"=100' DATE: APRIL 4, 2023

0 100 200 300

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ROSEVILLE • (916) 788-4456
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SHEET NO. **TM-1** OF 2 SHEETS

REGISTERED PROFESSIONAL ENGINEER ANGELO OBERTELLO 64345 CIVIL STATE OF CALIFORNIA

Greater use of alternative transportation would lead to a reduction in passenger vehicle use, and thus help SACOG meet the GHG emission reduction goals imposed by SB 375. Additionally, the MTP/SCS was itself the subject of a Program EIR, which analyzed the potential environmental impacts that could result from the implementation of the MTP/SCS. The MTP/SCS encouraged growth within HFTAs and, thus, the MTP/SCS EIR analyzed potential environmental impacts that could result from such growth. In accordance with CEQA Guidelines, Section 15168, many of the environmental impacts that could occur due to approval of projects which are consistent with the MTP/SCS have already been analyzed in the MTP/SCS EIR.

SB 375 Streamlining of Transit Priority Projects

As discussed earlier, the MTP/SCS seeks to achieve the GHG reductions required by SB 375 for the planning area. Therefore, projects which are consistent with the MTP/SCS would also be consistent with SB 375, and would thus qualify for the CEQA streamlining benefits included in SB 375. Because projects that are consistent with the MTP/SCS and SB 375 would help to achieve an overall environmental goal of reducing GHG emissions, such projects are not required to discuss the following environmental impact areas:

- Aesthetics;
- Growth-inducing impacts; and
- Project specific or cumulative impacts from cars and light trucks generated by the project on GHG emissions or the regional roadway network.

In order for projects to qualify for the CEQA streamlining, the project must be shown to be consistent with the MTP/SCS.

SCEA Criteria: The following information demonstrates that the project is a qualified Transit Priority Project pursuant to the requirements of PRC Section 21155:

Public Resources Code 21155(b)

Under PRC Section 21155(b), a project must meet the following criteria to qualify as a Transit Priority Project:

(1) contain at least 50 percent residential use, based on total building square footage and, if the project contains between 26 percent and 50 percent nonresidential uses, a floor area ratio of not less than 0.75;
(2) provide a minimum net density of at least 20 dwelling units per acre; and
(3) be within one-half mile of a major transit stop or high-quality transit corridor included in a regional transportation plan. A major transit stop is as defined in PRC Section 21064.3, except that, for purposes of this section, it also includes major transit stops that are included in the applicable regional transportation plan. For purposes of this section, a high-quality transit corridor means a corridor with fixed route bus service with service intervals no longer than 15 minutes during peak commute hours. A project shall be considered to be within one-half mile of a major transit stop or high-quality transit corridor if all parcels within the project have no more than 25 percent of their area farther than one-half mile from the stop or corridor and if not more than 10 percent of the residential units or 100 units, whichever is less, in the project are farther than one-half mile from the stop or corridor.

With respect to criterion 1, 95 percent of the total proposed building square footage is for residential land uses and the remaining 5 percent of building square footage is for commercial use. Therefore, the project meets criterion 1.

With respect to criterion 2, the project provides a net[1] density of 21 dwelling units per acre (1,163 total units / 55.3 net acres) (see Table 1). Therefore, the project meets criterion 2.

With respect to criterion 3, the majority of the project site is located within one-half mile of a major transit stop included in the MTP/SCS (see Figure 12). Pursuant to PRC 21064.3, a Major Transit Stop means a site containing, among other things, an existing rail or bus rapid transit station. The Morrison Creek SacRT light rail station is considered a major transit stop pursuant to PRC 21064.3.[2]

As shown in Figure 12, the density and intensity of the land uses is highest at the eastern edge of the project site, adjacent to the Morrison Creek SacRT light rail station, and gradually decreases towards the north and west. As discussed above, a project shall be considered to be within one-half mile of a major transit stop if all parcels within the project have no more than 25 percent of their area farther than one-half mile from the stop and if not more than 10 percent of the residential units or 100 units, whichever is less, in the project are farther than one-half mile from the stop.

Consistent with this criterion, 22.7 percent of the parcels within the project is located beyond one-half mile of the Morrison Creek SacRT light rail station. The project also meets the second prong of the criterion by ensuring no more than 100 dwelling units are located beyond one-half mile from the light rail station. This is accomplished by capping the number of units within the West Village, which is beyond the 0.5-mile distance from the transit stop. Thus, the project meets criterion 3.

Because the project meets all three criteria of Section 21155(b), it qualifies as a Transit Priority Project.

Under PRC Section 21155(a), to receive streamlining benefits, a Transit Priority Project must also be consistent with the general use designation, density, building intensity, and applicable policies specified in a sustainable communities strategy. Here, SACOG's MTP/SCS identifies the project site as being located largely within the Blue Line Station Area – Meadowview to CRC Center and Corridor Community designation of the MTP/SCS. Within the Center/Corridor Community, the MTP/SCS forecasts a range of low to high density residential, commercial, office, and industrial uses. The proposed project's land uses fall within this range of general uses, densities, and building intensities. Therefore, development at the proposed densities is consistent with the build out assumptions for the area within this community type of the MTP/SCS. As confirmed by SACOG, the proposed project is consistent with MTP/SCS growth forecast assumptions.[3]

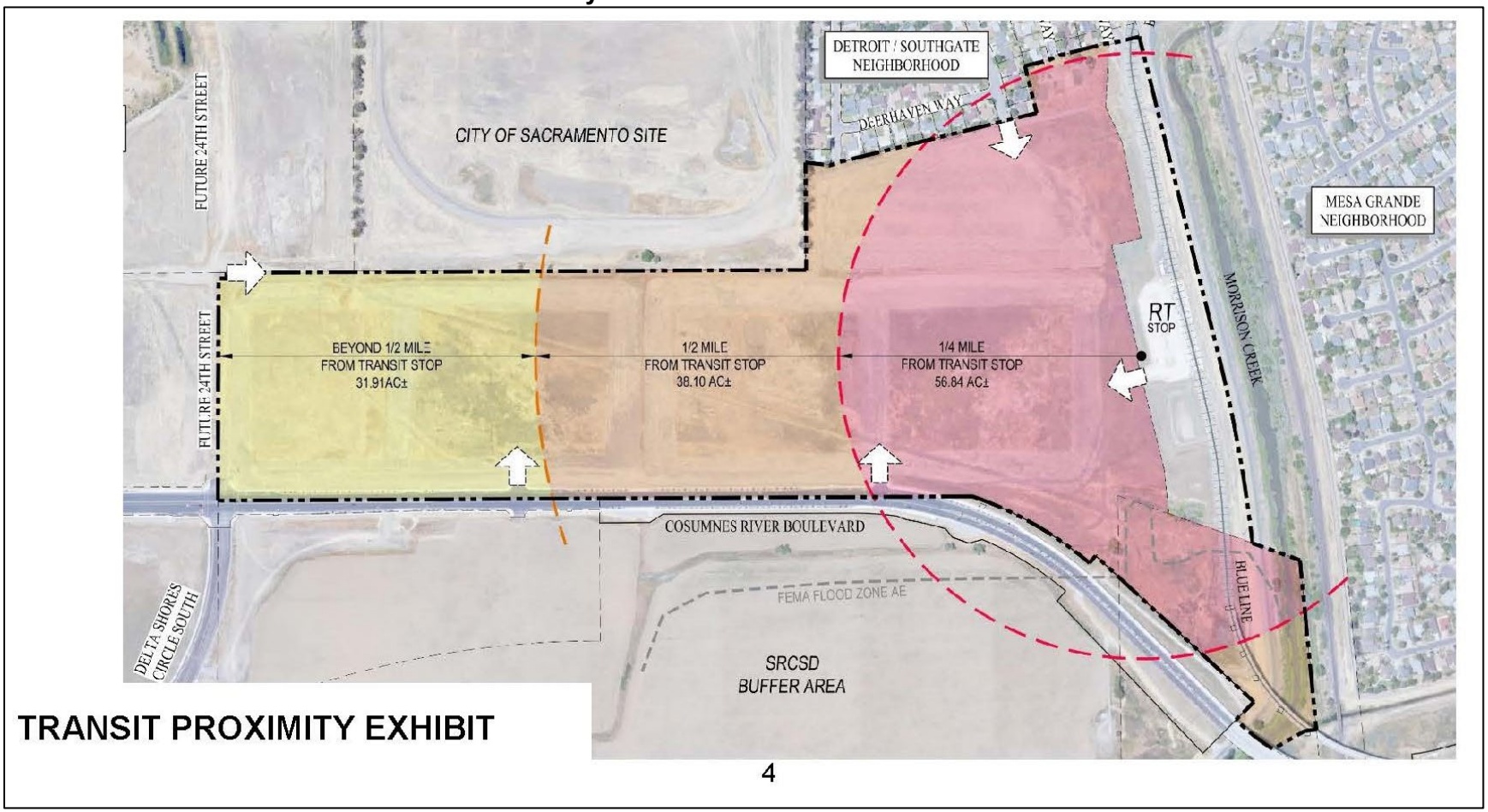
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1 Net density is not defined in PRC Section 21155(b). In the MTP/SCS, net density is defined as follows: Housing units divided by the acres on which housing is built, exclusive of public rights-of-ways, parks, schools and public areas (MTP/SCS Appendix E-3).

2 PRC Section 21064.3 defines a "major transit stop" as a site containing any of the following: (a) An existing rail or bus rapid transit station; (b) A ferry terminal served by either a bus or rail transit service; or (c) The intersection of two or more major bus routes with a frequency of service interval of 15 minutes or less during the morning and afternoon peak commute periods.

3 Sacramento Area Council of Governments. *Re: MTP/SCS Consistency for the Stone Beetland Project.* August 18, 2022.

Figure 12
Proximity to SacRT Morrison Creek Station



Mitigation Measures

To qualify as a Transit Priority Project, the MTP/SCS requires that the project must incorporate all feasible mitigation measures, performance standards, or criteria set forth in Findings of Fact for prior applicable EIRs including the MTP/SCS EIR and the City of Sacramento 2035 General Plan Master EIR (PRC Section 21155.2[a]).

In each impact section of the SCEA IS checklist below, applicable mitigation measures from the Findings of Fact for the MTP/SCS EIR and the City of Sacramento 2035 General Plan Master EIR are identified, and where feasible, identified for incorporation into the project.

Project Assumptions: The SCEA IS assumes compliance with all applicable State, federal, and local codes and regulations.

ENVIRONMENTAL FACTORS POTENTIALLY AFFECTED

The environmental factors checked below would be potentially affected by this project, involving at least one impact that is a "Less Than Significant With Mitigation Incorporated" as indicated by the checklist on the following pages.

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

EVALUATION OF ENVIRONMENTAL IMPACTS:

Following is the environmental checklist form (also known as an "Initial Study") presented in Appendix G of the State CEQA Guidelines. The checklist form is used to describe the impacts of the project. A discussion follows each environmental issue identified in the checklist. Included in each discussion are project-specific mitigation measures recommended as appropriate as part of the project.

For this checklist, the following designations are used:

Potentially Significant: An impact that could be significant, and for which mitigation has not been identified. If any potentially significant impacts are identified, an EIR must be prepared. An SCEA cannot be used in the case of a project for which this conclusion is reached in any impact category.

Less Than Significant With Mitigation Incorporated: This designation applies where applicable and feasible mitigation measures previously identified in prior applicable EIRs or in the MTP/SCS EIR have reduced an effect from "Potentially Significant Impact" to a "Less Than Significant Impact", and pursuant to Section 21155.2 of the PRC, those measures are incorporated into the SCEA IS.

This designation also applies where the incorporation of new project-specific mitigation measures not previously identified in prior applicable EIRs or in the MTP/SCS EIR has reduced an effect from "Potentially Significant Impact" to a "Less Than Significant Impact."

Less Than Significant: Any impact that would not be considered significant under CEQA, relative to existing standards.

No Impact: The project would not have any impact.

DETERMINATION:

On the basis of this initial evaluation:

☐ I find that the project COULD NOT have a significant effect on the environment, and a NEGATIVE DECLARATION will be prepared.

☐ I find that although the project could have a significant effect on the environment, there will not be a significant effect in this case because revisions in the project have been made by or agreed to by the applicant. A MITIGATED NEGATIVE DECLARATION will be prepared.

☐ I find that the project MAY have a significant effect on the environment, and an ENVIRONMENTAL IMPACT REPORT is required.

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

☒ I find that the project is a qualified "Transit Priority Project" that satisfies the requirements of Sections 21155 and 21155.2 of the PRC, and/or a qualified "residential or mixed use residential project" that satisfies the requirements of Section 21159.28(d) of the PRC, and although the project could have a potentially significant effect on the environment, there will not be a significant effect in this case, because this Sustainable Communities Environmental Assessment (SCEA) Initial Study (IS) identifies measures that either avoid or mitigate to a level of insignificance all potentially significant or significant effects of the project.

Signature	Date
Ron Bess	City of Sacramento
Printed Name	For

AGRICULTURAL AND FOREST RESOURCES, ENERGY, LAND USE, POPULATION AND HOUSING, MINERAL RESOURCES, AND WILDFIRE

Introduction

CEQA requires the Lead Agency to examine the effects of a project on the physical conditions that exist within the area that would be affected by the project. CEQA also requires a discussion of any inconsistency between the proposed project and applicable General Plans and regional plans.

An inconsistency between the proposed project and an adopted plan for land use development in a community would not constitute a physical change in the environment. When a project diverges from an adopted plan, however, it may affect planning in the community regarding infrastructure and services, and the new demands generated by the project may result in later physical changes in response to the project.

In the same manner, the fact that a project brings new people or demand for housing to a community does not, by itself, change the physical conditions. An increase in population may, however, generate changes in retail demand or demand for governmental services, and the demand for housing may generate new activity in residential development. Physical environmental impacts that could result from implementing the proposed project are discussed in the appropriate technical sections.

This section of the SCEA IS discusses agricultural and forest resources, energy, land use, population and housing, mineral resources, and wildfire and the effect of the proposed project on such resources.

Agricultural and Forest Resources

The southeast corner of the project site is zoned Agricultural (A). However, the parcel is not currently used for agricultural purposes, and forestry resources do not exist on-site. Additionally, the portion of the project site that is zoned A would not be developed with structures, and would be maintained as parkland/open space, and used for stormwater retention. Therefore, the project would not have the potential to impact agricultural and forest resources.

Energy

Structures built as part of the proposed project would be subject to Titles 20 and 24 of the California Code of Regulations (CCR), which reduce demand for electrical energy by implementing energy-efficient standards for residential and non-residential buildings. The 2035 General Plan includes goals (e.g., Energy Resources Goal U 6.1.1) and related policies to encourage energy-efficient technology by offering rebates and other incentives to commercial and residential developers, coordination with local utility providers, and recruitment of businesses that research and promote energy conservation and efficiency.

The Master EIR discussed energy conservation and relevant general plan policies in Section 6.3 (page 6-3). The proposed project would be required to comply with all applicable regulations related to energy efficiency, including Titles 20 and 24 of the CCR, and the applicable policies of the 2035 General Plan. The Master EIR discussion concluded that with implementation of the 2035 General Plan policies and energy regulations (e.g., Title 24), development allowed in the

2035 General Plan would not result in the inefficient, wasteful, or unnecessary consumption of energy.

According to the MTP/SCS EIR, implementation of the MTP/SCS, including development at increased densities in Center/Corridor Communities and HFTAs, would contribute to region-wide reductions in per capita energy consumption. In addition, the MTP/SCS EIR concluded that development within Center/Corridor Communities and HFTAs would not conflict with or obstruct plans for renewable energy generation or energy efficiency. Because the proposed project would be consistent with the MTP/SCS and would comply with all applicable policies from the 2035 General Plan, the project would not result in impacts related to energy.

Land Use

The project would be generally compatible with the existing and planned surrounding land uses, and the project would not include any major roadways or infrastructure improvements that would physically divide any existing communities. Additionally, the proposed project would not conflict with any land use plans, policies, or regulations adopted for the purposes of avoiding or mitigation an environmental effect, including, but not limited to, the City's regulations protecting City Trees and Private Protected Trees, and the City's Noise Ordinance. Therefore, the project would not result in any impacts related to land use.

Population and Housing

The project site is currently undeveloped and, therefore, residential units do not exist on-site. As a result, development of the project would not result in displacement of any existing residents, and the project would not necessitate construction of replacement housing.

The project site is located within an area designated as a Center/Corridor Community in SACOG's 2020 MTP/SCS. The proposed project's land uses fall within the range of general land uses, densities, and building intensities forecasted to occur within the Center/Corridor Community areas. Therefore, development of the project is consistent with the buildout assumptions for the area within this community type of the MTP/SCS. Consequently, the project would not result in housing growth in excess of the MTP/SCS estimates for the area, and the project would not result in impacts to population and housing,

Mineral Resources

Mineral extraction does not occur within any portions of the City in proximity to the project site, and mineral extraction activities would be incompatible with nearby urban uses. 2035 General Plan Policies ER 5.1.1, ER 5.1.2, and ER 5.1.3 were deemed sufficient in the Master EIR to ensure that further development within the City of Sacramento results in a less-than-significant impact. Therefore, the project would not result in impacts related to mineral resources.

Wildfire

The Master EIR does not identify any significant impacts related to wildfire risk. Per the CAL FIRE Fire and Resources Assessment Program (FRAP), the City of Sacramento is located within a Local Responsibility Area (LRA). The City is not located within or adjacent to a State Responsibility Area (SRA) or a designated Very High Fire Hazard Severity Zone (VHFHSZ). Thus, the risk of wildfire at the project site is minimal. Additionally, the project site is bound by Cosumnes

River Boulevard to the south and Morrison Creek to the east, both of which would act as a fire break in the case of wildfire. Furthermore, the area surrounding the project site is generally developed, which would preclude the uncontrolled spread of wildfire. Based on the above, the proposed project would not create a substantial fire risk for existing development in the vicinity of the site, nor would the project be subject to wildfire risk.

I. AIR QUALITY.	Potentially Significant Impact	Less-Than-Significant with Mitigation Incorporated	Less-Than-Significant Impact	No Impact
Where available, the significance criteria established by the applicable air quality management or air pollution control district may be relied upon to make the following determinations. Would the proposal:				
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?	☐	☒	☐	☐

ENVIRONMENTAL SETTING

The City of Sacramento is located within the Sacramento Valley Air Basin (SVAB), which is a valley bounded by the North Coast Mountain Ranges to the west and the Northern Sierra Nevada Mountains to the east. The terrain in the valley is flat and approximately 25 feet above sea level. The City, including the project site, is located within the jurisdiction of the Sacramento Metropolitan Air Quality Management District (SMAQMD).

Hot, dry summers and mild, rainy winters characterize the Mediterranean climate of the Sacramento Valley. Throughout the year, daily temperatures may range by 20 degrees Fahrenheit with summer highs often exceeding 100 degrees and winter lows occasionally below freezing. Average annual rainfall is about 20 inches and snowfall is very rare. Summertime temperatures are normally moderated by the presence of the “Delta breeze” that arrives through the Carquinez Strait in the evening hours.

The mountains surrounding the SVAB create a barrier to airflow, which can trap air pollutants in the valley. The highest frequency of air stagnation occurs in the autumn and early winter when large high-pressure cells lie over the valley. The lack of surface wind during these periods and the reduced vertical flow caused by less surface heating reduces the influx of outside air and allows air pollutants to become concentrated in a stable volume of air. The surface concentrations of pollutants are highest when these conditions are combined with temperature inversions that trap cooler air and pollutants near the ground.

The warmer months in the SVAB (May through October) are characterized by stagnant morning air or light winds, and the Delta breeze that arrives in the evening out of the southwest. Usually, the evening breeze transports a portion of airborne pollutants to the north and out of the Sacramento Valley. During about half of the day from July to September, however, a phenomenon called the “Schultz Eddy” prevents this from occurring. Instead of allowing the prevailing wind patterns to move north carrying the pollutants out of the valley, the Schultz Eddy causes the wind pattern to circle back south. This phenomenon exacerbates the pollution levels in the area and increases the likelihood of violating Federal or State standards. The Schultz Eddy normally dissipates around noon when the Delta breeze begins.

Criteria Air Pollutants

Concentrations of emissions from criteria air pollutants (the most prevalent air pollutants known to be harmful to human health) are used to indicate the quality of the ambient air. Criteria air pollutants include ozone, carbon monoxide (CO), nitrogen dioxide (NO_2), sulfur dioxide (SO_2), respirable and fine particulate matter (PM_{10} and $PM_{2.5}$), and lead. The sources of criteria air pollutants and their respective acute and chronic health impacts are described in Table 1.

Existing Air Quality

The U.S. Environmental Protection Agency (EPA) has been charged with implementing national air quality programs. EPA's air quality mandates are drawn primarily from the federal Clean Air Act (CAA), which was enacted in 1970 and most recently amended by Congress in 1990. The CAA required EPA to establish the National Ambient Air Quality Standards (NAAQS) for the following criteria air pollutants: ozone, CO, NO_2, SO_2, PM_{10}, $PM_{2.5}$, and lead. CAA also requires each State to prepare a State implementation plan (SIP) for attaining and maintaining the NAAQS. The federal Clean Air Act Amendments of 1990 (CAAA) added requirements for states with nonattainment areas to revise their SIPs to incorporate additional control measures to reduce air pollution. Individual SIPs are modified periodically to reflect the latest emissions inventories, planning documents, and rules and regulations of the air basins as reported by their jurisdictional agencies.

The California Air Resources Board (CARB) is the agency responsible for coordination and oversight of State and local air pollution control programs in California and for implementing the California Clean Air Act (CCAA). The CCAA, which was adopted in 1988, required CARB to establish its own California Ambient Air Quality Standards (CAAQS). CARB has established CAAQS for sulfates, hydrogen sulfide, vinyl chloride, visibility-reducing particulate matter, and the above-mentioned criteria air pollutants. In most cases the CAAQS are more stringent than the NAAQS.

The SVAB is currently designated as nonattainment for the NAAQS —hour ozone standard and the CAAQS for both 1-hour and 8-hour O_3 standard. The SVAB is also currently designated as nonattainment for the CAAQS 24-hour PM_{10} standard and the NAAQS 24-hour $PM_{2.5}$ standard. The air basin is designated as unclassified or in attainment for the remaining criteria air pollutants (SMAQMD 2019).

Toxic Air Contaminants

According to the California Almanac of Emissions and Air Quality (CARB 2013), the majority of the estimated health risks from toxic air contaminants (TACs) can be attributed to relatively few compounds, the most important being diesel particulate matter (diesel PM). Diesel PM differs from other TACs in that it is not a single substance, but rather a complex mixture of hundreds of substances. Although diesel PM is emitted by diesel-fueled internal combustion engines, the composition of the emissions varies depending on engine type, operating conditions, fuel composition, lubricating oil, and whether an emissions control system is being used. In addition to diesel PM, the TACs for which data are available that pose the greatest existing ambient risk in California are benzene, 1,3-butadiene, acetaldehyde, carbon tetrachloride, hexavalent chromium, para-dichlorobenzene, formaldehyde, methylene chloride, and perchloroethylene.

Table 1
Sources and Health Effects of Criteria Air Pollutants

Pollutant	Sources	Acute[1] Health Effects	Chronic[2] Health Effects
Ozone	Secondary pollutant resulting from reaction of ROG and NO_X in presence of sunlight. ROG emissions result from incomplete combustion and evaporation of chemical solvents and fuels; NO_X results from the combustion of fuels	Increased respiration and pulmonary resistance; cough, pain, shortness of breath, lung inflammation	Permeability of respiratory epithelia, possibility of permanent lung impairment
Carbon monoxide (CO)	Incomplete combustion of fuels; motor vehicle exhaust	Headache, dizziness, fatigue, nausea, vomiting, death	Permanent heart and brain damage
Nitrogen dioxide (NO_2)	Combustion devices; e.g., boilers, gas turbines, and mobile and stationary reciprocating internal combustion engines	Coughing, difficulty breathing, vomiting, headache, eye irritation, chemical pneumonitis or pulmonary edema; breathing abnormalities, cough, cyanosis, chest pain, rapid heartbeat, death	Chronic bronchitis, decreased lung function
Sulfur dioxide (SO_2)	Coal and oil combustion, steel mills, refineries, and pulp and paper mills	Irritation of upper respiratory tract, increased asthma symptoms	Insufficient evidence linking SO_2 exposure to chronic health impacts
Respirable particulate matter (PM_{10}), Fine particulate matter ($PM_{2.5}$)	Fugitive dust, soot, smoke, mobile and stationary sources, construction, fires and natural windblown dust, and formation in the Atmosphere by condensation and/or transformation of SO_2 and ROG	Breathing and respiratory symptoms, aggravation of existing respiratory and cardiovascular diseases, premature death	Alterations to the immune system, carcinogenesis
Lead	Metal processing	Reproductive/developmental effects (fetuses and children)	Numerous effects including neurological, endocrine, and cardiovascular effects

Notes: NO_X = oxides of nitrogen; ROG = reactive organic gases.
1. "Acute" refers to effects of short-term exposures to criteria air pollutants, usually at fairly high concentrations.
2. "Chronic" refers to effects of long-term exposures to criteria air pollutants, usually at lower, ambient concentrations.

Source: EPA, 2018.

Sensitive Receptors

Sensitive receptors are generally considered to include those land uses where exposure to pollutants could result in health-related risks to sensitive individuals, such as children or the elderly. Residential dwellings, schools, hospitals, playgrounds, and similar facilities are of primary concern because of the presence of individuals particularly sensitive to pollutants and/or the potential for increased and prolonged exposure of individuals to pollutants. The closest sensitive receptors to the project site include the single-family residences immediately north of the project site, approximately 50 feet away from where construction would occur.

STANDARDS OF SIGNIFICANCE

For the purposes of this environmental document, an impact is considered significant if the project would result in:

- Construction emissions of NO_X above 85 pounds per day;
- Operational emissions of NO_X or ROG above 65 pounds per day;
- Violation of any air quality standard or contribute substantially to an existing or projected air quality violation;
- Any increase in PM concentrations, unless all feasible Best Available Control Technology (BACT) and Best Management Practices (BMPs) have been applied, then increases above 80 pounds per day or 14.6 tons per year for PM_{10} or 82 pounds per day or 15 tons per year for $PM_{2.5}$;
- CO concentrations that exceed the 1-hour state ambient air quality standard (i.e., 20.0 ppm) or the 8-hour state ambient standard (i.e., 9.0 ppm); or
- Exposure of sensitive receptors to substantial pollutant concentrations.

Ambient air quality standards have not been established for TACs. TAC exposure is deemed to be significant if:

- TAC exposures create a risk of 10 in 1 million for stationary sources, or substantially increase the risk of exposure to TACs from mobile sources.

It is noted that the foregoing standards of significance for criteria pollutant emissions and TACs are consistent with the thresholds of significance adopted by the SMAQMD. The remainder of this discussion refers to the standards as the SMAQMD thresholds of significance.

SUMMARY OF ANALYSIS UNDER THE 2035 GENERAL PLAN MASTER EIR AND APPLICABLE GENERAL PLAN POLICIES

The Master EIR addressed the potential effects of the 2035 General Plan on ambient air quality and the potential for exposure of people, especially sensitive receptors such as children or the elderly, to unhealthful pollutant concentrations. See Master EIR, Chapter 4.2.

Policies in the 2035 General Plan Environmental Resources Element were identified as mitigating potential effects of development that could occur under the 2035 General Plan. For example, Policy ER 6.1.1 calls for the City to work with the CARB and the SMAQMD to meet State and federal air quality standards; Policy ER 6.1.2 requires the City to review proposed development projects to ensure that the projects incorporate feasible measures that reduce construction and operational emissions; Policy ER 6.1.4 and ER 6.1.11 calls for coordination of City efforts with SMAQMD; and Policy ER 6.1.15 requires the City to give preference to contractors using reduced-emission equipment.

The Master EIR identified exposure to sources of TACs as a potential effect. Policies in the 2035 General Plan would reduce the effect to a less-than-significant level. The policies include ER 6.1.4, requiring coordination with SMAQMD in evaluating exposure of sensitive receptors to TACs, and impose appropriate conditions on projects to protect public health and safety, as well as Policy LU 2.7.5 requiring extensive landscaping and trees along freeways and design elements that provide proper filtering, ventilation, and exhaust of vehicle air emissions from buildings.

MITIGATION MEASURES FROM 2035 GENERAL PLAN MASTER EIR THAT MAY APPLY TO THE PROJECT

None.

SUMMARY OF ANALYSIS UNDER THE MTP/SCS EIR

Chapter 5 of the MTP/SCS EIR evaluates potential impacts to Air Quality that may result from implementation of the proposed MTP/SCS. Where necessary and feasible, mitigation measures are identified to reduce these impacts.

a. Applicable Air Quality Plan

The MTP/SCS EIR analyzed the potential impact related to conflicting with or obstructing an applicable air quality plan (Impact AIR-1). The MTP/SCS EIR identified regional growth and transportation as a major source of criteria air pollutants and determined that, because the MTP/SCS promotes compact growth and encourages multi-modal transportation, the MTP/SCS would result in a *less-than-significant* impact. The MTP/SCS EIR concluded that the MTP/SCS would not conflict with or obstruct the implementation of any applicable air quality plan for CAAQS or NAAQS; therefore, mitigation is not required.

b. Air Quality Standards

The MTP/SCS EIR analyzed the potential impact related to the MTP/SCS being inconsistent with, or exceeding, applicable thresholds of significance established by the local air district for short-term construction activities or long-term operational criteria air pollutant emissions (Impacts AIR-4B and AIR-4A, respectively). The MTP/SCS EIR concluded that construction of land use and transportation projects included in the MTP/SCS would result in a *significant and unavoidable* impact because SACOG does not have the authority to require implementing agencies to adopt mitigation measures included in the MTP/SCS EIR. However, the MTP/SCS EIR requires that any project taking advantage of the CEQA Streamlining must implement the mitigation measures discussed in the MTP/SCS EIR where feasible and necessary (Mitigation Measures AIR-4, AIR-5, and AIR-6). Implementation of the MTP/SCS EIR's required mitigation would reduce impacts to a *less-than-significant* level.

c. Sensitive Receptors and TAC Concentrations

The MTP/SCS EIR analyzed the potential impact related to the MTP/SCS exposing sensitive receptors to substantial TAC concentrations (Impacts AIR-2). The MTP/SCS EIR concluded that construction of land uses and transportation projects included in the MTP/SCS could expose sensitive receptors to increased levels of TACs, which would result in a *significant and unavoidable* impact because SACOG does not have the authority to require implementing agencies to adopt mitigation measures included in the MTP/SCS EIR. However, the MTP/SCS EIR requires that any project taking advantage of the CEQA Streamlining must implement the mitigation measures discussed in the MTP/SCS EIR where feasible and necessary (Mitigation Measures AIR-1 and AIR-2). Although the mitigation measures presented in the MTP/SCS EIR have the potential to reduce impacts, depending on the location of specific projects, the mitigation measures identified in the MTP/SCS EIR may not be capable of reducing impacts to a less-than-significant level, and the significance conclusion would depend on the project-specific analysis.

d. Objectionable Odors

The MTP/SCS EIR analyzed the potential impact related to the MTP/SCS creating objectionable odors resulting from project operation or construction activities affecting a substantial number of people (Impacts AIR-3). The MTP/SCS EIR concluded that construction of land uses and transportation projects included in the MTP/SCS could create objectionable odors, which would result in a *significant and unavoidable* impact because SACOG does not have the authority to require implementing agencies to adopt mitigation measures included in the MTP/SCS EIR. However, the MTP/SCS EIR requires that any project taking advantage of the CEQA Streamlining must implement the mitigation measures discussed in the MTP/SCS EIR where feasible and necessary (Mitigation Measure AIR-3). Implementation of the MTP/SCS EIR's required mitigation would reduce the impact to a *less-than-significant* level.

MITIGATION MEASURES FROM THE MTP/SCS EIR THAT MAY APPLY TO THE PROJECT

MTP/SCS EIR Mitigation Measure AIR-6, which relates to construction emissions, is not applicable to the project, as described in further detail in the project-specific discussion below. In addition, MTP/SCS EIR Mitigation Measure AIR-2 is only applicable to project sites located near high-volume roadways and, thus, is not applicable to the proposed project.

Regarding MTP/SCS EIR Mitigation Measure AIR-1, the project would not place new sensitive receptors close to TAC sources, or introduce new TAC sources to existing sensitive receptors. Thus, the project satisfies the intent of AIR-1 and no further requirements are warranted. MTP/SCS EIR Mitigation Measure AIR-3 applies to the project, could be feasibly implemented, and is hereby incorporated into this SCEA IS as a requirement of the project. Mitigation Measure AIR-4 provides a non-exhaustive list of example measures that could be applied to reduce criteria pollutant emissions. Consistent with the intent of Mitigation Measure AIR-4, project-specific measures have been identified to ensure that operational ROG emissions generated by the proposed project would not conflict with the SMAQMD's adopted attainment plans or inhibit attainment of regional AAQS. Project-Specific Mitigation Measures AIR-2 and AIR-3 are provided at the end of this section.

MM AIR-3: *Implementing agencies shall require assessment of new and existing odor sources for individual land use projects to determine whether sensitive receptors would be exposed to objectionable odors and apply recommended applicable mitigation measures as defined by the applicable local air district and best practices.*

Implementing agencies shall require assessment of new and existing odor sources for individual nonagricultural land use projects to determine whether sensitive receptors would be exposed to objectionable odors and apply recommended applicable mitigation measures as defined by the applicable local air district and best practices.

Examples of mitigation measures that may be applied where feasible and necessary to address site-specific impacts, include but are not limited to:

- *Proposed industrial, commercial, or convenience land uses (e.g., fast-food restaurants, painting operations) that have the potential to emit objectionable odors shall be located as far away as feasibly possible from existing and proposed sensitive receptors and oriented where possible to*

place buildings or other obstructions between the odor source and downwind receptors.

- *The odor-producing potential of land uses shall be considered when the type of facility that would occupy industrial, commercial, or convenience areas is considered.*
- *If an odor-emitting facility is to occupy space in the industrial, commercial, or convenience area, the odor-producing potential of the source and potential control devices shall be determined in coordination with the local air district and shall be based on the number of complaints associated with existing sources of the same nature. Odor-control devices (e.g., wet chemical scrubbers, HVAC filters, activated carbon scrubbers, biologically active filters, enclosures) shall be identified in the improvement plans before the approval of building permits. The odor-control devices shall be installed before the issuance of certificates of occupancy for the potentially odor-producing use.*
- *Require notification to incoming property owners (e.g., real estate disclosures) regarding the existence of pre-existing odor-emitting facilities or operations (e.g., similar to avigation easements for noise).*

Also, see specifically SMAQMD's Guide to Air Quality Assessment in Sacramento County (SMAQMD 2014). Chapter 7 of the SMAQMD guide provides an extensive list of technology- and design-based odor reduction measures in its Technology- and Design-Based Odor Reduction Measures appendix.

MM AIR-4: *Implementing agencies shall require recommended applicable mitigation measures as defined by the applicable local air district.*

Implementing agencies shall require projects that exceed the long-term operational thresholds to mitigate the air quality impacts using applicable and feasible mitigation.

Examples of mitigation measures include, but are not limited to:

- *provide for the use of energy-efficient lighting and process systems (e.g., low-NO_X water heaters and boiler units);*
- *design streets to maximize pedestrian access to transit stops;*
- *include bus shelters at transit access points where deemed appropriate by local public transit operator in large residential, commercial, and industrial projects;*
- *contribute to traffic-flow improvements (e.g., right-of-way, capital improvements) that reduce traffic congestion;*
- *equip residential structures with electric outlets in the front and rear of the structure to facilitate use of electrical lawn and garden equipment;*
- *provide for, or contribute to, dedication of land for off-site Class I and Class II bicycle trails linking the project to designated bicycle commuting routes in accordance with the regional bikeway master plan;*
- *contribute to the provision of synchronized traffic signals on roadways affected by the project and as deemed necessary by the local public works department;*

- *provide transit-enhancing infrastructure that includes bus turnouts or bulbs, passenger benches, street lighting, route signs and displays, and shelters as demand and service routes warrant, subject to review and approval by local transportation planning agencies;*
- *provide pedestrian-enhancing infrastructure that includes sidewalks and pedestrian paths, direct pedestrian connections, street trees to shade sidewalks, pedestrian safety designs and infrastructure, street furniture and artwork, street lighting, pedestrian signalization and signage, and/or access between bus service and major transportation points within the project;*
- *include neighborhood park(s) or other recreational options, such as trails, within the development to minimize vehicle travel to off-site recreational and/or commercial uses;*
- *install solar water heaters;*
- *incorporate mixed uses, where permitted by local development regulations, to achieve a balance of commercial, employment, and housing options on the project site;*
- *include neighborhood telecommunications or telework centers;*
- *contribute to traffic-flow improvements (e.g., right-of-way, capital improvements) that reduce traffic congestion and do not substantially increase roadway capacity;*
- *provide preferential parking spaces for carpool and vanpool vehicles, implement parking fees for single-occupancy vehicle commuters, and implement parking cash-out program for employees;*
- *use clean fuel vehicles in the vehicle fleet;*
- *require all employment centers to include an adequate number of on-site shower/locker facilities for bicycling and pedestrian commuters (typically one shower and three lockers for every 25 employees per shift);*
- *construct/contribute to bicycle and pedestrian facility improvements;*
- *provide ancillary services (e.g., cafeterias, health clubs, automatic tellers, and post offices) within walking distance of proposed development (no further than 1,500 feet) as appropriate and in compliance with local development regulations;*
- *provide park-and-ride lots as deemed feasible and appropriate by transportation planning agencies;*
- *employment centers that exceed a designated size, as measured by the number of employees, shall provide on-site child care and after-school facilities or contribute to off-site construction of such facilities within walking distance of employment land uses (for employment centers on or adjacent to industrial land uses, on-site child daycare centers shall be provided only if supported by the findings of a comprehensive HRA performed in consultation with the local air district);*
- *provide on-site pedestrian facility enhancements, such as walkways, benches, proper lighting, vending machines, and building access that are physically separated from parking lot traffic;*
- *offer alternative work schedules, where practical, that allow for work hours that are compressed into fewer than 5 days (e.g., 9/80, 4/40, or 3/36 schedules), or allow flextime schedules;*

- *provide transit amenities (e.g., on-site and off-site bus turnouts, passenger benches, or shelters) where deemed appropriate by local transportation planning agencies;*
- *contribute to the provision of synchronized traffic signals on roadways affected by the proposed project and as deemed necessary by the local public works department;*
- *provide video conferencing facilities;*
- *commit to support programs that include guaranteed ride home, subsidized transit passes, and rideshare matching;*
- *provide transportation (e.g., shuttles) to major transit stations and multimodal centers;*
- *require each employer employment center (more than 25 employees) to assign a transportation coordinator for the applicable Transportation Management Association (TMA);*
- *require all employers to install a permanent display in employee common areas of alternate transit information, as determined by the requirements of the TMA;*
- *require employers or employment centers (more than 25 employees) to implement a guaranteed ride home program;*
- *require employers or employment centers (more than 25 employees) to implement an incentive program for riding transit, carpooling, vanpooling, biking, and walking instead of driving a single-occupancy vehicle to work, and design and locate buildings to facilitate transit access;*
- *install Energy Star (or equivalent) cool roofing systems on all buildings;*
- *design shuttle and transit exits to adjoining streets to reduce time to reenter traffic from the project site;*
- *increase wall and attic insulation to 20 percent above Title 24 requirements (residential and commercial);*
- *orient buildings to take advantage of solar heating and natural cooling, and use passive solar designs (residential, commercial, and industrial);*
- *provide energy-efficient windows (double pane and/or Low-E) and awnings or other shading mechanisms for windows, porches, patios, and walkways;*
- *consider passive solar cooling and heating designs, ceiling and whole house fans, and programmable thermostats in the design of heating and cooling systems; and*
- *use day lighting systems, such as skylights, light shelves, and interior transom windows.*

See also SMAQMD's most recent version of the Recommended Guidance for Land Use Emission Reductions, currently version 4.0 (SMAQMD 2017c).

PROJECT-SPECIFIC IMPACT DISCUSSION

a,b. As discussed above, due to the nonattainment designations of the area, SMAQMD has developed plans to attain the State and federal standards for ozone and particulate matter. Adopted SMAQMD rules and regulations, as well as the thresholds of significance, are consistent with the air quality plans.

In order to evaluate ozone and other criteria air pollutant emissions and support attainment goals for those pollutants that the area is designated nonattainment, SMAQMD has

established recommended thresholds of significance, including mass emission thresholds for construction-related and operational ozone precursors, as the area is under nonattainment for ozone. The SMAQMD's recommended thresholds of significance for ozone precursors, which are expressed in pounds per day (lbs/day), are presented in Table 2. According to the SMAQMD Guide to Air Quality Assessment in Sacramento County, by exceeding the SMAQMD's thresholds or significance, a project would be considered to conflict with or obstruct implementation of the SMAQMD's air quality planning efforts.

Table 2
SMAQMD Thresholds of Significance (lbs/day)

Pollutant	Construction Thresholds	Operational Thresholds
NO_X	85	65
ROG	-	65
PM_{10}	Zero (0). If all feasible BACT/BMPs are applied, then: 80 lbs/day and 14.6 tons/yr	Zero (0). If all feasible BACT/BMPs are applied, then: 80 lbs/day and 14.6 tons/yr
$PM_{2.5}$	Zero (0). If all feasible BACT/BMPs are applied, then: 82 lbs/day and 15 tons/yr	Zero (0). If all feasible BACT/BMPs are applied, then: 82 lbs/day and 15 tons/yr

Notes: BACT = Best Available Control Technologies; BMP = Best Management Practices.

Source: Sacramento Metropolitan Air Quality Management District. SMAQMD Thresholds of Significance Table. April 2020.

Because construction equipment emits relatively low levels of ROG, and ROG emissions from other construction processes (e.g., asphalt paving, architectural coatings) are typically regulated by SMAQMD, SMAQMD has not adopted a construction emissions threshold for ROG. SMAQMD has, however, adopted a construction emissions threshold for NO_X, as shown in Table 2, above.

In order to determine whether the proposed project would result in criteria pollutant emissions in excess of the applicable thresholds of significance presented above, the proposed project's emissions have been estimated using the California Emissions Estimator Model (CalEEMod) version 2020.4.0 software – a statewide model designed to provide a uniform platform for government agencies, land use planners, and environmental professionals to quantify air quality emissions, including GHG emissions, from land use projects. The model applies default values for various land uses, including trip generation rates based on the Institute of Transportation Engineers (ITE) Manual (e.g., vehicle mix, trip length, average speed). However, where project-specific data is available, such data should be input into the model. Accordingly, the trip generation rates were updated to reflect project details based on the project-specific analysis prepared by Fehr & Peers.

The results of the proposed project's emissions estimates were compared to the thresholds of significance above in order to determine the associated level of impact. All CalEEMod modeling results are included as Appendix A to this SCEA IS.

Construction Emissions

During construction of the proposed project, various types of equipment and vehicles would operate on the project site. Construction exhaust emissions would be generated from construction equipment, any earth-moving activities, construction workers' commute,

and material hauling for the entire construction period. These activities would involve the use of diesel- and gasoline-powered equipment that would generate emissions of criteria pollutants.

According to the CalEEMod results, construction of the proposed project is estimated to result in maximum daily criteria pollutant emissions as shown in Table 3.

Table 3
Maximum Unmitigated Project Construction Emissions

Pollutant	Project Emissions (lbs/day)	SMAQMD Threshold of Significance (lbs/day)
NO_X	65.03	85
PM_{10}	21.06	80
$PM_{2.5}$	11.30	82

Source: CalEEMod, May 2023 (see Appendix A).

As shown in the table, the proposed project's maximum unmitigated construction-related emissions of criteria pollutants would be below the applicable thresholds of significance. Therefore, MTP/SCS EIR Mitigation Measure AIR-6, which requires the implementation of specific measures when construction emissions would exceed the thresholds of significance, would not be applicable to the project.

In addition, all projects under the jurisdiction of SMAQMD are required to comply with all applicable SMAQMD rules and regulations (a complete list of current rules is available at www.airquality.org/rules). Rules and regulations related to construction include, but are not limited to, Rule 201 (General Permit Requirements), Rule 402 (Nuisance), Rule 403 (Fugitive Dust), Rule 404 (Particulate Matter), Rule 414 (Water Heaters, Boilers and Process Heaters Rated Less Than 1,000,000 British Thermal Units per Hour), Rule 417 (Wood Burning Appliances), Rule 442 (Architectural Coatings), Rule 453 (Cutback and Emulsified Asphalt Paving Materials), Rule 460 (Adhesives and Sealants), Rule 902 (Asbestos) and CCR requirements related to the registration of portable equipment and anti-idling.

All projects are also required to implement the SMAQMD's Basic Construction Emission Control Practices (BCECP), which would be ensured through compliance with project-specific Mitigation Measure AIR-1, below. Compliance with SMAQMD rules and regulations and BCECP would ensure that construction emissions are minimized to the extent practicable, and would reduce emissions below the levels presented in Table 3. Therefore, with implementation of project-specific Mitigation Measure AIR-1, impacts related to the proposed project's construction emissions would be less than significant.

Operational Emissions

Operational emissions of criteria pollutants would be generated by the project from both mobile and stationary sources. Day-to-day activities such as future residents' vehicle trips to and from the project site would make up the majority of the mobile emissions. Emissions would also occur from area sources such as landscape maintenance equipment exhaust and consumer products (e.g., deodorants, cleaning products, spray paint, etc.).

Operational air quality emissions were estimated using CalEEMod and are presented in Table 4. As shown in the table, the proposed project's maximum unmitigated operational

emissions of criteria pollutants would be below the applicable thresholds of significance for NO_X, PM_{10}, and $PM_{2.5}$. However, emissions of ROG would exceed the threshold of significance and, as a result, impacts related to operational emissions would be potentially significant.

Table 4
Maximum Unmitigated Project Operational Emissions

Pollutant	Project Emissions (lbs/day)	SMAQMD Threshold of Significance (lbs/day)
NO_X	33.90	65
ROG	72.34	65
PM_{10}	53.49	80
$PM_{2.5}$	14.89	82

Source: CalEEMod, May 2023 (see Appendix A).

According to the results of the air quality modeling, the majority of ROG emissions associated with project operations are attributable to vehicle emissions (31.19 lbs/day) and the use of consumer products (40.55 lbs/day).

As described under Impact AIR-4A of the MTPS/SCS EIR, regional buildout consistent with the MTP/SCS would result in a decline in total VMT per capita. Furthermore, as presented in Table 5-19 of the MTP/SCS EIR, buildout pursuant to the MTP/SCS would result in a net decrease in daily ROG emissions from 2016 to 2027 and 2035. Therefore, although individual projects may exceed the SMAQMD's project-level threshold of significance for ROG, the MTP/SCS EIR determined that implementation of the larger growth plan presented in the MTP/SCS would result in a less-than-significant impact related to violating any air quality standards or contributing to an existing air quality violation (i.e., the region's nonattainment status of ozone or PM) during operations.

Conclusion

Adopted SMAQMD rules and regulations, as well as the thresholds of significance, have been developed with the intent to ensure continued attainment of AAQS, or to work towards attainment of AAQS for which the area is currently designated nonattainment, consistent with applicable air quality plans. As future attainment of AAQS is a function of successful implementation of SMAQMD's planning efforts, according to the SMAQMD Guide, by exceeding the SMAQMD's project-level thresholds for construction or operational emissions, a project could contribute to the region's nonattainment status for ozone and PM emissions and could be considered to conflict with or obstruct implementation of the SMAQMD's air quality planning efforts.

As discussed, the project would result in construction emissions below all applicable SMAQMD thresholds of significance. In addition, project-specific Mitigation Measure AIR-1 would ensure that SMAQMD's BCECP are implemented during construction of the proposed project. In addition, operational emissions, based on modeling, would be below the SMAQMD's thresholds of significance for NO_X and PM. As explained above, the proposed project was modeled to exceed the SMAQMD's project-level threshold of significance for ROG. As a component of the greater MTP/SCS, and with the implementation of MTP/SCS EIR Mitigation Measure AIR-4, as modified below to be specific to the project, the proposed project is anticipated to contribute to a regional reduction trend in ROG emissions. Mitigation Measure AIR-4 provides a non-exhaustive

list of example measures that could be applied to reduce criteria pollutant emissions. Consistent with the intent of Mitigation Measure AIR-4, project-specific measures have been identified to ensure that operational ROG emissions generated by the proposed project would not conflict with the SMAQMD's adopted attainment plans or inhibit attainment of regional AAQS. Without implementation of project-specific Mitigation Measures AIR-2 and AIR-3, the proposed project would be considered to contribute to the region's nonattainment status for ozone or PM emissions and could conflict with or obstruct implementation of the SMAQMD's air quality planning efforts. Accordingly, the project could violate an air quality standard or contribute substantially to an existing or projected air quality violation, and impacts would be ***less-than-significant with mitigation incorporated***.

c. The major pollutant concentrations of concern are localized CO emissions and TAC emissions, which are addressed in further detail below.

Localized CO Emissions

Localized concentrations of CO are related to the levels of traffic and congestion along streets and at intersections. Per the SMAQMD Guide, emissions of CO are generally of less concern than other criteria pollutants, as operational activities are not likely to generate substantial quantities of CO, and the SVAB has been in attainment for CO for multiple years.[4] The proposed project would not involve operational changes that could result in long-term generation of CO. The use of construction equipment at each site would result in limited generation of CO; however, the total amount of CO emitted by construction equipment would be minimal and would not have the potential to result in health risks to any nearby receptors.

TAC Emissions

The CARB Handbook provides recommendations for siting new sensitive land uses near sources typically associated with significant levels of TAC emissions, including, but not limited to, freeways and high traffic roads, distribution centers, and rail yards. The CARB has identified diesel particulate matter (diesel PM) from diesel-fueled engines as a TAC; thus, high volume freeways, stationary diesel engines, and facilities attracting heavy and constant diesel vehicle traffic are identified as having the highest associated health risks from diesel PM. Health risks from TACs are a function of both the concentration of emissions and the duration of exposure. It is noted that the nearest existing sensitive receptors to the project site are located approximately 50 feet to the north.

Construction activities have the potential to generate diesel PM emissions related to the number and types of equipment typically associated with construction. Off-road heavy-duty diesel equipment used for site grading, paving, and other construction activities result in the generation of diesel PM. However, construction is temporary and occurs over a relatively short duration in comparison to the operational lifetime of the project. In addition, only portions of the site would be disturbed at a time, with operation of construction equipment regulated by federal, State, and local regulations, including SMAQMD rules and regulations, and occurring intermittently throughout the course of a day. Thus, the

[4] Sacramento Metropolitan Air Quality Management District. *Guide to Air Quality Assessment, Chapter 4: Operational Criteria Air Pollutant and Precursor Emissions*. October 2020.

likelihood that any one sensitive receptor would be exposed to high concentrations of diesel PM for any extended period of time would be low.

Operational-related emissions of TACs are typically associated with stationary diesel engines or land uses that involve heavy truck traffic or idling. The project does not involve long-term operation of any stationary diesel engine or other major on-site stationary source of TACs. The CARB's Handbook includes facilities (distribution centers) with associated diesel truck trips of more than 100 trucks per day as a source of substantial TAC emissions. The project would not include development of a distribution center, would not involve heavy diesel truck traffic, and is not located near any existing distribution center. Therefore, overall, the project would not expose any existing sensitive receptors to any new permanent sources of TAC emissions and MTP/SCS EIR Mitigation Measure AIR-1, which relates to placing new sensitive receptors close to TAC sources, or introducing new TAC sources to existing sensitive receptors, would not be applicable to the project.

The CARB, per its Handbook, recommends the evaluation of emissions when freeways are within 500 feet of sensitive receptors. Any project placing sensitive receptors within 500 feet of a major roadway or freeway may have the potential to expose those receptors to diesel PM. The closest major roadway or freeway is Interstate 5, which is over 5,000 feet to the west of the project site. Therefore, the project would comply with the CARB's recommended setback distances, and MTP/SCS EIR Mitigation Measure AIR-2, which relates to reducing receptor exposure to pollution from high-volume roadways, would not be applicable to the project.

The CARB Handbook also includes recommendations for siting sensitive receptors near rail yards and recommends evaluation of emissions when railyards are within 1,000 feet of sensitive receptors. Railyards are considered major sources of diesel PM air pollution as their operation involves a large amount of railway traffic, train idling, and engine testing. Although Union Pacific Railroad (UPRR) tracks are approximately 400 feet away from the project site, the UPRR tracks are not considered to be a rail yard, as trains pass by the project site without typically stopping or idling for long periods of time. Additionally, the SacRT light rail tracks, which are located closer to the project site, would not generate TAC emissions as the light rail is powered by electricity.[5] Therefore, the project would not expose sensitive receptors to new substantial permanent sources of TAC emissions. As a result, the project would comply with MTP/SCS EIR Mitigation Measure AIR-1, which specifically applies when siting sensitive land uses or sources of TACs within the CARB-recommended setback distances.

As discussed above, the project site is not located in eastern Sacramento County and is not in an area identified as likely to contain NOA. Thus, sensitive receptors would not be exposed to NOA as a result of the project.

Conclusion

As discussed above, the project would not cause or be exposed to substantial pollutant concentrations, including localized CO or TAC emissions. Because the project site is not located within minimum CARB-recommended setback distances from a known source of

[5] Sacramento Regional Transit. *SacRT Light Rail Fact Sheet*. Available at: https://www.sacrt.com/services/LRFactSheet.aspx/. Accessed July 2022.

TACs or a high-volume roadway, the project already satisfies the intent of MTP/SCS EIR's Mitigation Measure AIR-1. Therefore, exposure of sensitive receptors to substantial pollutant concentrations would not occur, and the impact would be ***less than significant***.

d. Odors are generally regarded as an annoyance rather than a health hazard. Due to the subjective nature of odor impacts, the number of variables that can influence the potential for an odor impact, and the variety of odor sources, quantitative methodologies to determine the presence of a significant odor impact do not exist. According to the CARB's Handbook, some of the most common sources of odor complaints received by local air districts are sewage treatment plants, landfills, recycling facilities, waste transfer stations, petroleum refineries, biomass operations, autobody shops, coating operations, fiberglass manufacturing, foundries, rendering plants, and livestock operations. The project site is not located near any such land uses, and the project would not introduce any such land uses.

Diesel fumes from construction equipment are often found to be objectionable; however, construction is temporary and associated diesel emissions would be regulated per federal, State, and local regulation, including compliance with all applicable SMAQMD rules and regulations, which would help to control construction-related odorous emissions. Therefore, construction of the project would not be expected to create objectionable odors affecting a substantial number of people.

The project would include commercial land uses in the Transit Village, which could include retail, office or restaurant land uses. Although retail and office land uses are not typically associated with the creation of substantial objectionable odors, restaurants can create odors which may be found to be objectionable. Mitigation Measure AIR-3 requires that any new odor sources be assessed by the implementing agency, and applicable mitigation measures shall be applied where exposure of sensitive receptors to objectionable odors may occur. As a result, if proposals for commercial activity within the project include sources of odors, such as restaurants, the application of mitigation measures to control such odors is required by MTP/SCS EIR Mitigation Measure AIR-3, which has been incorporated as part of the project.

Furthermore, the SMAQMD regulates objectionable odors through Rule 402 (Nuisance), which prohibits any person or source from emitting air contaminants that cause detriment, nuisance, or annoyance to a considerable number of persons or the public. Rule 402 is enforced based on complaints. If complaints are received, the SMAQMD is required to investigate the complaint, as well as determine and ensure a solution for the source of the complaint, which could include operational modifications. Thus, although not anticipated, if odor complaints are made during construction or after the project is developed, the SMAQMD would ensure that such odors are addressed, and any potential odor effects are reduced to less than significant.

For the aforementioned reasons, with implementation of MTP/SCS EIR Mitigation Measure AIR-3, construction and operation of the project would not create objectionable odors, nor would the project site be affected by any existing sources of substantial objectionable odors. Therefore, the proposed project's impact concerning odors would be ***less-than-significant with mitigation incorporated***.

PROJECT-SPECIFIC MITIGATION MEASURES

As discussed above, project-specific Mitigation Measure AIR-1 would ensure that SMAQMD's BCECP are implemented during construction of the proposed project. In addition, consistent with

the intent of Mitigation Measure AIR-4, a project-specific measure has been identified in Mitigation Measure AIR-2 to reduce operational ROG emissions generated by the proposed project to the maximum extent feasible. However, as shown in Table 5, the proposed project would still result in a small exceedance (1.84 lbs/day) of ROG emissions above the SMAQMD 65 lbs/day threshold. According to the SMAQMD's Guide to Air Quality Assessment in Sacramento County, if a project's long-term emissions would remain above the applicable threshold of significance after implementation of all feasible on-site mitigation measures, the lead agency may implement a SMAQMD-approved off-site mitigation strategy to further reduce long-term air quality impacts to below the applicable threshold of significance.[6] Each off-site mitigation strategy must be developed in consultation with, and approved by, SMAQMD, and may only be implemented after all other feasible operational emission reduction measures have been implemented. Therefore, this SCEA requires implementation of project-specific Mitigation Measure AIR-3, which would require payment of the equivalent amount of money equal to the project contribution of ROG which exceeds the SMAQMD's threshold of significance.

Implementation of project-specific Mitigation Measures AIR-1, AIR-2, and AIR-3 would be required to ensure that the proposed project would not conflict with the SMAQMD's adopted attainment plans or inhibit attainment of regional AAQS. Thus, implementation of the following project-specific mitigation measures would reduce the above potential impact to a *less-than-significant* level.

Table 5
Maximum Mitigated[1] Project Operational Emissions

Pollutant	Project Emissions (lbs/day)	SMAQMD Threshold of Significance (lbs/day)
NO_X	33.90	65
ROG	66.84	65
PM_{10}	53.49	80
$PM_{2.5}$	14.89	82

Source: CalEEMod, June 2023 (see Appendix A).

[1] Reflects incorporation of Mitigation Measure AIR-2.

AIR-1: The following requirements shall be noted on project improvement plans, subject to review and approval by the City of Sacramento Community Development Department:

- *Control of fugitive dust is required by District Rule 403 and enforced by District staff.*
- *Water all exposed surfaces two times daily. Exposed surfaces include, but are not limited to soil piles, graded areas, unpaved parking areas, staging areas, and access roads.*
- *Cover or maintain at least two feet of free board space on haul trucks transporting soil, sand, or other loose material on the site. Any haul trucks that would be traveling along freeways or major roadways should be covered.*
- *Use wet power vacuum street sweepers to remove any visible trackout mud or dirt onto adjacent public roads at least once a day. Use of dry power sweeping is prohibited.*

[6] *Sacramento Metropolitan Air Quality Management District. Guide to Air Quality Assessment in Sacramento County. December 2009 (Latest Revision April 2021).*

- *Limit vehicle speeds on unpaved roads to 15 miles per hour (mph).*
- *All roadways, driveways, sidewalks, parking lots to be paved should be completed as soon as possible. In addition, building pads should be laid as soon as possible after grading unless seeding or soil binders are used. Minimize idling time either by shutting equipment off when not in use or reducing the time of idling to 5 minutes [California Code of Regulations, Title 13, sections 2449(d)(3) and 2485]. Provide clear signage that posts this requirement for workers at the entrances to the site.*
- *Provide current certificate(s) of compliance for CARB's In-Use Off-Road Diesel-Fueled Fleets Regulation [California Code of Regulations, Title 13, sections 2449 and 2449.1]. For more information contact CARB at 877-593-6677, doors@arb.ca.gov, or www.arb.ca.gov/doors/compliancecert1.html.*
- *Maintain all construction equipment in proper working condition according to manufacturer's specifications. The equipment must be checked by a certified mechanic and determine to be running in proper condition before it is operated.*

AIR-2: *The following requirement shall be noted on project improvement plans, subject to review and approval by the City of Sacramento Community Development Department:*

- *Zero VOC emitting paints shall be used for all architectural coatings associated with the proposed project, including for residential and non-residential interior and exterior areas, and the on-site parking areas.*

AIR-3: *Prior to issuance of the first certificate of occupancy, the project applicant shall pay a mitigation fee based on the equivalent amount of the project's contribution of ROG emissions that exceeds the applicable threshold of significance (i.e., 1.84 lbs/day for the proposed project) and the per ton cost-effectiveness identified by the CARB's most current Carl Moyer Program Guidance. The project applicant may propose payment towards an alternate off-site mitigation project within the same region through participation in an off-site mitigation program, coordinated through SMAQMD. The off-site mitigation project must result in an equivalent emission reduction as identified above and be subject to verification and approval by SMAQMD. The final details of the mitigation fee shall be determined in coordination with, and reviewed and approved by, the SMAQMD and City of Sacramento Community Development Department. Proof of payment shall be submitted to the City of Sacramento Community Development Department.*

FINDINGS

Air pollutants are generated by nearly all developments and economic activity in the Sacramento region. Air pollution is regulated on the federal, state, and local level, and SMAQMD is the regional agency that oversees air pollution regulation, planning, and rulemaking. While air quality impacts usually result from regional trends, individual projects may contribute substantially to such regional trends. SMAQMD has established quantitative emissions screening levels, which allow for potential cumulative air quality impacts that may result from an individual project's emissions.

The project would not involve construction-related criteria pollutant emissions that would exceed applicable SMAQMD thresholds. The project would be required by SMAQMD to implement all relevant BMPs and BACTs, which would further reduce PM emissions. The proposed project would be required to implement project-specific Mitigation Measures AIR-2 and AIR-3 to reduce operational criteria pollutant emissions to a less-than-significant level. The project would not be considered a source of TACs, nor is the project located near a known source of TACs. Because the project may include restaurant uses, which could be considered to be sources of odors, MTP/SCS EIR Mitigation Measure AIR-3 has been required as part of the project. Overall, the application of project-specific Mitigation Measures AIR-2 and AIR-3, as well as MTP/SCS EIR Mitigation Measure AIR-3 would ensure that the project would not result in any significant environmental effects related to air quality.

II. BIOLOGICAL RESOURCES.	Potentially Significant Impact	Less-Than-Significant with Mitigation Incorporated	Less-Than-Significant Impact	No Impact
Would the proposal:				
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, and regulations or by the California Department of Fish and Wildlife or US 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 resident or migratory fish or wildlife species or with established resident or migratory wildlife corridors, or impede the use of 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 Conservation Community Plan, or other approved local, regional, or state habitat conservation plan?	☐	☐	☐	☒

ENVIRONMENTAL SETTING

Prior to human development, the natural habitats within the region included perennial grasslands, riparian woodlands, oak woodlands, and a variety of wetlands including vernal pools, seasonal wetlands, freshwater marshes, ponds, streams, and rivers. Over the last 150 years, agriculture, irrigation, flood control, and urbanization have resulted in the loss or alteration of much of the natural habitat within the City limits. Non-native annual grasses have replaced the native perennial grasslands, many of the natural streams have been channelized, much of the riparian and oak woodlands have been cleared, and most of the marshes have been drained and converted to agricultural or urban uses.

Though most of the City is developed with residential, commercial, and other urban development, some valuable plant and wildlife habitat remains. The natural habitats are located primarily outside the City boundaries in the northern, southern and eastern portions of the City, but also occur along river and stream corridors and on a number of undeveloped parcels throughout the City. Notable habitats that are present in the City include annual grasslands, riparian woodlands, oak woodlands, riverine, ponds, freshwater marshes, seasonal wetlands, and vernal pools.

Most of the project site is characterized by flat terrain that has been historically leveled, ditched, and drained for agricultural use. The northern portion displays uneven topography and contains several gardens installed by neighbors. The majority of the project site currently supports fallow agricultural fields reverting to annual brome grasslands and are characterized by soft chess

(*Bromus hordeaceus*), wild oats (*Avena fatua*), rip-gut brome (*Bromus diandrus*), and perennial rye (*Lolium perenne*). The edges of the fields support ruderal vegetation, including stinkwort (*Dittrichia graveolens*) and Russian thistle (*Salsola tragus*). The perimeter of the site has been disked to form firebreaks, but vegetation is present in these areas. The area immediately south of the abutting residential development to the north supports a variety of non-native and ornamental trees and shrubs including fruitless mulberry (*Morus alba*) and tree of heaven (*Ailanthus altissima*). A small thicket of willows (*Salix* spp.) and poison oak (*Toxicodendron diversilobum*) flank the banks of a small intermittent drainage in the southeast corner of the project site.

STANDARDS OF SIGNIFICANCE

For the purposes of this environmental document, an impact is considered significant if the project would:

- 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;
- Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, and regulations or by the California Department of Fish and Wildlife or US Fish and Wildlife Service;
- 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;
- Interfere substantially with the movement of any resident or migratory fish or wildlife species or with established resident or migratory wildlife corridors, or impede the use of wildlife nursery sites;
- Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance; or
- Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Conservation Community Plan, or other approved local, regional, or state habitat conservation plan.

For the purposes of this environmental document, “special-status” has been defined to include those species, which are:

- Listed as endangered or threatened under the federal Endangered Species Act (or formally proposed for, or candidates for, listing);
- Listed as endangered or threatened under the California Endangered Species Act (CESA), or proposed for listing;
- Designated as endangered or rare, pursuant to California Fish and Game Code (Section 1901);
- Designated as fully protected, pursuant to California Fish and Game Code (Section 3511, 4700, or 5050);
- Designated as species of concern by U.S. Fish and Wildlife Service (USFWS), or as species of special concern to California Department of Fish and Wildlife (CDFW); or
- Plants or animals that meet the definition of rare or endangered under CEQA.

SUMMARY OF ANALYSIS UNDER THE 2035 GENERAL PLAN MASTER EIR AND APPLICABLE GENERAL PLAN POLICIES

Chapter 4.3 of the Master EIR evaluated the effects of the 2035 General Plan on biological resources within the City. The Master EIR identified potential impacts in terms of degradation of the quality of the environment or reduction of habitat or population below self-sustaining levels of special-status birds, through the loss of both nesting and foraging habitat.

Policies in the 2035 General Plan were identified as mitigating the effects of development that could occur under the provisions of the 2035 General Plan. Policy ER 2.1.5 calls for the City to preserve the ecological integrity of creek corridors and other riparian resources; Policy ER 2.1.10 requires the City to consider the potential impact on sensitive plants for each project and to require pre-construction surveys when appropriate; and Policy ER 2.1.11 requires the City to coordinate its actions with those of CDFW, USFWS, and other agencies in the protection of resources.

The Master EIR concluded that policies in the general plan, combined with compliance with the California Endangered Species Act, Natomas Basin Habitat Conservation Plan (HCP) (when applicable) and CEQA would minimize the impacts on special-status species to a less-than-significant level (see Impact 4.3-1), and that the general plan policies, along with compliance with local, state and federal regulations would reduce impacts to a less-than-significant level for habitat for special-status invertebrates, birds, amphibians and reptiles, mammals and fish (Impacts 4.3-3-6).

Given the prevalence of rivers and streams in the incorporated area, impacts to riparian habitat is a common concern. Riparian habitats are known to exist throughout the City, especially along the Sacramento and American rivers and their tributaries. The Master EIR discussed impacts of development adjacent to riparian habitat that could disturb wildlife species that rely on these areas for shelter and food, and could also result in the degradation of these areas through the introduction of feral animals and contaminants that are typical of urban uses. The CDFW regulates potential impacts on lakes, streams, and associated riparian (streamside or lakeside) vegetation through the issuance of Lake and Streambed Alteration Agreement (per Fish and Game Code Section 1602), and provides guidance to the City as a resource agency. While there are no federal regulations that specifically mandate the protection of riparian vegetation, federal regulations set forth in Section 404 of the Clean Water Act address areas that potentially contain riparian-type vegetation, such as wetlands.

The 2035 General Plan calls for the City to preserve the ecological integrity of creek corridors, canals and drainage ditches that support riparian resources (Policy ER 2.1.5) and wetlands (Policy ER 2.1.6), and requires habitat assessments and impact compensation for projects (Policy ER 2.1.10). The City has adopted a standard that requires coordination with state and federal agencies if a project has the potential to affect other species of special concern or habitats (including regulatory waters and wetlands) protected by agencies or natural resource organizations (Policy 2.1.11).

Implementation of 2035 General Plan Policy ER 2.1.5 would reduce the magnitude of potential impacts by requiring a 1:1 replacement of riparian habitat lost to development. While this would help mitigate impacts on riparian habitat, large open areas of riparian habitat used by wildlife could be lost and/or degraded directly and indirectly through development under the 2035 General Plan. Given the extent of urban development designated in the general plan, the preservation and/or restoration of riparian habitat would likely occur outside of the City limits. The Master EIR concluded that the permanent loss of riparian habitat would be a less-than-significant impact (Impact 4.3-7).

MITIGATION MEASURES FROM 2035 GENERAL PLAN MASTER EIR THAT MAY APPLY TO THE PROJECT

None.

SUMMARY OF ANALYSIS UNDER THE METROPOLITAN TRANSPORTATION PLAN/SUSTAINABLE COMMUNITIES STRATEGY (MTP/SCS) EIR

Chapter 6 of the MTP/SCS EIR evaluated potential impacts to biological resources that may result from implementation of the MTP/SCS. Where necessary and feasible, mitigation measures are identified to reduce these impacts.

a. Special-Status Species

The MTP/SCS EIR analyzed the potential substantial impacts related to the MTP/SCS either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species under Impact BIO-1. The MTP/SCS EIR notes that, although Center and Corridor Communities are predominantly urbanized, the areas still include wildland that may provide suitable habitat for special-status species.

The MTP/SCS EIR concluded that construction and operation of land uses and transportation projects included in the MTP/SCS would result in a *significant and unavoidable* impact because SACOG does not have the authority to require implementing agencies to adopt mitigation measures included in the MTP/SCS EIR. However, the MTP/SCS EIR requires that any project taking advantage of the CEQA Streamlining must implement the mitigation measures discussed in the MTP/SCS EIR where feasible and necessary (Mitigation Measures BIO-1a, BIO-1b, and BIO-1c). Implementation of the MTP/SCS EIR's required mitigation would reduce the associated impact to a *less-than-significant* level.

b,c. Riparian Habitat/Protected Wetlands

The MTP/SCS EIR evaluated potential impacts related to substantial adverse effects on riparian habitat or other sensitive natural community under Impact BIO-2, and evaluated potential impacts related to substantial adverse effects on State or federally protected wetlands under Impact BIO-3. The MTP/SCS EIR notes that, although Center and Corridor Communities are predominantly urbanized, the areas still include riparian habitat and wetlands.

The MTP/SCS EIR concluded that construction of land uses and transportation projects included in the MTP/SCS would result in a *significant and unavoidable* impact because SACOG does not have the authority to require implementing agencies to adopt mitigation measures included in the MTP/SCS EIR. However, the MTP/SCS EIR requires that any project taking advantage of the CEQA Streamlining must implement the mitigation measures discussed in the MTP/SCS EIR where feasible and necessary (Mitigation Measures BIO-2, BIO-3, BIO-4, and BIO-5). Implementation of the MTP/SCS EIR's required mitigation would reduce the associated impact to a *less-than-significant* level.

d. Movement of any Resident or Migratory Fish or Wildlife Species

The MTP/SCS EIR analyzed the potential impact related to the MTP/SCS interfering substantially with the movement of any resident or migratory fish or wildlife species or with established resident or migratory wildlife corridors, or impede the use of wildlife nursery sites under Impact BIO-4. The MTP/SCS EIR determined that the projected land use pattern and planned transportation

improvements under the MTP/SCS in Sacramento and Yolo counties HFTAs would not result in the conversion of any habitats containing Essential Connectivity Areas (ECAs). Nonetheless, the MTP/SCS EIR concluded that some construction of land uses and transportation projects included in the MTP/SCS would involve changes to areas mapped as ECAs and, consequently, the MTP/SCS EIR concluded that construction of land uses and transportation projects included in the MTP/SCS could result in a *significant and unavoidable* impact because SACOG does not have the authority to require implementing agencies to adopt mitigation measures included in the MTP/SCS EIR. However, the MTP/SCS EIR requires that any project taking advantage of the CEQA Streamlining must implement the mitigation measures discussed in the MTP/SCS EIR where feasible and necessary (Mitigation Measures BIO-6 and BIO-7). Implementation of the MTP/SCS EIR's required mitigation would reduce the associated impact to a *less-than-significant* level.

e. Tree Preservation Policy or Ordinance

The MTP/SCS EIR analyzed the potential impact related to potential conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance, under Impact BIO-5. The MTP/SCS EIR concluded that construction of land uses and transportation projects included in the MTP/SCS could result in the removal of trees that are protected by local policies or ordinances, and a *significant and unavoidable* impact would result because SACOG does not have the authority to require implementing agencies to adopt mitigation measures included in the MTP/SCS EIR. However, the MTP/SCS EIR requires that any project taking advantage of the CEQA Streamlining must implement the mitigation measures discussed in the MTP/SCS EIR where feasible and necessary (Mitigation Measures BIO-8 and BIO-9). Implementation of the MTP/SCS EIR's required mitigation would reduce the associated impact to a *less-than-significant* level.

f. Habitat Conservation Plan or Natural Conservation Community Plan

The MTP/SCS EIR analyzed the potential impact related to potential conflict with the provisions of an adopted HCP, Natural Conservation Community Plan (NCCP), or other approved local, regional, or State HCP under Impact BIO-6. Because the consistency of covered activities within the plan area with an adopted HCP, NCCP, or other conservation plan is a legal requirement, implementation of projects considered covered activities under the proposed MTP/SCS would not result in conflict with the provisions of adopted HCPs, NCCPs, or other approved local, regional, or State HCPs. Therefore, the MTP/SCS EIR concluded that a *less-than-significant* impact would occur for projects within Center and Corridor Communities.

MITIGATION MEASURES FROM THE MTP/SCS EIR THAT MAY APPLY TO THE PROJECT

MTP/SCS EIR Mitigation Measures BIO-1a, BIO-1b, BIO-1c, BIO-2, BIO-3, BIO-4, BIO-5, and BIO-6 apply to the project, could be feasibly implemented, and are hereby incorporated into this SCEA IS as a requirement of the project. MTP/SCS EIR Mitigation Measures BIO-1a has already been implemented. MTP/SCS EIR Mitigation Measure BIO-2, BIO-4, and BIO-6 all require implementation of Mitigation Measure BIO-1a and, as a result, are not repeated below.

MM BIO-1a: Conduct a Biological Resources Assessment.

- *Prior to initiation of construction activities under the proposed MTP/SCS, the implementing agency shall require a qualified biologist to conduct a data review, land cover mapping (including aquatic habitats such as*

wetlands), and a reconnaissance-level survey and habitat assessment of the area of impact to identify whether any special-status plant or wildlife species habitat, riparian or other sensitive habitats, sensitive natural communities, wetlands, wildlife movement corridors, or wildlife nursery sites could be affected by construction activities. Additionally, the biologist will determine whether any local policies or ordinances intended to protect biological resources (e.g., tree removal policies) would apply, and whether construction activities would result in conflicts with these policies or ordinances. The data reviewed shall include the Biological Resources setting of this EIR (See Section 6.2 "Environmental Setting), and the best available current data for the area, including vegetation mapping data, species distribution information, CNDDB, CNPS Inventory of Rare and Endangered Plants of California, and relevant general plans, HCPs, and NCCPs. The biological resources assessment shall be completed at a time of year that is appropriate for identifying habitat and no more than one year prior to initiation of construction activities.

- *If the qualified biologist determines that: the land within and in the vicinity of the area of impact does not contain suitable habitat for special-status plant or animal species, riparian or other sensitive habitats, sensitive natural communities, wetlands, wildlife movement corridors, or native wildlife nursery sites; construction activities would not result in adverse effects on these resources and/or that project implementation would not result in conflict with a local policy or ordinance or an adopted HCP or NCCP, the biologist will document the findings in a letter report to the implementing agency, and no further mitigation is required.*

MM BIO-1b: Identify Special-Status Plant Species, and Avoid, Minimize, and Mitigate Impacts.

If the qualified biologist, after implementation of Mitigation Measure BIO-1a, determines that suitable habitat for special-status plants is present within the area of impact and could be adversely affected by construction activities, then the following measures shall be implemented:

- *Eleven special-status plant species are covered under adopted HCPs or NCCPs within the plan area of the proposed MTP/SCS (Yolo HCP/NCCP, South Sacramento HCP, and Natomas Basin HCP; Appendix BIO-1). If a project under the proposed MTP/SCS is within the plan area of an adopted HCP or NCCP, and the project qualifies as a covered activity MTP/SCS 2020 Sacramento Area Council of Governments Draft Environmental Impact Report Biological Resources – Page 6–46 under the HCP or NCCP, then the implementing agency may seek coverage under the plan. If permitting through an adopted HCP or NCCP is pursued, the implementing agency would be required to meet the permit conditions and other requirements established in the plan's Implementing Agreement, which often includes (depending on the plan) submitting a complete application package, paying required fees, fulfilling any appropriate survey requirements, and complying with all applicable conservation measures.*
- *For projects that are not within the plan area of an adopted HCP or NCCP or if special-status plant species that are not covered under an adopted HCP or NCCP may be present within the area of impact, the following measures shall apply:*

- *Prior to project initiation and during the blooming period for special-status plant species with potential to occur in the area of impact, a qualified botanist shall conduct protocol-level surveys for special-status plants in accordance with Protocols for Surveying and Evaluating Impacts to Special Status Native Plant Populations and Natural Communities (CDFW 2018c).*
- *If no special-status plants are found during the protocol-level survey, the botanist will document the findings in a letter report to USFWS, CDFW, and the implementing agency and no further mitigation will be required.*
- *If special-status plant species are found that cannot be avoided during construction, the implementing agency will consult with CDFW or USFWS to determine the appropriate mitigation measures for direct and indirect impacts that could occur as a result of project construction. The implementing agency will implement the agreed-upon mitigation measures to achieve no net loss of occupied habitat or individuals. Mitigation Measures may include preserving and enhancing existing populations, creation of offsite populations on project mitigation sites through seed collection or transplantation, and/or restoring or creating suitable habitat in sufficient quantities to achieve no net loss of occupied habitat and/or individuals.*

MM BIO-1c: Identify Special-Status Wildlife, and Avoid, Minimize, and Mitigate Impacts.

If the qualified biologist, after implementation of Mitigation Measure BIO-1a, determines that suitable habitat for special-status wildlife is present within the area of impact and could be adversely affected by construction activities, then the following measures shall be implemented:

- *Thirty special-status wildlife species are covered under adopted HCPs or NCCPs within the plan area of the proposed MTP/SCS (Yolo HCP/NCCP, South Sacramento HCP, and Natomas Basin HCP; Appendix BIO-1). If a project under the proposed MTP/SCS is within the plan area of an adopted HCP or NCCP, and the project qualifies as a covered activity under the HCP or NCCP, then the implementing agency may seek coverage under the plan. If permitting through an adopted HCP or NCCP is pursued, the implementing agency would be required to meet the permit conditions and other requirements established in the plan's Implementing Agreement, which often includes (depending on the plan) submitting a complete application package, paying required fees, fulfilling any appropriate survey requirements, and complying with all applicable conservation measures.*
- *For projects that are not within the plan area of an adopted HCP or NCCP [as is the case for the proposed project] or if special-status wildlife species that are not covered under an adopted HCP or NCCP may be present (where applicable), preconstruction surveys, and avoidance and minimization measures are required Alternatively, if suitable habitat is determined to be present within the area of impact, presence of special-status species may be assumed instead of confirmed with surveys. Consultation with CDFW, USFWS, and/or NOAA Fisheries may also be required, depending on the type of impact and the species involved. Refer to the Avoidance and Minimization Measures for each special-status wildlife species with potential to occur within the plan area of the proposed*

MTP/SCS below. [All avoidance and minimization measures are included in the MTP/SCS EIR on pages 6-47 through 6-64].

- *Consultation with CDFW or USFWS may include acquiring a CDFW Incidental Take Permit or a take exemption through Section 7, or an Incidental Take Permit through Section 10. Conditions of incidental take authorization may include minimization measures to reduce impacts on individual species, compensation for loss of the species including but not limited to preservation, restoration, or creation of special-status wildlife habitat. Incidental take authorization is not available for species with potential to occur within the plan area of the proposed MTP/SCS that are fully protected under California Fish and Game Code (American peregrine falcon, bald eagle, California black rail, golden eagle, greater sandhill crane, white-tailed kite, California wolverine, salt marsh harvest mouse, and ringtail).*
- *If habitat compensation is required, mitigation will occur at an agency approved mitigation bank or through individual mitigation locations as approved by USFWS and/or CDFW. Examples of representative minimum replacement ratios are presented below in Table 6-10. A mitigation and monitoring plan will be developed describing how unavoidable losses of special status wildlife will be compensated. The mitigation and monitoring plan will include how the site will be monitored and the duration of monitoring until the mitigation is considered to be successful. The implementing agency shall comply with all requirements of these Incidental Take Permits.*
- *Should Section 7 consultation be required, consideration of critical habitat within the area of impact would also be required. Designated critical habitat within the vicinity of the area of impact will be identified. All proposed project actions will be designed to avoid direct and indirect adverse modifications to these areas. Minimization measures, such as establishing and maintaining buffers around areas of designated critical habitat will be implemented in the event that avoidance is not feasible. If critical habitat may be adversely modified by the implementation of the proposed MTP/SCS, the area to be modified will be evaluated by a qualified biologist to determine the potential magnitude of the project effects (e.g., description of primary constituent elements present and quantification of those affected) at a level of detail necessary to satisfy applicable environmental compliance and permitting requirements.*

MM BIO-3: Avoid, Minimize, and Mitigate Impacts on Sensitive Natural Communities.

If the qualified biologist, after implementation of Mitigation Measure BIO-2, determines that riparian habitat or other sensitive natural communities are present within the area of impact and could be adversely affected by construction activities, then the following measures shall be implemented:

- *To the extent practicable, and in consideration of other design requirements and constraints (e.g., meeting primary project objectives and needs, avoidance of other sensitive resources), the implementing agency shall attempt to design the proposed projects in a way that minimizes the*

removal of native sensitive natural communities, particularly trees that contribute to the overstory canopy of these communities.

- *If adverse effects on riparian habitat or other sensitive natural communities associated with the bed, back, or channel of streams or lakes cannot be avoided, the implementing agency shall comply with Section 1602 of the California Fish and Game Code by submitting a Streambed Alteration Notification to CDFW, pursuant to Section 1600 et seq. of the California Fish and Game Code. If the resources are determined to be subject to CDFW jurisdiction, the implementing agency shall abide by the conditions of any executed agreement prior to any initiation of construction activities.*
- *The implementing agency shall compensate for permanent loss of riparian habitat at a sufficient ratio for no net loss of habitat function or acreage for restoration and preservation, which may be achieved through a combination of onsite restoration/creation, offsite restoration, preservation, or mitigation credits. If mitigation credits are not available, stream and riparian habitat compensation shall include establishment of riparian vegetation on currently unvegetated bank portions of streams affected by the project and enhancement of existing riparian habitat through removal of nonnative species, where appropriate, and planting additional native riparian plants to increase cover, continuity, and width of the existing riparian corridor along streams in the site and surrounding areas. Construction activities and compensatory mitigation shall be conducted in accordance with the terms of a streambed alteration agreement as required under Section 1602 of the California Fish and Game Code, and shall include development of a Compensatory Stream and Riparian Mitigation and Monitoring Plan for creating or restoring in-kind habitat in the surrounding area.*
- *The Compensatory Stream and Riparian Mitigation and Monitoring Plan shall include the following:*

    - *identification of compensatory mitigation sites and criteria for selecting these mitigation sites;*
    - *in-kind reference habitats for comparison with compensatory riparian habitats (using performance and success criteria) to document success;*
    - *monitoring protocol, including schedule and annual report requirements (compensatory habitat shall be monitored for a minimum of 5 years from completion of mitigation, or human intervention [including recontouring and grading], or until the success criteria identified in the approved mitigation plan have been met, whichever is longer);*
    - *ecological performance standards, based on the best available science and including specifications for native riparian plant densities, species composition, amount of dead woody vegetation gaps and bare ground, and survivorship; at a minimum, compensatory mitigation planting sites must achieve 80 percent survival of planted riparian trees and shrubs by the end of the 5-year maintenance and monitoring period or dead and dying trees shall be replaced and monitoring continued until 80 percent survivorship is achieved;*
    - *corrective measures if performance standards are not met;*

  - *responsible parties for monitoring and preparing reports; and*
  - *responsible parties for receiving and reviewing reports and for verifying success or prescribing implementation or corrective actions.*

- *If oak woodland habitat is removed, the county implementing agency shall determine if the loss of oak woodland would have a significant impact on the environment. If so, an oak woodland mitigation plan would be developed that achieves a no-net-loss of habitat acreage and function, which may be achieved through a combination of restoration/creation, preservation, or mitigation credits. At a minimum, the restoration and monitoring plan shall include clear goals and objectives, success criteria, specifics on restoration/creation (e.g., plant palette, soils, irrigation), specific monitoring periods and reporting guidelines, and a maintenance plan. Oak woodland restoration or creation shall be monitored for a minimum of five years and shall be considered successful when at least 75 percent of all plantings have become successfully established. Such mitigation sites shall be dedicated either in fee or as an easement in perpetuity held by a qualified agency. Guaranteed funding for maintenance of the mitigation sites shall be established.*
- *If losses of other sensitive natural communities recognized as sensitive by CDFW (see Appendix BIO-2) would be substantial, then additional compensation shall be provided through creating, restoring, or preserving in perpetuity in-kind communities to achieve nonet-loss of habitat function or acreage.*

MM BIO-5: Avoid, Minimize, and Mitigate Impacts on Wetland and Other Waters.

If the qualified biologist, after implementation of Mitigation Measure BIO-4, determines that wetlands or other waters are present within the area of impact and could be adversely affected by construction activities, then the following measures shall be implemented:

- *The implementing agency shall conduct a delineation of state or federally protected wetlands and submit the delineation to USACE for verification. The delineation shall be conducted according to methods established in the USACE Wetlands Delineation Manual (Environmental Laboratory 1987), the Arid West Supplement (Environmental Laboratory 2008), and state wetland procedures (California Water Boards 2019 or current procedures).*
- *The implementing agencies shall obtain a USACE Section 404 permit, RWQCB Section 401 certification, and a Streambed Alteration Agreement (1602) from CDFW if required, and the implementing agency shall implement all permit conditions. The acreage, location, and methods for compensation shall be determined during the Section 404, RWQCB, and Streambed Alternation Agreement (1602) permitting process.*
- *Wetland habitat shall be restored, enhanced, and/or replaced at an acreage and location and by methods agreeable to USACE, RWQCB, and CDFW as appropriate, depending on agency jurisdiction. The replacement of waters or wetlands shall be equivalent to the nature of the habitat lost*

and shall be provided at a suitable ratio to ensure that, at a minimum, there is no net loss of habitat acreage or value. The replacement habitat shall be set aside in perpetuity for habitat use.

PROJECT-SPECIFIC IMPACT DISCUSSION

a. The project site currently consists of fallow agricultural fields that support annual grasslands. Aquatic features, including the existing on-site detention basin and intermittent drainages, occur on-site, as well as several trees along the northern and southern borders of the project site. Habitat types present on-site include annual brome grassland, mixed riparian woodland, and developed.

Consistent with MTP/SCS EIR Mitigation Measure BIO-1a, a Biological Resources and Regulatory Constraints Memo was prepared by Madrone Ecological Consulting, LLC (Madrone) for the proposed project to determine the potential for biological resources to occur on the project site (see Appendix B).[7] The Biological Resources and Regulatory Constraints Memo included a database review and field survey of the site. Databases queried included the California Natural Diversity Database (CNDDB); USFWS National Wetland Inventory; USFWS Critical Habitat Mapper; Natural Resources Conservation Service (NRCS) Web Soil Survey; USFWS Information, Planning and Consultation System (IPaC); California Native Plant Society databases; historic aerial photography; and U.S. Geological Survey (USGS) topographic maps. The field survey, conducted on September 20, 2019, was intended to determine whether the project site provided suitable habitat for special-status species that, based on the database review, are known to occur within the project area.

Special-Status Plants

The annual brome grasslands provide marginal habitat for Pappose tarplant (*Centromadia parryi* ssp*. parryi*), and some of the aquatic features represent marginally suitable habitat for dwarf downingia (*Downingia pusilla*) and Sanford's arrowhead (*Sagittaria sanfordii*).

Special-Status Wildlife

Of the 34 special-status wildlife species that are known to exist in the project region, 25 species have the potential to occur on-site based on the habitat requirements of each species. The species with the potential to occur on-site are generally discussed below.

Invertebrates

Some of the aquatic resources present on the project site provide very low-quality habitat for vernal pool fairy shrimp (*Branchinecta lynchi*), vernal pool tadpole shrimp (*Lepidurus packardi*), California linderiella (*Linderiella occidentalis*), and midvalley fairy shrimp (*Branchinecta mesovallensis*). Therefore, if such species are present during project construction, an adverse effect could occur.

[7] Madrone Ecological Consulting. *Biological Resources and Regulatory Constraints Due Diligence Memo for the Stone-Boswell Property, Sacramento, California*. October 3, 2019.

Reptiles

Due to the proximity of the project site to Morrison Creek, some of the on-site aquatic resources may provide marginal seasonal habitat for giant garter snake (*Thamnophis gigas*) and western pond turtle (*Actinemys marmorata*). Therefore, if such species are present during project construction, an adverse effect could occur.

Mammals

The trees located along the northern edge of the project site and the intermittent drainage channel located on-site provide marginal roosting habitat for pallid bat (*Antrozous pallidus*), silver-haired bat (*Lasionycteris noctivagans*), and hoary bat (*Lasiurus cinereus*). Additionally, the annual brome grasslands provide appropriate foraging and burrowing habitat for American badger (*Taxidea taxus*), but the likelihood that this species occupies the site is low due to the increasing urbanization of the area. Nonetheless, if the foregoing species are present during project construction, an adverse effect could occur.

Birds and Raptors

The annual brome grasslands provide suitable foraging habitat for Cooper's hawk (*Accipiter cooperii*), Swainson's hawk (*Buteo swainsoni*), northern harrier (*Circus hudsonius*), white-tailed kite (*Elanus leucurus*), purple martin (*Progne subis*), ferruginous hawk (*Buteo regalis*), and other large birds and raptors that may be protected under the MBTA. Additionally, several large unoccupied nests were observed in eucalyptus trees located immediately north of the project site. A small Himalayan blackberry thicket located on-site provides marginally suitable nesting habitat for tricolored blackbird (*Agelaius tricolor*).

Burrowing owls (*Athene cunicularia*) and active burrows were observed during surveys of the project site performed in 2005 and 2007. However, burrowing owls or signs of burrowing owls were not identified during the most recent (2019) field survey. Additionally, the CNDDB records indicate that active burrows were observed in the northeastern corner of the parcel; however, such records predate construction of the on-site light-rail tracks, which may have extirpated this occurrence. Nonetheless, the annual brome grasslands represent suitable foraging habitat, and ground squirrel burrows and debris piles provide nesting habitat for burrowing owl. Thus, Madrone concluded that burrowing owl have high potential to exist on-site.

Overall, if bird and raptor species are present during project construction, an adverse effect could occur.

Conclusion

Based on the above, the project site provides suitable habitat for several special-status plant and wildlife species. As a result, development of the project could 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 CDFW or USFWS. However, implementation of MTP/SCS EIR Mitigation Measures BIO-1b and BIO-1c, which provide avoidance and minimization measures for reducing impacts to special-status plants and wildlife, would ensure that such impacts are ***less-than-significant with mitigation incorporated***.

b,c. According to the Biological Resources and Regulatory Constraints Memo, the project site is not located within the following special designated areas/habitats: the Primary or Secondary Zone of the Legal Delta; Critical Habitats as designated by the USFWS; or USFWS Vernal Pool Core Recovery Areas. As a result, the project site does not include sensitive natural communities. However, as noted previously, aquatic features and associated riparian habitat exist on-site. As a result, Madrone prepared aquatic resources delineations for both the portion of the site owned by JP Land Holdings, LLC and the SCRSD Parcel (see Appendix C) in accordance with the *Corps of Engineers Wetlands Delineation Manual* (Environmental Laboratory 1987), the *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region (Version 2.0)* (USACE 2008a), *A Field Guide to the Identification of the Ordinary High Water Mark (OHWM) in the Arid West Region of the western United States* (USACE 2008b), and the Sacramento District's *Minimum Standards for Acceptance of Preliminary Wetlands Delineations* (USACE 2016b). The results of the wetland delineations are discussed below.

Portion of the Project Site Owned by JP Land Holdings, LLC

Aquatic resources present on the portion of the site owned by JP Land Holdings, LLC (APNs: 053-0010-048, -049, and -076) are presented in Figure 13. The approximately 0.283-acre of intermittent stream and 0.008-acre of ephemeral stream are potential jurisdictional aquatic resources ("waters of the United States") regulated under Section 404 of the Clean Water Act.[8]

The detention basin located on the eastern portion of the site, totaling 0.242-acre, is not a water of the U.S. regulated under Section 404 of the Clean Water Act or under Section 10 of the Rivers and Harbors Act, because it was constructed on dry land and meets the wastewater treatment system exclusion under 328.3(a)(8).[9]

SCRSD Parcel

Aquatic resources present on the SCRSD Parcel (APNs: 119-0090-014 [portion], 119-0080-001 and 119-0080-029 [portion]) are presented in Figure 14. The approximately 0.152-acre of seasonal wetlands and 1.904 acres of perennial, intermittent and ephemeral streams and drainages, present within the survey area are potential jurisdictional aquatic resources ("waters of the United States") regulated under Section 404 of the Clean Water Act.[10]

Conclusion

Based on the above, the project site includes aquatic resources and/or protected wetlands that would be affected by implementation of the proposed project. Thus, the project could result in potentially significant impacts related to having a substantial adverse effect on any riparian habitat or State or federally protected wetlands.

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8 Marc A. Fugler, Senior Project Manager for U.S. Army Corps of Engineers, Sacramento District. *Response to request for an approved jurisdictional determination for the Stone Beetland Detention Basin site*. February 8, 2022.

9 Marc A. Fugler, Senior Project Manager for U.S. Army Corps of Engineers, Sacramento District. *Response to request for a preliminary jurisdictional determination (JD) for the Stone Beetland site.* February 8, 2022.

10 Marc A. Fugler, Senior Project Manager for U.S. Army Corps of Engineers, Sacramento District. *Response to request for a preliminary jurisdictional determination (JD) for the SRCSD Property site.* January 18, 2022.

Figure 13
Aquatic Resources Delineation – Portion of the Project Site Owned by JP Land Holdings, LLC

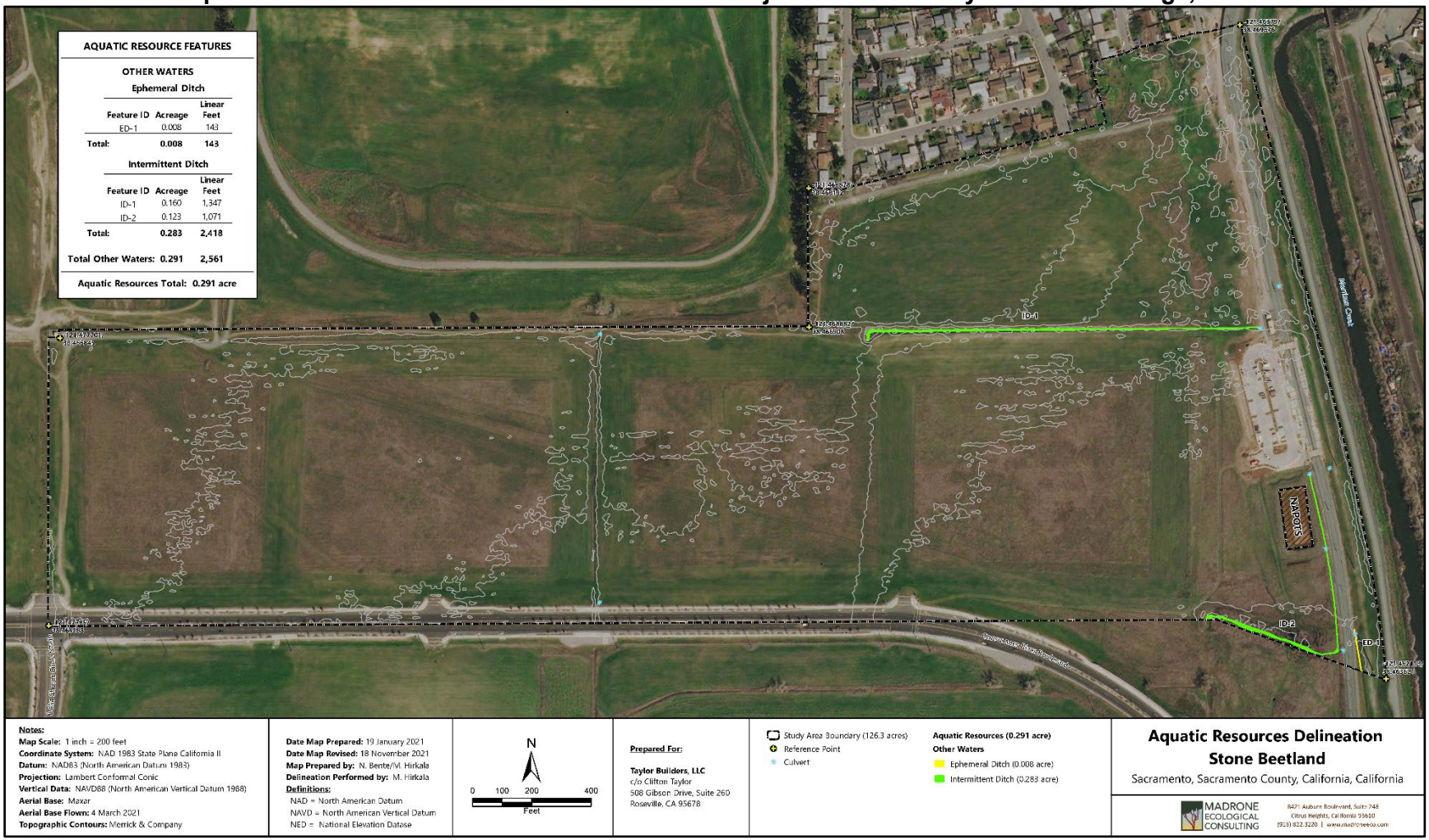
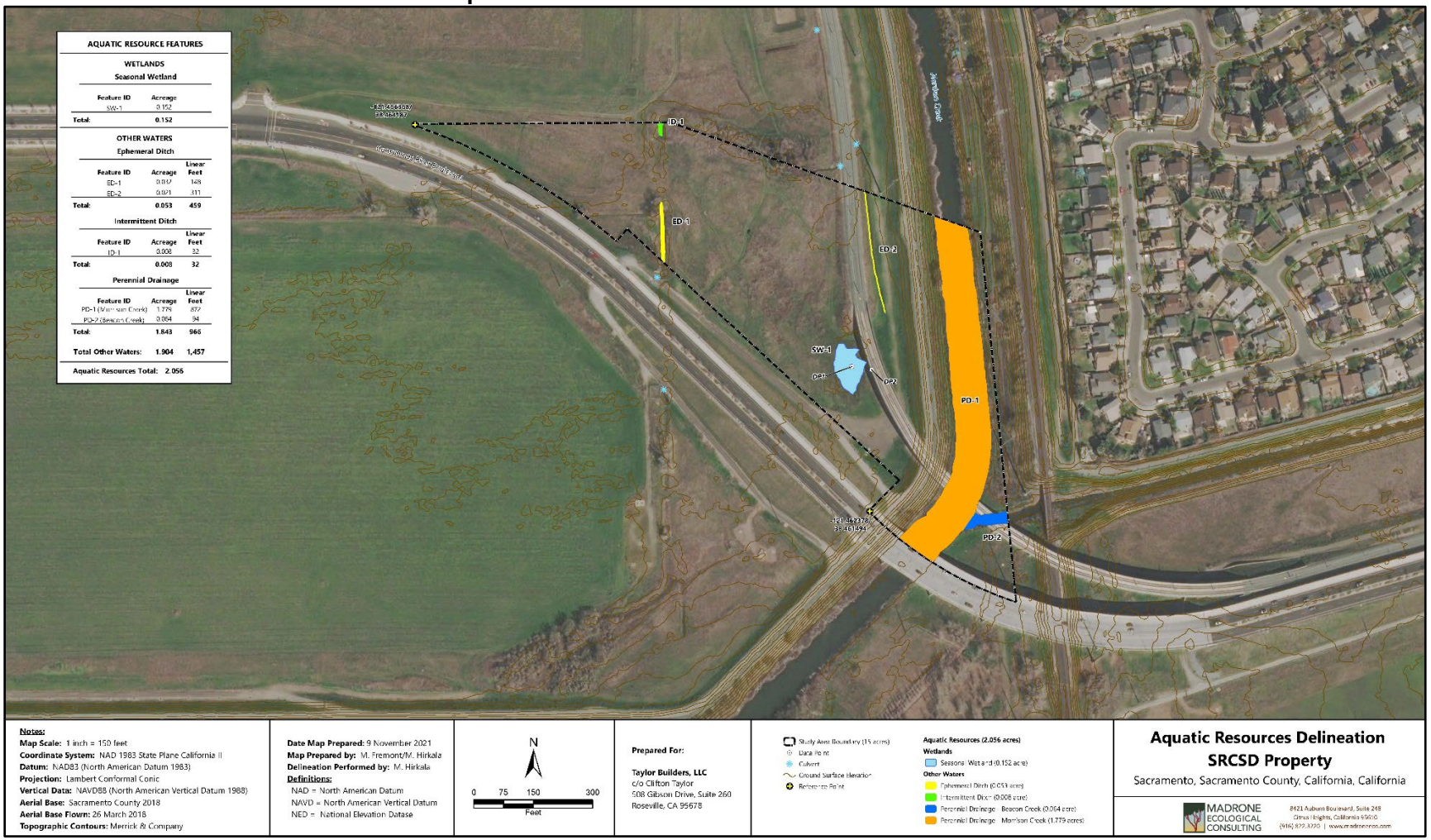


Figure 14
Aquatic Resources Delineation – SCRSD Parcel



However, implementation of MTP/SCS EIR Mitigation Measures BIO-3 and BIO-5 would reduce all such impacts by requiring specific minimization measures for work near sensitive natural communities, wetlands, and other waters. Thus, the proposed project's impact would be ***less-than-significant with mitigation incorporated***.

d. Movement corridors or landscape linkages are usually linear habitats that connect two or more habitat patches, providing assumed benefits to the species by reducing inbreeding depression and increasing the potential for recolonization of habitat patches.

The urbanized character of the surrounding area and presence of major roadways limits the potential for use of the project site as a wildlife movement corridor, and the project site does not include any mapped ECAs.[11] In addition, the project would not impede the flow of Morrison Creek, which could be used by migratory fish or as a wildlife corridor for other wildlife species.

Overall, the project would not substantially interfere with the movement of any resident or migratory fish or wildlife species or with established resident or migratory wildlife corridors, or impede the use of wildlife nursery sites. Thus, a ***less-than-significant*** impact would occur.

e. The City of Sacramento maintains specific regulations protecting City Trees and Private Protected Trees. A City Tree means any tree which, when the trunk is measured 4.5 feet above ground, is partially or completely located in a City park, on the City's property, or on a public right-of-way (i.e., any street, road, sidewalk, park, alley, etc.). The Sacramento City Code defines a "Private Protected Tree" as follows:

A. A tree that is designated by city council resolution to have special historical value, special environmental value, or significant community benefit, and is located on private property;
B. Any native Valley Oak (*Quercus lobata*), Blue Oak (*Quercus douglasii*), Interior Live Oak (*Quercus wislizenii*), Coast Live Oak (*Quercus agrifolia*), California Buckeye (*Aesculus californica*), or California Sycamore (*Platanus 64acemose*), that has a Diameter at Standard Height (DSH) of 12 inches or more, and is located on private property;
C. A tree that has a DSH of 24 inches or more located on private property that:

1. Is an undeveloped lot; or
2. Does not include any single unit or duplex dwellings; or
3. A tree that has a DSH of 32 inches or more located on private property that includes any single unit or duplex dwellings.

In order to identify on-site trees, arborist reports were prepared by Madrone for both the portion of the project site owned by JP Land Holdings, LLC and the SCRSD Parcel (see Appendix D).[12,13] For both reports, Madrone surveyed the sites on March 21, 2022 in accordance with Sacramento City Code Section 12.56. The results of the arborist reports are discussed below.

[11] California Department of Fish and Wildlife. *Biogeographic Information and Observation System (BIOS) Viewer, Essential Connectivity Areas*. Available at: https://apps.wildlife.ca.gov/bios6/. Accessed March 2023.
[12] Madrone. *Arborist Report, Stone Beetland, City of Sacramento, Sacramento County, California*. May 16, 2022.
[13] Madrone. *Arborist Report, SRCSD Property, City of Sacramento, Sacramento County, California*. May 16, 2022.

A total of three native trees with DSH greater than 12 inches were identified on the portion of the site owned by JP Land Holdings, LLC (see Figure 15). All three trees would require removal in order to accommodate the proposed project.

A total of seven native trees with a DSH greater than 12 inches were identified on the SCRSD Parcel (see Figure 16). Four of the seven trees would require removal as part of the project.

In total, the project would require removal of seven trees. Consistent with City Code Section 12.56.050, approval of a Tree Permit would be required in order to remove such trees. As a condition of permit approval, the applicant would be subject to replacement standards or payment of an in-lieu fee, as determined by the City's Urban Forester.

Compliance with the applicable sections of the City Code would ensure that the project would not conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance, and a ***less-than-significant*** impact would occur.

f. The project site is not located within an area that is subject to an adopted HCP, NCCP, or other approved local, regional, or state habitat conservation plan. Therefore, the project would have ***no impact*** related to a conflict with the provisions of an adopted HCP, NCCP, or other approved local, regional, or state habitat conservation plan.

PROJECT-SPECIFIC MITIGATION MEASURES

None.

FINDINGS

MTP/SCS EIR Mitigation Measure BIO-1a has already been implemented. As a result of the Biological Resources and Regulatory Constraints Memo and aquatic resources delineations, it was determined that impacts to special-status plant and wildlife species, riparian habitat, and protected wetlands could occur. However, implementation of MTP/SCS EIR Mitigation Measures BIO-1b, BIO-1c, BIO-3, and BIO-5 would reduce all impacts to less-than-significant levels. Additionally, through the required compliance with the Sacramento City Code and the approval of a Tree Permit, adverse impacts related to conflicts with a tree preservation policy would not occur. The project site is not anticipated to serve as a migratory corridor.

The project would not result in additional significant environmental effects related to biological resources.

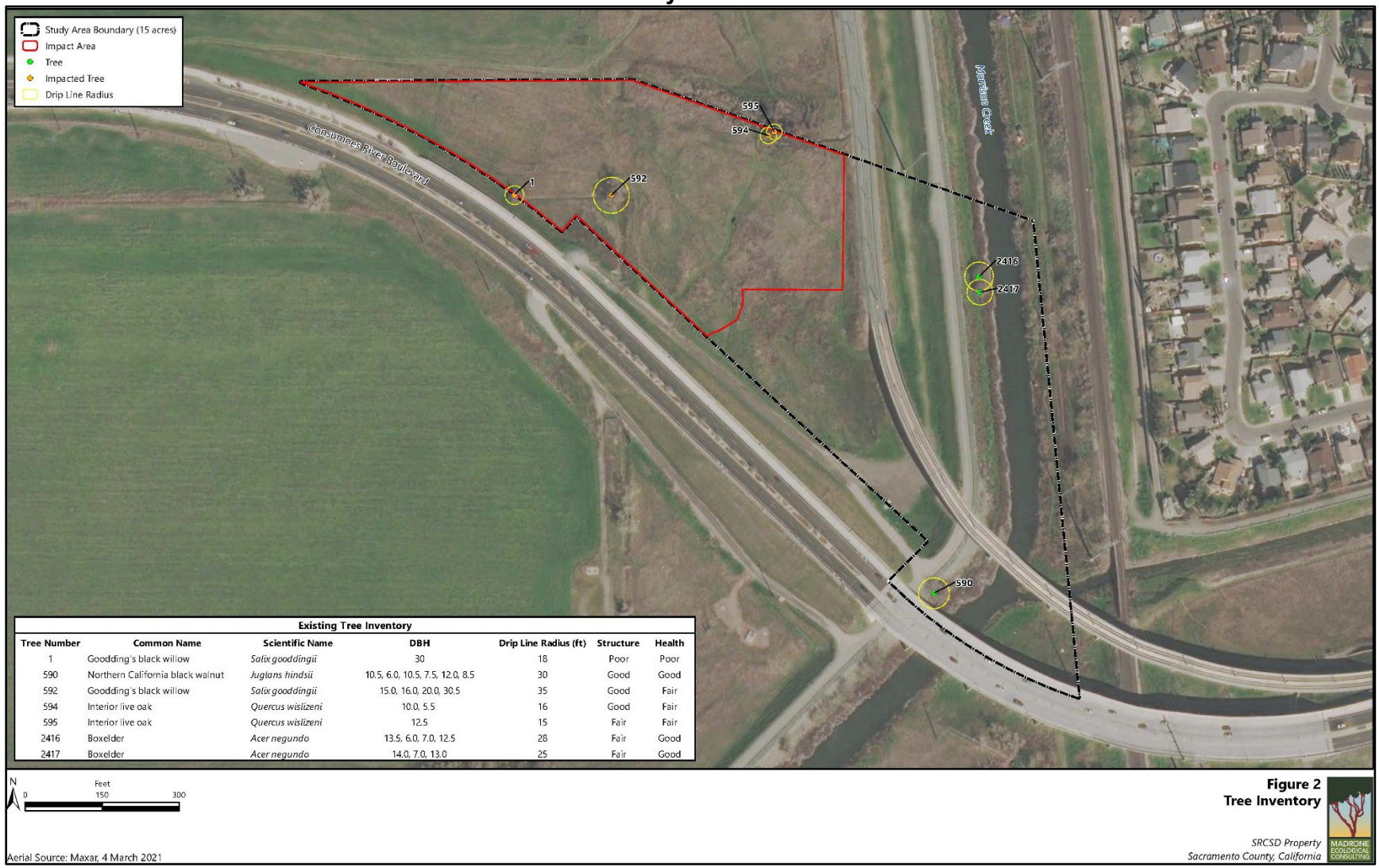
Figure 15
Tree Inventory – Portion of the Project Site Owned by JP Land Holdings, LLC



Existing Tree Inventory

Tree Number	Common Name	Scientific Name	DBH	Drip Line Radius (ft)	Structure	Health
597	Interior live oak	*Quercus wislizeni*	12.5	5	Poor	Poor
599	Northern California black walnut	*Juglans hindsii*	13.5, 13.5, 14.0	22	Poor	Fair
600	Valley oak	*Quercus lobata*	19.5	23	Good	Good

Figure 16
Tree Inventory – SCRSD Parcel



Existing Tree Inventory

Tree Number	Common Name	Scientific Name	DBH	Drip Line Radius (ft)	Structure	Health
1	Goodding's black willow	*Salix gooddingii*	30	18	Poor	Poor
590	Northern California black walnut	*Juglans hindsii*	10.5, 6.0, 10.5, 7.5, 12.0, 8.5	30	Good	Good
592	Goodding's black willow	*Salix gooddingii*	15.0, 16.0, 20.0, 30.5	35	Good	Fair
594	Interior live oak	*Quercus wislizeni*	10.0, 5.5	16	Good	Fair
595	Interior live oak	*Quercus wislizeni*	12.5	15	Fair	Fair
2416	Boxelder	*Acer negundo*	13.5, 6.0, 7.0, 12.5	28	Fair	Good
2417	Boxelder	*Acer negundo*	14.0, 7.0, 13.0	25	Fair	Good

N
0 150 300 Feet

Aerial Source: Maxar, 4 March 2021

Figure 2
Tree Inventory

SRCSD Property
Sacramento County, California

MADRONE ECOLOGICAL CONSULTING

III. CULTURAL RESOURCES.	Potentially Significant Impact	Less-Than-Significant with Mitigation Incorporated	Less-Than-Significant Impact	No Impact
Would the proposal:				
a. Cause a substantial adverse change in the significance of a historical resource pursuant to Section 15064.5?	☐	☒	☐	☐
b. Cause a substantial adverse change in the significance of a unique archaeological resource pursuant to Section 15064.5?	☐	☒	☐	☐
c. Disturb any human remains, including those interred outside of dedicated cemeteries.	☐	☒	☐	☐

ENVIRONMENTAL SETTING

The project is located within the City of Sacramento, which is situated on alluvial valley land south of the American River and east of the Sacramento River. Elevation ranges from about five feet above mean sea level along the Sacramento and American river banks to about 35 feet in the highest downtown areas. The average elevation is approximately 15 to 20 feet above sea level. According to Figure 6.4-1 of the Background Report to the City of Sacramento 2035 General Plan, the area adjacent to the American River is considered to be highly sensitive from an archaeological resource perspective. Although the project site is in the vicinity of the American River, the site appears to be outside of the high sensitivity area indicated in Figure 6.4-1. The area along Morrison Creek is identified as having moderate sensitivity for archeological resources.

The project site consists primarily of vacant land that was historically used for agriculture. The project area lies approximately 1.5 miles northeast of the town of Freeport, located within the Delta Region. Native Americans had lived in the historic California Delta for centuries when the Spaniards first arrived in the Delta area in 1772. Beginning in the late 1840s, the open grasslands between Sacramento and Elk Grove were settled by farmers who produced crops and raised livestock for the mass numbers of people who arrived in the area as a result of the Gold Rush. Ranching and farming remained the primary use of the region throughout the second half of the nineteenth century and majority of the twentieth century.[14]

STANDARDS OF SIGNIFICANCE

For the purposes of this environmental document, an impact is considered significant if the project would:

- Cause a substantial adverse change in the significance of a historical resource pursuant to Section 15064.5;
- Cause a substantial adverse change in the significance of a unique archaeological resource pursuant to Section 15064.5;
- Disturb any human remains, including those interred outside of dedicated cemeteries.

Section 21083.2 of the statute and Section 15064.5 of the CEQA Guidelines provide instructions for a lead agency to consider the effects of projects on historical resources and cultural resources. A historical resource is a resource listed in, or determined to be eligible for listing in, the California Register of Historical Resources (CRHR) (PRC Section 21084.1), a resource included in a local

[14] ECORP Consulting, Inc. *Cultural Resources Inventory and Evaluation Report: Stone Beetland Project*. March 2021.

register of historical resources (PRC Section 15064.5[a][2]), or any object, building, structure, site, area, place, record, or manuscript which a lead agency determines to be historically significant (PRC Section 15064.5[a][3]).

To be considered eligible for inclusion in the National Register of Historic Places (NRHP) or the CRHR, a resource must meet the following eligibility criteria:

(1)/(A) It is associated with events that have made a significant contribution to the broad patterns of local or regional history, or the cultural heritage of California or the U.S.;
(2)/(B) It is associated with the lives of persons important to local, California, or national history;
(3)/(C) It embodies the distinctive characteristics of a type, period, region, or method of construction, or represents the work of a master or possesses high artistic values; or
(4)/(D) It has yielded, or has the potential to yield, information important to the prehistory or history of the local area, California, or the nation.

In addition, the resource must retain integrity. Integrity is evaluated with regard to the retention of location, design, setting, materials, workmanship, feeling, and association. The resource must be at least 50 years old, except in exceptional circumstances.

SUMMARY OF ANALYSIS UNDER THE 2035 GENERAL PLAN MASTER EIR AND APPLICABLE GENERAL PLAN POLICIES

The Master EIR evaluated the potential effects of development under the 2035 General Plan on prehistoric and historic resources. See Chapter 4.4.

General Plan policies identified as reducing such effects call for identification of resources on project sites (Policy HCR 2.1.1), implementation of applicable laws and regulations (Policy HCR 2.1.2), early consultation with owners and land developers to minimize effects (Policy HCR 2.1.10) and encouragement of adaptive reuse of historic resources (Policy HCR 2.1.14). Demolition of historic resources is deemed a last resort (Policy HCR 2.1.15).

The Master EIR concluded that implementation of the 2035 General Plan would have a significant and unavoidable effect on historic resources and archaeological resources (Impacts 4.4-1, 2).

MITIGATION MEASURES FROM 2035 GENERAL PLAN MASTER EIR THAT MAY APPLY TO THE PROJECT

None.

SUMMARY OF ANALYSIS UNDER THE METROPOLITAN TRANSPORTATION PLAN/SUSTAINABLE COMMUNITIES STRATEGY (MTP/SCS) EIR

Chapter 7 of the MTP/SCS EIR evaluated potential impacts to cultural, historical, archaeological, tribal and paleontological resources that may result from implementation of the MTP/SCS. Where necessary and feasible, mitigation measures are identified to reduce these impacts.

a,b. Archeological or Historical Resource

The MTP/SCS EIR analyzed the potential impact related to the MTP/SCS causing a substantial adverse change in the significance of an archeological or historical resource (Impact CR-1 and Impact CR-2). The MTP/SCS EIR concluded that construction of land use and transportation

projects included in the MTP/SCS could result in an adverse change in the significance of paleontological, tribal cultural, archeological, or historical resources and a *significant and unavoidable* impact would result because SACOG does not have the authority to require implementing agencies to adopt mitigation measures included in the MTP/SCS EIR. However, the MTP/SCS EIR requires that any project taking advantage of the CEQA Streamlining must implement the mitigation measures discussed in the MTP/SCS EIR where feasible and necessary (Mitigation Measures CR-1, CR-2, and CR-3). Implementation of the MTP/SCS EIR's required mitigation would reduce such impacts to *less-than-significant* levels.

c. Disturb Human Remains

The MTP/SCS EIR analyzed the potential impact related to the MTP/SCS disturbing any human remains, including those interred outside of formal cemeteries (Impact CR-4) and determined the impact to be *less than significant*. According to the MTP/SCS EIR, projects are required by law to conform with Section 7050.5 of the California Health and Safety Code. Section 7050.5 of the California Health and Safety Code states that, when human remains are discovered, further site disturbance shall not occur until the county coroner has determined that the remains are not subject to the provisions of Section 27491 of the Government Code or any other related provisions of law concerning investigation of the circumstances, manner and cause of any death, and the recommendations concerning the treatment and disposition of the human remains have been made to the person responsible for the excavation, in the manner provided in section 5097.98 of the PRC. If the coroner determines that the remains are not subject to his or her authority and the remains are recognized to be those of a Native American, the coroner shall contact the Native American Heritage Commission (NAHC) within 24 hours; therefore, mitigation is not required.

MITIGATION MEASURES FROM THE MTP/SCS EIR THAT MAY APPLY TO THE PROJECT

MTP/SCS EIR Mitigation Measures CR-1, CR-2, and CR-3 are applicable to the project, could be feasibly implemented, and are hereby incorporated into this SCEA IS as a requirement of the project. MTP/SCS EIR Mitigation Measure CR-1 has already been implemented.

MM CR-1: Conduct project-specific historic built environment resource studies and identify and implement project-specific mitigation.

Measures that shall be implemented, where feasible and necessary to address site-specific impacts, include, but are not limited to, the following:

- *As part of the project/environmental review of individual projects, a records search at the appropriate Information Center of the CHRIS and a review of literature and historic maps shall be conducted to determine whether the project area has been previously surveyed and whether historic built environment resources were identified.*
- *In the event the records indicate that no previous survey has been conducted within the last five years, a qualified architectural historian (36 CFR Section 61) shall conduct a study of the project area for the presence of historic built environment resources. The study shall include conducting a field survey, necessary background, archival and historic research, consultation with local historical societies, museums or other interested parties as relevant, and preparation of a Historic Resource Assessment Report. The report shall document the results of the survey and the historic context, evaluate the federal, state, or local significance of built*

environment resources greater than 45 years in age that may potentially be directly or indirectly impacted by project activities, recommend appropriate protection or mitigative treatment, if any, and include recordation of identified built environment resources on appropriate California Department of Parks and Recreation (CDPR) series 523 forms. The final report and CDPR forms shall be filed by the architectural historian with the CHRIS. Recommended treatment for historical built environment resources identified in the report shall be implemented.

- *If no significant historic built environment resources are identified in the Historic Resource Assessment Report or prior survey of the project study area that may be directly or indirectly impacted by project activities, then mitigation for built environment resources is complete, and there is no adverse change to documented historical built environment resources for the project.*
- *If significant historic built environment resources are identified in the Historic Resource Assessment Report or prior survey of the project study area, the project sponsor and/or implementing agency should consider avoidance as the primary mitigation measure. If avoidance is possible, mitigation to documented historical built environment resources is complete.*
- *If avoidance of a significant built environment resource is not feasible, then the maintenance, repair, stabilization, rehabilitation, restoration, preservation, conservation, or reconstruction of the historical resource, as recommended by a qualified architectural historian or historic architect (36 CFR Section 61) and conducted in a manner consistent with the Secretary of the Interior's Standards for the Treatment of Historic Properties with Guidelines for Preserving, Rehabilitation, Restoring, and Reconstructing Historic Buildings or Historic Landscapes shall generally reduce impacts (Birnbaum and Peters 1996; Grimmer 2017). If adherence to the Secretary of the Interior's Standards cannot avoid materially altering in an adverse manner the physical characteristics or historic character of the surrounding environmental setting that contribute to a resource's historic significance, additional mitigation may be required.*
- *If avoidance of or minimization of substantial adverse effects to a significant built environment resource is not feasible through project design or by adherence to the Secretary of the Interior's Standards, the project sponsor and/or implementing agency should ensure that Historic American Buildings Survey (HABS), Historic American Engineering Record (HAER), or Historic American Landscapes Survey (HALS) documentation is completed prior to demolishment or significant material alteration of the resource's physical characteristics or setting. The HABS, HAER, and HALS programs formally document historical resources through the use of large-format photography, measured drawings, written architectural descriptions, and historical narratives. The level of documentation required as mitigation and preparation of the HABS, HAER, or HALS shall be determined and prepared by a qualified architectural historian or historic architect (36 CFR Section 61). The documentation packages shall be archived in appropriate public and secure repositories. Such documentation would not reduce the impact to a less-than-significant level.*

MM CR-2: Conduct project-specific archaeological resource studies and identify and implement project-specific mitigation.

Measures that shall be implemented, where feasible and necessary to address site-specific impacts, include, but are not limited to, the following:

- *As part of the appropriate project/environmental review of individual projects, the NAHC shall be consulted to determine whether known sacred sites are in the project area, and to identify Native Americans to contact to obtain information about the project area and relevant areas of cultural sensitivity. Additional consultation with relevant tribal representatives may be appropriate regarding known prehistoric sites, traditional cultural places, TCPs, project areas deemed highly sensitive for prehistoric or ethnohistoric resources, or where avoidance of impacts to prehistoric or ethnohistoric resources may be infeasible.*
- *A records search at the appropriate Information Center of the CHRIS shall be conducted by a qualified archaeologist (36 CFR Section 61) as part of the appropriate project/environmental review of individual projects to determine whether the project area has been previously surveyed and whether archaeological resources were identified.*
- *In the event the records indicate that no previous survey has been conducted or the survey did not meet current professional standards or regulatory guidelines, the qualified archaeologist (36 CFR Section 61) or the Information Center shall make a recommendation on whether a survey is warranted based on the sensitivity of the project area for archaeological resources and current professional standards or regulatory guidelines.*
- *If a survey is considered warranted, the archaeological study of the project area by a qualified archaeologist shall include conducting a field survey, necessary background research, a Sacred Lands search by the NAHC and consultation with local Native Americans identified by the NAHC, consultation with local historical societies, museums or other interested parties as relevant, and an Archaeological Survey Report. The confidential report shall document the results of the survey and the cultural context, assess the federal, state, or local significance of prehistoric, traditional, or historic-era archaeological resources that may potentially be directly or indirectly impacted by project activities, provide appropriate management recommendations, and include recordation of identified archaeological resources on appropriate California DPR series 523 forms. Management recommendations may include but not be limited to additional studies to evaluate identified sites, treatment for documented historical resources, or archaeological monitoring during ground-disturbing construction activities at locations determined by the archaeologist to be sensitive for subsurface cultural resource deposits, including local Native American monitors if sensitive for prehistoric resources. The final confidential report and DPR forms would be filed by the archaeologist with the CHRIS. Recommended treatment for historical resources identified in the report should be implemented.*
- *If no archeological resources are identified in the Archeological Survey Report that may be directly or indirectly impacted by project activities,*

mitigation is complete as there would be no adverse change to documented archeological resources.

- *When a project would impact a known archaeological site, the project sponsor and/or implementing agency shall determine whether the site is a historical resource (CEQA Guidelines Section 15064.5(c)(1)). If archaeological resources identified in the project area are considered potentially significant, the project sponsor and/or responsible implementing agency shall undertake additional studies overseen by a qualified archaeologist (36 CFR Section 61) to evaluate the resources eligibility for listing in the CRHR, NRHP, or local register and to recommend further mitigative treatment. Evaluations shall be based on, but not limited to, surface remains, subsurface testing, or archival and ethnographic resources, on the framework of the historic context and important research questions of the project area, and on the integrity of the resource. If a site to be tested is prehistoric, local tribal representatives should be afforded the opportunity to monitor the ground-disturbing activities. Appropriate mitigation may include curation of artifacts removed during subsurface testing.*
- *If significant archaeological resources that meet the definition of historical or unique archaeological resources are identified in the project area, the preferred mitigation of impacts is preservation in place (CEQA Guidelines Section 15126.4(b); PRC Section 21083.2). Preservation in place may be accomplished by, but is not limited to, avoidance by project design, incorporation within parks, open space or conservation easements, covering with a layer of sterile soil, or similar measures. If preservation in place is feasible, mitigation is complete. Additionally, where the implementing agency determines that an alternative mitigation method is superior to in-place preservation, the project sponsor and/or implementing agency may implement such alternative measures.*
- *When preservation in place or avoidance of historical or unique archaeological resources are infeasible, data recovery through excavation shall be required (CEQA Guidelines Section 15126.4(b)). Data recovery would consist of approval of a Data Recovery Plan and archaeological excavation of an adequate sample of site contents so that research questions applicable to the site can be addressed. For prehistoric sites, local tribal representatives should be afforded the opportunity to monitor the ground-disturbing activities. If only part of a site would be impacted by a project, data recovery shall only be necessary for that portion of the site. Data recovery shall not be required if the implementing agency determines prior testing and studies have adequately recovered the scientifically consequential information from the resources. Confidential studies and reports resulting from the data recovery shall be deposited with the appropriate CHRIS Information Center. Archaeological sites known to contain human remains shall be treated in accordance with the provisions of Section 7050.5 Health and Safety Code or the provisions of NAGPRA on federal or tribal lands. Mitigation may include curation for artifacts removed during data recovery excavation.*
- *If archaeological resources are discovered during construction, all work near the find shall be halted and the project sponsor and/or implementing agency shall follow the steps described under CEQA Guidelines Section*

15064.5(f), including an immediate evaluation of the find by a qualified archaeologist (36 CFR Section 61) and implementation of avoidance measures or appropriate mitigation if the find is determined to be a historical resource or unique archaeological resource. Consultation with or affording local tribal representatives the opportunity to monitor mitigative treatment may be appropriate. Should the find include human remains, the remains shall be treated in accordance with the provisions of Section 7050.5 of the Health and Safety Code or the provisions of NAGPRA on federal or tribal lands. During evaluation or mitigative treatment, ground disturbance and construction work could continue on other parts of the project area.

MM CR-3: Reduce visibility or accessibility of historical or unique archaeological resources.

The project sponsor and/or implementing agency shall determine whether or not implementation of a project would indirectly impact historical or unique archaeological resources by increasing public visibility and ease of access. If so, the project sponsor and/or implementing agency shall take measures to reduce the visibility or accessibility of the historical or unique archaeological resource to the public. Visibility of the resource can be reduced through the use of decorative walls or vegetation screening. Accessibility can be reduced by installing fencing or vegetation barriers, particularly noxious vegetation such as poison oak or blackberry bushes. It is important to avoid creating an attractive nuisance when protecting significant archaeological sites. Conspicuous walls or signs indicating that an area is restricted may result in more attempts to access the excluded area.

PROJECT-SPECIFIC IMPACT DISCUSSION

a,b,c. Consistent with MTP/SCS EIR Mitigation Measures CR-1 and CR-2, a Cultural Resources Inventory and Evaluation Report was prepared for the portion of the site owned by JP Land Holdings, LLC (APNs: 053-0010-048, -049, and -076),[15] and a separate Cultural Resources Inventory Report was prepared for the SCRSD Parcel (APNs: 119-0090-014 [portion], 119-0080-001 and 119-0080-029 [portion]).[16]

In order to determine the extent of previous surveys within a 0.5-mile radius of the project site and whether previously documented cultural resources exist on the project site, a records search for the property was conducted at the North Central Information Center (NCIC) of the California Historical Resources Information System (CHRIS) at California State University Sacramento. In addition to the official records and maps for archaeological sites and surveys in Sacramento County, the following historic references were also reviewed: Historic Property Data File for Sacramento County; the National Register Information System; Office of Historic Preservation, California Historical Landmarks; California Historical Landmarks; California Points of Historical Interest; Directory of Properties in the Historical Resources Inventory; Caltrans Local Bridge Survey; Caltrans State Bridge Survey; and Historic Spots in California. A pedestrian survey of the portion of the site owned by JP Land Holdings, LLC was conducted on March

[15] ECORP Consulting, Inc. *Cultural Resources Inventory and Evaluation Report: Stone Beetland Project*. March 2021.

[16] ECORP Consulting, Inc. *Cultural Resources Inventory Report: Stone Beetland Off-Site Property*. March 2022.

5, 2021, and a pedestrian survey of the SCRSD Parcel was conducted on February 11, 2022.

Based on the results of the records searches, 22 previous cultural resource investigations have been conducted within a 0.5-mile of the site, and 23 previous cultural resource investigations have been conducted within a 0.5-mile of the SCRSD Parcel. Two previously recorded resources are located within the overall project site: P-34-5225 and P-34-1363. As a result of the field surveys, three historic-period irrigation features were newly identified and recorded on the portion of the site owned by JP Land Holdings, LLC, and one historic-period irrigation ditch was newly identified and recorded on the SCRSD Parcel. Effects to a cultural resource are potentially adverse if the resource is determined to be eligible for the NRHP or the CRHR. The results of the analysis are presented below.

P-34-5225, Sacramento River Tribal Cultural Landscape (TCL)

The location of the TCL is a narrow corridor of the Lower Sacramento River from the confluence with the Mokelumne River at Collinsville, near Antioch, to the confluence of the Sacramento and Feather rivers at Verona, northeast of Woodland, for an area of approximately 55 miles in length. The Sacramento River TCL covers portions of Sacramento, Yolo, and Sutter counties. The TCL is a culturally significant natural landscape for its association with the cultural practices and beliefs of the Nisenan and Plains Miwok, maintaining the continuing cultural identity of the living descendants, and contributing to the broader patterns of prehistory. The United Auburn Indian Community (UAIC), Wilton Rancheria, and Ione Band regard this landscape as an area of tribal importance because of its association with events (traditional stories) such as how fire was acquired and how salmon received its color. Further, the UAIC cite the importance of the tule and tule habitat (yakin) as materials for creating traditional structures, clothing, and watercraft. Accordingly, the Sacramento River TCL has been previously evaluated as eligible under NRHP and CRHR, and therefore, is an Historical Resource under CEQA and an Historic Property under Section 106 of the National Historic Preservation Act (NHPA).

However, the land within the project site, while technically within the corridor of the recorded cultural landscape, has been heavily modified through former agricultural and rural residential land use, and does not exhibit the characteristics of the landscape as described in the site record and may not be a contributor to that landscape. Furthermore, pursuant to AB 52, tribes in the project area were notified of the proposed project. Two tribes responded to the notification letters: the UAIC deferred communications to the Wilton Rancheria; and the Wilton Rancheria requested the presence of monitors during construction.

SB-01, Historic Period Well

SB-01 is a historic-period resource that consists of an irrigation pump/well, electrical panel and pole, and a concrete joint-mortared standpipe. SB-01 is missing parts of the water pump, but the square concrete platform and the rest of the system is present. SB-01 was found not to meet the eligibility criteria for inclusion in the NRHP or CRHR as an individual resource and, as a result, SB-01 is neither an historic property under NHPA nor an historical resource under CEQA.

SB-02, Historic Period Well

SB-02 is a historic-period resource that consists of a well, an electrical panel and pole, and a concrete joint-mortared standpipe. The well has been capped and no concrete platform is present. SB-02 was found not to meet the eligibility criteria for inclusion in the NRHP or CRHR as an individual resource and, as a result, SB-02 is neither a historic property under NHPA nor a historical resource under CEQA.

SB-03, Historic Period Irrigation Ditch

SB-03 is a historic-period resource that consists of an irrigation ditch that historically was fed by the natural channel of Morrison Creek. This earthen irrigation ditch measures approximately 1,340 feet long, five to 10 feet deep, and is V-shaped. The ditch was constructed sometime between 1947 and 1952. SB-03 is one of hundreds of similar ditches and, therefore, does not contribute to the broad patterns of history in irrigation for ranching and agriculture in the area. Additionally, the irrigation system is not known to be associated with the lives of persons significant in the past, nor yield distinctive characteristics or possess high artistic value, as the ditch was cut by machinery commonly used. Finally, agricultural ditches in general do not provide important information in history or prehistory. Thus, SB-03 was found not to meet the eligibility criteria for inclusion in the NRHP or CRHR as an individual resource and, as a result, SB-03 is neither an historic property under NHPA nor an historical resource under CEQA.

P-34-1363, Morrison Creek and Levees (SCRSD Parcel)

The Morrison Creek and Levees are an artificial channel and adjacent western levee constructed between 1964 and 1966. Morrison Creek and Levee is a previously recorded resource that is a component of the larger resource of Channelized Beacon (Union House) and Morrison Creek, and their associated levees. Based on the conclusions of previous analyses and as confirmed by ECORP in their 2021 report, the resource is not eligible for the NRHP or CRHR and, therefore, is neither a historic property under NHPA nor a historical resource under CEQA.

SB-01, Historic Period Irrigation Ditch (SCRSD Parcel)

SB-01 is a historic-period resource that consists of an irrigation ditch that historically was fed by the natural channel of Morrison Creek. This U-shaped, earthen irrigation ditch measures approximately 800 feet long and three to five feet deep. The ditch was constructed sometime prior to 1937. Similar to SB-03, SB-01 does not contribute to the broad patterns of history in irrigation for ranching and agriculture in the area, is not known to be associated with the lives of persons significant in the past, does not yield distinctive characteristics or possess high artistic value, and does not provide important information in history or prehistory. Therefore, SB-01 was found not to meet the eligibility criteria for inclusion in the NRHP or CRHR as an individual resource and, as a result, SB-01 is neither a historic property under NHPA nor a historical resource under CEQA.

Conclusion

Based on the above, previously recorded cultural resources would not be adversely affected by implementation of the proposed project. However, due to the presence of alluvium within the project vicinity and the site's location near the Sacramento River, the

potential exists for unrecorded subsurface archaeological sites to exist within the project area. Additionally, remains of indigenous Californians and non-Native Americans have been discovered throughout the MTP/SCS plan area, outside of formal cemeteries. Sites where such remains exist are difficult to predict given the history of the region, including alluvial deposition of material, past agricultural activities, and previous developments. Implementation of MTP/SCS EIR Mitigation Measures CR-2 and CR-3 would be sufficient to reduce any potential impacts to previously unknown historical or archeological resources to a less-than-significant level. In addition, compliance with uniformly applicable development standards in the form of State and federal regulations would substantially mitigate any potential impact related to the inadvertent discovery of human remains. These regulations include Health and Safety Code Sections 7050-7052, PRC Section 5097.98 – Disturbance of Human Remains, Health and Safety Code Sections 8010-8011 – California Native American Graves Protection and Repatriation Act, and the federal Native American Graves Protection and Repatriation Act of 1990.

Based on the above, known historical and archeological resources and/or human remains do not exist on the project site. However, during ground-disturbing activities associated with implementation of the proposed project, the potential exists for previously unrecorded resources to be disturbed. Compliance with MTP/SCS EIR Mitigation Measures CR-2 and CR-3 and applicable provisions of California law, including California Health and Safety Code Sections 7050.5 and 7052 and California PRC Section 5097, would ensure that potential impacts to such would be ***less-than-significant with mitigation incorporated***.

PROJECT-SPECIFIC MITIGATION MEASURES

None.

FINDINGS

In accordance with Mitigation Measures CR-1 and CR-2 of the MTP/SCS EIR, cultural resource inventories were prepared for the overall project site, which concluded that implementation of the project would not result in impacts to known historic or archeological resources. The required implementation of Mitigation Measures CR-2 and CR-3 from the MTP/SCS EIR would ensure that the project would not result in impacts to previously unknown archaeological resources. As discussed in the MTP/SCS EIR, existing State and federal regulations would be sufficient to ensure that project implementation would not result in impacts related to the disturbance of human remains, should any be inadvertently discovered during ground disturbance.

Implementation of MTP/SCS EIR Mitigation Measures CR-2 and CR-3 would ensure that implementation of the project would not result in additional significant environmental effects related to cultural resources.

IV. GEOLOGY AND SOILS.	Potentially Significant Impact	Less-Than-Significant with Mitigation Incorporated	Less-Than-Significant Impact	No Impact
Would the proposal:				
a. Directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving:				
i. 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 based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42.	☐	☐	☒	☐
ii. Strong seismic ground shaking?	☐	☐	☒	☐
iii. Seismic-related ground failure, including liquefaction?	☐	☐	☒	☐
iv. 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 18-1B 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?	☐	☒	☐	☐

ENVIRONMENTAL SETTING

The environmental setting of the project area as it relates to regional seismicity, topography, and geology is summarized below.

Seismicity

The City of Sacramento is not located within an Alquist-Priolo Earthquake Fault Zone, and known faults do not exist within the City's Planning Area. Fault rupture within the Planning Area is highly unlikely and, consequently, implementation of buildout of the General Plan would not expose people or structures to the possibility of fault rupture.

Nonetheless, the City may be subject to seismic hazards caused by major seismic events outside the City. Per the Master EIR, the greatest earthquake threat to the City comes from earthquakes along Northern California's major faults, including the San Andreas, Calaveras, and Hayward faults. Ground shaking on any of the aforementioned faults could cause shaking within the City to an intensity of five to six moment magnitude (Mw). However, as noted above, the City is not within an Alquist-Priolo Earthquake Fault Zone and does not include any known active faults. As such, the City's seismic ground-shaking hazard is low, ranking among the lowest in the State. Additionally, the City is in Seismic Zone 3. Accordingly, any future development, rehabilitation,

reuse, or possible change of use of a structure would be required to comply with all design standards applicable to Seismic Zone 3.

Topography

Terrain in the City of Sacramento features very little relief and the potential for slope instability within the City is minor due to the relatively flat topography of the area. The topography of the project site is relatively level, and is not a risk of seismically-induced landslides. Therefore, the potential for slope instability at the project site is minor.

Regional Geology

The City of Sacramento is located in the Great Valley Geomorphic Province. The Great Valley Geomorphic Province consists of a deep, northwest-trending sedimentary basin that borders the east of the Coast Ranges. The Great Valley Geomorphic Province is a flat alluvial plain approximately 50 miles wide and 400 miles long in the central portion of California. The northern portion of the Great Valley Geomorphic Province is the Sacramento Valley drained by the Sacramento River, and the southern part is the San Joaquin Valley drained by the San Joaquin River. The valley is surrounded by the Sierra Nevada to the east, the Tehachapi Mountains to the south, Coastal Range to the west, and Cascade Range to the north.

STANDARDS OF SIGNIFICANCE

For the purposes of this environmental document, an impact is considered significant if the project would:

- 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 based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42;
    - Strong seismic ground shaking;
    - Seismic-related ground failure, including liquefaction;
    - Landslides;
- Result in substantial soil erosion or the loss of topsoil;
- 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;
- Be located on expansive soil, as defined in Table 18-1B of the Uniform Building Code (1994), creating substantial direct or indirect risks to life or property;
- 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; or
- Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature.

SUMMARY OF ANALYSIS UNDER THE 2035 GENERAL PLAN MASTER EIR AND APPLICABLE GENERAL PLAN POLICIES

Chapter 4.5 of the Master EIR evaluated the potential effects related to seismic hazards, underlying soil characteristics, slope stability, erosion, existing mineral resources and paleontological resources in the City. Implementation of identified policies in the 2035 General Plan reduced all effects to a less-than-significant level. Policy EC 1.1.1 requires regular review of the City's seismic and geologic safety standards, and Policy EC 1.1.2 requires geotechnical investigations for project sites to identify and respond to geologic hazards, when present.

MITIGATION MEASURES FROM 2035 GENERAL PLAN MASTER EIR THAT MAY APPLY TO THE PROJECT

None.

SUMMARY OF ANALYSIS UNDER THE METROPOLITAN TRANSPORTATION PLAN/SUSTAINABLE COMMUNITIES STRATEGY (MTP/SCS) EIR

Chapter 9 of the MTP/SCS EIR evaluated potential impact to geology and soils that may result from implementation of the proposed MTP/SCS. Where necessary and feasible, mitigation measures are identified to reduce these impacts.

a. Earthquake Risk, Strong Seismic Ground Shaking or Ground Failure Risk, and Landslide Risk

The MTP/SCS EIR analyzed the potential impacts related to rupture of known earthquake faults (GEO-1A), strong seismic ground shaking (GEO-1B), seismic related ground failure, including liquefaction (GEO-1C), as well as potential risks from landslides (GEO-1D) and determined the impacts to be *less than significant*. The MTP/SCS EIR concluded that the MTP/SCS plan area experiences relatively low levels of seismic activity and projects are required by law to conform with the current seismic design provisions of the Uniform Building Code (UBC) and California Building Standards Code (CBSC). Additionally, the plan area is mostly flat, and therefore has a low risk from landslides; thus, mitigation is not required.

b. Substantial Soil Erosion or the Loss of Topsoil

The MTP/SCS EIR analyzed the potential impact related to substantial soil erosion or the loss of topsoil due to project implementation and during construction activities (Impact GEO-2). The MTP/SCS EIR concluded that construction of land uses and transportation projects included in the MTP/SCS could result in substantial soil erosion or topsoil loss; however, the majority of the MTP/SCS plan area, including areas within the Sacramento Valley, experience limited erosion hazards. In addition, local jurisdictions generally have grading ordinances and other requirements that ensure the implementation of erosion control and minimization measures for major earthwork. Consequently, the MTP/SCS EIR concluded that implementation of MTP/SCS would result in a *less-than-significant* impact and mitigation was not required.

c. Location on a Geological Unit or Soil that is Unstable

The MTP/SCS EIR analyzed the potential impact related to locating the project on a geologic unit or soil that is unstable, or that would become unstable (Impact GEO-3) and determined that, with adherence to grading permit and building code requirements, the UBC, and Special Publication 117A, the impact would be *less than significant*. As a result, mitigation is not required.

d. Expansive Soils

The MTP/SCS EIR analyzed the potential impact related to locating development projects on expansive soils and creating a substantial risk to life or property (Impact GEO-4) and determined the impact to be *less than significant*. The MTP/SCS EIR concluded that expansive soils with high swelling potential are primarily found only in the westernmost portion of Yolo County. In addition, land use projects within the planning area are subject to compliance with local and State regulations, including the UBC, the CBSC, and Special Publication 117A. As a result, mitigation is not required.

e. Soils Incapable of Supporting Septic Systems

The MTP/SCS EIR analyzed the potential impacts related to septic systems (Impact GEO-5) and determined the impact to be *less than significant*. The MTP/SCS EIR concluded that local jurisdictions have policies and implementation measures relevant to the use of septic tanks or alternative wastewater disposal where applicable. As a result, mitigation is not required.

f. Unique Paleontological and Geologic Features

The MTP/SCS EIR concluded that unique geologic features are located predominantly within rural portions of the MTP/SCS plan area (GEO-6). Thus, impacts related to impacts to unique geologic features resulting from development within Center and Corridor Communities were considered *less than significant*.

The 2020 MTP/SCS EIR evaluated impacts related to paleontological resources (CR-3), and notes that paleontological resources have been found throughout the MTP/SCS plan area, including in North Natomas. Based on the discovery of paleontological resources within the MTP/SCS plan area, the MTP/SCS EIR concluded that development under the MTP/SCS would result in a *significant and unavoidable* impact because SACOG does not have the authority to require implementing agencies to adopt mitigation measures included in the MTP/SCS EIR. However, the MTP/SCS EIR requires that any project taking advantage of the CEQA Streamlining must implement the mitigation measures discussed in the MTP/SCS EIR where feasible and necessary (Mitigation Measure CR-4). Implementation of the MTP/SCS EIR's required mitigation would reduce the associated impact to a *less-than-significant* level.

MITIGATION MEASURES FROM THE MTP/SCS EIR THAT MAY APPLY TO THE PROJECT

MTP/SCS EIR Mitigation Measure CR-4 applies to the project, could be feasibly implemented, and is hereby incorporated into this SCEA IS as a requirement of the project.

MM CR-4: Conduct project-specific paleontological resource studies and identify and implement mitigation.

Measures that shall be implemented, where feasible and necessary to address site-specific impacts, include but are not limited to:

- *The fossil yielding potential of the project area shall be determined by initially identifying the aerial and stratigraphic extents of the local geology, and then by performing a site-specific search of fossil locality records and peer-reviewed literature, as appropriate, by a qualified professional paleontologist, established state clearinghouse such as the UCMP, and/or*

by an established paleontological repository. A field survey by a qualified professional paleontologist to assess the paleontological sensitivity of the project area may be warranted if the preliminary review is inconclusive.

- *If a project area is found to contain or be in the near vicinity of previously identified paleo-resources, or to be located within an area of high, moderate, or undetermined paleontological resource sensitivity, the project sponsor and/or implementing agency shall retain a qualified professional paleontologist prior to construction to conduct a survey, as warranted, to locate surface fossil concentrations and to assess the sensitivity of the project area for unique paleontological resources. After completion of the survey, the qualified paleontologist shall complete a technical report documenting the results of all work, and include any mitigation recommendations specific to the project. This study shall comply with standards in the industry such as the Standard Procedures for the Assessment and Mitigation of Adverse Impacts to Nonrenewable Paleontological Resources and applicable regulations (SVP 2010).*
- *If the study indicates the project area is located in an area rich with paleontological resources, the study may recommend that the project sponsor and/or implementing agency retain a qualified paleontologist to prepare a Paleontology Mitigation Plan and monitor subsurface disturbance, such as grading, excavation, and trenching. Construction protocols to ensure that contractors take appropriate measures to avoid destroying fossil materials discovered during construction shall also be established by the project sponsor and/or implementing agency.*
- *Any area of known unique paleontological resources within a project area shall be avoided during construction if feasible. If avoidance of known resources is infeasible or a project has been identified as potentially directly or indirectly impacting, damaging or destroying a unique paleontological resource, treatment measures for nonrenewable unique paleontological resources may include appropriate documentation and/or salvage measures for fossils, microfossils, or matrix in consultation with the project sponsor and/or implementing agency. Treatment shall comply with regulatory requirements. Measures may include plans for sampling and data recovery. All final documentation of mitigation treatment for paleontological resources to be impacted by the project shall be approved by the project sponsor and/or implementing agency prior to the initiation of any project ground-disturbing activities.*
- *If fossils or other paleontological resources are encountered during construction, all work shall be halted within a minimum 30-foot radius of the find and a qualified paleontologist shall be contacted to examine the find and evaluate its significance. If the find is deemed to have significant scientific value, the paleontologist and the project sponsor and/or implementing agency shall coordinate with the property owner to formulate a plan to either avoid impacts, document the resource, or to continue construction without disturbing the integrity of the find (e.g., by excavating the material containing the resources). Consistent with regulatory requirements, recommendations determined by the qualified professional paleontologist, project sponsor, and/or implementing agency to be necessary and feasible shall be implemented before construction activities*

can resume at the site where the paleontological resources were discovered.

PROJECT-SPECIFIC IMPACT DISCUSSION

ai-iv. The topography of the City of Sacramento is relatively flat, and the City, including the project site, is not located within an Alquist-Priolo Earthquake Fault Zone nor located in the immediate vicinity of an active fault. Therefore, fault rupture would not occur on the project site. Based on the soils found at the project site and the topography of the surrounding area, the potential for seismic-induced liquefaction and/or landsliding is low.[17]

However, the 2035 General Plan indicates that groundshaking would occur periodically in Sacramento as a result of distant earthquakes. For example, nearby active faults include the Great Valley Midland, Gordon Valley, and Trout Creek faults, located approximately 30.2, 48.3, and 48.7 miles from the site, respectively.[18] The 2035 General Plan further states that the earthquake resistance of any building is dependent on an interaction of seismic frequency, intensity, and duration with the structure's height, condition, and construction materials. Although the project site is not located near any active or potentially active faults, strong groundshaking could occur at the project site during a major earthquake on any of the major regional faults.

Due to the seismic activity in the State, construction is required to comply with Title 24 of the UBC. Chapter 15.20 of the Sacramento City Code adopts the UBC and mandates compliance. All new construction and modifications to existing structures within the City are subject to the requirements of the UBC. The UBC contains standards to ensure that all structures and infrastructure are constructed to minimize the impacts from seismic activity, to the extent feasible, including exposure of people or structures to substantial, adverse effects as a result of strong groundshaking, seismic-related ground failure, liquefaction, lateral spreading, landslides, or lurch cracking. As a result, seismic activity in the area of the proposed development would not expose people or structures to substantial, adverse effects as a result of strong groundshaking and seismic-related ground failure. Therefore, the impact of the project would be considered ***less than significant***.

b. Issues related to erosion are discussed further in Section X, Hydrology and Water Quality, of this SCEA IS. As noted therein, the proposed project would not result in substantial soil erosion or the loss of topsoil, and the impact would be ***less than significant***.

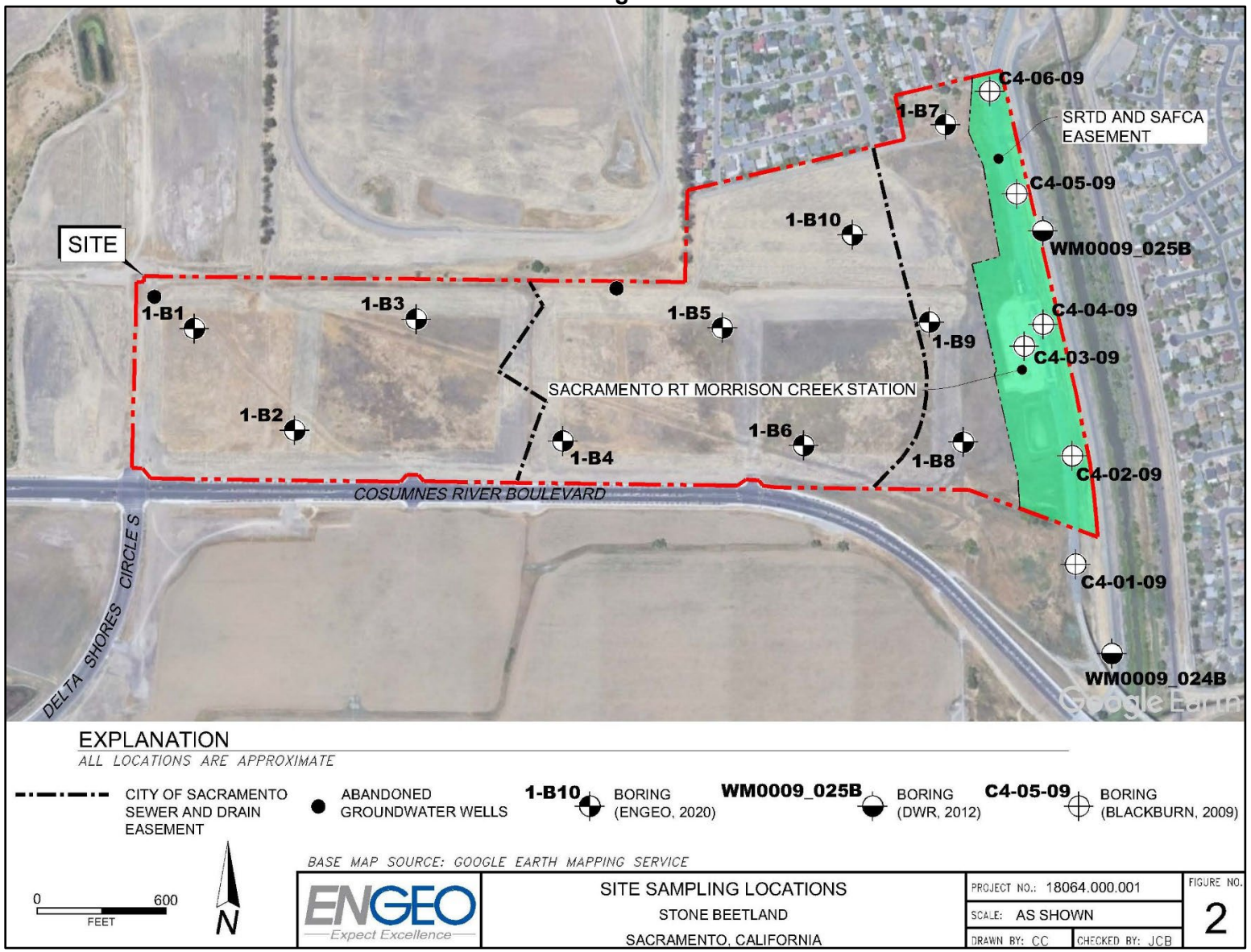
c,d. A Geotechnical Report was prepared for the proposed project by ENGEO in order to evaluate the soil suitability at the project site (see Appendix E). As part of the Geotechnical Report, soil samples were collected from 10 borings advanced to depths ranging from 11 to 41.5 feet below existing grade (see Figure 17).

The borings generally encountered a surficial layer of hard fat clay or elastic silt with varying amounts of sand, extending to a minimum depth of 2.5 feet. An exception was Boring 1-B4, which encountered lean clay with sand at the ground surface. The surficial clay/silt was generally underlain by lean clay with sand, sandy lean clay, or clayey sand in Borings 1-B1 through 1-B7.

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17 ENGEO. *Preliminary Geotechnical Report, Stone Beetland Sacramento, California*. January 29, 2021.
18 *Ibid*.

Figure 17
Soil Boring Locations



The clay in these borings was generally very stiff to hard and exhibited low to medium plasticity, while the sands were generally fine-grained and very dense. Borings 1-B8 through 1-B10 encountered an approximately 8- to 15.5-foot-thick layer of silty sand and/or silt at depths ranging from approximately 8.5 to 13 feet below the ground surface. The silt encountered was generally stiff to hard, with varying sand content. Stiff to hard clay was encountered below the sand/silt layer. The results of the analysis are presented below.

Landslide

The risk of landslide hazard is greatest in areas with steep, unstable slopes. The project site does not contain, and is not adjacent to, any steep slopes. Thus, landslides are not likely to occur on- or off-site as a result of the project.

Lateral Spreading

Lateral spreading is horizontal/lateral ground movement of relatively flat-lying soil deposits towards a free face such as an excavation, channel, or open body of water; typically, lateral spreading is associated with liquefaction of one or more subsurface layers near the bottom of the exposed slope. The project site does not contain open faces within a distance that would be considered susceptible to lateral spreading. Therefore, the potential for lateral spreading to affect the site is low.

Liquefaction

Soil liquefaction results from loss of strength during cyclic loading, such as imposed by earthquakes. Soil most susceptible to liquefaction is clean, loose, saturated, uniformly graded, fine-grained sand. The sand encountered in the soil borings was generally medium to very dense and contained a significant amount of fine-grained material. Loose layers encountered in the explorations were relatively thin and discontinuous. As a result, according to the Geotechnical Report, the potential for liquefaction at the site is low.

Subsidence/Settlement

When subsurface earth materials move, the movement can cause the gradual settling or sudden sinking of ground. The phenomenon of settling or sinking ground is referred to as subsidence, or settlement. Based on the review of historical aerial photographs, topographic maps, and previous reports and records of the project site, portions of the site are underlain by existing fill. Non-engineered fills can undergo excessive settlement, especially under new fill or building loads. As a result, without further evaluation, a potentially significant impact related to settlement could occur.

Expansive Soils

Expansive soils are soils which undergo significant volume change with changes in moisture content. Specifically, such soils shrink and harden when dried and expand and soften when wetted, potentially resulting in damage to building foundations. Potentially expansive fat clay was identified near the surface of the site in Borings 1-B1 through 1-B3 and 1-B5 through 1-B9. Based on laboratory testing, the soil exhibits moderate to high shrink/swell potential with variations in moisture content. Additionally, a previous geotechnical report that was conducted in the project vicinity, the Revised Final Geotechnical Report for the South Sacramento Corridor Phase II Project (Blackburn

2010), included several tests for expansion index and also indicated a moderate to high shrink/swell potential in near surface soil. As a result, without further evaluation, a potentially significant impact related to expansive soils could occur.

Conclusion

Based on the above, impacts related to landslide, lateral spreading, and liquefaction would not occur with implementation of the proposed project. However, the potential exists for subsidence/settlement to occur, and for expansive soils to exist on-site. Implementation of Project-Specific Mitigation Measure IV-1 would ensure that the proposed project's impact related to being 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 subsidence; or being located on expansive soil, creating substantial direct or indirect risks to life or property would be ***less-than-significant with mitigation incorporated***.

e. All structures constructed as part of the project would be connected to existing wastewater infrastructure, and septic systems or alternative waste disposal systems would not be used. Therefore, ***no impact*** regarding the capability of soil to adequately support the use of septic tanks or alternative wastewater disposal systems would occur.

f. The MTP/SCS EIR concluded that unique geologic features are not unlikely to exist within designated HFTAs and, therefore, are not expected to exist within the project site or in the vicinity of the site. Therefore, implementation of the project would not have the potential to result in impacts related to unique geologic features.

As noted above, paleontological resources have been discovered throughout the MTP/SCS plan area, and have the potential to exist on the project site. As a result, construction of the proposed project could result in the discovery of sub-surface paleontological resources. However, implementation of Mitigation Measure CR-4 from the MTP/SCS EIR would ensure that the site would be investigated for the presence of paleontological resources and, if any such resources are found, the resource is investigated and protected. With implementation of Mitigation Measure CR-4 from the MTP/SCS EIR, the project's potential impact to unique paleontological resources would be ***less-than-significant with mitigation incorporated***.

PROJECT-SPECIFIC MITIGATION MEASURES

Implementation of the following mitigation measure would reduce the above potential impact (see question c,d) to a *less-than-significant* level.

IV-1 *Prior to approval of construction permits, the applicant shall retain a qualified geologist to prepare a site-specific design-level geotechnical exploration as part of the design process. The exploration shall include laboratory soil testing to provide additional data for preparation of specific recommendations regarding the following items:*

- *Grading, existing fill removal, and fill compaction;*
- *Consolidation settlement;*
- *Liquefaction settlement;*
- *Site Specific Seismic Hazard Analysis (if required);*

- *Foundation design;*
- *Retaining walls;*
- *Site drainage and landscaping irrigation; and*
- *Pavement recommendations.*

The project design shall adhere to all engineering recommendations provided in the site-specific design-level geotechnical exploration. Proof of compliance with all recommendations specified in the site-specific design-level geotechnical exploration shall be subject to review and approval by the City Engineer.

FINDINGS

The project site is not located within an Alquist-Priolo Earthquake Fault Zone, and the proposed structures would be designed to withstand seismic ground shaking via compliance with the Uniform Building Code. However, the on-site soils may be susceptible to expansion and subsidence/settlement. Project-specific Mitigation Measure IV-1 requires preparation of a design-level geotechnical exploration, and implementation of all recommendations therein. In addition, implementation of MTP/SCS EIR Mitigation Measure CR-4 would ensure that impacts to previously unknown unique paleontological resources are reduced to a less-than-significant level.

With implementation of the foregoing measures, the project would not result in any significant environmental effects related to geology and soils.

V. GREENHOUSE GAS EMISSIONS.	Potentially Significant Impact	Less-Than-Significant with Mitigation Incorporated	Less-Than-Significant Impact	No Impact
Would the proposal:				
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 gasses?	☐	☒	☐	☐

ENVIRONMENTAL SETTING

Certain gases in the Earth's atmosphere, classified as GHGs, play a critical role in determining the Earth's surface temperature. GHGs are responsible for "trapping" solar radiation in the Earth's atmosphere, a phenomenon known as the greenhouse effect. Prominent GHGs contributing to the greenhouse effect are carbon dioxide (CO_2), methane, nitrous oxide, hydrofluorocarbons, perfluorocarbons, and sulfur hexafluoride. Human-caused emissions of these GHGs in excess of natural ambient concentrations are believed responsible for intensifying the greenhouse effect and leading to a trend of unnatural warming of the Earth's climate, known as global climate change or global warming. Emissions of GHGs contributing to global climate change are attributable, in large part, to human activities associated with on-road and off-road transportation, industrial/manufacturing, electricity generation by utilities and consumption by end users, residential and commercial on-site fuel usage, and agriculture and forestry. Emissions of CO_2 are, largely, byproducts of fossil fuel combustion.

No single project alone would measurably contribute to an incremental change in the global average temperature or to global or local climates or microclimates. From the standpoint of CEQA, GHG impacts relative to global climate change are inherently cumulative.

Several regulations currently exist related to GHG emissions, predominantly AB 32 and SB 32. In September 2006, Assembly Bill (AB) 32 was enacted, which requires that statewide GHG emissions be reduced to 1990 levels by the year 2020. AB 32 delegated the authority for implementation to the CARB and directs the CARB to enforce the statewide cap. In accordance with AB 32, CARB prepared the *Climate Change Scoping Plan* (Scoping Plan) for California, which was approved in 2008 and subsequently revised in 2014, 2017, and 2022. SB 32 codified emissions reduction targets for the year 2030, which had previously been established by Executive Order B-30-15. SB 375 was enacted in 2008. As discussed earlier in this document, SB 375 focuses on the potential to reduce mobile sources of GHG emissions, such as emissions from automobiles and trucks, through the use of land use and transportation planning. SB 375 established regional targets for GHG emission reductions, and required metropolitan planning organizations to prepare sustainable communities strategies. The SACOG is the metropolitan planning organization for the project area and the MTP/SCS fulfills SACOG's SB 375 requirement to prepare a sustainable communities strategy.

To meet the statewide GHG emission targets, the City adopted the City of Sacramento Climate Action Plan (CAP) on February 14, 2012 to comply with AB 32. The CAP identified how the City and the broader community could reduce Sacramento's GHG emissions and included reduction targets, strategies, and specific actions. In 2015, the City of Sacramento adopted the 2035 General Plan Update. The update incorporated measures and actions from the CAP into

Appendix B, General Plan CAP Policies and Programs, which includes citywide policies and programs that are supportive of reducing GHG emissions.

The MTP/SCS focused on achieving GHG emissions reductions by encouraging a region-wide transportation strategy, which would allow for a reduction of dependence on single passenger vehicles and an increase in alternative transit options. To accomplish the aforementioned transportation improvements, the MTP/SCS identified areas of the region where alternative transit options currently exist, and areas needing improvement. Areas with frequently recurring transit service and a plethora of alternative transportation options were identified in the MTP/SCS as being HFTAs. Projects within a HFTA are identified by the MTP/SCS and SB 375 as being Transit Priority Projects. Environmental documents for Transit Priority Projects are not required to reference, describe or discuss: 1) growth inducing impacts, 2) impacts from car and light duty truck trips on climate change or regional transportation network, or a 3) reduced density alternative to the project. Discussions of the aforementioned environmental issue areas are not required of Transit Priority Projects because such projects are consistent with regional transportation plans, the implementation of which would contribute to regional reductions in GHG emissions. Accordingly, the analysis of project effects on GHG emissions does not include a discussion of the project's GHG emissions from mobile sources; however, the discussion will analyze the project's GHG emissions resulting from construction and other operational activities.

STANDARDS OF SIGNIFICANCE

For the purposes of this environmental document, an impact is considered significant if the project would:

- Fail to satisfy the requirements of the City's CAP; or
- Be inconsistent with the applicable SMAQMD thresholds of significance.

SUMMARY OF ANALYSIS UNDER THE 2035 GENERAL PLAN MASTER EIR AND APPLICABLE GENERAL PLAN POLICIES

The Master EIR found that GHG emissions that would be generated by development consistent with the 2035 General Plan would contribute to climate change on a cumulative basis. Policies of the General Plan identified in the Master EIR that would reduce construction related GHG emissions include: ER 6.1.2, ER 6.1.11 requiring coordination with SMAQMD to ensure feasible mitigation measures are incorporated to reduce GHG emissions, and ER 6.1.15. The 2035 General Plan incorporates the GHG reduction strategy of the 2012 CAP, which demonstrates a compliance mechanism for achieving the City's adopted GHG reduction target of 15 percent below 2005 emissions by 2020. Policy ER 6.1.8 commits the City to assess and monitor performance of GHG emission reduction efforts beyond 2020, and progress toward meeting long-term GHG emission reduction goals; ER 6.1.9 also commits the City to evaluate the feasibility and effectiveness of new GHG emissions reduction measures in view of the City's longer-term GHG emission reductions goal. The discussion of GHG emissions and climate change in the 2035 General Plan Master EIR are incorporated by reference in this SCEA IS. (CEQA Guidelines Section 15150).

The Master EIR identified numerous policies included in the 2035 General Plan that addressed GHG emissions and climate change. See Draft Master EIR, Chapter 4.14, and pages 4.14-1 et seq. The Master EIR is available for review at the offices of Development Services Department, 300 Richards Boulevard, 3rd Floor, Sacramento, CA during normal business hours, and is also available online at:

http://portal.cityofsacramento.org/Community-Development/Planning/Environmental/Impact-Reports

MITIGATION MEASURES FROM 2035 GENERAL PLAN MASTER EIR THAT MAY APPLY TO THE PROJECT

None.

SUMMARY OF ANALYSIS UNDER THE METROPOLITAN TRANSPORTATION PLAN/SUSTAINABLE COMMUNITIES STRATEGY (MTP/SCS) EIR

Chapter 8 of the MTP/SCS EIR evaluated potential impacts to Energy and Global Climate Change that may result from GHG emissions related to the implementation of the proposed MTP/SCS. Where necessary and feasible, mitigation measures are identified to reduce these impacts.

a, b. Compliance with AB 32 and SB 375

The MTP/SCS EIR analyzed the effect that implementation of the MTP/SCS would have on emissions of GHGs under Impacts GHG-1, GHG-2, and GHG-3. Under Impact GHG-1, the MTP/SCS EIR concluded that implementation of the MTP/SCS would be consistent with SB 375, and the impact would be less than significant. Additionally, under Impact GHG-3, the MTP/SCS EIR concluded that implementation of the MTP/SCS would not conflict with any applicable GHG reduction plans. Under Impact GHG-2, the MTP/SCS EIR determined that the overall result of the plan would be a regional decrease in per capita GHG emissions. However, even with the anticipated reductions in per capita GHG emissions, the MTP/SCS EIR concluded that implementation of the MTP/SCS may not achieve the GHG emissions reductions required to meet the State's long-term climate goals, such as those within SB 32. With the implementation of Mitigation Measures GHG-1 (which requires implementation of Mitigation Measure TRN-1), GHG-2 (which requires coordination between local agencies to reduce regional GHG emissions), and GHG-3 (which requires implementation of all feasible on- and off-site mitigation measures to reduce construction-related GHG emissions below a lead agency-approved threshold of significance), the ultimate impact of the MTP/SCS was determined to be *significant and unavoidable*.

MITIGATION MEASURES FROM THE MTP/SCS EIR THAT MAY APPLY TO THE PROJECT

MTP/SCS EIR Mitigation Measure GHG-2 directs SACOG to partner with local cities and counties to develop GHG reduction plans. As the measure is intended for implementation at a City level, the measure is not applicable to the proposed project. However, MTP/SCS EIR Mitigation Measure GHG-3 applies to the project, could be feasibly implemented, and is hereby incorporated into this SCEA IS as a requirement of the project. Mitigation Measure GHG-1 implements Mitigation Measure TRN-1, focused on vehicle miles travel reduction, which the project satisfies through design.

MM GHG-3: Implement all feasible on- and off-site mitigation measures to reduce GHG emissions below a lead agency–approved threshold of significance. The applicable lead agency can and should implement, where necessary and feasible to address site-specific construction climate change impacts, the following measures to avoid or minimize impacts related to construction GHG emissions:

- *Project proponents shall require its contractors to restrict the idling of on- and off-road diesel equipment to no more than 5 minutes while the equipment is on-site.*

- *Project proponents of new facilities shall implement waste, disposal, and recycling strategies (i.e., 10 percent recycled content for Tier 1 and 15 percent recycled content for Tier 2) in accordance with the voluntary measures for non-residential land uses contained in Section A5.405 of the 2016 CALGreen Code or in accordance with any update to these requirements in future iterations of the CALGreen Code in place at the time of project construction.*
- *Project proponents of new facilities shall achieve or exceed the enhanced Tier 2 target for nonresidential land uses of recycling or reusing 80 percent of the construction waste as described in Section A5.408 of the 2016 CALGreen Code or in accordance with any update to these requirements in future iterations of the CALGreen Code in place at the time of project construction.*
- *Project proponents shall require all diesel-powered, off-road construction equipment meet EPA's Tier 3 or Tier 4 emissions standards as defined in 40 CFR 1039 and comply with the exhaust emission test procedures and provisions of 40 CFR Parts 1065 and 1068. This measure can also be achieved by using battery-electric off-road equipment as it becomes available.*
- *Project proponents shall implement a program that incentivizes construction workers to carpool, and/or use public transit or electric vehicles to commute to and from the project site.*

PROJECT-SPECIFIC IMPACT DISCUSSION

a,b. GHG emissions associated with the proposed project were quantified using CalEEMod, using the same project-specific information as discussed in the Air Quality section of this SCEA IS. Maximum annual GHG emissions from construction of the proposed project were modeled to be approximately 2,238.20 metric tons of CO_2 equivalent units per year ($MTCO_2e$/yr), and maximum annual operational emissions, excluding mobile-source emissions, were modeled to be 2,246.46 $MTCO_2e$/yr.

For evaluating operational GHG emissions, SMAQMD has prepared a two-tiered framework of analysis for new projects, as explained further below. In addition, the City of Sacramento has integrated a CAP into the City's General Plan. Thus, potential impacts related to climate change from development within the City are also assessed based on the project's compliance with the City's adopted General Plan CAP Policies and Programs set forth in Appendix B of the General Plan Update. The majority of the policies and programs set forth in Appendix B are citywide efforts in support of reducing overall citywide emissions of GHG. However, various policies related to new development within the City would directly apply to the proposed project.

Consistent with the City's direction, the project's compliance with SMAQMD thresholds, as well as the project's general consistency with the City's CAP are discussed below.

<u>SMAQMD Threshold Compliance</u>

The proposed project would be required to meet the following BMPs, regardless of emissions:

- **BMP 1:** No natural gas: Projects shall be designed and constructed without natural gas infrastructure.
- **BMP 2:** Electric vehicle (EV) ready: Projects shall meet the current CALGreen Tier 2 standards, except all EV Capable spaces shall instead be EV Ready.

In addition, projects with operational emissions that exceed 1,100 $MTCO_2e$/yr after implementation of BMP 1 and BMP 2, are required to implement Tier 2 measures (BMP 3) as follows:

- **BMP 3:** Residential projects shall achieve a 15 percent reduction in VMT per resident as compared to the existing average VMT for the County.

As discussed above, maximum annual GHG emissions from operations of the proposed project were quantified and, when excluding mobile-sourced emissions, would equal approximately 2,246.46 $MTCO_2e$/yr. Therefore, emissions would exceed 1,100 $MTCO_2e$/yr, and implementation of BMP 3 would be required. However, an analysis of consistency with BMP 3 is not required in this SCEA IS because, as noted earlier, environmental documents for Transit Priority Projects are not required to discuss impacts from car and light duty truck trips on climate change. Therefore, BMP 3 is not evaluated further herein. It is also noted that the proposed project meets the intent of MTP/SCS EIR Mitigation Measure GHG-1 through design by including strategies to reduce VMT.

In order to be consistent with BMP 1, the proposed project would be required to prohibit natural gas infrastructure and, instead, include all electric appliances and plumbing. However, the project could include ground floor restaurant land uses in the commercial portion of the Transit Village. As a result, the complete prohibition of natural gas was determined to be infeasible for the proposed project, as natural gas is anticipated to be used for cooking appliances in the potential restaurant kitchens. All other energy use would be supplied by electricity. Per the SMAQMD's guidance, a project would not conflict with BMP 1 if an equivalent reduction in GHG emissions can be demonstrated elsewhere. The proposed project is anticipated to use up to approximately 124,620 KBtu per year of natural gas, which is equivalent to approximately 16,327.93 kWh per year of electricity usage. In order to offset the use of natural gas associated with the anticipated restaurant kitchen(s), the proposed project would be required to provide additional on-site renewable energy systems, such as on-site solar, to produce a minimum of 16,327.93 kWh per year, or implement other means as deemed feasible by the City and SMAQMD, such as the inclusion of pre-wiring to allow for the future retrofit of natural gas appliances with all-electric appliances. Without the inclusion of an additional on-site renewable energy system or other feasible measures, the project would not comply with BMP 1. Therefore, project-specific Mitigation Measure V-1 is required to ensure that the proposed project would comply with BMP 1.

Regarding BMP 2, the 2019 CALGreen Code requires all single-family residences, townhomes, and duplexes be EV capable (i.e., each dwelling unit must have a listed raceway to accommodate a dedicated 208/40-volt branch circuit), which would be suitable for EV charging. However, compliance with the 2019 CALGreen Code would not satisfy the requirements established by SMAQMD BMP 2, as BMP 2 requires spaces to be EV Ready. Because project-specific information is not available to ensure that the proposed project would include the appropriate number of EV capable spaces, the project could conflict with BMP 2.

Based on the above, Project-Specific Mitigation Measure V-1 would be required to ensure compliance with the SMAQMD thresholds.

CAP Consistency

The City's CAP includes multiple measures to encourage alternate modes of transportation, which, consistent with the conclusions of the MTP/SCS, would help the region meet AB 32 and SB 375 GHG emissions reductions goals. The project is located within a HFTA, and would encourage the use of alternate modes of transportation by increasing the number of residents near existing and proposed means of alternative transit.

Goal LU 1.1 and Policy LU 1.1.5 encourage infill development within existing urbanized areas. Given that the project site is bound by existing residential development to the east and northeast, and by planned urban development to the west, the project site is an infill development. Additionally, the site is located within an area designated as a Center/Corridor Community per the MTP/SCS EIR. Thus, the project would be consistent with Goal LU 1.1 and Policy LU 1.1.5. The proposed project would be constructed in compliance with the CBSC, which includes the California Building Energy Efficiency Standards and the California Green Building Code. The CBSC, and the foregoing standards and codes, increase the sustainability of new development through requiring energy efficiency and sustainable design practices (Policy ER 6.1.7). Such sustainable design would support the City's Policy U 6.1.5, which states that energy consumption per capita should be reduced as compared to the year 2005.

Goal LU 2.5, Policy LU 2.5.1, and Policy LU 2.7.6 require that new urban developments should be well-connected, minimize barriers between uses, and create pedestrian-scaled, walkable areas. The Morrison Creek light rail SacRT Station is located in the eastern portion of the project site, and would be accessible to future residents of the project site. Furthermore, complete streets with separated five-foot-wide sidewalks and Class II bike lanes would be implemented throughout the project site, as well as a 16-foot-wide Class I multi-use trail that would extend through the project site. As such, the proposed project would comply with the aforementioned goals and policies and, overall, the proposed project would be consistent with the CAP.

Conclusion

Based on the above, the project would be consistent with the City's CAP, and generally consistent with the City's General Plan policies intended to reduce GHG emissions. Additionally, because the project is a Transit Priority Project and is consistent with the MTP/SCS, the project would also be consistent with the SACOG's GHG reductions mandated by SB 375. However, the proposed project may not include the necessary infrastructure to meet SMAQMD's BMP requirements. With implementation of Project-Specific Mitigation Measure V-1, the project's potential impact related to interfering with or impeding the City's or SACOG's efforts to reduce GHG emissions would be ***less-than-significant with mitigation incorporated***.

PROJECT-SPECIFIC MITIGATION MEASURES

Implementation of the following mitigation measure would reduce the above potential impact (see question a,b) to a *less-than-significant* level.

V-1 *The following requirements shall be noted on project improvement plans, subject to review and approval by the City of Sacramento Community Development Department:*

- *The proposed project shall be designed such that all project components, with the exception of any restaurant kitchens, are built all-electric. To offset kitchen natural gas usage the proposed project shall include a renewable energy system that generates at least 16,372.93 kWh/yr beyond Title 24 CALGreen requirements, or implement other means as deemed feasible by the City and SMAQMD to offset the proposed natural gas usage, such as the inclusion of pre-wiring to allow for the future retrofit of natural gas appliances with all-electric appliances; and*
- *Each structure shall be constructed to include an electric vehicle (EV) ready parking space, consistent with SMAQMD BMP 2.*

FINDINGS

The MTP/SCS was designed to help achieve regional GHG emissions reductions through the careful planning of transportation and land use projects. To assess the project's compliance with the MTP/SCS, the project was analyzed in regard to the project's consistency with the SMAQMD's thresholds of significance and the City's Climate Action Plan (CAP). As discussed above, the project would be consistent with the City's CAP, but may conflict with SMAQMD BMP thresholds. However, implementation of Project-specific Mitigation Measure V-1 would reduce impacts to a less-than-significant level.

The required implementation of MTP/SCS EIR Mitigation Measure GHG-3, which requires measures to reduce construction GHG emissions, would further reduce impacts related to GHGs. Therefore, the project would not result in any significant environmental effects related to GHG emissions.

VI. HAZARDS AND HAZARDOUS MATERIALS.	Potentially Significant Impact	Less-Than-Significant with Mitigation Incorporated	Less-Than-Significant Impact	No Impact
Would the proposal:				
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 likely release of hazardous materials into the environment?	☐	☐	☒	☐
c. Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?	☐	☐	☒	☐
d. Be located on a site which is included on a list of hazardous materials 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 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?	☐	☐	☐	☒
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 the risk of loss, injury or death involving wildland fires?	☐	☐	☒	☐

ENVIRONMENTAL AND REGULATORY SETTING

The project site consists primarily of undeveloped land that consists of fallow farmland and vacant lots covered with a moderate growth of grass and weeds. The elevation of the project site ranges from approximately 17 feet above mean sea level (msl) in the north to approximately seven feet above msl to the southeast. The project site is not included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5.[19]

The Sacramento Executive Airport, which is the nearest airport to the project site, is located approximately 3.5 miles north of the project site. The nearest school to the project site, Susan B. Anthony Elementary School, is located approximately 0.2 miles north.

Federal regulations and rules adopted by SMAQMD apply to the identification and treatment of hazardous materials during demolition and construction activities. Failure to comply with these regulations regarding asbestos may result in a Notice of Violation being issued by SMAQMD and civil penalties under state and/or federal law, in addition to possible action by U.S. EPA under federal law. Federal law covers a number of different activities involving asbestos, including demolition and renovation of structures (40 Code of Federal Regulations [CFR] Section 61.145).

[19] ENGEO. *Modified Phase I Environmental Site Assessment, Stone Beetland, Sacramento, California*. January 14, 2021.

SMAQMD's Rule 902, related to regulated asbestos-containing material (RACM) associated with commercial renovations and demolitions, is discussed in further detail below.

SMAQMD Rule 902

The work practices and administrative requirements of SMAQMD's Rule 902 apply to all commercial renovations and demolitions where the amount of RACM is greater than:

- 260 lineal feet of RACM on pipes, or
- 160 square feet of RACM on other facility components, or
- 35 cubic feet of RACM that could not be measured otherwise.

The administrative requirements of Rule 902 apply to any demolition of commercial structures, regardless of the amount of RACM.

Asbestos Surveys

To determine the amount of RACM in a structure, Rule 902 requires that an asbestos survey be conducted prior to demolition or renovation unless:

- The structure is otherwise exempt from the rule, or
- Any material that has a propensity to contain asbestos (so-called "suspect material") is treated as if the material is RACM.

Surveys must be done by a licensed asbestos consultant and require laboratory analysis.

Removal Practices, Removal Plans, Notification, and Disposal

If the asbestos survey shows that asbestos-containing materials are present, the SMAQMD recommends leaving them in place. If disturbance of the asbestos is necessary as part of a renovation, remodel, repair or demolition, the California Occupational Safety and Health Administration (Cal-OSHA) and the Contractors State License Board require a licensed asbestos abatement contractor be used to remove the asbestos-containing material. Specific disposal requirements are included in Rule 902 for friable asbestos-containing material, including disposal at a licensed landfill. If the material is non-friable asbestos, any landfill willing to accept asbestos-containing material may be used to dispose of the material.

STANDARDS OF SIGNIFICANCE

For the purposes of this environmental document, an impact is considered significant if the project would:

- Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials;
- Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the likely release of hazardous materials into the environment;
- Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school;

- Be located on a site which is included on a list of hazardous materials 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;
- 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;
- Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan; or
- Expose people or structures, either directly or indirectly, to the risk of loss, injury or death involving wildland fires.

SUMMARY OF ANALYSIS UNDER THE 2035 GENERAL PLAN MASTER EIR AND APPLICABLE GENERAL PLAN POLICIES

The Master EIR evaluated effects of development on hazardous materials, emergency response and aircraft crash hazards (see Chapter 4.6). Implementation of the General Plan may result in the exposure of people to hazards and hazardous materials during construction activities, and exposure of people to hazards and hazardous materials during the life of the General Plan. Impacts identified related to construction activities and operations were found to be less than significant. Policies included in the 2035 General Plan, including PHS 3.1.1 (investigation of sites for contamination) and PHS 3.1.2 (preparation of hazardous materials actions plans when appropriate) were effective in reducing the identified impacts.

MITIGATION MEASURES FROM 2035 GENERAL PLAN MASTER EIR THAT MAY APPLY TO THE PROJECT

None.

SUMMARY OF ANALYSIS UNDER THE METROPOLITAN TRANSPORTATION PLAN/SUSTAINABLE COMMUNITIES STRATEGY (MTP/SCS) EIR

Chapter 10 of the MTP/SCS EIR evaluated potential impacts to hazards and hazardous materials that may result from implementation of the proposed MTP/SCS. Where necessary and feasible, mitigation measures are identified to reduce these impacts.

a. Routine Transport or Disposal of Hazardous Materials

The MTP/SCS EIR analyzed the potential impacts related to the MTP/SCS creating a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials (Impact HAZ-1) and determined the impact to be *less than significant*. The MTP/SCS EIR concluded that projects are required by law to conform with the current requirements for the classification of materials, packaging, hazard communication, transportation, handling, HAZMAT employee training, and incident reporting, which is regulated through Title 49 of the CFR, Hazardous Materials Regulations. Therefore, mitigation is not required.

b. Accidental Release of Hazardous Materials into the Environment

The MTP/SCS EIR analyzed the potential impacts related to the MTP/SCS creating 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 (Impact HAZ-2A). Because businesses that require the use or storage of large quantities of hazardous materials are

required to prepare spill prevention, containment, and countermeasures plans (pursuant to 40 CFR 112), or for smaller quantities, a spill prevention and response plan, the MTP/SCS EIR concluded that the potential for upset and accident conditions would be sufficiently reduced. Consequently, the MTP/SCS EIR concluded that the MTP/SCS would result in a *less-than-significant* impact.

c. Emit or Handle Hazardous Material Within One-quarter Mile of a School

The MTP/SCS EIR analyzed the potential impacts related to the MTP/SCS emitting hazardous emissions or handling hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school (Impact HAZ-3) and determined the impact to be *less than significant*. The MTP/SCS EIR concluded that, with the existing federal and State regulations controlling emissions and the handling of hazardous materials, mitigation is not required.

d. Hazardous Materials List Pursuant to Government Code Section 65962.5

The MTP/SCS EIR analyzed the potential impacts related to development being located on a site that is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 (Impact HAZ-4). The MTP/SCS EIR concluded that construction of land use and transportation projects included in the MTP/SCS could create a significant hazard to the public or the environment, and a *significant and unavoidable* impact would result because SACOG does not have the authority to require implementing agencies to adopt mitigation measures included in the MTP/SCS EIR. However, the MTP/SCS EIR requires that any project taking advantage of the CEQA Streamlining must implement the mitigation measures discussed in the MTP/SCS EIR where feasible and necessary (Mitigation Measures HAZ-1). Implementation of the MTP/SCS EIR's required mitigation would reduce the associated impact to a *less-than-significant* level.

e. Airport Land Use Plan or Vicinity of a Private Airstrip

The MTP/SCS EIR analyzed the potential impacts related to development being 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 (Impacts HAZ-5) and determined the impact to be *less than significant*. Therefore, mitigation is not required.

f. Emergency Response or Evacuation Plan

The MTP/SCS EIR analyzed the potential impacts related to the MTP/SCS impairing implementation of or physically interfering with an adopted emergency response plan or emergency evacuation plan (Impact HAZ-6). Development under the MTP/SCS would be completed in compliance with established State and local regulations, which would address potential effects associated with the development patterns different than those assumed in the emergency plan and notifying emergency service providers where construction could substantially limit a potential evacuation route. Therefore, local emergency evacuation plan impacts are considered to be *less than significant*, and mitigation is not required.

g. Wildland Fires

The MTP/SCS EIR analyzed the potential impacts related to the MTP/SCS exposing people or structures to the risk of loss, injury or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands (Impact HAZ-8)

and determined the impact to be *significant and unavoidable* because SACOG does not have the authority to require implementing agencies to adopt mitigation measures included in the MTP/SCS EIR. However, the MTP/SCS EIR requires that any project taking advantage of the CEQA Streamlining must implement the mitigation measures discussed in the MTP/SCS EIR where feasible and necessary (Mitigation Measures HAZ-4). Implementation of the MTP/SCS EIR's required mitigation would reduce the associated impact to a *less-than-significant* level.

MITIGATION MEASURES FROM THE MTP/SCS EIR THAT MAY APPLY TO THE PROJECT

MTP/SCS EIR Mitigation Measures HAZ-2, HAZ-3, HAZ-4, and HAZ-6 only apply when the project site is located within a high fire risk area and, thus, are not applicable to the proposed project. MTP/SCS EIR Mitigation Measure HAZ-1 applies to the project and has already been implemented. In general, the measure requires a site-specific investigation to characterize the potential presence of hazardous wastes. As demonstrated below, a Phase I Environmental Site Assessment (ESA) was prepared for the project site.

PROJECT-SPECIFIC IMPACT DISCUSSION

a. Residential land uses are not typically associated with the routine transport, use, disposal, or generation of substantial amounts of hazardous materials. In addition, the types of commercial land uses that would be included within the mixed-use Transit Village would be generally compatible with adjacent residential uses and, thus, are not expected to include the use of substantial amounts of hazardous materials. Maintenance and operation of the proposed project may use common household cleaning products, fertilizers, and herbicides on-site, any of which could contain potentially hazardous chemicals; however, such products would be expected to be used in accordance with label instructions. Due to the regulations governing use of such products and the amount anticipated to be used on the site, routine use of such products would not represent a substantial risk to public health or the environment. Therefore, the project would not create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials, and a ***less-than-significant*** impact would occur.

b. The following discussion provides an analysis of potential hazards and hazardous materials associated with upset or accident conditions related to the proposed construction activities and existing on-site conditions.

   Construction activities associated with the proposed project would involve the use of heavy equipment, which would contain fuels and oils, and various other products such as concrete, paints, and adhesives. Small quantities of potentially toxic substances (e.g., petroleum and other chemicals used to operate and maintain construction equipment) would be used at the project site and transported to and from the site during construction. However, the project contractor would be required to comply with all California Health and Safety Codes and any applicable local ordinances regulating the handling, storage, and transportation of hazardous and toxic materials. Compliance with such would ensure that impacts related to the release of hazardous materials do not occur during construction.

   Consistent with MTP/SCS EIR Mitigation Measure HAZ-1, a Modified Phase I Environmental Site Assessment (ESA) was prepared for the project for the purpose of identifying potential recognized environmental conditions (RECs) associated with the project site (see Appendix F). The Phase I ESA included a reconnaissance of the project site and a review of local, State, tribal, and federal environmental record sources, standard

historical sources, aerial photographs, fire insurance maps and physical setting sources. In addition, the Phase I ESA included soil sampling and analysis.

The project site is not included on any environmental record source databases. Four hazardous material sites are identified in the site vicinity. However, based on the distances to the identified database sites, regional topographic gradient, and the findings of the environmental record search, the identified sites would not pose an environmental risk to the project site.

Based on historical aerial photographs, agricultural fields and row crops are shown throughout the project site beginning in 1957. The fields remain through 1999, with the exception of the northeastern portion of the project site, which appears to be last farmed in 1966. Following the agricultural use, the project site appears to be predominantly vacant from 2006 through 2016. A light rail station and associated rail tracks are shown in the westernmost portion of the project site in the 2016 aerial photograph.

Given the historical agricultural uses on the project site, the potential exists for on-site soils to be contaminated with organochloride pesticides (OCPs), arsenic, and lead. To evaluate the potential for residual agricultural impacts, soil sampling and analysis was performed. Fieldwork was conducted on December 18, 2020. A total of 48 surface soil samples were collected across the project site from approximately three to six inches below the ground surface. The sample locations are depicted in Figure 18. The sampling was conducted in accordance with Cal-EPA Department of Toxic Substances Control Guidelines.

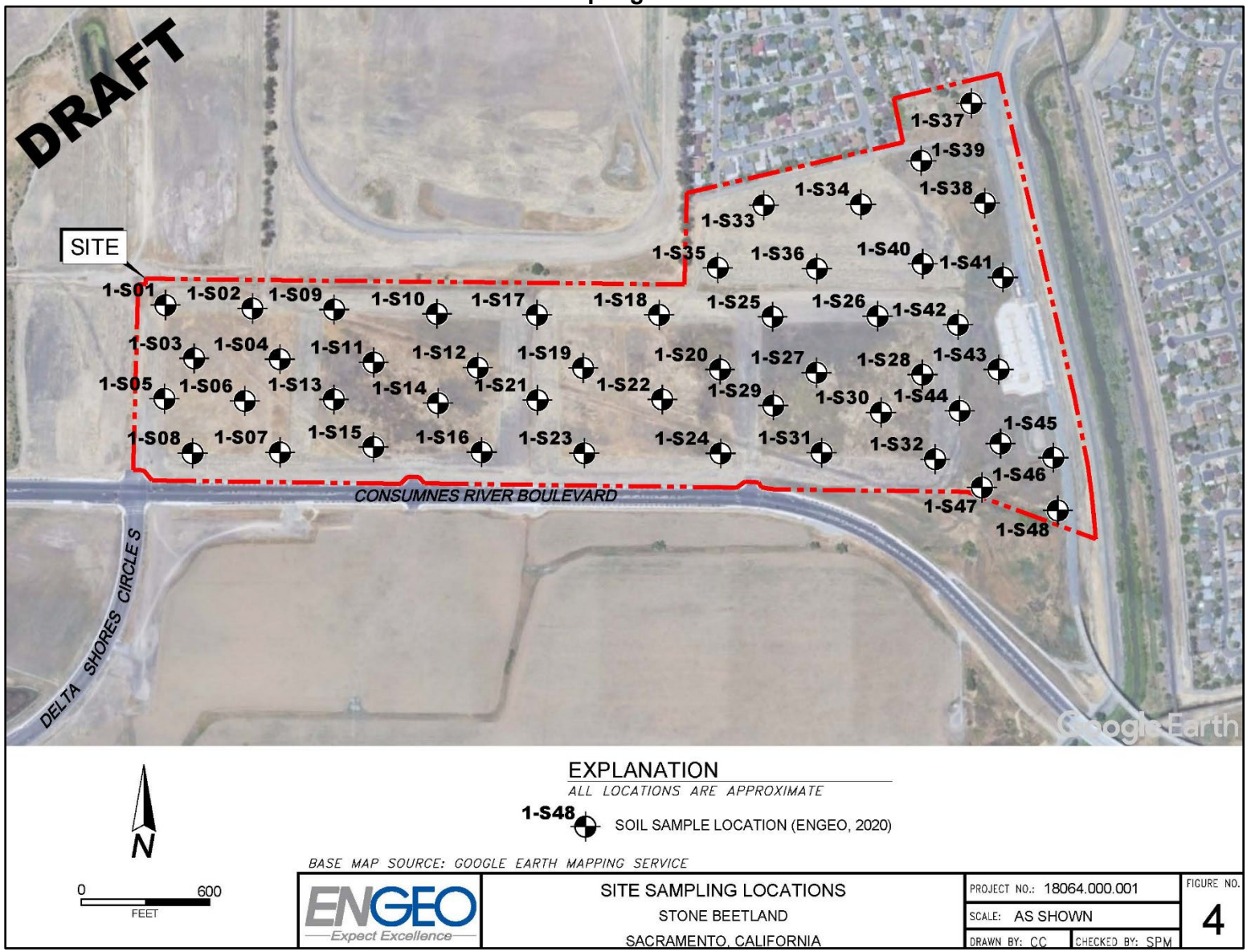
OCP concentrations in the samples were either non-detectable with respect to laboratory reporting limits, or below their respective Cal-EPA and U.S. EPA Screening Levels for residential land uses. Lead concentrations ranged from 9.4 to 21 micrograms per kilogram (mg/kg), which are below the current residential screening level of 80 mg/kg and are also within the expected range of background concentrations. Arsenic was reported throughout the project site, ranging from 4 to 19 mg/kg. Based on the laboratory analysis, levels of arsenic exceeded the current EPA Screening Levels of 0.11 mg/kg.

However, the levels of arsenic were determined to be representative of background concentrations for the area, and not a result of past agricultural chemical use. Based on review of the lab test results, historical agricultural practices have not had an adverse impact on the project site.

While not RECs, the Phase I ESA identified several on-site features, including two abandoned agricultural wells, soil stockpiles containing debris, and miscellaneous chemical containers/scattered trash, that will be addressed prior to implementation of the project.

Overall, based on the findings of the Phase I ESA, RECs were not identified on the project site. Thus, the project would not create a hazard to the public or the environment through the potential upset or accidental condition involving the release of hazardous materials (i.e., asbestos and lead-based paint) into the environment, and a ***less-than-significant*** impact would occur.

Figure 18
Soil Sampling Locations



c. The project site is located approximately 0.2-mile from the nearest school, Susan B. Anthony Elementary School. However, considering that the project would not emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste during construction and/or operations, impacts would be considered ***less than significant***.

d. As stated above, the Phase I ESA determined that the project site is not located on a site that is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5. Therefore, the project would not create a significant hazard to the public or the environment, and ***no impact*** would occur.

e. The nearest airport to the project site is the Sacramento Executive Airport, which is located approximately 3.5 miles north of the project site. As such, the project site is not located within two miles of any public airports or private airstrips, and does not fall within an airport land use plan area. Therefore, ***no impact*** would occur.

f. During operation, the proposed project would provide adequate access for emergency vehicles and would not interfere with potential evacuation or response routes used by emergency response teams. During construction of the proposed project, all construction equipment would be staged on-site so as to prevent obstruction of local and regional travel routes in the City that could be used as evacuation routes during emergency events. The project would not substantially alter the existing circulation system in the surrounding area. As a result, the project would have a ***less-than-significant*** impact with respect to impairing the implementation of or physically interfering with an adopted emergency response plan or emergency evacuation plan.

g. Issues related to wildfire hazards are discussed in of the beginning of this SCEA IS, under Agricultural and Forest Resources, Energy, Land Use, Population and Housing, Mineral Resources, and Wildfire. As noted therein, the project site is not located within a VHFHSZ. In addition, the project site is generally surrounded by existing development and/or roadways. The developed nature of the area surrounding the project site helps to preclude the spread of wildfire to the site. Thus, the potential for wildland fires to reach the project site would be limited. The proposed project would not expose people or structures to the risk of loss, injury or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands, and a ***less-than-significant*** impact would occur.

PROJECT-SPECIFIC MITIGATION MEASURES

None.

FINDINGS

Hazards related to development projects are typically related to the use of hazardous materials, the location of projects on sites that were previously exposed to hazardous materials, or the interference with adopted emergency response plans, among other factors. The Phase I ESA, which fulfilled the requirements of MTP/SCS EIR Mitigation Measure HAZ-1, concluded that known recognized environmental conditions do not exist on the site.

Residential and commercial land uses, such as those proposed as part of the project, do not typically involve the use, transport or disposal of hazardous materials, and therefore would not create a risk associated with hazardous materials.

The project would not alter or interfere with the City's existing circulation system and, thus, the project would not interfere with circulation in a way that could impact existing emergency response or evacuation plans.

The project would not result in any significant environmental effects related to hazards and hazardous materials.

VII. HYDROLOGY AND WATER QUALITY.	Potentially Significant Impact	Less-Than-Significant with Mitigation Incorporated	Less-Than-Significant Impact	No Impact
Would the proposal:				
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 offsite;	☐	☐	☒	☐
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?	☐	☐	☒	☐

ENVIRONMENTAL SETTING

The project site's existing conditions consist of undeveloped agricultural lands. The existing drainage pattern of the project site is gently sloped from the north and west to the lower lying southern portion of the site. The existing ground elevations of the project site range from elevation 12 to 13 feet above msl along the northern boundary to elevation five feet above msl in the southeast corner. The existing stormwater runoff within the site is conveyed by surface flows to small ditches that convey runoff to the southeast, where existing culverts convey runoff across Cosumnes River Boulevard and to the downstream Sump 89 facilities and outfall to Morrison Creek.

Flooding

The Federal Emergency Management Agency (FEMA) publishes Flood Insurance Rate Maps (FIRMs) that delineate flood hazard zones for communities. According to FEMA FIRM Panel 06067C0305H, the majority of the project site is located within FEMA Zone X, which indicates areas outside of the 100-year floodplain. Developments within Zone X are not required to elevate or flood proof, as risk of flooding is considered low. The portion of the project site within FEMA Zone X is labeled as an "area with reduced flood risk due to levee," and is therefore protected from flood inundation by the certified levee along the west bank of Morrison Creek. The

southeastern corner of the project site (the SCRSD Parcel) is within FEMA Zone AE, which indicates areas within the 100-year floodplain.

Watershed and Hydrological Characteristics

A watershed is an area of land that drains to a common outlet. The project site is located in the Sacramento River watershed. The Sacramento River is the main drainage in this watershed and originates near Mount Shasta in the Cascades Range. Tributaries to the Sacramento River include the Feather River, Cache Creek, Putah Creek, Dry Creek, American River, Arcade Creek, Morrison Creek, and Laguna Creek. The Sacramento River drains an area of approximately 43,500 square miles including all or parts of six landforms or physiographic provinces, including the Great Basin, the Middle Cascade Mountains, the Sierra Nevada, the Klamath Mountains, the Coast Ranges, and the Sacramento Valley. The Sacramento River flows south from the northern mountain ranges before discharging into the Sacramento-San Joaquin River Delta.

Surface Water Quality

Surface water quality in the Sacramento region is considered sufficient for municipal, agricultural, wildlife, and recreational uses; however, several of the larger water bodies in the Sacramento region are listed as impaired according to Section 303(d) of the Clean Water Act (CWA) of 1972 (33 U.S.C. Section 1251 et seq.). Beneficial use impairments can result from several factors but are generally a result of pollutant discharges from point and non-point sources. Point sources of pollutants include discharges of treated effluent from municipal wastewater treatment plants and wastewater discharges from industrial and commercial facilities. Non-point pollutant sources include urban runoff, construction runoff, livestock and animal wastes, and runoff from agricultural areas. Water quality is expected to reflect the land uses in the watershed. Urban land uses typically contribute sediment, hydrocarbons and metals, pesticides, and trash. Existing development within the project site would be expected to contribute similar contaminants.

Groundwater and Groundwater Quality

The project site is located within the South American groundwater basin, which is located in the southeastern portion of the Sacramento groundwater basin. According to the MTP/SCS EIR, the South American groundwater basin has a surface area of 388 square miles and is bounded on the west by the Sacramento River, on the south by the Cosumnes and Mokelumne Rivers, on the east by the Sierra Nevada, and on the north by the American River. Water-bearing formations in this basin consist of continental deposits of Quaternary and Late Tertiary age, including flood basin deposits, dredger tailings, stream channel deposits, older alluvium, and Miocene/Pliocene volcanics. The thickness of these deposits changes from a few hundred feet at Sierra Nevada foothills in the east to well over 2,500 feet in the western margin of the basin. Groundwater levels in this basin have fluctuated over the last several years as a result of dry years and well activity. Existing groundwater levels are approximately 20 feet or less throughout the basin. Groundwater in the South American subbasin is generally of good to excellent quality.[20]

Stormwater Drainage and Wastewater

The City of Sacramento's Grading Ordinance requires that development projects comply with the requirements of the City's Stormwater Quality Improvement Plan (SQIP). The SQIP outlines the

[20] City of Sacramento. *2035 General Plan Background Report*. August 2014.

priorities, key elements, strategies, and evaluation methods of the City's Stormwater Management Program. The City's Stormwater Management Program is based on the National Pollutant Discharge Elimination System (NPDES) municipal stormwater discharge permit. The comprehensive Stormwater Management Program includes pollution reduction activities for construction sites, industrial sites, illegal discharges and illicit connections, new development, and municipal operations. In addition, before the onset of any construction activities, where the disturbed area is one acre or more in size, projects are required to obtain coverage under the NPDES General Construction Permit and include erosion and sediment control plans. BMPs may consist of a wide variety of measures taken to reduce pollutants in stormwater and other non-point source runoff. Measures that reduce or eliminate post-construction-related water quality problems range from source controls, such as reduced surface disturbance, to treatment of polluted runoff, such as detention or retention basins. The City's SQIP and the *Stormwater Quality Design Manual for the Sacramento Region* (Sacramento Stormwater Quality Partnership 2014) include BMPs to be implemented to mitigate impacts from new development and redevelopment projects, as well as requirements for low impact development (LID) standards.

Section 13.08.145 of the Sacramento City Code (Mitigation of drainage impacts; design and procedures manual for water, sanitary sewer, storm drainage, and water quality facilities) requires that when a property contributes drainage to the storm drain system or combined sewer system, all stormwater and surface runoff drainage impacts resulting from the improvement or development must be fully mitigated to ensure that the improvement or development does not affect the function of the storm drain system or combined sewer system, and that an increase in flooding or in water surface elevation that adversely affects individuals, streets, structures, infrastructure, or property does not occur. The project is within the City's separated sewer system service area and would be subject to Sewer System Development Fees, which are intended to recover an appropriate share of the capital costs of the City's existing and/or new sewer system facilities. In addition to sewer service provided by the City of Sacramento Department of Utilities (DOU), the project would also be within the SCRSD. In order to connect with the SCRSD wastewater conveyance and treatment system, developers must pay impact fees.[21] In infill areas, single-family residential customers must pay 3,602 dollars per dwelling unit.

STANDARDS OF SIGNIFICANCE

For the purposes of this environmental document, an impact is considered significant if the project would:

- Violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or ground water quality;
- Substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin;
- 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;
    - Substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or offsite;

[21] Regional San. *Impact Fees.* Available at: https://www.regionalsan.com/impact-fees-businesses. Accessed October 2022.

  - 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;
- Impede or redirect flood flows;
- In flood hazard, tsunami, or seiche zones, risk release of pollutants due to project inundation; or
- Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan.

SUMMARY OF ANALYSIS UNDER THE 2035 GENERAL PLAN MASTER EIR AND APPLICABLE GENERAL PLAN POLICIES

Chapter 4.7 of the Master EIR evaluates the potential effects of the 2035 General Plan as they relate to surface water, groundwater, flooding, stormwater and water quality. Potential effects include water quality degradation due to construction activities (Impacts 4.7-1, 4.7-2), and exposure of people to flood risks (Impacts 4.7-3). Policies included in the 2035 General Plan, such as a directive for regional cooperation (Policies ER 1.1.2, EC 2.1.1), comprehensive flood management (Policy EC 2.1.23), and construction of adequate drainage facilities with new development (Policy ER 1.1.1 to ER 1.1.10) were identified by the Master EIR as effectively reducing all potential impacts to a less-than-significant level.

MITIGATION MEASURES FROM 2035 GENERAL PLAN MASTER EIR THAT MAY APPLY TO THE PROJECT

None.

SUMMARY OF ANALYSIS UNDER THE METROPOLITAN TRANSPORTATION PLAN/SUSTAINABLE COMMUNITIES STRATEGY (MTP/SCS) EIR

Chapter 11 of the MTP/SCS EIR evaluated potential impact to hydrology and water quality that may result from implementation of the proposed MTP/SCS. Where necessary and feasible, mitigation measures are identified to reduce these impacts.

a. Violate Water Quality Standards

The MTP/SCS EIR analyzed the potential impacts related to urban runoff and discharges of constituents to federal CWA Section 303(d)-listed waters (Impact HYD-1). The MTP/SCS EIR concluded that extensive regulations exist to protect water quality while preventing the release of stormwater and other discharges that could degrade surface or groundwater quality. Developments implemented in compliance with the MTP/SCS would be required to comply with the existing regulations, and compliance with existing regulations would be sufficient to ensure that a *less-than-significant* impact would occur. Mitigation was not required in the MTP/SCS EIR.

b. Decrease Groundwater Supply or Sustainability

The MTP/SCS EIR analyzed potential impacts resulting from increased pumping of groundwater, due to development under the MTP/SCS, as well as decreased recharge, as a result of development that inhibits infiltration of precipitation (Impact HYD-2). According to the MTP/SCS EIR, development within Center and Corridor Communities and HFTAs primarily involves development within largely urbanized areas that currently contain impervious surfaces. Urban areas are not currently a source of substantial groundwater recharge; thus, concentrating development in such areas reduces conversion of undeveloped areas where groundwater

recharge currently occurs. In addition, new development is required to incorporate LID strategies by Provision C.3 of the NPDES program and by the CALGreen Code. LID strategies often include on-site infiltration as a stormwater management measure. On-site infiltration as a stormwater management measure allows for continued recharge of groundwater. Consequently, the MTP/SCS EIR concluded that implementation of the MTP/SCS would result in a *less-than-significant* impact, and mitigation was not required.

ci. Alter the Existing Drainage Pattern Resulting in Erosion or Siltation

The MTP/SCS EIR analyzed whether changes in drainage patterns, including increases in impervious surfaces, would result in erosion or siltation (Impact HYD-3A). HFTAs are largely developed and contain large amounts of impervious surfaces that are served by constructed drainage conveyance. The existence of large amounts of impervious surfaces and existing infrastructure reduces the potential for infill or redevelopment within identified HFTAs to result in large changes to the existing drainage patterns. Consequently, the MTP/SCS EIR determined that the MTP/SCS would result in a *less-than-significant* impact and mitigation was not required.

cii. Alter the Existing Drainage Pattern Resulting in Increased Rates or Amounts of Surface Runoff and Flooding

The MTP/SCS EIR analyzed the potential for development under the MTP/SCS to result in increased surface runoff and on- or off-site flooding, primarily through increases in impervious surfaces and structures (Impact HYD-3B). Development in HFTAs are typically redevelopment, infill, and intensification of existing land uses. Such development does not typically increase the area of impervious surfaces beyond existing levels, but in some cases can increase stormwater flows and result in increases in the volume and velocity of stormwater flows. However, requirements for incorporation of LID strategies and measures for hydromodification avoid the potential for development in HFTAs to result in flooding. Accordingly, the MTP/SCS EIR determined that the MTP/SCS would result in a *less-than-significant* impact and mitigation was not required.

ciii. Alter the Existing Drainage Pattern and Exceed the Capacity of Infrastructure or Adding Polluted Runoff

The MTP/SCS EIR analyzed the potential for the MTP/SCS to result in increased stormwater discharge that could exceed the capacity of existing infrastructure or add sources of polluted runoff (Impact HYD-3C). Although new development in HFTAs and Center and Corridor Communities would be located in areas currently served by stormwater infrastructure, such infrastructure often requires upgrades to manage increased flows from redevelopment, infill, and intensification of land uses. Where infrastructure is upgraded to facilitate development, local and state regulations would require developments to apply BMPs, implement control measures, adhere to NPDES permit requirements, and comply with local drainage standards. In addition, project-level CEQA analysis would be conducted on projects within HFTAs and Center and Corridor Communities, which would include consideration of any potential impacts related to upgrades to the capacity of existing infrastructure.

Compliance with existing federal, state, and local regulations, as well as integration of LIDs and implementation of BMPs would avoid the potential for development under the MTP/SCS to contribute additional sources of polluted runoff. Because any needed infrastructure upgrades for individual projects would be analyzed on a project-by-project basis, the MTP/SCS EIR concluded

that implementation of the MTP/SCS would result in a *less-than-significant* impact and mitigation would not be required.

d. Risk Release of Pollutants Due to Inundation

The MTP/SCS EIR considered whether implementation of the MTP/SCS would result in development that would be at risk of inundation during floods and, thus, risk release of pollutants during inundation (Impact HYD-4). Although the MTP/SCS plan area is not subject to flooding risk from tsunamis, the plan area does contain areas at risk of inundation during a flood, dam or levee failure, or seiche. Federal, state, and local laws and regulations exist that manage and control pollutants, including regulations for the proper use, transportation, storage, handling, and disposal of hazardous materials. Future development under the MTP/SCS would be subject to all such laws and regulations. Moreover, the MTP/SCS would not include any activities that would directly increase the risk of flooding. Consequently, the MTP/SCS EIR concluded that the impact was *less-than-significant* and mitigation would not be required.

e. Conflict with Groundwater Quality or Management

The MTP/SCS EIR analyzed whether implementation of the MTP/SCS would result in the creation of conflicts with or obstruct the implementation of a water quality control plan or sustainable groundwater management plan (Impact HYD-5). Development under the MTP/SCS would be subject to existing federal, State, and local laws, regulations, and plans governing surface and groundwater quality and groundwater management. The MTP/SCS EIR concluded that the MTP/SCS did not include any features that would conflict with or obstruct implementation of Basin Plans or sustainable groundwater management plans. Furthermore, proposed projects would be analyzed on a local level to ensure compliance with all applicable plans. Consequently, the MTP/SCS EIR concluded that the impact was *less-than-significant* and mitigation would not be required.

MITIGATION MEASURES FROM THE MTP/SCS EIR THAT MAY APPLY TO THE PROJECT

None.

PROJECT-SPECIFIC IMPACT DISCUSSION

a. The following discussion provides a summary of the proposed project's potential to violate water quality standards/waste discharge requirements or otherwise degrade water quality during construction and operation. Potential impacts related to groundwater are discussed under question b,e.

Construction

During the early stages of construction activities, topsoil would be exposed due to grading and excavation of the site. After grading and prior to overlaying the ground surface with impervious surfaces and structures, the potential exists for wind and water erosion to discharge sediment and/or urban pollutants into stormwater runoff, which could adversely affect water quality downstream.

The State Water Resources Control Board (SWRCB) regulates stormwater discharges associated with construction activities where clearing, grading, or excavation results in a land disturbance of one or more acres. The City's NPDES permit requires applicants to

show proof of coverage under the State's General Construction Permit prior to receipt of any construction permits. The State's General Construction Permit requires a Storm Water Pollution Prevention Plan (SWPPP) to be prepared for the site. A SWPPP describes BMPs to control or minimize pollutants from entering stormwater and must address both grading/erosion impacts and non-point source pollution impacts of the development project. Because the proposed project would disturb more than one acre of land, the proposed project would be subject to the requirements of the State's General Construction Permit. In addition, the City of Sacramento's Grading Ordinance requires that development projects comply with the requirements of the City's SQIP. The SQIP outlines the priorities, key elements, strategies, and evaluation methods of the City's Stormwater Management Program. The comprehensive Stormwater Management Program includes pollution reduction activities for construction sites, industrial sites, illegal discharges and illicit connections, new development, and municipal operations.

Due to the mandated compliance of project construction activities with the State's General Construction Permit and the City's Grading Ordinance, the proposed project would not discharge sediment or urban pollutants through soil erosion, violate any water quality standards or waste discharge requirements, or otherwise substantially degrade surface or ground water quality during construction.

Operation

The proposed project is primarily residential and, as a result, would not involve operations typically associated with the generation or discharge of polluted water. Thus, typical operations on the project site would not violate any water quality standards or waste discharge requirements, nor degrade water quality. However, the incorporation of impervious surfaces on the site would result in the generation of urban runoff, which could contain pollutants if the runoff comes into contact with such sources as vehicle fluids on parking surfaces and/or landscape fertilizers or herbicides. Consistent with Chapter 13.16 of the City Code, the post-development stormwater flows from the site would be required to be equal to or less than pre-development conditions.

As a standard Condition of Approval (COA) for development projects in the City, the City's DOU requires preparation and submittal of project-specific drainage studies. With submittal of the required drainage study, the DOU would review the Improvement Plans for the proposed project prior to approval to ensure that adequate water quality control facilities and certified full capture trash control devices are incorporated. It should be noted that the proposed project would comply with Section 13.08.145, Mitigation of drainage impacts; design and procedures manual for water, sanitary sewer, storm drainage, and water quality facilities, of the City Code, which requires the following:

> "When property that contributes drainage to the storm drain system or combined sewer system is improved or developed, all stormwater and surface runoff drainage impacts resulting from the improvement or development shall be fully mitigated to ensure that the improvement or development does not affect the function of the storm drain system or combined sewer system, and that there is no increase in flooding or in water surface elevation that adversely affects individuals, streets, structures, infrastructure, or property."

In compliance with the above, a Drainage Master Plan was prepared for the proposed project, as discussed in further detail under question ci-ciii, below. As explained therein,

stormwater runoff from the project site would be directed to one of two planned stormwater basins that would provide water quality treatment and detention. Based on the hydraulic modeling conducted for the Drainage Master Plan, the planned basins would provide adequate stormwater quality treatment and peak flow control.[22] Compliance with the Drainage Master Plan would ensure that all urban runoff from new impervious surfaces would be adequately treated, and adverse impacts related to water quality would not occur.

Conclusion

Based on the above, the proposed project would not result in the violation of water quality standards or degradation of water quality during construction or operation, and the projected impact would be ***less than significant***.

b,e. Currently, the project site is covered in pervious surfaces and, as a result, stormwater falling on the project site infiltrates on-site soils and contributes to groundwater recharge. Implementation of the proposed project would result in an increase in impervious surface area on the project site, as well as increased water demand due to development.

The City relies primarily on treated surface water, as well as on groundwater pumped from the North and South American Groundwater Subbasins. Groundwater is derived primarily from the North American Subbasin (5-21.64), with two active drinking water wells pumping from the South American Subbasin. Since 1992, a reduction of groundwater pumping has resulted in stabilized groundwater levels in the North American Subbasin. In the South American Subbasin, the Department of Water Resources Bulletin estimates groundwater withdrawals are in balance with recharge for the Subbasin.[23] Therefore, the subbasins underlying the project area are not in overdraft or critically overdrafted conditions.

A groundwater sustainability plan has been prepared for both the South American Subbasin[24] and the North American Subbasin.[25] Because the proposed project is consistent with the regional growth projections for the area, and because the groundwater basin underlying the site is not in overdraft conditions, the proposed project would not conflict with an adopted groundwater sustainability plan.

In addition, the project site is relatively small compared to the size of the overall groundwater basin and, thus, does not constitute a substantial source of groundwater recharge. Furthermore, the project would allow for some continued infiltration through the proposed detention basins and other landscaped/unpaved areas of the site. Therefore, the proposed project would not substantially interfere with groundwater recharge.

Finally, according to the MTP/SCS EIR, due to the largely urbanized nature of HFTAs, such areas are responsible for relatively little recharge of groundwater resources. Therefore, development of the proposed project within the HFTA would not remove a major contributor to groundwater recharge.

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22 Carlson, Barbee & Gibson, Inc. *Drainage Master Plan, Stone Beetland, Sacramento California*. November 2021.
23 City of Sacramento. *2035 General Plan Background Report* [pg. 4-31]. August 2014.
24 South American Subbasin Groundwater Sustainability Agencies. *South American Subbasin Groundwater Sustainability Plan*. October 29, 2021.
25 Sacramento Groundwater Authority GSA, Reclamation District 1001 GSA, South Sutter Water District GSA, Sutter County GSA, West Placer GSA. *North American Subbasin Groundwater Sustainability Plan*. December 2021.

As a result, the proposed project would have a ***less-than-significant*** impact with respect to substantially decreasing groundwater supplies, interfering with groundwater recharge, and creating conflicts with or obstructing the implementation of a water quality control plan or sustainable groundwater management plan.

ci-ciii. As noted above, the project site is currently covered in pervious surfaces. As part of implementation of the proposed project, a large part of the project site would be converted to impervious surface area, which would alter the existing drainage pattern on the site.

A Drainage Master Plan was prepared for the proposed project (see Appendix G).[26] The project Drainage Master Plan is consistent with the methodology of the Delta Shores Drainage Master Plan, which considered the development of the proposed project. As presented in Figure 19, the project would include two multi-function stormwater basins to provide runoff water-quality treatment and peak flow attenuation. The basins have been sized using the design guidance in the Stormwater Quality Design Manual for the Sacramento Region (July 2018), and are both sized to fully contain flows from the 100-year storm. In addition, the proposed drainage system would comply with the City's requirement that post-development flows may not exceed pre-development peak flows into the downstream stormwater system.

The East Basin would receive runoff from the four eastern drainage management areas (DMAs), as well as all runoff from the existing Detroit Avenue neighborhood. Furthermore, implementation of the East Basin would not result in any impacts to Morrison Creek flood conditions.[27]

The West Basin would receive runoff from the western DMA. Under existing conditions, runoff from the light rail DMA is routed to a basin on the SCRSD Parcel. As part of the project, the basin would be relocated and integrated into the West Basin and would serve the same size and function as under existing conditions. Based on the hydrologic and hydraulic modeling prepared as part of the Drainage Master Plan, the proposed stormwater drainage facilities would provide adequate stormwater quality treatment, peak flow control, and conveyance infrastructure to allow a mix of higher density land uses without adverse impact to the existing regional storm drain system. Final design and storage volumes identified in the Drainage Master Plan may be adjusted based on review and approval by the Department of Utilities.

As discussed further below, a portion of the project site on the SCRSC Parcel is located within the 100-year floodplain. The proposed basins have been sized to accommodate both project runoff and 100-year floodplain waters. Additionally, the construction of the detention basin within the floodplain would not alter the floodplain such that floodwater would be displaced downstream.[28]

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[26] Carlson, Barbee & Gibson, Inc. *Drainage Master Plan, Stone Beetland, Sacramento California*. November 2021.

[27] Angelo Obertello, P.E., Principal, CBG Civil Engineers. Personal Communication [email] with Nick Pappani, Vice President, Raney Planning and Management. March 24, 2023.

[28] *Ibid.*

Figure 19
Stormwater Drainage Plan



Overall, the analysis within the Drainage Master Plan indicates that the new drainage pattern on the project site would not result in substantial erosion or siltation, increased runoff that would result in flooding, or runoff that would exceed the capacity of existing or planned stormwater drainage systems. Thus, a ***less-than-significant*** impact would occur.

c.iv. The southeastern corner of the project site (the SCRSD Parcel) is within FEMA Zone AE, which indicates areas within the 100-year floodplain. However, the SCRSD Parcel is intended to be used as a stormwater detention basin/open space only, and structures would not be built on the parcel. Therefore, structures would not be placed within the 100-year floodplain.

According to FEMA FIRM Panel 06067C0305H, the remainder of the project site is within FEMA Zone X, which indicates areas outside of the 100-year floodplain. The portion of the project site within FEMA Zone X is labeled as an "area with reduced flood risk due to levee," and is therefore protected from flood inundation by the certified levee along the west bank of Morrison Creek.

Based on the above, the project would not place structures within the 100-year floodplain, nor expose people or structures to a significant risk of loss, injury or death involving flooding, including flooding as a result of the failure of a levee or dam. Therefore, a ***less-than-significant*** impact would result.

d. As discussed under paragraph 'c.iv' of this section, the majority of the project site is not located within a flood hazard zone. Thus, the proposed development would not be subject to substantial flooding risks. Tsunamis typically affect coastlines and areas up to one-quarter of a mile inland, and the project site is located over 50 miles from the Pacific Ocean. Due to the project's distance from the coast, impacts related to a tsunami would not occur. Seiches do not pose a risk to the proposed project, as the project site is not located adjacent to any closed body of water. Therefore, the proposed project would not result in risks related to the release of pollutants due to project inundation due to flooding, tsunami, or seiche, and ***no impact*** would occur.

PROJECT-SPECIFIC MITIGATION MEASURES

None.

FINDINGS

When development occurs in undeveloped areas, changes to site hydrology can lead to the degradation of water quality, the depletion of water quality and the exposure of structures and people to flood risk. The proposed project would be required to comply with all relevant City and State regulations related to the control and treatment of stormwater prior to discharge, and, according to the project-specific Drainage Master Plan, the planned system would adequately accommodate all stormwater flows.

The project would not adversely affect water quality or drainage flows. Implementation of the project would not adversely affect a groundwater sustainability plan, and the project would not be subject to risks from flooding, tsunamis, or seiche. Overall, the project would not result in any significant environmental effects related to hydrology or water quality.

VIII. NOISE.	Potentially Significant Impact	Less-Than-Significant with Mitigation Incorporated	Less-Than-Significant Impact	No Impact
Would the proposal 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?	☐	☐	☒	☐

ENVIRONMENTAL SETTING

The following information is based primarily on the Noise and Vibration Impact Assessment prepared for the proposed project by Bollard Acoustical Consultants (BAC) (see Appendix H).[29] The following terms are referenced in the sections below:

- Decibel (dB): A unit of sound energy intensity. An A-weighted decibel (dBA) is a decibel corrected for the variation in frequency response to the typical human ear at commonly encountered noise levels. All references to decibels (dB) in this report will be A-weighted unless noted otherwise.
- Day-Night Average Level (DNL): The average sound level over a 24-hour day, with a +10 decibel weighting applied to noise occurring during nighttime (10:00 PM to 7:00 AM) hours.
- Maximum Sound Level (L_{max}): The maximum sound level over a given period of time.
- Equivalent Sound Level (L_{eq}): The average sound level over a given period of time.
- Median Sound Level (L_{50}): The sound level that is exceeded for 50 percent of the given time period.

The existing ambient noise environment in the immediate project vicinity is defined primarily by Cosumnes River Boulevard traffic to the south, the SacRT light rail tracks immediately east of the project area, and UPRR operations further east of the light rail. To quantify the existing ambient noise environment within the project area, BAC conducted short-term ambient noise surveys at two locations on March 2, 2022 and long-term (continuous, five-day), ambient noise level measurements at four locations between February 28 and March 4, 2022. The noise measurement locations are presented in Figure 20, and the results of the survey are summarized in Table 6 and Table 7.

Noise measurement site LT-1 was selected to be representative of the existing UPRR noise levels behind the existing residential development to the east. Microphone heights of five and 10 feet were used at Site LT-1 to represent locations behind and above the existing railroad sound wall. Site LT-2 was selected to represent the light rail and UPRR noise on the project area. Sites LT-3 and LT-4 were selected to represent Cosumnes River Boulevard traffic noise.

[29] Bollard Acoustical Consultants, Inc. *Environmental Noise and Vibration Assessment, Stone Beetland Mixed-Use Development*. April 7, 2023.

Figure 20
Noise Measurement Locations



Table 6
Summary of Long-Term Ambient Noise Level Measurement Results[1]

Site[2]	Height	Date[5]	DNL	Average Measured Hourly Noise Levels (dBA)			
				Daytime[3]		Nighttime[4]	
				L_{50}	L_{max}	L_{50}	L_{max}
LT-1	5’	Monday, February 28	51	47	63	44	57
		Tuesday, March 1	58	58	69	48	59
		Wednesday, March 2	56	52	68	49	60
		Thursday, March 3	55	50	64	49	62
		Friday, March 4	57	55	70	50	55
LT-1	10’	Monday, February 28	54	49	66	47	58
		Tuesday, March 1	66	56	67	60	71
		Wednesday, March 2	56	50	64	50	65
		Thursday, March 3	63	58	66	57	67
		Friday, March 4	-	-	-	-	-
LT-2	5’	Monday, February 28	55	51	67	48	66
		Tuesday, March 1	57	52	69	50	66
		Wednesday, March 2	57	53	69	50	66
		Thursday, March 3	57	52	69	50	63
		Friday, March 4	59	57	76	51	64
LT-3	5’	Monday, February 28	61	56	76	55	79
		Tuesday, March 1	62	57	74	55	73
		Wednesday, March 2	61	56	76	54	71
		Thursday, March 3	65	62	76	58	75
		Friday, March 4	73	67	84	66	74
LT-4	5’	Monday, February 28	62	57	75	55	71
		Tuesday, March 1	62	57	75	56	69
		Wednesday, March 2	62	56	74	55	71
		Thursday, March 3	61	55	73	55	69
		Friday, March 4	63	61	72	55	68

Notes:
1. Detailed summaries of the noise monitoring results are provided graphically in Appendix C of the Noise and Vibration Impact Assessment (see Appendix H to this SCEA IS).
2. Long-term ambient noise monitoring conducted from February 28 to March 4, 2022. Noise measurement locations are identified on Figure 20.
3. Daytime hours: 7:00 AM to 10:00 PM
4. Nighttime hours: 10:00 PM to 7:00 AM
5. Data collected on February 28 and March 4 is not a full 24-hour period.

Source: Bollard Acoustical Consultants, Inc., 2023.

Table 7
Short-Term Ambient Noise Level Measurement Results

Site	Duration	Time	Average Measured Hourly Noise Levels (dBA)		
			L_{50}	L_{eq}	L_{max}
ST-1	30 minutes	11:20 – 11:50 AM	43	57	80
ST-2	30 minutes	3:16 – 3:46 PM	47	50	68

Note: Noise measurement locations are identified on Figure 20.

Source: Bollard Acoustical Consultants, Inc., 2023.

The short-term sites were selected to be representative of ambient conditions at the existing residential developments to the north and east of the site.

The FHWA Traffic Noise Model (FHWA-RD-77-108) was used to quantify existing traffic noise levels at the nearest sensitive land uses, and to quantify the distances to the 60, 65 and 70 dB DNL traffic noise contours for these roadways. Traffic data were obtained from the project transportation consultant, Fehr & Peers. The modeled traffic noise data are summarized in Table 8.

Table 8
Existing Traffic Noise Levels at Nearest Receptors and Distances to DNL Contours

#	Roadway	From	To	DNL at Nearest Sensitive Receptor (dB)	Distance to Contour (ft)		
					70 dB DNL	65 dB DNL	60 dB DNL
1	Meadowview Rd	29th Street	Detroit Blvd	70.0	60	129	278
2	Meadowview Rd	Detroit Blvd	Railroad	71.4	62	133	286
3	Detroit Blvd	Meadowview Rd	Laurie Way	61.3	13	28	61
4	Detroit Blvd	Laurie Way	Reel Cir	57.2	7	15	33
5	Detroit Blvd	Reel Cir	Ann Arbor Way	55.8	6	12	26
6	Detroit Blvd	Ann Arbor Way	Burlington Way	45.8	1	3	6
7	Cosumnes River Blvd	Delta Shores Cir (W)	Delta Shores Cir (E)	70.9	92	199	428
8	Cosumnes River Blvd	Delta Shores Cir (E)	Railroad	54.5	39	83	179
9	Cosumnes River Blvd	Railroad	Franklin Blvd	54.5	39	83	179
10	Delta Shores Cir	Cosumnes River Blvd (W)	Cosumnes River Blvd (E)	60.4	14	30	64

Source: Bollard Acoustical Consultants, Inc., 2023.

To generally quantify existing vibration levels at representative locations within the project site, BAC conducted short-term (15-minute) vibration measurements at four locations within the project site as shown on Figure 20. The results of the ambient vibration survey are presented in Table 9.

Table 9
Summary of Ambient Vibration Monitoring Results

Site	Time	Average Measured Vibration Level, VdB
V-1	11:22 AM	43
V-2	10:36 AM	39
V-3	12:21 PM	39
V-4	3:16 PM	32

Note: Vibration measurement locations are identified on Figure 20.

Source: Bollard Acoustical Consultants, Inc., 2023.

REGULATORY SETTING

Pursuant to General Plan Policy EC 3.1.1, Exterior Noise Standards, the City shall require mitigation for all development projects where the exterior noise standards exceed the levels shown in Table EC-1 of the General Plan. In the case of the proposed project, wherein the nearest sensitive receptors are single-family residences, the exterior noise compatibility standard is 60 dBA.

Pursuant to General Plan Policy EC 3.1.2, Exterior Incremental Noise Standards, the City shall require mitigation for projects that increase existing noise levels by more than the allowable increment as shown in Table EC-2 of the General Plan, as replicated in Table 10 below.

Table 10
Allowable Incremental Noise Increases

Residences and buildings where people normally sleep[1]		Institutional land uses with primarily daytime and evening uses[2]	
Existing L_{dn}	Allowable Noise Increment	Existing L_{dn}	Allowable Noise Increment
45	8	45	12
50	5	50	9
55	3	55	6
60	2	60	5
65	1	65	4
70	1	70	4
75	0	75	1
80	0	80	0

Notes:
1. This category includes homes, hospitals, and hotels where a nighttime sensitivity to noise is assumed to be of utmost importance.
2. This category includes schools, libraries, theaters, and churches where it is important to avoid interference with such activities as speech, meditation, and concentration on reading material.

Source: City of Sacramento. Sacramento 2030 General Plan Master Environmental Impact Report. Certified March 3, 2009.

With respect to construction noise, the City of Sacramento Noise Ordinance (Section 8.68.080[D]) exempts noise generated by construction activities from the typical noise standards as follows:

> *Noise sources due to the erection (including excavation), demolition, alteration or repair of any building or structure between the hours of seven a.m. and six p.m., on Monday, Tuesday, Wednesday, Thursday, Friday and Saturday, and between nine a.m. and six p.m. on Sunday; provided, however, that the operation of an internal combustion engine shall not be exempt pursuant to this subsection if such engine is not equipped with suitable exhaust and intake silencers which are in good working order. The director of building inspections, may permit work to be done during the hours not exempt by this subsection in the case of urgent necessity and in the interest of public health and welfare for a period not to exceed three days. Application for this exemption may be made in conjunction with the application for the work permit or during progress of the work.*

With respect to noise generated at neighborhood parks, the City of Sacramento Noise Ordinance (Section 8.68.080[B]) specifically exempts noise generated by activities conducted at parks or public playgrounds, provided such parks and playgrounds are owned and operated by a public entity.

For the purposes of this environmental document, an impact is considered significant if the project would:

- Result in exterior noise levels at existing or new urban infill residential uses of 70 dBA L_{dn} or greater;
- Result in exterior incremental noise level increases of 1 dB or greater where existing noise levels are 70 dB L_{dn} or less;
- Result in interior noise levels of 45 dBA L_{dn} or greater at existing or new residences;
- Result in construction noise levels that exceed the standards in the City of Sacramento Noise Ordinance;
- Permit existing and/or planned residential and commercial areas to be exposed to vibration-peak-particle velocities greater than 0.5 inches per second due to project construction;

- Permit adjacent residential and commercial areas to be exposed to vibration peak particle velocities greater than 0.5 inches per second due to highway traffic and rail operations; or
- Permit historic buildings and archaeological sites to be exposed to vibration-peak-particle velocities greater than 0.2 inches per second due to project construction and highway traffic.

SUMMARY OF ANALYSIS UNDER THE 2035 GENERAL PLAN MASTER EIR AND APPLICABLE GENERAL PLAN POLICIES

The Master EIR evaluated the potential for development under the 2035 General Plan to increase noise levels in the community. New noise sources include vehicular traffic, aircraft, railways, light rail and stationary sources. The General Plan policies establish exterior (Policy EC 3.1.1) and interior (Policy EC 3.1.3) noise standards. A variety of policies provide standards for the types of development envisioned in the General Plan. Policy EC 3.1.8 requires mixed-use, commercial, and industrial projects to mitigate operational noise impacts to adjoining sensitive uses when operational noise thresholds are exceeded, and Policy 3.1.9 calls for the City to limit hours of operation for parks and active recreation areas in residential areas to minimize disturbance to residences. Moreover, the Master EIR considered Policy 3.1.6, which requires the City to consider potential effects of vibration when reviewing new residential and commercial projects that are proposed in the vicinity of rail lines or light rail lines, as a mitigation measure that would reduce the impact of existing sources of vibration on proposed developments. Notwithstanding application of the General Plan policies, noise impacts for exterior noise levels (Impact 4.8-1) and interior noise levels (Impact 4.8-2), and vibration impacts (Impact 4.8-4) were found to be significant and unavoidable.

MITIGATION MEASURES FROM 2035 GENERAL PLAN MASTER EIR THAT MAY APPLY TO THE PROJECT

None.

SUMMARY OF ANALYSIS UNDER THE METROPOLITAN TRANSPORTATION PLAN/SUSTAINABLE COMMUNITIES STRATEGY (MTP/SCS) EIR

Chapter 13 of the MTP/SCS EIR evaluated potential impact to noise that may result from implementation of the proposed MTP/SCS. Where necessary and feasible, mitigation measures are identified to reduce these impacts.

a. Exceed Noise Threshold

The MTP/SCS EIR analyzed the potential impacts related to the MTP/SCS resulting in noise levels that exceed the Community Type L_{dn} thresholds under Impact NOI-1. The MTP/SCS EIR determined that urban areas are currently subject to higher noise levels, and the MTP/SCS promotes further compact, infill growth within central and community corridor areas. The MTP/SCS EIR concluded that the MTP/SCS would result in a *significant and unavoidable* impact related to the exceedance of noise thresholds. However, the MTP/SCS EIR requires that any project taking advantage of the CEQA Streamlining must implement the mitigation measures discussed in the MTP/SCS EIR where feasible and necessary (Mitigation Measure NOI-1). Implementation of the MTP/SCS EIR's required mitigation would result in a *less-than-significant* impact.

In addition, the MTP/SCS EIR analyzes impacts related to the generation of noise during construction under Impact NOI-3. The MTP/SCS EIR concluded that construction activity could

result in a temporary increase in ambient noise levels that would exceed the applicable noise standard, which would result in a *significant and unavoidable* impact because SACOG does not have the authority to require implementing agencies to adopt mitigation measures included in the MTP/SCS EIR. However, the MTP/SCS EIR requires that any project taking advantage of the CEQA Streamlining must implement the mitigation measures discussed in the MTP/SCS EIR where feasible and necessary (Mitigation Measure NOI-3). Implementation of the MTP/SCS EIR's required mitigation would reduce the impact to a *less-than-significant* level.

b. Groundborne Vibration

The MTP/SCS EIR analyzed the potential impacts related to the MTP/SCS resulting in excessive vibration and groundborne noise under Impact NOI-2. The MTP/SCS EIR noted that a potentially significant impact could occur related to transportation projects and, specifically, projects that would result in regular operations of freight and light rail trains. However, for development projects in HFTAs, the MTP/SCS EIR concluded that operation of residential and mixed-use buildings would not result in substantial vibrations and mitigation would not be required. As noted in the MTP/SCS EIR, operations of industrial and public buildings that involve the use of machinery could generate vibration and groundborne noise, but the amount of vibration produced is not anticipated to be excessive. Thus, the impact would be *less than significant*.

c. Airport Noise

The MTP/SCS EIR analyzed the potential impacts related to safety hazards and excessive noise exposure from being 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, under Impact HAZ-5. The MTP/SCS EIR concluded that improvements included in the proposed MTP/SCS are more likely to improve safety (through improvements to the roadway network and public transportation) than cause hazards or interfere with airport operations. Therefore, the MTP/SCS determined that the impact would be *less than significant*, and mitigation is not required.

MITIGATION MEASURES FROM THE MTP/SCS EIR THAT MAY APPLY TO THE PROJECT

Mitigation Measure NOI-2 relates only to new and expanded railway projects and, thus, is not applicable to the project. However, MTP/SCS EIR Mitigation Measures NOI-1 and NOI-3 are applicable to the project, could be feasibly implemented, and are hereby incorporated into this SCEA IS as requirements of the project.

MM NOI-1: Employ measures to reduce noise from new land uses and transportation projects.

For projects that have not undergone previous noise study and that exceed acceptable noise thresholds, the implementing agency shall require a project-level evaluation of noise impacts in accordance with applicable federal, state, and local noise standards. Where significant impacts are identified, applicable mitigation measures shall be implemented, to reduce noise to be in compliance with applicable noise standards. Mitigation designed to reduce noise impacts would apply to construction and operation of new development within the projected land use pattern as well as planned transportation improvements. Measures that shall be implemented, where feasible and necessary to address site-specific impacts include, but are not limited to, the following:

- *constructing barriers in the form of outdoor barriers, sound walls, buildings, or earth berms to attenuate noise at adjacent sensitive uses;*
- *make mechanical modifications, operational modifications, or other changes to transit systems to improved soundproofing and minimize unwanted noise, particularly during sensitive times/hours.*
- *using land use planning measures, such as zoning, restrictions on development, site design, and buffers to ensure that future development is compatible with adjacent transportation facilities and land uses;*
- *constructing roadways so that they are depressed below-grade of the existing sensitive land uses to create an effective barrier between new roadway lanes, roadways, rail lines, transit centers, park-n-ride lots, and other new noise generating facilities;*
- *maximizing the distance between noise-sensitive land uses and new noise-generating facilities and transportation systems;*
- *improving the acoustical insulation, window quality, and/or other soundproofing of dwelling units (existing or proposed) where setbacks and sound barriers do not sufficiently reduce noise; and*
- *using rubberized asphalt or "quiet pavement" to reduce road noise for new roadway segments, roadways in which widening or other modifications require re-pavement, or normal reconstruction of roadways where re-pavement is planned.*

MM NOI-3: Reduce noise, vibration, and groundborne noise generated by construction activities. Measures that can and should be implemented to reduce noise, vibration, and groundborne noise generated by construction activities, where feasible and necessary to address site-specific considerations include, but are not limited to, the following:

- *restrict construction activities to permitted hours in accordance with local jurisdiction regulations;*
- *properly maintain construction equipment and outfit construction equipment with the best available noise suppression devices (e.g., mufflers, silencers, wraps);*
- *prohibit idling of construction equipment for extended periods of time in the vicinity of sensitive receptors;*
- *locate stationary equipment such as generators, compressors, rock crushers, and cement mixers as far from sensitive receptors as possible; and*
- *predrill pile holes to the maximum feasible depth, provided that pile driving is necessary for construction.*

PROJECT-SPECIFIC IMPACT DISCUSSION

a. Some land uses are considered more sensitive to noise than others, and, thus, are referred to as sensitive noise receptors. Land uses often associated with sensitive noise receptors generally include residences, schools, libraries, hospitals, and passive recreational areas. Noise sensitive land uses are typically given special attention in order to achieve protection from excessive noise. The closest sensitive receptors to the project site include the single-family residences immediately north of the project site, approximately 50 feet away from where construction would occur.

Construction Noise

During project construction, heavy equipment would be used for demolition, clearing, grading excavation, paving, and building construction, which would increase ambient noise levels when in use. Noise levels would vary depending on the type of equipment used, how it is operated, and how well it is maintained. Noise exposure at any single point outside the project work area would also vary depending on the proximity of equipment activities to that location. Table 11 includes the range of maximum noise levels for equipment commonly used in general construction projects at full-power operation at a distance of 50 feet.

Table 11
Construction Equipment Reference Noise Levels

Equipment Description	Maximum Noise Level at 50 Feet (dBA)
Air compressor	80
Backhoe	80
Ballast equalizer	82
Ballast tamper	83
Compactor	82
Concrete mixer	85
Concrete pump	82
Concrete vibrator	76
Crane, mobile	83
Dozer	85
Generator	82
Grader	85
Impact wrench	85
Loader	80
Paver	85
Pneumatic tool	85
Pump	77
Saw	76
Scarifier	83
Scraper	85
Shovel	82
Spike driver	77
Tie cutter	84
Tie handler	80
Tie inserter	85
Truck	84

Source: Bollard Acoustical Consultants, Inc., 2023.

Based on the noise levels presented in Table 11, the maximum noise levels at the nearest existing noise-sensitive uses are expected to range from approximately 76 to 85 dB. However, as noted previously, Section 8.68.080(D) of the City of Sacramento Municipal Code exempts construction noise, provided that the activities occur during specified hours and days of the week. Additionally, implementation of MTP/SCS EIR Mitigation Measure NOI-3, which requires that construction noise be reduced to the maximum extent feasible, would ensure that impacts related to construction noise are less than significant.

Operational Noise

The primary sources of operational noise associated with the proposed project would be from project-generated vehicular traffic, operations of the commercial mixed-use area, and park activity. The foregoing noise sources are discussed separately below.

It is noted that the Noise and Vibration Impact Assessment prepared for the project (see Appendix H to this SCEA IS) includes an evaluation of existing transportation noise (vehicular traffic and light rail operations) on the sensitive uses proposed as part of the project and provides recommendations, as necessary, to ensure that noise levels experienced on-site would comply with applicable City standards. Impacts of the environment on a project, as compared to impacts of a project on the environment, are beyond the scope of required CEQA review.[30] Accordingly, such analysis is not presented in the following discussion. Nonetheless, City staff will review the analysis of environmental noise on the project to ensure consistency with applicable City standards and General Plan policies and will condition the project appropriately.

Traffic Noise

Implementation of the proposed project would result in increased traffic volumes on the local roadway network, which would result in a corresponding increase in traffic noise levels at existing sensitive uses located along such roadways.[31] As noted previously, existing traffic noise levels at the nearest sensitive land uses are summarized in Table 8. In order to determine whether the increase in project-generated traffic noise would result in an impact based on the criteria presented in Table 10, the FHWA Traffic Noise Model was used to quantify increases in baseline traffic noise levels at the existing sensitive land uses nearest to the project area roadway network.

The Existing conditions and Existing + Project conditions traffic noise levels at the distances representing the nearest existing sensitive land uses to the project area roadways are compared in Table 12. Table 12 also shows the normally acceptable threshold for residential noise exposure, whether the roadway segment contains sensitive uses, and whether the project-related traffic noise increases would result in the residential threshold being exceeded, which is only applicable in areas where the standard is not already exceeded. As presented in Table 12, project-generated traffic noise level increases would not result in significant noise impacts along the project-area roadway segments where sensitive receptors are currently located.

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30 "[T]he purpose of an EIR is to identify the significant effects of a project on the environment, not the significant effects of the environment on the project." (*Ballona Wetlands Land Trust v. Town of Los Angeles,* (2011) 201 Cal.App.4th 455, 473 (Ballona).) The California Supreme Court recently held that "CEQA does not generally require an agency to consider the effects of existing environmental conditions on a proposed project's future users or residents. What CEQA does mandate… is an analysis of how a project might exacerbate existing environmental hazards." (*California Building Industry Assn. v. Bay Area Air Quality Management Dist*. (2015) 62 Cal.4th 369, 392; see also *Mission Bay Alliance v. Office of Community Investment & Infrastructure* (2016) 6 Cal.App.5th 160, 197 ["identifying the effects on the project and its users of locating the project in a particular environmental setting is neither consistent with CEQA's legislative purpose nor required by the CEQA statutes"], quoting *Ballona, supra*, 201 Cal.App.4th at p. 474.) In the case of the proposed project, the impact of placing future residents in areas subjected to substantial noise is considered an existing environmental condition that would affect future users/residents.

31 For informational purposes it is noted that the project is expected to generate approximately 10,950 new daily vehicle trips, with 650 occurring during the AM peak hour and 950 occurring during the PM peak hour.

Table 12
Predicted Traffic Noise Level Increases at Existing Sensitive Receptors – Existing vs. Existing + Project Conditions

#	Roadway	From	To	Predicted DNL, dBA			Residential Significance Threshold[1]	Threshold Exceeded due to Project?	Sensitive Receptors Present?[2]	Significant Impact Identified?[3]
				Existing	Existing + Project	Increase				
1	Meadowview Rd	29th Street	Detroit Blvd	70.0	70.1	0.1	60	No	Yes	No
2	Meadowview Rd	Detroit Blvd	Railroad	71.4	71.5	0.1	60	No	Yes	No
3	Detroit Blvd	Meadowview Rd	Laurie Way	61.3	62.3	1.0	60	No	Yes	No
4	Detroit Blvd	Laurie Way	Reel Cir	57.2	59.0	1.8	60	No	Yes	No
5	Detroit Blvd	Reel Cir	Ann Arbor Way	55.8	58.1	2.3	60	No	Yes	No
6	Detroit Blvd	Ann Arbor Way	Burlington Way	45.8	56.6	10.8	60	No	Yes	No
7	Cosumnes River Blvd	Delta Shores Cir (W)	Delta Shores Cir	70.9	71.6	0.7	60	No	No	No
8	Cosumnes River Blvd	Delta Shores Cir (E)	Railroad	54.5	55.0	0.5	60	No	Yes	No
9	Cosumnes River Blvd	Railroad	Franklin Blvd	54.5	55.3	0.8	60	No	Yes	No
10	Delta Shores Cir	Cosumnes River Blvd (W)	Cosumnes River Blvd (E)	60.4	61.1	0.7	60	No	No	No

Notes:
1. Significance threshold is maximum normally acceptable noise level for residential land uses (i.e. 60 dB DNL for single family residential and 65 dB DNL for multi-family residential). Refer to City of Sacramento General Plan Table EC-1.
2. Sensitive receptors were considered to be residences of all densities, schools, and transient lodging facilities.
3. A significant impact is identified only along segments where the project-related traffic noise level increase would exceed the General Plan significance threshold for compatibility (General Plan Table EC-1, Exterior Noise Compatibility Standards) AND exceed the allowable noise increment in General Plan Table EC-2, as well as where sensitive receptors are present along the roadway segment.

Source: Bollard Acoustical Consultants, Inc., 2023.

Therefore, off-site traffic noise impacts related to increases in traffic resulting from the implementation of the project would be less than significant.

Commercial Mixed-Use Operations

The location of the proposed commercial mixed-use area is presented in Figure 4. As demonstrated in the figure, the proposed commercial mixed-use area would be buffered from the existing residential uses to the north by substantial distance and by the intervening uses proposed as part of the project. As a result, according to BAC, noise generated within the commercial mixed-use area is predicted to be well below the applicable noise standard (60 dBA) and well below the existing ambient noise levels at the existing residential uses located in the general project vicinity (see Table 6 and Table 7). Therefore, a less-than-significant impact would occur.

Park Activity

With the exception of the small park proposed within the northeast corner of the project site (refer to Figure 4), the proposed parks would be separated from existing noise-sensitive uses by distance, intervening roadways, and intervening residences proposed as part of the project. As a result, according to BAC, noise levels generated within the park areas are predicted to be below existing ambient noise levels at the existing residential uses located in the general project vicinity (see Table 6 and Table 7). In addition, given the size of the park proposed at the northeast corner of the project site, the park is anticipated to be used primarily for passive recreation activities which do not generate appreciable noise levels (i.e., walking, picnic, reading, etc.). Finally, the City of Sacramento Noise Ordinance (Section 8.68.080) specifically exempts noise generated by activities conducted at parks or public playgrounds, provided such parks and playgrounds are owned and operated by a public entity. As a result, off-site noise impacts related to park activity resulting from the implementation of the project would be less than significant.

Conclusion

Given the project site's existing ambient noise environment, existing noise regulations, and the project's required compliance with MTP/SCS NOI-3, the project would not expose persons to or generate noise levels in excess of local standards, nor would the project result in a substantial permanent increase in ambient noise levels in the project vicinity. As such, the project's potential impact would be ***less-than-significant with mitigation incorporated***.

b. The City of Sacramento Noise Element Policies EC 3.1.5 through EC 3.1.7 pertain to vibration and reference the Federal Transit Administration (FTA) guidelines as being appropriate significance thresholds. The FTA guidelines identify vibration levels of 98 vibration decibels (VdB) as being the threshold at which damage to engineered timber and masonry buildings could occur, and 75 VdB as the threshold at which annoyance from frequent vibration events would occur. The City also considers vibration effects using peak particle velocities. Project construction shall not cause existing residential and commercial areas to be exposed to vibration-peak-particle velocities greater than 0.5 inches per second.

The primary vibration-generating activities associated with the project would occur during construction activities such as demolition, grading and utility placement. Table 13 includes

the range of vibration levels for equipment commonly used in general construction projects at a distance of 25 feet and 50 feet from proposed construction activities. As shown in Table 13, vibration levels generated from on-site construction activities are predicted to be below thresholds for damage to engineered residential structures (98 VdB and 0.5 ips, PPV) at a distance of 50 feet from those activities.

Table 13
Vibration Source Levels for Construction Equipment

Equipment	Maximum Vibration Velocity Level at 25 feet		Predicted Maximum Vibration Velocity Level at 50 feet	
	VdB (rms)	PPV (Inches / Second)	VdB (rms)	PPV (Inches / Second)
Vibratory Roller	94	0.21	84	0.07
Hoe Ram	87	0.09	77	0.03
Large bulldozer	87	0.09	77	0.03
Loaded trucks	86	0.08	76	0.03
Jackhammer	79	0.04	69	0.01
Small bulldozer	58	0.01	48	<0.01

Notes: VdB = vibration decibel value; rms = root mean square.

Source: Bollard Acoustical Consultants, Inc., 2023.

The nearest sensitive receptors are located approximately 50 feet from where construction would occur, and would be exposed to maximum groundborne vibration levels presented in the 50 feet column of Table 13. Additionally, the project would be required to comply with Mitigation Measure NOI-3 from the MTP/SCS, which requires that all feasible measures are taken to reduce groundborne vibrations and noise resulting from construction activity.

It is noted that an evaluation of vibration associated with operations of the light rail upon the project is outside of the purview of CEQA review. Nevertheless, this concern is addressed in the Noise and Vibration Impact Assessment prepared for the proposed project by BAC (see Appendix H), and will be considered by the City as part of the project review process.

Based on the above, given the application of MTP/SCS EIR Mitigation Measure NOI-3, construction activity would not expose persons to excessive groundborne vibrations and/or noise, and the project's potential impact would be ***less-than-significant with mitigation incorporated***.

c. The project site is not located near an existing airport and is not within an area covered by an existing airport land use plan. The nearest airport is the Sacramento Executive Airport located approximately three miles northwest of the project site. Exterior and interior noise levels resulting from aircraft would be compatible with the project. Therefore, a ***less-than-significant*** impact would occur.

PROJECT-SPECIFIC MITIGATION MEASURES

None.

FINDINGS

Urban environments tend to include various sources of noise such as vehicle traffic, trains, buses, pedestrians, and sirens. Project construction would temporarily add to this noise environment through demolition, site preparation and construction activities. However, such construction noise is allowable, during normal daytime hours, under the City of Sacramento Noise Ordinance, and with controls established by ordinance construction noise would be less than significant. Given the application of MTP/SCS EIR Mitigation Measure NOI-3, the project is unlikely to generate significant groundborne vibrations or noise during construction that could impact nearby people or structures.

The increase in traffic noise associated with implementation of the proposed project was found to be less than significant. Operation of the project would involve residential, commercial, and park land uses. Residential land uses are not typically considered to be a noise-producing land use, and commercial and park activity would be substantially separated from existing sensitive receptors.

Application of the City Code and relevant mitigation measures from the MTP/SCS EIR would ensure that the project adheres to all relevant regulations regarding noise. As such, the project would not result in any significant environmental effects related to noise.

IX. PUBLIC SERVICES.	Potentially Significant Impact	Less-Than-Significant with Mitigation Incorporated	Less-Than-Significant Impact	No Impact
Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, 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:				
a. Fire protection?	☐	☐	☒	☐
b. Police protection?	☐	☐	☒	☐
c. Schools?	☐	☐	☒	☐
d. Parks?	☐	☐	☒	☐
e. Other public facilities?	☐	☐	☒	☐

ENVIRONMENTAL SETTING

The City of Sacramento provides fire, police, and parks and recreation services in the vicinity of the project site.

The Sacramento Fire Department (SFD) provides fire protection services to the entire City and some small areas just outside the City boundaries within the County limits. SFD provides fire protection and emergency medical services to the project area. The nearest fire station to the project site is Station 57, located at 7927 East Parkways, approximately 1.4-mile northeast of the project site.

The Sacramento Police Department (SPD) is principally responsible for providing police protection services within the jurisdictional limits of the City of Sacramento. In addition, the Sacramento County Sheriff's Department, California Highway Patrol, University of California Davis Medical Center Police Department, and Regional Transit Police Department support SPD to provide police protection in the greater Sacramento area. According to the City's 2020-2021 Approved Budget, SPD was staffed in 2019 by 751 sworn officers and 347 professional staff.[32] According to the 2035 General Plan Master EIR, SPD maintains an internal goal of 2.0 to 2.5 sworn police officers per 1,000 City residents and one civilian support staff member per two sworn officers. Based on the General Plan Background Report, the ratio of sworn officers per 1,000 residents is 1.35, which is below SPD's internal goal. [33] SPD Headquarters are located at 5770 Freeport Boulevard, approximately 4 miles northwest of the project site.

The project site is within the Sacramento City Unified School District (SCUSD). SCUSD serves over 40,000 students with 75 campuses.[34] The nearest SCUSD schools to the project site include Susan B. Anthony Elementary School, located just north of the project site, within the Detroit Boulevard Neighborhood, John Still K-8 School, Edward Kemble Elementary School, and John D Sloat Elementary School.

[32] City of Sacramento. *2020-2021 Approved Budget*. May 2020.
[33] City of Sacramento. *2035 General Plan Background Report*. August 2014.
[34] Sacramento City Unified School District. *Sacramento City Unified School District*. Available at: https://www.scusd.edu/our-district. Accessed July 2022.

The City of Sacramento Department of Parks and Recreation manages more than 4,255 acres of parkland, including 223 parks within the City.[35] The closest park to the project site is Susan B. Anthony Park, located approximately 850 feet north of the project site.

STANDARDS OF SIGNIFICANCE

For the purposes of this environmental document, an impact is considered significant if the project would:

- Impede achievement of acceptable levels of service for police protection, fire protection, emergency response, school, library, social, parks and recreation, and/or other public services, including capital capacity, programming, equipment, and personnel.
- Result in impacts associated with the construction of new or the expansion of existing facilities required to maintain adequate capital capacity for police protection, fire protection, emergency response, school, library, social, park and recreation services, and/or other public services.

SUMMARY OF ANALYSIS UNDER THE 2035 GENERAL PLAN MASTER EIR AND APPLICABLE GENERAL PLAN POLICIES

The Master EIR evaluated the potential effects of the 2035 General Plan on various public services, including police, fire protection, schools, libraries and emergency services (Chapter 4.10).

The General Plan provides that adequate staffing levels for police and fire are important for the long-term health, safety and well-being of the community (Goal PHS 1.1, PHS 2.1). The Master EIR concluded that the effects of development that could occur under the General Plan would be less than significant.

General Plan policies that call for the City to consider impacts of new development on schools (see, for example, Policy ERC 1.1.2 setting forth locational criteria, and Policy ERC 1.1.4 that encourages joint-use development of facilities) were determined to reduce impacts on schools to a less-than-significant level. (Impacts 4.10-3, 4) Impacts on library facilities were considered less than significant (Impact 4.10-5).

MITIGATION MEASURES FROM 2035 GENERAL PLAN MASTER EIR THAT MAY APPLY TO THE PROJECT

None.

SUMMARY OF ANALYSIS UNDER THE METROPOLITAN TRANSPORTATION PLAN/SUSTAINABLE COMMUNITIES STRATEGY (MTP/SCS) EIR

Chapter 15 of the MTP/SCS EIR evaluated potential impacts to public services that may result from implementation of the proposed MTP/SCS. Where necessary and feasible, mitigation measures are identified to reduce these impacts.

[35] City of Sacramento. *Sacramento Parks*. Available at: https://www.cityofsacramento.org/ParksandRec/Parks. Accessed November 20, 2020.

a-e. Public Services

The MTP/SCS EIR determined that further development within Center and Corridor Communities would occur within existing service areas for public service providers. Increasing the level of development within existing service areas would not necessitate that public service providers expand the area of service, which often requires the provision of new facilities. However, the development may affect emergency service response times. Consequently, the MTP/SCS EIR determined that impacts to public services would be *significant and unavoidable* because SACOG does not have the authority to require implementing agencies to adopt mitigation measures included in the MTP/SCS EIR. However, the MTP/SCS EIR requires that any project taking advantage of the CEQA Streamlining must implement the mitigation measures discussed in the MTP/SCS EIR where feasible and necessary (Mitigation Measures PS-1 and PS-2). Implementation of the MTP/SCS EIR's required mitigation would reduce impacts to a *less-than-significant* level.

MITIGATION MEASURES FROM THE MTP/SCS EIR THAT MAY APPLY TO THE PROJECT

MTP/SCS EIR Mitigation Measure PS-2 requires the implementation of all measures related to construction found within the various chapters of the MTP/SCS EIR. Because all applicable mitigation measures from the MTP/SCS EIR are included within the SCEA IS and required as part of the project, Mitigation Measure PS-2 is not considered applicable and is not included below. MTP/SCS EIR Mitigation Measure PS-1 requires confirmation of adequate service for the project during project-level environmental review. This mitigation measure has been satisfied through this SCEA.

PROJECT-SPECIFIC IMPACT DISCUSSION

a. The SFD provides fire protection services to the entire City, and small areas within Sacramento County just outside of the City limits. The SFD serves a population of over 738,000 in a 358-square mile service area. The SFD has approximately 155 on-duty personnel working daily to serve the City.[36]

The SFD already serves the project area. The closest fire station to the project site is Station 57, located at 7927 East Parkways, approximately 1.4-mile northeast of the project site. As stated within the Sacramento General Plan EIR, the goal of the SFD is to have fire suppression and paramedic services arrive at the scene within four minutes. Considering the proximity of the project site to Station 57, a reasonable assumption can be made that response times from the SFD would meet the four-minute response time goal.

The population increase resulting from implementation of the proposed project would be expected to increase the demand for SFD services at the project site. However, all structures developed as part of the project would include fire protection features, including fire alarm systems, fire extinguisher systems, fire sprinklers, and exit illumination, as required by the 2019 California Fire Code, adopted by the City per Municipal Code Section 15.36.010. In addition, the project would comply with all applicable General Plan policies regarding adequate fire protection services. Furthermore, General Plan Policy PHS 2.1.11 states that the City shall require development projects to contribute fees for fire protection

[36] Metro Fire Sacramento. *About Us*. Available at: https://metrofire.ca.gov/about-us. Accessed January 2022.

services and facilities. Consistent with Policy PHS 2.1.11, the project would be required to pay applicable development fees financially supporting the SFD.

Based on the above, the proposed project would comply with all required fire suppression features and development impact fees. As a result, the need for new or physically altered fire protection facilities would not be induced by the proposed project and a ***less-than-significant*** impact would occur.

b. The SPD provides police protection services within the City boundaries, including the project area. The SPD uses a variety of data that includes geographic information system (GIS) based data, call and crime frequency information, and available personnel to rebalance the deployment of resources on an annual basis to meet the changing demands of the City. In addition, the Sacramento County Sheriff's Department provides police protection services outside the City limits but within the Planning Area. According to the General Plan EIR, as buildout of the General Plan occurs, the SPD would need new, decentralized facilities that would be required to maintain adequate response times. Currently, the SPD averages an eight minute and five second response time.

Similar to the SFD, the added population from the proposed project would create an increased demand in police services to the project area; however, the General Plan policies include measures to accommodate population growth and increased service demands. Specifically, Policy PHS 1.1.1 calls for the City to prepare a Police Master Plan to address staffing and facility needs. In addition, Policy PHS 1.1.8 within the Master EIR requires development projects to contribute fees for police facilities. As a result, the proposed project would pay applicable development impact fees to fund necessary police services. Implementation of polices and goals required within the General Plan would reduce growth inducing impacts on police services to a less-than-significant level.

Therefore, the need for new or physically altered police protection facilities would not be induced by the project and a ***less-than-significant*** impact would occur.

c. Development of the proposed project would generate additional students in the area. However, proposition 1A/SB 50 (1999) prohibits local agencies from using the inadequacy of school facilities as a basis for denying or conditioning approvals of any "legislative or adjudicative act involving the planning, use, or development of real property." (Government Code 65996(b).) Satisfaction of the Proposition 1A/SB 50 statutory requirements by a developer is deemed to be "full and complete mitigation." (*Id.*) Therefore, according to SB 50, the payment of the necessary school impact fees for the project would be full and satisfactory CEQA mitigation.

Additionally, General Plan Policies ERC 1.1.1 and 1.1.2 encourage the City to work with school districts to ensure that schools are provided to serve all existing and future residents and constructed in the neighborhoods that they serve, in safe locations, and connected to surrounding uses by walkways, bicycle paths, and greenway.

The project would be required to pay statutory developer fees under SB 50, payment of which would be used to fund school facilities and accommodate any potential increased demand. As such, the proposed project would result in a ***less-than-significant*** impact related to schools.

d,e. Impacts related to parks and recreational facilities are discussed in Section X, Recreation, below. As noted therein, the project would result in a ***less-than-significant*** impact related to causing or accelerating substantial physical deterioration of existing area parks and creating a need for construction or expansion of recreational facilities.

PROJECT-SPECIFIC MITIGATION MEASURES

None.

FINDINGS

The proposed project would introduce new residents into the project area and, therefore, increase local demand for public services, including fire protection, police, schools, parks, and other services. However, the projected increase in demand for such services would be relatively minor, and the project applicant would pay all applicable development impact fees consistent with City requirements.

The project would not result in any significant environmental effects related to public services.

X. RECREATION.	Potentially Significant Impact	Less-Than-Significant with Mitigation Incorporated	Less-Than-Significant Impact	No Impact
Would the proposal:				
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?	☐	☐	☒	☐

ENVIRONMENTAL SETTING

Natural resources and parks provide a wide range of recreational opportunities for residents in the vicinity of the project site. The City currently contains 230 developed and undeveloped park sites, 88 miles of off-street bikeways and trails, 21 lakes/ponds or beaches, over 20 aquatic facilities, and extensive recreation facilities in the City parks. With the inclusion of the City's golf courses (633 acres) and Camp Sacramento, which is located in El Dorado County (19 acres), the City's parkland total is approximately 4,829 acres. As of 2019, the Sacramento region contains approximately 1,271,939 acres of parks, recreation, and open space.[37]

Diverse natural resources provide a wide range of recreational opportunities for residents in the vicinity of the project site. The closest existing park to the project site is Susan B. Anthony Park, located approximately 850 feet north of the project site.

STANDARDS OF SIGNIFICANCE

For the purposes of this environmental document, an impact is considered significant if the project would:

- Cause or accelerate substantial physical deterioration of existing area parks or recreational facilities; or
- Create a need for construction or expansion of recreational facilities beyond what was anticipated in the 2035 General Plan.

SUMMARY OF ANALYSIS UNDER THE 2035 GENERAL PLAN MASTER EIR AND APPLICABLE GENERAL PLAN POLICIES

Chapter 4.9 of the Master EIR considered the effects of the 2035 General Plan on the City's existing parkland, urban forest, recreational facilities and recreational services. The General Plan identified a goal of providing an integrated park and recreation system in the City (Goal ERC 2.1). New residential development will be required to dedicate land, pay impact fees, or otherwise contribute a fair share to the acquisition and development of parks and recreation facilities (Policy ERC 2.2.5). Impacts were considered less than significant after application of the applicable policies. (Impacts 4.9-1 and 4.9-2)

[37] Sacramento Area Council of Governments. *Environmental Impact Report for the 2020 Metropolitan Transportation Plan/Sustainable Communities Strategy State Clearinghouse #2019049139.*September 2019.

MITIGATION MEASURES FROM 2035 GENERAL PLAN MASTER EIR THAT MAY APPLY TO THE PROJECT

None.

SUMMARY OF ANALYSIS UNDER THE METROPOLITAN TRANSPORTATION PLAN/SUSTAINABLE COMMUNITIES STRATEGY (MTP/SCS) EIR

Chapter 15 of the MTP/SCS EIR evaluated potential impacts to recreational facilities that may result from implementation of the proposed MTP/SCS. Where necessary and feasible, mitigation measures are identified to reduce these impacts.

a,b. Recreational Facilities

The MTP/SCS EIR analyzed the potential impacts related to the MTP/SCS impeding the achievement of acceptable levels of service for parks and recreation (Impacts PS-1 and PS-2). The MTP/SCS EIR concluded that construction of land uses included in the MTP/SCS could impede the achievement of acceptable levels of service for parks and recreation, and a *significant and unavoidable* impact would result because SACOG does not have the authority to require implementing agencies to adopt mitigation measures included in the MTP/SCS EIR. However, the MTP/SCS EIR requires that any project taking advantage of the CEQA Streamlining must implement the mitigation measures discussed in the MTP/SCS EIR where feasible and necessary (Mitigation Measures PS-1 and PS-2). Implementation of the MTP/SCS EIR's required mitigation would reduce associated impacts to a *less-than-significant* level.

MITIGATION MEASURES FROM THE MTP/SCS EIR THAT MAY APPLY TO THE PROJECT

See Public Services section above. MTP/SCS EIR Mitigation Measure PS-1 has been satisfied due to the project's provision of adequate parkland.

PROJECT-SPECIFIC IMPACT DISCUSSION

a,b. The average persons per household in the City of Sacramento is 2.63.[38] As the proposed project would entail the development of approximately 1,163 residential units, the project is anticipated to accommodate approximately 3,058 residents. In order to achieve the required amount of parkland per 1,000-residents goal established in Section 17.512.020, Standards and formulas for dedication of land, of the City Code, the project would require the provision of 9.55 acres of parkland. However, pursuant to Section 17.512.090 of the City Code, a five percent private facilities credit is given for the proposed trail that would extend from 24th Street in the west to the proposed C Street, linking the West and Central neighborhoods to the Transit Village. With the five percent private facilities credit, a reduction of 0.477-acre of park land would be applied; as such, the required park acreage would be reduced to 9.073 acres. The project would include three parks, totaling approximately 9.1 acres. Therefore, the proposed project would satisfy the required parkland acreage.

Furthermore, the project would be subject to the requirements set forth within Chapter 18.56 Article II, Park Impact Fee, of the Sacramento City Code. Pursuant to City Code 18.56.230, the proposed project would be required to pay a Park Development Impact Fee

[38] United States Census Bureau. *QuickFacts: Sacramento city, California*. Available at: https://www.census.gov/quickfacts/sacramentocitycalifornia. Accessed March 2022.

prior to issuance of a building permit. The City would use the Park Development Impact Fee to finance the design, construction, installation, improvement, and acquisition of park facilities for neighborhood parks within two miles of the development project, community parks within five miles of the development project, and regional and citywide park facilities located anywhere in the City.

Based on the above, the project would result in a ***less-than-significant*** impact related to causing or accelerating substantial physical deterioration of existing area parks and creating a need for construction or expansion of recreational facilities.

PROJECT-SPECIFIC MITIGATION MEASURES

None.

FINDINGS

Residential development would increase demand for local parks and recreational facilities. However, the project would include on-site parkland and open space areas, and the project applicant would be required to pay parkland impact fees in accordance with Sacramento City Code Chapter 18.56 and General Plan Policy ERC 2.2.5.

The required payment of impact fees would defray the costs of deterioration of existing parks in the area. Potential impacts associated with on-site construction of parks have been considered throughout this SCEA. The project would not result in any significant environmental effects related to recreation.

XI. TRANSPORTATION	Potentially Significant Impact	Less-Than-Significant with Mitigation Incorporated	Less-Than-Significant Impact	No Impact
Would the proposal:				
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 uses (e.g., farm equipment)?	☐	☐	☒	☐
d. Result in inadequate emergency access?	☐	☐	☒	☐

ENVIRONMENTAL SETTING

The proposed project qualifies as a Transit Priority Project under SB 375. Environmental documents for Transit Priority Projects are not required to reference, describe or discuss impacts from car and light duty truck trips on the regional transportation network (PRC Section 21159.28(a)). The project site is within a High Frequency Transit Area (HFTA), as identified by SACOG. HFTAs are characterized by providing regular access to public transit.

The law has recently changed with respect to how transportation-related impacts are addressed under CEQA. Traditionally, lead agencies used level of service (LOS) to assess the significance of such impacts, with greater levels of congestion considered to be more significant than lesser levels. Mitigation measures typically took the form of capacity-increasing improvements (such as adding vehicle travel lanes, or widening intersections), which often had their own environmental impacts (e.g., additional paving that removed biological resources). Depending on circumstances, and an agency's tolerance for congestion (e.g., as reflected in its general plan), LOS D, E, or F often represented significant environmental effects.

In 2013, the Legislature passed legislation with the intention of ultimately doing away with LOS in most instances as a basis for environmental analysis under CEQA. Enacted as part of SB 743 (2013), PRC Section 21099, subdivision (b)(1), directed the Governor's Office of Planning and Research (OPR) to prepare, develop, and transmit to the Secretary of the Natural Resources Agency for certification and adoption proposed CEQA Guidelines addressing "criteria for determining the significance of transportation impacts of projects within transit priority areas. Those criteria shall promote the reduction of greenhouse gas emissions, the development of multimodal transportation networks, and a diversity of land uses. In developing the criteria, [OPR] shall recommend potential metrics to measure transportation impacts that may include, but are not limited to, vehicle miles traveled, vehicle miles traveled per capita, automobile trip generation rates, or automobile trips generated. OPR may also establish criteria for models used to analyze transportation impacts to ensure the models are accurate, reliable, and consistent with the intent of this section."

Subdivision (b)(2) of section 21099 further provides that "[u]pon certification of the guidelines by the Secretary of the Natural Resources Agency pursuant to this section, automobile delay, as described solely by level of service or similar measures of vehicular capacity or traffic congestion *shall not be considered a significant impact on the environment* pursuant to [CEQA], except in locations specifically identified in the guidelines, if any." (Italics added.)

Pursuant to SB 743, the Natural Resources Agency promulgated CEQA Guidelines section 15064.3 in late 2018. It became effective in early 2019. Subdivision (a) of that section provides that "[g]enerally, vehicle miles traveled is the most appropriate measure of transportation impacts. For the purposes of this section, 'vehicle miles traveled' refers to the amount and distance of automobile travel attributable to a project. Other relevant considerations may include the effects of the project on transit and non-motorized travel. Except as provided in subdivision (b)(2) below (regarding roadway capacity), a project's effect on automobile delay shall not constitute a significant environmental impact."[39] Refer to question "b" for a project-specific analysis of VMT.

Roadway System

Regional access to the project site is provided by Interstate 5 (I-5), which extends from the southern border of California, northerly into Oregon and beyond. Motorists accessing the site from I-5 would primarily use the Cosumnes River Boulevard interchange. The following local streets provide access to the project site:

- **Cosumnes River Boulevard** is a median-divided arterial that begins at Freeport Boulevard west of I-5 and extends easterly to State Route (SR) 99 where it becomes Calvine Road. East of I-5, Cosumnes River Boulevard has three lanes in each direction, and east of Delta Shores Circle South, the roadway narrows to two lanes in each direction. Cosumnes River Boulevard in the vicinity of the project site has a posted speed limit of 55 miles per hour (mph).
- **Meadowview Road** is an east-west arterial that parallels Cosumnes River Boulevard approximately one mile to the north. Meadowview Road extends for 2.3 miles between Freeport Boulevard and Brookfield Drive. West of Freeport Boulevard, the roadway becomes Pocket Drive, which has an interchange with I-5. East of Brookfield Drive, the roadway becomes Mack Road, which has an interchange with SR 99. East of 24th Street, the roadway features two lanes in each direction separated either by a raised median or two-way left-turn lane. Meadowview Road in the vicinity of the project site has a posted speed limit of 35 mph.
- **Detroit Boulevard** is a two-lane, 39-foot-wide residential street that begins at Meadowview Road and extends southerly for approximately 0.9-mile. Detroit Boulevard is the sole access to the Detroit Residential Community and the Susan B. Anthony Elementary School and Community Park. The roadway features three all-way stop intersections, 11 sets of speed lumps, bumps, and undulations, on-street parking, and fronting residential throughout. Detroit Boulevard in the vicinity of the project site has a posted speed limit of 30 mph.
- **Ann Arbor Way** is a residential street that extends in a southeast direction from Detroit Boulevard, opposite Susan B. Anthony Elementary School. The roadway is 28 feet wide and offers on-street parking.
- **Delta Shores Circle South** is a semi-circular four- to six-lane roadway that serves the Delta Shores Shopping Center and other planned uses. The western intersection with Cosumnes River Boulevard is located approximately 0.25-mile east of I-5. The eastern intersection is situated approximately 0.7-mile beyond the west intersection.

[39] Subdivision (b)(2) of section 15064.3 ("transportation projects") provides that "[t]ransportation projects that reduce, or have no impact on, vehicle miles traveled should be presumed to cause a less than significant transportation impact. For roadway capacity projects, agencies have discretion to determine the appropriate measure of transportation impact consistent with CEQA and other applicable requirements. To the extent that such impacts have already been adequately addressed at a programmatic level, such as in a regional transportation plan EIR, a lead agency may tier from that analysis as provided in Section 15152.

Bicycle and Pedestrian System

Cosumnes River Boulevard features sidewalks and Class II bike lanes (on-street with appropriate pavement markings and signage). Class II bike lanes and sidewalks are also present along the majority of Meadowview Road, although bicyclists are advised to share the road (i.e., travel in the eastbound outside travel lane) for a 250-foot segment east of Detroit Boulevard. Bicycle facilities are not present along Detroit Boulevard.

All four legs of the signalized Cosumnes River Boulevard/Delta Shores Circle South and Meadowview Road/Detroit Boulevard intersections feature marked crosswalks with pedestrian-activated push buttons. A crosswalk is present across Detroit Boulevard in the immediate vicinity of Susan B. Anthony Elementary School. Other marked crosswalks are not present across Detroit Boulevard.

Transit System

The SacRT Blue Line light rail service operates along the eastern portion of the project site. Trains stop at Franklin Station, situated on Cosumnes River Boulevard east of the project site, and at Meadowview Station, located north of Meadowview Road and opposite Detroit Boulevard.

SacRT Bus Route 56 operates along Meadowview Road between the Pocket Transit Center on the west and Cosumnes River College on the east. The route services Kaiser South Sacramento Medical Center and Methodist Hospital. The closest bus stops are situated at the Meadowview Road/Detroit Boulevard intersection, over one mile from the project site.

STANDARDS OF SIGNIFICANCE

For the purposes of this environmental document, an impact is considered significant if the project would:

- Conflict with a program, plan, ordinance, or policy addressing the circulation system, including transit, roadway, bicycle, and pedestrian facilities;
- Conflict or be inconsistent with CEQA Guidelines section 15064.3, subdivision (b);
- Substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment); or
- Result in inadequate emergency access.

SUMMARY OF ANALYSIS UNDER THE 2035 GENERAL PLAN MASTER EIR AND APPLICABLE GENERAL PLAN POLICIES

Transportation and circulation were discussed in the Master EIR in Chapter 4.12. Various modes of travel were included in the analysis, including vehicular, transit, bicycle, and pedestrian. The analysis included consideration of roadway capacity and identification of levels of service, and effects of the 2035 General Plan on the public transportation system. Provisions of the 2035 General Plan that provide substantial guidance include: Mobility Goal 1.1, which calls for a transportation system that is effectively planned, managed, operated and maintained; Policy M 1.2.1, which promotes the availability of multimodal choices; Policy M 1.5.6, which supports State highway expansion and management consistent with the SACOG MTP/SCS; and Policy LU 4.2.1, which encourages walking and biking. In particular, Policy M 1.5.6, which involves support for State highway expansion, is considered to be a mitigation measure related to regional

transportation by the Master EIR. However, due to the programattic nature of Policy M 1.5.6, the policy does not specifically apply to the currently proposed project, and is not considered a project-specific mitigation measure.

While the general plan includes numerous policies that direct the development of the City's transportation system, the Master EIR concluded that the general plan development would result in significant and unavoidable effects. See Impacts 4.12-3 (roadway segments in adjacent communities, and Impact 4.12-4 (freeway segments) of the Master EIR. Consistent with the discussion of the change in metrics for evaluating vehicle impacts, above, the significant and unavoidable impacts that were identified in the Master EIR relate to congestion and roadway capacity and, thus, are no longer applicable for consideration under CEQA.

MITIGATION MEASURES FROM 2035 GENERAL PLAN MASTER EIR THAT APPLY TO THE PROJECT

None.

SUMMARY OF ANALYSIS UNDER THE METROPOLITAN TRANSPORTATION PLAN/SUSTAINABLE COMMUNITIES STRATEGY (MTP/SCS) EIR

Chapter 16 of the MTP/SCS EIR evaluated potential impacts to transportation that may result from implementation of the proposed MTP/SCS. Where necessary and feasible, mitigation measures are identified to reduce these impacts.

a. Pedestrian, Bicycle, and Public Transit Facilities

Impact TRN-4 evaluates whether the MTP/SCS would result in interference with any existing or planned pedestrian or bicycle facilities. Impacts TRN-2 and TRN-3 include an analysis of impacts to pedestrian, bicycle, and transit rates per capita, and average transit ridership, respectively. According to the MTP/SCS EIR, connectivity of the pedestrian, bicycle, and transit systems would improve with the implementation of the MTP/SCS. For example, as presented in Table 16-24 of the MTP/SCS EIR, implementation of the planned land use and transportation improvements would increase per capita trips by pedestrian, bicycle, and transit in the Sacramento County HFTAs by 32.23 percent, from 0.52 trips per capita in 2016 to 0.69 trips per capita in 2040. This increase in pedestrian, bicycle, and transit trips indicates a mode shift away from single-passenger vehicle trips and towards alternative forms of transportation. Therefore, the impacts to pedestrian, bicycle, or transit trips related to land use and planned transportation improvements from implementation of the proposed MTP/SCS are considered *less than significant* and mitigation is not required.

b. VMT

The MTP/SCS EIR analyzed the potential impact related to the MTP/SCS causing an increase in VMT that exceeds the goals set forth in the CARB's 2017 Scoping Plan under Impact TRN-1. As explained therein, implementation of the MTP/SCS does not create the growth itself, but, rather, is a strategy to accommodate projected growth in a manner that increases transportation system efficiency and reduces growth in VMT. Table 16-10 of the MTP/SCS EIR indicates that VMT per capita is expected to decrease by approximately six percent, from 17.92 in 2016 to 16.51 in 2040. However, the six percent reduction in total VMT per capita by 2040 would not support achievement of the 14.3 percent VMT per capita reduction goal identified by the CARB. As a result, the MTP/SCS EIR concluded that a *significant and unavoidable* impact would result because SACOG does not have the authority to require implementing agencies to adopt

mitigation measures included in the MTP/SCS EIR. However, the MTP/SCS EIR requires that any project taking advantage of the CEQA Streamlining must implement the mitigation measures discussed in the MTP/SCS EIR where feasible and necessary (Mitigation Measure TRN-1). Implementation of the MTP/SCS EIR's required mitigation may result in a *less-than-significant* impact in some communities, although the ultimate significance conclusion depends on the results of project-level analysis.

c,d. Traffic Safety and Emergency Access

The MTP/SCS EIR analyzed the potential impacts related to traffic safety under Impact TRN-9. As described therein, all projects that may occur under the MTP/SCS would be required to conform to the design standards of the applicable public agency responsible for implementation, conformance with which would minimize conflicts and conditions that could contribute to collisions. Therefore, the impact was determined to be *less than significant*.

In addition, the MTP/SCS EIR analyzed the potential impacts related to the MTP/SCS resulting in construction activities that interfere with the ongoing operations of the regional or local area transportation system (Impact TRN-8). The MTP/SCS EIR concluded that the land use and transportation projects included in the MTP/SCS would lead to construction activities that have the potential to interfere with local or regional transportation systems, and a *significant and unavoidable* impact could result because SACOG does not have the authority to require implementing agencies to adopt mitigation measures included in the MTP/SCS EIR. However, the MTP/SCS EIR requires that any project taking advantage of the CEQA Streamlining must implement the mitigation measures discussed in the MTP/SCS EIR where feasible and necessary (Mitigation Measure TRN-2). Implementation of the MTP/SCS EIR's required mitigation would reduce the impact to a *less-than-significant* level.

MITIGATION MEASURES FROM THE MTP/SCS EIR THAT MAY APPLY TO THE PROJECT

MTP/SCS EIR Mitigation Measure TRN-3 applies to the project, could be feasibly implemented, and is hereby incorporated into this SCEA IS as a requirement of the project. MTP/SCS EIR Mitigation Measure TRN-1 has already been implemented, as the project has been identified as a qualifying Transit Priority Project, and as such, is not presented here.

MM TRN-3: Apply best practice strategies to reduce the localized impact from construction activities on the transportation system.

- *Implementing agencies shall require implementation of best practice strategies regarding construction activities on the transportation system and apply recommended applicable mitigation measures as defined by state and federal agencies. Examples of mitigation measures should include, but are not limited to, the following:*
- *Apply special construction techniques to minimize impacts to traffic flow and provide adequate access to important destinations in the area.*
- *Develop circulation and detour plans to minimize impacts to local street impacts from construction activity on nearby major arterials. This may include the use of signing and flagging to guide vehicles through and/or around the construction zone.*
- *Establish truck "usage" routes that minimize truck traffic on local roadways to the extent possible.*

- *Schedule truck trips outside of peak morning and evening commute hours.*
- *Route truck trips to avoid roadway segments with at risk or failed pavement conditions.*
- *Limit the number of lane closures during peak hours to the extent possible.*
- *Identify detours for bicycles and pedestrians in all areas potentially affected by project construction and provide adequate signage to mark these routes.*
- *Install traffic control devices as specified in the California Department of Transportation Manual of Traffic Controls for Construction and Maintenance Work Zones.*
- *Develop and implement access plans for potentially impacted local services such as police and fire stations, transit stations, hospitals, schools and parks. The access plans should be developed with the facility owner or administrator. To minimize disruption of emergency vehicle access, affected jurisdictions should be asked to identify detours for emergency vehicles, which will then be posted by the contractor. Store construction materials only in designated areas that minimize impacts to nearby roadways.*
- *Coordinate with local transit agencies for temporary relocation of routes or bus stops in works zones, as necessary.*
- *Conduct a public information campaign about how to use transit and other methods to reduce single-occupant vehicle use.*
- *Coordinate with local police, fire, sheriff, and emergency services regarding closures including magnitude and duration of closure.*

PROJECT-SPECIFIC IMPACT DISCUSSION

a. As discussed above, the project site is in close proximity to the existing SacRT Blue Line light rail service, SacRT Bus Route Meadowview Road/Detroit Boulevard bus stop, and pedestrian and bicycle infrastructure along Cosumnes River Boulevard. The project would not include any alterations to existing transit, bicycle, or pedestrian infrastructure. In addition, the proposed project would include the installation of a 12-foot multi-use trail extending from the northwest corner of the project site to Cosumnes River Boulevard, east of C Street. Additionally, a 10-foot sidewalk would be installed throughout the site and would provide direct access to the Morrison Creek SacRT light rail Station. The provision of pedestrian and bicycle infrastructure as part of the proposed project would ensure that the project would not conflict with a program, plan, ordinance, or policy addressing the circulation system.

The project site is indicated as being in a SB 375 Transit Priority Project Area by the MTP/SCS[40] due to the project site's proximity to existing transit and employment centers, and SACOG has determined that the project site is located within a Transit Priority Area (TPA).[41] Projects that are within a TPA and determined to be consistent with the MTP/SCS would support alternative means of transportation by siting new residences near existing transit infrastructure. As such, the project would not be expected to cause any significant adverse effects to public transit operations, bicycle travel, or pedestrian travel, and a ***less-than-significant*** impact would occur.

[40] Sacramento Area Council of Governments. *2020 Metropolitan Transportation Plan/Sustainable Community Strategy* [Figure 3.7, High Frequency Transit Areas]. November 18, 2019.

[41] Sacramento Area Council of Governments. *Re: MTP/SCS Consistency for the Stone Beetland Project.* August 18, 2022.

b. Section 15064.3 of the CEQA Guidelines provides specific considerations for evaluating a project's transportation impacts. Per Section 15064.3, analysis of VMT attributable to a project is the most appropriate measure of transportation impacts. Other relevant considerations may include the effects of the project on transit and non-motorized travel. Except as provided in Section 15064.3 (b)(2) regarding roadway capacity, a project's effect on automobile delay shall not constitute a significant environmental impact under CEQA. Per Section 15064.3(b)(3), a lead agency may analyze a project's VMT qualitatively based on the availability of transit, proximity to destinations, etc.

Based on current practices from the City of Sacramento for residential projects, and consistent with OPR's Technical Advisory on Evaluating Transportation Impacts in CEQA,[42] several screening thresholds are used to determine whether a project may be presumed to have a less-than-significant VMT impact without conducting a detailed project generated VMT analysis. The screening criteria includes:

1. Small Projects – projects that generate or attract fewer than 110 trips per day;
2. Map-Based Screening – projects located in areas that are known to generate below-average VMT;
3. Near Transit Stations – projects within 0.5-mile of an existing major transit stop or an existing stop along a high-quality transit corridor; or
4. Affordable Residential Development – projects that include affordable housing within an infill location.

As noted throughout this SCEA IS, the project site is located within the immediate vicinity of a major public transit stop (the Morrison Creek SacRT light rail station) and, as a result, would qualify for VMT screening under criteria 3. Additionally, as confirmed by SACOG, the project site is located within a TPA.[43]

Furthermore, it is noted that, according to the MTP/SCS EIR, buildout within Sacramento County HFTAs would result in 8.75 percent less household generated VMT per capita as compared to the 2016 baseline. Considering the project site is located in a Center and Corridor Community, the project would be expected to generate a similarly reduced amount of VMT. MTP/SCS EIR Mitigation Measure TRN-1 focuses on ensuring projects comply with State guidance on VMT reduction and provides a list of available measures to reduce VMT. These measures are recommendations that may be implemented; not all suggested measures are required. In this case, consistent with OPR guidance, the project has a less-than-significant VMT impact due to its being located within a 0.5-mile of an existing major transit stop. Thus, the project design meets the intent of Mitigation Measure TRN-1 and additional measures are not required.

Based on the above, the proposed project would not conflict or be inconsistent with CEQA Guidelines Section 15064.3(b), and a ***less-than-significant*** impact would occur.

c,d. The proposed project does not include any new geometric design features that would cause hazards. Rather, as part of the proposed project, a new high-visibility, triple four yellow crosswalk would be installed immediately north of the F Street/Detroit Boulevard/H

[42] Governor's Office of Planning and Research. *Technical Advisory on Evaluating Transportation Impacts in CEQA*. December 2018.

[43] Sacramento Area Council of Governments. *Re: MTP/SCS Consistency for the Stone Beetland Project.* August 18, 2022.

Street intersection with corresponding yellow "SLOW SCHOOL XING" pavement legends. The proposed safety crossing would improve pedestrian safety associated with student pick-up and drop-off at the Susan B. Anthony Elementary School located north of the project site.

In addition, due to the nature of the proposed residential and commercial land uses, the project is not anticipated to introduce any incompatible uses to the regional roadway network. In order to address the potential for hazards to occur related to the use of construction equipment, and consistent with MTP/SCS EIR Mitigation Measure TRN-3, Section 12.20.030 of the Sacramento City Code requires that a construction traffic control plan be prepared and approved prior to the beginning of project construction, to the satisfaction of the City Traffic Engineer and subject to review by all affected agencies. All work performed during construction must conform to the conditions and requirements of the approved plan. The plan would ensure that safe and efficient movement of traffic through the construction work zone(s) is maintained. At a minimum, the plan must include the following:

- Time and day of street closures;
- Proper advance warning and posted signage regarding street closures;
- Provision of driveway access plan to ensure safe vehicular, pedestrian, and bicycle movements;
- Safe and efficient access routes for emergency vehicles;
- Provisions for pedestrian safety;
- Use of manual traffic control when necessary;
- Number of anticipated truck trips, and time of day of arrival and departure of trucks;
- Provision of a truck circulation pattern and staging area with a limitation on the number of trucks that can be waiting and any limitations on the size and type of trucks appropriate for the surrounding transportation network; and
- The plan must be available at the site for inspection by the City representative during all work.

Given compliance with the construction traffic control plan, the project would not substantially increase hazards due to a geometric design feature or incompatible uses.

Several factors determine whether a project has sufficient access for emergency vehicles, including the following:

1. Number of access points (both public and emergency access only);
2. Width of access points; and
3. Width of internal roadways.

As presented in the project site plan, the site would include several access points, including access from Cosumnes River Boulevard to the south, access from the Delta Shores Neighborhood to the west, and access from the Detroit Neighborhood to the north. In addition, an emergency access roadway is proposed along Burlington Way, north of the project site. All access points and internal roadways would be of sufficient width to accommodate emergency vehicles. Therefore, the proposed project would not result in inadequate emergency access.

With implementation of the aforementioned traffic control plan, as ensured by compliance with MTP/SCS EIR Mitigation Measure TRN-3 and Sacramento City Code, area roadways would continue to operate at acceptable operating conditions during construction, and the proposed project would not result in inadequate emergency access to the project site.

Based on the discussion above, implementation of the proposed project would not substantially increase hazards due to a geometric design feature or incompatible uses nor result in inadequate emergency access. The project's potential impact would be ***less-than-significant with mitigation incorporated***.

PROJECT-SPECIFIC MITIGATION MEASURES

None.

FINDINGS

A central goal of the MTP/SCS is the combination of transportation and land use planning to decrease reliance on single-passenger vehicles, and increase the use of alternative means of transportation such as buses, trains, bicycles and walking. The MTP/SCS EIR concluded that increased densification of existing urban areas would help support these goals by placing more people in proximity to existing mass transportation infrastructure and in closer proximity to employment centers, which would reduce VMT.

The project site is located in a High Frequency Transit Area, and as such, the project's location would allow residents to use alternate means of transportation, which would decrease the use of single passenger vehicles. Increasing ridership of existing alternative transit options would support such systems while also reducing the amount of single-passenger vehicle traffic that would otherwise be created by area population growth related to the proposed project. Thus, the proposed project satisfies the intent of MTP/SCS EIR Mitigation Measure TRN-1 and no further requirements are warranted.

MTP/SCS EIR Mitigation Measure TRN-3 would ensure that temporary construction activity related to the project would not impact traffic and/or emergency vehicle access in the area. The proposed project would not result in any significant environmental effects related to transportation and circulation.

XII. TRIBAL CULTURAL RESOURCES.	Potentially Significant Impact	Less-Than-Significant with Mitigation Incorporated	Less-Than-Significant Impact	No Impact
Would the proposal cause a substantial adverse change in the significance of a tribal cultural resource, defined in PRC section 21074 as either a site, feature, place, 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 PRC 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 (c) of PRC Section 5024.1. In applying the criteria set forth in subdivision (c) of PRC Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe.	☐	☒	☐	☐

ENVIRONMENTAL SETTING

The City of Sacramento and the surrounding area are known to have been occupied by Native American groups for thousands of years prior to settlement by non-Native peoples. Archaeological materials, including human burials, have been found throughout the City. Human burials outside of formal cemeteries often occur in prehistoric contexts. Areas of high sensitivity for archaeological resources, as identified in the 2035 General Plan Background Report, are located within close proximity to the Sacramento and American rivers and other watercourses.

The 2035 General Plan land use diagram designates a wide swath of land along the American River as Parks, which limits development and impacts on sensitive prehistoric resources. High sensitivity areas may be found in other areas related to the ancient flows of the rivers, with differing meanders than found today; however, all such areas are outside of the immediate project vicinity. The 2035 General Plan Background Report also defines moderate sensitivity areas, which are areas such as creeks, other watercourses, and high spots near waterways where the discovery of villages is unlikely, but campsites or special use sites may have existed. Moderate areas are often disturbed by siltation, or development; however, discovery of new archaeological resources is still possible.

STANDARDS OF SIGNIFICANCE

For purposes of this SCEA IS, tribal cultural resource impacts may be considered significant if construction and/or implementation of the proposed project would result in a substantial adverse change in the significance of a tribal cultural resource that is defined in PRC Section 21074 as:

- Listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in PRC section 5020.1(k); or
- 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 (c) of PRC Section 5024.1. In applying the criteria set forth in subdivision (c) of PRC Section 5024.1, the lead

agency shall consider the significance of the resource to a California Native American tribe.

SUMMARY OF ANALYSIS UNDER THE 2035 GENERAL PLAN MASTER EIR AND APPLICABLE GENERAL PLAN POLICIES

At the time of preparation of the General Plan EIR, CEQA did not require the separate analysis of tribal cultural resources. The General Plan EIR does include analysis of cultural resources, including archaeological resources and resources related to native Americans in the area, but the General Plan EIR does not specifically analyze impacts related to tribal cultural resources, nor are any specific thresholds of significance included in the General Plan EIR related to tribal cultural resources.

MITIGATION MEASURES FROM 2035 GENERAL PLAN MASTER EIR THAT MAY APPLY TO THE PROJECT

None.

SUMMARY OF ANALYSIS UNDER THE METROPOLITAN TRANSPORTATION PLAN/SUSTAINABLE COMMUNITIES STRATEGY (MTP/SCS) EIR

Chapter 7 of the MTP/SCS EIR evaluated potential impacts to tribal cultural resources that may result from implementation of the proposed MTP/SCS. Where necessary and feasible, mitigation measures are identified to reduce these impacts.

a,b. Tribal Cultural Resources

The MTP/SCS EIR analyzed the potential impacts related to tribal cultural resources under Impact CR-5. The MTP/SCS EIR concluded that tribal cultural resources are less likely to occur within Established Communities as compared to areas that are sparsely developed or undeveloped because more urbanized areas have the potential to have damaged or destroyed tribal cultural resources that previously existed in such areas. Nevertheless, the potential for tribal cultural resources to occur in Central and Corridor Communities, including the project site, exists. Consequently, the MTP/SCS EIR required Mitigation Measures CR-5 and CR-6. Based on the potential for discovery of tribal cultural resources within the MTP/SCS plan area, the MTP/SCS EIR concluded that implementation of development under the MTP/SCS would result in a *significant and unavoidable* impact because SACOG does not have the authority to require implementing agencies to adopt mitigation measures included in the MTP/SCS EIR. However, the MTP/SCS EIR requires that any project taking advantage of the CEQA Streamlining must implement the mitigation measures discussed in the MTP/SCS EIR where feasible and necessary (Mitigation Measure CR-5 and CR-6). Implementation of the MTP/SCS EIR's required mitigation would reduce the associated impact to a *less-than-significant* level.

MITIGATION MEASURES FROM THE MTP/SCS EIR THAT MAY APPLY TO THE PROJECT

MTP/SCS EIR Mitigation Measures CR-5 and CR-6 are applicable to the project, could be feasibly implemented, and are hereby incorporated into this SCEA IS as a requirement of the project.

MM CR-5: Conduct project-specific consultation with traditionally and culturally affiliated California Native American tribes to identify tribal cultural resources and implement project-specific mitigation.

If the implementing agency determines that a project may cause a substantial adverse change to a TCR, and measures are not otherwise identified in the consultation process under PRC Section 21080.3.2, the following mitigation measures described at PRC Section 21084.3 shall be implemented, where feasible and necessary, to address site-specific impacts in order to avoid or minimize the significant adverse impacts:

- *Avoidance and preservation of the TCRs in place, including, but not limited to, planning and construction to avoid the resources and protect the cultural and natural context, or planning greenspace, parks, or other open space, to incorporate the resources with culturally appropriate protection and management criteria;*
- *Treating the TCR with culturally appropriate dignity taking into account the tribal cultural values and meaning of the resource, including, but not limited to: protecting the cultural character and integrity of the resource; or protecting the traditional use of the resource; protecting the confidentiality of the resource;*
- *Permanent conservation easements or other interests in real property, with culturally appropriate management criteria for the purposes of preserving or utilizing the resources or places; or*
- *Protecting the resource.*

MM CR-6: Reduce visibility or accessibility of tribal cultural resources.

Measures that shall be implemented for projects that have an ND, MND, or EIR include:

- *The project sponsor and/or implementing agency shall determine whether or not implementation of a project would indirectly impact TCRs by increasing public visibility and ease of access. If so, the project sponsor and/or implementing agency shall take measures to reduce the visibility or accessibility of the TCR to the public. Visibility of the resource can be reduced through the use of decorative walls or vegetation screening. Accessibility can be reduced by installing fencing or vegetation barriers, particularly noxious vegetation such as poison oak or blackberry bushes. It is important to avoid creating an attractive nuisance when protecting TCRs. Conspicuous walls or signs indicating that an area is restricted may result in more attempts to access the excluded area.*

PROJECT-SPECIFIC IMPACT DISCUSSION

a,b As part of the cultural resources inventories prepared for the proposed project, the NAHC was contacted to request a search of the Sacred Lands File for the portion of the project site owned by JP Land Holdings, LLC and for the SCRSD Parcel. The NAHC Sacred Lands File search returned negative results for both searches, indicating that known sacred lands do not exist on-site.[44,45] In addition, pursuant to AB 52, tribes in the project area were notified of the proposed project on August 2, 2022. Two tribes responded to the

[44] Native American Heritage Commission. *Re: Stone Beetland Project, Sacramento County*. March 22, 2021.
[45] Native American Heritage Commission. *Re: Stone Beetland Offsite Property Project, Sacramento County*. March 24, 2022.

notification letters: on August 11, 2022, the UAIC identified the area as potentially sensitive for buried tribal cultural resources and deferred communications to the Wilton Rancheria; and on August 16, 2022, the Wilton Rancheria requested consultation. The tribe did not provide information about known tribal cultural resources within the project area, but expressed a concern about the potential for the unanticipated discovery of buried tribal cultural resources and requested the presence of monitors during construction. Upon sharing the Mitigation Measures TCR-1(a-d), Wilton Rancheria agreed to close consultation on November 3, 2022. As mitigation was revised during the preparation of the initial study, the City coordinated further with Wilton Rancheria and received input to provide accuracy to the mitigation measures.

MTP/SCS EIR Mitigation Measure CR-5 requires project-specific consultation with traditionally and culturally affiliated California Native American tribes to identify tribal cultural resources and implement mitigation, if required. Mitigation Measure CR-6 includes actions to reduce the visibility or accessibility of tribal cultural resources to reduce the potential for increased access to result in adverse impacts to tribal cultural resources. In addition, as noted in Section III, Cultural Resources, the project would comply with California Health and Safety Code Section 7050-7052, and California PRC Section 5097.98.

Through analysis as part of the cultural resource inventory and evaluation report and through consultation with culturally affiliated tribes under AB 52, no known tribal cultural resources were identified within the Project Area; however, the possibility exists that ground disturbing activity associated with the proposed project could encounter buried tribal cultural resources. Moreover, encountering such resources, if present, could result in a substantial adverse change in the significance of a tribal cultural resource. The required implementation of MPT/SCS EIR Mitigation Measures CR-5, CR-6, TCR-1(a-d), and State law would ensure that the project's potential impact to tribal cultural resources would be ***less-than-significant with mitigation incorporated***.

PROJECT-SPECIFIC MITIGATION MEASURES

Implementation of Mitigation Measures TCR-1 and TCR-2 (included below) would ensure that the proposed project would not adversely affect tribal cultural resources. Thus, implementation of the following project-specific mitigation measures would reduce the above potential impact to a *less-than-significant* level.

TCR-1a: Tribal Cultural Resources Sensitivity and Awareness Training Program Prior to Ground Disturbing Activities

The City shall require the applicant/contractor to provide a tribal cultural resources sensitivity and awareness training program (Worker Environmental Awareness Program [WEAP]) for all personnel involved in project construction, including field consultants and construction workers. The WEAP will be developed in coordination with culturally affiliated Native American tribes. The WEAP shall be conducted before any project-related construction activities begin at the project site. The WEAP will include relevant information regarding sensitive tribal cultural resources, including applicable regulations, protocols for avoidance, and consequences of violating State laws and regulations.

The WEAP will also describe appropriate avoidance and impact minimization measures for tribal cultural resources that could be located at the project site and

will outline what to do and who to contact if any potential tribal cultural resources are encountered. The WEAP will emphasize the requirement for confidentiality and culturally appropriate treatment of any discovery of significance to Native Americans and will discuss appropriate behaviors and responsive actions, consistent with Native American tribal values.

TCR-1b: Tribal Monitoring

The applicant shall retain one (1) monitor from Wilton Rancheria to monitor all ground disturbing activity within 200 feet of the Morrison Creek channel, where alluvial deposits are likely to be present and could mask buried archaeological sites. Tribal monitoring is not required beyond 200 feet, where the National Resources Conservation Service has mapped the presence of clays, or during above-surface construction activities. If alluvium is found to extend beyond 250 feet, then monitoring shall occur until clay is encountered.

The monitor shall possess the knowledge, skills, abilities, and experience established by the tribe. The applicant shall provide 48-hour advance notice to the monitor prior to activities requiring monitoring.

The monitor will be compensated for his/her time. The mechanism for reimbursing the tribal monitor will be at the discretion of the applicant/developer, and would include: Tribal Cultural Monitors from Wilton Rancheria, contracted through Wilton Rancheria.

If tribal cultural resources are found during ground disturbing activities, the procedures in Mitigation Measure TCR-1c shall apply.

TCR-1c: In the Event that Tribal Cultural Resources Are Discovered During Construction, Implement Avoidance and Minimization Measures to Avoid Significant Impacts and Procedures to Evaluate Resources.

If tribal cultural resources (such as structural features, unusual amounts of bone or shell, artifacts, or human remains) are encountered at the project site during construction, work shall be suspended within 100 feet of the find (based on the apparent distribution of cultural materials), and the construction contractor shall immediately notify the project's City representative along with the appropriate authorities. Avoidance and preservation in place is the preferred manner of mitigating impacts to tribal cultural resources.

This will be accomplished, if feasible, by several alternative means, including:

- Planning construction to avoid tribal cultural resources, archaeological sites and/or other cultural resources; incorporating cultural resources within parks, green-space or other open space; covering archaeological resources; deeding a cultural resource to a permanent conservation easement; or other preservation and protection methods agreeable to consulting parties and regulatory authorities with jurisdiction over the activity.
- Recommendations for avoidance of tribal cultural resources will be reviewed by the City representative, interested culturally affiliated Native

American tribes and other appropriate agencies, in light of factors such as costs, logistics, feasibility, design, technology and social, cultural and environmental considerations, and the extent to which avoidance is consistent with project objectives. Avoidance and design alternatives may include realignment within the project site to avoid tribal cultural resources, modification of the design to eliminate or reduce impacts to tribal cultural resources or modification or realignment to avoid highly significant features within a cultural resource or tribal cultural resource.

- Native American representatives from interested culturally affiliated Native American tribes will be notified to review and comment on these analyses and shall have the opportunity to meet with the City representative and its representatives who have technical expertise to identify and recommend feasible avoidance and design alternatives, so that appropriate and feasible avoidance and design alternatives can be identified.
- If the discovered tribal cultural resource can be avoided, the construction contractor(s), will install protective fencing outside the site boundary, including a 100-foot buffer area, before construction restarts. The boundary of a tribal cultural resource will be determined in consultation with interested culturally affiliated Native American tribes and tribes will be notified to monitor the installation of fencing. Use of temporary and permanent forms of protective fencing will be determined in consultation with Native American representatives from interested culturally affiliated Native American tribes.
- The construction contractor(s) will maintain the protective fencing throughout construction to avoid the site during all remaining phases of construction. The area will be demarcated as an “Environmentally Sensitive Area”.

If a tribal cultural resource cannot be avoided, the following performance standard shall be met prior to continuance of construction and associated activities that may result in damage to or destruction of tribal cultural resources:

- Each resource will be evaluated for California Register of Historical Resources- (CRHR) eligibility through application of established eligibility criteria (California Code of Regulations 15064.636), in consultation with consulting Native American Tribes, as applicable.

If a tribal cultural resource is determined to be eligible for listing in the CRHR, the City will avoid damaging effects to the resource in accordance with California PRC Section 21084.3, if feasible. The City shall coordinate the investigation of the find with a qualified archaeologist (meeting the Secretary of the Interior’s Professional Qualifications Standards for Archeology) approved by the City and with interested culturally affiliated Native American tribes that respond to the City’s notification. As part of the site investigation and resource assessment, the City and the archaeologist shall consult with interested culturally affiliated Native American tribes to assess the significance of the find, make recommendations for further evaluation and treatment as necessary and provide proper management recommendations should potential impacts to the resources be determined by the City to be significant. A written report detailing the site assessment, coordination activities, and management recommendations shall be provided to the City representative by the qualified archaeologist. These recommendations will be documented in the project record. For any recommendations made by interested culturally affiliated Native American tribes that are not implemented, a

justification for why the recommendation was not followed will be provided in the project record.

Native American representatives from interested culturally affiliated Native American Tribes and the City representative will also consult to develop measures for long-term management of any discovered tribal cultural resources. Consultation will be limited to actions consistent with the jurisdiction of the City and taking into account ownership of the subject property. To the extent that the City has jurisdiction, routine operation and maintenance within tribal cultural resources retaining tribal cultural integrity shall be consistent with the avoidance and minimization standards identified in this mitigation measure.

If the City determines that the project may cause a significant impact to a tribal cultural resource, and measures are not otherwise identified in the consultation process, the following are examples of mitigation capable of avoiding or substantially lessening potential significant impacts to a tribal cultural resource or alternatives that would avoid significant impacts to the resource. These measures may be considered to avoid or minimize significant adverse impacts and constitute the standard by which an impact conclusion of less-than significant may be reached:

- Avoid and preserve resources in place, including, but not limited to, planning construction to avoid the resources and protect the cultural and natural context, or planning greenspace, parks, or other open space, to incorporate the resources with culturally appropriate protection and management criteria.
- Treat the resource with culturally appropriate dignity taking into account the Tribal cultural values and meaning of the resource, including, but not limited to, the following:
- Protect the cultural character and integrity of the resource.
- Protect the traditional use of the resource.
- Protect the confidentiality of the resource.
- Establish permanent conservation easements or other interests in real property, with culturally appropriate management criteria for the purposes of preserving or using the resources or places.
- Protect the resource.

TCR-1d: Implement Procedures in the Event of the Inadvertent Discovery of Human Remains.

If an inadvertent discovery of human remains is made at any time during project-related construction activities or project planning, the City the following performance standards shall be met prior to implementing or continuing actions such as construction, which may result in damage to or destruction of human remains. In accordance with the California Health and Safety Code (HSC), if human remains are encountered during ground- disturbing activities, the City shall immediately halt potentially damaging excavation in the area of the remains and notify the Sacramento County Coroner and a professional archaeologist to determine the nature of the remains. The Coroner is required to examine all discoveries of human remains within 48 hours of receiving notice of a discovery on private or State lands (HSC Section 7050.5[b]).

If the human remains are of historic age and are determined to be not of Native American origin, the City will follow the provisions of the HSC Section 7000 (et seq.) regarding the disinterment and removal of non-Native American human remains.

If the Coroner determines that the remains are those of a Native American, he or she must contact the Native American Heritage Commission (NAHC) by phone within 24 hours of making that determination (HSC Section 7050[c]). After the Coroner's findings have been made, the NAHC-designated Most Likely Descendant (MLD), in consultation with the landowner along with the MLD, shall determine the ultimate treatment and disposition of the remains. The responsibilities of the City for acting upon notification of a discovery of Native American human remains are identified in California PRC Section 5097.9 et seq.

FINDINGS

Known tribal cultural resources have not been identified on-site through records searches. Nonetheless, should subsurface resources be inadvertently discovered during ground-disturbing activities associated with project construction, implementation of MTP/SCS EIR Mitigation Measures CR-5 and CR-6, TCR-1(a-d), and California Health and Safety Code Section 7050-7052, and California PRC Section 5097.98 would ensure that adverse impacts to any tribal cultural resources are minimized and resolved.

The project would not result in additional significant environmental effects related to tribal cultural resources.

XIII. UTILITIES AND SERVICE SYSTEMS.	Potentially Significant Impact	Less-Than-Significant with Mitigation Incorporated	Less-Than-Significant Impact	No Impact
Would the proposal:				
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?	☐	☐	☒	☐

ENVIRONMENTAL SETTING

The project site is currently undeveloped and, therefore, is not connected to existing utilities and service systems. The project site is located adjacent to existing development, including multiple single-family subdivisions. Therefore, utility infrastructure exists in the project vicinity. The existing utilities and service systems in the project vicinity are discussed below.

Water

The City uses surface water from the Sacramento and American rivers to meet the majority of its water demands, as well as groundwater pumped from the North American and South American Subbasins and purchased water through mutual aid agreements. According to the City's 2020 Urban Water Management Plan (UWMP), the City is projected to have sufficient water supply to meet the projected demand through 2045 even after multiple dry years. According to the DOU's 2019 Consumer Confidence Report, the City's drinking water meets or exceeds all federal and State drinking water standards.[46]

Wastewater

Wastewater collection and treatment services for the proposed project would be provided by the City of Sacramento DOU and the SCRSD. Wastewater generated from the project area is collected in the City's separated sewer system through a series of sewer pipes and flows into the SCRSD interceptor system, where the sewage is conveyed to the Sacramento Regional Wastewater Treatment Plant (SRWWTP) located near Elk Grove. Except for water diverted for

[46] City of Sacramento Department of Utilities. *2019 Consumer Confidence Report*. Available at: https://www.cityofsacramento.org/-/media/Water-Quality/CCR_web_r071020.pdf?la=en. Accessed January 2022.

recycled use, treated wastewater from the SRWWTP is discharged to the Sacramento River near the town of Freeport. The SRWWTP is currently permitted to discharge an average dry weather flow (ADWF) of 181 million gallons per day (MGD), and a daily peak wet weather flow of 392 MGD. The City's Department of Utilities is responsible for providing and maintaining the majority of the water, sewer collection, storm drainage, and flood control services for residents and businesses within City limits.

Solid Waste

The City of Sacramento provides residential solid waste collection services. Commercial garbage, recycling, and yard waste services are provided by a franchised hauler authorized by the Sacramento Solid Waste Authority to collect commercial garbage and commingled recycling within the City. The Sacramento County Kiefer Landfill, located at 12701 Kiefer Boulevard in Sloughhouse, California, is the primary location for the disposal of waste for the City. According to the Master EIR, the Kiefer Landfill should serve the City adequately until the year 2065. As growth continues in the City, in accordance with the County General Plan and the City's General Plan, population would increase, and the solid waste stream would continue to grow. However, implementation of the Solid Waste Authority and the Sacramento recycling requirements would continue to significantly reduce potential cumulative impact on landfill capacity to a less-than-significant effect.

STANDARDS OF SIGNIFICANCE

For the purposes of this environmental document, an impact is considered significant if the project would:

- 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;
- Have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry, and multiple dry years;
- 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;
- 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; or
- Comply with federal, state, and local management and reduction statutes and regulations related to solid waste.

SUMMARY OF ANALYSIS UNDER THE 2035 GENERAL PLAN MASTER EIR AND APPLICABLE GENERAL PLAN POLICIES

The Master EIR evaluated the effects of development under the 2035 General Plan on water supply, sewer and storm drainage, solid waste, electricity, natural gas and telecommunications (see Chapter 4.11 of the Master EIR).

The Master EIR evaluated the impacts of increased demand for water that would occur with development under the 2035 General Plan. Policies in the General Plan would reduce the impact generally to a less-than-significant level (see Impact 4.11-1) but the Master EIR concluded that the potential increase in demand for potable water in excess of the City's existing diversion and

treatment capacity, and which could require construction of new water supply facilities, would result in a significant and unavoidable effect (Impact 4.11-2). The potential need for expansion of wastewater treatment facilities was identified as having a less-than-significant effect (Impact 4.11-4). Impacts on solid waste facilities were less than significant (Impact 4.11-5). Implementation of energy efficient standards as set forth in Titles 20 and 24 of the CCR for residential and non-residential buildings, would reduce effects for energy to a less-than-significant level.

MITIGATION MEASURES FROM 2035 GENERAL PLAN MASTER EIR THAT MAY APPLY TO THE PROJECT

None.

SUMMARY OF ANALYSIS UNDER THE METROPOLITAN TRANSPORTATION PLAN/SUSTAINABLE COMMUNITIES STRATEGY (MTP/SCS) EIR

Chapter 17 of the MTP/SCS EIR evaluated potential impacts to utilities and service systems that may result from implementation of the proposed MTP/SCS. Where necessary and feasible, mitigation measures are identified to reduce these impacts.

a,c. Utilities and Service System Infrastructure

The MTP/SCS EIR analyzed the potential impacts related to the capacity of water infrastructure under Impact USS-2, and analyzed potential impacts related to the capacity of existing wastewater, stormwater, electrical, and natural gas infrastructure under Impact USS-3. The MTP/SCS EIR acknowledges that infill development can often rely upon existing utility infrastructure without the need for substantial improvements. However, in some instances, infrastructure improvements are necessary. Under Impact USS-2, the MTP/SCS EIR determined that development within HFTAs could result in the need for new or expanded water conveyance infrastructure and, as a result, MTP/SCS EIR Mitigation Measure USS-3, USS-4, and USS-5 are required. Under Impact USS-3, the MTP/SCS EIR requires Mitigation Measures USS-6 and USS-7 to ensure that adequate wastewater, stormwater, and other utility infrastructure exists for future projects. The MTP/SCS EIR concluded that development of projects included in the MTP/SCS would result in a *significant and unavoidable* impact related to utilities and service systems because SACOG does not have the authority to require implementing agencies to adopt mitigation measures included in the MTP/SCS EIR. However, the MTP/SCS EIR requires that any project taking advantage of the CEQA Streamlining must implement the mitigation measures discussed in the MTP/SCS EIR where feasible and necessary (Mitigation Measures USS-3 through USS-7). Implementation of the MTP/SCS EIR's required mitigation would result in a *less-than-significant* impact.

b. Water Supply

The MTP/SCS EIR considers the ability of jurisdictions and water supply agencies to provide water supplies through the year 2040 in normal and multiple dry years under Impact USS-1. Although the MTP/SCS EIR demonstrates that the City of Sacramento maintains adequate water supplies through the year 2040 in normal and multiple dry years, other jurisdictions in the region cannot be shown to provide such continued supplies. Consequently, the MTP/SCS EIR includes Mitigation Measures USS-1 and USS-2, which seek to ensure that projects would be served by adequate water supplies and that water conservation strategies are implemented, respectively. Overall, the MTP/SCS EIR determined that the urban growth associated with the implementation of the MTP/SCS could lead to an increased demand for water and a need for expanded water infrastructure, which would result in a *significant and unavoidable* impact because SACOG does not have the authority to require implementing agencies to adopt mitigation measures included in

the MTP/SCS EIR. However, the MTP/SCS EIR requires that any project taking advantage of the CEQA Streamlining must implement the mitigation measures discussed in the MTP/SCS EIR where feasible and necessary (Mitigation Measures USS-1 and USS-2). Implementation of Mitigation Measures USS-1 and USS-2 would reduce such impacts to a *less-than-significant* level.

d,e. Solid Waste

The MTP/SCS EIR analyzed the potential impacts related to generating solid waste in excess of State or local standards or otherwise conflicting with regulations related to solid waste under Impact USS-4. In general, landfills within the MTP/SCS plan area are anticipated to maintain adequate capacity throughout the MTP/SCS planning period and, if new landfills are needed in the future, sufficient federal, State, and local regulations exist to ensure that new landfills are provided as necessary to accommodate growth. Consequently, the MTP/SCS EIR concluded that new development consistent with the MTP/SCS would result in a *less-than-significant* impact related to the generation of solid waste in excess of State or local standards or the creation of conflicts with federal, State, and local management regulations and reduction goals.

MITIGATION MEASURES FROM THE MTP/SCS EIR THAT MAY APPLY TO THE PROJECT

MTP/SCS EIR Mitigation Measure USS-1 requires implementation of MTP/SCS EIR Mitigation Measure PS-1, which is already required as part of the project (see Section IX, Public Services, of this SCEA IS), and, therefore, has not been repeated herein. MTP/SCS EIR Mitigation Measures USS-4 and USS-6 both require implementation of USS-1, and, similarly, Mitigation Measures USS-5 and USS-7 both require implementation of USS-2. As a result, Mitigation Measures USS-4, USS-5, USS-6, and USS-7 are not included herein. MTP/SCS EIR Mitigation Measures USS-2 and USS-3 are applicable to the project, could be feasibly implemented, and are hereby incorporated into this SCEA IS as requirements of the project. USS-3 refers to several other MTP/SCS EIR Mitigation Measures that generally relate to reducing temporary impacts associated with construction of new infrastructure.

MM USS-2: Implement water conservation strategies.

The implementing agency can and should additionally implement measures regarding water conservation, efficiency, conservation, capture, and reuse identified by water suppliers in state, regional, and local plans, laws, and policies, and in their own plans and ordinances during planning, design, and project-level environment review, construction, operations, and maintenance activities. Measures include, but are not limited to, the following:

- *Install drip or other water-conserving or weather-based irrigation systems for landscaping.*
- *Coordinate with the relevant water service provider to ensure that the provider has adequate supplies and infrastructure to accommodate the increase in demand. If the current infrastructure servicing the project site is found to be inadequate, infrastructure improvements shall be identified in each project's CEQA documentation. This can and should be documented in the form of an SB 610 Water Supply Assessment, an SB 221 Water Supply Verification, or other capacity analysis.*
- *Design future projects to reduce the use of potable water for landscape irrigation (xeriscaping). These design components could include drought-tolerant plantings for landscaping, water-efficient irrigation systems, the*

capture and use of rainwater, and the use of water-conserving fixtures (such as dual-flush toilets, waterless urinals, reduced flow faucets, EnergyStar appliances).

- *For projects located in an area with existing reclaimed water conveyance infrastructure and excess reclaimed water capacity, these future projects shall use reclaimed water for non-potable uses, such as landscape irrigation, ornamental water features, concrete mixing, and dust control. For projects in a location planned for future reclaimed water service, projects should install dual plumbing systems in anticipation of future use. Large developments could treat wastewater onsite to tertiary standards and use it for non-potable uses onsite.*
- *Consider adoption of Tier 1 or Tier 2 Cal Green standards as mandatory local requirements.*

MM USS-3: Implement Mitigation Measure AES-8 through AES 12
Implement Mitigation Measure AG-8
Implement Mitigation Measure AIR-6
Implement Mitigation Measures BIO-1a through BIO-7
Implement Mitigation Measures CR-1 through CR-6
Implement Mitigation Measure GHG-3
Implement Mitigation Measure NOI-3
Implement Mitigation Measure TRN-3

PROJECT-SPECIFIC IMPACT DISCUSSION

a,b,c. The following discussion evaluates the proposed project's potential to result in impacts to water supply and conveyance facilities, wastewater treatment and conveyance facilities, stormwater drainage facilities, and other utilities.

Water Supply and Conveyance Facilities

The project would connect to the City of Sacramento's potable water system through a new network of distribution pipelines, services, and fire hydrants throughout the project site. The water system would connect into the water facilities planned within the Delta Shores development, immediately west of the project site; this would include a 24-inch diameter transmission main in both 24th Street and Cosumnes River Boulevard.

A Water Master Plan was prepared for the proposed project (see Appendix I).[47] As part of the Water Master Plan, water demand associated with buildout of the project was estimated and is presented in Table 14. In addition, a SB 610/SB 2210 Water Supply Assessment and Certification Form was prepared for the proposed project by the City's DOU, and indicates that, based on the planned land uses, the total water demand associated with the proposed project is anticipated to be approximately 244.6 acre-feet per year (AFY) (see Appendix J).[48]

[47] Carlson, Barbee & Gibson. *Water Master Plan, Stone Beetland, Sacramento, California*. October 2022.
[48] City of Sacramento Department of Utilities. *City of Sacramento SB 610/SB 221 Water Supply Assessment and Certification Form – Stone Beetland*. January 19, 2023.

Table 14
Proposed Project Water Demand

Land Use	Total Units/Area	Average Day Demand (gpd)	Maximum Day Demand (gpd)	Peak Hour Demand (gpd)
Low Density Residential	190 units	103,462	206,924	269,000
Medium Density Residential	262 units	91,214	182,428	237,157
High Density Residential	711 units	76,164	152,327	198,025
Commercial	6.1 acres	8,168	16,336	21,237
Open Space / Park Site	20.5 acres	54,900	109,800	142,740
Transit Station	17.6 acres	0.00	0.00	0.00
Roadways	18 acres	0.00	0.00	0.00
Totals in gpd	**--**	***333,908***	***667,815***	***868,159***
Totals in AFY	**--**	***374.03***	***748.05***	**--**

Note: gpd = gallons per day.

Source: Carlson, Barbee & Gibson, 2023.

It is noted that, with implementation MTP/SCS EIR Mitigation Measure USS-2, which requires the implementation of water conservation strategies, the actual water demand associated with the project may be lower than those values presented above.

The City's 2020 UWMP analyzed the water supply and demand for the City's service area, which includes the project site. Population projections in the 2020 UWMP assume buildout of the General Plan as well as continued population growth within the current service area. Buildout of the proposed project was generally included in the 2020 UWMP's population growth projections because the project site is located within the Delta Shores Subarea of the South Area Community Plan, buildout of which was evaluated in the General Plan. According to the 2020 UWMP, even after five dry years, the City possesses sufficient water supply entitlements to meet the demands of the City's customers through the year 2045 (see Table 15).[49] Therefore, sufficient water supply is available to serve implementation of the proposed project.

Table 15
Multiple Dry Years Supply and Demand Comparison (AFY)

		2025	2030	2035	2040	2045
First year	Supply totals	333,200	350,200	350,200	350,200	350,200
	Demand totals	108,432	114,809	121,187	127,564	133,942
	Difference	*224,769*	*235,391*	*229,014*	*222,636*	*216,258*
Second year	Supply totals	333,200	350,200	350,200	350,200	350,200
	Demand totals	109,707	116,085	122,462	128,840	138,397
	Difference	*223,493*	*234,116*	*227,738*	*221,360*	*211,803*
Third year	Supply totals	333,200	350,200	350,200	350,200	350,200
	Demand totals	110,983	117,360	123,738	130,115	142,853
	Difference	*222,218*	*232,840*	*226,463*	*220,085*	*207,347*
Fourth year	Supply totals	333,200	350,200	350,200	350,200	350,200
	Demand totals	112,258	118,636	125,013	131,391	147,308
	Difference	*220,942*	*231,565*	*225,187*	*218,809*	*202,892*
Fifth year	Supply totals	333,200	350,200	350,200	350,200	350,200
	Demand totals	113,534	119,911	126,289	132,666	151,764
	Difference	*219,667*	*230,289*	*223,912*	*217,534*	*198,436*

Source: City of Sacramento, 2020 UWMP, June 2021.

[49] City of Sacramento. *2020 Urban Water Management Plan*. June 2021.

The Water Master Plan also included hydraulic modeling to verify that the proposed water conveyance lines would meet the City's development criteria and sufficiently accommodate demand associated with the project by providing adequate flows and sufficient pressures. The H20 NET Water Version 17.0 model was used for the water modeling, and current flow and pressure test results at the project points of connection into the existing water system were used as a base to incorporate the estimated project demands and water system. The model was updated to include the proposed street framework, specific parcel layouts, and demands within the project area. Three hydraulic demand scenarios were modeled to observe the operation behavior of the proposed water facility sizing. The results of the hydraulic modeling indicated that the proposed transmission and distribution mains are sized to meet current City of Sacramento DOU design standards with respect to pressure and velocity. Therefore, the proposed water conveyance infrastructure would adequately accommodate flows associated with the proposed project.

Finally, it is noted that the Delta Shores water system has been planned to provide capacity for the development of the Stone Beetland Project, as presented in the Delta Shores Water Master Plan, dated June 6, 2013.

Based on the above, sufficient water supply is available to serve the proposed project, and the existing and planned water conveyance infrastructure is sufficient to accommodate projected water demand.

Wastewater Treatment and Conveyance Facilities

The project would connect to the City of Sacramento's sanitary sewer system through a new network of collection pipelines, laterals and manholes. The sewer system would convey wastewater from east to west and would connect to the gravity 24-inch diameter pipeline planned in 24th Street. The 24-inch pipeline would then convey the wastewater to the south, across Cosumnes River Boulevard, and into Sewer Sump 53. From Sewer Sump 53, an 18-inch diameter force main pipeline would convey flows to the east, approximately 10,000 linear feet along the south side of Cosumnes River Boulevard, to connect to the existing SCRSD Central Interceptor pipeline located in Franklin Boulevard.

A Sanitary Sewer Master Plan was prepared for the proposed project (see Appendix K).[50] As part of the Sanitary Sewer Master Plan, wastewater flows to be generated by the proposed project were estimated based on the criteria identified in the County of Sacramento Improvement Standards and Sacramento Area Sewer Design Standards. The sanitary sewer flows were estimated to be 672,709 gpd, or approximately 0.67 MGD.

The existing permitted capacity at the SRWWTP is 181 MGD.[51] Per the SRWWTP's NPDES Permit (No. CA0077682), adopted in April of 2021, the ADWF is approximately 181 MGD.[52] The Delta Shores sanitary sewer system has been planned to provide capacity for the development of the Stone Beetland Project as presented in the Delta Shores Sewer Master Plan, dated July 23, 2014. The approved Delta Shores Sewer Master Plan had assumed a design flow from the Stone Beetland property of 0.76 MGD, which exceeds the current estimated flows of 0.67 MGD. Accordingly, the downstream

50 Carlson, Barbee & Gibson. *Sanitary Sewer Master Plan, Stone Beetland, Sacramento, California*. October 2022.
51 City of Sacramento. *2020 Urban Water Management Plan*. June 2021.
52 California Regional Water Quality Control Board, Central Valley Region. *Order No. R5-2021-0019-01 NPDES No. CA0077682*. April 2022.

wastewater conveyance systems that have been planned and or constructed to date, as well as the SRWWTP, have adequate capacity to accommodate flows associated with the proposed project.

Finally, any improvements to the wastewater infrastructure of the area would be subject to City review per Chapter 13.08 of the Sacramento City Code. City review would ensure adequate sizing of all proposed connections, and would assess development fees, where applicable, in accordance with the Sewer System Development Fee Program. The Sewer Development fee serves to defray potential costs related to increased wastewater flows that may result from proposed infill development.

Based on the above, sufficient capacity is available to treat wastewater generated from the proposed project, and the existing and planned wastewater conveyance infrastructure is sufficient to accommodate projected flows.

Stormwater Drainage Facilities

Stormwater drainage is discussed in further detail in Section VII, Hydrology and Water Quality, of this SCEA IS. As noted therein, based on the results of the modeling prepared as part of the Drainage Master Plan, the proposed stormwater drainage facilities would provide adequate stormwater quality treatment, peak flow controls, and conveyance infrastructure to accommodate the proposed project.

Other Utilities

The project site is within the service area of the Sacramento Municipal Utility District (SMUD) and Pacific Gas and Electric Co. (PG&E). SMUD is a community-owned and not-for-profit utility that provides electric services to 900 square miles, including most of Sacramento County. PG&E is an investor-owned utility that provides electric and natural gas services to approximately 16 million people within a 70,000-square-mile service area in both northern and central California. SMUD is the primary electricity supplier, and PG&E is the primary natural gas supplier for the City of Sacramento and the project area. However, it is noted that the proposed project would not include the installation of any natural gas infrastructure, as required by project-specific Mitigation Measure V-1. Electricity and telecommunications utilities would be provided to the project by way of connections to existing infrastructure located within the immediate project vicinity, and expansion of such facilities would not be required to accommodate the proposed project.

Conclusion

Based on the discussion above, implementation of the proposed project would not 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; would not result in insufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry, and multiple dry years; nor 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. Additionally, the required implementation of MTP/SCS EIR Mitigation Measure USS-2 would further reduce the projected water demand and ensure the impact is ***less-than-significant with mitigation incorporated***.

d,e. Solid waste collected in the project area is currently disposed of at the Kiefer Landfill. Kiefer Landfill, located at 12701 Kiefer Boulevard in Sloughhouse, California, is the primary location for the disposal of waste by the City. According to the Master EIR, the landfill is permitted to accept up to 10,815 tons per day and the current peak and average daily disposal is substantially lower than the permitted amount. The landfill is anticipated to be capable of adequately serving the area, including the anticipated population growth, until the year 2065.

The project would generate an increased amount of solid waste from what is currently on-site. According to the CalRecycle Jurisdiction Diversion/Disposal Rate Summary for Sacramento, the most recently approved (2015) annual per capita disposal rate is 5.8 pounds per day per resident and 9.3 pounds per day per employee.[53] As noted previously, the proposed project is anticipated to accommodate approximately 3,051 residents and, therefore, operation of the residential portion of the proposed project would generate approximately 17,696 pounds of waste per day (8.8 tons). In addition, for the purposes of this evaluation, the 6.1-acre commercial portion of the proposed project was conservatively assumed to generate an equivalent volume of solid waste as the 72.6-acre residential area, for an additional 8.8 tons of waste per day. Thus, the total operational waste generation associated with the proposed project, conservatively estimated to be 17.6 tons per day, would equal less than 0.2 percent of the Kiefer Landfill's maximum daily throughput. Therefore, the proposed project's operational waste generation could be accommodated by the existing capacity of the Kiefer Landfill.

Furthermore, the project would be required to comply with all relevant City regulations regarding solid waste management including Chapter 13.10 of the City's Code. The provisions of Chapter 13.10 would ensure that the increased waste generation on the project site would be served by adequate waste collection service. In addition, the project would be required to comply with Title 17.72 of the City of Sacramento City Code, which addresses recycling and solid waste disposal requirements for new and existing developments. Such requirements include compliance with all federal, State, and local statutes and regulations related to waste reduction and recycling, including the requirement that all planning documents prepared for the project be submitted to the City Solid Waste Division for approval.

Based on the above, the proposed project would not 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, nor conflict with federal, State, and local management and reduction statutes and regulations related to solid waste; thus, a ***less-than-significant*** impact would occur.

PROJECT-SPECIFIC MITIGATION MEASURES

None.

[53] CalRecycle. *Jurisdiction Diversion/Disposal Rate Summary (2007 – Current).* Available at: https://www2.calrecycle.ca.gov/LGCentral/DiversionProgram/JurisdictionDiversionPost2006. Accessed November 2022.

FINDINGS

Utilities and Service Systems are planned for on a regional scale, to accommodate area growth. Therefore, from a regional perspective, the project has been included in growth projections used in relevant planning documents related to wastewater, water, and solid waste. As discussed above, sufficient capacity exists in the water, wastewater, and solid waste utilities to accommodate the project without the need for constructing new or physically expanded utility related facilities.

Because the project would not require the construction of new utility infrastructure, the project would not be considered to result in any significant environmental impacts related to utilities and service systems.

XIV. MANDATORY FINDINGS OF SIGNIFICANCE.	Potentially Significant Impact	Less-Than-Significant with Mitigation Incorporated	Less-Than-Significant Impact	No Impact
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?	☐	☒	☐	☐
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)?	☐	☒	☐	☐
c. Does the project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?	☐	☒	☐	☐

PROJECT-SPECIFIC IMPACT DISCUSSION

a. As described in Section II, Biological Resources of this SCEA IS, the project would not 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, reduce the number or restrict the range of a rare or endangered plant or animal. All potential impacts related to biological resources would be avoided with implementation of the mitigation measures included in the MTP/SCS EIR. In addition, as discussed in Section III, Cultural Resources, of this SCEA IS, the project could result in impacts related to historic or prehistoric resources; however, implementation of MTP/SCS EIR Mitigation Measures CR-2 and CR-3 would ensure that the project would not eliminate important examples of the major periods of California history and prehistory. All applicable mitigation measures from the MTP/SCS EIR are incorporated as requirements of this SCEA IS. With implementation of all mitigation measures included herein, impacts would be ***less than significant with mitigation incorporated***.

b,c. The MTP/SCS was designed to encourage development of the region in a manner that would promote more sustainable community design and reduce regional GHG emissions. Because the proposed project would be consistent with the MTP/SCS, the project would contribute to the cumulative environmental goals of the MTP/SCS. Additionally, the project was analyzed throughout this SCEA IS for additional environmental impacts that could cause cumulatively considerable impacts or result in adverse effects on human beings. Mitigation measures from the MTP/SCS EIR and Project-Specific measures from this SCEA IS would reduce all such impacts to less-than-significant levels, and ensure that the project would not result in cumulative environmental impacts. Because the project would be consistent with the MTP/SCS and would not result in any additional environmental impacts, the project would not be expected to result in a considerable cumulative contribution to impacts on the environment or impacts on human beings. Therefore, with the implementation of mitigation measures included herein, the project would result in a ***less-than-significant with mitigation incorporated***.

PROJECT-SPECIFIC MITIGATION MEASURES

None.

FINDINGS

As discussed throughout this document, the proposed project would involve development of residential, and some commercial, uses adjacent to the Morrison Creek SacRT Station. By siting residents in close proximity to high quality commuter rail service, the project would encourage the use of non-vehicular modes of transportation, thus reducing VMT and GHG emissions. Additionally, development of the site has already been anticipated in City planning documents, including the 2035 General Plan Master EIR, and in the MTP/SCS EIR. Finally, as presented throughout this SCEA IS, the project would not result in any impacts that could not be reduced to a less-than-significant level with implementation of project-specific and MTP/SCS EIR mitigation measures. Therefore, the project would not result in any significant environmental impacts.

APPENDICES

Appendix A Air Quality Modeling Results
Appendix B Biological Resources and Regulatory Constraints Memo
Appendix C Aquatic Resources Delineations
Appendix D Arborist Reports
Appendix E Geotechnical Report
Appendix F Modified Phase I Environmental Site Assessment
Appendix G Drainage Master Plan
Appendix H Environmental Noise and Vibration Impact Assessment
Appendix I Water Master Plan
Appendix J Water Supply Assessment
Appendix K Sanitary Sewer Master Plan

SOURCES

All the technical reports and modeling results prepared for the project analysis are available upon request at the City of Sacramento Community Development Department. The following documents are referenced information sources utilized for purposes of this SCEA IS:

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9. City of Sacramento Department of Utilities. *2019 Consumer Confidence Report*. Available at: https://www.cityofsacramento.org/-/media/Water-Quality/CCR_web_r071020.pdf?la=en. Accessed January 2022.
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20. Madrone. *Arborist Report, SCRSD Property, City of Sacramento, Sacramento County, California*. May 16, 2022.
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22. Marc A. Fugler, Senior Project Manager for U.S. Army Corps of Engineers, Sacramento District. *Response to request for an approved jurisdictional determination for the Stone Beetland Detention Basin site*. February 8, 2022.
23. Marc A. Fugler, Senior Project Manager for U.S. Army Corps of Engineers, Sacramento District. *Response to request for a preliminary jurisdictional determination (JD) for the Stone Beetland site.* February 8, 2022.
24. Marc A. Fugler, Senior Project Manager for U.S. Army Corps of Engineers, Sacramento District. *Response to request for a preliminary jurisdictional determination (JD) for the SRCSD Property site.* January 18, 2022.
25. Metro Fire Sacramento. *About Us*. Available at: https://metrofire.ca.gov/about-us. Accessed January 2022.
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31. Sacramento Area Council of Governments. *Re: MTP/SCS Consistency for the Stone Beetland Project.* August 18, 2022.
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APPENDIX A

AIR QUALITY MODELING RESULTS

Stone Beetland Project - Sacramento Metropolitan AQMD Air District, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

Stone Beetland Project

Sacramento Metropolitan AQMD Air District, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Other Asphalt Surfaces	17.70	Acre	17.70	771,012.00	0
City Park	8.80	Acre	8.80	383,328.00	0
Apartments Low Rise	711.00	Dwelling Unit	18.00	711,000.00	1898
Single Family Housing	448.00	Dwelling Unit	55.90	806,400.00	1196
Strip Mall	93.00	1000sqft	6.20	93,000.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	3.5	**Precipitation Freq (Days)**	58
Climate Zone	6			**Operational Year**	2026
Utility Company	Sacramento Municipal Utility District				
CO2 Intensity (lb/MWhr)	357.98	**CH4 Intensity (lb/MWhr)**	0.033	**N2O Intensity (lb/MWhr)**	0.004

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - Acreages adjusted per site plan.

Construction Phase - Phase timing adjusted per AQ Questionnaire.

Grading - Based on applicant-provided AQ Questionnaire.

Vehicle Trips - Trip generation rate adjusted to be consistent with project-specific traffic report (Fehr and Peers)

Energy Use - Off-model calculation done to convert natural gas usage to electricity based on assumption that residential would be all electric and commercial would be 75% electric.

Mobile Land Use Mitigation - Based on AQ Questionnaire.

Stone Beetland Project - Sacramento Metropolitan AQMD Air District, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

Area Mitigation - Based on SMAQMD Rules and Regulations.

Consumer Products - Based on CARB now regulation of consumer products.

Table Name	Column Name	Default Value	New Value
tblAreaMitigation	UseLowVOCPaintParkingCheck	False	True
tblConstructionPhase	NumDays	120.00	20.00
tblConstructionPhase	NumDays	310.00	80.00
tblConstructionPhase	NumDays	220.00	60.00
tblConstructionPhase	NumDays	3,100.00	720.00
tblConstructionPhase	NumDays	220.00	720.00
tblConsumerProducts	ROG_EF	2.14E-05	2.11E-05
tblEnergyUse	NT24E	3,172.76	3,524.82
tblEnergyUse	NT24E	6,155.97	6,508.03
tblEnergyUse	NT24E	2.98	3.07
tblEnergyUse	NT24NG	2,687.00	0.00
tblEnergyUse	NT24NG	2,687.00	0.00
tblEnergyUse	NT24NG	0.93	0.23
tblEnergyUse	T24E	108.87	1,284.05
tblEnergyUse	T24E	142.58	2,890.34
tblEnergyUse	T24E	2.91	3.35
tblEnergyUse	T24NG	8,969.37	0.00
tblEnergyUse	T24NG	20,971.81	0.00
tblEnergyUse	T24NG	4.44	1.11
tblGrading	MaterialImported	0.00	120,000.00
tblLandUse	LotAcreage	44.44	18.00
tblLandUse	LotAcreage	145.45	55.90
tblLandUse	LotAcreage	2.13	6.20
tblVehicleTrips	DV_TP	11.00	0.00
tblVehicleTrips	DV_TP	28.00	0.00
tblVehicleTrips	DV_TP	11.00	0.00

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

tblVehicleTrips	DV_TP	40.00	0.00
tblVehicleTrips	PB_TP	3.00	0.00
tblVehicleTrips	PB_TP	6.00	0.00
tblVehicleTrips	PB_TP	3.00	0.00
tblVehicleTrips	PB_TP	15.00	0.00
tblVehicleTrips	PR_TP	86.00	100.00
tblVehicleTrips	PR_TP	66.00	100.00
tblVehicleTrips	PR_TP	86.00	100.00
tblVehicleTrips	PR_TP	45.00	100.00
tblVehicleTrips	ST_TR	8.14	3.59
tblVehicleTrips	ST_TR	1.96	8.98
tblVehicleTrips	ST_TR	9.54	7.46
tblVehicleTrips	ST_TR	42.04	53.38
tblVehicleTrips	SU_TR	6.28	3.59
tblVehicleTrips	SU_TR	2.19	8.98
tblVehicleTrips	SU_TR	8.55	7.46
tblVehicleTrips	SU_TR	20.43	53.38
tblVehicleTrips	WD_TR	7.32	3.59
tblVehicleTrips	WD_TR	0.78	8.98
tblVehicleTrips	WD_TR	9.44	7.46
tblVehicleTrips	WD_TR	44.32	53.38

2.0 Emissions Summary

Stone Beetland Project - Sacramento Metropolitan AQMD Air District, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

2.1 Overall Construction

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2023	0.3501	3.4060	2.3992	9.6300e-003	0.7987	0.1002	0.8988	0.3094	0.0926	0.4020	0.0000	905.7268	905.7268	0.1267	0.0824	933.4554
2024	4.4220	4.2688	7.0201	0.0234	1.6235	0.1063	1.7298	0.4376	0.1005	0.5381	0.0000	2,192.1108	2,192.1108	0.1244	0.1442	2,238.1970
2025	4.3579	4.0441	6.7074	0.0228	1.6173	0.0929	1.7102	0.4359	0.0879	0.5238	0.0000	2,142.2258	2,142.2258	0.1202	0.1397	2,186.8467
2026	3.1621	2.7817	4.5473	0.0156	1.1365	0.0647	1.2012	0.3063	0.0612	0.3675	0.0000	1,473.6223	1,473.6223	0.0820	0.0950	1,503.9888
Maximum	**4.4220**	**4.2688**	**7.0201**	**0.0234**	**1.6235**	**0.1063**	**1.7298**	**0.4376**	**0.1005**	**0.5381**	**0.0000**	**2,192.1108**	**2,192.1108**	**0.1267**	**0.1442**	**2,238.1970**

Stone Beetland Project - Sacramento Metropolitan AQMD Air District, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

2.1 Overall Construction

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2023	0.3501	3.4060	2.3992	9.6300e-003	0.7987	0.1002	0.8988	0.3094	0.0926	0.4020	0.0000	905.7264	905.7264	0.1267	0.0824	933.4550
2024	4.4220	4.2688	7.0201	0.0234	1.6235	0.1063	1.7298	0.4376	0.1005	0.5381	0.0000	2,192.1104	2,192.1104	0.1244	0.1442	2,238.1966
2025	4.3579	4.0441	6.7074	0.0228	1.6173	0.0929	1.7102	0.4359	0.0879	0.5238	0.0000	2,142.2254	2,142.2254	0.1202	0.1397	2,186.8463
2026	3.1621	2.7817	4.5473	0.0156	1.1365	0.0647	1.2012	0.3063	0.0612	0.3675	0.0000	1,473.6220	1,473.6220	0.0820	0.0950	1,503.9885
Maximum	**4.4220**	**4.2688**	**7.0201**	**0.0234**	**1.6235**	**0.1063**	**1.7298**	**0.4376**	**0.1005**	**0.5381**	**0.0000**	**2,192.1104**	**2,192.1104**	**0.1267**	**0.1442**	**2,238.1966**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)
1	**5-1-2023**	**7-31-2023**	1.8517	1.8517
2	**8-1-2023**	**10-31-2023**	1.2929	1.2929
3	**11-1-2023**	**1-31-2024**	1.3221	1.3221
4	**2-1-2024**	**4-30-2024**	2.1454	2.1454
5	**5-1-2024**	**7-31-2024**	2.1697	2.1697
6	**8-1-2024**	**10-31-2024**	2.1815	2.1815
7	**11-1-2024**	**1-31-2025**	2.1826	2.1826
8	**2-1-2025**	**4-30-2025**	2.0583	2.0583

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

9	**5-1-2025**	**7-31-2025**	2.1052	2.1052
10	**8-1-2025**	**10-31-2025**	2.1166	2.1166
11	**11-1-2025**	**1-31-2026**	2.1308	2.1308
12	**2-1-2026**	**4-30-2026**	2.0347	2.0347
13	**5-1-2026**	**7-31-2026**	2.0814	2.0814
14	**8-1-2026**	**9-30-2026**	1.1008	1.1008
		Highest	2.1826	2.1826

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	7.6167	0.1376	11.9426	6.3000e-004		0.0663	0.0663		0.0663	0.0663	0.0000	19.5270	19.5270	0.0187	0.0000	19.9946
Energy	6.7000e-004	6.1100e-003	5.1300e-003	4.0000e-005		4.6000e-004	4.6000e-004		4.6000e-004	4.6000e-004	0.0000	1,633.5463	1,633.5463	0.1501	0.0183	1,642.7524
Mobile	4.8962	6.1593	44.9836	0.0951	10.4803	0.0742	10.5545	2.8013	0.0693	2.8707	0.0000	9,081.5221	9,081.5221	0.6041	0.4381	9,227.1729
Waste						0.0000	0.0000		0.0000	0.0000	173.7664	0.0000	173.7664	10.2693	0.0000	430.4988
Water						0.0000	0.0000		0.0000	0.0000	29.1541	102.0823	131.2364	0.1098	0.0645	153.2135
Total	**12.5135**	**6.3029**	**56.9313**	**0.0958**	**10.4803**	**0.1409**	**10.6212**	**2.8013**	**0.1360**	**2.9374**	**202.9204**	**10,836.6778**	**11,039.5982**	**11.1520**	**0.5209**	**11,473.6323**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

2.2 Overall Operational

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	7.2346	0.1376	11.9426	6.3000e-004		0.0663	0.0663		0.0663	0.0663	0.0000	19.5270	19.5270	0.0187	0.0000	19.9946
Energy	6.7000e-004	6.1100e-003	5.1300e-003	4.0000e-005		4.6000e-004	4.6000e-004		4.6000e-004	4.6000e-004	0.0000	1,633.5463	1,633.5463	0.1501	0.0183	1,642.7524
Mobile	4.6404	5.5993	40.9196	0.0842	9.2436	0.0664	9.3100	2.4708	0.0620	2.5328	0.0000	8,041.7960	8,041.7960	0.5572	0.3984	8,174.4597
Waste						0.0000	0.0000		0.0000	0.0000	173.7664	0.0000	173.7664	10.2693	0.0000	430.4988
Water						0.0000	0.0000		0.0000	0.0000	29.1541	102.0823	131.2364	0.1098	0.0645	153.2135
Total	**11.8757**	**5.7429**	**52.8673**	**0.0849**	**9.2436**	**0.1331**	**9.3767**	**2.4708**	**0.1287**	**2.5995**	**202.9204**	**9,796.9516**	**9,999.8720**	**11.1050**	**0.4813**	**10,420.9191**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**5.10**	**8.89**	**7.14**	**11.37**	**11.80**	**5.58**	**11.72**	**11.80**	**5.40**	**11.50**	**0.00**	**9.59**	**9.42**	**0.42**	**7.61**	**9.18**

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Site Preparation	Site Preparation	5/1/2023	5/26/2023	5	20	
2	Grading	Grading	5/27/2023	9/15/2023	5	80	
3	Paving	Paving	9/16/2023	12/8/2023	5	60	

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

4	Building Construction	Building Construction	12/9/2023	9/11/2026	5	720	
5	Architectural Coating	Architectural Coating	12/23/2023	9/25/2026	5	720	

Acres of Grading (Site Preparation Phase): 30

Acres of Grading (Grading Phase): 240

Acres of Paving: 17.7

Residential Indoor: 3,072,735; Residential Outdoor: 1,024,245; Non-Residential Indoor: 139,500; Non-Residential Outdoor: 46,500; Striped Parking Area: 46,261 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Site Preparation	Rubber Tired Dozers	3	8.00	247	0.40
Site Preparation	Tractors/Loaders/Backhoes	4	8.00	97	0.37
Grading	Excavators	2	8.00	158	0.38
Grading	Graders	1	8.00	187	0.41
Grading	Rubber Tired Dozers	1	8.00	247	0.40
Grading	Scrapers	2	8.00	367	0.48
Grading	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Paving	Pavers	2	8.00	130	0.42
Paving	Paving Equipment	2	8.00	132	0.36
Paving	Rollers	2	8.00	80	0.38
Building Construction	Cranes	1	7.00	231	0.29
Building Construction	Forklifts	3	8.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	3	7.00	97	0.37
Building Construction	Welders	1	8.00	46	0.45
Architectural Coating	Air Compressors	1	6.00	78	0.48

Trips and VMT

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Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Site Preparation	7	18.00	0.00	0.00	10.00	6.50	20.00	LD_Mix	HDT_Mix	HHDT
Grading	8	20.00	0.00	15,000.00	10.00	6.50	20.00	LD_Mix	HDT_Mix	HHDT
Paving	6	15.00	0.00	0.00	10.00	6.50	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	9	1,188.00	328.00	0.00	10.00	6.50	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	238.00	0.00	0.00	10.00	6.50	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

3.2 Site Preparation - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.1966	0.0000	0.1966	0.1010	0.0000	0.1010	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0266	0.2752	0.1824	3.8000e-004		0.0127	0.0127		0.0117	0.0117	0.0000	33.4507	33.4507	0.0108	0.0000	33.7212
Total	**0.0266**	**0.2752**	**0.1824**	**3.8000e-004**	**0.1966**	**0.0127**	**0.2092**	**0.1010**	**0.0117**	**0.1127**	**0.0000**	**33.4507**	**33.4507**	**0.0108**	**0.0000**	**33.7212**

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3.2 Site Preparation - 2023

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	5.2000e-004	3.2000e-004	4.2000e-003	1.0000e-005	1.3200e-003	1.0000e-005	1.3300e-003	3.5000e-004	1.0000e-005	3.6000e-004	0.0000	1.0605	1.0605	3.0000e-005	3.0000e-005	1.0704
Total	**5.2000e-004**	**3.2000e-004**	**4.2000e-003**	**1.0000e-005**	**1.3200e-003**	**1.0000e-005**	**1.3300e-003**	**3.5000e-004**	**1.0000e-005**	**3.6000e-004**	**0.0000**	**1.0605**	**1.0605**	**3.0000e-005**	**3.0000e-005**	**1.0704**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.1966	0.0000	0.1966	0.1010	0.0000	0.1010	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0266	0.2752	0.1824	3.8000e-004		0.0127	0.0127		0.0117	0.0117	0.0000	33.4507	33.4507	0.0108	0.0000	33.7211
Total	**0.0266**	**0.2752**	**0.1824**	**3.8000e-004**	**0.1966**	**0.0127**	**0.2092**	**0.1010**	**0.0117**	**0.1127**	**0.0000**	**33.4507**	**33.4507**	**0.0108**	**0.0000**	**33.7211**

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.2 Site Preparation - 2023

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	5.2000e-004	3.2000e-004	4.2000e-003	1.0000e-005	1.3200e-003	1.0000e-005	1.3300e-003	3.5000e-004	1.0000e-005	3.6000e-004	0.0000	1.0605	1.0605	3.0000e-005	3.0000e-005	1.0704
Total	**5.2000e-004**	**3.2000e-004**	**4.2000e-003**	**1.0000e-005**	**1.3200e-003**	**1.0000e-005**	**1.3300e-003**	**3.5000e-004**	**1.0000e-005**	**3.6000e-004**	**0.0000**	**1.0605**	**1.0605**	**3.0000e-005**	**3.0000e-005**	**1.0704**

3.3 Grading - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.3806	0.0000	0.3806	0.1480	0.0000	0.1480	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.1329	1.3806	1.1221	2.4800e-003		0.0570	0.0570		0.0524	0.0524	0.0000	218.1408	218.1408	0.0706	0.0000	219.9046
Total	**0.1329**	**1.3806**	**1.1221**	**2.4800e-003**	**0.3806**	**0.0570**	**0.4375**	**0.1480**	**0.0524**	**0.2005**	**0.0000**	**218.1408**	**218.1408**	**0.0706**	**0.0000**	**219.9046**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.3 Grading - 2023

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0199	1.1940	0.2398	4.7100e-003	0.1269	8.7100e-003	0.1356	0.0349	8.3300e-003	0.0432	0.0000	465.9785	465.9785	0.0186	0.0739	488.4600
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.2900e-003	1.4200e-003	0.0187	5.0000e-005	5.8800e-003	3.0000e-005	5.9100e-003	1.5600e-003	3.0000e-005	1.5900e-003	0.0000	4.7135	4.7135	1.5000e-004	1.3000e-004	4.7573
Total	**0.0222**	**1.1954**	**0.2584**	**4.7600e-003**	**0.1327**	**8.7400e-003**	**0.1415**	**0.0364**	**8.3600e-003**	**0.0448**	**0.0000**	**470.6920**	**470.6920**	**0.0187**	**0.0740**	**493.2173**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.3806	0.0000	0.3806	0.1480	0.0000	0.1480	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.1329	1.3806	1.1221	2.4800e-003		0.0570	0.0570		0.0524	0.0524	0.0000	218.1406	218.1406	0.0706	0.0000	219.9044
Total	**0.1329**	**1.3806**	**1.1221**	**2.4800e-003**	**0.3806**	**0.0570**	**0.4375**	**0.1480**	**0.0524**	**0.2005**	**0.0000**	**218.1406**	**218.1406**	**0.0706**	**0.0000**	**219.9044**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.3 Grading - 2023

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0199	1.1940	0.2398	4.7100e-003	0.1269	8.7100e-003	0.1356	0.0349	8.3300e-003	0.0432	0.0000	465.9785	465.9785	0.0186	0.0739	488.4600
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.2900e-003	1.4200e-003	0.0187	5.0000e-005	5.8800e-003	3.0000e-005	5.9100e-003	1.5600e-003	3.0000e-005	1.5900e-003	0.0000	4.7135	4.7135	1.5000e-004	1.3000e-004	4.7573
Total	**0.0222**	**1.1954**	**0.2584**	**4.7600e-003**	**0.1327**	**8.7400e-003**	**0.1415**	**0.0364**	**8.3600e-003**	**0.0448**	**0.0000**	**470.6920**	**470.6920**	**0.0187**	**0.0740**	**493.2173**

3.4 Paving - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0310	0.3058	0.4375	6.8000e-004		0.0153	0.0153		0.0141	0.0141	0.0000	60.0806	60.0806	0.0194	0.0000	60.5664
Paving	0.0232					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0542**	**0.3058**	**0.4375**	**6.8000e-004**		**0.0153**	**0.0153**		**0.0141**	**0.0141**	**0.0000**	**60.0806**	**60.0806**	**0.0194**	**0.0000**	**60.5664**

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.4 Paving - 2023

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.2900e-003	8.0000e-004	0.0105	3.0000e-005	3.3000e-003	2.0000e-005	3.3200e-003	8.8000e-004	2.0000e-005	9.0000e-004	0.0000	2.6513	2.6513	8.0000e-005	8.0000e-005	2.6760
Total	**1.2900e-003**	**8.0000e-004**	**0.0105**	**3.0000e-005**	**3.3000e-003**	**2.0000e-005**	**3.3200e-003**	**8.8000e-004**	**2.0000e-005**	**9.0000e-004**	**0.0000**	**2.6513**	**2.6513**	**8.0000e-005**	**8.0000e-005**	**2.6760**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0310	0.3058	0.4375	6.8000e-004		0.0153	0.0153		0.0141	0.0141	0.0000	60.0805	60.0805	0.0194	0.0000	60.5663
Paving	0.0232					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0542**	**0.3058**	**0.4375**	**6.8000e-004**		**0.0153**	**0.0153**		**0.0141**	**0.0141**	**0.0000**	**60.0805**	**60.0805**	**0.0194**	**0.0000**	**60.5663**

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3.4 Paving - 2023

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.2900e-003	8.0000e-004	0.0105	3.0000e-005	3.3000e-003	2.0000e-005	3.3200e-003	8.8000e-004	2.0000e-005	9.0000e-004	0.0000	2.6513	2.6513	8.0000e-005	8.0000e-005	2.6760
Total	**1.2900e-003**	**8.0000e-004**	**0.0105**	**3.0000e-005**	**3.3000e-003**	**2.0000e-005**	**3.3200e-003**	**8.8000e-004**	**2.0000e-005**	**9.0000e-004**	**0.0000**	**2.6513**	**2.6513**	**8.0000e-005**	**8.0000e-005**	**2.6760**

3.5 Building Construction - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0118	0.1079	0.1218	2.0000e-004		5.2500e-003	5.2500e-003		4.9400e-003	4.9400e-003	0.0000	17.3854	17.3854	4.1400e-003	0.0000	17.4888
Total	**0.0118**	**0.1079**	**0.1218**	**2.0000e-004**		**5.2500e-003**	**5.2500e-003**		**4.9400e-003**	**4.9400e-003**	**0.0000**	**17.3854**	**17.3854**	**4.1400e-003**	**0.0000**	**17.4888**

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.5 Building Construction - 2023

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	3.2100e-003	0.1199	0.0362	4.7000e-004	0.0144	6.4000e-004	0.0150	4.1600e-003	6.1000e-004	4.7700e-003	0.0000	45.6255	45.6255	1.1300e-003	6.6900e-003	47.6486
Worker	0.0256	0.0158	0.2077	5.7000e-004	0.0654	3.5000e-004	0.0658	0.0174	3.2000e-004	0.0177	0.0000	52.4961	52.4961	1.6600e-003	1.5000e-003	52.9847
Total	**0.0288**	**0.1357**	**0.2439**	**1.0400e-003**	**0.0798**	**9.9000e-004**	**0.0808**	**0.0216**	**9.3000e-004**	**0.0225**	**0.0000**	**98.1215**	**98.1215**	**2.7900e-003**	**8.1900e-003**	**100.6333**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0118	0.1079	0.1218	2.0000e-004		5.2500e-003	5.2500e-003		4.9400e-003	4.9400e-003	0.0000	17.3853	17.3853	4.1400e-003	0.0000	17.4887
Total	**0.0118**	**0.1079**	**0.1218**	**2.0000e-004**		**5.2500e-003**	**5.2500e-003**		**4.9400e-003**	**4.9400e-003**	**0.0000**	**17.3853**	**17.3853**	**4.1400e-003**	**0.0000**	**17.4887**

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.5 Building Construction - 2023

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	3.2100e-003	0.1199	0.0362	4.7000e-004	0.0144	6.4000e-004	0.0150	4.1600e-003	6.1000e-004	4.7700e-003	0.0000	45.6255	45.6255	1.1300e-003	6.6900e-003	47.6486
Worker	0.0256	0.0158	0.2077	5.7000e-004	0.0654	3.5000e-004	0.0658	0.0174	3.2000e-004	0.0177	0.0000	52.4961	52.4961	1.6600e-003	1.5000e-003	52.9847
Total	**0.0288**	**0.1357**	**0.2439**	**1.0400e-003**	**0.0798**	**9.9000e-004**	**0.0808**	**0.0216**	**9.3000e-004**	**0.0225**	**0.0000**	**98.1215**	**98.1215**	**2.7900e-003**	**8.1900e-003**	**100.6333**

3.5 Building Construction - 2024

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1928	1.7611	2.1179	3.5300e-003		0.0803	0.0803		0.0756	0.0756	0.0000	303.7223	303.7223	0.0718	0.0000	305.5179
Total	**0.1928**	**1.7611**	**2.1179**	**3.5300e-003**		**0.0803**	**0.0803**		**0.0756**	**0.0756**	**0.0000**	**303.7223**	**303.7223**	**0.0718**	**0.0000**	**305.5179**

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.5 Building Construction - 2024

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0536	2.0530	0.6118	8.0300e-003	0.2515	0.0110	0.2625	0.0727	0.0105	0.0832	0.0000	781.7890	781.7890	0.0191	0.1150	816.5269
Worker	0.4174	0.2458	3.3768	9.5500e-003	1.1430	5.8100e-003	1.1488	0.3040	5.3500e-003	0.3094	0.0000	894.0424	894.0424	0.0263	0.0244	901.9616
Total	**0.4710**	**2.2988**	**3.9886**	**0.0176**	**1.3945**	**0.0168**	**1.4113**	**0.3767**	**0.0159**	**0.3926**	**0.0000**	**1,675.8314**	**1,675.8314**	**0.0454**	**0.1393**	**1,718.4885**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1928	1.7611	2.1179	3.5300e-003		0.0803	0.0803		0.0756	0.0756	0.0000	303.7220	303.7220	0.0718	0.0000	305.5175
Total	**0.1928**	**1.7611**	**2.1179**	**3.5300e-003**		**0.0803**	**0.0803**		**0.0756**	**0.0756**	**0.0000**	**303.7220**	**303.7220**	**0.0718**	**0.0000**	**305.5175**

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.5 Building Construction - 2024

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0536	2.0530	0.6118	8.0300e-003	0.2515	0.0110	0.2625	0.0727	0.0105	0.0832	0.0000	781.7890	781.7890	0.0191	0.1150	816.5269
Worker	0.4174	0.2458	3.3768	9.5500e-003	1.1430	5.8100e-003	1.1488	0.3040	5.3500e-003	0.3094	0.0000	894.0424	894.0424	0.0263	0.0244	901.9616
Total	**0.4710**	**2.2988**	**3.9886**	**0.0176**	**1.3945**	**0.0168**	**1.4113**	**0.3767**	**0.0159**	**0.3926**	**0.0000**	**1,675.8314**	**1,675.8314**	**0.0454**	**0.1393**	**1,718.4885**

3.5 Building Construction - 2025

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1785	1.6273	2.0991	3.5200e-003		0.0689	0.0689		0.0648	0.0648	0.0000	302.6549	302.6549	0.0711	0.0000	304.4335
Total	**0.1785**	**1.6273**	**2.0991**	**3.5200e-003**		**0.0689**	**0.0689**		**0.0648**	**0.0648**	**0.0000**	**302.6549**	**302.6549**	**0.0711**	**0.0000**	**304.4335**

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.5 Building Construction - 2025

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0515	2.0036	0.5952	7.8400e-003	0.2505	0.0107	0.2613	0.0724	0.0103	0.0827	0.0000	763.0492	763.0492	0.0186	0.1124	797.0148
Worker	0.3905	0.2197	3.1467	9.2000e-003	1.1386	5.5300e-003	1.1442	0.3028	5.1000e-003	0.3079	0.0000	869.0909	869.0909	0.0238	0.0227	876.4483
Total	**0.4420**	**2.2233**	**3.7419**	**0.0170**	**1.3892**	**0.0163**	**1.4054**	**0.3753**	**0.0154**	**0.3906**	**0.0000**	**1,632.1401**	**1,632.1401**	**0.0424**	**0.1351**	**1,673.4630**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1784	1.6273	2.0991	3.5200e-003		0.0689	0.0689		0.0648	0.0648	0.0000	302.6545	302.6545	0.0711	0.0000	304.4331
Total	**0.1784**	**1.6273**	**2.0991**	**3.5200e-003**		**0.0689**	**0.0689**		**0.0648**	**0.0648**	**0.0000**	**302.6545**	**302.6545**	**0.0711**	**0.0000**	**304.4331**

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.5 Building Construction - 2025

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0515	2.0036	0.5952	7.8400e-003	0.2505	0.0107	0.2613	0.0724	0.0103	0.0827	0.0000	763.0492	763.0492	0.0186	0.1124	797.0148
Worker	0.3905	0.2197	3.1467	9.2000e-003	1.1386	5.5300e-003	1.1442	0.3028	5.1000e-003	0.3079	0.0000	869.0909	869.0909	0.0238	0.0227	876.4483
Total	**0.4420**	**2.2233**	**3.7419**	**0.0170**	**1.3892**	**0.0163**	**1.4054**	**0.3753**	**0.0154**	**0.3906**	**0.0000**	**1,632.1401**	**1,632.1401**	**0.0424**	**0.1351**	**1,673.4630**

3.5 Building Construction - 2026

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1244	1.1347	1.4637	2.4500e-003		0.0480	0.0480		0.0452	0.0452	0.0000	211.0467	211.0467	0.0496	0.0000	212.2870
Total	**0.1244**	**1.1347**	**1.4637**	**2.4500e-003**		**0.0480**	**0.0480**		**0.0452**	**0.0452**	**0.0000**	**211.0467**	**211.0467**	**0.0496**	**0.0000**	**212.2870**

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.5 Building Construction - 2026

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0346	1.3688	0.4068	5.3500e-003	0.1747	7.3000e-003	0.1820	0.0505	6.9800e-003	0.0575	0.0000	521.3816	521.3816	0.0127	0.0770	544.6341
Worker	0.2569	0.1389	2.0664	6.2100e-003	0.7940	3.6800e-003	0.7977	0.2112	3.3900e-003	0.2146	0.0000	591.6426	591.6426	0.0152	0.0149	596.4639
Total	**0.2915**	**1.5076**	**2.4732**	**0.0116**	**0.9687**	**0.0110**	**0.9796**	**0.2617**	**0.0104**	**0.2720**	**0.0000**	**1,113.0241**	**1,113.0241**	**0.0279**	**0.0919**	**1,141.0980**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1244	1.1347	1.4637	2.4500e-003		0.0480	0.0480		0.0452	0.0452	0.0000	211.0465	211.0465	0.0496	0.0000	212.2867
Total	**0.1244**	**1.1347**	**1.4637**	**2.4500e-003**		**0.0480**	**0.0480**		**0.0452**	**0.0452**	**0.0000**	**211.0465**	**211.0465**	**0.0496**	**0.0000**	**212.2867**

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.5 Building Construction - 2026

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0346	1.3688	0.4068	5.3500e-003	0.1747	7.3000e-003	0.1820	0.0505	6.9800e-003	0.0575	0.0000	521.3816	521.3816	0.0127	0.0770	544.6341
Worker	0.2569	0.1389	2.0664	6.2100e-003	0.7940	3.6800e-003	0.7977	0.2112	3.3900e-003	0.2146	0.0000	591.6426	591.6426	0.0152	0.0149	596.4639
Total	**0.2915**	**1.5076**	**2.4732**	**0.0116**	**0.9687**	**0.0110**	**0.9796**	**0.2617**	**0.0104**	**0.2720**	**0.0000**	**1,113.0241**	**1,113.0241**	**0.0279**	**0.0919**	**1,141.0980**

3.6 Architectural Coating - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	0.0697					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	4.8000e-004	3.2600e-003	4.5300e-003	1.0000e-005		1.8000e-004	1.8000e-004		1.8000e-004	1.8000e-004	0.0000	0.6383	0.6383	4.0000e-005	0.0000	0.6393
Total	**0.0702**	**3.2600e-003**	**4.5300e-003**	**1.0000e-005**		**1.8000e-004**	**1.8000e-004**		**1.8000e-004**	**1.8000e-004**	**0.0000**	**0.6383**	**0.6383**	**4.0000e-005**	**0.0000**	**0.6393**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.6 Architectural Coating - 2023

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.7100e-003	1.0600e-003	0.0139	4.0000e-005	4.3700e-003	2.0000e-005	4.3900e-003	1.1600e-003	2.0000e-005	1.1800e-003	0.0000	3.5056	3.5056	1.1000e-004	1.0000e-004	3.5383
Total	**1.7100e-003**	**1.0600e-003**	**0.0139**	**4.0000e-005**	**4.3700e-003**	**2.0000e-005**	**4.3900e-003**	**1.1600e-003**	**2.0000e-005**	**1.1800e-003**	**0.0000**	**3.5056**	**3.5056**	**1.1000e-004**	**1.0000e-004**	**3.5383**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	0.0697					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	4.8000e-004	3.2600e-003	4.5300e-003	1.0000e-005		1.8000e-004	1.8000e-004		1.8000e-004	1.8000e-004	0.0000	0.6383	0.6383	4.0000e-005	0.0000	0.6393
Total	**0.0702**	**3.2600e-003**	**4.5300e-003**	**1.0000e-005**		**1.8000e-004**	**1.8000e-004**		**1.8000e-004**	**1.8000e-004**	**0.0000**	**0.6383**	**0.6383**	**4.0000e-005**	**0.0000**	**0.6393**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.6 Architectural Coating - 2023

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.7100e-003	1.0600e-003	0.0139	4.0000e-005	4.3700e-003	2.0000e-005	4.3900e-003	1.1600e-003	2.0000e-005	1.1800e-003	0.0000	3.5056	3.5056	1.1000e-004	1.0000e-004	3.5383
Total	**1.7100e-003**	**1.0600e-003**	**0.0139**	**4.0000e-005**	**4.3700e-003**	**2.0000e-005**	**4.3900e-003**	**1.1600e-003**	**2.0000e-005**	**1.1800e-003**	**0.0000**	**3.5056**	**3.5056**	**1.1000e-004**	**1.0000e-004**	**3.5383**

3.6 Architectural Coating - 2024

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	3.6509					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0237	0.1597	0.2371	3.9000e-004		7.9800e-003	7.9800e-003		7.9800e-003	7.9800e-003	0.0000	33.4476	33.4476	1.8800e-003	0.0000	33.4947
Total	**3.6746**	**0.1597**	**0.2371**	**3.9000e-004**		**7.9800e-003**	**7.9800e-003**		**7.9800e-003**	**7.9800e-003**	**0.0000**	**33.4476**	**33.4476**	**1.8800e-003**	**0.0000**	**33.4947**

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.6 Architectural Coating - 2024

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0836	0.0492	0.6765	1.9100e-003	0.2290	1.1600e-003	0.2302	0.0609	1.0700e-003	0.0620	0.0000	179.1095	179.1095	5.2700e-003	4.8800e-003	180.6960
Total	**0.0836**	**0.0492**	**0.6765**	**1.9100e-003**	**0.2290**	**1.1600e-003**	**0.2302**	**0.0609**	**1.0700e-003**	**0.0620**	**0.0000**	**179.1095**	**179.1095**	**5.2700e-003**	**4.8800e-003**	**180.6960**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	3.6509					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0237	0.1597	0.2371	3.9000e-004		7.9800e-003	7.9800e-003		7.9800e-003	7.9800e-003	0.0000	33.4476	33.4476	1.8800e-003	0.0000	33.4947
Total	**3.6746**	**0.1597**	**0.2371**	**3.9000e-004**		**7.9800e-003**	**7.9800e-003**		**7.9800e-003**	**7.9800e-003**	**0.0000**	**33.4476**	**33.4476**	**1.8800e-003**	**0.0000**	**33.4947**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.6 Architectural Coating - 2024

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0836	0.0492	0.6765	1.9100e-003	0.2290	1.1600e-003	0.2302	0.0609	1.0700e-003	0.0620	0.0000	179.1095	179.1095	5.2700e-003	4.8800e-003	180.6960
Total	**0.0836**	**0.0492**	**0.6765**	**1.9100e-003**	**0.2290**	**1.1600e-003**	**0.2302**	**0.0609**	**1.0700e-003**	**0.0620**	**0.0000**	**179.1095**	**179.1095**	**5.2700e-003**	**4.8800e-003**	**180.6960**

3.6 Architectural Coating - 2025

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	3.6370					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0223	0.1495	0.2361	3.9000e-004		6.7200e-003	6.7200e-003		6.7200e-003	6.7200e-003	0.0000	33.3200	33.3200	1.8200e-003	0.0000	33.3654
Total	**3.6593**	**0.1495**	**0.2361**	**3.9000e-004**		**6.7200e-003**	**6.7200e-003**		**6.7200e-003**	**6.7200e-003**	**0.0000**	**33.3200**	**33.3200**	**1.8200e-003**	**0.0000**	**33.3654**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.6 Architectural Coating - 2025

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0782	0.0440	0.6304	1.8400e-003	0.2281	1.1100e-003	0.2292	0.0607	1.0200e-003	0.0617	0.0000	174.1108	174.1108	4.7700e-003	4.5500e-003	175.5848
Total	**0.0782**	**0.0440**	**0.6304**	**1.8400e-003**	**0.2281**	**1.1100e-003**	**0.2292**	**0.0607**	**1.0200e-003**	**0.0617**	**0.0000**	**174.1108**	**174.1108**	**4.7700e-003**	**4.5500e-003**	**175.5848**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	3.6370					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0223	0.1495	0.2361	3.9000e-004		6.7200e-003	6.7200e-003		6.7200e-003	6.7200e-003	0.0000	33.3199	33.3199	1.8200e-003	0.0000	33.3654
Total	**3.6593**	**0.1495**	**0.2361**	**3.9000e-004**		**6.7200e-003**	**6.7200e-003**		**6.7200e-003**	**6.7200e-003**	**0.0000**	**33.3199**	**33.3199**	**1.8200e-003**	**0.0000**	**33.3654**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.6 Architectural Coating - 2025

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0782	0.0440	0.6304	1.8400e-003	0.2281	1.1100e-003	0.2292	0.0607	1.0200e-003	0.0617	0.0000	174.1108	174.1108	4.7700e-003	4.5500e-003	175.5848
Total	**0.0782**	**0.0440**	**0.6304**	**1.8400e-003**	**0.2281**	**1.1100e-003**	**0.2292**	**0.0607**	**1.0200e-003**	**0.0617**	**0.0000**	**174.1108**	**174.1108**	**4.7700e-003**	**4.5500e-003**	**175.5848**

3.6 Architectural Coating - 2026

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	2.6755					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0164	0.1100	0.1737	2.9000e-004		4.9400e-003	4.9400e-003		4.9400e-003	4.9400e-003	0.0000	24.5112	24.5112	1.3400e-003	0.0000	24.5447
Total	**2.6919**	**0.1100**	**0.1737**	**2.9000e-004**		**4.9400e-003**	**4.9400e-003**		**4.9400e-003**	**4.9400e-003**	**0.0000**	**24.5112**	**24.5112**	**1.3400e-003**	**0.0000**	**24.5447**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.6 Architectural Coating - 2026

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0543	0.0293	0.4367	1.3100e-003	0.1678	7.8000e-004	0.1686	0.0446	7.2000e-004	0.0454	0.0000	125.0402	125.0402	3.2000e-003	3.1500e-003	126.0592
Total	**0.0543**	**0.0293**	**0.4367**	**1.3100e-003**	**0.1678**	**7.8000e-004**	**0.1686**	**0.0446**	**7.2000e-004**	**0.0454**	**0.0000**	**125.0402**	**125.0402**	**3.2000e-003**	**3.1500e-003**	**126.0592**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	2.6755					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0164	0.1100	0.1737	2.9000e-004		4.9400e-003	4.9400e-003		4.9400e-003	4.9400e-003	0.0000	24.5112	24.5112	1.3400e-003	0.0000	24.5446
Total	**2.6919**	**0.1100**	**0.1737**	**2.9000e-004**		**4.9400e-003**	**4.9400e-003**		**4.9400e-003**	**4.9400e-003**	**0.0000**	**24.5112**	**24.5112**	**1.3400e-003**	**0.0000**	**24.5446**

3.6 Architectural Coating - 2026

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0543	0.0293	0.4367	1.3100e-003	0.1678	7.8000e-004	0.1686	0.0446	7.2000e-004	0.0454	0.0000	125.0402	125.0402	3.2000e-003	3.1500e-003	126.0592
Total	**0.0543**	**0.0293**	**0.4367**	**1.3100e-003**	**0.1678**	**7.8000e-004**	**0.1686**	**0.0446**	**7.2000e-004**	**0.0454**	**0.0000**	**125.0402**	**125.0402**	**3.2000e-003**	**3.1500e-003**	**126.0592**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

Increase Density

Increase Diversity

Improve Destination Accessibility

Increase Transit Accessibility

Improve Pedestrian Network

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	4.6404	5.5993	40.9196	0.0842	9.2436	0.0664	9.3100	2.4708	0.0620	2.5328	0.0000	8,041.7960	8,041.7960	0.5572	0.3984	8,174.4597
Unmitigated	4.8962	6.1593	44.9836	0.0951	10.4803	0.0742	10.5545	2.8013	0.0693	2.8707	0.0000	9,081.5221	9,081.5221	0.6041	0.4381	9,227.1729

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Apartments Low Rise	2,552.49	2,552.49	2552.49	7,377,104	6,506,606
City Park	79.02	79.02	79.02	199,483	175,944
Other Asphalt Surfaces	0.00	0.00	0.00		
Single Family Housing	3,342.08	3,342.08	3342.08	9,659,146	8,519,367
Strip Mall	4,964.34	4,964.34	4964.34	11,049,926	9,746,035
Total	10,937.93	10,937.93	10,937.93	28,285,660	24,947,952

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Apartments Low Rise	10.00	5.00	6.50	46.50	12.50	41.00	100	0	0
City Park	10.00	5.00	6.50	33.00	48.00	19.00	100	0	0
Other Asphalt Surfaces	10.00	5.00	6.50	0.00	0.00	0.00	0	0	0
Single Family Housing	10.00	5.00	6.50	46.50	12.50	41.00	100	0	0
Strip Mall	10.00	5.00	6.50	16.60	64.40	19.00	100	0	0

4.4 Fleet Mix

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Apartments Low Rise	0.550065	0.056538	0.183073	0.126916	0.023794	0.005777	0.013314	0.009484	0.000878	0.000597	0.025554	0.000937	0.003071
City Park	0.550065	0.056538	0.183073	0.126916	0.023794	0.005777	0.013314	0.009484	0.000878	0.000597	0.025554	0.000937	0.003071
Other Asphalt Surfaces	0.550065	0.056538	0.183073	0.126916	0.023794	0.005777	0.013314	0.009484	0.000878	0.000597	0.025554	0.000937	0.003071
Single Family Housing	0.550065	0.056538	0.183073	0.126916	0.023794	0.005777	0.013314	0.009484	0.000878	0.000597	0.025554	0.000937	0.003071
Strip Mall	0.550065	0.056538	0.183073	0.126916	0.023794	0.005777	0.013314	0.009484	0.000878	0.000597	0.025554	0.000937	0.003071

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Electricity Mitigated						0.0000	0.0000		0.0000	0.0000	0.0000	1,626.8962	1,626.8962	0.1500	0.0182	1,636.0627
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	1,626.8962	1,626.8962	0.1500	0.0182	1,636.0627
NaturalGas Mitigated	6.7000e-004	6.1100e-003	5.1300e-003	4.0000e-005		4.6000e-004	4.6000e-004		4.6000e-004	4.6000e-004	0.0000	6.6502	6.6502	1.3000e-004	1.2000e-004	6.6897
NaturalGas Unmitigated	6.7000e-004	6.1100e-003	5.1300e-003	4.0000e-005		4.6000e-004	4.6000e-004		4.6000e-004	4.6000e-004	0.0000	6.6502	6.6502	1.3000e-004	1.2000e-004	6.6897

Stone Beetland Project - Sacramento Metropolitan AQMD Air District, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Apartments Low Rise	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
City Park	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Single Family Housing	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Strip Mall	124620	6.7000e-004	6.1100e-003	5.1300e-003	4.0000e-005		4.6000e-004	4.6000e-004		4.6000e-004	4.6000e-004	0.0000	6.6502	6.6502	1.3000e-004	1.2000e-004	6.6897
Total		**6.7000e-004**	**6.1100e-003**	**5.1300e-003**	**4.0000e-005**		**4.6000e-004**	**4.6000e-004**		**4.6000e-004**	**4.6000e-004**	**0.0000**	**6.6502**	**6.6502**	**1.3000e-004**	**1.2000e-004**	**6.6897**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

5.2 Energy by Land Use - NaturalGas

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Apartments Low Rise	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
City Park	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Single Family Housing	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Strip Mall	124620	6.7000e-004	6.1100e-003	5.1300e-003	4.0000e-005		4.6000e-004	4.6000e-004		4.6000e-004	4.6000e-004	0.0000	6.6502	6.6502	1.3000e-004	1.2000e-004	6.6897
Total		**6.7000e-004**	**6.1100e-003**	**5.1300e-003**	**4.0000e-005**		**4.6000e-004**	**4.6000e-004**		**4.6000e-004**	**4.6000e-004**	**0.0000**	**6.6502**	**6.6502**	**1.3000e-004**	**1.2000e-004**	**6.6897**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Apartments Low Rise	3.99527e+006	648.7404	0.0598	7.2500e-003	652.3956
City Park	0	0.0000	0.0000	0.0000	0.0000
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Single Family Housing	4.93123e+006	800.7183	0.0738	8.9500e-003	805.2299
Strip Mall	1.09275e+006	177.4375	0.0164	1.9800e-003	178.4372
Total		**1,626.8961**	**0.1500**	**0.0182**	**1,636.0627**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

5.3 Energy by Land Use - Electricity

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Apartments Low Rise	3.99527e+006	648.7404	0.0598	7.2500e-003	652.3956
City Park	0	0.0000	0.0000	0.0000	0.0000
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Single Family Housing	4.93123e+006	800.7183	0.0738	8.9500e-003	805.2299
Strip Mall	1.09275e+006	177.4375	0.0164	1.9800e-003	178.4372
Total		**1,626.8961**	**0.1500**	**0.0182**	**1,636.0627**

6.0 Area Detail

6.1 Mitigation Measures Area

Use Low VOC Paint - Residential Interior

Use Low VOC Paint - Residential Exterior

Use Low VOC Paint - Non-Residential Interior

Use Low VOC Paint - Non-Residential Exterior

No Hearths Installed

Use Low VOC Cleaning Supplies

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	7.2346	0.1376	11.9426	6.3000e-004		0.0663	0.0663		0.0663	0.0663	0.0000	19.5270	19.5270	0.0187	0.0000	19.9946
Unmitigated	7.6167	0.1376	11.9426	6.3000e-004		0.0663	0.0663		0.0663	0.0663	0.0000	19.5270	19.5270	0.0187	0.0000	19.9946

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	1.0033					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	6.2547					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	0.3587	0.1376	11.9426	6.3000e-004		0.0663	0.0663		0.0663	0.0663	0.0000	19.5270	19.5270	0.0187	0.0000	19.9946
Total	**7.6167**	**0.1376**	**11.9426**	**6.3000e-004**		**0.0663**	**0.0663**		**0.0663**	**0.0663**	**0.0000**	**19.5270**	**19.5270**	**0.0187**	**0.0000**	**19.9946**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	1.0033					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	5.8726					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	0.3587	0.1376	11.9426	6.3000e-004		0.0663	0.0663		0.0663	0.0663	0.0000	19.5270	19.5270	0.0187	0.0000	19.9946
Total	**7.2346**	**0.1376**	**11.9426**	**6.3000e-004**		**0.0663**	**0.0663**		**0.0663**	**0.0663**	**0.0000**	**19.5270**	**19.5270**	**0.0187**	**0.0000**	**19.9946**

7.0 Water Detail

7.1 Mitigation Measures Water

Stone Beetland Project - Sacramento Metropolitan AQMD Air District, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	131.2364	0.1098	0.0645	153.2135
Unmitigated	131.2364	0.1098	0.0645	153.2135

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Apartments Low Rise	46.3245 / 29.2046	70.4665	0.0614	0.0363	82.8029
City Park	0 / 10.485	5.9589	5.5000e-004	7.0000e-005	5.9924
Other Asphalt Surfaces	0 / 0	0.0000	0.0000	0.0000	0.0000
Single Family Housing	29.189 / 18.4018	44.4008	0.0387	0.0228	52.1740
Strip Mall	6.88874 / 4.22213	10.4102	9.1200e-003	5.3900e-003	12.2443
Total		**131.2364**	**0.1098**	**0.0646**	**153.2135**

7.2 Water by Land Use

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Apartments Low Rise	46.3245 / 29.2046	70.4665	0.0614	0.0363	82.8029
City Park	0 / 10.485	5.9589	5.5000e-004	7.0000e-005	5.9924
Other Asphalt Surfaces	0 / 0	0.0000	0.0000	0.0000	0.0000
Single Family Housing	29.189 / 18.4018	44.4008	0.0387	0.0228	52.1740
Strip Mall	6.88874 / 4.22213	10.4102	9.1200e-003	5.3900e-003	12.2443
Total		**131.2364**	**0.1098**	**0.0646**	**153.2135**

8.0 Waste Detail

8.1 Mitigation Measures Waste

Stone Beetland Project - Sacramento Metropolitan AQMD Air District, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	173.7664	10.2693	0.0000	430.4988
Unmitigated	173.7664	10.2693	0.0000	430.4988

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Apartments Low Rise	327.06	66.3902	3.9236	0.0000	164.4790
City Park	0.76	0.1543	9.1200e-003	0.0000	0.3822
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Single Family Housing	430.56	87.3998	5.1652	0.0000	216.5293
Strip Mall	97.65	19.8221	1.1715	0.0000	49.1083
Total		**173.7664**	**10.2693**	**0.0000**	**430.4988**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

8.2 Waste by Land Use

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Apartments Low Rise	327.06	66.3902	3.9236	0.0000	164.4790
City Park	0.76	0.1543	9.1200e-003	0.0000	0.3822
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Single Family Housing	430.56	87.3998	5.1652	0.0000	216.5293
Strip Mall	97.65	19.8221	1.1715	0.0000	49.1083
Total		**173.7664**	**10.2693**	**0.0000**	**430.4988**

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type

Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type

Stone Beetland Project - Sacramento Metropolitan AQMD Air District, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

Stone Beetland Project - Sacramento Metropolitan AQMD Air District, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

Stone Beetland Project

Sacramento Metropolitan AQMD Air District, Summer

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Other Asphalt Surfaces	17.70	Acre	17.70	771,012.00	0
City Park	8.80	Acre	8.80	383,328.00	0
Apartments Low Rise	711.00	Dwelling Unit	18.00	711,000.00	1898
Single Family Housing	448.00	Dwelling Unit	55.90	806,400.00	1196
Strip Mall	93.00	1000sqft	6.20	93,000.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	3.5	**Precipitation Freq (Days)**	58
Climate Zone	6			**Operational Year**	2026
Utility Company	Sacramento Municipal Utility District				
CO2 Intensity (lb/MWhr)	357.98	**CH4 Intensity (lb/MWhr)**	0.033	**N2O Intensity (lb/MWhr)**	0.004

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - Acreages adjusted per site plan.

Construction Phase - Phase timing adjusted per AQ Questionnaire.

Grading - Based on applicant-provided AQ Questionnaire.

Vehicle Trips - Trip generation rate adjusted to be consistent with project-specific traffic report (Fehr and Peers)

Energy Use - Off-model calculation done to convert natural gas usage to electricity based on assumption that residential would be all electric and commercial would be 75% electric.

Mobile Land Use Mitigation - Based on AQ Questionnaire.

Stone Beetland Project - Sacramento Metropolitan AQMD Air District, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

Area Mitigation - Based on SMAQMD Rules and Regulations.

Consumer Products - Based on CARB now regulation of consumer products.

Table Name	Column Name	Default Value	New Value
tblAreaMitigation	UseLowVOCPaintParkingCheck	False	True
tblConstructionPhase	NumDays	120.00	20.00
tblConstructionPhase	NumDays	310.00	80.00
tblConstructionPhase	NumDays	220.00	60.00
tblConstructionPhase	NumDays	3,100.00	720.00
tblConstructionPhase	NumDays	220.00	720.00
tblConsumerProducts	ROG_EF	2.14E-05	2.11E-05
tblEnergyUse	NT24E	3,172.76	3,524.82
tblEnergyUse	NT24E	6,155.97	6,508.03
tblEnergyUse	NT24E	2.98	3.07
tblEnergyUse	NT24NG	2,687.00	0.00
tblEnergyUse	NT24NG	2,687.00	0.00
tblEnergyUse	NT24NG	0.93	0.23
tblEnergyUse	T24E	108.87	1,284.05
tblEnergyUse	T24E	142.58	2,890.34
tblEnergyUse	T24E	2.91	3.35
tblEnergyUse	T24NG	8,969.37	0.00
tblEnergyUse	T24NG	20,971.81	0.00
tblEnergyUse	T24NG	4.44	1.11
tblGrading	MaterialImported	0.00	120,000.00
tblLandUse	LotAcreage	44.44	18.00
tblLandUse	LotAcreage	145.45	55.90
tblLandUse	LotAcreage	2.13	6.20
tblVehicleTrips	DV_TP	11.00	0.00
tblVehicleTrips	DV_TP	28.00	0.00
tblVehicleTrips	DV_TP	11.00	0.00

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

tblVehicleTrips	DV_TP	40.00	0.00
tblVehicleTrips	PB_TP	3.00	0.00
tblVehicleTrips	PB_TP	6.00	0.00
tblVehicleTrips	PB_TP	3.00	0.00
tblVehicleTrips	PB_TP	15.00	0.00
tblVehicleTrips	PR_TP	86.00	100.00
tblVehicleTrips	PR_TP	66.00	100.00
tblVehicleTrips	PR_TP	86.00	100.00
tblVehicleTrips	PR_TP	45.00	100.00
tblVehicleTrips	ST_TR	8.14	3.59
tblVehicleTrips	ST_TR	1.96	8.98
tblVehicleTrips	ST_TR	9.54	7.46
tblVehicleTrips	ST_TR	42.04	53.38
tblVehicleTrips	SU_TR	6.28	3.59
tblVehicleTrips	SU_TR	2.19	8.98
tblVehicleTrips	SU_TR	8.55	7.46
tblVehicleTrips	SU_TR	20.43	53.38
tblVehicleTrips	WD_TR	7.32	3.59
tblVehicleTrips	WD_TR	0.78	8.98
tblVehicleTrips	WD_TR	9.44	7.46
tblVehicleTrips	WD_TR	44.32	53.38

2.0 Emissions Summary

Stone Beetland Project - Sacramento Metropolitan AQMD Air District, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

2.1 Overall Construction (Maximum Daily Emission)

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2023	34.8779	62.7312	61.6458	0.1916	19.7939	1.6426	21.0607	10.1388	1.5192	11.3042	0.0000	19,689.2861	19,689.2861	2.4601	2.0390	20,083.1189
2024	34.4300	31.6054	58.6324	0.1871	12.8235	0.8110	13.6345	3.4461	0.7668	4.2129	0.0000	19,306.1908	19,306.1908	1.0328	1.1981	19,689.0344
2025	34.0261	30.0447	56.0427	0.1826	12.8232	0.7119	13.5351	3.4460	0.6730	4.1190	0.0000	18,932.1465	18,932.1465	1.0018	1.1652	19,304.4300
2026	33.7709	29.5758	53.9447	0.1784	12.8231	0.7075	13.5305	3.4460	0.6689	4.1148	0.0000	18,571.3556	18,571.3556	0.9778	1.1355	18,934.1848
Maximum	**34.8779**	**62.7312**	**61.6458**	**0.1916**	**19.7939**	**1.6426**	**21.0607**	**10.1388**	**1.5192**	**11.3042**	**0.0000**	**19,689.2861**	**19,689.2861**	**2.4601**	**2.0390**	**20,083.1189**

Stone Beetland Project - Sacramento Metropolitan AQMD Air District, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

2.1 Overall Construction (Maximum Daily Emission)

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2023	34.8779	62.7312	61.6458	0.1916	19.7939	1.6426	21.0607	10.1388	1.5192	11.3042	0.0000	19,689.2861	19,689.2861	2.4601	2.0390	20,083.1189
2024	34.4300	31.6054	58.6324	0.1871	12.8235	0.8110	13.6345	3.4461	0.7668	4.2129	0.0000	19,306.1908	19,306.1908	1.0328	1.1981	19,689.0344
2025	34.0261	30.0447	56.0427	0.1826	12.8232	0.7119	13.5351	3.4460	0.6730	4.1190	0.0000	18,932.1465	18,932.1465	1.0018	1.1652	19,304.4300
2026	33.7709	29.5758	53.9447	0.1784	12.8231	0.7075	13.5305	3.4460	0.6689	4.1148	0.0000	18,571.3556	18,571.3556	0.9778	1.1355	18,934.1848
Maximum	**34.8779**	**62.7312**	**61.6458**	**0.1916**	**19.7939**	**1.6426**	**21.0607**	**10.1388**	**1.5192**	**11.3042**	**0.0000**	**19,689.2861**	**19,689.2861**	**2.4601**	**2.0390**	**20,083.1189**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

Stone Beetland Project - Sacramento Metropolitan AQMD Air District, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	42.6391	1.1005	95.5405	5.0500e-003		0.5301	0.5301		0.5301	0.5301	0.0000	172.1983	172.1983	0.1649	0.0000	176.3218
Energy	3.6800e-003	0.0335	0.0281	2.0000e-004		2.5400e-003	2.5400e-003		2.5400e-003	2.5400e-003		40.1676	40.1676	7.7000e-004	7.4000e-004	40.4063
Mobile	33.1885	31.1595	265.9748	0.5617	59.6248	0.4081	60.0328	15.8929	0.3811	16.2740		59,090.4733	59,090.4733	3.4954	2.5490	59,937.4676
Total	**75.8314**	**32.2934**	**361.5434**	**0.5669**	**59.6248**	**0.9407**	**60.5655**	**15.8929**	**0.9137**	**16.8066**	**0.0000**	**59,302.8392**	**59,302.8392**	**3.6611**	**2.5498**	**60,154.1958**

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	40.5456	1.1005	95.5405	5.0500e-003		0.5301	0.5301		0.5301	0.5301	0.0000	172.1983	172.1983	0.1649	0.0000	176.3218
Energy	3.6800e-003	0.0335	0.0281	2.0000e-004		2.5400e-003	2.5400e-003		2.5400e-003	2.5400e-003		40.1676	40.1676	7.7000e-004	7.4000e-004	40.4063
Mobile	31.7893	28.3557	240.3231	0.4972	52.5890	0.3648	52.9539	14.0175	0.3407	14.3582		52,308.7838	52,308.7838	3.2067	2.3183	53,079.7954
Total	**72.3386**	**29.4896**	**335.8918**	**0.5025**	**52.5890**	**0.8975**	**53.4865**	**14.0175**	**0.8733**	**14.8909**	**0.0000**	**52,521.1497**	**52,521.1497**	**3.3724**	**2.3190**	**53,296.5235**

Stone Beetland Project - Sacramento Metropolitan AQMD Air District, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**4.61**	**8.68**	**7.10**	**11.37**	**11.80**	**4.59**	**11.69**	**11.80**	**4.42**	**11.40**	**0.00**	**11.44**	**11.44**	**7.89**	**9.05**	**11.40**

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Site Preparation	Site Preparation	5/1/2023	5/26/2023	5	20	
2	Grading	Grading	5/27/2023	9/15/2023	5	80	
3	Paving	Paving	9/16/2023	12/8/2023	5	60	
4	Building Construction	Building Construction	12/9/2023	9/11/2026	5	720	
5	Architectural Coating	Architectural Coating	12/23/2023	9/25/2026	5	720	

Acres of Grading (Site Preparation Phase): 30

Acres of Grading (Grading Phase): 240

Acres of Paving: 17.7

Residential Indoor: 3,072,735; Residential Outdoor: 1,024,245; Non-Residential Indoor: 139,500; Non-Residential Outdoor: 46,500; Striped Parking Area: 46,261 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Site Preparation	Rubber Tired Dozers	3	8.00	247	0.40
Site Preparation	Tractors/Loaders/Backhoes	4	8.00	97	0.37
Grading	Excavators	2	8.00	158	0.38
Grading	Graders	1	8.00	187	0.41
Grading	Rubber Tired Dozers	1	8.00	247	0.40
Grading	Scrapers	2	8.00	367	0.48

Stone Beetland Project - Sacramento Metropolitan AQMD Air District, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

Grading	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Paving	Pavers	2	8.00	130	0.42
Paving	Paving Equipment	2	8.00	132	0.36
Paving	Rollers	2	8.00	80	0.38
Building Construction	Cranes	1	7.00	231	0.29
Building Construction	Forklifts	3	8.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	3	7.00	97	0.37
Building Construction	Welders	1	8.00	46	0.45
Architectural Coating	Air Compressors	1	6.00	78	0.48

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Site Preparation	7	18.00	0.00	0.00	10.00	6.50	20.00	LD_Mix	HDT_Mix	HHDT
Grading	8	20.00	0.00	15,000.00	10.00	6.50	20.00	LD_Mix	HDT_Mix	HHDT
Paving	6	15.00	0.00	0.00	10.00	6.50	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	9	1,188.00	328.00	0.00	10.00	6.50	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	238.00	0.00	0.00	10.00	6.50	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Stone Beetland Project - Sacramento Metropolitan AQMD Air District, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.2 Site Preparation - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					19.6570	0.0000	19.6570	10.1025	0.0000	10.1025			0.0000			0.0000
Off-Road	2.6595	27.5242	18.2443	0.0381		1.2660	1.2660		1.1647	1.1647		3,687.3081	3,687.3081	1.1926		3,717.1219
Total	**2.6595**	**27.5242**	**18.2443**	**0.0381**	**19.6570**	**1.2660**	**20.9230**	**10.1025**	**1.1647**	**11.2672**		**3,687.3081**	**3,687.3081**	**1.1926**		**3,717.1219**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0607	0.0291	0.4906	1.2500e-003	0.1369	7.1000e-004	0.1376	0.0363	6.5000e-004	0.0370		128.1058	128.1058	3.5200e-003	3.1500e-003	129.1312
Total	**0.0607**	**0.0291**	**0.4906**	**1.2500e-003**	**0.1369**	**7.1000e-004**	**0.1376**	**0.0363**	**6.5000e-004**	**0.0370**		**128.1058**	**128.1058**	**3.5200e-003**	**3.1500e-003**	**129.1312**

Stone Beetland Project - Sacramento Metropolitan AQMD Air District, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.2 Site Preparation - 2023

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					19.6570	0.0000	19.6570	10.1025	0.0000	10.1025			0.0000			0.0000
Off-Road	2.6595	27.5242	18.2443	0.0381		1.2660	1.2660		1.1647	1.1647	0.0000	3,687.3081	3,687.3081	1.1926		3,717.1219
Total	**2.6595**	**27.5242**	**18.2443**	**0.0381**	**19.6570**	**1.2660**	**20.9230**	**10.1025**	**1.1647**	**11.2672**	**0.0000**	**3,687.3081**	**3,687.3081**	**1.1926**		**3,717.1219**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0607	0.0291	0.4906	1.2500e-003	0.1369	7.1000e-004	0.1376	0.0363	6.5000e-004	0.0370		128.1058	128.1058	3.5200e-003	3.1500e-003	129.1312
Total	**0.0607**	**0.0291**	**0.4906**	**1.2500e-003**	**0.1369**	**7.1000e-004**	**0.1376**	**0.0363**	**6.5000e-004**	**0.0370**		**128.1058**	**128.1058**	**3.5200e-003**	**3.1500e-003**	**129.1312**

Stone Beetland Project - Sacramento Metropolitan AQMD Air District, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.3 Grading - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					9.5138	0.0000	9.5138	3.7007	0.0000	3.7007			0.0000			0.0000
Off-Road	3.3217	34.5156	28.0512	0.0621		1.4245	1.4245		1.3105	1.3105		6,011.4777	6,011.4777	1.9442		6,060.0836
Total	**3.3217**	**34.5156**	**28.0512**	**0.0621**	**9.5138**	**1.4245**	**10.9383**	**3.7007**	**1.3105**	**5.0113**		**6,011.4777**	**6,011.4777**	**1.9442**		**6,060.0836**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.5088	28.1832	5.9488	0.1176	3.2696	0.2173	3.4870	0.8953	0.2079	1.1033		12,838.2702	12,838.2702	0.5120	2.0355	13,457.6591
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0674	0.0324	0.5451	1.3900e-003	0.1521	7.8000e-004	0.1529	0.0404	7.2000e-004	0.0411		142.3398	142.3398	3.9100e-003	3.5000e-003	143.4791
Total	**0.5762**	**28.2156**	**6.4938**	**0.1190**	**3.4218**	**0.2181**	**3.6399**	**0.9357**	**0.2087**	**1.1443**		**12,980.6100**	**12,980.6100**	**0.5159**	**2.0390**	**13,601.1382**

Stone Beetland Project - Sacramento Metropolitan AQMD Air District, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.3 Grading - 2023

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					9.5138	0.0000	9.5138	3.7007	0.0000	3.7007			0.0000			0.0000
Off-Road	3.3217	34.5156	28.0512	0.0621		1.4245	1.4245		1.3105	1.3105	0.0000	6,011.4777	6,011.4777	1.9442		6,060.0836
Total	**3.3217**	**34.5156**	**28.0512**	**0.0621**	**9.5138**	**1.4245**	**10.9383**	**3.7007**	**1.3105**	**5.0113**	**0.0000**	**6,011.4777**	**6,011.4777**	**1.9442**		**6,060.0836**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.5088	28.1832	5.9488	0.1176	3.2696	0.2173	3.4870	0.8953	0.2079	1.1033		12,838.2702	12,838.2702	0.5120	2.0355	13,457.6591
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0674	0.0324	0.5451	1.3900e-003	0.1521	7.8000e-004	0.1529	0.0404	7.2000e-004	0.0411		142.3398	142.3398	3.9100e-003	3.5000e-003	143.4791
Total	**0.5762**	**28.2156**	**6.4938**	**0.1190**	**3.4218**	**0.2181**	**3.6399**	**0.9357**	**0.2087**	**1.1443**		**12,980.6100**	**12,980.6100**	**0.5159**	**2.0390**	**13,601.1382**

Stone Beetland Project - Sacramento Metropolitan AQMD Air District, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.4 Paving - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.0327	10.1917	14.5842	0.0228		0.5102	0.5102		0.4694	0.4694		2,207.5841	2,207.5841	0.7140		2,225.4336
Paving	0.7729					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**1.8056**	**10.1917**	**14.5842**	**0.0228**		**0.5102**	**0.5102**		**0.4694**	**0.4694**		**2,207.5841**	**2,207.5841**	**0.7140**		**2,225.4336**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0505	0.0243	0.4088	1.0400e-003	0.1141	5.9000e-004	0.1147	0.0303	5.4000e-004	0.0308		106.7548	106.7548	2.9300e-003	2.6200e-003	107.6093
Total	**0.0505**	**0.0243**	**0.4088**	**1.0400e-003**	**0.1141**	**5.9000e-004**	**0.1147**	**0.0303**	**5.4000e-004**	**0.0308**		**106.7548**	**106.7548**	**2.9300e-003**	**2.6200e-003**	**107.6093**

Stone Beetland Project - Sacramento Metropolitan AQMD Air District, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.4 Paving - 2023

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.0327	10.1917	14.5842	0.0228		0.5102	0.5102		0.4694	0.4694	0.0000	2,207.5841	2,207.5841	0.7140		2,225.4336
Paving	0.7729					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**1.8056**	**10.1917**	**14.5842**	**0.0228**		**0.5102**	**0.5102**		**0.4694**	**0.4694**	**0.0000**	**2,207.5841**	**2,207.5841**	**0.7140**		**2,225.4336**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0505	0.0243	0.4088	1.0400e-003	0.1141	5.9000e-004	0.1147	0.0303	5.4000e-004	0.0308		106.7548	106.7548	2.9300e-003	2.6200e-003	107.6093
Total	**0.0505**	**0.0243**	**0.4088**	**1.0400e-003**	**0.1141**	**5.9000e-004**	**0.1147**	**0.0303**	**5.4000e-004**	**0.0308**		**106.7548**	**106.7548**	**2.9300e-003**	**2.6200e-003**	**107.6093**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.5 Building Construction - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.5728	14.3849	16.2440	0.0269		0.6997	0.6997		0.6584	0.6584		2,555.2099	2,555.2099	0.6079		2,570.4061
Total	**1.5728**	**14.3849**	**16.2440**	**0.0269**		**0.6997**	**0.6997**		**0.6584**	**0.6584**		**2,555.2099**	**2,555.2099**	**0.6079**		**2,570.4061**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.4389	15.1877	4.7281	0.0625	1.9761	0.0848	2.0609	0.5688	0.0811	0.6499		6,703.8022	6,703.8022	0.1657	0.9827	7,000.7835
Worker	4.0032	1.9234	32.3764	0.0826	9.0371	0.0466	9.0837	2.3972	0.0429	2.4401		8,454.9826	8,454.9826	0.2320	0.2076	8,522.6590
Total	**4.4420**	**17.1111**	**37.1045**	**0.1451**	**11.0132**	**0.1314**	**11.1446**	**2.9660**	**0.1240**	**3.0900**		**15,158.7848**	**15,158.7848**	**0.3977**	**1.1903**	**15,523.4425**

Stone Beetland Project - Sacramento Metropolitan AQMD Air District, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.5 Building Construction - 2023

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.5728	14.3849	16.2440	0.0269		0.6997	0.6997		0.6584	0.6584	0.0000	2,555.2099	2,555.2099	0.6079		2,570.4061
Total	**1.5728**	**14.3849**	**16.2440**	**0.0269**		**0.6997**	**0.6997**		**0.6584**	**0.6584**	**0.0000**	**2,555.2099**	**2,555.2099**	**0.6079**		**2,570.4061**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.4389	15.1877	4.7281	0.0625	1.9761	0.0848	2.0609	0.5688	0.0811	0.6499		6,703.8022	6,703.8022	0.1657	0.9827	7,000.7835
Worker	4.0032	1.9234	32.3764	0.0826	9.0371	0.0466	9.0837	2.3972	0.0429	2.4401		8,454.9826	8,454.9826	0.2320	0.2076	8,522.6590
Total	**4.4420**	**17.1111**	**37.1045**	**0.1451**	**11.0132**	**0.1314**	**11.1446**	**2.9660**	**0.1240**	**3.0900**		**15,158.7848**	**15,158.7848**	**0.3977**	**1.1903**	**15,523.4425**

Stone Beetland Project - Sacramento Metropolitan AQMD Air District, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.5 Building Construction - 2024

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.4716	13.4438	16.1668	0.0270		0.6133	0.6133		0.5769	0.5769		2,555.6989	2,555.6989	0.6044		2,570.8077
Total	**1.4716**	**13.4438**	**16.1668**	**0.0270**		**0.6133**	**0.6133**		**0.5769**	**0.5769**		**2,555.6989**	**2,555.6989**	**0.6044**		**2,570.8077**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.4198	14.8861	4.5797	0.0613	1.9759	0.0836	2.0595	0.5687	0.0799	0.6486		6,576.1291	6,576.1291	0.1610	0.9662	6,868.0860
Worker	3.7392	1.7135	30.0547	0.0799	9.0371	0.0444	9.0815	2.3972	0.0409	2.4380		8,241.7831	8,241.7831	0.2096	0.1932	8,304.5836
Total	**4.1590**	**16.5996**	**34.6344**	**0.1412**	**11.0130**	**0.1279**	**11.1409**	**2.9659**	**0.1208**	**3.0867**		**14,817.9122**	**14,817.9122**	**0.3706**	**1.1594**	**15,172.6696**

Stone Beetland Project - Sacramento Metropolitan AQMD Air District, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.5 Building Construction - 2024

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.4716	13.4438	16.1668	0.0270		0.6133	0.6133		0.5769	0.5769	0.0000	2,555.6989	2,555.6989	0.6044		2,570.8077
Total	**1.4716**	**13.4438**	**16.1668**	**0.0270**		**0.6133**	**0.6133**		**0.5769**	**0.5769**	**0.0000**	**2,555.6989**	**2,555.6989**	**0.6044**		**2,570.8077**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.4198	14.8861	4.5797	0.0613	1.9759	0.0836	2.0595	0.5687	0.0799	0.6486		6,576.1291	6,576.1291	0.1610	0.9662	6,868.0860
Worker	3.7392	1.7135	30.0547	0.0799	9.0371	0.0444	9.0815	2.3972	0.0409	2.4380		8,241.7831	8,241.7831	0.2096	0.1932	8,304.5836
Total	**4.1590**	**16.5996**	**34.6344**	**0.1412**	**11.0130**	**0.1279**	**11.1409**	**2.9659**	**0.1208**	**3.0867**		**14,817.9122**	**14,817.9122**	**0.3706**	**1.1594**	**15,172.6696**

Stone Beetland Project - Sacramento Metropolitan AQMD Air District, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.5 Building Construction - 2025

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.3674	12.4697	16.0847	0.0270		0.5276	0.5276		0.4963	0.4963		2,556.4744	2,556.4744	0.6010		2,571.4981
Total	**1.3674**	**12.4697**	**16.0847**	**0.0270**		**0.5276**	**0.5276**		**0.4963**	**0.4963**		**2,556.4744**	**2,556.4744**	**0.6010**		**2,571.4981**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.4047	14.5831	4.4723	0.0600	1.9757	0.0819	2.0576	0.5686	0.0784	0.6470		6,442.7816	6,442.7816	0.1577	0.9484	6,729.3511
Worker	3.5104	1.5382	28.0560	0.0772	9.0371	0.0424	9.0795	2.3972	0.0390	2.4362		8,040.6127	8,040.6127	0.1898	0.1806	8,099.1850
Total	**3.9151**	**16.1213**	**32.5283**	**0.1372**	**11.0128**	**0.1243**	**11.1371**	**2.9658**	**0.1174**	**3.0832**		**14,483.3943**	**14,483.3943**	**0.3474**	**1.1290**	**14,828.5361**

Stone Beetland Project - Sacramento Metropolitan AQMD Air District, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.5 Building Construction - 2025

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.3674	12.4697	16.0847	0.0270		0.5276	0.5276		0.4963	0.4963	0.0000	2,556.4744	2,556.4744	0.6010		2,571.4981
Total	**1.3674**	**12.4697**	**16.0847**	**0.0270**		**0.5276**	**0.5276**		**0.4963**	**0.4963**	**0.0000**	**2,556.4744**	**2,556.4744**	**0.6010**		**2,571.4981**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.4047	14.5831	4.4723	0.0600	1.9757	0.0819	2.0576	0.5686	0.0784	0.6470		6,442.7816	6,442.7816	0.1577	0.9484	6,729.3511
Worker	3.5104	1.5382	28.0560	0.0772	9.0371	0.0424	9.0795	2.3972	0.0390	2.4362		8,040.6127	8,040.6127	0.1898	0.1806	8,099.1850
Total	**3.9151**	**16.1213**	**32.5283**	**0.1372**	**11.0128**	**0.1243**	**11.1371**	**2.9658**	**0.1174**	**3.0832**		**14,483.3943**	**14,483.3943**	**0.3474**	**1.1290**	**14,828.5361**

Stone Beetland Project - Sacramento Metropolitan AQMD Air District, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.5 Building Construction - 2026

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.3674	12.4697	16.0847	0.0270		0.5276	0.5276		0.4963	0.4963		2,556.4744	2,556.4744	0.6010		2,571.4981
Total	**1.3674**	**12.4697**	**16.0847**	**0.0270**		**0.5276**	**0.5276**		**0.4963**	**0.4963**		**2,556.4744**	**2,556.4744**	**0.6010**		**2,571.4981**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.3906	14.2864	4.3841	0.0588	1.9755	0.0799	2.0554	0.5686	0.0764	0.6450		6,312.8587	6,312.8587	0.1542	0.9312	6,594.2042
Worker	3.3095	1.3948	26.3816	0.0747	9.0371	0.0404	9.0775	2.3972	0.0372	2.4344		7,848.2766	7,848.2766	0.1727	0.1702	7,903.3247
Total	**3.7001**	**15.6812**	**30.7657**	**0.1335**	**11.0126**	**0.1203**	**11.1329**	**2.9657**	**0.1136**	**3.0794**		**14,161.1353**	**14,161.1353**	**0.3269**	**1.1014**	**14,497.5289**

Stone Beetland Project - Sacramento Metropolitan AQMD Air District, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.5 Building Construction - 2026

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.3674	12.4697	16.0847	0.0270		0.5276	0.5276		0.4963	0.4963	0.0000	2,556.4744	2,556.4744	0.6010		2,571.4981
Total	**1.3674**	**12.4697**	**16.0847**	**0.0270**		**0.5276**	**0.5276**		**0.4963**	**0.4963**	**0.0000**	**2,556.4744**	**2,556.4744**	**0.6010**		**2,571.4981**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.3906	14.2864	4.3841	0.0588	1.9755	0.0799	2.0554	0.5686	0.0764	0.6450		6,312.8587	6,312.8587	0.1542	0.9312	6,594.2042
Worker	3.3095	1.3948	26.3816	0.0747	9.0371	0.0404	9.0775	2.3972	0.0372	2.4344		7,848.2766	7,848.2766	0.1727	0.1702	7,903.3247
Total	**3.7001**	**15.6812**	**30.7657**	**0.1335**	**11.0126**	**0.1203**	**11.1329**	**2.9657**	**0.1136**	**3.0794**		**14,161.1353**	**14,161.1353**	**0.3269**	**1.1014**	**14,497.5289**

Stone Beetland Project - Sacramento Metropolitan AQMD Air District, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.6 Architectural Coating - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	27.8695					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.1917	1.3030	1.8111	2.9700e-003		0.0708	0.0708		0.0708	0.0708		281.4481	281.4481	0.0168		281.8690
Total	**28.0612**	**1.3030**	**1.8111**	**2.9700e-003**		**0.0708**	**0.0708**		**0.0708**	**0.0708**		**281.4481**	**281.4481**	**0.0168**		**281.8690**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.8020	0.3853	6.4862	0.0166	1.8105	9.3300e-003	1.8198	0.4802	8.5900e-003	0.4888		1,693.8433	1,693.8433	0.0465	0.0416	1,707.4014
Total	**0.8020**	**0.3853**	**6.4862**	**0.0166**	**1.8105**	**9.3300e-003**	**1.8198**	**0.4802**	**8.5900e-003**	**0.4888**		**1,693.8433**	**1,693.8433**	**0.0465**	**0.0416**	**1,707.4014**

Stone Beetland Project - Sacramento Metropolitan AQMD Air District, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.6 Architectural Coating - 2023

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	27.8695					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.1917	1.3030	1.8111	2.9700e-003		0.0708	0.0708		0.0708	0.0708	0.0000	281.4481	281.4481	0.0168		281.8690
Total	**28.0612**	**1.3030**	**1.8111**	**2.9700e-003**		**0.0708**	**0.0708**		**0.0708**	**0.0708**	**0.0000**	**281.4481**	**281.4481**	**0.0168**		**281.8690**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.8020	0.3853	6.4862	0.0166	1.8105	9.3300e-003	1.8198	0.4802	8.5900e-003	0.4888		1,693.8433	1,693.8433	0.0465	0.0416	1,707.4014
Total	**0.8020**	**0.3853**	**6.4862**	**0.0166**	**1.8105**	**9.3300e-003**	**1.8198**	**0.4802**	**8.5900e-003**	**0.4888**		**1,693.8433**	**1,693.8433**	**0.0465**	**0.0416**	**1,707.4014**

Stone Beetland Project - Sacramento Metropolitan AQMD Air District, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.6 Architectural Coating - 2024

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	27.8695					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.1808	1.2188	1.8101	2.9700e-003		0.0609	0.0609		0.0609	0.0609		281.4481	281.4481	0.0159		281.8443
Total	**28.0503**	**1.2188**	**1.8101**	**2.9700e-003**		**0.0609**	**0.0609**		**0.0609**	**0.0609**		**281.4481**	**281.4481**	**0.0159**		**281.8443**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.7491	0.3433	6.0211	0.0160	1.8105	8.8900e-003	1.8194	0.4802	8.1800e-003	0.4884		1,651.1316	1,651.1316	0.0420	0.0387	1,663.7129
Total	**0.7491**	**0.3433**	**6.0211**	**0.0160**	**1.8105**	**8.8900e-003**	**1.8194**	**0.4802**	**8.1800e-003**	**0.4884**		**1,651.1316**	**1,651.1316**	**0.0420**	**0.0387**	**1,663.7129**

Stone Beetland Project - Sacramento Metropolitan AQMD Air District, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.6 Architectural Coating - 2024

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	27.8695					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.1808	1.2188	1.8101	2.9700e-003		0.0609	0.0609		0.0609	0.0609	0.0000	281.4481	281.4481	0.0159		281.8443
Total	**28.0503**	**1.2188**	**1.8101**	**2.9700e-003**		**0.0609**	**0.0609**		**0.0609**	**0.0609**	**0.0000**	**281.4481**	**281.4481**	**0.0159**		**281.8443**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.7491	0.3433	6.0211	0.0160	1.8105	8.8900e-003	1.8194	0.4802	8.1800e-003	0.4884		1,651.1316	1,651.1316	0.0420	0.0387	1,663.7129
Total	**0.7491**	**0.3433**	**6.0211**	**0.0160**	**1.8105**	**8.8900e-003**	**1.8194**	**0.4802**	**8.1800e-003**	**0.4884**		**1,651.1316**	**1,651.1316**	**0.0420**	**0.0387**	**1,663.7129**

Stone Beetland Project - Sacramento Metropolitan AQMD Air District, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.6 Architectural Coating - 2025

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	27.8695					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.1709	1.1455	1.8091	2.9700e-003		0.0515	0.0515		0.0515	0.0515		281.4481	281.4481	0.0154		281.8319
Total	**28.0404**	**1.1455**	**1.8091**	**2.9700e-003**		**0.0515**	**0.0515**		**0.0515**	**0.0515**		**281.4481**	**281.4481**	**0.0154**		**281.8319**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.7033	0.3082	5.6206	0.0155	1.8105	8.5000e-003	1.8190	0.4802	7.8200e-003	0.4881		1,610.8298	1,610.8298	0.0380	0.0362	1,622.5640
Total	**0.7033**	**0.3082**	**5.6206**	**0.0155**	**1.8105**	**8.5000e-003**	**1.8190**	**0.4802**	**7.8200e-003**	**0.4881**		**1,610.8298**	**1,610.8298**	**0.0380**	**0.0362**	**1,622.5640**

Stone Beetland Project - Sacramento Metropolitan AQMD Air District, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.6 Architectural Coating - 2025

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	27.8695					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.1709	1.1455	1.8091	2.9700e-003		0.0515	0.0515		0.0515	0.0515	0.0000	281.4481	281.4481	0.0154		281.8319
Total	**28.0404**	**1.1455**	**1.8091**	**2.9700e-003**		**0.0515**	**0.0515**		**0.0515**	**0.0515**	**0.0000**	**281.4481**	**281.4481**	**0.0154**		**281.8319**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.7033	0.3082	5.6206	0.0155	1.8105	8.5000e-003	1.8190	0.4802	7.8200e-003	0.4881		1,610.8298	1,610.8298	0.0380	0.0362	1,622.5640
Total	**0.7033**	**0.3082**	**5.6206**	**0.0155**	**1.8105**	**8.5000e-003**	**1.8190**	**0.4802**	**7.8200e-003**	**0.4881**		**1,610.8298**	**1,610.8298**	**0.0380**	**0.0362**	**1,622.5640**

Stone Beetland Project - Sacramento Metropolitan AQMD Air District, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.6 Architectural Coating - 2026

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	27.8695					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.1709	1.1455	1.8091	2.9700e-003		0.0515	0.0515		0.0515	0.0515		281.4481	281.4481	0.0154		281.8319
Total	**28.0404**	**1.1455**	**1.8091**	**2.9700e-003**		**0.0515**	**0.0515**		**0.0515**	**0.0515**		**281.4481**	**281.4481**	**0.0154**		**281.8319**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.6630	0.2794	5.2852	0.0150	1.8105	8.1000e-003	1.8186	0.4802	7.4600e-003	0.4877		1,572.2978	1,572.2978	0.0346	0.0341	1,583.3260
Total	**0.6630**	**0.2794**	**5.2852**	**0.0150**	**1.8105**	**8.1000e-003**	**1.8186**	**0.4802**	**7.4600e-003**	**0.4877**		**1,572.2978**	**1,572.2978**	**0.0346**	**0.0341**	**1,583.3260**

Stone Beetland Project - Sacramento Metropolitan AQMD Air District, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.6 Architectural Coating - 2026

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	27.8695					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.1709	1.1455	1.8091	2.9700e-003		0.0515	0.0515		0.0515	0.0515	0.0000	281.4481	281.4481	0.0154		281.8319
Total	**28.0404**	**1.1455**	**1.8091**	**2.9700e-003**		**0.0515**	**0.0515**		**0.0515**	**0.0515**	**0.0000**	**281.4481**	**281.4481**	**0.0154**		**281.8319**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.6630	0.2794	5.2852	0.0150	1.8105	8.1000e-003	1.8186	0.4802	7.4600e-003	0.4877		1,572.2978	1,572.2978	0.0346	0.0341	1,583.3260
Total	**0.6630**	**0.2794**	**5.2852**	**0.0150**	**1.8105**	**8.1000e-003**	**1.8186**	**0.4802**	**7.4600e-003**	**0.4877**		**1,572.2978**	**1,572.2978**	**0.0346**	**0.0341**	**1,583.3260**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

Increase Density

Increase Diversity

Improve Destination Accessibility

Increase Transit Accessibility

Improve Pedestrian Network

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	31.7893	28.3557	240.3231	0.4972	52.5890	0.3648	52.9539	14.0175	0.3407	14.3582		52,308.7838	52,308.7838	3.2067	2.3183	53,079.7954
Unmitigated	33.1885	31.1595	265.9748	0.5617	59.6248	0.4081	60.0328	15.8929	0.3811	16.2740		59,090.4733	59,090.4733	3.4954	2.5490	59,937.4676

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Apartments Low Rise	2,552.49	2,552.49	2552.49	7,377,104	6,506,606
City Park	79.02	79.02	79.02	199,483	175,944
Other Asphalt Surfaces	0.00	0.00	0.00		
Single Family Housing	3,342.08	3,342.08	3342.08	9,659,146	8,519,367
Strip Mall	4,964.34	4,964.34	4964.34	11,049,926	9,746,035
Total	10,937.93	10,937.93	10,937.93	28,285,660	24,947,952

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Apartments Low Rise	10.00	5.00	6.50	46.50	12.50	41.00	100	0	0
City Park	10.00	5.00	6.50	33.00	48.00	19.00	100	0	0
Other Asphalt Surfaces	10.00	5.00	6.50	0.00	0.00	0.00	0	0	0
Single Family Housing	10.00	5.00	6.50	46.50	12.50	41.00	100	0	0
Strip Mall	10.00	5.00	6.50	16.60	64.40	19.00	100	0	0

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Apartments Low Rise	0.550065	0.056538	0.183073	0.126916	0.023794	0.005777	0.013314	0.009484	0.000878	0.000597	0.025554	0.000937	0.003071
City Park	0.550065	0.056538	0.183073	0.126916	0.023794	0.005777	0.013314	0.009484	0.000878	0.000597	0.025554	0.000937	0.003071
Other Asphalt Surfaces	0.550065	0.056538	0.183073	0.126916	0.023794	0.005777	0.013314	0.009484	0.000878	0.000597	0.025554	0.000937	0.003071
Single Family Housing	0.550065	0.056538	0.183073	0.126916	0.023794	0.005777	0.013314	0.009484	0.000878	0.000597	0.025554	0.000937	0.003071
Strip Mall	0.550065	0.056538	0.183073	0.126916	0.023794	0.005777	0.013314	0.009484	0.000878	0.000597	0.025554	0.000937	0.003071

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
NaturalGas Mitigated	3.6800e-003	0.0335	0.0281	2.0000e-004		2.5400e-003	2.5400e-003		2.5400e-003	2.5400e-003		40.1676	40.1676	7.7000e-004	7.4000e-004	40.4063
NaturalGas Unmitigated	3.6800e-003	0.0335	0.0281	2.0000e-004		2.5400e-003	2.5400e-003		2.5400e-003	2.5400e-003		40.1676	40.1676	7.7000e-004	7.4000e-004	40.4063

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Apartments Low Rise	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
City Park	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Single Family Housing	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Strip Mall	341.425	3.6800e-003	0.0335	0.0281	2.0000e-004		2.5400e-003	2.5400e-003		2.5400e-003	2.5400e-003		40.1676	40.1676	7.7000e-004	7.4000e-004	40.4063
Total		**3.6800e-003**	**0.0335**	**0.0281**	**2.0000e-004**		**2.5400e-003**	**2.5400e-003**		**2.5400e-003**	**2.5400e-003**		**40.1676**	**40.1676**	**7.7000e-004**	**7.4000e-004**	**40.4063**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

5.2 Energy by Land Use - NaturalGas

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Apartments Low Rise	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
City Park	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Single Family Housing	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Strip Mall	0.341425	3.6800e-003	0.0335	0.0281	2.0000e-004		2.5400e-003	2.5400e-003		2.5400e-003	2.5400e-003		40.1676	40.1676	7.7000e-004	7.4000e-004	40.4063
Total		**3.6800e-003**	**0.0335**	**0.0281**	**2.0000e-004**		**2.5400e-003**	**2.5400e-003**		**2.5400e-003**	**2.5400e-003**		**40.1676**	**40.1676**	**7.7000e-004**	**7.4000e-004**	**40.4063**

6.0 Area Detail

6.1 Mitigation Measures Area

Use Low VOC Paint - Residential Interior

Use Low VOC Paint - Residential Exterior

Use Low VOC Paint - Non-Residential Interior

Use Low VOC Paint - Non-Residential Exterior

No Hearths Installed

Use Low VOC Cleaning Supplies

Stone Beetland Project - Sacramento Metropolitan AQMD Air District, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	40.5456	1.1005	95.5405	5.0500e-003		0.5301	0.5301		0.5301	0.5301	0.0000	172.1983	172.1983	0.1649	0.0000	176.3218
Unmitigated	42.6391	1.1005	95.5405	5.0500e-003		0.5301	0.5301		0.5301	0.5301	0.0000	172.1983	172.1983	0.1649	0.0000	176.3218

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	5.4975					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	34.2723					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Hearth	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	2.8693	1.1005	95.5405	5.0500e-003		0.5301	0.5301		0.5301	0.5301		172.1983	172.1983	0.1649		176.3218
Total	**42.6391**	**1.1005**	**95.5405**	**5.0500e-003**		**0.5301**	**0.5301**		**0.5301**	**0.5301**	**0.0000**	**172.1983**	**172.1983**	**0.1649**	**0.0000**	**176.3218**

Stone Beetland Project - Sacramento Metropolitan AQMD Air District, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	5.4975					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	32.1788					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Hearth	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	2.8693	1.1005	95.5405	5.0500e-003		0.5301	0.5301		0.5301	0.5301		172.1983	172.1983	0.1649		176.3218
Total	**40.5456**	**1.1005**	**95.5405**	**5.0500e-003**		**0.5301**	**0.5301**		**0.5301**	**0.5301**	**0.0000**	**172.1983**	**172.1983**	**0.1649**	**0.0000**	**176.3218**

7.0 Water Detail

7.1 Mitigation Measures Water

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

8.0 Waste Detail

8.1 Mitigation Measures Waste

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type

Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

Stone Beetland Project - Sacramento Metropolitan AQMD Air District, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

Stone Beetland Project

Sacramento Metropolitan AQMD Air District, Winter

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Other Asphalt Surfaces	17.70	Acre	17.70	771,012.00	0
City Park	8.80	Acre	8.80	383,328.00	0
Apartments Low Rise	711.00	Dwelling Unit	18.00	711,000.00	1898
Single Family Housing	448.00	Dwelling Unit	55.90	806,400.00	1196
Strip Mall	93.00	1000sqft	6.20	93,000.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	3.5	**Precipitation Freq (Days)**	58
Climate Zone	6			**Operational Year**	2026
Utility Company	Sacramento Municipal Utility District				
CO2 Intensity (lb/MWhr)	357.98	**CH4 Intensity (lb/MWhr)**	0.033	**N2O Intensity (lb/MWhr)**	0.004

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - Acreages adjusted per site plan.

Construction Phase - Phase timing adjusted per AQ Questionnaire.

Grading - Based on applicant-provided AQ Questionnaire.

Vehicle Trips - Trip generation rate adjusted to be consistent with project-specific traffic report (Fehr and Peers)

Energy Use - Off-model calculation done to convert natural gas usage to electricity based on assumption that residential would be all electric and commercial would be 75% electric.

Mobile Land Use Mitigation - Based on AQ Questionnaire.

Stone Beetland Project - Sacramento Metropolitan AQMD Air District, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

Area Mitigation - Based on SMAQMD Rules and Regulations.

Consumer Products - Based on CARB now regulation of consumer products.

Table Name	Column Name	Default Value	New Value
tblAreaMitigation	UseLowVOCPaintParkingCheck	False	True
tblConstructionPhase	NumDays	120.00	20.00
tblConstructionPhase	NumDays	310.00	80.00
tblConstructionPhase	NumDays	220.00	60.00
tblConstructionPhase	NumDays	3,100.00	720.00
tblConstructionPhase	NumDays	220.00	720.00
tblConsumerProducts	ROG_EF	2.14E-05	2.11E-05
tblEnergyUse	NT24E	3,172.76	3,524.82
tblEnergyUse	NT24E	6,155.97	6,508.03
tblEnergyUse	NT24E	2.98	3.07
tblEnergyUse	NT24NG	2,687.00	0.00
tblEnergyUse	NT24NG	2,687.00	0.00
tblEnergyUse	NT24NG	0.93	0.23
tblEnergyUse	T24E	108.87	1,284.05
tblEnergyUse	T24E	142.58	2,890.34
tblEnergyUse	T24E	2.91	3.35
tblEnergyUse	T24NG	8,969.37	0.00
tblEnergyUse	T24NG	20,971.81	0.00
tblEnergyUse	T24NG	4.44	1.11
tblGrading	MaterialImported	0.00	120,000.00
tblLandUse	LotAcreage	44.44	18.00
tblLandUse	LotAcreage	145.45	55.90
tblLandUse	LotAcreage	2.13	6.20
tblVehicleTrips	DV_TP	11.00	0.00
tblVehicleTrips	DV_TP	28.00	0.00
tblVehicleTrips	DV_TP	11.00	0.00

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

tblVehicleTrips	DV_TP	40.00	0.00
tblVehicleTrips	PB_TP	3.00	0.00
tblVehicleTrips	PB_TP	6.00	0.00
tblVehicleTrips	PB_TP	3.00	0.00
tblVehicleTrips	PB_TP	15.00	0.00
tblVehicleTrips	PR_TP	86.00	100.00
tblVehicleTrips	PR_TP	66.00	100.00
tblVehicleTrips	PR_TP	86.00	100.00
tblVehicleTrips	PR_TP	45.00	100.00
tblVehicleTrips	ST_TR	8.14	3.59
tblVehicleTrips	ST_TR	1.96	8.98
tblVehicleTrips	ST_TR	9.54	7.46
tblVehicleTrips	ST_TR	42.04	53.38
tblVehicleTrips	SU_TR	6.28	3.59
tblVehicleTrips	SU_TR	2.19	8.98
tblVehicleTrips	SU_TR	8.55	7.46
tblVehicleTrips	SU_TR	20.43	53.38
tblVehicleTrips	WD_TR	7.32	3.59
tblVehicleTrips	WD_TR	0.78	8.98
tblVehicleTrips	WD_TR	9.44	7.46
tblVehicleTrips	WD_TR	44.32	53.38

2.0 Emissions Summary

Stone Beetland Project - Sacramento Metropolitan AQMD Air District, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

2.1 Overall Construction (Maximum Daily Emission)

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2023	34.3138	65.0275	56.8455	0.1810	19.7939	1.6434	21.0607	10.1388	1.5200	11.3042	0.0000	18,983.6641	18,983.6641	2.4594	2.0408	19,653.3081
2024	33.9102	33.1885	54.3367	0.1766	12.8235	0.8119	13.6354	3.4461	0.7676	4.2137	0.0000	18,221.7666	18,221.7666	1.0718	1.2342	18,616.3639
2025	33.5420	31.5609	52.1535	0.1725	12.8232	0.7127	13.5359	3.4460	0.6737	4.1198	0.0000	17,877.4351	17,877.4351	1.0383	1.1990	18,260.6998
2026	33.3200	31.0342	50.3721	0.1686	12.8231	0.7082	13.5313	3.4460	0.6695	4.1155	0.0000	17,544.4649	17,544.4649	1.0120	1.1673	17,917.6299
Maximum	**34.3138**	**65.0275**	**56.8455**	**0.1810**	**19.7939**	**1.6434**	**21.0607**	**10.1388**	**1.5200**	**11.3042**	**0.0000**	**18,983.6641**	**18,983.6641**	**2.4594**	**2.0408**	**19,653.3081**

Stone Beetland Project - Sacramento Metropolitan AQMD Air District, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

2.1 Overall Construction (Maximum Daily Emission)

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2023	34.3138	65.0275	56.8455	0.1810	19.7939	1.6434	21.0607	10.1388	1.5200	11.3042	0.0000	18,983.6641	18,983.6641	2.4594	2.0408	19,653.3081
2024	33.9102	33.1885	54.3367	0.1766	12.8235	0.8119	13.6354	3.4461	0.7676	4.2137	0.0000	18,221.7666	18,221.7666	1.0718	1.2342	18,616.3639
2025	33.5420	31.5609	52.1535	0.1725	12.8232	0.7127	13.5359	3.4460	0.6737	4.1198	0.0000	17,877.4351	17,877.4351	1.0383	1.1990	18,260.6998
2026	33.3200	31.0342	50.3721	0.1686	12.8231	0.7082	13.5313	3.4460	0.6695	4.1155	0.0000	17,544.4649	17,544.4649	1.0120	1.1673	17,917.6299
Maximum	**34.3138**	**65.0275**	**56.8455**	**0.1810**	**19.7939**	**1.6434**	**21.0607**	**10.1388**	**1.5200**	**11.3042**	**0.0000**	**18,983.6641**	**18,983.6641**	**2.4594**	**2.0408**	**19,653.3081**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

Stone Beetland Project - Sacramento Metropolitan AQMD Air District, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	42.6391	1.1005	95.5405	5.0500e-003		0.5301	0.5301		0.5301	0.5301	0.0000	172.1983	172.1983	0.1649	0.0000	176.3218
Energy	3.6800e-003	0.0335	0.0281	2.0000e-004		2.5400e-003	2.5400e-003		2.5400e-003	2.5400e-003		40.1676	40.1676	7.7000e-004	7.4000e-004	40.4063
Mobile	25.8713	36.0284	263.9589	0.5135	59.6248	0.4086	60.0333	15.8929	0.3816	16.2745		54,034.5515	54,034.5515	3.9247	2.7784	54,960.6401
Total	**68.5141**	**37.1624**	**359.5276**	**0.5188**	**59.6248**	**0.9412**	**60.5660**	**15.8929**	**0.9142**	**16.8071**	**0.0000**	**54,246.9174**	**54,246.9174**	**4.0904**	**2.7792**	**55,177.3682**

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	40.5456	1.1005	95.5405	5.0500e-003		0.5301	0.5301		0.5301	0.5301	0.0000	172.1983	172.1983	0.1649	0.0000	176.3218
Energy	3.6800e-003	0.0335	0.0281	2.0000e-004		2.5400e-003	2.5400e-003		2.5400e-003	2.5400e-003		40.1676	40.1676	7.7000e-004	7.4000e-004	40.4063
Mobile	24.4090	32.7695	241.2783	0.4548	52.5890	0.3654	52.9544	14.0175	0.3412	14.3587		47,855.2603	47,855.2603	3.6353	2.5294	48,699.9096
Total	**64.9583**	**33.9034**	**336.8469**	**0.4601**	**52.5890**	**0.8980**	**53.4870**	**14.0175**	**0.8738**	**14.8914**	**0.0000**	**48,067.6262**	**48,067.6262**	**3.8011**	**2.5302**	**48,916.6377**

Stone Beetland Project - Sacramento Metropolitan AQMD Air District, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**5.19**	**8.77**	**6.31**	**11.32**	**11.80**	**4.59**	**11.69**	**11.80**	**4.42**	**11.40**	**0.00**	**11.39**	**11.39**	**7.07**	**8.96**	**11.35**

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Site Preparation	Site Preparation	5/1/2023	5/26/2023	5	20	
2	Grading	Grading	5/27/2023	9/15/2023	5	80	
3	Paving	Paving	9/16/2023	12/8/2023	5	60	
4	Building Construction	Building Construction	12/9/2023	9/11/2026	5	720	
5	Architectural Coating	Architectural Coating	12/23/2023	9/25/2026	5	720	

Acres of Grading (Site Preparation Phase): 30

Acres of Grading (Grading Phase): 240

Acres of Paving: 17.7

Residential Indoor: 3,072,735; Residential Outdoor: 1,024,245; Non-Residential Indoor: 139,500; Non-Residential Outdoor: 46,500; Striped Parking Area: 46,261 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Site Preparation	Rubber Tired Dozers	3	8.00	247	0.40
Site Preparation	Tractors/Loaders/Backhoes	4	8.00	97	0.37
Grading	Excavators	2	8.00	158	0.38
Grading	Graders	1	8.00	187	0.41
Grading	Rubber Tired Dozers	1	8.00	247	0.40
Grading	Scrapers	2	8.00	367	0.48

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

Grading	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Paving	Pavers	2	8.00	130	0.42
Paving	Paving Equipment	2	8.00	132	0.36
Paving	Rollers	2	8.00	80	0.38
Building Construction	Cranes	1	7.00	231	0.29
Building Construction	Forklifts	3	8.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	3	7.00	97	0.37
Building Construction	Welders	1	8.00	46	0.45
Architectural Coating	Air Compressors	1	6.00	78	0.48

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Site Preparation	7	18.00	0.00	0.00	10.00	6.50	20.00	LD_Mix	HDT_Mix	HHDT
Grading	8	20.00	0.00	15,000.00	10.00	6.50	20.00	LD_Mix	HDT_Mix	HHDT
Paving	6	15.00	0.00	0.00	10.00	6.50	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	9	1,188.00	328.00	0.00	10.00	6.50	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	238.00	0.00	0.00	10.00	6.50	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Stone Beetland Project - Sacramento Metropolitan AQMD Air District, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.2 Site Preparation - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					19.6570	0.0000	19.6570	10.1025	0.0000	10.1025			0.0000			0.0000
Off-Road	2.6595	27.5242	18.2443	0.0381		1.2660	1.2660		1.1647	1.1647		3,687.3081	3,687.3081	1.1926		3,717.1219
Total	**2.6595**	**27.5242**	**18.2443**	**0.0381**	**19.6570**	**1.2660**	**20.9230**	**10.1025**	**1.1647**	**11.2672**		**3,687.3081**	**3,687.3081**	**1.1926**		**3,717.1219**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0537	0.0358	0.4272	1.1100e-003	0.1369	7.1000e-004	0.1376	0.0363	6.5000e-004	0.0370		113.9541	113.9541	4.0500e-003	3.6100e-003	115.1305
Total	**0.0537**	**0.0358**	**0.4272**	**1.1100e-003**	**0.1369**	**7.1000e-004**	**0.1376**	**0.0363**	**6.5000e-004**	**0.0370**		**113.9541**	**113.9541**	**4.0500e-003**	**3.6100e-003**	**115.1305**

Stone Beetland Project - Sacramento Metropolitan AQMD Air District, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.2 Site Preparation - 2023

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					19.6570	0.0000	19.6570	10.1025	0.0000	10.1025			0.0000			0.0000
Off-Road	2.6595	27.5242	18.2443	0.0381		1.2660	1.2660		1.1647	1.1647	0.0000	3,687.3081	3,687.3081	1.1926		3,717.1219
Total	**2.6595**	**27.5242**	**18.2443**	**0.0381**	**19.6570**	**1.2660**	**20.9230**	**10.1025**	**1.1647**	**11.2672**	**0.0000**	**3,687.3081**	**3,687.3081**	**1.1926**		**3,717.1219**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0537	0.0358	0.4272	1.1100e-003	0.1369	7.1000e-004	0.1376	0.0363	6.5000e-004	0.0370		113.9541	113.9541	4.0500e-003	3.6100e-003	115.1305
Total	**0.0537**	**0.0358**	**0.4272**	**1.1100e-003**	**0.1369**	**7.1000e-004**	**0.1376**	**0.0363**	**6.5000e-004**	**0.0370**		**113.9541**	**113.9541**	**4.0500e-003**	**3.6100e-003**	**115.1305**

Stone Beetland Project - Sacramento Metropolitan AQMD Air District, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.3 Grading - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					9.5138	0.0000	9.5138	3.7007	0.0000	3.7007			0.0000			0.0000
Off-Road	3.3217	34.5156	28.0512	0.0621		1.4245	1.4245		1.3105	1.3105		6,011.4777	6,011.4777	1.9442		6,060.0836
Total	**3.3217**	**34.5156**	**28.0512**	**0.0621**	**9.5138**	**1.4245**	**10.9383**	**3.7007**	**1.3105**	**5.0113**		**6,011.4777**	**6,011.4777**	**1.9442**		**6,060.0836**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.4848	30.4722	6.0572	0.1177	3.2696	0.2181	3.4878	0.8953	0.2087	1.1040		12,845.5708	12,845.5708	0.5107	2.0368	13,465.3017
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0597	0.0397	0.4747	1.2400e-003	0.1521	7.8000e-004	0.1529	0.0404	7.2000e-004	0.0411		126.6156	126.6156	4.5000e-003	4.0100e-003	127.9228
Total	**0.5444**	**30.5119**	**6.5319**	**0.1189**	**3.4218**	**0.2189**	**3.6407**	**0.9357**	**0.2094**	**1.1451**		**12,972.1864**	**12,972.1864**	**0.5152**	**2.0408**	**13,593.2245**

Stone Beetland Project - Sacramento Metropolitan AQMD Air District, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.3 Grading - 2023

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					9.5138	0.0000	9.5138	3.7007	0.0000	3.7007			0.0000			0.0000
Off-Road	3.3217	34.5156	28.0512	0.0621		1.4245	1.4245		1.3105	1.3105	0.0000	6,011.4777	6,011.4777	1.9442		6,060.0836
Total	**3.3217**	**34.5156**	**28.0512**	**0.0621**	**9.5138**	**1.4245**	**10.9383**	**3.7007**	**1.3105**	**5.0113**	**0.0000**	**6,011.4777**	**6,011.4777**	**1.9442**		**6,060.0836**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.4848	30.4722	6.0572	0.1177	3.2696	0.2181	3.4878	0.8953	0.2087	1.1040		12,845.5708	12,845.5708	0.5107	2.0368	13,465.3017
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0597	0.0397	0.4747	1.2400e-003	0.1521	7.8000e-004	0.1529	0.0404	7.2000e-004	0.0411		126.6156	126.6156	4.5000e-003	4.0100e-003	127.9228
Total	**0.5444**	**30.5119**	**6.5319**	**0.1189**	**3.4218**	**0.2189**	**3.6407**	**0.9357**	**0.2094**	**1.1451**		**12,972.1864**	**12,972.1864**	**0.5152**	**2.0408**	**13,593.2245**

Stone Beetland Project - Sacramento Metropolitan AQMD Air District, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.4 Paving - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.0327	10.1917	14.5842	0.0228		0.5102	0.5102		0.4694	0.4694		2,207.5841	2,207.5841	0.7140		2,225.4336
Paving	0.7729					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**1.8056**	**10.1917**	**14.5842**	**0.0228**		**0.5102**	**0.5102**		**0.4694**	**0.4694**		**2,207.5841**	**2,207.5841**	**0.7140**		**2,225.4336**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0448	0.0298	0.3560	9.3000e-004	0.1141	5.9000e-004	0.1147	0.0303	5.4000e-004	0.0308		94.9617	94.9617	3.3700e-003	3.0100e-003	95.9421
Total	**0.0448**	**0.0298**	**0.3560**	**9.3000e-004**	**0.1141**	**5.9000e-004**	**0.1147**	**0.0303**	**5.4000e-004**	**0.0308**		**94.9617**	**94.9617**	**3.3700e-003**	**3.0100e-003**	**95.9421**

Stone Beetland Project - Sacramento Metropolitan AQMD Air District, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.4 Paving - 2023

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.0327	10.1917	14.5842	0.0228		0.5102	0.5102		0.4694	0.4694	0.0000	2,207.5841	2,207.5841	0.7140		2,225.4336
Paving	0.7729					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**1.8056**	**10.1917**	**14.5842**	**0.0228**		**0.5102**	**0.5102**		**0.4694**	**0.4694**	**0.0000**	**2,207.5841**	**2,207.5841**	**0.7140**		**2,225.4336**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0448	0.0298	0.3560	9.3000e-004	0.1141	5.9000e-004	0.1147	0.0303	5.4000e-004	0.0308		94.9617	94.9617	3.3700e-003	3.0100e-003	95.9421
Total	**0.0448**	**0.0298**	**0.3560**	**9.3000e-004**	**0.1141**	**5.9000e-004**	**0.1147**	**0.0303**	**5.4000e-004**	**0.0308**		**94.9617**	**94.9617**	**3.3700e-003**	**3.0100e-003**	**95.9421**

Stone Beetland Project - Sacramento Metropolitan AQMD Air District, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.5 Building Construction - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.5728	14.3849	16.2440	0.0269		0.6997	0.6997		0.6584	0.6584		2,555.2099	2,555.2099	0.6079		2,570.4061
Total	**1.5728**	**14.3849**	**16.2440**	**0.0269**		**0.6997**	**0.6997**		**0.6584**	**0.6584**		**2,555.2099**	**2,555.2099**	**0.6079**		**2,570.4061**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.4243	16.3233	4.9434	0.0625	1.9761	0.0858	2.0619	0.5688	0.0820	0.6508		6,708.6069	6,708.6069	0.1649	0.9850	7,006.2711
Worker	3.5454	2.3599	28.1980	0.0735	9.0371	0.0466	9.0837	2.3972	0.0429	2.4401		7,520.9684	7,520.9684	0.2673	0.2381	7,598.6153
Total	**3.9696**	**18.6832**	**33.1413**	**0.1360**	**11.0132**	**0.1324**	**11.1456**	**2.9660**	**0.1249**	**3.0909**		**14,229.5752**	**14,229.5752**	**0.4322**	**1.2232**	**14,604.8864**

Stone Beetland Project - Sacramento Metropolitan AQMD Air District, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.5 Building Construction - 2023

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.5728	14.3849	16.2440	0.0269		0.6997	0.6997		0.6584	0.6584	0.0000	2,555.2099	2,555.2099	0.6079		2,570.4061
Total	**1.5728**	**14.3849**	**16.2440**	**0.0269**		**0.6997**	**0.6997**		**0.6584**	**0.6584**	**0.0000**	**2,555.2099**	**2,555.2099**	**0.6079**		**2,570.4061**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.4243	16.3233	4.9434	0.0625	1.9761	0.0858	2.0619	0.5688	0.0820	0.6508		6,708.6069	6,708.6069	0.1649	0.9850	7,006.2711
Worker	3.5454	2.3599	28.1980	0.0735	9.0371	0.0466	9.0837	2.3972	0.0429	2.4401		7,520.9684	7,520.9684	0.2673	0.2381	7,598.6153
Total	**3.9696**	**18.6832**	**33.1413**	**0.1360**	**11.0132**	**0.1324**	**11.1456**	**2.9660**	**0.1249**	**3.0909**		**14,229.5752**	**14,229.5752**	**0.4322**	**1.2232**	**14,604.8864**

Stone Beetland Project - Sacramento Metropolitan AQMD Air District, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.5 Building Construction - 2024

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.4716	13.4438	16.1668	0.0270		0.6133	0.6133		0.5769	0.5769		2,555.6989	2,555.6989	0.6044		2,570.8077
Total	**1.4716**	**13.4438**	**16.1668**	**0.0270**		**0.6133**	**0.6133**		**0.5769**	**0.5769**		**2,555.6989**	**2,555.6989**	**0.6044**		**2,570.8077**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.4052	16.0039	4.7909	0.0613	1.9759	0.0844	2.0603	0.5687	0.0808	0.6495		6,581.6772	6,581.6772	0.1603	0.9685	6,874.2918
Worker	3.3184	2.1011	26.3000	0.0711	9.0371	0.0444	9.0815	2.3972	0.0409	2.4380		7,333.7277	7,333.7277	0.2427	0.2214	7,405.7722
Total	**3.7236**	**18.1050**	**31.0909**	**0.1324**	**11.0130**	**0.1288**	**11.1418**	**2.9659**	**0.1216**	**3.0875**		**13,915.4049**	**13,915.4049**	**0.4030**	**1.1899**	**14,280.0640**

Stone Beetland Project - Sacramento Metropolitan AQMD Air District, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.5 Building Construction - 2024

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.4716	13.4438	16.1668	0.0270		0.6133	0.6133		0.5769	0.5769	0.0000	2,555.6989	2,555.6989	0.6044		2,570.8077
Total	**1.4716**	**13.4438**	**16.1668**	**0.0270**		**0.6133**	**0.6133**		**0.5769**	**0.5769**	**0.0000**	**2,555.6989**	**2,555.6989**	**0.6044**		**2,570.8077**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.4052	16.0039	4.7909	0.0613	1.9759	0.0844	2.0603	0.5687	0.0808	0.6495		6,581.6772	6,581.6772	0.1603	0.9685	6,874.2918
Worker	3.3184	2.1011	26.3000	0.0711	9.0371	0.0444	9.0815	2.3972	0.0409	2.4380		7,333.7277	7,333.7277	0.2427	0.2214	7,405.7722
Total	**3.7236**	**18.1050**	**31.0909**	**0.1324**	**11.0130**	**0.1288**	**11.1418**	**2.9659**	**0.1216**	**3.0875**		**13,915.4049**	**13,915.4049**	**0.4030**	**1.1899**	**14,280.0640**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.5 Building Construction - 2025

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.3674	12.4697	16.0847	0.0270		0.5276	0.5276		0.4963	0.4963		2,556.4744	2,556.4744	0.6010		2,571.4981
Total	**1.3674**	**12.4697**	**16.0847**	**0.0270**		**0.5276**	**0.5276**		**0.4963**	**0.4963**		**2,556.4744**	**2,556.4744**	**0.6010**		**2,571.4981**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.3900	15.6828	4.6780	0.0601	1.9757	0.0827	2.0584	0.5686	0.0791	0.6477		6,448.9441	6,448.9441	0.1569	0.9506	6,736.1542
Worker	3.1194	1.8852	24.6446	0.0687	9.0371	0.0424	9.0795	2.3972	0.0390	2.4362		7,156.7991	7,156.7991	0.2208	0.2069	7,223.9861
Total	**3.5094**	**17.5681**	**29.3225**	**0.1288**	**11.0128**	**0.1251**	**11.1379**	**2.9658**	**0.1181**	**3.0839**		**13,605.7432**	**13,605.7432**	**0.3777**	**1.1576**	**13,960.1403**

Stone Beetland Project - Sacramento Metropolitan AQMD Air District, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.5 Building Construction - 2025

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.3674	12.4697	16.0847	0.0270		0.5276	0.5276		0.4963	0.4963	0.0000	2,556.4744	2,556.4744	0.6010		2,571.4981
Total	**1.3674**	**12.4697**	**16.0847**	**0.0270**		**0.5276**	**0.5276**		**0.4963**	**0.4963**	**0.0000**	**2,556.4744**	**2,556.4744**	**0.6010**		**2,571.4981**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.3900	15.6828	4.6780	0.0601	1.9757	0.0827	2.0584	0.5686	0.0791	0.6477		6,448.9441	6,448.9441	0.1569	0.9506	6,736.1542
Worker	3.1194	1.8852	24.6446	0.0687	9.0371	0.0424	9.0795	2.3972	0.0390	2.4362		7,156.7991	7,156.7991	0.2208	0.2069	7,223.9861
Total	**3.5094**	**17.5681**	**29.3225**	**0.1288**	**11.0128**	**0.1251**	**11.1379**	**2.9658**	**0.1181**	**3.0839**		**13,605.7432**	**13,605.7432**	**0.3777**	**1.1576**	**13,960.1403**

Stone Beetland Project - Sacramento Metropolitan AQMD Air District, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.5 Building Construction - 2026

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.3674	12.4697	16.0847	0.0270		0.5276	0.5276		0.4963	0.4963		2,556.4744	2,556.4744	0.6010		2,571.4981
Total	**1.3674**	**12.4697**	**16.0847**	**0.0270**		**0.5276**	**0.5276**		**0.4963**	**0.4963**		**2,556.4744**	**2,556.4744**	**0.6010**		**2,571.4981**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.3756	15.3681	4.5837	0.0589	1.9755	0.0806	2.0561	0.5686	0.0771	0.6457		6,319.5729	6,319.5729	0.1535	0.9334	6,601.5464
Worker	2.9464	1.7087	23.2390	0.0665	9.0371	0.0404	9.0775	2.3972	0.0372	2.4344		6,987.1808	6,987.1808	0.2018	0.1949	7,050.3164
Total	**3.3219**	**17.0768**	**27.8226**	**0.1254**	**11.0126**	**0.1210**	**11.1336**	**2.9657**	**0.1143**	**3.0801**		**13,306.7537**	**13,306.7537**	**0.3552**	**1.1283**	**13,651.8628**

Stone Beetland Project - Sacramento Metropolitan AQMD Air District, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.5 Building Construction - 2026

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.3674	12.4697	16.0847	0.0270		0.5276	0.5276		0.4963	0.4963	0.0000	2,556.4744	2,556.4744	0.6010		2,571.4981
Total	**1.3674**	**12.4697**	**16.0847**	**0.0270**		**0.5276**	**0.5276**		**0.4963**	**0.4963**	**0.0000**	**2,556.4744**	**2,556.4744**	**0.6010**		**2,571.4981**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.3756	15.3681	4.5837	0.0589	1.9755	0.0806	2.0561	0.5686	0.0771	0.6457		6,319.5729	6,319.5729	0.1535	0.9334	6,601.5464
Worker	2.9464	1.7087	23.2390	0.0665	9.0371	0.0404	9.0775	2.3972	0.0372	2.4344		6,987.1808	6,987.1808	0.2018	0.1949	7,050.3164
Total	**3.3219**	**17.0768**	**27.8226**	**0.1254**	**11.0126**	**0.1210**	**11.1336**	**2.9657**	**0.1143**	**3.0801**		**13,306.7537**	**13,306.7537**	**0.3552**	**1.1283**	**13,651.8628**

Stone Beetland Project - Sacramento Metropolitan AQMD Air District, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.6 Architectural Coating - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	27.8695					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.1917	1.3030	1.8111	2.9700e-003		0.0708	0.0708		0.0708	0.0708		281.4481	281.4481	0.0168		281.8690
Total	**28.0612**	**1.3030**	**1.8111**	**2.9700e-003**		**0.0708**	**0.0708**		**0.0708**	**0.0708**		**281.4481**	**281.4481**	**0.0168**		**281.8690**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.7103	0.4728	5.6491	0.0147	1.8105	9.3300e-003	1.8198	0.4802	8.5900e-003	0.4888		1,506.7260	1,506.7260	0.0535	0.0477	1,522.2815
Total	**0.7103**	**0.4728**	**5.6491**	**0.0147**	**1.8105**	**9.3300e-003**	**1.8198**	**0.4802**	**8.5900e-003**	**0.4888**		**1,506.7260**	**1,506.7260**	**0.0535**	**0.0477**	**1,522.2815**

Stone Beetland Project - Sacramento Metropolitan AQMD Air District, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.6 Architectural Coating - 2023

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	27.8695					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.1917	1.3030	1.8111	2.9700e-003		0.0708	0.0708		0.0708	0.0708	0.0000	281.4481	281.4481	0.0168		281.8690
Total	**28.0612**	**1.3030**	**1.8111**	**2.9700e-003**		**0.0708**	**0.0708**		**0.0708**	**0.0708**	**0.0000**	**281.4481**	**281.4481**	**0.0168**		**281.8690**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.7103	0.4728	5.6491	0.0147	1.8105	9.3300e-003	1.8198	0.4802	8.5900e-003	0.4888		1,506.7260	1,506.7260	0.0535	0.0477	1,522.2815
Total	**0.7103**	**0.4728**	**5.6491**	**0.0147**	**1.8105**	**9.3300e-003**	**1.8198**	**0.4802**	**8.5900e-003**	**0.4888**		**1,506.7260**	**1,506.7260**	**0.0535**	**0.0477**	**1,522.2815**

Stone Beetland Project - Sacramento Metropolitan AQMD Air District, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.6 Architectural Coating - 2024

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	27.8695					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.1808	1.2188	1.8101	2.9700e-003		0.0609	0.0609		0.0609	0.0609		281.4481	281.4481	0.0159		281.8443
Total	**28.0503**	**1.2188**	**1.8101**	**2.9700e-003**		**0.0609**	**0.0609**		**0.0609**	**0.0609**		**281.4481**	**281.4481**	**0.0159**		**281.8443**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.6648	0.4209	5.2689	0.0142	1.8105	8.8900e-003	1.8194	0.4802	8.1800e-003	0.4884		1,469.2148	1,469.2148	0.0486	0.0444	1,483.6480
Total	**0.6648**	**0.4209**	**5.2689**	**0.0142**	**1.8105**	**8.8900e-003**	**1.8194**	**0.4802**	**8.1800e-003**	**0.4884**		**1,469.2148**	**1,469.2148**	**0.0486**	**0.0444**	**1,483.6480**

Stone Beetland Project - Sacramento Metropolitan AQMD Air District, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.6 Architectural Coating - 2024

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	27.8695					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.1808	1.2188	1.8101	2.9700e-003		0.0609	0.0609		0.0609	0.0609	0.0000	281.4481	281.4481	0.0159		281.8443
Total	**28.0503**	**1.2188**	**1.8101**	**2.9700e-003**		**0.0609**	**0.0609**		**0.0609**	**0.0609**	**0.0000**	**281.4481**	**281.4481**	**0.0159**		**281.8443**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.6648	0.4209	5.2689	0.0142	1.8105	8.8900e-003	1.8194	0.4802	8.1800e-003	0.4884		1,469.2148	1,469.2148	0.0486	0.0444	1,483.6480
Total	**0.6648**	**0.4209**	**5.2689**	**0.0142**	**1.8105**	**8.8900e-003**	**1.8194**	**0.4802**	**8.1800e-003**	**0.4884**		**1,469.2148**	**1,469.2148**	**0.0486**	**0.0444**	**1,483.6480**

Stone Beetland Project - Sacramento Metropolitan AQMD Air District, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.6 Architectural Coating - 2025

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	27.8695					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.1709	1.1455	1.8091	2.9700e-003		0.0515	0.0515		0.0515	0.0515		281.4481	281.4481	0.0154		281.8319
Total	**28.0404**	**1.1455**	**1.8091**	**2.9700e-003**		**0.0515**	**0.0515**		**0.0515**	**0.0515**		**281.4481**	**281.4481**	**0.0154**		**281.8319**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.6249	0.3777	4.9372	0.0138	1.8105	8.5000e-003	1.8190	0.4802	7.8200e-003	0.4881		1,433.7695	1,433.7695	0.0442	0.0415	1,447.2296
Total	**0.6249**	**0.3777**	**4.9372**	**0.0138**	**1.8105**	**8.5000e-003**	**1.8190**	**0.4802**	**7.8200e-003**	**0.4881**		**1,433.7695**	**1,433.7695**	**0.0442**	**0.0415**	**1,447.2296**

Stone Beetland Project - Sacramento Metropolitan AQMD Air District, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.6 Architectural Coating - 2025

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	27.8695					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.1709	1.1455	1.8091	2.9700e-003		0.0515	0.0515		0.0515	0.0515	0.0000	281.4481	281.4481	0.0154		281.8319
Total	**28.0404**	**1.1455**	**1.8091**	**2.9700e-003**		**0.0515**	**0.0515**		**0.0515**	**0.0515**	**0.0000**	**281.4481**	**281.4481**	**0.0154**		**281.8319**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.6249	0.3777	4.9372	0.0138	1.8105	8.5000e-003	1.8190	0.4802	7.8200e-003	0.4881		1,433.7695	1,433.7695	0.0442	0.0415	1,447.2296
Total	**0.6249**	**0.3777**	**4.9372**	**0.0138**	**1.8105**	**8.5000e-003**	**1.8190**	**0.4802**	**7.8200e-003**	**0.4881**		**1,433.7695**	**1,433.7695**	**0.0442**	**0.0415**	**1,447.2296**

Stone Beetland Project - Sacramento Metropolitan AQMD Air District, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.6 Architectural Coating - 2026

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	27.8695					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.1709	1.1455	1.8091	2.9700e-003		0.0515	0.0515		0.0515	0.0515		281.4481	281.4481	0.0154		281.8319
Total	**28.0404**	**1.1455**	**1.8091**	**2.9700e-003**		**0.0515**	**0.0515**		**0.0515**	**0.0515**		**281.4481**	**281.4481**	**0.0154**		**281.8319**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.5903	0.3423	4.6556	0.0133	1.8105	8.1000e-003	1.8186	0.4802	7.4600e-003	0.4877		1,399.7888	1,399.7888	0.0404	0.0391	1,412.4371
Total	**0.5903**	**0.3423**	**4.6556**	**0.0133**	**1.8105**	**8.1000e-003**	**1.8186**	**0.4802**	**7.4600e-003**	**0.4877**		**1,399.7888**	**1,399.7888**	**0.0404**	**0.0391**	**1,412.4371**

Stone Beetland Project - Sacramento Metropolitan AQMD Air District, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.6 Architectural Coating - 2026

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	27.8695					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.1709	1.1455	1.8091	2.9700e-003		0.0515	0.0515		0.0515	0.0515	0.0000	281.4481	281.4481	0.0154		281.8319
Total	**28.0404**	**1.1455**	**1.8091**	**2.9700e-003**		**0.0515**	**0.0515**		**0.0515**	**0.0515**	**0.0000**	**281.4481**	**281.4481**	**0.0154**		**281.8319**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.5903	0.3423	4.6556	0.0133	1.8105	8.1000e-003	1.8186	0.4802	7.4600e-003	0.4877		1,399.7888	1,399.7888	0.0404	0.0391	1,412.4371
Total	**0.5903**	**0.3423**	**4.6556**	**0.0133**	**1.8105**	**8.1000e-003**	**1.8186**	**0.4802**	**7.4600e-003**	**0.4877**		**1,399.7888**	**1,399.7888**	**0.0404**	**0.0391**	**1,412.4371**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

Increase Density

Increase Diversity

Improve Destination Accessibility

Increase Transit Accessibility

Improve Pedestrian Network

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	24.4090	32.7695	241.2783	0.4548	52.5890	0.3654	52.9544	14.0175	0.3412	14.3587		47,855.2603	47,855.2603	3.6353	2.5294	48,699.9096
Unmitigated	25.8713	36.0284	263.9589	0.5135	59.6248	0.4086	60.0333	15.8929	0.3816	16.2745		54,034.5515	54,034.5515	3.9247	2.7784	54,960.6401

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Apartments Low Rise	2,552.49	2,552.49	2552.49	7,377,104	6,506,606
City Park	79.02	79.02	79.02	199,483	175,944
Other Asphalt Surfaces	0.00	0.00	0.00		
Single Family Housing	3,342.08	3,342.08	3342.08	9,659,146	8,519,367
Strip Mall	4,964.34	4,964.34	4964.34	11,049,926	9,746,035
Total	10,937.93	10,937.93	10,937.93	28,285,660	24,947,952

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Apartments Low Rise	10.00	5.00	6.50	46.50	12.50	41.00	100	0	0
City Park	10.00	5.00	6.50	33.00	48.00	19.00	100	0	0
Other Asphalt Surfaces	10.00	5.00	6.50	0.00	0.00	0.00	0	0	0
Single Family Housing	10.00	5.00	6.50	46.50	12.50	41.00	100	0	0
Strip Mall	10.00	5.00	6.50	16.60	64.40	19.00	100	0	0

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Apartments Low Rise	0.550065	0.056538	0.183073	0.126916	0.023794	0.005777	0.013314	0.009484	0.000878	0.000597	0.025554	0.000937	0.003071
City Park	0.550065	0.056538	0.183073	0.126916	0.023794	0.005777	0.013314	0.009484	0.000878	0.000597	0.025554	0.000937	0.003071
Other Asphalt Surfaces	0.550065	0.056538	0.183073	0.126916	0.023794	0.005777	0.013314	0.009484	0.000878	0.000597	0.025554	0.000937	0.003071
Single Family Housing	0.550065	0.056538	0.183073	0.126916	0.023794	0.005777	0.013314	0.009484	0.000878	0.000597	0.025554	0.000937	0.003071
Strip Mall	0.550065	0.056538	0.183073	0.126916	0.023794	0.005777	0.013314	0.009484	0.000878	0.000597	0.025554	0.000937	0.003071

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
NaturalGas Mitigated	3.6800e-003	0.0335	0.0281	2.0000e-004		2.5400e-003	2.5400e-003		2.5400e-003	2.5400e-003		40.1676	40.1676	7.7000e-004	7.4000e-004	40.4063
NaturalGas Unmitigated	3.6800e-003	0.0335	0.0281	2.0000e-004		2.5400e-003	2.5400e-003		2.5400e-003	2.5400e-003		40.1676	40.1676	7.7000e-004	7.4000e-004	40.4063

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Apartments Low Rise	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
City Park	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Single Family Housing	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Strip Mall	341.425	3.6800e-003	0.0335	0.0281	2.0000e-004		2.5400e-003	2.5400e-003		2.5400e-003	2.5400e-003		40.1676	40.1676	7.7000e-004	7.4000e-004	40.4063
Total		**3.6800e-003**	**0.0335**	**0.0281**	**2.0000e-004**		**2.5400e-003**	**2.5400e-003**		**2.5400e-003**	**2.5400e-003**		**40.1676**	**40.1676**	**7.7000e-004**	**7.4000e-004**	**40.4063**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

5.2 Energy by Land Use - NaturalGas

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Apartments Low Rise	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
City Park	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Single Family Housing	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Strip Mall	0.341425	3.6800e-003	0.0335	0.0281	2.0000e-004		2.5400e-003	2.5400e-003		2.5400e-003	2.5400e-003		40.1676	40.1676	7.7000e-004	7.4000e-004	40.4063
Total		**3.6800e-003**	**0.0335**	**0.0281**	**2.0000e-004**		**2.5400e-003**	**2.5400e-003**		**2.5400e-003**	**2.5400e-003**		**40.1676**	**40.1676**	**7.7000e-004**	**7.4000e-004**	**40.4063**

6.0 Area Detail

6.1 Mitigation Measures Area

Use Low VOC Paint - Residential Interior

Use Low VOC Paint - Residential Exterior

Use Low VOC Paint - Non-Residential Interior

Use Low VOC Paint - Non-Residential Exterior

No Hearths Installed

Use Low VOC Cleaning Supplies

Stone Beetland Project - Sacramento Metropolitan AQMD Air District, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	40.5456	1.1005	95.5405	5.0500e-003		0.5301	0.5301		0.5301	0.5301	0.0000	172.1983	172.1983	0.1649	0.0000	176.3218
Unmitigated	42.6391	1.1005	95.5405	5.0500e-003		0.5301	0.5301		0.5301	0.5301	0.0000	172.1983	172.1983	0.1649	0.0000	176.3218

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	5.4975					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	34.2723					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Hearth	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	2.8693	1.1005	95.5405	5.0500e-003		0.5301	0.5301		0.5301	0.5301		172.1983	172.1983	0.1649		176.3218
Total	**42.6391**	**1.1005**	**95.5405**	**5.0500e-003**		**0.5301**	**0.5301**		**0.5301**	**0.5301**	**0.0000**	**172.1983**	**172.1983**	**0.1649**	**0.0000**	**176.3218**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	5.4975					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	32.1788					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Hearth	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	2.8693	1.1005	95.5405	5.0500e-003		0.5301	0.5301		0.5301	0.5301		172.1983	172.1983	0.1649		176.3218
Total	**40.5456**	**1.1005**	**95.5405**	**5.0500e-003**		**0.5301**	**0.5301**		**0.5301**	**0.5301**	**0.0000**	**172.1983**	**172.1983**	**0.1649**	**0.0000**	**176.3218**

7.0 Water Detail

7.1 Mitigation Measures Water

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

8.0 Waste Detail

8.1 Mitigation Measures Waste

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type

Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

Stone Beetland Project

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

Sacramento Metropolitan AQMD Air District, Mitigation Report

Construction Mitigation Summary

Phase	ROG	NOx	CO	SO2	Exhaust PM10	Exhaust PM2.5	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction												
Architectural Coating	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Building Construction	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Grading	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Paving	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Site Preparation	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

OFFROAD Equipment Mitigation

Stone Beetland Project

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

Equipment Type	Fuel Type	Tier	Number Mitigated	Total Number of Equipment	DPF	Oxidation Catalyst
Air Compressors	Diesel	No Change	0	1	No Change	0.00
Cranes	Diesel	No Change	0	1	No Change	0.00
Excavators	Diesel	No Change	0	2	No Change	0.00
Forklifts	Diesel	No Change	0	3	No Change	0.00
Generator Sets	Diesel	No Change	0	1	No Change	0.00
Graders	Diesel	No Change	0	1	No Change	0.00
Pavers	Diesel	No Change	0	2	No Change	0.00
Paving Equipment	Diesel	No Change	0	2	No Change	0.00
Rollers	Diesel	No Change	0	2	No Change	0.00
Rubber Tired Dozers	Diesel	No Change	0	4	No Change	0.00
Scrapers	Diesel	No Change	0	2	No Change	0.00
Tractors/Loaders/Backhoes	Diesel	No Change	0	9	No Change	0.00
Welders	Diesel	No Change	0	1	No Change	0.00

Stone Beetland Project

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

Equipment Type	ROG	NOx	CO	SO2	Exhaust PM10	Exhaust PM2.5	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
	Unmitigated tons/yr						Unmitigated mt/yr					
Air Compressors	6.28600E-002	4.22380E-001	6.51420E-001	1.07000E-003	1.98200E-002	1.98200E-002	0.00000E+000	9.19171E+001	9.19171E+001	5.08000E-003	0.00000E+000	9.20440E+001
Cranes	1.00960E-001	1.04070E+000	5.52010E-001	1.82000E-003	4.38600E-002	4.03500E-002	0.00000E+000	1.59690E+002	1.59690E+002	5.16500E-002	0.00000E+000	1.60981E+002
Excavators	1.50900E-002	1.23890E-001	2.60620E-001	4.10000E-004	6.06000E-003	5.58000E-003	0.00000E+000	3.62951E+001	3.62951E+001	1.17400E-002	0.00000E+000	3.65885E+001
Forklifts	9.70600E-002	9.12740E-001	1.22688E+000	1.65000E-003	5.05000E-002	4.64600E-002	0.00000E+000	1.45035E+002	1.45035E+002	4.69100E-002	0.00000E+000	1.46207E+002
Generator Sets	9.86400E-002	8.84290E-001	1.31807E+000	2.37000E-003	3.65900E-002	3.65900E-002	0.00000E+000	2.03475E+002	2.03475E+002	7.81000E-003	0.00000E+000	2.03670E+002
Graders	1.53400E-002	1.86120E-001	6.77000E-002	2.60000E-004	6.03000E-003	5.55000E-003	0.00000E+000	2.32550E+001	2.32550E+001	7.52000E-003	0.00000E+000	2.34430E+001
Pavers	1.15200E-002	1.12970E-001	1.72990E-001	2.80000E-004	5.31000E-003	4.89000E-003	0.00000E+000	2.47780E+001	2.47780E+001	8.01000E-003	0.00000E+000	2.49783E+001
Paving Equipment	1.02400E-002	9.61800E-002	1.53400E-001	2.40000E-004	4.68000E-003	4.30000E-003	0.00000E+000	2.14713E+001	2.14713E+001	6.94000E-003	0.00000E+000	2.16449E+001
Rollers	9.22000E-003	9.66100E-002	1.11130E-001	1.60000E-004	5.32000E-003	4.89000E-003	0.00000E+000	1.38314E+001	1.38314E+001	4.47000E-003	0.00000E+000	1.39432E+001
Rubber Tired Dozers	4.79300E-002	4.98900E-001	2.17440E-001	6.00000E-004	2.24600E-002	2.06700E-002	0.00000E+000	5.25170E+001	5.25170E+001	1.69900E-002	0.00000E+000	5.29416E+001
Scrapers	6.29400E-002	6.62670E-001	4.90960E-001	1.21000E-003	2.59800E-002	2.39000E-002	0.00000E+000	1.06694E+002	1.06694E+002	3.45100E-002	0.00000E+000	1.07557E+002
Tractors/Loaders/ Backhoes	1.47460E-001	1.48881E+000	2.37686E+000	3.32000E-003	6.49000E-002	5.97100E-002	0.00000E+000	2.91681E+002	2.91681E+002	9.43400E-002	0.00000E+000	2.94039E+002
Welders	8.14900E-002	4.88800E-001	5.96370E-001	9.20000E-004	1.56900E-002	1.56900E-002	0.00000E+000	6.77594E+001	6.77594E+001	6.63000E-003	0.00000E+000	6.79252E+001

Stone Beetland Project

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

Equipment Type	ROG	NOx	CO	SO2	Exhaust PM10	Exhaust PM2.5	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
	Mitigated tons/yr						Mitigated mt/yr					
Air Compressors	6.28600E-002	4.22380E-001	6.51420E-001	1.07000E-003	1.98200E-002	1.98200E-002	0.00000E+000	9.19170E+001	9.19170E+001	5.08000E-003	0.00000E+000	9.20439E+001
Cranes	1.00960E-001	1.04070E+000	5.52010E-001	1.82000E-003	4.38600E-002	4.03500E-002	0.00000E+000	1.59690E+002	1.59690E+002	5.16500E-002	0.00000E+000	1.60981E+002
Excavators	1.50900E-002	1.23890E-001	2.60620E-001	4.10000E-004	6.06000E-003	5.58000E-003	0.00000E+000	3.62950E+001	3.62950E+001	1.17400E-002	0.00000E+000	3.65885E+001
Forklifts	9.70600E-002	9.12730E-001	1.22688E+000	1.65000E-003	5.05000E-002	4.64600E-002	0.00000E+000	1.45034E+002	1.45034E+002	4.69100E-002	0.00000E+000	1.46207E+002
Generator Sets	9.86400E-002	8.84290E-001	1.31807E+000	2.37000E-003	3.65900E-002	3.65900E-002	0.00000E+000	2.03474E+002	2.03474E+002	7.81000E-003	0.00000E+000	2.03670E+002
Graders	1.53400E-002	1.86120E-001	6.77000E-002	2.60000E-004	6.03000E-003	5.55000E-003	0.00000E+000	2.32549E+001	2.32549E+001	7.52000E-003	0.00000E+000	2.34430E+001
Pavers	1.15200E-002	1.12970E-001	1.72990E-001	2.80000E-004	5.31000E-003	4.89000E-003	0.00000E+000	2.47779E+001	2.47779E+001	8.01000E-003	0.00000E+000	2.49783E+001
Paving Equipment	1.02400E-002	9.61800E-002	1.53400E-001	2.40000E-004	4.68000E-003	4.30000E-003	0.00000E+000	2.14712E+001	2.14712E+001	6.94000E-003	0.00000E+000	2.16449E+001
Rollers	9.22000E-003	9.66100E-002	1.11130E-001	1.60000E-004	5.32000E-003	4.89000E-003	0.00000E+000	1.38313E+001	1.38313E+001	4.47000E-003	0.00000E+000	1.39432E+001
Rubber Tired Dozers	4.79300E-002	4.98900E-001	2.17440E-001	6.00000E-004	2.24600E-002	2.06700E-002	0.00000E+000	5.25169E+001	5.25169E+001	1.69900E-002	0.00000E+000	5.29415E+001
Scrapers	6.29400E-002	6.62670E-001	4.90960E-001	1.21000E-003	2.59800E-002	2.39000E-002	0.00000E+000	1.06694E+002	1.06694E+002	3.45100E-002	0.00000E+000	1.07557E+002
Tractors/Loaders/Backhoes	1.47460E-001	1.48880E+000	2.37686E+000	3.32000E-003	6.49000E-002	5.97100E-002	0.00000E+000	2.91681E+002	2.91681E+002	9.43400E-002	0.00000E+000	2.94039E+002
Welders	8.14900E-002	4.88800E-001	5.96370E-001	9.20000E-004	1.56900E-002	1.56900E-002	0.00000E+000	6.77594E+001	6.77594E+001	6.63000E-003	0.00000E+000	6.79251E+001

Stone Beetland Project

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

Equipment Type	ROG	NOx	CO	SO2	Exhaust PM10	Exhaust PM2.5	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction												
Air Compressors	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	1.08794E-006	1.08794E-006	0.00000E+000	0.00000E+000	1.19508E-006
Cranes	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	1.18981E-006	1.18981E-006	0.00000E+000	0.00000E+000	1.18026E-006
Excavators	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	1.37760E-006	1.37760E-006	0.00000E+000	0.00000E+000	1.09324E-006
Forklifts	0.00000E+000	1.09560E-005	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	1.24108E-006	1.24108E-006	0.00000E+000	0.00000E+000	1.16273E-006
Generator Sets	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	1.17951E-006	1.17951E-006	0.00000E+000	0.00000E+000	1.22748E-006
Graders	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	1.29005E-006	1.29005E-006	0.00000E+000	0.00000E+000	1.27970E-006
Pavers	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	1.21075E-006	1.21075E-006	0.00000E+000	0.00000E+000	1.20104E-006
Paving Equipment	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	1.39722E-006	1.39722E-006	0.00000E+000	0.00000E+000	1.38601E-006
Rollers	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	1.44599E-006	1.44599E-006	0.00000E+000	0.00000E+000	1.43439E-006
Rubber Tired Dozers	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	1.14249E-006	1.14249E-006	0.00000E+000	0.00000E+000	1.32221E-006
Scrapers	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	1.12471E-006	1.12471E-006	0.00000E+000	0.00000E+000	1.20866E-006
Tractors/Loaders/Backhoes	0.00000E+000	6.71677E-006	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	1.16566E-006	1.16566E-006	0.00000E+000	0.00000E+000	1.19032E-006
Welders	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	1.18065E-006	1.18065E-006	0.00000E+000	0.00000E+000	1.32499E-006

Fugitive Dust Mitigation

Yes/No	Mitigation Measure	Mitigation Input		Mitigation Input		Mitigation Input	
No	Soil Stabilizer for unpaved Roads	PM10 Reduction		PM2.5 Reduction			

Stone Beetland Project

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

No	Replace Ground Cover of Area Disturbed	PM10 Reduction		PM2.5 Reduction			
No	Water Exposed Area	PM10 Reduction		PM2.5 Reduction		Frequency (per day)	
No	Unpaved Road Mitigation	Moisture Content %		Vehicle Speed (mph)	0.00		
No	Clean Paved Road	% PM Reduction	0.00				

		Unmitigated		Mitigated		Percent Reduction	
Phase	Source	PM10	PM2.5	PM10	PM2.5	PM10	PM2.5
Architectural Coating	Fugitive Dust	0.00	0.00	0.00	0.00	0.00	0.00
Architectural Coating	Roads	0.63	0.17	0.63	0.17	0.00	0.00
Building Construction	Fugitive Dust	0.00	0.00	0.00	0.00	0.00	0.00
Building Construction	Roads	3.83	1.04	3.83	1.04	0.00	0.00
Grading	Fugitive Dust	0.38	0.15	0.38	0.15	0.00	0.00
Grading	Roads	0.13	0.04	0.13	0.04	0.00	0.00
Paving	Fugitive Dust	0.00	0.00	0.00	0.00	0.00	0.00
Paving	Roads	0.00	0.00	0.00	0.00	0.00	0.00
Site Preparation	Fugitive Dust	0.20	0.10	0.20	0.10	0.00	0.00
Site Preparation	Roads	0.00	0.00	0.00	0.00	0.00	0.00

Operational Percent Reduction Summary

Stone Beetland Project

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

Category	ROG	NOx	CO	SO2	Exhaust PM10	Exhaust PM2.5	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction												
Architectural Coating	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Consumer Products	6.11	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hearth	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Landscaping	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Mobile	5.22	9.09	9.03	11.45	10.59	10.60	0.00	11.45	11.45	7.77	9.05	11.41
Natural Gas	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Water Indoor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Water Outdoor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Operational Mobile Mitigation

Project Setting: Suburban Center

Mitigation	Category	Measure	% Reduction	Input Value 1	Input Value 2	Input Value 3
Yes	Land Use	Increase Density	0.00	20.90	0.00	
Yes	Land Use	Increase Diversity	0.30	0.66		
No	Land Use	Improve Walkability Design	0.00	0.00		
Yes	Land Use	Improve Destination Accessibility	0.03	10.30		
Yes	Land Use	Increase Transit Accessibility	0.24	0.01		
No	Land Use	Integrate Below Market Rate Housing	0.00	0.00		
	Land Use	Land Use SubTotal	0.10			

Stone Beetland Project

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

Yes	Neighborhood Enhancements	Improve Pedestrian Network	2.00	Project Site and Connecting Off-Site		
No	Neighborhood Enhancements	Provide Traffic Calming Measures	0.00			
No	Neighborhood Enhancements	Implement NEV Network	0.00			
	Neighborhood Enhancements	Neighborhood Enhancements Subtotal	0.02			
Yes	Parking Policy Pricing	Limit Parking Supply	0.00	0.00		
No	Parking Policy Pricing	Unbundle Parking Costs	0.00	0.00		
No	Parking Policy Pricing	On-street Market Pricing	0.00	0.00		
	Parking Policy Pricing	Parking Policy Pricing Subtotal	0.00			
No	Transit Improvements	Provide BRT System	0.00	0.00		
No	Transit Improvements	Expand Transit Network	0.00	0.00		
No	Transit Improvements	Increase Transit Frequency	0.00		0.00	
	Transit Improvements	Transit Improvements Subtotal	0.00			
		Land Use and Site Enhancement Subtotal	0.12			
No	Commute	Implement Trip Reduction Program				
No	Commute	Transit Subsidy				
No	Commute	Implement Employee Parking "Cash Out"	4.50			
No	Commute	Workplace Parking Charge		0.00		
No	Commute	Encourage Telecommuting and Alternative Work Schedules	0.00			
No	Commute	Market Commute Trip Reduction Option	0.00			
No	Commute	Employee Vanpool/Shuttle	0.00		2.00	

Stone Beetland Project

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

No	Commute	Provide Ride Sharing Program	10.00			
	Commute	Commute Subtotal	0.00			
No	School Trip	Implement School Bus Program	0.00			
		Total VMT Reduction	0.12			

Area Mitigation

Measure Implemented	Mitigation Measure	Input Value
No	Only Natural Gas Hearth	
Yes	No Hearth	
Yes	Use Low VOC Cleaning Supplies	
Yes	Use Low VOC Paint (Residential Interior)	100.00
Yes	Use Low VOC Paint (Residential Exterior)	100.00
Yes	Use Low VOC Paint (Non-residential Interior)	100.00
Yes	Use Low VOC Paint (Non-residential Exterior)	100.00
Yes	Use Low VOC Paint (Parking)	100.00
No	% Electric Lawnmower	0.00
No	% Electric Leafblower	0.00
No	% Electric Chainsaw	0.00

Energy Mitigation Measures

Measure Implemented	Mitigation Measure	Input Value 1	Input Value 2
No	Exceed Title 24		

Stone Beetland Project

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

No	Install High Efficiency Lighting		
No	On-site Renewable		

Appliance Type	Land Use Subtype	% Improvement
ClothWasher		30.00
DishWasher		15.00
Fan		50.00
Refrigerator		15.00

Water Mitigation Measures

Measure Implemented	Mitigation Measure	Input Value 1	Input Value 2
No	Apply Water Conservation on Strategy		
No	Use Reclaimed Water		
No	Use Grey Water		
No	Install low-flow bathroom faucet	32.00	
No	Install low-flow Kitchen faucet	18.00	
No	Install low-flow Toilet	20.00	
No	Install low-flow Shower	20.00	
No	Turf Reduction		
No	Use Water Efficient Irrigation Systems	6.10	
No	Water Efficient Landscape		

Solid Waste Mitigation

Stone Beetland Project

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

Mitigation Measures	Input Value
Institute Recycling and Composting Services Percent Reduction in Waste Disposed	

Stone Beetland Project - Sacramento Metropolitan AQMD Air District, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

Stone Beetland Project

Sacramento Metropolitan AQMD Air District, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Other Asphalt Surfaces	17.70	Acre	17.70	771,012.00	0
City Park	8.80	Acre	8.80	383,328.00	0
Apartments Low Rise	711.00	Dwelling Unit	18.00	711,000.00	1898
Single Family Housing	448.00	Dwelling Unit	55.90	806,400.00	1196
Strip Mall	93.00	1000sqft	6.20	93,000.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	3.5	**Precipitation Freq (Days)**	58
Climate Zone	6			**Operational Year**	2026
Utility Company	Sacramento Municipal Utility District				
CO2 Intensity (lb/MWhr)	357.98	**CH4 Intensity (lb/MWhr)**	0.033	**N2O Intensity (lb/MWhr)**	0.004

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - Acreages adjusted per site plan.

Construction Phase - Phase timing adjusted per AQ Questionnaire.

Grading - Based on applicant-provided AQ Questionnaire.

Vehicle Trips - Trip generation rate adjusted to be consistent with project-specific traffic report (Fehr and Peers)

Consumer Products - Based on CARB now regulation of consumer products.

Energy Use - Off-model calculation done to convert natural gas usage to electricity based on assumption that residential would be all electric and commercial would be 75% electric.

Mitigated

Stone Beetland Project - Sacramento Metropolitan AQMD Air District, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

Mobile Land Use Mitigation - Based on AQ Questionnaire.

Area Mitigation - Project-specific MM I-1 would required the use of zero VOC paint.

Table Name	Column Name	Default Value	New Value
tblAreaMitigation	UseLowVOCPaintNonresidentialExteriorValue	100	0
tblAreaMitigation	UseLowVOCPaintNonresidentialInteriorValue	100	0
tblAreaMitigation	UseLowVOCPaintParkingCheck	False	True
tblAreaMitigation	UseLowVOCPaintParkingValue	100	0
tblAreaMitigation	UseLowVOCPaintResidentialExteriorValue	100	0
tblAreaMitigation	UseLowVOCPaintResidentialInteriorValue	100	0
tblConstructionPhase	NumDays	120.00	20.00
tblConstructionPhase	NumDays	310.00	80.00
tblConstructionPhase	NumDays	220.00	60.00
tblConstructionPhase	NumDays	3,100.00	720.00
tblConstructionPhase	NumDays	220.00	720.00
tblConsumerProducts	ROG_EF	2.14E-05	2.11E-05
tblEnergyUse	NT24E	3,172.76	3,524.82
tblEnergyUse	NT24E	6,155.97	6,508.03
tblEnergyUse	NT24E	2.98	3.07
tblEnergyUse	NT24NG	2,687.00	0.00
tblEnergyUse	NT24NG	2,687.00	0.00
tblEnergyUse	NT24NG	0.93	0.23
tblEnergyUse	T24E	108.87	1,284.05
tblEnergyUse	T24E	142.58	2,890.34
tblEnergyUse	T24E	2.91	3.35
tblEnergyUse	T24NG	8,969.37	0.00
tblEnergyUse	T24NG	20,971.81	0.00
tblEnergyUse	T24NG	4.44	1.11
tblGrading	MaterialImported	0.00	120,000.00

Mitigated

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

tblLandUse	LotAcreage	44.44	18.00
tblLandUse	LotAcreage	145.45	55.90
tblLandUse	LotAcreage	2.13	6.20
tblVehicleTrips	DV_TP	11.00	0.00
tblVehicleTrips	DV_TP	28.00	0.00
tblVehicleTrips	DV_TP	11.00	0.00
tblVehicleTrips	DV_TP	40.00	0.00
tblVehicleTrips	PB_TP	3.00	0.00
tblVehicleTrips	PB_TP	6.00	0.00
tblVehicleTrips	PB_TP	3.00	0.00
tblVehicleTrips	PB_TP	15.00	0.00
tblVehicleTrips	PR_TP	86.00	100.00
tblVehicleTrips	PR_TP	66.00	100.00
tblVehicleTrips	PR_TP	86.00	100.00
tblVehicleTrips	PR_TP	45.00	100.00
tblVehicleTrips	ST_TR	8.14	3.59
tblVehicleTrips	ST_TR	1.96	8.98
tblVehicleTrips	ST_TR	9.54	7.46
tblVehicleTrips	ST_TR	42.04	53.38
tblVehicleTrips	SU_TR	6.28	3.59
tblVehicleTrips	SU_TR	2.19	8.98
tblVehicleTrips	SU_TR	8.55	7.46
tblVehicleTrips	SU_TR	20.43	53.38
tblVehicleTrips	WD_TR	7.32	3.59
tblVehicleTrips	WD_TR	0.78	8.98
tblVehicleTrips	WD_TR	9.44	7.46
tblVehicleTrips	WD_TR	44.32	53.38

2.0 Emissions Summary

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

2.1 Overall Construction

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2023	0.3501	3.4060	2.3992	9.6300e-003	0.7987	0.1002	0.8988	0.3094	0.0926	0.4020	0.0000	905.7268	905.7268	0.1267	0.0824	933.4554
2024	4.4220	4.2688	7.0201	0.0234	1.6235	0.1063	1.7298	0.4376	0.1005	0.5381	0.0000	2,192.1108	2,192.1108	0.1244	0.1442	2,238.1970
2025	4.3579	4.0441	6.7074	0.0228	1.6173	0.0929	1.7102	0.4359	0.0879	0.5238	0.0000	2,142.2258	2,142.2258	0.1202	0.1397	2,186.8467
2026	3.1621	2.7817	4.5473	0.0156	1.1365	0.0647	1.2012	0.3063	0.0612	0.3675	0.0000	1,473.6223	1,473.6223	0.0820	0.0950	1,503.9888
Maximum	**4.4220**	**4.2688**	**7.0201**	**0.0234**	**1.6235**	**0.1063**	**1.7298**	**0.4376**	**0.1005**	**0.5381**	**0.0000**	**2,192.1108**	**2,192.1108**	**0.1267**	**0.1442**	**2,238.1970**

Mitigated

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

2.1 Overall Construction

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2023	0.3501	3.4060	2.3992	9.6300e-003	0.7987	0.1002	0.8988	0.3094	0.0926	0.4020	0.0000	905.7264	905.7264	0.1267	0.0824	933.4550
2024	4.4220	4.2688	7.0201	0.0234	1.6235	0.1063	1.7298	0.4376	0.1005	0.5381	0.0000	2,192.1104	2,192.1104	0.1244	0.1442	2,238.1966
2025	4.3579	4.0441	6.7074	0.0228	1.6173	0.0929	1.7102	0.4359	0.0879	0.5238	0.0000	2,142.2254	2,142.2254	0.1202	0.1397	2,186.8463
2026	3.1621	2.7817	4.5473	0.0156	1.1365	0.0647	1.2012	0.3063	0.0612	0.3675	0.0000	1,473.6220	1,473.6220	0.0820	0.0950	1,503.9885
Maximum	**4.4220**	**4.2688**	**7.0201**	**0.0234**	**1.6235**	**0.1063**	**1.7298**	**0.4376**	**0.1005**	**0.5381**	**0.0000**	**2,192.1104**	**2,192.1104**	**0.1267**	**0.1442**	**2,238.1966**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)
1	**5-1-2023**	**7-31-2023**	1.8517	1.8517
2	**8-1-2023**	**10-31-2023**	1.2929	1.2929
3	**11-1-2023**	**1-31-2024**	1.3221	1.3221
4	**2-1-2024**	**4-30-2024**	2.1454	2.1454
5	**5-1-2024**	**7-31-2024**	2.1697	2.1697
6	**8-1-2024**	**10-31-2024**	2.1815	2.1815
7	**11-1-2024**	**1-31-2025**	2.1826	2.1826
8	**2-1-2025**	**4-30-2025**	2.0583	2.0583

Mitigated

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

9	**5-1-2025**	**7-31-2025**	2.1052	2.1052
10	**8-1-2025**	**10-31-2025**	2.1166	2.1166
11	**11-1-2025**	**1-31-2026**	2.1308	2.1308
12	**2-1-2026**	**4-30-2026**	2.0347	2.0347
13	**5-1-2026**	**7-31-2026**	2.0814	2.0814
14	**8-1-2026**	**9-30-2026**	1.1008	1.1008
		Highest	2.1826	2.1826

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	7.6167	0.1376	11.9426	6.3000e-004		0.0663	0.0663		0.0663	0.0663	0.0000	19.5270	19.5270	0.0187	0.0000	19.9946
Energy	6.7000e-004	6.1100e-003	5.1300e-003	4.0000e-005		4.6000e-004	4.6000e-004		4.6000e-004	4.6000e-004	0.0000	1,633.5463	1,633.5463	0.1501	0.0183	1,642.7524
Mobile	4.8962	6.1593	44.9836	0.0951	10.4803	0.0742	10.5545	2.8013	0.0693	2.8707	0.0000	9,081.5221	9,081.5221	0.6041	0.4381	9,227.1729
Waste						0.0000	0.0000		0.0000	0.0000	173.7664	0.0000	173.7664	10.2693	0.0000	430.4988
Water						0.0000	0.0000		0.0000	0.0000	29.1541	102.0823	131.2364	0.1098	0.0645	153.2135
Total	**12.5135**	**6.3029**	**56.9313**	**0.0958**	**10.4803**	**0.1409**	**10.6212**	**2.8013**	**0.1360**	**2.9374**	**202.9204**	**10,836.6778**	**11,039.5982**	**11.1520**	**0.5209**	**11,473.6323**

Mitigated

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

2.2 Overall Operational

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	6.2313	0.1376	11.9426	6.3000e-004		0.0663	0.0663		0.0663	0.0663	0.0000	19.5270	19.5270	0.0187	0.0000	19.9946
Energy	6.7000e-004	6.1100e-003	5.1300e-003	4.0000e-005		4.6000e-004	4.6000e-004		4.6000e-004	4.6000e-004	0.0000	1,633.5463	1,633.5463	0.1501	0.0183	1,642.7524
Mobile	4.6404	5.5993	40.9196	0.0842	9.2436	0.0664	9.3100	2.4708	0.0620	2.5328	0.0000	8,041.7960	8,041.7960	0.5572	0.3984	8,174.4597
Waste						0.0000	0.0000		0.0000	0.0000	173.7664	0.0000	173.7664	10.2693	0.0000	430.4988
Water						0.0000	0.0000		0.0000	0.0000	29.1541	102.0823	131.2364	0.1098	0.0645	153.2135
Total	**10.8724**	**5.7429**	**52.8673**	**0.0849**	**9.2436**	**0.1331**	**9.3767**	**2.4708**	**0.1287**	**2.5995**	**202.9204**	**9,796.9516**	**9,999.8720**	**11.1050**	**0.4813**	**10,420.9191**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**13.12**	**8.89**	**7.14**	**11.37**	**11.80**	**5.58**	**11.72**	**11.80**	**5.40**	**11.50**	**0.00**	**9.59**	**9.42**	**0.42**	**7.61**	**9.18**

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Site Preparation	Site Preparation	5/1/2023	5/26/2023	5	20	
2	Grading	Grading	5/27/2023	9/15/2023	5	80	
3	Paving	Paving	9/16/2023	12/8/2023	5	60	

Mitigated

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

4	Building Construction	Building Construction	12/9/2023	9/11/2026	5	720	
5	Architectural Coating	Architectural Coating	12/23/2023	9/25/2026	5	720	

Acres of Grading (Site Preparation Phase): 30

Acres of Grading (Grading Phase): 240

Acres of Paving: 17.7

Residential Indoor: 3,072,735; Residential Outdoor: 1,024,245; Non-Residential Indoor: 139,500; Non-Residential Outdoor: 46,500; Striped Parking Area: 46,261 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Site Preparation	Rubber Tired Dozers	3	8.00	247	0.40
Site Preparation	Tractors/Loaders/Backhoes	4	8.00	97	0.37
Grading	Excavators	2	8.00	158	0.38
Grading	Graders	1	8.00	187	0.41
Grading	Rubber Tired Dozers	1	8.00	247	0.40
Grading	Scrapers	2	8.00	367	0.48
Grading	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Paving	Pavers	2	8.00	130	0.42
Paving	Paving Equipment	2	8.00	132	0.36
Paving	Rollers	2	8.00	80	0.38
Building Construction	Cranes	1	7.00	231	0.29
Building Construction	Forklifts	3	8.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	3	7.00	97	0.37
Building Construction	Welders	1	8.00	46	0.45
Architectural Coating	Air Compressors	1	6.00	78	0.48

Trips and VMT

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Site Preparation	7	18.00	0.00	0.00	10.00	6.50	20.00	LD_Mix	HDT_Mix	HHDT
Grading	8	20.00	0.00	15,000.00	10.00	6.50	20.00	LD_Mix	HDT_Mix	HHDT
Paving	6	15.00	0.00	0.00	10.00	6.50	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	9	1,188.00	328.00	0.00	10.00	6.50	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	238.00	0.00	0.00	10.00	6.50	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

3.2 Site Preparation - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.1966	0.0000	0.1966	0.1010	0.0000	0.1010	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0266	0.2752	0.1824	3.8000e-004		0.0127	0.0127		0.0117	0.0117	0.0000	33.4507	33.4507	0.0108	0.0000	33.7212
Total	**0.0266**	**0.2752**	**0.1824**	**3.8000e-004**	**0.1966**	**0.0127**	**0.2092**	**0.1010**	**0.0117**	**0.1127**	**0.0000**	**33.4507**	**33.4507**	**0.0108**	**0.0000**	**33.7212**

Mitigated

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.2 Site Preparation - 2023

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	5.2000e-004	3.2000e-004	4.2000e-003	1.0000e-005	1.3200e-003	1.0000e-005	1.3300e-003	3.5000e-004	1.0000e-005	3.6000e-004	0.0000	1.0605	1.0605	3.0000e-005	3.0000e-005	1.0704
Total	**5.2000e-004**	**3.2000e-004**	**4.2000e-003**	**1.0000e-005**	**1.3200e-003**	**1.0000e-005**	**1.3300e-003**	**3.5000e-004**	**1.0000e-005**	**3.6000e-004**	**0.0000**	**1.0605**	**1.0605**	**3.0000e-005**	**3.0000e-005**	**1.0704**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.1966	0.0000	0.1966	0.1010	0.0000	0.1010	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0266	0.2752	0.1824	3.8000e-004		0.0127	0.0127		0.0117	0.0117	0.0000	33.4507	33.4507	0.0108	0.0000	33.7211
Total	**0.0266**	**0.2752**	**0.1824**	**3.8000e-004**	**0.1966**	**0.0127**	**0.2092**	**0.1010**	**0.0117**	**0.1127**	**0.0000**	**33.4507**	**33.4507**	**0.0108**	**0.0000**	**33.7211**

Mitigated

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.2 Site Preparation - 2023

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	5.2000e-004	3.2000e-004	4.2000e-003	1.0000e-005	1.3200e-003	1.0000e-005	1.3300e-003	3.5000e-004	1.0000e-005	3.6000e-004	0.0000	1.0605	1.0605	3.0000e-005	3.0000e-005	1.0704
Total	**5.2000e-004**	**3.2000e-004**	**4.2000e-003**	**1.0000e-005**	**1.3200e-003**	**1.0000e-005**	**1.3300e-003**	**3.5000e-004**	**1.0000e-005**	**3.6000e-004**	**0.0000**	**1.0605**	**1.0605**	**3.0000e-005**	**3.0000e-005**	**1.0704**

3.3 Grading - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.3806	0.0000	0.3806	0.1480	0.0000	0.1480	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.1329	1.3806	1.1221	2.4800e-003		0.0570	0.0570		0.0524	0.0524	0.0000	218.1408	218.1408	0.0706	0.0000	219.9046
Total	**0.1329**	**1.3806**	**1.1221**	**2.4800e-003**	**0.3806**	**0.0570**	**0.4375**	**0.1480**	**0.0524**	**0.2005**	**0.0000**	**218.1408**	**218.1408**	**0.0706**	**0.0000**	**219.9046**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.3 Grading - 2023

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0199	1.1940	0.2398	4.7100e-003	0.1269	8.7100e-003	0.1356	0.0349	8.3300e-003	0.0432	0.0000	465.9785	465.9785	0.0186	0.0739	488.4600
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.2900e-003	1.4200e-003	0.0187	5.0000e-005	5.8800e-003	3.0000e-005	5.9100e-003	1.5600e-003	3.0000e-005	1.5900e-003	0.0000	4.7135	4.7135	1.5000e-004	1.3000e-004	4.7573
Total	**0.0222**	**1.1954**	**0.2584**	**4.7600e-003**	**0.1327**	**8.7400e-003**	**0.1415**	**0.0364**	**8.3600e-003**	**0.0448**	**0.0000**	**470.6920**	**470.6920**	**0.0187**	**0.0740**	**493.2173**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.3806	0.0000	0.3806	0.1480	0.0000	0.1480	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.1329	1.3806	1.1221	2.4800e-003		0.0570	0.0570		0.0524	0.0524	0.0000	218.1406	218.1406	0.0706	0.0000	219.9044
Total	**0.1329**	**1.3806**	**1.1221**	**2.4800e-003**	**0.3806**	**0.0570**	**0.4375**	**0.1480**	**0.0524**	**0.2005**	**0.0000**	**218.1406**	**218.1406**	**0.0706**	**0.0000**	**219.9044**

Mitigated

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.3 Grading - 2023

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0199	1.1940	0.2398	4.7100e-003	0.1269	8.7100e-003	0.1356	0.0349	8.3300e-003	0.0432	0.0000	465.9785	465.9785	0.0186	0.0739	488.4600
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.2900e-003	1.4200e-003	0.0187	5.0000e-005	5.8800e-003	3.0000e-005	5.9100e-003	1.5600e-003	3.0000e-005	1.5900e-003	0.0000	4.7135	4.7135	1.5000e-004	1.3000e-004	4.7573
Total	**0.0222**	**1.1954**	**0.2584**	**4.7600e-003**	**0.1327**	**8.7400e-003**	**0.1415**	**0.0364**	**8.3600e-003**	**0.0448**	**0.0000**	**470.6920**	**470.6920**	**0.0187**	**0.0740**	**493.2173**

3.4 Paving - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0310	0.3058	0.4375	6.8000e-004		0.0153	0.0153		0.0141	0.0141	0.0000	60.0806	60.0806	0.0194	0.0000	60.5664
Paving	0.0232					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0542**	**0.3058**	**0.4375**	**6.8000e-004**		**0.0153**	**0.0153**		**0.0141**	**0.0141**	**0.0000**	**60.0806**	**60.0806**	**0.0194**	**0.0000**	**60.5664**

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.4 Paving - 2023

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.2900e-003	8.0000e-004	0.0105	3.0000e-005	3.3000e-003	2.0000e-005	3.3200e-003	8.8000e-004	2.0000e-005	9.0000e-004	0.0000	2.6513	2.6513	8.0000e-005	8.0000e-005	2.6760
Total	**1.2900e-003**	**8.0000e-004**	**0.0105**	**3.0000e-005**	**3.3000e-003**	**2.0000e-005**	**3.3200e-003**	**8.8000e-004**	**2.0000e-005**	**9.0000e-004**	**0.0000**	**2.6513**	**2.6513**	**8.0000e-005**	**8.0000e-005**	**2.6760**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0310	0.3058	0.4375	6.8000e-004		0.0153	0.0153		0.0141	0.0141	0.0000	60.0805	60.0805	0.0194	0.0000	60.5663
Paving	0.0232					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0542**	**0.3058**	**0.4375**	**6.8000e-004**		**0.0153**	**0.0153**		**0.0141**	**0.0141**	**0.0000**	**60.0805**	**60.0805**	**0.0194**	**0.0000**	**60.5663**

Mitigated

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.4 Paving - 2023

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.2900e-003	8.0000e-004	0.0105	3.0000e-005	3.3000e-003	2.0000e-005	3.3200e-003	8.8000e-004	2.0000e-005	9.0000e-004	0.0000	2.6513	2.6513	8.0000e-005	8.0000e-005	2.6760
Total	**1.2900e-003**	**8.0000e-004**	**0.0105**	**3.0000e-005**	**3.3000e-003**	**2.0000e-005**	**3.3200e-003**	**8.8000e-004**	**2.0000e-005**	**9.0000e-004**	**0.0000**	**2.6513**	**2.6513**	**8.0000e-005**	**8.0000e-005**	**2.6760**

3.5 Building Construction - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0118	0.1079	0.1218	2.0000e-004		5.2500e-003	5.2500e-003		4.9400e-003	4.9400e-003	0.0000	17.3854	17.3854	4.1400e-003	0.0000	17.4888
Total	**0.0118**	**0.1079**	**0.1218**	**2.0000e-004**		**5.2500e-003**	**5.2500e-003**		**4.9400e-003**	**4.9400e-003**	**0.0000**	**17.3854**	**17.3854**	**4.1400e-003**	**0.0000**	**17.4888**

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.5 Building Construction - 2023

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	3.2100e-003	0.1199	0.0362	4.7000e-004	0.0144	6.4000e-004	0.0150	4.1600e-003	6.1000e-004	4.7700e-003	0.0000	45.6255	45.6255	1.1300e-003	6.6900e-003	47.6486
Worker	0.0256	0.0158	0.2077	5.7000e-004	0.0654	3.5000e-004	0.0658	0.0174	3.2000e-004	0.0177	0.0000	52.4961	52.4961	1.6600e-003	1.5000e-003	52.9847
Total	**0.0288**	**0.1357**	**0.2439**	**1.0400e-003**	**0.0798**	**9.9000e-004**	**0.0808**	**0.0216**	**9.3000e-004**	**0.0225**	**0.0000**	**98.1215**	**98.1215**	**2.7900e-003**	**8.1900e-003**	**100.6333**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0118	0.1079	0.1218	2.0000e-004		5.2500e-003	5.2500e-003		4.9400e-003	4.9400e-003	0.0000	17.3853	17.3853	4.1400e-003	0.0000	17.4887
Total	**0.0118**	**0.1079**	**0.1218**	**2.0000e-004**		**5.2500e-003**	**5.2500e-003**		**4.9400e-003**	**4.9400e-003**	**0.0000**	**17.3853**	**17.3853**	**4.1400e-003**	**0.0000**	**17.4887**

Mitigated

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.5 Building Construction - 2023

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	3.2100e-003	0.1199	0.0362	4.7000e-004	0.0144	6.4000e-004	0.0150	4.1600e-003	6.1000e-004	4.7700e-003	0.0000	45.6255	45.6255	1.1300e-003	6.6900e-003	47.6486
Worker	0.0256	0.0158	0.2077	5.7000e-004	0.0654	3.5000e-004	0.0658	0.0174	3.2000e-004	0.0177	0.0000	52.4961	52.4961	1.6600e-003	1.5000e-003	52.9847
Total	**0.0288**	**0.1357**	**0.2439**	**1.0400e-003**	**0.0798**	**9.9000e-004**	**0.0808**	**0.0216**	**9.3000e-004**	**0.0225**	**0.0000**	**98.1215**	**98.1215**	**2.7900e-003**	**8.1900e-003**	**100.6333**

3.5 Building Construction - 2024

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1928	1.7611	2.1179	3.5300e-003		0.0803	0.0803		0.0756	0.0756	0.0000	303.7223	303.7223	0.0718	0.0000	305.5179
Total	**0.1928**	**1.7611**	**2.1179**	**3.5300e-003**		**0.0803**	**0.0803**		**0.0756**	**0.0756**	**0.0000**	**303.7223**	**303.7223**	**0.0718**	**0.0000**	**305.5179**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.5 Building Construction - 2024

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0536	2.0530	0.6118	8.0300e-003	0.2515	0.0110	0.2625	0.0727	0.0105	0.0832	0.0000	781.7890	781.7890	0.0191	0.1150	816.5269
Worker	0.4174	0.2458	3.3768	9.5500e-003	1.1430	5.8100e-003	1.1488	0.3040	5.3500e-003	0.3094	0.0000	894.0424	894.0424	0.0263	0.0244	901.9616
Total	**0.4710**	**2.2988**	**3.9886**	**0.0176**	**1.3945**	**0.0168**	**1.4113**	**0.3767**	**0.0159**	**0.3926**	**0.0000**	**1,675.8314**	**1,675.8314**	**0.0454**	**0.1393**	**1,718.4885**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1928	1.7611	2.1179	3.5300e-003		0.0803	0.0803		0.0756	0.0756	0.0000	303.7220	303.7220	0.0718	0.0000	305.5175
Total	**0.1928**	**1.7611**	**2.1179**	**3.5300e-003**		**0.0803**	**0.0803**		**0.0756**	**0.0756**	**0.0000**	**303.7220**	**303.7220**	**0.0718**	**0.0000**	**305.5175**

Mitigated

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.5 Building Construction - 2024

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0536	2.0530	0.6118	8.0300e-003	0.2515	0.0110	0.2625	0.0727	0.0105	0.0832	0.0000	781.7890	781.7890	0.0191	0.1150	816.5269
Worker	0.4174	0.2458	3.3768	9.5500e-003	1.1430	5.8100e-003	1.1488	0.3040	5.3500e-003	0.3094	0.0000	894.0424	894.0424	0.0263	0.0244	901.9616
Total	**0.4710**	**2.2988**	**3.9886**	**0.0176**	**1.3945**	**0.0168**	**1.4113**	**0.3767**	**0.0159**	**0.3926**	**0.0000**	**1,675.8314**	**1,675.8314**	**0.0454**	**0.1393**	**1,718.4885**

3.5 Building Construction - 2025

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1785	1.6273	2.0991	3.5200e-003		0.0689	0.0689		0.0648	0.0648	0.0000	302.6549	302.6549	0.0711	0.0000	304.4335
Total	**0.1785**	**1.6273**	**2.0991**	**3.5200e-003**		**0.0689**	**0.0689**		**0.0648**	**0.0648**	**0.0000**	**302.6549**	**302.6549**	**0.0711**	**0.0000**	**304.4335**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.5 Building Construction - 2025

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0515	2.0036	0.5952	7.8400e-003	0.2505	0.0107	0.2613	0.0724	0.0103	0.0827	0.0000	763.0492	763.0492	0.0186	0.1124	797.0148
Worker	0.3905	0.2197	3.1467	9.2000e-003	1.1386	5.5300e-003	1.1442	0.3028	5.1000e-003	0.3079	0.0000	869.0909	869.0909	0.0238	0.0227	876.4483
Total	**0.4420**	**2.2233**	**3.7419**	**0.0170**	**1.3892**	**0.0163**	**1.4054**	**0.3753**	**0.0154**	**0.3906**	**0.0000**	**1,632.1401**	**1,632.1401**	**0.0424**	**0.1351**	**1,673.4630**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1784	1.6273	2.0991	3.5200e-003		0.0689	0.0689		0.0648	0.0648	0.0000	302.6545	302.6545	0.0711	0.0000	304.4331
Total	**0.1784**	**1.6273**	**2.0991**	**3.5200e-003**		**0.0689**	**0.0689**		**0.0648**	**0.0648**	**0.0000**	**302.6545**	**302.6545**	**0.0711**	**0.0000**	**304.4331**

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.5 Building Construction - 2025

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0515	2.0036	0.5952	7.8400e-003	0.2505	0.0107	0.2613	0.0724	0.0103	0.0827	0.0000	763.0492	763.0492	0.0186	0.1124	797.0148
Worker	0.3905	0.2197	3.1467	9.2000e-003	1.1386	5.5300e-003	1.1442	0.3028	5.1000e-003	0.3079	0.0000	869.0909	869.0909	0.0238	0.0227	876.4483
Total	**0.4420**	**2.2233**	**3.7419**	**0.0170**	**1.3892**	**0.0163**	**1.4054**	**0.3753**	**0.0154**	**0.3906**	**0.0000**	**1,632.1401**	**1,632.1401**	**0.0424**	**0.1351**	**1,673.4630**

3.5 Building Construction - 2026

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1244	1.1347	1.4637	2.4500e-003		0.0480	0.0480		0.0452	0.0452	0.0000	211.0467	211.0467	0.0496	0.0000	212.2870
Total	**0.1244**	**1.1347**	**1.4637**	**2.4500e-003**		**0.0480**	**0.0480**		**0.0452**	**0.0452**	**0.0000**	**211.0467**	**211.0467**	**0.0496**	**0.0000**	**212.2870**

Mitigated

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.5 Building Construction - 2026

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0346	1.3688	0.4068	5.3500e-003	0.1747	7.3000e-003	0.1820	0.0505	6.9800e-003	0.0575	0.0000	521.3816	521.3816	0.0127	0.0770	544.6341
Worker	0.2569	0.1389	2.0664	6.2100e-003	0.7940	3.6800e-003	0.7977	0.2112	3.3900e-003	0.2146	0.0000	591.6426	591.6426	0.0152	0.0149	596.4639
Total	**0.2915**	**1.5076**	**2.4732**	**0.0116**	**0.9687**	**0.0110**	**0.9796**	**0.2617**	**0.0104**	**0.2720**	**0.0000**	**1,113.0241**	**1,113.0241**	**0.0279**	**0.0919**	**1,141.0980**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1244	1.1347	1.4637	2.4500e-003		0.0480	0.0480		0.0452	0.0452	0.0000	211.0465	211.0465	0.0496	0.0000	212.2867
Total	**0.1244**	**1.1347**	**1.4637**	**2.4500e-003**		**0.0480**	**0.0480**		**0.0452**	**0.0452**	**0.0000**	**211.0465**	**211.0465**	**0.0496**	**0.0000**	**212.2867**

Mitigated

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.5 Building Construction - 2026

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0346	1.3688	0.4068	5.3500e-003	0.1747	7.3000e-003	0.1820	0.0505	6.9800e-003	0.0575	0.0000	521.3816	521.3816	0.0127	0.0770	544.6341
Worker	0.2569	0.1389	2.0664	6.2100e-003	0.7940	3.6800e-003	0.7977	0.2112	3.3900e-003	0.2146	0.0000	591.6426	591.6426	0.0152	0.0149	596.4639
Total	**0.2915**	**1.5076**	**2.4732**	**0.0116**	**0.9687**	**0.0110**	**0.9796**	**0.2617**	**0.0104**	**0.2720**	**0.0000**	**1,113.0241**	**1,113.0241**	**0.0279**	**0.0919**	**1,141.0980**

3.6 Architectural Coating - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	0.0697					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	4.8000e-004	3.2600e-003	4.5300e-003	1.0000e-005		1.8000e-004	1.8000e-004		1.8000e-004	1.8000e-004	0.0000	0.6383	0.6383	4.0000e-005	0.0000	0.6393
Total	**0.0702**	**3.2600e-003**	**4.5300e-003**	**1.0000e-005**		**1.8000e-004**	**1.8000e-004**		**1.8000e-004**	**1.8000e-004**	**0.0000**	**0.6383**	**0.6383**	**4.0000e-005**	**0.0000**	**0.6393**

Mitigated

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.6 Architectural Coating - 2023

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.7100e-003	1.0600e-003	0.0139	4.0000e-005	4.3700e-003	2.0000e-005	4.3900e-003	1.1600e-003	2.0000e-005	1.1800e-003	0.0000	3.5056	3.5056	1.1000e-004	1.0000e-004	3.5383
Total	**1.7100e-003**	**1.0600e-003**	**0.0139**	**4.0000e-005**	**4.3700e-003**	**2.0000e-005**	**4.3900e-003**	**1.1600e-003**	**2.0000e-005**	**1.1800e-003**	**0.0000**	**3.5056**	**3.5056**	**1.1000e-004**	**1.0000e-004**	**3.5383**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	0.0697					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	4.8000e-004	3.2600e-003	4.5300e-003	1.0000e-005		1.8000e-004	1.8000e-004		1.8000e-004	1.8000e-004	0.0000	0.6383	0.6383	4.0000e-005	0.0000	0.6393
Total	**0.0702**	**3.2600e-003**	**4.5300e-003**	**1.0000e-005**		**1.8000e-004**	**1.8000e-004**		**1.8000e-004**	**1.8000e-004**	**0.0000**	**0.6383**	**0.6383**	**4.0000e-005**	**0.0000**	**0.6393**

Mitigated

Stone Beetland Project - Sacramento Metropolitan AQMD Air District, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.6 Architectural Coating - 2023

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.7100e-003	1.0600e-003	0.0139	4.0000e-005	4.3700e-003	2.0000e-005	4.3900e-003	1.1600e-003	2.0000e-005	1.1800e-003	0.0000	3.5056	3.5056	1.1000e-004	1.0000e-004	3.5383
Total	**1.7100e-003**	**1.0600e-003**	**0.0139**	**4.0000e-005**	**4.3700e-003**	**2.0000e-005**	**4.3900e-003**	**1.1600e-003**	**2.0000e-005**	**1.1800e-003**	**0.0000**	**3.5056**	**3.5056**	**1.1000e-004**	**1.0000e-004**	**3.5383**

3.6 Architectural Coating - 2024

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	3.6509					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0237	0.1597	0.2371	3.9000e-004		7.9800e-003	7.9800e-003		7.9800e-003	7.9800e-003	0.0000	33.4476	33.4476	1.8800e-003	0.0000	33.4947
Total	**3.6746**	**0.1597**	**0.2371**	**3.9000e-004**		**7.9800e-003**	**7.9800e-003**		**7.9800e-003**	**7.9800e-003**	**0.0000**	**33.4476**	**33.4476**	**1.8800e-003**	**0.0000**	**33.4947**

Mitigated

Stone Beetland Project - Sacramento Metropolitan AQMD Air District, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.6 Architectural Coating - 2024

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0836	0.0492	0.6765	1.9100e-003	0.2290	1.1600e-003	0.2302	0.0609	1.0700e-003	0.0620	0.0000	179.1095	179.1095	5.2700e-003	4.8800e-003	180.6960
Total	**0.0836**	**0.0492**	**0.6765**	**1.9100e-003**	**0.2290**	**1.1600e-003**	**0.2302**	**0.0609**	**1.0700e-003**	**0.0620**	**0.0000**	**179.1095**	**179.1095**	**5.2700e-003**	**4.8800e-003**	**180.6960**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	3.6509					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0237	0.1597	0.2371	3.9000e-004		7.9800e-003	7.9800e-003		7.9800e-003	7.9800e-003	0.0000	33.4476	33.4476	1.8800e-003	0.0000	33.4947
Total	**3.6746**	**0.1597**	**0.2371**	**3.9000e-004**		**7.9800e-003**	**7.9800e-003**		**7.9800e-003**	**7.9800e-003**	**0.0000**	**33.4476**	**33.4476**	**1.8800e-003**	**0.0000**	**33.4947**

Mitigated

Stone Beetland Project - Sacramento Metropolitan AQMD Air District, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.6 Architectural Coating - 2024

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0836	0.0492	0.6765	1.9100e-003	0.2290	1.1600e-003	0.2302	0.0609	1.0700e-003	0.0620	0.0000	179.1095	179.1095	5.2700e-003	4.8800e-003	180.6960
Total	**0.0836**	**0.0492**	**0.6765**	**1.9100e-003**	**0.2290**	**1.1600e-003**	**0.2302**	**0.0609**	**1.0700e-003**	**0.0620**	**0.0000**	**179.1095**	**179.1095**	**5.2700e-003**	**4.8800e-003**	**180.6960**

3.6 Architectural Coating - 2025

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	3.6370					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0223	0.1495	0.2361	3.9000e-004		6.7200e-003	6.7200e-003		6.7200e-003	6.7200e-003	0.0000	33.3200	33.3200	1.8200e-003	0.0000	33.3654
Total	**3.6593**	**0.1495**	**0.2361**	**3.9000e-004**		**6.7200e-003**	**6.7200e-003**		**6.7200e-003**	**6.7200e-003**	**0.0000**	**33.3200**	**33.3200**	**1.8200e-003**	**0.0000**	**33.3654**

Mitigated

Stone Beetland Project - Sacramento Metropolitan AQMD Air District, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.6 Architectural Coating - 2025

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0782	0.0440	0.6304	1.8400e-003	0.2281	1.1100e-003	0.2292	0.0607	1.0200e-003	0.0617	0.0000	174.1108	174.1108	4.7700e-003	4.5500e-003	175.5848
Total	**0.0782**	**0.0440**	**0.6304**	**1.8400e-003**	**0.2281**	**1.1100e-003**	**0.2292**	**0.0607**	**1.0200e-003**	**0.0617**	**0.0000**	**174.1108**	**174.1108**	**4.7700e-003**	**4.5500e-003**	**175.5848**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	3.6370					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0223	0.1495	0.2361	3.9000e-004		6.7200e-003	6.7200e-003		6.7200e-003	6.7200e-003	0.0000	33.3199	33.3199	1.8200e-003	0.0000	33.3654
Total	**3.6593**	**0.1495**	**0.2361**	**3.9000e-004**		**6.7200e-003**	**6.7200e-003**		**6.7200e-003**	**6.7200e-003**	**0.0000**	**33.3199**	**33.3199**	**1.8200e-003**	**0.0000**	**33.3654**

Mitigated

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.6 Architectural Coating - 2025

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0782	0.0440	0.6304	1.8400e-003	0.2281	1.1100e-003	0.2292	0.0607	1.0200e-003	0.0617	0.0000	174.1108	174.1108	4.7700e-003	4.5500e-003	175.5848
Total	**0.0782**	**0.0440**	**0.6304**	**1.8400e-003**	**0.2281**	**1.1100e-003**	**0.2292**	**0.0607**	**1.0200e-003**	**0.0617**	**0.0000**	**174.1108**	**174.1108**	**4.7700e-003**	**4.5500e-003**	**175.5848**

3.6 Architectural Coating - 2026

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	2.6755					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0164	0.1100	0.1737	2.9000e-004		4.9400e-003	4.9400e-003		4.9400e-003	4.9400e-003	0.0000	24.5112	24.5112	1.3400e-003	0.0000	24.5447
Total	**2.6919**	**0.1100**	**0.1737**	**2.9000e-004**		**4.9400e-003**	**4.9400e-003**		**4.9400e-003**	**4.9400e-003**	**0.0000**	**24.5112**	**24.5112**	**1.3400e-003**	**0.0000**	**24.5447**

Mitigated

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.6 Architectural Coating - 2026

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0543	0.0293	0.4367	1.3100e-003	0.1678	7.8000e-004	0.1686	0.0446	7.2000e-004	0.0454	0.0000	125.0402	125.0402	3.2000e-003	3.1500e-003	126.0592
Total	**0.0543**	**0.0293**	**0.4367**	**1.3100e-003**	**0.1678**	**7.8000e-004**	**0.1686**	**0.0446**	**7.2000e-004**	**0.0454**	**0.0000**	**125.0402**	**125.0402**	**3.2000e-003**	**3.1500e-003**	**126.0592**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	2.6755					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0164	0.1100	0.1737	2.9000e-004		4.9400e-003	4.9400e-003		4.9400e-003	4.9400e-003	0.0000	24.5112	24.5112	1.3400e-003	0.0000	24.5446
Total	**2.6919**	**0.1100**	**0.1737**	**2.9000e-004**		**4.9400e-003**	**4.9400e-003**		**4.9400e-003**	**4.9400e-003**	**0.0000**	**24.5112**	**24.5112**	**1.3400e-003**	**0.0000**	**24.5446**

Mitigated

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.6 Architectural Coating - 2026

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0543	0.0293	0.4367	1.3100e-003	0.1678	7.8000e-004	0.1686	0.0446	7.2000e-004	0.0454	0.0000	125.0402	125.0402	3.2000e-003	3.1500e-003	126.0592
Total	**0.0543**	**0.0293**	**0.4367**	**1.3100e-003**	**0.1678**	**7.8000e-004**	**0.1686**	**0.0446**	**7.2000e-004**	**0.0454**	**0.0000**	**125.0402**	**125.0402**	**3.2000e-003**	**3.1500e-003**	**126.0592**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

Increase Density

Increase Diversity

Improve Destination Accessibility

Increase Transit Accessibility

Improve Pedestrian Network

Mitigated

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	4.6404	5.5993	40.9196	0.0842	9.2436	0.0664	9.3100	2.4708	0.0620	2.5328	0.0000	8,041.7960	8,041.7960	0.5572	0.3984	8,174.4597
Unmitigated	4.8962	6.1593	44.9836	0.0951	10.4803	0.0742	10.5545	2.8013	0.0693	2.8707	0.0000	9,081.5221	9,081.5221	0.6041	0.4381	9,227.1729

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Apartments Low Rise	2,552.49	2,552.49	2552.49	7,377,104	6,506,606
City Park	79.02	79.02	79.02	199,483	175,944
Other Asphalt Surfaces	0.00	0.00	0.00		
Single Family Housing	3,342.08	3,342.08	3342.08	9,659,146	8,519,367
Strip Mall	4,964.34	4,964.34	4964.34	11,049,926	9,746,035
Total	10,937.93	10,937.93	10,937.93	28,285,660	24,947,952

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Apartments Low Rise	10.00	5.00	6.50	46.50	12.50	41.00	100	0	0
City Park	10.00	5.00	6.50	33.00	48.00	19.00	100	0	0
Other Asphalt Surfaces	10.00	5.00	6.50	0.00	0.00	0.00	0	0	0
Single Family Housing	10.00	5.00	6.50	46.50	12.50	41.00	100	0	0
Strip Mall	10.00	5.00	6.50	16.60	64.40	19.00	100	0	0

4.4 Fleet Mix

Mitigated

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Apartments Low Rise	0.550065	0.056538	0.183073	0.126916	0.023794	0.005777	0.013314	0.009484	0.000878	0.000597	0.025554	0.000937	0.003071
City Park	0.550065	0.056538	0.183073	0.126916	0.023794	0.005777	0.013314	0.009484	0.000878	0.000597	0.025554	0.000937	0.003071
Other Asphalt Surfaces	0.550065	0.056538	0.183073	0.126916	0.023794	0.005777	0.013314	0.009484	0.000878	0.000597	0.025554	0.000937	0.003071
Single Family Housing	0.550065	0.056538	0.183073	0.126916	0.023794	0.005777	0.013314	0.009484	0.000878	0.000597	0.025554	0.000937	0.003071
Strip Mall	0.550065	0.056538	0.183073	0.126916	0.023794	0.005777	0.013314	0.009484	0.000878	0.000597	0.025554	0.000937	0.003071

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Electricity Mitigated						0.0000	0.0000		0.0000	0.0000	0.0000	1,626.8962	1,626.8962	0.1500	0.0182	1,636.0627
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	1,626.8962	1,626.8962	0.1500	0.0182	1,636.0627
NaturalGas Mitigated	6.7000e-004	6.1100e-003	5.1300e-003	4.0000e-005		4.6000e-004	4.6000e-004		4.6000e-004	4.6000e-004	0.0000	6.6502	6.6502	1.3000e-004	1.2000e-004	6.6897
NaturalGas Unmitigated	6.7000e-004	6.1100e-003	5.1300e-003	4.0000e-005		4.6000e-004	4.6000e-004		4.6000e-004	4.6000e-004	0.0000	6.6502	6.6502	1.3000e-004	1.2000e-004	6.6897

Mitigated

Stone Beetland Project - Sacramento Metropolitan AQMD Air District, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Apartments Low Rise	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
City Park	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Single Family Housing	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Strip Mall	124620	6.7000e-004	6.1100e-003	5.1300e-003	4.0000e-005		4.6000e-004	4.6000e-004		4.6000e-004	4.6000e-004	0.0000	6.6502	6.6502	1.3000e-004	1.2000e-004	6.6897
Total		**6.7000e-004**	**6.1100e-003**	**5.1300e-003**	**4.0000e-005**		**4.6000e-004**	**4.6000e-004**		**4.6000e-004**	**4.6000e-004**	**0.0000**	**6.6502**	**6.6502**	**1.3000e-004**	**1.2000e-004**	**6.6897**

Mitigated

Stone Beetland Project - Sacramento Metropolitan AQMD Air District, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

5.2 Energy by Land Use - NaturalGas

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Apartments Low Rise	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
City Park	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Single Family Housing	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Strip Mall	124620	6.7000e-004	6.1100e-003	5.1300e-003	4.0000e-005		4.6000e-004	4.6000e-004		4.6000e-004	4.6000e-004	0.0000	6.6502	6.6502	1.3000e-004	1.2000e-004	6.6897
Total		**6.7000e-004**	**6.1100e-003**	**5.1300e-003**	**4.0000e-005**		**4.6000e-004**	**4.6000e-004**		**4.6000e-004**	**4.6000e-004**	**0.0000**	**6.6502**	**6.6502**	**1.3000e-004**	**1.2000e-004**	**6.6897**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Apartments Low Rise	3.99527e+006	648.7404	0.0598	7.2500e-003	652.3956
City Park	0	0.0000	0.0000	0.0000	0.0000
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Single Family Housing	4.93123e+006	800.7183	0.0738	8.9500e-003	805.2299
Strip Mall	1.09275e+006	177.4375	0.0164	1.9800e-003	178.4372
Total		**1,626.8961**	**0.1500**	**0.0182**	**1,636.0627**

Mitigated

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

5.3 Energy by Land Use - Electricity

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Apartments Low Rise	3.99527e+006	648.7404	0.0598	7.2500e-003	652.3956
City Park	0	0.0000	0.0000	0.0000	0.0000
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Single Family Housing	4.93123e+006	800.7183	0.0738	8.9500e-003	805.2299
Strip Mall	1.09275e+006	177.4375	0.0164	1.9800e-003	178.4372
Total		**1,626.8961**	**0.1500**	**0.0182**	**1,636.0627**

6.0 Area Detail

6.1 Mitigation Measures Area

Use Low VOC Paint - Residential Interior

Use Low VOC Paint - Residential Exterior

Use Low VOC Paint - Non-Residential Interior

Use Low VOC Paint - Non-Residential Exterior

No Hearths Installed

Use Low VOC Cleaning Supplies

Stone Beetland Project - Sacramento Metropolitan AQMD Air District, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	6.2313	0.1376	11.9426	6.3000e-004		0.0663	0.0663		0.0663	0.0663	0.0000	19.5270	19.5270	0.0187	0.0000	19.9946
Unmitigated	7.6167	0.1376	11.9426	6.3000e-004		0.0663	0.0663		0.0663	0.0663	0.0000	19.5270	19.5270	0.0187	0.0000	19.9946

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	1.0033					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	6.2547					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	0.3587	0.1376	11.9426	6.3000e-004		0.0663	0.0663		0.0663	0.0663	0.0000	19.5270	19.5270	0.0187	0.0000	19.9946
Total	**7.6167**	**0.1376**	**11.9426**	**6.3000e-004**		**0.0663**	**0.0663**		**0.0663**	**0.0663**	**0.0000**	**19.5270**	**19.5270**	**0.0187**	**0.0000**	**19.9946**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	5.8726					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	0.3587	0.1376	11.9426	6.3000e-004		0.0663	0.0663		0.0663	0.0663	0.0000	19.5270	19.5270	0.0187	0.0000	19.9946
Total	**6.2313**	**0.1376**	**11.9426**	**6.3000e-004**		**0.0663**	**0.0663**		**0.0663**	**0.0663**	**0.0000**	**19.5270**	**19.5270**	**0.0187**	**0.0000**	**19.9946**

7.0 Water Detail

7.1 Mitigation Measures Water

Stone Beetland Project - Sacramento Metropolitan AQMD Air District, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	131.2364	0.1098	0.0645	153.2135
Unmitigated	131.2364	0.1098	0.0645	153.2135

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Apartments Low Rise	46.3245 / 29.2046	70.4665	0.0614	0.0363	82.8029
City Park	0 / 10.485	5.9589	5.5000e-004	7.0000e-005	5.9924
Other Asphalt Surfaces	0 / 0	0.0000	0.0000	0.0000	0.0000
Single Family Housing	29.189 / 18.4018	44.4008	0.0387	0.0228	52.1740
Strip Mall	6.88874 / 4.22213	10.4102	9.1200e-003	5.3900e-003	12.2443
Total		**131.2364**	**0.1098**	**0.0646**	**153.2135**

Mitigated

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

7.2 Water by Land Use

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Apartments Low Rise	46.3245 / 29.2046	70.4665	0.0614	0.0363	82.8029
City Park	0 / 10.485	5.9589	5.5000e-004	7.0000e-005	5.9924
Other Asphalt Surfaces	0 / 0	0.0000	0.0000	0.0000	0.0000
Single Family Housing	29.189 / 18.4018	44.4008	0.0387	0.0228	52.1740
Strip Mall	6.88874 / 4.22213	10.4102	9.1200e-003	5.3900e-003	12.2443
Total		**131.2364**	**0.1098**	**0.0646**	**153.2135**

8.0 Waste Detail

8.1 Mitigation Measures Waste

Stone Beetland Project - Sacramento Metropolitan AQMD Air District, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	173.7664	10.2693	0.0000	430.4988
Unmitigated	173.7664	10.2693	0.0000	430.4988

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Apartments Low Rise	327.06	66.3902	3.9236	0.0000	164.4790
City Park	0.76	0.1543	9.1200e-003	0.0000	0.3822
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Single Family Housing	430.56	87.3998	5.1652	0.0000	216.5293
Strip Mall	97.65	19.8221	1.1715	0.0000	49.1083
Total		**173.7664**	**10.2693**	**0.0000**	**430.4988**

Mitigated

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

8.2 Waste by Land Use

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Apartments Low Rise	327.06	66.3902	3.9236	0.0000	164.4790
City Park	0.76	0.1543	9.1200e-003	0.0000	0.3822
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Single Family Housing	430.56	87.3998	5.1652	0.0000	216.5293
Strip Mall	97.65	19.8221	1.1715	0.0000	49.1083
Total		**173.7664**	**10.2693**	**0.0000**	**430.4988**

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type

Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

Stone Beetland Project - Sacramento Metropolitan AQMD Air District, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

Stone Beetland Project

Sacramento Metropolitan AQMD Air District, Summer

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Other Asphalt Surfaces	17.70	Acre	17.70	771,012.00	0
City Park	8.80	Acre	8.80	383,328.00	0
Apartments Low Rise	711.00	Dwelling Unit	18.00	711,000.00	1898
Single Family Housing	448.00	Dwelling Unit	55.90	806,400.00	1196
Strip Mall	93.00	1000sqft	6.20	93,000.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	3.5	**Precipitation Freq (Days)**	58
Climate Zone	6			**Operational Year**	2026
Utility Company	Sacramento Municipal Utility District				
CO2 Intensity (lb/MWhr)	357.98	**CH4 Intensity (lb/MWhr)**	0.033	**N2O Intensity (lb/MWhr)**	0.004

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - Acreages adjusted per site plan.

Construction Phase - Phase timing adjusted per AQ Questionnaire.

Grading - Based on applicant-provided AQ Questionnaire.

Vehicle Trips - Trip generation rate adjusted to be consistent with project-specific traffic report (Fehr and Peers)

Consumer Products - Based on CARB now regulation of consumer products.

Energy Use - Off-model calculation done to convert natural gas usage to electricity based on assumption that residential would be all electric and commercial would be 75% electric.

Mitigated

Stone Beetland Project - Sacramento Metropolitan AQMD Air District, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

Mobile Land Use Mitigation - Based on AQ Questionnaire.

Area Mitigation - Project-specific MM I-1 would required the use of zero VOC paint.

Table Name	Column Name	Default Value	New Value
tblAreaMitigation	UseLowVOCPaintNonresidentialExteriorValue	100	0
tblAreaMitigation	UseLowVOCPaintNonresidentialInteriorValue	100	0
tblAreaMitigation	UseLowVOCPaintParkingCheck	False	True
tblAreaMitigation	UseLowVOCPaintParkingValue	100	0
tblAreaMitigation	UseLowVOCPaintResidentialExteriorValue	100	0
tblAreaMitigation	UseLowVOCPaintResidentialInteriorValue	100	0
tblConstructionPhase	NumDays	120.00	20.00
tblConstructionPhase	NumDays	310.00	80.00
tblConstructionPhase	NumDays	220.00	60.00
tblConstructionPhase	NumDays	3,100.00	720.00
tblConstructionPhase	NumDays	220.00	720.00
tblConsumerProducts	ROG_EF	2.14E-05	2.11E-05
tblEnergyUse	NT24E	3,172.76	3,524.82
tblEnergyUse	NT24E	6,155.97	6,508.03
tblEnergyUse	NT24E	2.98	3.07
tblEnergyUse	NT24NG	2,687.00	0.00
tblEnergyUse	NT24NG	2,687.00	0.00
tblEnergyUse	NT24NG	0.93	0.23
tblEnergyUse	T24E	108.87	1,284.05
tblEnergyUse	T24E	142.58	2,890.34
tblEnergyUse	T24E	2.91	3.35
tblEnergyUse	T24NG	8,969.37	0.00
tblEnergyUse	T24NG	20,971.81	0.00
tblEnergyUse	T24NG	4.44	1.11
tblGrading	MaterialImported	0.00	120,000.00

Mitigated

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

tblLandUse	LotAcreage	44.44	18.00
tblLandUse	LotAcreage	145.45	55.90
tblLandUse	LotAcreage	2.13	6.20
tblVehicleTrips	DV_TP	11.00	0.00
tblVehicleTrips	DV_TP	28.00	0.00
tblVehicleTrips	DV_TP	11.00	0.00
tblVehicleTrips	DV_TP	40.00	0.00
tblVehicleTrips	PB_TP	3.00	0.00
tblVehicleTrips	PB_TP	6.00	0.00
tblVehicleTrips	PB_TP	3.00	0.00
tblVehicleTrips	PB_TP	15.00	0.00
tblVehicleTrips	PR_TP	86.00	100.00
tblVehicleTrips	PR_TP	66.00	100.00
tblVehicleTrips	PR_TP	86.00	100.00
tblVehicleTrips	PR_TP	45.00	100.00
tblVehicleTrips	ST_TR	8.14	3.59
tblVehicleTrips	ST_TR	1.96	8.98
tblVehicleTrips	ST_TR	9.54	7.46
tblVehicleTrips	ST_TR	42.04	53.38
tblVehicleTrips	SU_TR	6.28	3.59
tblVehicleTrips	SU_TR	2.19	8.98
tblVehicleTrips	SU_TR	8.55	7.46
tblVehicleTrips	SU_TR	20.43	53.38
tblVehicleTrips	WD_TR	7.32	3.59
tblVehicleTrips	WD_TR	0.78	8.98
tblVehicleTrips	WD_TR	9.44	7.46
tblVehicleTrips	WD_TR	44.32	53.38

2.0 Emissions Summary

Mitigated

Stone Beetland Project - Sacramento Metropolitan AQMD Air District, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

2.1 Overall Construction (Maximum Daily Emission)

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2023	34.8779	62.7312	61.6458	0.1916	19.7939	1.6426	21.0607	10.1388	1.5192	11.3042	0.0000	19,689.2861	19,689.2861	2.4601	2.0390	20,083.1189
2024	34.4300	31.6054	58.6324	0.1871	12.8235	0.8110	13.6345	3.4461	0.7668	4.2129	0.0000	19,306.1908	19,306.1908	1.0328	1.1981	19,689.0344
2025	34.0261	30.0447	56.0427	0.1826	12.8232	0.7119	13.5351	3.4460	0.6730	4.1190	0.0000	18,932.1465	18,932.1465	1.0018	1.1652	19,304.4300
2026	33.7709	29.5758	53.9447	0.1784	12.8231	0.7075	13.5305	3.4460	0.6689	4.1148	0.0000	18,571.3556	18,571.3556	0.9778	1.1355	18,934.1848
Maximum	**34.8779**	**62.7312**	**61.6458**	**0.1916**	**19.7939**	**1.6426**	**21.0607**	**10.1388**	**1.5192**	**11.3042**	**0.0000**	**19,689.2861**	**19,689.2861**	**2.4601**	**2.0390**	**20,083.1189**

Mitigated

Stone Beetland Project - Sacramento Metropolitan AQMD Air District, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

2.1 Overall Construction (Maximum Daily Emission)

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2023	34.8779	62.7312	61.6458	0.1916	19.7939	1.6426	21.0607	10.1388	1.5192	11.3042	0.0000	19,689.2861	19,689.2861	2.4601	2.0390	20,083.1189
2024	34.4300	31.6054	58.6324	0.1871	12.8235	0.8110	13.6345	3.4461	0.7668	4.2129	0.0000	19,306.1908	19,306.1908	1.0328	1.1981	19,689.0344
2025	34.0261	30.0447	56.0427	0.1826	12.8232	0.7119	13.5351	3.4460	0.6730	4.1190	0.0000	18,932.1465	18,932.1465	1.0018	1.1652	19,304.4300
2026	33.7709	29.5758	53.9447	0.1784	12.8231	0.7075	13.5305	3.4460	0.6689	4.1148	0.0000	18,571.3556	18,571.3556	0.9778	1.1355	18,934.1848
Maximum	**34.8779**	**62.7312**	**61.6458**	**0.1916**	**19.7939**	**1.6426**	**21.0607**	**10.1388**	**1.5192**	**11.3042**	**0.0000**	**19,689.2861**	**19,689.2861**	**2.4601**	**2.0390**	**20,083.1189**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

Mitigated

Stone Beetland Project - Sacramento Metropolitan AQMD Air District, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	42.6391	1.1005	95.5405	5.0500e-003		0.5301	0.5301		0.5301	0.5301	0.0000	172.1983	172.1983	0.1649	0.0000	176.3218
Energy	3.6800e-003	0.0335	0.0281	2.0000e-004		2.5400e-003	2.5400e-003		2.5400e-003	2.5400e-003		40.1676	40.1676	7.7000e-004	7.4000e-004	40.4063
Mobile	33.1885	31.1595	265.9748	0.5617	59.6248	0.4081	60.0328	15.8929	0.3811	16.2740		59,090.4733	59,090.4733	3.4954	2.5490	59,937.4676
Total	**75.8314**	**32.2934**	**361.5434**	**0.5669**	**59.6248**	**0.9407**	**60.5655**	**15.8929**	**0.9137**	**16.8066**	**0.0000**	**59,302.8392**	**59,302.8392**	**3.6611**	**2.5498**	**60,154.1958**

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	35.0481	1.1005	95.5405	5.0500e-003		0.5301	0.5301		0.5301	0.5301	0.0000	172.1983	172.1983	0.1649	0.0000	176.3218
Energy	3.6800e-003	0.0335	0.0281	2.0000e-004		2.5400e-003	2.5400e-003		2.5400e-003	2.5400e-003		40.1676	40.1676	7.7000e-004	7.4000e-004	40.4063
Mobile	31.7893	28.3557	240.3231	0.4972	52.5890	0.3648	52.9539	14.0175	0.3407	14.3582		52,308.7838	52,308.7838	3.2067	2.3183	53,079.7954
Total	**66.8411**	**29.4896**	**335.8918**	**0.5025**	**52.5890**	**0.8975**	**53.4865**	**14.0175**	**0.8733**	**14.8909**	**0.0000**	**52,521.1497**	**52,521.1497**	**3.3724**	**2.3190**	**53,296.5235**

Mitigated

Stone Beetland Project - Sacramento Metropolitan AQMD Air District, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	11.86	8.68	7.10	11.37	11.80	4.59	11.69	11.80	4.42	11.40	0.00	11.44	11.44	7.89	9.05	11.40

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Site Preparation	Site Preparation	5/1/2023	5/26/2023	5	20	
2	Grading	Grading	5/27/2023	9/15/2023	5	80	
3	Paving	Paving	9/16/2023	12/8/2023	5	60	
4	Building Construction	Building Construction	12/9/2023	9/11/2026	5	720	
5	Architectural Coating	Architectural Coating	12/23/2023	9/25/2026	5	720	

Acres of Grading (Site Preparation Phase): 30

Acres of Grading (Grading Phase): 240

Acres of Paving: 17.7

Residential Indoor: 3,072,735; Residential Outdoor: 1,024,245; Non-Residential Indoor: 139,500; Non-Residential Outdoor: 46,500; Striped Parking Area: 46,261 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Site Preparation	Rubber Tired Dozers	3	8.00	247	0.40
Site Preparation	Tractors/Loaders/Backhoes	4	8.00	97	0.37
Grading	Excavators	2	8.00	158	0.38
Grading	Graders	1	8.00	187	0.41
Grading	Rubber Tired Dozers	1	8.00	247	0.40
Grading	Scrapers	2	8.00	367	0.48

Mitigated

Stone Beetland Project - Sacramento Metropolitan AQMD Air District, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

Grading	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Paving	Pavers	2	8.00	130	0.42
Paving	Paving Equipment	2	8.00	132	0.36
Paving	Rollers	2	8.00	80	0.38
Building Construction	Cranes	1	7.00	231	0.29
Building Construction	Forklifts	3	8.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	3	7.00	97	0.37
Building Construction	Welders	1	8.00	46	0.45
Architectural Coating	Air Compressors	1	6.00	78	0.48

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Site Preparation	7	18.00	0.00	0.00	10.00	6.50	20.00	LD_Mix	HDT_Mix	HHDT
Grading	8	20.00	0.00	15,000.00	10.00	6.50	20.00	LD_Mix	HDT_Mix	HHDT
Paving	6	15.00	0.00	0.00	10.00	6.50	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	9	1,188.00	328.00	0.00	10.00	6.50	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	238.00	0.00	0.00	10.00	6.50	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Mitigated

Stone Beetland Project - Sacramento Metropolitan AQMD Air District, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.2 Site Preparation - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					19.6570	0.0000	19.6570	10.1025	0.0000	10.1025			0.0000			0.0000
Off-Road	2.6595	27.5242	18.2443	0.0381		1.2660	1.2660		1.1647	1.1647		3,687.3081	3,687.3081	1.1926		3,717.1219
Total	**2.6595**	**27.5242**	**18.2443**	**0.0381**	**19.6570**	**1.2660**	**20.9230**	**10.1025**	**1.1647**	**11.2672**		**3,687.3081**	**3,687.3081**	**1.1926**		**3,717.1219**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0607	0.0291	0.4906	1.2500e-003	0.1369	7.1000e-004	0.1376	0.0363	6.5000e-004	0.0370		128.1058	128.1058	3.5200e-003	3.1500e-003	129.1312
Total	**0.0607**	**0.0291**	**0.4906**	**1.2500e-003**	**0.1369**	**7.1000e-004**	**0.1376**	**0.0363**	**6.5000e-004**	**0.0370**		**128.1058**	**128.1058**	**3.5200e-003**	**3.1500e-003**	**129.1312**

Mitigated

Stone Beetland Project - Sacramento Metropolitan AQMD Air District, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.2 Site Preparation - 2023

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					19.6570	0.0000	19.6570	10.1025	0.0000	10.1025			0.0000			0.0000
Off-Road	2.6595	27.5242	18.2443	0.0381		1.2660	1.2660		1.1647	1.1647	0.0000	3,687.3081	3,687.3081	1.1926		3,717.1219
Total	**2.6595**	**27.5242**	**18.2443**	**0.0381**	**19.6570**	**1.2660**	**20.9230**	**10.1025**	**1.1647**	**11.2672**	**0.0000**	**3,687.3081**	**3,687.3081**	**1.1926**		**3,717.1219**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0607	0.0291	0.4906	1.2500e-003	0.1369	7.1000e-004	0.1376	0.0363	6.5000e-004	0.0370		128.1058	128.1058	3.5200e-003	3.1500e-003	129.1312
Total	**0.0607**	**0.0291**	**0.4906**	**1.2500e-003**	**0.1369**	**7.1000e-004**	**0.1376**	**0.0363**	**6.5000e-004**	**0.0370**		**128.1058**	**128.1058**	**3.5200e-003**	**3.1500e-003**	**129.1312**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.3 Grading - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					9.5138	0.0000	9.5138	3.7007	0.0000	3.7007			0.0000			0.0000
Off-Road	3.3217	34.5156	28.0512	0.0621		1.4245	1.4245		1.3105	1.3105		6,011.4777	6,011.4777	1.9442		6,060.0836
Total	**3.3217**	**34.5156**	**28.0512**	**0.0621**	**9.5138**	**1.4245**	**10.9383**	**3.7007**	**1.3105**	**5.0113**		**6,011.4777**	**6,011.4777**	**1.9442**		**6,060.0836**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.5088	28.1832	5.9488	0.1176	3.2696	0.2173	3.4870	0.8953	0.2079	1.1033		12,838.2702	12,838.2702	0.5120	2.0355	13,457.6591
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0674	0.0324	0.5451	1.3900e-003	0.1521	7.8000e-004	0.1529	0.0404	7.2000e-004	0.0411		142.3398	142.3398	3.9100e-003	3.5000e-003	143.4791
Total	**0.5762**	**28.2156**	**6.4938**	**0.1190**	**3.4218**	**0.2181**	**3.6399**	**0.9357**	**0.2087**	**1.1443**		**12,980.6100**	**12,980.6100**	**0.5159**	**2.0390**	**13,601.1382**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.3 Grading - 2023

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					9.5138	0.0000	9.5138	3.7007	0.0000	3.7007			0.0000			0.0000
Off-Road	3.3217	34.5156	28.0512	0.0621		1.4245	1.4245		1.3105	1.3105	0.0000	6,011.4777	6,011.4777	1.9442		6,060.0836
Total	**3.3217**	**34.5156**	**28.0512**	**0.0621**	**9.5138**	**1.4245**	**10.9383**	**3.7007**	**1.3105**	**5.0113**	**0.0000**	**6,011.4777**	**6,011.4777**	**1.9442**		**6,060.0836**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.5088	28.1832	5.9488	0.1176	3.2696	0.2173	3.4870	0.8953	0.2079	1.1033		12,838.2702	12,838.2702	0.5120	2.0355	13,457.6591
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0674	0.0324	0.5451	1.3900e-003	0.1521	7.8000e-004	0.1529	0.0404	7.2000e-004	0.0411		142.3398	142.3398	3.9100e-003	3.5000e-003	143.4791
Total	**0.5762**	**28.2156**	**6.4938**	**0.1190**	**3.4218**	**0.2181**	**3.6399**	**0.9357**	**0.2087**	**1.1443**		**12,980.6100**	**12,980.6100**	**0.5159**	**2.0390**	**13,601.1382**

Stone Beetland Project - Sacramento Metropolitan AQMD Air District, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.4 Paving - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.0327	10.1917	14.5842	0.0228		0.5102	0.5102		0.4694	0.4694		2,207.5841	2,207.5841	0.7140		2,225.4336
Paving	0.7729					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**1.8056**	**10.1917**	**14.5842**	**0.0228**		**0.5102**	**0.5102**		**0.4694**	**0.4694**		**2,207.5841**	**2,207.5841**	**0.7140**		**2,225.4336**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0505	0.0243	0.4088	1.0400e-003	0.1141	5.9000e-004	0.1147	0.0303	5.4000e-004	0.0308		106.7548	106.7548	2.9300e-003	2.6200e-003	107.6093
Total	**0.0505**	**0.0243**	**0.4088**	**1.0400e-003**	**0.1141**	**5.9000e-004**	**0.1147**	**0.0303**	**5.4000e-004**	**0.0308**		**106.7548**	**106.7548**	**2.9300e-003**	**2.6200e-003**	**107.6093**

Mitigated

Stone Beetland Project - Sacramento Metropolitan AQMD Air District, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.4 Paving - 2023

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.0327	10.1917	14.5842	0.0228		0.5102	0.5102		0.4694	0.4694	0.0000	2,207.5841	2,207.5841	0.7140		2,225.4336
Paving	0.7729					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**1.8056**	**10.1917**	**14.5842**	**0.0228**		**0.5102**	**0.5102**		**0.4694**	**0.4694**	**0.0000**	**2,207.5841**	**2,207.5841**	**0.7140**		**2,225.4336**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0505	0.0243	0.4088	1.0400e-003	0.1141	5.9000e-004	0.1147	0.0303	5.4000e-004	0.0308		106.7548	106.7548	2.9300e-003	2.6200e-003	107.6093
Total	**0.0505**	**0.0243**	**0.4088**	**1.0400e-003**	**0.1141**	**5.9000e-004**	**0.1147**	**0.0303**	**5.4000e-004**	**0.0308**		**106.7548**	**106.7548**	**2.9300e-003**	**2.6200e-003**	**107.6093**

Mitigated

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.5 Building Construction - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.5728	14.3849	16.2440	0.0269		0.6997	0.6997		0.6584	0.6584		2,555.2099	2,555.2099	0.6079		2,570.4061
Total	**1.5728**	**14.3849**	**16.2440**	**0.0269**		**0.6997**	**0.6997**		**0.6584**	**0.6584**		**2,555.2099**	**2,555.2099**	**0.6079**		**2,570.4061**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.4389	15.1877	4.7281	0.0625	1.9761	0.0848	2.0609	0.5688	0.0811	0.6499		6,703.8022	6,703.8022	0.1657	0.9827	7,000.7835
Worker	4.0032	1.9234	32.3764	0.0826	9.0371	0.0466	9.0837	2.3972	0.0429	2.4401		8,454.9826	8,454.9826	0.2320	0.2076	8,522.6590
Total	**4.4420**	**17.1111**	**37.1045**	**0.1451**	**11.0132**	**0.1314**	**11.1446**	**2.9660**	**0.1240**	**3.0900**		**15,158.7848**	**15,158.7848**	**0.3977**	**1.1903**	**15,523.4425**

Stone Beetland Project - Sacramento Metropolitan AQMD Air District, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.5 Building Construction - 2023

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.5728	14.3849	16.2440	0.0269		0.6997	0.6997		0.6584	0.6584	0.0000	2,555.2099	2,555.2099	0.6079		2,570.4061
Total	**1.5728**	**14.3849**	**16.2440**	**0.0269**		**0.6997**	**0.6997**		**0.6584**	**0.6584**	**0.0000**	**2,555.2099**	**2,555.2099**	**0.6079**		**2,570.4061**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.4389	15.1877	4.7281	0.0625	1.9761	0.0848	2.0609	0.5688	0.0811	0.6499		6,703.8022	6,703.8022	0.1657	0.9827	7,000.7835
Worker	4.0032	1.9234	32.3764	0.0826	9.0371	0.0466	9.0837	2.3972	0.0429	2.4401		8,454.9826	8,454.9826	0.2320	0.2076	8,522.6590
Total	**4.4420**	**17.1111**	**37.1045**	**0.1451**	**11.0132**	**0.1314**	**11.1446**	**2.9660**	**0.1240**	**3.0900**		**15,158.7848**	**15,158.7848**	**0.3977**	**1.1903**	**15,523.4425**

Stone Beetland Project - Sacramento Metropolitan AQMD Air District, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.5 Building Construction - 2024

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.4716	13.4438	16.1668	0.0270		0.6133	0.6133		0.5769	0.5769		2,555.6989	2,555.6989	0.6044		2,570.8077
Total	**1.4716**	**13.4438**	**16.1668**	**0.0270**		**0.6133**	**0.6133**		**0.5769**	**0.5769**		**2,555.6989**	**2,555.6989**	**0.6044**		**2,570.8077**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.4198	14.8861	4.5797	0.0613	1.9759	0.0836	2.0595	0.5687	0.0799	0.6486		6,576.1291	6,576.1291	0.1610	0.9662	6,868.0860
Worker	3.7392	1.7135	30.0547	0.0799	9.0371	0.0444	9.0815	2.3972	0.0409	2.4380		8,241.7831	8,241.7831	0.2096	0.1932	8,304.5836
Total	**4.1590**	**16.5996**	**34.6344**	**0.1412**	**11.0130**	**0.1279**	**11.1409**	**2.9659**	**0.1208**	**3.0867**		**14,817.9122**	**14,817.9122**	**0.3706**	**1.1594**	**15,172.6696**

Mitigated

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.5 Building Construction - 2024

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.4716	13.4438	16.1668	0.0270		0.6133	0.6133		0.5769	0.5769	0.0000	2,555.6989	2,555.6989	0.6044		2,570.8077
Total	**1.4716**	**13.4438**	**16.1668**	**0.0270**		**0.6133**	**0.6133**		**0.5769**	**0.5769**	**0.0000**	**2,555.6989**	**2,555.6989**	**0.6044**		**2,570.8077**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.4198	14.8861	4.5797	0.0613	1.9759	0.0836	2.0595	0.5687	0.0799	0.6486		6,576.1291	6,576.1291	0.1610	0.9662	6,868.0860
Worker	3.7392	1.7135	30.0547	0.0799	9.0371	0.0444	9.0815	2.3972	0.0409	2.4380		8,241.7831	8,241.7831	0.2096	0.1932	8,304.5836
Total	**4.1590**	**16.5996**	**34.6344**	**0.1412**	**11.0130**	**0.1279**	**11.1409**	**2.9659**	**0.1208**	**3.0867**		**14,817.9122**	**14,817.9122**	**0.3706**	**1.1594**	**15,172.6696**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.5 Building Construction - 2025

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.3674	12.4697	16.0847	0.0270		0.5276	0.5276		0.4963	0.4963		2,556.4744	2,556.4744	0.6010		2,571.4981
Total	**1.3674**	**12.4697**	**16.0847**	**0.0270**		**0.5276**	**0.5276**		**0.4963**	**0.4963**		**2,556.4744**	**2,556.4744**	**0.6010**		**2,571.4981**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.4047	14.5831	4.4723	0.0600	1.9757	0.0819	2.0576	0.5686	0.0784	0.6470		6,442.7816	6,442.7816	0.1577	0.9484	6,729.3511
Worker	3.5104	1.5382	28.0560	0.0772	9.0371	0.0424	9.0795	2.3972	0.0390	2.4362		8,040.6127	8,040.6127	0.1898	0.1806	8,099.1850
Total	**3.9151**	**16.1213**	**32.5283**	**0.1372**	**11.0128**	**0.1243**	**11.1371**	**2.9658**	**0.1174**	**3.0832**		**14,483.3943**	**14,483.3943**	**0.3474**	**1.1290**	**14,828.5361**

Stone Beetland Project - Sacramento Metropolitan AQMD Air District, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.5 Building Construction - 2025

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.3674	12.4697	16.0847	0.0270		0.5276	0.5276		0.4963	0.4963	0.0000	2,556.4744	2,556.4744	0.6010		2,571.4981
Total	**1.3674**	**12.4697**	**16.0847**	**0.0270**		**0.5276**	**0.5276**		**0.4963**	**0.4963**	**0.0000**	**2,556.4744**	**2,556.4744**	**0.6010**		**2,571.4981**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.4047	14.5831	4.4723	0.0600	1.9757	0.0819	2.0576	0.5686	0.0784	0.6470		6,442.7816	6,442.7816	0.1577	0.9484	6,729.3511
Worker	3.5104	1.5382	28.0560	0.0772	9.0371	0.0424	9.0795	2.3972	0.0390	2.4362		8,040.6127	8,040.6127	0.1898	0.1806	8,099.1850
Total	**3.9151**	**16.1213**	**32.5283**	**0.1372**	**11.0128**	**0.1243**	**11.1371**	**2.9658**	**0.1174**	**3.0832**		**14,483.3943**	**14,483.3943**	**0.3474**	**1.1290**	**14,828.5361**

Mitigated

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.5 Building Construction - 2026

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.3674	12.4697	16.0847	0.0270		0.5276	0.5276		0.4963	0.4963		2,556.4744	2,556.4744	0.6010		2,571.4981
Total	**1.3674**	**12.4697**	**16.0847**	**0.0270**		**0.5276**	**0.5276**		**0.4963**	**0.4963**		**2,556.4744**	**2,556.4744**	**0.6010**		**2,571.4981**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.3906	14.2864	4.3841	0.0588	1.9755	0.0799	2.0554	0.5686	0.0764	0.6450		6,312.8587	6,312.8587	0.1542	0.9312	6,594.2042
Worker	3.3095	1.3948	26.3816	0.0747	9.0371	0.0404	9.0775	2.3972	0.0372	2.4344		7,848.2766	7,848.2766	0.1727	0.1702	7,903.3247
Total	**3.7001**	**15.6812**	**30.7657**	**0.1335**	**11.0126**	**0.1203**	**11.1329**	**2.9657**	**0.1136**	**3.0794**		**14,161.1353**	**14,161.1353**	**0.3269**	**1.1014**	**14,497.5289**

Mitigated

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.5 Building Construction - 2026

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.3674	12.4697	16.0847	0.0270		0.5276	0.5276		0.4963	0.4963	0.0000	2,556.4744	2,556.4744	0.6010		2,571.4981
Total	**1.3674**	**12.4697**	**16.0847**	**0.0270**		**0.5276**	**0.5276**		**0.4963**	**0.4963**	**0.0000**	**2,556.4744**	**2,556.4744**	**0.6010**		**2,571.4981**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.3906	14.2864	4.3841	0.0588	1.9755	0.0799	2.0554	0.5686	0.0764	0.6450		6,312.8587	6,312.8587	0.1542	0.9312	6,594.2042
Worker	3.3095	1.3948	26.3816	0.0747	9.0371	0.0404	9.0775	2.3972	0.0372	2.4344		7,848.2766	7,848.2766	0.1727	0.1702	7,903.3247
Total	**3.7001**	**15.6812**	**30.7657**	**0.1335**	**11.0126**	**0.1203**	**11.1329**	**2.9657**	**0.1136**	**3.0794**		**14,161.1353**	**14,161.1353**	**0.3269**	**1.1014**	**14,497.5289**

Stone Beetland Project - Sacramento Metropolitan AQMD Air District, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.6 Architectural Coating - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	27.8695					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.1917	1.3030	1.8111	2.9700e-003		0.0708	0.0708		0.0708	0.0708		281.4481	281.4481	0.0168		281.8690
Total	**28.0612**	**1.3030**	**1.8111**	**2.9700e-003**		**0.0708**	**0.0708**		**0.0708**	**0.0708**		**281.4481**	**281.4481**	**0.0168**		**281.8690**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.8020	0.3853	6.4862	0.0166	1.8105	9.3300e-003	1.8198	0.4802	8.5900e-003	0.4888		1,693.8433	1,693.8433	0.0465	0.0416	1,707.4014
Total	**0.8020**	**0.3853**	**6.4862**	**0.0166**	**1.8105**	**9.3300e-003**	**1.8198**	**0.4802**	**8.5900e-003**	**0.4888**		**1,693.8433**	**1,693.8433**	**0.0465**	**0.0416**	**1,707.4014**

Mitigated

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.6 Architectural Coating - 2023

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	27.8695					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.1917	1.3030	1.8111	2.9700e-003		0.0708	0.0708		0.0708	0.0708	0.0000	281.4481	281.4481	0.0168		281.8690
Total	**28.0612**	**1.3030**	**1.8111**	**2.9700e-003**		**0.0708**	**0.0708**		**0.0708**	**0.0708**	**0.0000**	**281.4481**	**281.4481**	**0.0168**		**281.8690**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.8020	0.3853	6.4862	0.0166	1.8105	9.3300e-003	1.8198	0.4802	8.5900e-003	0.4888		1,693.8433	1,693.8433	0.0465	0.0416	1,707.4014
Total	**0.8020**	**0.3853**	**6.4862**	**0.0166**	**1.8105**	**9.3300e-003**	**1.8198**	**0.4802**	**8.5900e-003**	**0.4888**		**1,693.8433**	**1,693.8433**	**0.0465**	**0.0416**	**1,707.4014**

Stone Beetland Project - Sacramento Metropolitan AQMD Air District, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.6 Architectural Coating - 2024

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	27.8695					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.1808	1.2188	1.8101	2.9700e-003		0.0609	0.0609		0.0609	0.0609		281.4481	281.4481	0.0159		281.8443
Total	**28.0503**	**1.2188**	**1.8101**	**2.9700e-003**		**0.0609**	**0.0609**		**0.0609**	**0.0609**		**281.4481**	**281.4481**	**0.0159**		**281.8443**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.7491	0.3433	6.0211	0.0160	1.8105	8.8900e-003	1.8194	0.4802	8.1800e-003	0.4884		1,651.1316	1,651.1316	0.0420	0.0387	1,663.7129
Total	**0.7491**	**0.3433**	**6.0211**	**0.0160**	**1.8105**	**8.8900e-003**	**1.8194**	**0.4802**	**8.1800e-003**	**0.4884**		**1,651.1316**	**1,651.1316**	**0.0420**	**0.0387**	**1,663.7129**

Mitigated

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.6 Architectural Coating - 2024

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	27.8695					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.1808	1.2188	1.8101	2.9700e-003		0.0609	0.0609		0.0609	0.0609	0.0000	281.4481	281.4481	0.0159		281.8443
Total	**28.0503**	**1.2188**	**1.8101**	**2.9700e-003**		**0.0609**	**0.0609**		**0.0609**	**0.0609**	**0.0000**	**281.4481**	**281.4481**	**0.0159**		**281.8443**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.7491	0.3433	6.0211	0.0160	1.8105	8.8900e-003	1.8194	0.4802	8.1800e-003	0.4884		1,651.1316	1,651.1316	0.0420	0.0387	1,663.7129
Total	**0.7491**	**0.3433**	**6.0211**	**0.0160**	**1.8105**	**8.8900e-003**	**1.8194**	**0.4802**	**8.1800e-003**	**0.4884**		**1,651.1316**	**1,651.1316**	**0.0420**	**0.0387**	**1,663.7129**

Stone Beetland Project - Sacramento Metropolitan AQMD Air District, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.6 Architectural Coating - 2025

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	27.8695					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.1709	1.1455	1.8091	2.9700e-003		0.0515	0.0515		0.0515	0.0515		281.4481	281.4481	0.0154		281.8319
Total	**28.0404**	**1.1455**	**1.8091**	**2.9700e-003**		**0.0515**	**0.0515**		**0.0515**	**0.0515**		**281.4481**	**281.4481**	**0.0154**		**281.8319**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.7033	0.3082	5.6206	0.0155	1.8105	8.5000e-003	1.8190	0.4802	7.8200e-003	0.4881		1,610.8298	1,610.8298	0.0380	0.0362	1,622.5640
Total	**0.7033**	**0.3082**	**5.6206**	**0.0155**	**1.8105**	**8.5000e-003**	**1.8190**	**0.4802**	**7.8200e-003**	**0.4881**		**1,610.8298**	**1,610.8298**	**0.0380**	**0.0362**	**1,622.5640**

Mitigated

Stone Beetland Project - Sacramento Metropolitan AQMD Air District, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.6 Architectural Coating - 2025

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	27.8695					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.1709	1.1455	1.8091	2.9700e-003		0.0515	0.0515		0.0515	0.0515	0.0000	281.4481	281.4481	0.0154		281.8319
Total	**28.0404**	**1.1455**	**1.8091**	**2.9700e-003**		**0.0515**	**0.0515**		**0.0515**	**0.0515**	**0.0000**	**281.4481**	**281.4481**	**0.0154**		**281.8319**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.7033	0.3082	5.6206	0.0155	1.8105	8.5000e-003	1.8190	0.4802	7.8200e-003	0.4881		1,610.8298	1,610.8298	0.0380	0.0362	1,622.5640
Total	**0.7033**	**0.3082**	**5.6206**	**0.0155**	**1.8105**	**8.5000e-003**	**1.8190**	**0.4802**	**7.8200e-003**	**0.4881**		**1,610.8298**	**1,610.8298**	**0.0380**	**0.0362**	**1,622.5640**

Mitigated

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.6 Architectural Coating - 2026

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	27.8695					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.1709	1.1455	1.8091	2.9700e-003		0.0515	0.0515		0.0515	0.0515		281.4481	281.4481	0.0154		281.8319
Total	**28.0404**	**1.1455**	**1.8091**	**2.9700e-003**		**0.0515**	**0.0515**		**0.0515**	**0.0515**		**281.4481**	**281.4481**	**0.0154**		**281.8319**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.6630	0.2794	5.2852	0.0150	1.8105	8.1000e-003	1.8186	0.4802	7.4600e-003	0.4877		1,572.2978	1,572.2978	0.0346	0.0341	1,583.3260
Total	**0.6630**	**0.2794**	**5.2852**	**0.0150**	**1.8105**	**8.1000e-003**	**1.8186**	**0.4802**	**7.4600e-003**	**0.4877**		**1,572.2978**	**1,572.2978**	**0.0346**	**0.0341**	**1,583.3260**

Mitigated

Stone Beetland Project - Sacramento Metropolitan AQMD Air District, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.6 Architectural Coating - 2026

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	27.8695					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.1709	1.1455	1.8091	2.9700e-003		0.0515	0.0515		0.0515	0.0515	0.0000	281.4481	281.4481	0.0154		281.8319
Total	**28.0404**	**1.1455**	**1.8091**	**2.9700e-003**		**0.0515**	**0.0515**		**0.0515**	**0.0515**	**0.0000**	**281.4481**	**281.4481**	**0.0154**		**281.8319**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.6630	0.2794	5.2852	0.0150	1.8105	8.1000e-003	1.8186	0.4802	7.4600e-003	0.4877		1,572.2978	1,572.2978	0.0346	0.0341	1,583.3260
Total	**0.6630**	**0.2794**	**5.2852**	**0.0150**	**1.8105**	**8.1000e-003**	**1.8186**	**0.4802**	**7.4600e-003**	**0.4877**		**1,572.2978**	**1,572.2978**	**0.0346**	**0.0341**	**1,583.3260**

Mitigated

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

Increase Density

Increase Diversity

Improve Destination Accessibility

Increase Transit Accessibility

Improve Pedestrian Network

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	31.7893	28.3557	240.3231	0.4972	52.5890	0.3648	52.9539	14.0175	0.3407	14.3582		52,308.7838	52,308.7838	3.2067	2.3183	53,079.7954
Unmitigated	33.1885	31.1595	265.9748	0.5617	59.6248	0.4081	60.0328	15.8929	0.3811	16.2740		59,090.4733	59,090.4733	3.4954	2.5490	59,937.4676

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Apartments Low Rise	2,552.49	2,552.49	2552.49	7,377,104	6,506,606
City Park	79.02	79.02	79.02	199,483	175,944
Other Asphalt Surfaces	0.00	0.00	0.00		
Single Family Housing	3,342.08	3,342.08	3342.08	9,659,146	8,519,367
Strip Mall	4,964.34	4,964.34	4964.34	11,049,926	9,746,035
Total	10,937.93	10,937.93	10,937.93	28,285,660	24,947,952

Mitigated

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Apartments Low Rise	10.00	5.00	6.50	46.50	12.50	41.00	100	0	0
City Park	10.00	5.00	6.50	33.00	48.00	19.00	100	0	0
Other Asphalt Surfaces	10.00	5.00	6.50	0.00	0.00	0.00	0	0	0
Single Family Housing	10.00	5.00	6.50	46.50	12.50	41.00	100	0	0
Strip Mall	10.00	5.00	6.50	16.60	64.40	19.00	100	0	0

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Apartments Low Rise	0.550065	0.056538	0.183073	0.126916	0.023794	0.005777	0.013314	0.009484	0.000878	0.000597	0.025554	0.000937	0.003071
City Park	0.550065	0.056538	0.183073	0.126916	0.023794	0.005777	0.013314	0.009484	0.000878	0.000597	0.025554	0.000937	0.003071
Other Asphalt Surfaces	0.550065	0.056538	0.183073	0.126916	0.023794	0.005777	0.013314	0.009484	0.000878	0.000597	0.025554	0.000937	0.003071
Single Family Housing	0.550065	0.056538	0.183073	0.126916	0.023794	0.005777	0.013314	0.009484	0.000878	0.000597	0.025554	0.000937	0.003071
Strip Mall	0.550065	0.056538	0.183073	0.126916	0.023794	0.005777	0.013314	0.009484	0.000878	0.000597	0.025554	0.000937	0.003071

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

Mitigated

Stone Beetland Project - Sacramento Metropolitan AQMD Air District, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
NaturalGas Mitigated	3.6800e-003	0.0335	0.0281	2.0000e-004		2.5400e-003	2.5400e-003		2.5400e-003	2.5400e-003		40.1676	40.1676	7.7000e-004	7.4000e-004	40.4063
NaturalGas Unmitigated	3.6800e-003	0.0335	0.0281	2.0000e-004		2.5400e-003	2.5400e-003		2.5400e-003	2.5400e-003		40.1676	40.1676	7.7000e-004	7.4000e-004	40.4063

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Apartments Low Rise	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
City Park	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Single Family Housing	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Strip Mall	341.425	3.6800e-003	0.0335	0.0281	2.0000e-004		2.5400e-003	2.5400e-003		2.5400e-003	2.5400e-003		40.1676	40.1676	7.7000e-004	7.4000e-004	40.4063
Total		**3.6800e-003**	**0.0335**	**0.0281**	**2.0000e-004**		**2.5400e-003**	**2.5400e-003**		**2.5400e-003**	**2.5400e-003**		**40.1676**	**40.1676**	**7.7000e-004**	**7.4000e-004**	**40.4063**

Mitigated

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

5.2 Energy by Land Use - NaturalGas

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Apartments Low Rise	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
City Park	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Single Family Housing	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Strip Mall	0.341425	3.6800e-003	0.0335	0.0281	2.0000e-004		2.5400e-003	2.5400e-003		2.5400e-003	2.5400e-003		40.1676	40.1676	7.7000e-004	7.4000e-004	40.4063
Total		**3.6800e-003**	**0.0335**	**0.0281**	**2.0000e-004**		**2.5400e-003**	**2.5400e-003**		**2.5400e-003**	**2.5400e-003**		**40.1676**	**40.1676**	**7.7000e-004**	**7.4000e-004**	**40.4063**

6.0 Area Detail

6.1 Mitigation Measures Area

Use Low VOC Paint - Residential Interior

Use Low VOC Paint - Residential Exterior

Use Low VOC Paint - Non-Residential Interior

Use Low VOC Paint - Non-Residential Exterior

No Hearths Installed

Use Low VOC Cleaning Supplies

Stone Beetland Project - Sacramento Metropolitan AQMD Air District, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	35.0481	1.1005	95.5405	5.0500e-003		0.5301	0.5301		0.5301	0.5301	0.0000	172.1983	172.1983	0.1649	0.0000	176.3218
Unmitigated	42.6391	1.1005	95.5405	5.0500e-003		0.5301	0.5301		0.5301	0.5301	0.0000	172.1983	172.1983	0.1649	0.0000	176.3218

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	5.4975					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	34.2723					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Hearth	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	2.8693	1.1005	95.5405	5.0500e-003		0.5301	0.5301		0.5301	0.5301		172.1983	172.1983	0.1649		176.3218
Total	**42.6391**	**1.1005**	**95.5405**	**5.0500e-003**		**0.5301**	**0.5301**		**0.5301**	**0.5301**	**0.0000**	**172.1983**	**172.1983**	**0.1649**	**0.0000**	**176.3218**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	32.1788					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Hearth	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	2.8693	1.1005	95.5405	5.0500e-003		0.5301	0.5301		0.5301	0.5301		172.1983	172.1983	0.1649		176.3218
Total	**35.0481**	**1.1005**	**95.5405**	**5.0500e-003**		**0.5301**	**0.5301**		**0.5301**	**0.5301**	**0.0000**	**172.1983**	**172.1983**	**0.1649**	**0.0000**	**176.3218**

7.0 Water Detail

7.1 Mitigation Measures Water

Stone Beetland Project - Sacramento Metropolitan AQMD Air District, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

8.0 Waste Detail

8.1 Mitigation Measures Waste

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type

Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

Mitigated

Stone Beetland Project - Sacramento Metropolitan AQMD Air District, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

Stone Beetland Project

Sacramento Metropolitan AQMD Air District, Winter

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Other Asphalt Surfaces	17.70	Acre	17.70	771,012.00	0
City Park	8.80	Acre	8.80	383,328.00	0
Apartments Low Rise	711.00	Dwelling Unit	18.00	711,000.00	1898
Single Family Housing	448.00	Dwelling Unit	55.90	806,400.00	1196
Strip Mall	93.00	1000sqft	6.20	93,000.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	3.5	**Precipitation Freq (Days)**	58
Climate Zone	6			**Operational Year**	2026
Utility Company	Sacramento Municipal Utility District				
CO2 Intensity (lb/MWhr)	357.98	**CH4 Intensity (lb/MWhr)**	0.033	**N2O Intensity (lb/MWhr)**	0.004

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - Acreages adjusted per site plan.

Construction Phase - Phase timing adjusted per AQ Questionnaire.

Grading - Based on applicant-provided AQ Questionnaire.

Vehicle Trips - Trip generation rate adjusted to be consistent with project-specific traffic report (Fehr and Peers)

Consumer Products - Based on CARB now regulation of consumer products.

Energy Use - Off-model calculation done to convert natural gas usage to electricity based on assumption that residential would be all electric and commercial would be 75% electric.

Mitigated

Stone Beetland Project - Sacramento Metropolitan AQMD Air District, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

Mobile Land Use Mitigation - Based on AQ Questionnaire.

Area Mitigation - Project-specific MM I-1 would required the use of zero VOC paint.

Table Name	Column Name	Default Value	New Value
tblAreaMitigation	UseLowVOCPaintNonresidentialExteriorValue	100	0
tblAreaMitigation	UseLowVOCPaintNonresidentialInteriorValue	100	0
tblAreaMitigation	UseLowVOCPaintParkingCheck	False	True
tblAreaMitigation	UseLowVOCPaintParkingValue	100	0
tblAreaMitigation	UseLowVOCPaintResidentialExteriorValue	100	0
tblAreaMitigation	UseLowVOCPaintResidentialInteriorValue	100	0
tblConstructionPhase	NumDays	120.00	20.00
tblConstructionPhase	NumDays	310.00	80.00
tblConstructionPhase	NumDays	220.00	60.00
tblConstructionPhase	NumDays	3,100.00	720.00
tblConstructionPhase	NumDays	220.00	720.00
tblConsumerProducts	ROG_EF	2.14E-05	2.11E-05
tblEnergyUse	NT24E	3,172.76	3,524.82
tblEnergyUse	NT24E	6,155.97	6,508.03
tblEnergyUse	NT24E	2.98	3.07
tblEnergyUse	NT24NG	2,687.00	0.00
tblEnergyUse	NT24NG	2,687.00	0.00
tblEnergyUse	NT24NG	0.93	0.23
tblEnergyUse	T24E	108.87	1,284.05
tblEnergyUse	T24E	142.58	2,890.34
tblEnergyUse	T24E	2.91	3.35
tblEnergyUse	T24NG	8,969.37	0.00
tblEnergyUse	T24NG	20,971.81	0.00
tblEnergyUse	T24NG	4.44	1.11
tblGrading	MaterialImported	0.00	120,000.00

Mitigated

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

tblLandUse	LotAcreage	44.44	18.00
tblLandUse	LotAcreage	145.45	55.90
tblLandUse	LotAcreage	2.13	6.20
tblVehicleTrips	DV_TP	11.00	0.00
tblVehicleTrips	DV_TP	28.00	0.00
tblVehicleTrips	DV_TP	11.00	0.00
tblVehicleTrips	DV_TP	40.00	0.00
tblVehicleTrips	PB_TP	3.00	0.00
tblVehicleTrips	PB_TP	6.00	0.00
tblVehicleTrips	PB_TP	3.00	0.00
tblVehicleTrips	PB_TP	15.00	0.00
tblVehicleTrips	PR_TP	86.00	100.00
tblVehicleTrips	PR_TP	66.00	100.00
tblVehicleTrips	PR_TP	86.00	100.00
tblVehicleTrips	PR_TP	45.00	100.00
tblVehicleTrips	ST_TR	8.14	3.59
tblVehicleTrips	ST_TR	1.96	8.98
tblVehicleTrips	ST_TR	9.54	7.46
tblVehicleTrips	ST_TR	42.04	53.38
tblVehicleTrips	SU_TR	6.28	3.59
tblVehicleTrips	SU_TR	2.19	8.98
tblVehicleTrips	SU_TR	8.55	7.46
tblVehicleTrips	SU_TR	20.43	53.38
tblVehicleTrips	WD_TR	7.32	3.59
tblVehicleTrips	WD_TR	0.78	8.98
tblVehicleTrips	WD_TR	9.44	7.46
tblVehicleTrips	WD_TR	44.32	53.38

2.0 Emissions Summary

Stone Beetland Project - Sacramento Metropolitan AQMD Air District, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

2.1 Overall Construction (Maximum Daily Emission)

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2023	34.3138	65.0275	56.8455	0.1810	19.7939	1.6434	21.0607	10.1388	1.5200	11.3042	0.0000	18,983.6641	18,983.6641	2.4594	2.0408	19,653.3081
2024	33.9102	33.1885	54.3367	0.1766	12.8235	0.8119	13.6354	3.4461	0.7676	4.2137	0.0000	18,221.7666	18,221.7666	1.0718	1.2342	18,616.3639
2025	33.5420	31.5609	52.1535	0.1725	12.8232	0.7127	13.5359	3.4460	0.6737	4.1198	0.0000	17,877.4351	17,877.4351	1.0383	1.1990	18,260.6998
2026	33.3200	31.0342	50.3721	0.1686	12.8231	0.7082	13.5313	3.4460	0.6695	4.1155	0.0000	17,544.4649	17,544.4649	1.0120	1.1673	17,917.6299
Maximum	**34.3138**	**65.0275**	**56.8455**	**0.1810**	**19.7939**	**1.6434**	**21.0607**	**10.1388**	**1.5200**	**11.3042**	**0.0000**	**18,983.6641**	**18,983.6641**	**2.4594**	**2.0408**	**19,653.3081**

Mitigated

Stone Beetland Project - Sacramento Metropolitan AQMD Air District, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

2.1 Overall Construction (Maximum Daily Emission)

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2023	34.3138	65.0275	56.8455	0.1810	19.7939	1.6434	21.0607	10.1388	1.5200	11.3042	0.0000	18,983.6641	18,983.6641	2.4594	2.0408	19,653.3081
2024	33.9102	33.1885	54.3367	0.1766	12.8235	0.8119	13.6354	3.4461	0.7676	4.2137	0.0000	18,221.7666	18,221.7666	1.0718	1.2342	18,616.3639
2025	33.5420	31.5609	52.1535	0.1725	12.8232	0.7127	13.5359	3.4460	0.6737	4.1198	0.0000	17,877.4351	17,877.4351	1.0383	1.1990	18,260.6998
2026	33.3200	31.0342	50.3721	0.1686	12.8231	0.7082	13.5313	3.4460	0.6695	4.1155	0.0000	17,544.4649	17,544.4649	1.0120	1.1673	17,917.6299
Maximum	**34.3138**	**65.0275**	**56.8455**	**0.1810**	**19.7939**	**1.6434**	**21.0607**	**10.1388**	**1.5200**	**11.3042**	**0.0000**	**18,983.6641**	**18,983.6641**	**2.4594**	**2.0408**	**19,653.3081**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

Mitigated

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	42.6391	1.1005	95.5405	5.0500e-003		0.5301	0.5301		0.5301	0.5301	0.0000	172.1983	172.1983	0.1649	0.0000	176.3218
Energy	3.6800e-003	0.0335	0.0281	2.0000e-004		2.5400e-003	2.5400e-003		2.5400e-003	2.5400e-003		40.1676	40.1676	7.7000e-004	7.4000e-004	40.4063
Mobile	25.8713	36.0284	263.9589	0.5135	59.6248	0.4086	60.0333	15.8929	0.3816	16.2745		54,034.5515	54,034.5515	3.9247	2.7784	54,960.6401
Total	**68.5141**	**37.1624**	**359.5276**	**0.5188**	**59.6248**	**0.9412**	**60.5660**	**15.8929**	**0.9142**	**16.8071**	**0.0000**	**54,246.9174**	**54,246.9174**	**4.0904**	**2.7792**	**55,177.3682**

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	35.0481	1.1005	95.5405	5.0500e-003		0.5301	0.5301		0.5301	0.5301	0.0000	172.1983	172.1983	0.1649	0.0000	176.3218
Energy	3.6800e-003	0.0335	0.0281	2.0000e-004		2.5400e-003	2.5400e-003		2.5400e-003	2.5400e-003		40.1676	40.1676	7.7000e-004	7.4000e-004	40.4063
Mobile	24.4090	32.7695	241.2783	0.4548	52.5890	0.3654	52.9544	14.0175	0.3412	14.3587		47,855.2603	47,855.2603	3.6353	2.5294	48,699.9096
Total	**59.4608**	**33.9034**	**336.8469**	**0.4601**	**52.5890**	**0.8980**	**53.4870**	**14.0175**	**0.8738**	**14.8914**	**0.0000**	**48,067.6262**	**48,067.6262**	**3.8011**	**2.5302**	**48,916.6377**

Mitigated

Stone Beetland Project - Sacramento Metropolitan AQMD Air District, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	13.21	8.77	6.31	11.32	11.80	4.59	11.69	11.80	4.42	11.40	0.00	11.39	11.39	7.07	8.96	11.35

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Site Preparation	Site Preparation	5/1/2023	5/26/2023	5	20	
2	Grading	Grading	5/27/2023	9/15/2023	5	80	
3	Paving	Paving	9/16/2023	12/8/2023	5	60	
4	Building Construction	Building Construction	12/9/2023	9/11/2026	5	720	
5	Architectural Coating	Architectural Coating	12/23/2023	9/25/2026	5	720	

Acres of Grading (Site Preparation Phase): 30

Acres of Grading (Grading Phase): 240

Acres of Paving: 17.7

Residential Indoor: 3,072,735; Residential Outdoor: 1,024,245; Non-Residential Indoor: 139,500; Non-Residential Outdoor: 46,500; Striped Parking Area: 46,261 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Site Preparation	Rubber Tired Dozers	3	8.00	247	0.40
Site Preparation	Tractors/Loaders/Backhoes	4	8.00	97	0.37
Grading	Excavators	2	8.00	158	0.38
Grading	Graders	1	8.00	187	0.41
Grading	Rubber Tired Dozers	1	8.00	247	0.40
Grading	Scrapers	2	8.00	367	0.48

Mitigated

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

Grading	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Paving	Pavers	2	8.00	130	0.42
Paving	Paving Equipment	2	8.00	132	0.36
Paving	Rollers	2	8.00	80	0.38
Building Construction	Cranes	1	7.00	231	0.29
Building Construction	Forklifts	3	8.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	3	7.00	97	0.37
Building Construction	Welders	1	8.00	46	0.45
Architectural Coating	Air Compressors	1	6.00	78	0.48

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Site Preparation	7	18.00	0.00	0.00	10.00	6.50	20.00	LD_Mix	HDT_Mix	HHDT
Grading	8	20.00	0.00	15,000.00	10.00	6.50	20.00	LD_Mix	HDT_Mix	HHDT
Paving	6	15.00	0.00	0.00	10.00	6.50	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	9	1,188.00	328.00	0.00	10.00	6.50	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	238.00	0.00	0.00	10.00	6.50	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Mitigated

Stone Beetland Project - Sacramento Metropolitan AQMD Air District, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.2 Site Preparation - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					19.6570	0.0000	19.6570	10.1025	0.0000	10.1025			0.0000			0.0000
Off-Road	2.6595	27.5242	18.2443	0.0381		1.2660	1.2660		1.1647	1.1647		3,687.3081	3,687.3081	1.1926		3,717.1219
Total	**2.6595**	**27.5242**	**18.2443**	**0.0381**	**19.6570**	**1.2660**	**20.9230**	**10.1025**	**1.1647**	**11.2672**		**3,687.3081**	**3,687.3081**	**1.1926**		**3,717.1219**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0537	0.0358	0.4272	1.1100e-003	0.1369	7.1000e-004	0.1376	0.0363	6.5000e-004	0.0370		113.9541	113.9541	4.0500e-003	3.6100e-003	115.1305
Total	**0.0537**	**0.0358**	**0.4272**	**1.1100e-003**	**0.1369**	**7.1000e-004**	**0.1376**	**0.0363**	**6.5000e-004**	**0.0370**		**113.9541**	**113.9541**	**4.0500e-003**	**3.6100e-003**	**115.1305**

Mitigated

Stone Beetland Project - Sacramento Metropolitan AQMD Air District, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.2 Site Preparation - 2023

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					19.6570	0.0000	19.6570	10.1025	0.0000	10.1025			0.0000			0.0000
Off-Road	2.6595	27.5242	18.2443	0.0381		1.2660	1.2660		1.1647	1.1647	0.0000	3,687.3081	3,687.3081	1.1926		3,717.1219
Total	**2.6595**	**27.5242**	**18.2443**	**0.0381**	**19.6570**	**1.2660**	**20.9230**	**10.1025**	**1.1647**	**11.2672**	**0.0000**	**3,687.3081**	**3,687.3081**	**1.1926**		**3,717.1219**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0537	0.0358	0.4272	1.1100e-003	0.1369	7.1000e-004	0.1376	0.0363	6.5000e-004	0.0370		113.9541	113.9541	4.0500e-003	3.6100e-003	115.1305
Total	**0.0537**	**0.0358**	**0.4272**	**1.1100e-003**	**0.1369**	**7.1000e-004**	**0.1376**	**0.0363**	**6.5000e-004**	**0.0370**		**113.9541**	**113.9541**	**4.0500e-003**	**3.6100e-003**	**115.1305**

Stone Beetland Project - Sacramento Metropolitan AQMD Air District, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.3 Grading - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					9.5138	0.0000	9.5138	3.7007	0.0000	3.7007			0.0000			0.0000
Off-Road	3.3217	34.5156	28.0512	0.0621		1.4245	1.4245		1.3105	1.3105		6,011.4777	6,011.4777	1.9442		6,060.0836
Total	**3.3217**	**34.5156**	**28.0512**	**0.0621**	**9.5138**	**1.4245**	**10.9383**	**3.7007**	**1.3105**	**5.0113**		**6,011.4777**	**6,011.4777**	**1.9442**		**6,060.0836**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.4848	30.4722	6.0572	0.1177	3.2696	0.2181	3.4878	0.8953	0.2087	1.1040		12,845.5708	12,845.5708	0.5107	2.0368	13,465.3017
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0597	0.0397	0.4747	1.2400e-003	0.1521	7.8000e-004	0.1529	0.0404	7.2000e-004	0.0411		126.6156	126.6156	4.5000e-003	4.0100e-003	127.9228
Total	**0.5444**	**30.5119**	**6.5319**	**0.1189**	**3.4218**	**0.2189**	**3.6407**	**0.9357**	**0.2094**	**1.1451**		**12,972.1864**	**12,972.1864**	**0.5152**	**2.0408**	**13,593.2245**

Mitigated

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.3 Grading - 2023

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					9.5138	0.0000	9.5138	3.7007	0.0000	3.7007			0.0000			0.0000
Off-Road	3.3217	34.5156	28.0512	0.0621		1.4245	1.4245		1.3105	1.3105	0.0000	6,011.4777	6,011.4777	1.9442		6,060.0836
Total	**3.3217**	**34.5156**	**28.0512**	**0.0621**	**9.5138**	**1.4245**	**10.9383**	**3.7007**	**1.3105**	**5.0113**	**0.0000**	**6,011.4777**	**6,011.4777**	**1.9442**		**6,060.0836**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.4848	30.4722	6.0572	0.1177	3.2696	0.2181	3.4878	0.8953	0.2087	1.1040		12,845.5708	12,845.5708	0.5107	2.0368	13,465.3017
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0597	0.0397	0.4747	1.2400e-003	0.1521	7.8000e-004	0.1529	0.0404	7.2000e-004	0.0411		126.6156	126.6156	4.5000e-003	4.0100e-003	127.9228
Total	**0.5444**	**30.5119**	**6.5319**	**0.1189**	**3.4218**	**0.2189**	**3.6407**	**0.9357**	**0.2094**	**1.1451**		**12,972.1864**	**12,972.1864**	**0.5152**	**2.0408**	**13,593.2245**

Stone Beetland Project - Sacramento Metropolitan AQMD Air District, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.4 Paving - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.0327	10.1917	14.5842	0.0228		0.5102	0.5102		0.4694	0.4694		2,207.5841	2,207.5841	0.7140		2,225.4336
Paving	0.7729					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**1.8056**	**10.1917**	**14.5842**	**0.0228**		**0.5102**	**0.5102**		**0.4694**	**0.4694**		**2,207.5841**	**2,207.5841**	**0.7140**		**2,225.4336**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0448	0.0298	0.3560	9.3000e-004	0.1141	5.9000e-004	0.1147	0.0303	5.4000e-004	0.0308		94.9617	94.9617	3.3700e-003	3.0100e-003	95.9421
Total	**0.0448**	**0.0298**	**0.3560**	**9.3000e-004**	**0.1141**	**5.9000e-004**	**0.1147**	**0.0303**	**5.4000e-004**	**0.0308**		**94.9617**	**94.9617**	**3.3700e-003**	**3.0100e-003**	**95.9421**

Mitigated

Stone Beetland Project - Sacramento Metropolitan AQMD Air District, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.4 Paving - 2023

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.0327	10.1917	14.5842	0.0228		0.5102	0.5102		0.4694	0.4694	0.0000	2,207.5841	2,207.5841	0.7140		2,225.4336
Paving	0.7729					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**1.8056**	**10.1917**	**14.5842**	**0.0228**		**0.5102**	**0.5102**		**0.4694**	**0.4694**	**0.0000**	**2,207.5841**	**2,207.5841**	**0.7140**		**2,225.4336**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0448	0.0298	0.3560	9.3000e-004	0.1141	5.9000e-004	0.1147	0.0303	5.4000e-004	0.0308		94.9617	94.9617	3.3700e-003	3.0100e-003	95.9421
Total	**0.0448**	**0.0298**	**0.3560**	**9.3000e-004**	**0.1141**	**5.9000e-004**	**0.1147**	**0.0303**	**5.4000e-004**	**0.0308**		**94.9617**	**94.9617**	**3.3700e-003**	**3.0100e-003**	**95.9421**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.5 Building Construction - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.5728	14.3849	16.2440	0.0269		0.6997	0.6997		0.6584	0.6584		2,555.2099	2,555.2099	0.6079		2,570.4061
Total	**1.5728**	**14.3849**	**16.2440**	**0.0269**		**0.6997**	**0.6997**		**0.6584**	**0.6584**		**2,555.2099**	**2,555.2099**	**0.6079**		**2,570.4061**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.4243	16.3233	4.9434	0.0625	1.9761	0.0858	2.0619	0.5688	0.0820	0.6508		6,708.6069	6,708.6069	0.1649	0.9850	7,006.2711
Worker	3.5454	2.3599	28.1980	0.0735	9.0371	0.0466	9.0837	2.3972	0.0429	2.4401		7,520.9684	7,520.9684	0.2673	0.2381	7,598.6153
Total	**3.9696**	**18.6832**	**33.1413**	**0.1360**	**11.0132**	**0.1324**	**11.1456**	**2.9660**	**0.1249**	**3.0909**		**14,229.5752**	**14,229.5752**	**0.4322**	**1.2232**	**14,604.8864**

Mitigated

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.5 Building Construction - 2023

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.5728	14.3849	16.2440	0.0269		0.6997	0.6997		0.6584	0.6584	0.0000	2,555.2099	2,555.2099	0.6079		2,570.4061
Total	**1.5728**	**14.3849**	**16.2440**	**0.0269**		**0.6997**	**0.6997**		**0.6584**	**0.6584**	**0.0000**	**2,555.2099**	**2,555.2099**	**0.6079**		**2,570.4061**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.4243	16.3233	4.9434	0.0625	1.9761	0.0858	2.0619	0.5688	0.0820	0.6508		6,708.6069	6,708.6069	0.1649	0.9850	7,006.2711
Worker	3.5454	2.3599	28.1980	0.0735	9.0371	0.0466	9.0837	2.3972	0.0429	2.4401		7,520.9684	7,520.9684	0.2673	0.2381	7,598.6153
Total	**3.9696**	**18.6832**	**33.1413**	**0.1360**	**11.0132**	**0.1324**	**11.1456**	**2.9660**	**0.1249**	**3.0909**		**14,229.5752**	**14,229.5752**	**0.4322**	**1.2232**	**14,604.8864**

Mitigated

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.5 Building Construction - 2024

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.4716	13.4438	16.1668	0.0270		0.6133	0.6133		0.5769	0.5769		2,555.6989	2,555.6989	0.6044		2,570.8077
Total	**1.4716**	**13.4438**	**16.1668**	**0.0270**		**0.6133**	**0.6133**		**0.5769**	**0.5769**		**2,555.6989**	**2,555.6989**	**0.6044**		**2,570.8077**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.4052	16.0039	4.7909	0.0613	1.9759	0.0844	2.0603	0.5687	0.0808	0.6495		6,581.6772	6,581.6772	0.1603	0.9685	6,874.2918
Worker	3.3184	2.1011	26.3000	0.0711	9.0371	0.0444	9.0815	2.3972	0.0409	2.4380		7,333.7277	7,333.7277	0.2427	0.2214	7,405.7722
Total	**3.7236**	**18.1050**	**31.0909**	**0.1324**	**11.0130**	**0.1288**	**11.1418**	**2.9659**	**0.1216**	**3.0875**		**13,915.4049**	**13,915.4049**	**0.4030**	**1.1899**	**14,280.0640**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.5 Building Construction - 2024

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.4716	13.4438	16.1668	0.0270		0.6133	0.6133		0.5769	0.5769	0.0000	2,555.6989	2,555.6989	0.6044		2,570.8077
Total	**1.4716**	**13.4438**	**16.1668**	**0.0270**		**0.6133**	**0.6133**		**0.5769**	**0.5769**	**0.0000**	**2,555.6989**	**2,555.6989**	**0.6044**		**2,570.8077**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.4052	16.0039	4.7909	0.0613	1.9759	0.0844	2.0603	0.5687	0.0808	0.6495		6,581.6772	6,581.6772	0.1603	0.9685	6,874.2918
Worker	3.3184	2.1011	26.3000	0.0711	9.0371	0.0444	9.0815	2.3972	0.0409	2.4380		7,333.7277	7,333.7277	0.2427	0.2214	7,405.7722
Total	**3.7236**	**18.1050**	**31.0909**	**0.1324**	**11.0130**	**0.1288**	**11.1418**	**2.9659**	**0.1216**	**3.0875**		**13,915.4049**	**13,915.4049**	**0.4030**	**1.1899**	**14,280.0640**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.5 Building Construction - 2025

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.3674	12.4697	16.0847	0.0270		0.5276	0.5276		0.4963	0.4963		2,556.4744	2,556.4744	0.6010		2,571.4981
Total	**1.3674**	**12.4697**	**16.0847**	**0.0270**		**0.5276**	**0.5276**		**0.4963**	**0.4963**		**2,556.4744**	**2,556.4744**	**0.6010**		**2,571.4981**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.3900	15.6828	4.6780	0.0601	1.9757	0.0827	2.0584	0.5686	0.0791	0.6477		6,448.9441	6,448.9441	0.1569	0.9506	6,736.1542
Worker	3.1194	1.8852	24.6446	0.0687	9.0371	0.0424	9.0795	2.3972	0.0390	2.4362		7,156.7991	7,156.7991	0.2208	0.2069	7,223.9861
Total	**3.5094**	**17.5681**	**29.3225**	**0.1288**	**11.0128**	**0.1251**	**11.1379**	**2.9658**	**0.1181**	**3.0839**		**13,605.7432**	**13,605.7432**	**0.3777**	**1.1576**	**13,960.1403**

Mitigated

Stone Beetland Project - Sacramento Metropolitan AQMD Air District, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.5 Building Construction - 2025

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.3674	12.4697	16.0847	0.0270		0.5276	0.5276		0.4963	0.4963	0.0000	2,556.4744	2,556.4744	0.6010		2,571.4981
Total	**1.3674**	**12.4697**	**16.0847**	**0.0270**		**0.5276**	**0.5276**		**0.4963**	**0.4963**	**0.0000**	**2,556.4744**	**2,556.4744**	**0.6010**		**2,571.4981**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.3900	15.6828	4.6780	0.0601	1.9757	0.0827	2.0584	0.5686	0.0791	0.6477		6,448.9441	6,448.9441	0.1569	0.9506	6,736.1542
Worker	3.1194	1.8852	24.6446	0.0687	9.0371	0.0424	9.0795	2.3972	0.0390	2.4362		7,156.7991	7,156.7991	0.2208	0.2069	7,223.9861
Total	**3.5094**	**17.5681**	**29.3225**	**0.1288**	**11.0128**	**0.1251**	**11.1379**	**2.9658**	**0.1181**	**3.0839**		**13,605.7432**	**13,605.7432**	**0.3777**	**1.1576**	**13,960.1403**

Mitigated

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.5 Building Construction - 2026

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.3674	12.4697	16.0847	0.0270		0.5276	0.5276		0.4963	0.4963		2,556.4744	2,556.4744	0.6010		2,571.4981
Total	**1.3674**	**12.4697**	**16.0847**	**0.0270**		**0.5276**	**0.5276**		**0.4963**	**0.4963**		**2,556.4744**	**2,556.4744**	**0.6010**		**2,571.4981**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.3756	15.3681	4.5837	0.0589	1.9755	0.0806	2.0561	0.5686	0.0771	0.6457		6,319.5729	6,319.5729	0.1535	0.9334	6,601.5464
Worker	2.9464	1.7087	23.2390	0.0665	9.0371	0.0404	9.0775	2.3972	0.0372	2.4344		6,987.1808	6,987.1808	0.2018	0.1949	7,050.3164
Total	**3.3219**	**17.0768**	**27.8226**	**0.1254**	**11.0126**	**0.1210**	**11.1336**	**2.9657**	**0.1143**	**3.0801**		**13,306.7537**	**13,306.7537**	**0.3552**	**1.1283**	**13,651.8628**

Mitigated

Stone Beetland Project - Sacramento Metropolitan AQMD Air District, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.5 Building Construction - 2026

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.3674	12.4697	16.0847	0.0270		0.5276	0.5276		0.4963	0.4963	0.0000	2,556.4744	2,556.4744	0.6010		2,571.4981
Total	**1.3674**	**12.4697**	**16.0847**	**0.0270**		**0.5276**	**0.5276**		**0.4963**	**0.4963**	**0.0000**	**2,556.4744**	**2,556.4744**	**0.6010**		**2,571.4981**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.3756	15.3681	4.5837	0.0589	1.9755	0.0806	2.0561	0.5686	0.0771	0.6457		6,319.5729	6,319.5729	0.1535	0.9334	6,601.5464
Worker	2.9464	1.7087	23.2390	0.0665	9.0371	0.0404	9.0775	2.3972	0.0372	2.4344		6,987.1808	6,987.1808	0.2018	0.1949	7,050.3164
Total	**3.3219**	**17.0768**	**27.8226**	**0.1254**	**11.0126**	**0.1210**	**11.1336**	**2.9657**	**0.1143**	**3.0801**		**13,306.7537**	**13,306.7537**	**0.3552**	**1.1283**	**13,651.8628**

Mitigated

Stone Beetland Project - Sacramento Metropolitan AQMD Air District, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.6 Architectural Coating - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	27.8695					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.1917	1.3030	1.8111	2.9700e-003		0.0708	0.0708		0.0708	0.0708		281.4481	281.4481	0.0168		281.8690
Total	**28.0612**	**1.3030**	**1.8111**	**2.9700e-003**		**0.0708**	**0.0708**		**0.0708**	**0.0708**		**281.4481**	**281.4481**	**0.0168**		**281.8690**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.7103	0.4728	5.6491	0.0147	1.8105	9.3300e-003	1.8198	0.4802	8.5900e-003	0.4888		1,506.7260	1,506.7260	0.0535	0.0477	1,522.2815
Total	**0.7103**	**0.4728**	**5.6491**	**0.0147**	**1.8105**	**9.3300e-003**	**1.8198**	**0.4802**	**8.5900e-003**	**0.4888**		**1,506.7260**	**1,506.7260**	**0.0535**	**0.0477**	**1,522.2815**

Mitigated

Stone Beetland Project - Sacramento Metropolitan AQMD Air District, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.6 Architectural Coating - 2023

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	27.8695					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.1917	1.3030	1.8111	2.9700e-003		0.0708	0.0708		0.0708	0.0708	0.0000	281.4481	281.4481	0.0168		281.8690
Total	**28.0612**	**1.3030**	**1.8111**	**2.9700e-003**		**0.0708**	**0.0708**		**0.0708**	**0.0708**	**0.0000**	**281.4481**	**281.4481**	**0.0168**		**281.8690**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.7103	0.4728	5.6491	0.0147	1.8105	9.3300e-003	1.8198	0.4802	8.5900e-003	0.4888		1,506.7260	1,506.7260	0.0535	0.0477	1,522.2815
Total	**0.7103**	**0.4728**	**5.6491**	**0.0147**	**1.8105**	**9.3300e-003**	**1.8198**	**0.4802**	**8.5900e-003**	**0.4888**		**1,506.7260**	**1,506.7260**	**0.0535**	**0.0477**	**1,522.2815**

Stone Beetland Project - Sacramento Metropolitan AQMD Air District, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.6 Architectural Coating - 2024

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	27.8695					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.1808	1.2188	1.8101	2.9700e-003		0.0609	0.0609		0.0609	0.0609		281.4481	281.4481	0.0159		281.8443
Total	**28.0503**	**1.2188**	**1.8101**	**2.9700e-003**		**0.0609**	**0.0609**		**0.0609**	**0.0609**		**281.4481**	**281.4481**	**0.0159**		**281.8443**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.6648	0.4209	5.2689	0.0142	1.8105	8.8900e-003	1.8194	0.4802	8.1800e-003	0.4884		1,469.2148	1,469.2148	0.0486	0.0444	1,483.6480
Total	**0.6648**	**0.4209**	**5.2689**	**0.0142**	**1.8105**	**8.8900e-003**	**1.8194**	**0.4802**	**8.1800e-003**	**0.4884**		**1,469.2148**	**1,469.2148**	**0.0486**	**0.0444**	**1,483.6480**

Mitigated

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.6 Architectural Coating - 2024

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	27.8695					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.1808	1.2188	1.8101	2.9700e-003		0.0609	0.0609		0.0609	0.0609	0.0000	281.4481	281.4481	0.0159		281.8443
Total	**28.0503**	**1.2188**	**1.8101**	**2.9700e-003**		**0.0609**	**0.0609**		**0.0609**	**0.0609**	**0.0000**	**281.4481**	**281.4481**	**0.0159**		**281.8443**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.6648	0.4209	5.2689	0.0142	1.8105	8.8900e-003	1.8194	0.4802	8.1800e-003	0.4884		1,469.2148	1,469.2148	0.0486	0.0444	1,483.6480
Total	**0.6648**	**0.4209**	**5.2689**	**0.0142**	**1.8105**	**8.8900e-003**	**1.8194**	**0.4802**	**8.1800e-003**	**0.4884**		**1,469.2148**	**1,469.2148**	**0.0486**	**0.0444**	**1,483.6480**

Stone Beetland Project - Sacramento Metropolitan AQMD Air District, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.6 Architectural Coating - 2025

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	27.8695					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.1709	1.1455	1.8091	2.9700e-003		0.0515	0.0515		0.0515	0.0515		281.4481	281.4481	0.0154		281.8319
Total	**28.0404**	**1.1455**	**1.8091**	**2.9700e-003**		**0.0515**	**0.0515**		**0.0515**	**0.0515**		**281.4481**	**281.4481**	**0.0154**		**281.8319**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.6249	0.3777	4.9372	0.0138	1.8105	8.5000e-003	1.8190	0.4802	7.8200e-003	0.4881		1,433.7695	1,433.7695	0.0442	0.0415	1,447.2296
Total	**0.6249**	**0.3777**	**4.9372**	**0.0138**	**1.8105**	**8.5000e-003**	**1.8190**	**0.4802**	**7.8200e-003**	**0.4881**		**1,433.7695**	**1,433.7695**	**0.0442**	**0.0415**	**1,447.2296**

Mitigated

Stone Beetland Project - Sacramento Metropolitan AQMD Air District, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.6 Architectural Coating - 2025

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	27.8695					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.1709	1.1455	1.8091	2.9700e-003		0.0515	0.0515		0.0515	0.0515	0.0000	281.4481	281.4481	0.0154		281.8319
Total	**28.0404**	**1.1455**	**1.8091**	**2.9700e-003**		**0.0515**	**0.0515**		**0.0515**	**0.0515**	**0.0000**	**281.4481**	**281.4481**	**0.0154**		**281.8319**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.6249	0.3777	4.9372	0.0138	1.8105	8.5000e-003	1.8190	0.4802	7.8200e-003	0.4881		1,433.7695	1,433.7695	0.0442	0.0415	1,447.2296
Total	**0.6249**	**0.3777**	**4.9372**	**0.0138**	**1.8105**	**8.5000e-003**	**1.8190**	**0.4802**	**7.8200e-003**	**0.4881**		**1,433.7695**	**1,433.7695**	**0.0442**	**0.0415**	**1,447.2296**

Stone Beetland Project - Sacramento Metropolitan AQMD Air District, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.6 Architectural Coating - 2026

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	27.8695					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.1709	1.1455	1.8091	2.9700e-003		0.0515	0.0515		0.0515	0.0515		281.4481	281.4481	0.0154		281.8319
Total	**28.0404**	**1.1455**	**1.8091**	**2.9700e-003**		**0.0515**	**0.0515**		**0.0515**	**0.0515**		**281.4481**	**281.4481**	**0.0154**		**281.8319**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.5903	0.3423	4.6556	0.0133	1.8105	8.1000e-003	1.8186	0.4802	7.4600e-003	0.4877		1,399.7888	1,399.7888	0.0404	0.0391	1,412.4371
Total	**0.5903**	**0.3423**	**4.6556**	**0.0133**	**1.8105**	**8.1000e-003**	**1.8186**	**0.4802**	**7.4600e-003**	**0.4877**		**1,399.7888**	**1,399.7888**	**0.0404**	**0.0391**	**1,412.4371**

Mitigated

Stone Beetland Project - Sacramento Metropolitan AQMD Air District, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.6 Architectural Coating - 2026

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	27.8695					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.1709	1.1455	1.8091	2.9700e-003		0.0515	0.0515		0.0515	0.0515	0.0000	281.4481	281.4481	0.0154		281.8319
Total	**28.0404**	**1.1455**	**1.8091**	**2.9700e-003**		**0.0515**	**0.0515**		**0.0515**	**0.0515**	**0.0000**	**281.4481**	**281.4481**	**0.0154**		**281.8319**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.5903	0.3423	4.6556	0.0133	1.8105	8.1000e-003	1.8186	0.4802	7.4600e-003	0.4877		1,399.7888	1,399.7888	0.0404	0.0391	1,412.4371
Total	**0.5903**	**0.3423**	**4.6556**	**0.0133**	**1.8105**	**8.1000e-003**	**1.8186**	**0.4802**	**7.4600e-003**	**0.4877**		**1,399.7888**	**1,399.7888**	**0.0404**	**0.0391**	**1,412.4371**

Mitigated

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

Increase Density

Increase Diversity

Improve Destination Accessibility

Increase Transit Accessibility

Improve Pedestrian Network

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	24.4090	32.7695	241.2783	0.4548	52.5890	0.3654	52.9544	14.0175	0.3412	14.3587		47,855.2603	47,855.2603	3.6353	2.5294	48,699.9096
Unmitigated	25.8713	36.0284	263.9589	0.5135	59.6248	0.4086	60.0333	15.8929	0.3816	16.2745		54,034.5515	54,034.5515	3.9247	2.7784	54,960.6401

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Apartments Low Rise	2,552.49	2,552.49	2552.49	7,377,104	6,506,606
City Park	79.02	79.02	79.02	199,483	175,944
Other Asphalt Surfaces	0.00	0.00	0.00		
Single Family Housing	3,342.08	3,342.08	3342.08	9,659,146	8,519,367
Strip Mall	4,964.34	4,964.34	4964.34	11,049,926	9,746,035
Total	10,937.93	10,937.93	10,937.93	28,285,660	24,947,952

Mitigated

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Apartments Low Rise	10.00	5.00	6.50	46.50	12.50	41.00	100	0	0
City Park	10.00	5.00	6.50	33.00	48.00	19.00	100	0	0
Other Asphalt Surfaces	10.00	5.00	6.50	0.00	0.00	0.00	0	0	0
Single Family Housing	10.00	5.00	6.50	46.50	12.50	41.00	100	0	0
Strip Mall	10.00	5.00	6.50	16.60	64.40	19.00	100	0	0

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Apartments Low Rise	0.550065	0.056538	0.183073	0.126916	0.023794	0.005777	0.013314	0.009484	0.000878	0.000597	0.025554	0.000937	0.003071
City Park	0.550065	0.056538	0.183073	0.126916	0.023794	0.005777	0.013314	0.009484	0.000878	0.000597	0.025554	0.000937	0.003071
Other Asphalt Surfaces	0.550065	0.056538	0.183073	0.126916	0.023794	0.005777	0.013314	0.009484	0.000878	0.000597	0.025554	0.000937	0.003071
Single Family Housing	0.550065	0.056538	0.183073	0.126916	0.023794	0.005777	0.013314	0.009484	0.000878	0.000597	0.025554	0.000937	0.003071
Strip Mall	0.550065	0.056538	0.183073	0.126916	0.023794	0.005777	0.013314	0.009484	0.000878	0.000597	0.025554	0.000937	0.003071

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

Mitigated

Stone Beetland Project - Sacramento Metropolitan AQMD Air District, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
NaturalGas Mitigated	3.6800e-003	0.0335	0.0281	2.0000e-004		2.5400e-003	2.5400e-003		2.5400e-003	2.5400e-003		40.1676	40.1676	7.7000e-004	7.4000e-004	40.4063
NaturalGas Unmitigated	3.6800e-003	0.0335	0.0281	2.0000e-004		2.5400e-003	2.5400e-003		2.5400e-003	2.5400e-003		40.1676	40.1676	7.7000e-004	7.4000e-004	40.4063

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Apartments Low Rise	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
City Park	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Single Family Housing	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Strip Mall	341.425	3.6800e-003	0.0335	0.0281	2.0000e-004		2.5400e-003	2.5400e-003		2.5400e-003	2.5400e-003		40.1676	40.1676	7.7000e-004	7.4000e-004	40.4063
Total		**3.6800e-003**	**0.0335**	**0.0281**	**2.0000e-004**		**2.5400e-003**	**2.5400e-003**		**2.5400e-003**	**2.5400e-003**		**40.1676**	**40.1676**	**7.7000e-004**	**7.4000e-004**	**40.4063**

Mitigated

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

5.2 Energy by Land Use - NaturalGas

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Apartments Low Rise	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
City Park	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Single Family Housing	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Strip Mall	0.341425	3.6800e-003	0.0335	0.0281	2.0000e-004		2.5400e-003	2.5400e-003		2.5400e-003	2.5400e-003		40.1676	40.1676	7.7000e-004	7.4000e-004	40.4063
Total		**3.6800e-003**	**0.0335**	**0.0281**	**2.0000e-004**		**2.5400e-003**	**2.5400e-003**		**2.5400e-003**	**2.5400e-003**		**40.1676**	**40.1676**	**7.7000e-004**	**7.4000e-004**	**40.4063**

6.0 Area Detail

6.1 Mitigation Measures Area

Use Low VOC Paint - Residential Interior

Use Low VOC Paint - Residential Exterior

Use Low VOC Paint - Non-Residential Interior

Use Low VOC Paint - Non-Residential Exterior

No Hearths Installed

Use Low VOC Cleaning Supplies

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	35.0481	1.1005	95.5405	5.0500e-003		0.5301	0.5301		0.5301	0.5301	0.0000	172.1983	172.1983	0.1649	0.0000	176.3218
Unmitigated	42.6391	1.1005	95.5405	5.0500e-003		0.5301	0.5301		0.5301	0.5301	0.0000	172.1983	172.1983	0.1649	0.0000	176.3218

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	5.4975					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	34.2723					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Hearth	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	2.8693	1.1005	95.5405	5.0500e-003		0.5301	0.5301		0.5301	0.5301		172.1983	172.1983	0.1649		176.3218
Total	**42.6391**	**1.1005**	**95.5405**	**5.0500e-003**		**0.5301**	**0.5301**		**0.5301**	**0.5301**	**0.0000**	**172.1983**	**172.1983**	**0.1649**	**0.0000**	**176.3218**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	32.1788					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Hearth	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	2.8693	1.1005	95.5405	5.0500e-003		0.5301	0.5301		0.5301	0.5301		172.1983	172.1983	0.1649		176.3218
Total	**35.0481**	**1.1005**	**95.5405**	**5.0500e-003**		**0.5301**	**0.5301**		**0.5301**	**0.5301**	**0.0000**	**172.1983**	**172.1983**	**0.1649**	**0.0000**	**176.3218**

7.0 Water Detail

7.1 Mitigation Measures Water

Stone Beetland Project - Sacramento Metropolitan AQMD Air District, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

8.0 Waste Detail

8.1 Mitigation Measures Waste

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type

Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

Mitigated

Stone Beetland Project

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

Sacramento Metropolitan AQMD Air District, Mitigation Report

Construction Mitigation Summary

Phase	ROG	NOx	CO	SO2	Exhaust PM10	Exhaust PM2.5	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction												
Architectural Coating	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Building Construction	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Grading	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Paving	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Site Preparation	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

OFFROAD Equipment Mitigation

Mitigated

Stone Beetland Project

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

Equipment Type	Fuel Type	Tier	Number Mitigated	Total Number of Equipment	DPF	Oxidation Catalyst
Air Compressors	Diesel	No Change	0	1	No Change	0.00
Cranes	Diesel	No Change	0	1	No Change	0.00
Excavators	Diesel	No Change	0	2	No Change	0.00
Forklifts	Diesel	No Change	0	3	No Change	0.00
Generator Sets	Diesel	No Change	0	1	No Change	0.00
Graders	Diesel	No Change	0	1	No Change	0.00
Pavers	Diesel	No Change	0	2	No Change	0.00
Paving Equipment	Diesel	No Change	0	2	No Change	0.00
Rollers	Diesel	No Change	0	2	No Change	0.00
Rubber Tired Dozers	Diesel	No Change	0	4	No Change	0.00
Scrapers	Diesel	No Change	0	2	No Change	0.00
Tractors/Loaders/Backhoes	Diesel	No Change	0	9	No Change	0.00
Welders	Diesel	No Change	0	1	No Change	0.00

Stone Beetland Project

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

Equipment Type	ROG	NOx	CO	SO2	Exhaust PM10	Exhaust PM2.5	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
	Unmitigated tons/yr						Unmitigated mt/yr					
Air Compressors	6.28600E-002	4.22380E-001	6.51420E-001	1.07000E-003	1.98200E-002	1.98200E-002	0.00000E+000	9.19171E+001	9.19171E+001	5.08000E-003	0.00000E+000	9.20440E+001
Cranes	1.00960E-001	1.04070E+000	5.52010E-001	1.82000E-003	4.38600E-002	4.03500E-002	0.00000E+000	1.59690E+002	1.59690E+002	5.16500E-002	0.00000E+000	1.60981E+002
Excavators	1.50900E-002	1.23890E-001	2.60620E-001	4.10000E-004	6.06000E-003	5.58000E-003	0.00000E+000	3.62951E+001	3.62951E+001	1.17400E-002	0.00000E+000	3.65885E+001
Forklifts	9.70600E-002	9.12740E-001	1.22688E+000	1.65000E-003	5.05000E-002	4.64600E-002	0.00000E+000	1.45035E+002	1.45035E+002	4.69100E-002	0.00000E+000	1.46207E+002
Generator Sets	9.86400E-002	8.84290E-001	1.31807E+000	2.37000E-003	3.65900E-002	3.65900E-002	0.00000E+000	2.03475E+002	2.03475E+002	7.81000E-003	0.00000E+000	2.03670E+002
Graders	1.53400E-002	1.86120E-001	6.77000E-002	2.60000E-004	6.03000E-003	5.55000E-003	0.00000E+000	2.32550E+001	2.32550E+001	7.52000E-003	0.00000E+000	2.34430E+001
Pavers	1.15200E-002	1.12970E-001	1.72990E-001	2.80000E-004	5.31000E-003	4.89000E-003	0.00000E+000	2.47780E+001	2.47780E+001	8.01000E-003	0.00000E+000	2.49783E+001
Paving Equipment	1.02400E-002	9.61800E-002	1.53400E-001	2.40000E-004	4.68000E-003	4.30000E-003	0.00000E+000	2.14713E+001	2.14713E+001	6.94000E-003	0.00000E+000	2.16449E+001
Rollers	9.22000E-003	9.66100E-002	1.11130E-001	1.60000E-004	5.32000E-003	4.89000E-003	0.00000E+000	1.38314E+001	1.38314E+001	4.47000E-003	0.00000E+000	1.39432E+001
Rubber Tired Dozers	4.79300E-002	4.98900E-001	2.17440E-001	6.00000E-004	2.24600E-002	2.06700E-002	0.00000E+000	5.25170E+001	5.25170E+001	1.69900E-002	0.00000E+000	5.29416E+001
Scrapers	6.29400E-002	6.62670E-001	4.90960E-001	1.21000E-003	2.59800E-002	2.39000E-002	0.00000E+000	1.06694E+002	1.06694E+002	3.45100E-002	0.00000E+000	1.07557E+002
Tractors/Loaders/ Backhoes	1.47460E-001	1.48881E+000	2.37686E+000	3.32000E-003	6.49000E-002	5.97100E-002	0.00000E+000	2.91681E+002	2.91681E+002	9.43400E-002	0.00000E+000	2.94039E+002
Welders	8.14900E-002	4.88800E-001	5.96370E-001	9.20000E-004	1.56900E-002	1.56900E-002	0.00000E+000	6.77594E+001	6.77594E+001	6.63000E-003	0.00000E+000	6.79252E+001

Stone Beetland Project

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

Equipment Type	ROG	NOx	CO	SO2	Exhaust PM10	Exhaust PM2.5	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
	Mitigated tons/yr						Mitigated mt/yr					
Air Compressors	6.28600E-002	4.22380E-001	6.51420E-001	1.07000E-003	1.98200E-002	1.98200E-002	0.00000E+000	9.19170E+001	9.19170E+001	5.08000E-003	0.00000E+000	9.20439E+001
Cranes	1.00960E-001	1.04070E+000	5.52010E-001	1.82000E-003	4.38600E-002	4.03500E-002	0.00000E+000	1.59690E+002	1.59690E+002	5.16500E-002	0.00000E+000	1.60981E+002
Excavators	1.50900E-002	1.23890E-001	2.60620E-001	4.10000E-004	6.06000E-003	5.58000E-003	0.00000E+000	3.62950E+001	3.62950E+001	1.17400E-002	0.00000E+000	3.65885E+001
Forklifts	9.70600E-002	9.12730E-001	1.22688E+000	1.65000E-003	5.05000E-002	4.64600E-002	0.00000E+000	1.45034E+002	1.45034E+002	4.69100E-002	0.00000E+000	1.46207E+002
Generator Sets	9.86400E-002	8.84290E-001	1.31807E+000	2.37000E-003	3.65900E-002	3.65900E-002	0.00000E+000	2.03474E+002	2.03474E+002	7.81000E-003	0.00000E+000	2.03670E+002
Graders	1.53400E-002	1.86120E-001	6.77000E-002	2.60000E-004	6.03000E-003	5.55000E-003	0.00000E+000	2.32549E+001	2.32549E+001	7.52000E-003	0.00000E+000	2.34430E+001
Pavers	1.15200E-002	1.12970E-001	1.72990E-001	2.80000E-004	5.31000E-003	4.89000E-003	0.00000E+000	2.47779E+001	2.47779E+001	8.01000E-003	0.00000E+000	2.49783E+001
Paving Equipment	1.02400E-002	9.61800E-002	1.53400E-001	2.40000E-004	4.68000E-003	4.30000E-003	0.00000E+000	2.14712E+001	2.14712E+001	6.94000E-003	0.00000E+000	2.16449E+001
Rollers	9.22000E-003	9.66100E-002	1.11130E-001	1.60000E-004	5.32000E-003	4.89000E-003	0.00000E+000	1.38313E+001	1.38313E+001	4.47000E-003	0.00000E+000	1.39432E+001
Rubber Tired Dozers	4.79300E-002	4.98900E-001	2.17440E-001	6.00000E-004	2.24600E-002	2.06700E-002	0.00000E+000	5.25169E+001	5.25169E+001	1.69900E-002	0.00000E+000	5.29415E+001
Scrapers	6.29400E-002	6.62670E-001	4.90960E-001	1.21000E-003	2.59800E-002	2.39000E-002	0.00000E+000	1.06694E+002	1.06694E+002	3.45100E-002	0.00000E+000	1.07557E+002
Tractors/Loaders/Backhoes	1.47460E-001	1.48880E+000	2.37686E+000	3.32000E-003	6.49000E-002	5.97100E-002	0.00000E+000	2.91681E+002	2.91681E+002	9.43400E-002	0.00000E+000	2.94039E+002
Welders	8.14900E-002	4.88800E-001	5.96370E-001	9.20000E-004	1.56900E-002	1.56900E-002	0.00000E+000	6.77594E+001	6.77594E+001	6.63000E-003	0.00000E+000	6.79251E+001

Mitigated

Stone Beetland Project

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

Equipment Type	ROG	NOx	CO	SO2	Exhaust PM10	Exhaust PM2.5	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction												
Air Compressors	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	1.08794E-006	1.08794E-006	0.00000E+000	0.00000E+000	1.19508E-006
Cranes	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	1.18981E-006	1.18981E-006	0.00000E+000	0.00000E+000	1.18026E-006
Excavators	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	1.37760E-006	1.37760E-006	0.00000E+000	0.00000E+000	1.09324E-006
Forklifts	0.00000E+000	1.09560E-005	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	1.24108E-006	1.24108E-006	0.00000E+000	0.00000E+000	1.16273E-006
Generator Sets	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	1.17951E-006	1.17951E-006	0.00000E+000	0.00000E+000	1.22748E-006
Graders	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	1.29005E-006	1.29005E-006	0.00000E+000	0.00000E+000	1.27970E-006
Pavers	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	1.21075E-006	1.21075E-006	0.00000E+000	0.00000E+000	1.20104E-006
Paving Equipment	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	1.39722E-006	1.39722E-006	0.00000E+000	0.00000E+000	1.38601E-006
Rollers	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	1.44599E-006	1.44599E-006	0.00000E+000	0.00000E+000	1.43439E-006
Rubber Tired Dozers	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	1.14249E-006	1.14249E-006	0.00000E+000	0.00000E+000	1.32221E-006
Scrapers	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	1.12471E-006	1.12471E-006	0.00000E+000	0.00000E+000	1.20866E-006
Tractors/Loaders/Backhoes	0.00000E+000	6.71677E-006	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	1.16566E-006	1.16566E-006	0.00000E+000	0.00000E+000	1.19032E-006
Welders	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	1.18065E-006	1.18065E-006	0.00000E+000	0.00000E+000	1.32499E-006

Fugitive Dust Mitigation

Yes/No	Mitigation Measure	Mitigation Input		Mitigation Input		Mitigation Input	
No	Soil Stabilizer for unpaved Roads	PM10 Reduction		PM2.5 Reduction			

Mitigated

Stone Beetland Project

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

No	Replace Ground Cover of Area Disturbed	PM10 Reduction		PM2.5 Reduction			
No	Water Exposed Area	PM10 Reduction		PM2.5 Reduction		Frequency (per day)	
No	Unpaved Road Mitigation	Moisture Content %		Vehicle Speed (mph)	0.00		
No	Clean Paved Road	% PM Reduction	0.00				

		Unmitigated		Mitigated		Percent Reduction	
Phase	Source	PM10	PM2.5	PM10	PM2.5	PM10	PM2.5
Architectural Coating	Fugitive Dust	0.00	0.00	0.00	0.00	0.00	0.00
Architectural Coating	Roads	0.63	0.17	0.63	0.17	0.00	0.00
Building Construction	Fugitive Dust	0.00	0.00	0.00	0.00	0.00	0.00
Building Construction	Roads	3.83	1.04	3.83	1.04	0.00	0.00
Grading	Fugitive Dust	0.38	0.15	0.38	0.15	0.00	0.00
Grading	Roads	0.13	0.04	0.13	0.04	0.00	0.00
Paving	Fugitive Dust	0.00	0.00	0.00	0.00	0.00	0.00
Paving	Roads	0.00	0.00	0.00	0.00	0.00	0.00
Site Preparation	Fugitive Dust	0.20	0.10	0.20	0.10	0.00	0.00
Site Preparation	Roads	0.00	0.00	0.00	0.00	0.00	0.00

Operational Percent Reduction Summary

Stone Beetland Project

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

Category	ROG	NOx	CO	SO2	Exhaust PM10	Exhaust PM2.5	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction												
Architectural Coating	100.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Consumer Products	6.11	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hearth	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Landscaping	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Mobile	5.22	9.09	9.03	11.45	10.59	10.60	0.00	11.45	11.45	7.77	9.05	11.41
Natural Gas	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Water Indoor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Water Outdoor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Operational Mobile Mitigation

Project Setting: Suburban Center

Mitigation	Category	Measure	% Reduction	Input Value 1	Input Value 2	Input Value 3
Yes	Land Use	Increase Density	0.00	20.90	0.00	
Yes	Land Use	Increase Diversity	0.30	0.66		
No	Land Use	Improve Walkability Design	0.00	0.00		
Yes	Land Use	Improve Destination Accessibility	0.03	10.30		
Yes	Land Use	Increase Transit Accessibility	0.24	0.01		
No	Land Use	Integrate Below Market Rate Housing	0.00	0.00		
	Land Use	Land Use SubTotal	0.10			

Stone Beetland Project

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

Yes	Neighborhood Enhancements	Improve Pedestrian Network	2.00	Project Site and Connecting Off-Site		
No	Neighborhood Enhancements	Provide Traffic Calming Measures				
No	Neighborhood Enhancements	Implement NEV Network	0.00			
	Neighborhood Enhancements	Neighborhood Enhancements Subtotal	0.02			
Yes	Parking Policy Pricing	Limit Parking Supply	0.00	0.00		
No	Parking Policy Pricing	Unbundle Parking Costs	0.00	0.00		
No	Parking Policy Pricing	On-street Market Pricing	0.00	0.00		
	Parking Policy Pricing	Parking Policy Pricing Subtotal	0.00			
No	Transit Improvements	Provide BRT System	0.00	0.00		
No	Transit Improvements	Expand Transit Network	0.00	0.00		
No	Transit Improvements	Increase Transit Frequency	0.00		0.00	
	Transit Improvements	Transit Improvements Subtotal	0.00			
		Land Use and Site Enhancement Subtotal	0.12			
No	Commute	Implement Trip Reduction Program				
No	Commute	Transit Subsidy				
No	Commute	Implement Employee Parking "Cash Out"	4.50			
No	Commute	Workplace Parking Charge		0.00		
No	Commute	Encourage Telecommuting and Alternative Work Schedules	0.00			
No	Commute	Market Commute Trip Reduction Option	0.00			
No	Commute	Employee Vanpool/Shuttle	0.00		2.00	

Mitigated

Stone Beetland Project

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

No	Commute	Provide Ride Sharing Program	10.00			
	Commute	Commute Subtotal	0.00			
No	School Trip	Implement School Bus Program	0.00			
		Total VMT Reduction	0.12			

Area Mitigation

Measure Implemented	Mitigation Measure	Input Value
No	Only Natural Gas Hearth	
Yes	No Hearth	
Yes	Use Low VOC Cleaning Supplies	
Yes	Use Low VOC Paint (Residential Interior)	0.00
Yes	Use Low VOC Paint (Residential Exterior)	0.00
Yes	Use Low VOC Paint (Non-residential Interior)	0.00
Yes	Use Low VOC Paint (Non-residential Exterior)	0.00
Yes	Use Low VOC Paint (Parking)	0.00
No	% Electric Lawnmower	
No	% Electric Leafblower	
No	% Electric Chainsaw	

Energy Mitigation Measures

Measure Implemented	Mitigation Measure	Input Value 1	Input Value 2
No	Exceed Title 24		

Stone Beetland Project

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

No	Install High Efficiency Lighting		
No	On-site Renewable		

Appliance Type	Land Use Subtype	% Improvement
ClothWasher		30.00
DishWasher		15.00
Fan		50.00
Refrigerator		15.00

Water Mitigation Measures

Measure Implemented	Mitigation Measure	Input Value 1	Input Value 2
No	Apply Water Conservation on Strategy		
No	Use Reclaimed Water		
No	Use Grey Water		
No	Install low-flow bathroom faucet	32.00	
No	Install low-flow Kitchen faucet	18.00	
No	Install low-flow Toilet	20.00	
No	Install low-flow Shower	20.00	
No	Turf Reduction		
No	Use Water Efficient Irrigation Systems	6.10	
No	Water Efficient Landscape		

Solid Waste Mitigation

Mitigated

Stone Beetland Project

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

Mitigation Measures	Input Value
Institute Recycling and Composting Services Percent Reduction in Waste Disposed	

Mitigated

APPENDIX B

BIOLOGICAL RESOURCES AND REGULATORY CONSTRAINTS MEMO

MADRONE ECOLOGICAL CONSULTING

Memo

To: Milt Eberle, WGID Enterprises

From: Sarah Vonderohe, Principal

Date: 3 October 2019

Subject: **Biological Resources and Regulatory Constraints Due Diligence Memo for the Stone-Boswell Property, Sacramento, California**

Dear Mr. Eberle:

At your request, Madrone Ecological Consulting, LLC (Madrone) completed a due diligence analysis of potential biological and regulatory constraints associated with the development of the Stone-Boswell Property (Study Area). This memo summarizes the results of a field survey and database review, as well as regulatory permits that may be necessary should the project result in impacts to any sensitive biological resources with potential to occur within the Study Area.

Location

The approximately 127-acre Stone-Boswell property is located northeast of the intersection of Cosumnes River Boulevard and Delta Shores Circle in the City of Sacramento, Sacramento County, California. The Study Area is located within Sections 7, 8, 17, and 18; Township 7 North; Range 5 East (MDB&M) of the "*Florin, California*" 7.5-Minute Series USGS Topographic Quadrangle (USGS 2015) (**Figure 1**).

Methodology

Prior to the field survey Madrone, senior biologist Matt Hirkala completed a desktop review of publicly available biological and regulatory information pertinent to the Study Area. Databases queried included the California Natural Diversity Database (CNDDB); U.S. Fish and Wildlife Service (USFWS) National Wetland Inventory; USFWS Critical Habitat Mapper; Natural Resources Conservation Service (NRCS) Web Soil Survey; USFWS Information, Planning and Consultation System (IPaC); California Native Plant Society databases; historic aerial photography; and USGS topographic maps.

Mr. Hirkala, who also performed assessments at the site in 2005 and 2007, conducted a survey of the Study Area on 20 September 2019, the purpose of which was to determine whether the Study Area provided suitable habitat for special-status species and to map any potential aquatic resources that might be present. Mr. Hirkala conducted a meandering pedestrian survey of the Study Area and noted wildlife and plant species observed in addition to any suitable habitat for special-status species including elderberry (*Sambucus* species) shrubs and/or potential aquatic resources.

Results

Existing Site Conditions

Most of the site is characterized by flat terrain that has been historically leveled, ditched, and drained for agricultural use. The northern portion displayed uneven topography and contained trash piles and several gardens installed by neighbors. A residential development abuts the site to the north, while fallow agricultural lands occupy areas to the south and west. The eastern boundary borders the toe of a large levee constructed along Morrison Creek. A portion of the Sacramento Regional Transit Light Rail "Blue Line" (Light Rail) parallels the eastern boundary just west of Morrison Creek. A newly constructed Light Rail station and detention basin are located directly adjacent to the Light Rail line; this station is not currently in use.

The majority of the property currently supports fallow agricultural fields reverting to annual brome grasslands and are characterized by soft chess (*Bromus hordeaceus*), wild oats (*Avena fatua*), rip-gut brome (*Bromus diandrus*), and perennial rye (*Lolium perenne*). Common herbaceous species include prickly lettuce (*Lactuca serriola*), yellow star-thistle (*Centauria solstitialis*), and alkali mallow (*Malvella leprosa*). The edges of the fields support ruderal vegetation, including stinkwort (*Dittrichia graveolens*), Russian thistle (*Salsola tragus*), tumbleweed amaranth (*Amaranthus albus*), pigweed amaranth (*A. blitoides*), rough cocklebur (*Xanthium strumarium*), wild radish (*Raphanus sativus*), milk thistle (*Silybum marianum*), and white goosefoot (*Chenopodium album*). The perimeter of the site was disked to form firebreaks, but vegetation was present in these areas. The area immediately south of the abutting residential development to the north support a variety of non-native and ornamental trees and shrubs including fruitless mulberry (*Morus alba*) and tree of heaven (*Ailanthus altissima*). A small thicket of willows (*Salix* spp.) and poison oak (*Toxicodendron diversilobum*) flank the banks of a small intermittent drainage in the southeast corner of the Study Area; a well-developed homeless encampment is present within this riparian corridor.

The NRCS mapped the six soil units listed below within the Project Area (NRCS 2019):

1. *Clear Lake clay, partially drained, 0 to 2% slopes, frequently flooded (114)* – the Clear Lake component and the Dierssen and Egbert inclusions are classified as hydric. This soil map unit is non-saline to slightly saline; and the pH ranges from slightly acid to moderately alkaline within the upper portion of the root zone.

2. *Clear Lake clay, hardpan substratum, drained, 0 to 1% slopes (115)* – the Clear Lake component and the Cosumnes inclusion are classified as hydric. This soil map unit is non-saline to very slightly saline; and the pH ranges from slightly acid to moderately alkaline within the upper portion of the root zone.

3. *Egbert clay, partially drained, 0 to 2% slopes (141)* - the Egbert component and the Clear Lake, Gazwell, Laugenour, Scribner, and Valpac inclusions are classified as hydric. This soil map unit is non-saline to very slightly saline; and the pH ranges from slightly acid to slightly alkaline within the upper portion of the root zone.

4. *Galt clay, 0 to 1% slopes, MLRA 17 (152)* – the Galt component and the Clear Lake inclusion are classified as hydric. This soil map unit is non-saline; and the pH ranges from slightly acid to neutral within the upper portion of the root zone.

5. *Galt clay, 0 to 4% slopes, MLRA 17 (153)* – the Galt component and the Clear Lake inclusion are within the root zone. classified as hydric. This soil map unit is non-saline; and the pH ranges from slightly acid to neutral within the upper portion of the root zone.

6. *Galt-Urban land complex, 0 to 1% slopes, MLRA 17 (154)* – the Galt component and the Clear Lake and Egbert inclusions are classified as hydric. This soil map unit is non-saline; and the pH ranges from slightly acid to neutral within the upper portion of the root zone.

Aquatic Resources

Approximately 0.543 acres of potential aquatic resources were mapped within the Study Area during the 2019 (**Table 1**). See **Figure 2** for locations of the potential aquatic resources.

Table 1. Potential Aquatic Resources within the Study Area

Aquatic Resource Type	Study Area (ac.)
Detention Basin	0.242
Ephemeral Ditch	0.018
Intermittent Ditch	0.201
Intermittent Drainage	0.082
Total	**0.543**

Special-Status Species

A list of special-status species known to occur in the vicinity the Study Area was created based on the results of the above-listed database queries and is included in **Table 2**. Their potential to occur on-site based on the habitat present within the Study Area is also noted, along with their federal and state status.

Table 2. Special-Status Species with Potential to Occur within the Stone-Boswell Property

Special-Status Species	Federal Status	State Status	Potential for Occurrence
Plants			
Ferris's milk-vetch (*Astragalus tener* var. *ferrisiae*)	-	CRPR 1B.1	No habitat present
Watershield (*Brasenia schreberi*)	-	CRPR 2B.3	No habitat present
Bristly sedge (*Carex comosa*)	-	CRPR 2B.1	No habitat present
Pappose tarplant (*Centromadia parryi* ssp. *parryi*)	-	CRPR 1B.2	Low
Bolander's water-hemlock (*Cicuta maculata* var. *bolanderi*)	-	CRPR 2B.1	No habitat present
Peruvian dodder (*Cuscuta obtusiflora* var. *glandulosa*)	-	CRPR 2B.2	No habitat present
Dwarf downingia (*Downingia pusilla*)	-	CRPR 2B.2	Low
Bogg's lake hedge hyssop (*Gratiola heterosepala*)	-	CE/CRPR 1B.2	No habitat present
Woolly rose-mallow (*Hibiscus lasiocarpos var. occidentalis*)	-	CRPR 1B.2	No habitat present

Ahart's dwarf rush (*Juncus leiospermus* var. *ahartii*)	-	CRPR 1B.2	No habitat present
Delta tule pea (*Lathyrus jepsonii* var. *jepsonii*)	-	CRPR 1B.2	No habitat present
Legenere (*Legenere limosa*)	-	CRPR 1B.1	No habitat present
Heckard's pepper-grass (*Lepidium latipes* var. *heckardii*)	-	CRPR 1B.2	No habitat present
Mason's lilaeopsis (*Lilaeopsis masonii*)	-	CR/CRPR 1B.1	No habitat present
Slender Orcutt grass (*Orcuttia tenuis*)	FT	CE, CRPR 1B.1	No habitat present
Sacramento Orcutt grass (*Orcuttia viscida*)	FE	CE/CRPR 1B.1	No habitat present
Sanford's arrowhead (*Sagittaria sanfordii*)	-	CRPR 1B.2	Low
Marsh skullcap (*Scutellaria galericulata*)	-	CRPR 2B.2	No habitat present
Side-flowering skullcap (*Scutellaria lateriflora*)	-	CRPR 2B.2	No habitat present
Suisun marsh aster (*Symphyotrichum lentum*)	-	CRPR 1B.2	No habitat present
Saline clover (*Trifolium hydrophilum*)	-	CRPR 1B.2	No habitat present
Wildlife			
Cooper's hawk (*Accipiter cooperii*)	-	-	Low
Western pond turtle (*Actinemys marmorata*)	-	CSC	Low
Tricolored blackbird (*Agelaius tricolor*)	-	CT, CSC	Low
California tiger salamander (*Ambystoma californiense*)	FT	CT	Outside of known range of species.
Pallid bat (*Antrozous pallidus*)	-	SSC, WBWG H	Low
Sacramento perch (*Archoplites interruptus*)	-	CSC	No habitat present
Great egret (*Ardea alba*)	-	-	Moderate
Great blue heron (*Ardea herodias*)	-	-	Moderate
Burrowing owl (*Athene cunicularia*)	-	CSC	High – Historic CNDDB Occurrence #229 located in NE corner of Study Area. Species with active burrows was observed on-site in 2007.
Midvalley fairy shrimp (*Branchinecta mesovallensis*)	-	-	Low
Vernal pool fairy shrimp (*Branchinecta lynchi*)	FT	-	Low
Ferruginous hawk (*Buteo regalis*)	-	-	Moderate
Swainson's hawk (*Buteo swainsoni*)	-	CT	High
Western yellow-billed cuckoo (*Coccyzus americanus occidentalis*)	FT	CE	Low – believed to be extirpated from the area.
Townsend's big-eared bat (*Corynorhinus townsendii*)	-	CSC, WBWG H	No habitat present
Valley elderberry longhorn beetle (*Desmocerus californicus dimorphus*)	FT	-	No habitat present
White-tailed kite (*Elanus leucurus*)	-	FP	High
Merlin (*Falco columbarius*)	-	-	Moderate
Delta smelt (*Hypomesus transpacificus*)	FT	CT	No Habitat Present
Silver bat (*Lasionycteris noctivagans*)	-	WBWG M	Low
Hoary bat (*Lasiurus cinereus*)	-	WBWG M	Low

Vernal pool tadpole shrimp (*Lepidurus packardi*)	FE	-	Low – Historic CNDDB Occurrence #88 located in NE corner of Study Area
California linderiella (*Linderiella occidentalis*)	-	-	Low
Modesto population of song sparrow (*Melospiza melodia*)	-	CSC	Low
Black-crowned night heron (*Nycticorax nycticorax*)	-	-	Moderate
Central Valley steelhead (*Oncorhynchus mykiss irideus* pop. 11)	FT	-	No Habitat Present
Double-crested cormorant (*Phalacrocorax auritus*)	-	-	Low
Purple martin (*Progne subis*)	-	CSC	Low
Sacramento splittail (*Pogonichthys macrolepidotus*)	-	CSC	No habitat present
Longfin smelt (*Spirinchus thaleichthys*)	FCE	CT	No habitat present
American badger (*Taxidea taxus*)	-	CSC	Low
California red-legged frog (*Rana draytonii*)	FT	CSC	Outside of known range of species.
Yellow-headed blackbird (*Xanthocephalus xanthocephalus*)	-	CSC	Low
Giant garter snake (*Thamnophis gigas*)	FT	CT	Low

FT - Federally Threatened, FCE – Federal Candidate Endangered, CE - CDFW Endangered, CR – CDFW Rare, CRPR – California Rare Plant Rank, CSC - CDFW Species of Concern, CT - CDFW Threatened, WBWG H - Western Bat Working Group High Threat Rank, WBWG M - Western Bat Working Group Medium Threat Rank, WL - CDFW Watch List

Plants

The annual brome grasslands provide marginal habitat for Pappose tarplant, and some of the aquatic features represent marginally suitable habitat for dwarf downingia and Sanford's arrowhead.

Invertebrates

Some of the aquatic resources within the Study Area provide very low quality habitat for vernal pool fairy shrimp, vernal pool tadpole shrimp, California linderiella, and midvalley fairy shrimp.

Reptiles

Due to the proximity of the Study Area to Morrison Creek, some of the aquatic resources within the Study Area may provide marginal seasonal habitat for giant garter snake and western pond turtle.

Birds

The annual brome grasslands currently provide appropriate foraging habitat for Cooper's hawk, Swainson's hawk, northern harrier, white-tailed kite, and ferruginous hawk, as well as other large raptors. Additionally, several large unoccupied nests are present in eucalyptus trees located on the parcel to the north. A small Himalayan blackberry thicket (*Rubus armeniacus*) provides marginally suitable nesting habitat and if they nested the annual brome grasslands would provide foraging habitat for tricolored blackbird. The aquatic features provide potential seasonal foraging habitat for great egret, great blue heron, black-crowned night heron, and double-crested cormorant. The annual brome grasslands provide suitable foraging habitat for purple martin.

Mr. Hirkala observed burrowing owls and active burrows within the Study Area during surveys performed in 2005 and 2007. These active burrows were located in the bank of the central drainage ditch; however, no

owls or signs of owls were noted during the most recent (2019) field survey. Additionally, the CNDDB records active burrows in the northeastern corner of the parcel; however, this predates the local construction of the Light Rail "blue line," which may have extirpated this occurrence. Nonetheless, the annual brome grasslands represents suitable foraging habitat while ground squirrel burrows and debris piles provide nesting habitat for burrowing owl.

The only recorded occurrence of western yellow-billed cuckoo within the CNDDB query is located approximately 3 miles southwest of the parcel near Clarksburg, but this is based on collection information from a specimen at the Museum of Vertebrate Zoology at Berkeley. Presently it is believed to be extirpated from the area. Though very marginal nesting and foraging habitat for this species is present, CNDDB records indicate that it is unlikely to be found on or near the Study Area (CNDDB 2019).

The only recorded occurrence of western yellow-headed blackbird within the CNDDB search is located approximately 1.5 miles southwest of the parcel. This occurrence information is based on historical egg samples collected June 10, 1899, and kept at the Museum of Vertebrate Zoology at Berkeley. Presently it is believed to be extirpated from the area. Though very marginal nesting and foraging habitat for this species is present, CNDDB records indicate that it is unlikely to be found on or near the Study Area (CNDDB 2019).

The Study Area annual brome grasslands represent suitable winter foraging habitat for ferruginous hawk and merlin.

The willow thicket along the intermittent channel provides very marginal habitat for the "Modesto population" of song sparrow.

Mammals
The trees along the northern edge of the Study Area and the intermittent channel provide marginal roosting habitat for pallid bat, silver-haired bat, and hoary bat due to human encroachment from the residential development and homeless camp, respectively.

Though the annual brome grasslands provide appropriate foraging and burrowing habitat for American badger, the likelihood that this species occupies the site is low due to the increasing urbanization of the area.

Special Lands
Based on our queries, the Study Area is not located within any of the following special designated areas/habitats:

- The Primary or Secondary Zone of the Legal Delta;
- Critical Habitats as designated by the USFWS;
- USFWS Vernal Pool Core Recovery Areas.

Regulatory Permitting

The following permits may be necessary prior to the start of the proposed development.

Clean Water Act Section 404

Section 404 of the Federal Clean Water Act requires that a Department of the Army permit be issued prior to the discharge of any dredged or fill material into waters of the United States, unless the fill is associated with an exempt activity. The U.S. Army Corps of Engineers (USACE) administers this program, with oversight from the U. S. Environmental Protection Agency. Waters of the United States include all navigable waters; interstate waters and wetlands; all intrastate waters and wetlands that could affect interstate or foreign commerce; impoundments of the above; tributaries of the above; territorial seas; and wetlands adjacent to the above.

The intermittent channel historically connected to the navigable Sacramento River by way of Morrison Creek; it is therefore likely to be a jurisdictional Water of the U.S. As such, any fill deposited into this feature would likely require a 404 permit. The intermittent ditches, which appear to connect to the aforementioned intermittent channel, are also likely to be jurisdictional and any fill would likely require a 404 permit. The ephemeral ditches would likely be classified as exempt since these features do not appear to convey water from the Study Area to a traditional navigable water (TNW) such as the Sacramento River. The remaining feature is a detention basin and is not typically considered a jurisdictional Water of the U.S.

The aquatic resources delineation (ARD) map prepared by Madrone (**Figure 2**) meets the USACE's standards for wetland delineations. If you choose to move forward with development, Madrone would recommend submittal of an ARD report to the USACE for verification.

Clean Water Act Section 401

Section 401 of the Clean Water Act requires any applicant for a 404 permit in support of activities that may result in any discharge into waters of the United States to obtain a water quality certification with the Regional Water Quality Control Board (RWQCB). This program is meant to protect these waters and wetlands by ensuring that waste discharged into them meets state water quality standards. Because the water quality certification program is triggered by the need for a Section 404 permit (and both programs are a part of the Clean Water Act), the definition of waters of the United States under Section 401 is the same as that used by the USACE under Section 404.

Therefore, since a 404 permit is likely necessary should the proposed development impacts waters of the U.S., a water quality certification would also likely be required.

Federal Endangered Species Act

The Federal Endangered Species Act (FESA) of 1973 protects species that are federally listed as endangered or threatened with extinction. FESA prohibits the unauthorized "take" of listed wildlife species. Take includes harassing, harming, pursuing, hunting, shooting, wounding, killing, trapping, capturing, or collecting wildlife species or any attempt to engage in such activities. Harm includes significant

modifications or degradations of habitats that may cause death or injury to protected species by impairing their behavioral patterns. Harassment includes disruption of normal behavior patterns that may result in injury to or mortality of protected species. Civil or criminal penalties can be levied against persons convicted of unauthorized "take." FESA enables the USFWS to authorize take of a listed species that is incidental to carrying out an otherwise lawful project when the impacts of the authorized take will be minimized and fully mitigated. In addition, FESA prohibits malicious damage or destruction of listed plant species on federal lands or in association with federal actions, and the removal, cutting, digging up, damage, or destruction of listed plant species in violation of state law. FESA does not afford any protections to federally listed plant species located on private lands with no associated federal action when those plant species are not also included on a state endangered species list.

State Endangered Species Act

With limited exceptions, the California Endangered Species Act (CESA) of 1984 protects state-designated endangered and threatened species in a way similar to FESA. For projects on private property (i.e. that for which a state agency is not a lead agency), CESA enables CDFW to authorize take of a listed species that is incidental to carrying out an otherwise lawful project where the impacts of the authorized take will be minimized and fully mitigated (Fish & Game Code Section 2081).

Migratory Bird Treaty Act

The Migratory Bird Treaty Act (MBTA) prohibits the take, possession, import, export, transport, selling, purchase, barter, or offering for sale, purchase or barter, any native migratory bird, their eggs, parts, and nests, except as authorized under a valid permit (50 CFR 21.11.). Likewise, Section 3513 of the California Fish & Game Code prohibits the "take or possession" of any migratory non-game bird identified under the MBTA. Therefore, activities that may result in the injury or mortality of native migratory birds, including eggs and nestlings, would be prohibited under the MBTA.

Take or possession of native migratory birds may be avoided or minimized by conducting pre-construction nesting bird surveys. Nesting bird season is typically from 15 February to 15 September. Work within the Study Area outside the nesting season would not require a pre-construction nesting bird survey.

CDFW Lake and Streambed Alteration Agreement

The California Department of Fish and Wildlife (CDFW) is responsible for conserving, protecting, and managing California's fish, wildlife, and native plant resources. To meet this responsibility, the Fish and Game Code, Section 1602, requires notification to CDFW of any proposed activity that may substantially modify a river, stream, or lake. Notification is required by any person, business, state or local government agency, or public utility that proposes an activity that will:

- substantially divert or obstruct the natural flow of any river, stream or lake;
- substantially change or use any material from the bed, channel, or bank of any river, stream, or lake; or
- deposit or dispose of debris, waste, or other material containing crumbled, flaked, or ground pavement where it may pass into any river, stream, or lake.

For the purposes of Section 1602, rivers, streams and lakes must flow at least intermittently through a bed or channel. If notification is required and CDFW believes the proposed activity is likely to result in adverse harm to the natural environment, it will require that the parties enter into a Lake or Streambed Alteration Agreement (LSAA).

Based on the above language from the California Fish & Game Code, Madrone believes that the intermittent channel and ditches may fall under the jurisdiction of CDFW. However, the only mechanism to formally determine whether an LSAA is required is to submit a notification form and associated fee to CDFW under the LSAA program.

California Water Code, Porter-Cologne Act

The Porter Cologne Act, from Division 7 of the California Water Code, requires any person discharging waste or proposing to discharge waste that could affect the quality of waters of the state to file a report of waste discharge (RWD) with the RWQCB. The RWQCB can waive the filing of a report, but once a report is filed, the RWQCB must either waive or adopt water discharge requirements (WDRs). "Waters of the state" are defined as any surface water or groundwater, including saline waters, within the boundaries of the state and may include the above-described aquatic resources.

Recommendations

Since the Study Area contains potential habitat for federally listed large branchiopods (listed branchiopods), we recommend that protocol-level wet- and dry-season surveys be conducted within all suitable habitat within the Study Area to demonstrate the absence of the species and lower mitigation costs. In the event the site supports listed branchiopods, the project proponent will need to obtain take coverage through Section 7 (interagency consultation) or Section 10 of the FESA.

Any fill of the potential waters of the U.S. delineated within the Study Area would a 404 permit and 401 water quality certification. In addition, some of these water features also may fall under CDFW jurisdiction and would require a Fish and Game Code 1602 LSAA in the event that the placement of fill or other forms of streambed alteration occur, as previously noted.

Since the Study Area contains potential habitat for special-status plants, we recommend species-specific surveys of the site prior to the start of work. Special-status plant surveys should be performed in accordance with the USFWS's *Guidelines for Conducting and Reporting Botanical Inventories for Federally Listed, Proposed and Candidate Plants* (USFWS 1996), California Department of Fish and Wildlife's *Protocols for Surveying and Evaluating Impacts to Special Status Native Plant Populations and Natural Communities* (CDFG 2009), and the *CNPS Botanical Survey Guidelines* (CNPS 2001).

I would be happy to answer any questions you may have regarding this letter. Please contact me at (916) 822-3230 or at svonderohe@madroneeco.com if you have any questions or need additional information.

Sincerely,

Sarah VonderOhe
Principal

Enclosures

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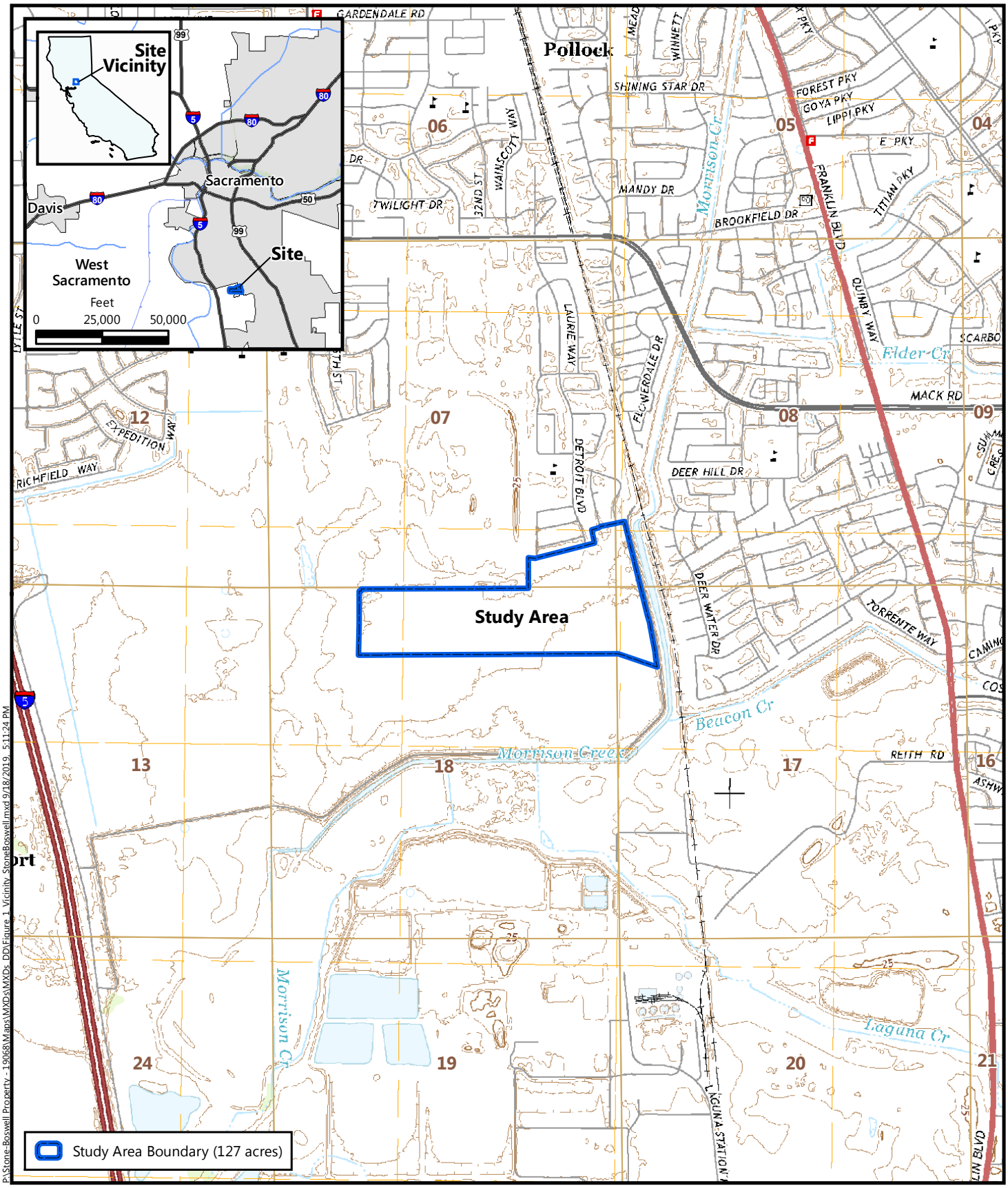
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Figures

Figure 1. Vicinity Map

Figure 2. Aquatic Resources



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Source: United States Geologic Survey, 2015.
"Florin, California" 7.5-Minute Topographic Quadrangle
Longitude -121.469195, Latitude 38.466003
Sections 7-8, and 17-18, Township 7 North, Range 5 East

Figure 1
Vicinity Map

Stone-Boswell Property
Sacramento, Sacramento County, California

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N

Feet

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Aerial Source: Sac Regional GIS Coop, 26 March 2018

Figure 2
Aquatic Resources

Stone-Boswell Property
Sacramento, Sacramento County, California

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APPENDIX C

AQUATIC RESOURCES DELINEATIONS



DRAFT
Aquatic Resources Delineation Report

Stone Beetland

City of Sacramento, Sacramento County, California

January 2021

MADRONE ECOLOGICAL CONSULTING

Prepared for:
Clifton Taylor
Taylor Builders, LLC.
508 Gibson Drive, Suite 260
Roseville, California 95678

Recommended Citation:
Madrone Ecological Consulting, LLC (Madrone). 2021. *DRAFT Aquatic Resources Delineation Report – Stone Beetland*. Prepared for Taylor Builders, LLC. Published on 20 January 2021.

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DRAFT
Aquatic Resources Delineation Report
Stone Beetland

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Attachment B. Photo Points
Attachment C. Arid West Wetland Determination Data Forms
Attachment D. Plant Species Observed within the Study Area
Attachment E. GIS Shapefiles and the Aquatic Resources Excel Spreadsheet (on CD)
Attachment F. Access Letter

1.0 INTRODUCTION

This report presents the results of a delineation of aquatic resources (ARD) within the Stone Beetland Study Area (Study Area) conducted by Madrone Ecological Consulting, LLC (Madrone). The approximately 127-acre Study Area is located northeast of the intersection of Cosumnes River Boulevard and Delta Shores Circle in the City of Sacramento, Sacramento County, California. The Study Area is located within Sections 7, 8, 17, and 18; Township 7 North; Range 5 East (MDB&M) of the "*Florin, California*" 7.5-Minute Series USGS Topographic Quadrangle (USGS 2018) (**Figure 1**).

1.1 Contact Information

Property Owner

Clifton Taylor
Taylor Builders, LLC.
508 Gibson Drive, Suite 260
Roseville, California 95678

Agent

Ben Watson
Madrone Ecological Consulting, LLC
8421 Auburn Boulevard, Suite 248
Citrus Heights, California 95610

2.0 METHODOLOGY

Madrone senior biologist Matt Hirkala conducted an ARD within the Study Area on 20 September 2019 and 22 December 2020. Water features and data points were mapped in the field with an Arrow 100 GNSS unit, which is capable of sub-meter accuracy. Three-parameter data (vegetation, soils, and hydrology) were collected at each data point, documenting wetland/waters or upland status, as appropriate. An aquatic resources delineation map was prepared in accordance with the *Updated Map and Drawing Standards for the South Pacific Division Regulatory Program* (USACE 2016a). The field data was overlaid on an ortho-rectified aerial photograph flown 17 June 2020 (Maxar 2020) (**Attachment A**).

The delineation was performed in accordance with the *Corps of Engineers Wetlands Delineation Manual* (Environmental Laboratory 1987), the *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region (Version 2.0)* (USACE 2008a), *A Field Guide to the Identification of the Ordinary High Water Mark (OHWM) in the Arid West Region of the Western United States* (USACE 2008b), and the Sacramento District's *Minimum Standards for Acceptance of Preliminary Wetlands Delineations* (USACE 2016b). U.S. Army Corps of Engineers (USACE) regulations (33 CFR 328) were used to determine the presence of Waters of the United States other than wetlands. The most recent *National Wetland Plant List*, which went into effect on May 18, 2020, was used to determine the wetland indicator status of plants observed in the Study Area (USACE 2018). The *Jepson eFlora* (Jepson Flora Project 2020) was used for plant nomenclature, except where it conflicted with the nomenclature in the *National Wetland Plant List*, which was given priority.

3.0 EXISTING CONDITIONS

According to LiDAR elevation data provided to Sacramento County by Merrick & Company in 2004 and 2007, the Study Area is situated on relatively flat terrain at elevations ranging from approximately 6 to 18 feet above sea level.

Most of the site is characterized by flat terrain that has been historically leveled, ditched, and drained for agricultural use. The northeastern corner displayed uneven topography due to the presence of several trash and spoils piles; several "squatter" gardens were located within the Study Area along the northern fence line and appear to have been planted by residents from the abutting neighborhood to the north. Fallow agricultural lands occupy areas to the south and west, and the eastern boundary borders the toe of a large levee constructed along Morrison Creek. A portion of the Sacramento Regional Transit Light Rail "Blue Line" (Light Rail) parallels the eastern boundary just west of Morrison Creek. A newly constructed Light Rail station and detention basin are located directly adjacent to the Light Rail line; this station is not currently in use, though construction activities were observed during the 22 December 2020 site visit.

3.1 Terrestrial Vegetation Communities

3.1.1 Annual Brome Grassland

The majority of the Study Area supports fallow agricultural lands reverting to annual brome grasslands that are characterized by soft chess (*Bromus hordeaceus*), wild oats (*Avena fatua*), rip-gut brome (*Bromus diandrus*), and perennial rye (*Lolium perenne*). Common herbaceous species include prickly lettuce (*Lactuca serriola*), yellow star-thistle (*Centauria solstitialis*), and alkali mallow (*Malvella leprosa*). The perimeter of the site was disked to form firebreaks, but vegetation was present in these areas. The area immediately south of the abutting residential development to the north support a variety of non-native and ornamental trees and shrubs including fruitless mulberry (*Morus alba*) and tree of heaven (*Ailanthus altissima*).

3.1.2 Willow Riparian Woodland

A small willow riparian woodland comprised predominately of arroyo willow (*Salix lasiolepis*), sandbar willow (*Salix exigua*) and poison oak (*Toxicodendron diversilobum*) flank the banks of a small intermittent drainage in the southeast corner of the Study Area. A well-developed homeless encampment present during the 20 September 2019 site visit has since been abandoned. Much of the riparian corridor has been destroyed by fire – see photo point 9 in **Attachment B**.

3.1.2 Disturbed

Disturbed areas are restricted to the farm roads along the periphery of the Study Area and the vicinity of the Light Rail station that was undergoing construction at the time of the site visit. These areas are comprised of compacted earth and/or gravel. The edges of the fields support ruderal vegetation, including stinkwort (*Dittrichia graveolens*), Russian thistle (*Salsola tragus*), tumbleweed amaranth (*Amaranthus albus*), pigweed amaranth (*A. blitoides*), rough cocklebur (*Xanthium strumarium*), wild radish (*Raphanus sativus*),

milk thistle (*Silybum marianum*), and white goosefoot (*Chenopodium album*). Noted ruderal vegetation included bindweed (*Convolvulus arvensis*), black mustard (*Brassica nigra*), and broad leaf filaree (*Erodium botrys*).

3.2 Hydrology

The Study Area in general drains to the south towards an unnamed tributary to the Cosumnes River, which is located approximately 850 feet south of the parcel. The Cosumnes River is tributary to the Mokelumne River, which the USACE classifies as navigable from its mouth to Frandy Gage (3.5 miles upstream from New Hope Road). However, no surface connection to this unnamed tributary was observed during the site visit. Further information is provided below in the discussion of delineated aquatic features.

The Study Area is set within the Upper Cosumnes Sub-Basin (Hydrologic Unit Code 18040013) and the Upper Cosumnes River Watershed (1804001306) (USGS 2013).

3.3 Soils

The NRCS has mapped the six soil units listed below within the Study Area (**Figure 2**) (NRCS 2020):

1. *Clear Lake clay, partially drained, 0 to 2% slopes, frequently flooded (114)* – the Clear Lake component and the Dierssen and Egbert inclusions are classified as hydric. This soil map unit is non-saline to slightly saline; and the pH ranges from slightly acid to moderately alkaline within the upper portion of the root zone.

2. *Clear Lake clay, hardpan substratum, drained, 0 to 1% slopes (115)* – the Clear Lake component and the Cosumnes inclusion are classified as hydric. This soil map unit is non-saline to very slightly saline; and the pH ranges from slightly acid to moderately alkaline within the upper portion of the root zone.

3. *Egbert clay, partially drained, 0 to 2% slopes (141)* - the Egbert component and the Clear Lake, Gazwell, Laugenour, Scribner, and Valpac inclusions are classified as hydric. This soil map unit is non-saline to very slightly saline; and the pH ranges from slightly acid to slightly alkaline within the upper portion of the root zone.

4. *Galt clay, 0 to 1% slopes, MLRA 17 (152)* – the Galt component and the Clear Lake inclusion are classified as hydric. This soil map unit is non-saline; and the pH ranges from slightly acid to neutral within the upper portion of the root zone.

5. *Galt clay, 0 to 4% slopes, MLRA 17 (153)* – the Galt component and the Clear Lake inclusion are within the root zone. classified as hydric. This soil map unit is non-saline; and the pH ranges from slightly acid to neutral within the upper portion of the root zone.

6. *Galt-Urban land complex, 0 to 1% slopes, MLRA 17 (154)* – the Galt component and the Clear Lake and Egbert inclusions are classified as hydric. This soil map unit is non-saline; and the pH ranges from slightly acid to neutral within the upper portion of the root zone.

3.4 Driving Directions

To access the Study Area from Sacramento, drive south on Interstate 5 for approximately 9 miles and travel east after taking Exit 510 to Cosumnes River Boulevard. Continue east on Cosumnes River Boulevard for approximately 1.8 miles; the Study Area is located on the north side of Cosumnes River Boulevard.

4.0 RESULTS

A total of 0.542 acre of aquatic resources were delineated within the Study Area (**Table 1**).

Table 1. Aquatic Resources Mapped within the Study Area

Resource Type	Acreage
Detention Basin	0.242
Ephemeral Ditch	0.017
Intermittent Ditch	0.283
Study Area Total	**0.542**

Representative photos of the Study Area are included in **Attachment B**. Arid West Wetland Determination Data Forms are included in **Attachment C**, maps of the aquatic resources are included as **Figure 3** and **Attachment A**, and a list of the plant species observed in the Study Area with their wetland indicator status is included in **Attachment D**. GIS Shapefiles and the *Aquatic Resources Excel Spreadsheet* for mapped aquatic resources within the Study Area are included on a CD in **Attachment E**. Each of the feature types is described below.

4.1 Detention Basin

One approximately 0.242-acre detention basin was delineated within the Study Area. Based on a review of historic aerial photography available on Google Earth and HistoricAerials.com, this feature was excavated prior to February of 2014 as part of the newly constructed Light Rail station located along the east edge of the Study Area west of the Morrison Creek levee (photo point 13 in **Attachment B**). This feature is completely surrounded by cyclone fencing associated with the Light Rail station and supported hydrophytic vegetation such as perennial ryegrass (*Lolium perenne*) and tall flat-sedge (*Cyperus eragrostis*). The detention basin is connected to an intermittent drainage ditch that parallels the west side of the Light Rail tracks by way of a culvert. Nd data points were taken in this feature due to its obvious break with the surrounding uplands.

4.2 Ephemeral Ditches

Two ephemeral ditches totaling approximately 0.017 acre were mapped within the Study Area. These two features were originally connected, but were permanently separated by a construction haul road in 2006. The northern ephemeral ditch (ED-2) drains through a culvert to the neighboring parcel to the north, which is topographically several feet lower than the Study Area at this location. ED-1 currently drains southward into a storm drain, but originally was part of a larger irrigation system extending to the south. This feature was truncated some time in 2005 during the construction/extension of Cosumnes River Boulevard south of the Study Area.

These features displayed a very minor bed and bank and the destruction of terrestrial vegetation, which were used to delineate their extent. Plant species present predominantly included perennial ryegrass (*Lolium perenne*) and Mediterranean barley (*Hordeum marinum*). The lack of algal matting/biotic crust infers that ponded water does not persist within these features.

4.3 Intermittent Ditches

Two intermittent ditches totaling approximately 0.283 acre were mapped within the Study Area. In 1957 these two intermittent ditches were part of a continuous irrigation network that was also connected to the above-discussed ephemeral ditches as well as off-site irrigation features to the south; however, ditch realignments, the construction of the Light Rail station and tracks, and the construction of Cosumnes River Boulevard have fragmented these features. Currently, ID-1 is connected to a culvert that daylights under the Light Rail tracks to the east, and ID-2, located in the southeast corner of the Study Area, runs eastward then northward at the base of the Light Rail tracks. It too daylights by way of a culvert to the east under the Light Rail tracks. ID-2 extends less than 20 feet to the south of the Study Area boundary before dead ending.

These features also displayed a bed and bank and the destruction of terrestrial vegetation, which were used to delineate their extent. Plant species present predominantly included perennial ryegrass (*Lolium perenne*) and Mediterranean barley (*Hordeum marinum*), though the southeasternmost extent of ID-2 was mostly devoid of vegetation. These features were classified as intermittent since algal matting was present in the deeper reaches and inundation was present in some historic aerial photos taken during the wet-season.

5.0 CONCLUSION

With the publication and implementation of the 2020 Navigable Waters Protection Rule (2020 Rule), Madrone has analyzed the jurisdictional status of the aquatic resources within the Project site under the new rule. We believe none of the aquatic resources mapped within the Study Area are subject to USACE jurisdiction under the 2020 Rule. It is our opinion that all of the drainage ditches would be considered non-jurisdictional under Sections 328.3(b)(7) and (b)(8) of the 2020 Rule as they are all ditches constructed in uplands solely for the purpose of containing and conveying irrigation water, and as they are not relocated tributaries, excavated in tributaries, or drain wetlands.

The applicant is requesting an Approved Jurisdictional Determination (PJD) for the aquatic resources mapped within the Study Area (**Attachment A**). A signed statement providing USACE staff accompanied access to the Study Area is included as **Attachment G.**

6.0 REFERENCES

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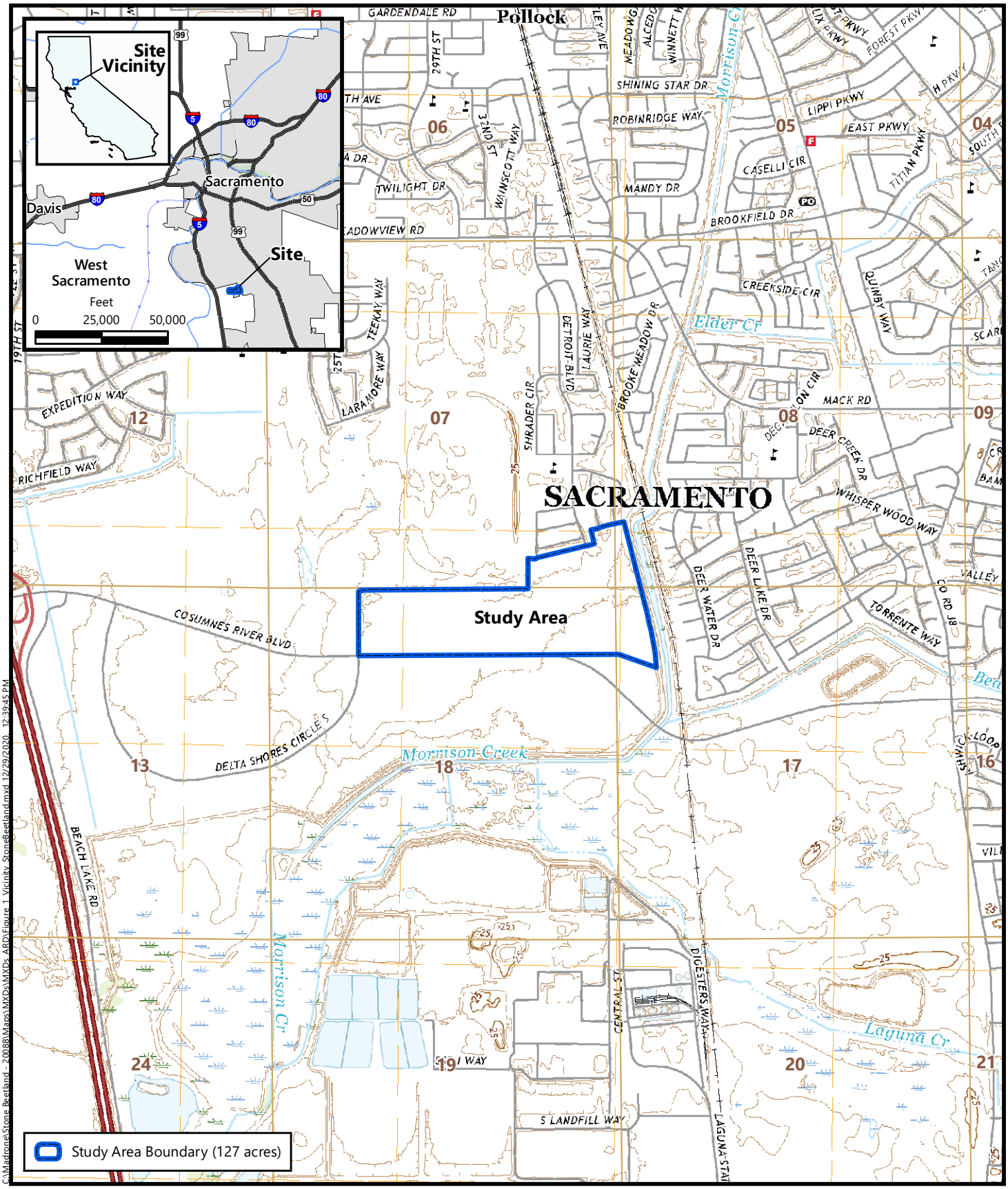
U.S. Department of the Interior, Geological Survey (USGS). 2018. "*Florin, California*" 7.5-minute Quadrangle. Geological Survey. Denver, Colorado.

Figures

Figure 1. Site and Vicinity Map

Figure 2. Natural Resources Conservation Service Soils

Figure 3. Aquatic Resources



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Source: United States Geologic Survey, 2018.
"Florin, California" 7.5-Minute Topographic Quadrangle
Sections 7-8, and 17-18, Township 7 North, Range 5 East
Longitude -121.469194, Latitude 38.466003

Figure 1
Site and Vicinity

Stone Beetland
Sacramento, Sacramento County, California

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Soil Survey Source: *USDA, Soil Conservation Service.*
Soil Survey Geographic (SSURGO) database for Sacramento County, California
Aerial Source: Maxar, 17 June 2020

Figure 2
Natural Resources Conservation Service Soils

Stone Beetland
Sacramento, Sacramento County, California

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Study Area Boundary (127 acres)

Aquatic Resources (0.542 acre)

Other Waters

- Detention Basin (0.242 acre)
- Ephemeral Ditch (0.017 acre)
- Intermittent Ditch (0.283 acre)

Morrison Creek

Delta Shores Circle South

Consumnes River Boulevard

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Aerial Source: Maxar, 17 June 2020

Figure 3
Aquatic Resources

Stone Beetland
Sacramento, Sacramento County, California

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Attachments

Attachment A. Aquatic Resources Delineation – Stone Beetland

Attachment B. Photo Points

Attachment C. Arid West Wetland Determination Data Forms

Attachment D. Plant Species Observed within the Study Area

Attachment E. GIS Shapefiles and the Aquatic Resources Excel Spreadsheet (on CD)

Attachment F. Access Letter

Attachment A

Aquatic Resources Delineation – Stone Beetland

AQUATIC RESOURCE FEATURES

OTHER WATERS

Detention Basin

Feature ID	Acreage
DB-1	0.242
Total:	**0.242**

Ephemeral Ditch

Feature ID	Acreage	Linear Feet
ED-1	0.007	288
ED-2	0.010	432
Total:	**0.017**	**720**

Intermittent Ditch

Feature ID	Acreage	Linear Feet
ID-1	0.160	1,347
ID-2	0.123	1,071
Total:	**0.283**	**2,418**

Total Other Waters: 0.542 3,138

Aquatic Resources Total: 0.542 acre

-121.46879/ 38.469876
-121.463878/ 38.468192
-121.468882/ 38.466908
-121.477701/ 38.466845
-121.47785/ 38.464138
-121.462113/ 38.463621
DP1
DP2
DP3
DP4
DP5
DP6
DP7
DP8
DP9
ED-1
ED-2
ID-1
ID-2
DB-1
Morrison Creek
Dolce Sforce Circle South
Consumnes River Boulevard

Notes:
Map Scale: 1 inch = 200 feet
Coordinate System: NAD 1983 State Plane California II
Datum: NAD83 (North American Datum 1983)
Projection: Lambert Conformal Conic
Vertical Data: NAVD88 (North American Vertical Datum 1988)
Aerial Base: Maxar Technologies
Aerial Base Flown: 17 June 2020
Topographic Contours: MacKay & Somps

Date Map Prepared: 19 January 2021
Map Prepared by: N. Bente/M. Hirkala
Delineation Performed by: M. Hirkala
Definitions:
NAD = North American Datum
NAVD = North American Vertical Datum
NED = National Elevation Datase

N
0 100 200 400
Feet

Prepared For:

Taylor Builders, LLC
c/o Clifton Taylor
508 Gibson Drive, Suite 260
Roseville, CA 95678

- Study Area Boundary (127 acres)
- Reference Point
- Data Point
- Culvert
- Ground Surface Elevation,1 foot contour

Aquatic Resources (0.542 acre)
Other Waters
- Detention Basin (0.242 acre)
- Ephemeral Ditch (0.017 acre)
- Intermittent Ditch (0.283 acre)

Aquatic Resources Delineation
Stone Beetland

Sacramento, Sacramento County, California, California

MADRONE ECOLOGICAL CONSULTING
8421 Auburn Boulevard, Suite 248
Citrus Heights, California 95610
(916) 822.3220 | www.madroneeco.com

D:\AAAAA_Projects\000001 - Mats File\Maps\Stone Beetland\ACT_ARD_StoneBeetland_20210111_v3 mod_MHirkala, 1/19/2021, 15:03

Attachment B

Photo Points



Photo Point Locations

Stone Beetland
Sacramento, Sacramento County, California

Aerial Source: *DigitalGlobe, WV02,* 23 June 2017

MADRONE ECOLOGICAL CONSULTING



Photo Point 01- Lat.: 38.466781/Long.: -121.477273; Compass Angle: 90°



Photo Point 01- Lat.: 38.466781/Long.: -121.477273; Compass Angle: 0°

Stone Beetland
Photos: 22 December 2020



Photo Point 01- Lat.: 38.466781/Long.: -121.477273; Compass Angle: 180°



Photo Point 02- Lat.: 38.465178/Long.: -121.477701; Compass Angle: 0°

Stone Beetland
Photos: 22 December 2020



Photo Point 02- Lat.: 38.465178/Long.: -121.477701; Compass Angle: 180°



Photo Point 02- Lat.: 38.465178/Long.: -121.477701; Compass Angle: 270°

Stone Beetland
Photos: 22 December 2020



Photo Point 02- Lat.: 38.465178/Long.: -121.477701; Compass Angle: 0°



Photo Point 03 - Lat.: 38.464559/Long.: -121.471423; Compass Angle: 0°

Stone Beetland
Photos: 22 December 2020



Photo Point 03 - Lat.: 38.464559/Long.: -121.471423; Compass Angle: 180°



Photo Point 03 - Lat.: 38.464559/Long.: -121.471423; Compass Angle: 270°

Stone Beetland
Photos: 22 December 2020



Photo Point 03 - Lat.: 38.464559/Long.: -121.471423; Compass Angle: 90°



Photo Point 04 - Lat.: 38.465764/Long.: -121.471415; Compass Angle: 0°

Stone Beetland
Photos: 22 December 2020



Photo Point 04 - Lat.: 38.465764/Long.: -121.471415; Compass Angle: 270°



Photo Point 05 - Lat.: 38.466803/Long.: -121.471392; Compass Angle: 180°

Stone Beetland
Photos: 22 December 2020



Photo Point 05 - Lat.: 38.466803/Long.: -121.471392; Compass Angle: 0°



Photo Point 06 - Lat.: 38.466853/Long.: -121.466706; Compass Angle: 90°

Stone Beetland
Photos: 22 December 2020



Photo Point 06 - Lat.: 38.466853/Long.: -121.466706; Compass Angle: 90°



Photo Point 07 - Lat.: 38.468787/Long.: -121.464556; Compass Angle: 180°

Stone Beetland
Photos: 22 December 2020



Photo Point 07 - Lat.: 38.468787/Long.: -121.464556; Compass Angle: 90°



Photo Point 07 - Lat.: 38.468787/Long.: -121.464556; Compass Angle: 0°

Stone Beetland
Photos: 22 December 2020



Photo Point 07 - Lat.: 38.468787/Long.: -121.464556; Compass Angle: 270°



Photo Point 08 - Lat.: 38.464237/Long.: -121.464272; Compass Angle: 90°

Stone Beetland
Photos: 22 December 2020



Photo Point 08 - Lat.: 38.464237/Long.: -121.464272; Compass Angle: 165°



Photo Point 09 - Lat.: 38.464052/Long.: -121.463081; Compass Angle: 90°

Stone Beetland
Photos: 22 December 2020



Photo Point 09 - Lat.: 38.464052/Long.: -121.463081; Compass Angle: 180°



Photo Point 09 - Lat.: 38.464052/Long.: -121.463081; Compass Angle: 45°

Stone Beetland
Photos: 22 December 2020



Photo Point 10 - Lat.: 38.464276/Long.: -121.462713; Compass Angle: 0°



Photo Point 10 - Lat.: 38.464276/Long.: -121.462713; Compass Angle: 180°

Stone Beetland
Photos: 22 December 2020



Photo Point 11 - Lat.: 38.464048/Long.: -121.462451; Compass Angle: 270°



Photo Point 12 - Lat.: 38.465578/Long.: -121.462731; Compass Angle: 270°

Stone Beetland
Photos: 22 December 2020



Photo Point 13 - Lat.: 38.464828/Long.: -121.46287; Compass Angle: 300°



Photo Point 14 - Lat.: 38.466795/Long.: -121.464129; Compass Angle: 90°

Stone Beetland
Photos: 22 December 2020



Photo Point 14 - Lat.: 38.466795/Long.: -121.464129; Compass Angle: 270°



Photo Point 15 - Lat.: 38.467209/Long.: -121.463167; Compass Angle: 270°

Stone Beetland
Photos: 22 December 2020

Attachment C

Arid West Wetland Determination Data Forms

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Stone Beetland City/County: Sacramento County Sampling Date: 12/22/20
Applicant/Owner: Taylor Builders, LLC State: CA Sampling Point: 1
Investigator(s): Matt Hirkala Section, Township, Range: Section 28, Township 7 North, Range 7 East, MDB&M
Landform (hillslope, terrace, etc.): terrace Local relief (concave, convex, none): none Slope (%): <1
Subregion (LRR): Mediterranean California (LRR C) Lat: 38.465862 Long: -121.476784 Datum: NAD83
Soil Map Unit Name: Galt clay, 0 to 4% slopes, MLRA 17 (153) NWI Classification: N/A
Are climatic / hydrologic conditions on the site typical for this time of year? Yes x No _____ (If no, explain in Remarks.)
Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes x No _____
Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes _____ No **x**	**Is the Sampled Area within a Wetland?**	**Yes** _____ **No** **x**
Hydric Soil Present?	Yes _____ No **x**		
Wetland Hydrology Present?	Yes _____ No **x**		

Remarks:

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	0	=Total Cover	
Sapling/Shrub Stratum (Plot size: _____)			
1.			
2.			
3.			
4.			
5.			
	0	=Total Cover	
Herb Stratum (Plot size: 4'x4')			
1. *Bromus hordeaceus*	55	x	FACU
2. *Lolium perenne*	45	x	FAC
3. *Epilobium brachycarpum*	5		FAC
4. *Convolvulus arvensis*	5		UPL
5.			
6.			
7.			
8.			
	110	=Total Cover	
Woody Vine Stratum (Plot size: _____)			
1.			
2.			
	0	=Total Cover	
% Bare Ground in Herb Stratum 0	% Cover of Biotic Crust 0		

Dominance Test worksheet:
Number of Dominant Species That Are OBL, FACW, or FAC: **1** (A)
Total Number of Dominant Species Across All Strata: **2** (B)
Percent of Dominant Species That Are OBL, FACW, or FAC: **50%** (A/B)

Prevalence Index Worksheet:

Total % Cover of:		Multiply by:
OBL species	**0**	x1 = **0**
FACW species	**0**	x2 = **0**
FAC species	**50**	x3 = **150**
FACU species	**55**	x4 = **220**
UPL species	**5**	x5 = **25**
Column Totals:	**110** (A)	**395** (B)

Prevalence Index = B/A = **3.6**

Hydrophytic Vegetation Indicators:
_____ Dominance Test is >50%
_____ Prevalence Index is ≤3.0[1]
_____ Morphological Adaptationd[1] (Provide supporting data in Remarks or on a separate sheet)
_____ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? **Yes** _____ **No** **x**

Remarks:

SOIL

Sampling Point: 1

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-12	10YR3/2	100					clay loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5) (**LRR C**)
- ___ 1 cm Muck (A9) (**LRR D**)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Vernal Pools (F9)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) (**LRR C**)
- ___ 2 cm Muck (A10) (**LRR B**)
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** _____ **No** **x**

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1) (**Nonriverine**)
- ___ Sediment Deposits (B2) (**Nonriverine**)
- ___ Drift Deposits (B3) (**Nonriverine**)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Biotic Crust (B12)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water Marks (B1) (**Riverine**)
- ___ Sediment Deposits (B2) (**Riverine**)
- ___ Drift Deposits (B3) (**Riverine**)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes _____ No x Depth (inches): _____

Water Table Present? Yes _____ No x Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes _____ No x Depth (inches): _____

Wetland Hydrology Present? **Yes** _____ **No** **x**

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Stone Beetland City/County: Sacramento County Sampling Date: 12/22/20
Applicant/Owner: Taylor Builders, LLC State: CA Sampling Point: 2
Investigator(s): Matt Hirkala Section, Township, Range: Section 28, Township 7 North, Range 7 East, MDB&M
Landform (hillslope, terrace, etc.): terrace Local relief (concave, convex, none): concave Slope (%): <1
Subregion (LRR): Mediterranean California (LRR C) Lat: 38.465986 Long: -121.472752 Datum: NAD83
Soil Map Unit Name: Galt clay, 0 to 4% slopes, MLRA 17 (153) NWI Classification: N/A
Are climatic / hydrologic conditions on the site typical for this time of year? Yes x No _____ (If no, explain in Remarks.)
Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes x No _____
Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes _____ No **x**	**Is the Sampled Area within a Wetland?**	**Yes** _____ **No** **x**
Hydric Soil Present?	Yes _____ No **x**		
Wetland Hydrology Present?	Yes _____ No **x**		

Remarks:

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	0	=Total Cover	

Sapling/Shrub Stratum (Plot size: _____)			
1.			
2.			
3.			
4.			
5.			
	0	=Total Cover	

Herb Stratum (Plot size: 4'x4')			
1. *Avena fatua*	50	x	UPL
2. *Bromus hordeaceus*	30	x	FACU
3. *Lolium perenne*	20	x	FAC
4. *Lactuca serriola*	1		FACU
5. *Holocarpha virgata*	T		UPL
6.			
7.			
8.			
	101	=Total Cover	

Woody Vine Stratum (Plot size: _____)			
1.			
2.			
	0	=Total Cover	

% Bare Ground in Herb Stratum 0 % Cover of Biotic Crust 0

Dominance Test worksheet:
Number of Dominant Species That Are OBL, FACW, or FAC: **1** (A)
Total Number of Dominant Species Across All Strata: **3** (B)
Percent of Dominant Species That Are OBL, FACW, or FAC: **33%** (A/B)

Prevalence Index Worksheet:

Total % Cover of:		Multiply by:
OBL species	**0**	x1 = **0**
FACW species	**0**	x2 = **0**
FAC species	**20**	x3 = **60**
FACU species	**31**	x4 = **124**
UPL species	**50**	x5 = **250**
Column Totals:	**101** (A)	**434** (B)

Prevalence Index = B/A = **4.3**

Hydrophytic Vegetation Indicators:
_____ Dominance Test is >50%
_____ Prevalence Index is ≤3.0[1]
_____ Morphological Adaptationd[1] (Provide supporting data in Remarks or on a separate sheet)
_____ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? **Yes** _____ **No** **x**

Remarks:

SOIL

Sampling Point: 2

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
1-13	10YR3/1	100					clay	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5) (**LRR C**)
- ___ 1 cm Muck (A9) (**LRR D**)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Vernal Pools (F9)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) (**LRR C**)
- ___ 2 cm Muck (A10) (**LRR B**)
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: ___

Depth (inches): ___

Hydric Soil Present? **Yes** ___ **No** **x**

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1) (**Nonriverine**)
- ___ Sediment Deposits (B2) (**Nonriverine**)
- ___ Drift Deposits (B3) (**Nonriverine**)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Biotic Crust (B12)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water Marks (B1) (**Riverine**)
- ___ Sediment Deposits (B2) (**Riverine**)
- ___ Drift Deposits (B3) (**Riverine**)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ___ No x Depth (inches): ___

Water Table Present? Yes ___ No x Depth (inches): ___

Saturation Present? (includes capillary fringe) Yes ___ No x Depth (inches): ___

Wetland Hydrology Present? **Yes** ___ **No** **x**

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Stone Beetland City/County: Sacramento County Sampling Date: 12/22/20
Applicant/Owner: Taylor Builders, LLC State: CA Sampling Point: 3
Investigator(s): Matt Hirkala Section, Township, Range: Section 28, Township 7 North, Range 7 East, MDB&M
Landform (hillslope, terrace, etc.): abandoned ditch Local relief (concave, convex, none): concave Slope (%): <1
Subregion (LRR): Mediterranean California (LRR C) Lat: 38.46498 Long: -121.471424 Datum: NAD83
Soil Map Unit Name: Clear Lake clay, partially drained, 0-2% slopes, frequently flooded (114) NWI Classification: N/A
Are climatic / hydrologic conditions on the site typical for this time of year? Yes x No _____ (If no, explain in Remarks.)
Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes x No _____
Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes **x** No _____	**Is the Sampled Area within a Wetland?**	**Yes** _____ **No** **x**
Hydric Soil Present?	Yes _____ No **x**		
Wetland Hydrology Present?	Yes _____ No **x**		

Remarks: This data point was taken in an abandoned ephemeral ditch. No algal matting or sediment deposits were noted; however, a bed and bank was present along with shelving and the destruction of terrestrial vegetation.

VEGETATION – Use scientific names of plants.

	Absolute % Cover	Dominant Species?	Indicator Status
Tree Stratum (Plot size: _____)			
1.			
2.			
3.			
4.			
	0	=Total Cover	
Sapling/Shrub Stratum (Plot size: _____)			
1.			
2.			
3.			
4.			
5.			
	0	=Total Cover	
Herb Stratum (Plot size: 1'x4')			
1. *Lolium perenne*	10	x	FAC
2.			
3.			
4.			
5.			
6.			
7.			
8.			
	10	=Total Cover	
Woody Vine Stratum (Plot size: _____)			
1.			
2.			
	0	=Total Cover	

% Bare Ground in Herb Stratum 90 % Cover of Biotic Crust 0

Dominance Test worksheet:
Number of Dominant Species That Are OBL, FACW, or FAC: **1** (A)
Total Number of Dominant Species Across All Strata: **1** (B)
Percent of Dominant Species That Are OBL, FACW, or FAC: **100%** (A/B)

Prevalence Index Worksheet:

Total % Cover of:		Multiply by:
OBL species	**0**	x1 = **0**
FACW species	**0**	x2 = **0**
FAC species	**10**	x3 = **30**
FACU species	**0**	x4 = **0**
UPL species	**0**	x5 = **0**
Column Totals:	**10** (A)	**30** (B)

Prevalence Index = B/A = **3.0**

Hydrophytic Vegetation Indicators:
X Dominance Test is >50%
X Prevalence Index is ≤3.0[1]
_____ Morphological Adaptationd[1] (Provide supporting data in Remarks or on a separate sheet)
_____ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? **Yes** **x** **No** _____

Remarks:

SOIL

Sampling Point: 3

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-10	10YR3/2	100					clay	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5) (**LRR C**)
- ___ 1 cm Muck (A9) (**LRR D**)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Vernal Pools (F9)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) (**LRR C**)
- ___ 2 cm Muck (A10) (**LRR B**)
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: ___

Depth (inches): ___

Hydric Soil Present? **Yes** ___ **No** **x**

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1) (**Nonriverine**)
- ___ Sediment Deposits (B2) (**Nonriverine**)
- ___ Drift Deposits (B3) (**Nonriverine**)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Biotic Crust (B12)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water Marks (B1) (**Riverine**)
- ___ Sediment Deposits (B2) (**Riverine**)
- ___ Drift Deposits (B3) (**Riverine**)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ___ No x Depth (inches): ___

Water Table Present? Yes ___ No x Depth (inches): ___

Saturation Present? (includes capillary fringe) Yes ___ No x Depth (inches): ___

Wetland Hydrology Present? **Yes** ___ **No** **x**

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: No sediment deposits or algal matting observed.

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Stone Beetland City/County: Sacramento County Sampling Date: 12/22/20
Applicant/Owner: Taylor Builders, LLC State: CA Sampling Point: 4
Investigator(s): Matt Hirkala Section, Township, Range: Section 28, Township 7 North, Range 7 East, MDB&M
Landform (hillslope, terrace, etc.): topographic depression Local relief (concave, convex, none): concave Slope (%): <1
Subregion (LRR): Mediterranean California (LRR C) Lat: 38.468848 Long: -121.464193 Datum: NAD83
Soil Map Unit Name: Clear Lake clay, partially drained, 0-2% slopes, frequently flooded (114) NWI Classification: N/A
Are climatic / hydrologic conditions on the site typical for this time of year? Yes x No ____ (If no, explain in Remarks.)
Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes x No ____
Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ____ No **x**	**Is the Sampled Area within a Wetland?**	**Yes** ____ **No** **x**
Hydric Soil Present?	Yes ____ No **x**		
Wetland Hydrology Present?	Yes **x** No ____		

Remarks:

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: ____)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	0	=Total Cover	

Sapling/Shrub Stratum (Plot size: ____)			
1.			
2.			
3.			
4.			
5.			
	0	=Total Cover	

Herb Stratum (Plot size: 4'x4')			
1. *Convolvulus arvensis*	45	x	UPL
2. *Lolium perenne*	20	x	FAC
3. *Bromus hordeaceus*	20	x	FACU
4. *Avena fatua*	15		UPL
5. *Briza minor*	5		FAC
6. *Lactuca serriola*	5		FACU
7.			
8.			
	110	=Total Cover	

Woody Vine Stratum (Plot size: ____)			
1.			
2.			
	0	=Total Cover	

% Bare Ground in Herb Stratum 0 % Cover of Biotic Crust 0

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: **1** (A)

Total Number of Dominant Species Across All Strata: **3** (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: **33%** (A/B)

Prevalence Index Worksheet:

Total % Cover of:		Multiply by:
OBL species	**0**	x1 = **0**
FACW species	**0**	x2 = **0**
FAC species	**25**	x3 = **75**
FACU species	**25**	x4 = **100**
UPL species	**60**	x5 = **300**
Column Totals:	**110** (A)	**475** (B)

Prevalence Index = B/A = **4.3**

Hydrophytic Vegetation Indicators:

____ Dominance Test is >50%
____ Prevalence Index is ≤3.0[1]
____ Morphological Adaptationd[1] (Provide supporting data in Remarks or on a separate sheet)
____ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? **Yes** ____ **No** **x**

Remarks:

SOIL

Sampling Point: 4

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
1-8	10YR3/2	100					see remarks	compacted gravelly clay loam

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5) (**LRR C**)
- ___ 1 cm Muck (A9) (**LRR D**)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Vernal Pools (F9)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) (**LRR C**)
- ___ 2 cm Muck (A10) (**LRR B**)
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: ___

Depth (inches): ___

Hydric Soil Present? **Yes** ___ **No** **x**

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1) (**Nonriverine**)
- ___ Sediment Deposits (B2) (**Nonriverine**)
- ___ Drift Deposits (B3) (**Nonriverine**)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Biotic Crust (B12)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water Marks (B1) (**Riverine**)
- ___ Sediment Deposits (B2) (**Riverine**)
- ___ Drift Deposits (B3) (**Riverine**)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ___ No x Depth (inches): ___

Water Table Present? Yes ___ No x Depth (inches): ___

Saturation Present? (includes capillary fringe) Yes ___ No x Depth (inches): ___

Wetland Hydrology Present? **Yes** ___ **No** **x**

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Stone Beetland City/County: Sacramento County Sampling Date: 12/22/20
Applicant/Owner: Taylor Builders, LLC State: CA Sampling Point: 5
Investigator(s): Matt Hirkala Section, Township, Range: Section 28, Township 7 North, Range 7 East, MDB&M
Landform (hillslope, terrace, etc.): low terrace Local relief (concave, convex, none): concave Slope (%): <1
Subregion (LRR): Mediterranean California (LRR C) Lat: 38.466996 Long: -121.465337 Datum: NAD83
Soil Map Unit Name: Clear Lake clay, partially drained, 0-2% slopes, frequently flooded (114) NWI Classification: N/A
Are climatic / hydrologic conditions on the site typical for this time of year? Yes x No ____ (If no, explain in Remarks.)
Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes x No ____
Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ____ No **x**	**Is the Sampled Area within a Wetland?**	**Yes** ____ **No** **x**
Hydric Soil Present?	Yes ____ No **x**		
Wetland Hydrology Present?	Yes ____ No **x**		

Remarks:

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: ____)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	0 =Total Cover		
Sapling/Shrub Stratum (Plot size: ____)			
1.			
2.			
3.			
4.			
5.			
	0 =Total Cover		
Herb Stratum (Plot size: 4'x4')			
1. *Malvella leprosa*	45	x	FACU
2. *Avena fatua*	20	x	UPL
3. *Lactuca serriola*	5		FACU
4.			
5.			
6.			
7.			
8.			
	70 =Total Cover		
Woody Vine Stratum (Plot size: ____)			
1.			
2.			
	0 =Total Cover		
% Bare Ground in Herb Stratum 35	% Cover of Biotic Crust 0		

Dominance Test worksheet:
Number of Dominant Species That Are OBL, FACW, or FAC: **0** (A)
Total Number of Dominant Species Across All Strata: **2** (B)
Percent of Dominant Species That Are OBL, FACW, or FAC: **0%** (A/B)

Prevalence Index Worksheet:

Total % Cover of:		Multiply by:
OBL species	**0** x1 =	**0**
FACW species	**0** x2 =	**0**
FAC species	**0** x3 =	**0**
FACU species	**50** x4 =	**200**
UPL species	**20** x5 =	**100**
Column Totals:	**70** (A)	**300** (B)

Prevalence Index = B/A = **4.3**

Hydrophytic Vegetation Indicators:
____ Dominance Test is >50%
____ Prevalence Index is ≤3.0[1]
____ Morphological Adaptationd[1] (Provide supporting data in Remarks or on a separate sheet)
____ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? **Yes** **x** **No** ____

Remarks:

SOIL

Sampling Point: 5

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
1-14	10YR3/1	100					clay	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5) (**LRR C**)
- ___ 1 cm Muck (A9) (**LRR D**)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Vernal Pools (F9)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) (**LRR C**)
- ___ 2 cm Muck (A10) (**LRR B**)
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** _____ **No** **x**

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1) (**Nonriverine**)
- ___ Sediment Deposits (B2) (**Nonriverine**)
- ___ Drift Deposits (B3) (**Nonriverine**)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Biotic Crust (B12)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water Marks (B1) (**Riverine**)
- ___ Sediment Deposits (B2) (**Riverine**)
- ___ Drift Deposits (B3) (**Riverine**)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes _____ No x Depth (inches): _____

Water Table Present? Yes _____ No x Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes _____ No x Depth (inches): _____

Wetland Hydrology Present? **Yes** _____ **No** **x**

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Stone Beetland City/County: Sacramento County Sampling Date: 12/22/20
Applicant/Owner: Taylor Builders, LLC State: CA Sampling Point: 6
Investigator(s): Matt Hirkala Section, Township, Range: Section 28, Township 7 North, Range 7 East, MDB&M
Landform (hillslope, terrace, etc.): terrace Local relief (concave, convex, none): none Slope (%): <1
Subregion (LRR): Mediterranean California (LRR C) Lat: 38.466372 Long: -121.467599 Datum: NAD83
Soil Map Unit Name: Clear Lake clay, partially drained, 0-2% slopes, frequently flooded (114) NWI Classification: N/A
Are climatic / hydrologic conditions on the site typical for this time of year? Yes x No ____ (If no, explain in Remarks.)
Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes x No ____
Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ____ No **x**	**Is the Sampled Area within a Wetland?**	**Yes** ____ **No** **x**
Hydric Soil Present?	Yes ____ No **x**		
Wetland Hydrology Present?	Yes ____ No **x**		

Remarks:

VEGETATION – Use scientific names of plants.

	Absolute % Cover	Dominant Species?	Indicator Status
Tree Stratum (Plot size: ____)			
1.			
2.			
3.			
4.			
	0	=Total Cover	
Sapling/Shrub Stratum (Plot size: ____)			
1.			
2.			
3.			
4.			
5.			
	0	=Total Cover	
Herb Stratum (Plot size: 4'x4')			
1. *Centaurea solstitialis*	95	x	UPL
2. *Bromus hordeaceus*	5		FACU
3.			
4.			
5.			
6.			
7.			
8.			
	100	=Total Cover	
Woody Vine Stratum (Plot size: ____)			
1.			
2.			
	0	=Total Cover	
% Bare Ground in Herb Stratum 0	% Cover of Biotic Crust 0		

Dominance Test worksheet:
Number of Dominant Species That Are OBL, FACW, or FAC: **0** (A)
Total Number of Dominant Species Across All Strata: **1** (B)
Percent of Dominant Species That Are OBL, FACW, or FAC: **0%** (A/B)

Prevalence Index Worksheet:

Total % Cover of:		Multiply by:
OBL species	**0** x1 =	**0**
FACW species	**0** x2 =	**0**
FAC species	**0** x3 =	**0**
FACU species	**5** x4 =	**20**
UPL species	**95** x5 =	**475**
Column Totals:	**100** (A)	**495** (B)

Prevalence Index = B/A = **5.0**

Hydrophytic Vegetation Indicators:
____ Dominance Test is >50%
____ Prevalence Index is ≤3.0[1]
____ Morphological Adaptationd[1] (Provide supporting data in Remarks or on a separate sheet)
____ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? **Yes** ____ **No** **x**

Remarks:

SOIL

Sampling Point: 6

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
1-14	10YR3/2	100					clay	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5) (**LRR C**)
- ___ 1 cm Muck (A9) (**LRR D**)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Vernal Pools (F9)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) (**LRR C**)
- ___ 2 cm Muck (A10) (**LRR B**)
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: ___

Depth (inches): ___

Hydric Soil Present? **Yes** ___ **No** **x**

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1) (**Nonriverine**)
- ___ Sediment Deposits (B2) (**Nonriverine**)
- ___ Drift Deposits (B3) (**Nonriverine**)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Biotic Crust (B12)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water Marks (B1) (**Riverine**)
- ___ Sediment Deposits (B2) (**Riverine**)
- ___ Drift Deposits (B3) (**Riverine**)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ___ No x Depth (inches): ___

Water Table Present? Yes ___ No x Depth (inches): ___

Saturation Present? (includes capillary fringe) Yes ___ No x Depth (inches): ___

Wetland Hydrology Present? **Yes** ___ **No** **x**

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Stone Beetland City/County: Sacramento County Sampling Date: 12/22/20
Applicant/Owner: Taylor Builders, LLC State: CA Sampling Point: 7
Investigator(s): Matt Hirkala Section, Township, Range: Section 28, Township 7 North, Range 7 East, MDB&M
Landform (hillslope, terrace, etc.): terrace Local relief (concave, convex, none): concave Slope (%): <1
Subregion (LRR): Mediterranean California (LRR C) Lat: 38.464191 Long: -121.464025 Datum: NAD83
Soil Map Unit Name: Egbert clay, partially drained, 0 to 2% slopes (141) NWI Classification: N/A
Are climatic / hydrologic conditions on the site typical for this time of year? Yes x No _____ (If no, explain in Remarks.)
Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes x No _____
Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes _____	No **x**	**Is the Sampled Area within a Wetland?** Yes _____ No **x**
Hydric Soil Present?	Yes **x**	No _____	
Wetland Hydrology Present?	Yes **x**	No _____	

Remarks: This data point was taken in an intermittent ditch. A bed and bank and an ordinary high water mark are present.

VEGETATION – Use scientific names of plants.

	Absolute % Cover	Dominant Species?	Indicator Status
Tree Stratum (Plot size: _____)			
1.			
2.			
3.			
4.			
	0	=Total Cover	
Sapling/Shrub Stratum (Plot size: _____)			
1.			
2.			
3.			
4.			
5.			
	0	=Total Cover	
Herb Stratum (Plot size: 4'x4')			
1. *Malvella leprosa*	20	x	FACU
2. *Asclepias fascicularis*	1		FAC
3.			
4.			
5.			
6.			
7.			
8.			
	21	=Total Cover	
Woody Vine Stratum (Plot size: _____)			
1.			
2.			
	0	=Total Cover	

% Bare Ground in Herb Stratum 80 % Cover of Biotic Crust 100

Dominance Test worksheet:
Number of Dominant Species That Are OBL, FACW, or FAC: **0** (A)
Total Number of Dominant Species Across All Strata: **1** (B)
Percent of Dominant Species That Are OBL, FACW, or FAC: **0%** (A/B)

Prevalence Index Worksheet:

Total % Cover of:		Multiply by:
OBL species	**0**	x1 = **0**
FACW species	**0**	x2 = **0**
FAC species	**1**	x3 = **3**
FACU species	**20**	x4 = **80**
UPL species	**0**	x5 = **0**
Column Totals:	**21** (A)	**83** (B)

Prevalence Index = B/A = **4.0**

Hydrophytic Vegetation Indicators:
_____ Dominance Test is >50%
_____ Prevalence Index is ≤3.0[1]
_____ Morphological Adaptationd[1] (Provide supporting data in Remarks or on a separate sheet)
_____ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes _____ No **x**

Remarks:

SOIL

Sampling Point: 7

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
1-10	10YR3/1	95	10YR4/6	5	C	M	clay loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5) (**LRR C**)
- ___ 1 cm Muck (A9) (**LRR D**)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- x Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Vernal Pools (F9)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) (**LRR C**)
- ___ 2 cm Muck (A10) (**LRR B**)
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: ___

Depth (inches): ___

Hydric Soil Present? **Yes** x **No** ___

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1) (**Nonriverine**)
- ___ Sediment Deposits (B2) (**Nonriverine**)
- ___ Drift Deposits (B3) (**Nonriverine**)
- ___ Surface Soil Cracks (B6)
- x Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- x Biotic Crust (B12)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water Marks (B1) (**Riverine**)
- ___ Sediment Deposits (B2) (**Riverine**)
- ___ Drift Deposits (B3) (**Riverine**)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ___ No x Depth (inches): ___

Water Table Present? Yes ___ No x Depth (inches): ___

Saturation Present? (includes capillary fringe) Yes ___ No x Depth (inches): ___

Wetland Hydrology Present? **Yes** x **No** ___

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: Biotic crust present in the form of algal matting. Inundation present on Google Earth aerial photography - February 2018.

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Stone Beetland City/County: Sacramento County Sampling Date: 12/22/20
Applicant/Owner: Taylor Builders, LLC State: CA Sampling Point: 8
Investigator(s): Matt Hirkala Section, Township, Range: Section 28, Township 7 North, Range 7 East, MDB&M
Landform (hillslope, terrace, etc.): terrace Local relief (concave, convex, none): convex Slope (%): 4
Subregion (LRR): Mediterranean California (LRR C) Lat: 38.464233 Long: -121.463994 Datum: NAD83
Soil Map Unit Name: Egbert clay, partially drained, 0 to 2% slopes (141) NWI Classification: N/A
Are climatic / hydrologic conditions on the site typical for this time of year? Yes x No _____ (If no, explain in Remarks.)
Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes x No _____
Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes _____ No **x**	**Is the Sampled Area within a Wetland?**	**Yes** _____ **No** **x**
Hydric Soil Present?	Yes _____ No **x**		
Wetland Hydrology Present?	Yes **x** No _____		

Remarks:

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	0	=Total Cover	

Sapling/Shrub Stratum (Plot size: _____)			
1.			
2.			
3.			
4.			
5.			
	0	=Total Cover	

Herb Stratum (Plot size: 4'x4')			
1. *Bromus hordeaceus*	80	x	FACU
2. *Carduus pycnocephalus*	20	x	UPL
3.			
4.			
5.			
6.			
7.			
8.			
	100	=Total Cover	

Woody Vine Stratum (Plot size: _____)			
1.			
2.			
	0	=Total Cover	

% Bare Ground in Herb Stratum 0 % Cover of Biotic Crust 0

Dominance Test worksheet:
Number of Dominant Species That Are OBL, FACW, or FAC: **0** (A)
Total Number of Dominant Species Across All Strata: **2** (B)
Percent of Dominant Species That Are OBL, FACW, or FAC: **0%** (A/B)

Prevalence Index Worksheet:

Total % Cover of:		Multiply by:	
OBL species	**0**	x1 =	**0**
FACW species	**0**	x2 =	**0**
FAC species	**0**	x3 =	**0**
FACU species	**80**	x4 =	**320**
UPL species	**20**	x5 =	**100**
Column Totals:	**100** (A)		**420** (B)

Prevalence Index = B/A = **4.2**

Hydrophytic Vegetation Indicators:
_____ Dominance Test is >50%
_____ Prevalence Index is ≤3.0[1]
_____ Morphological Adaptationd[1] (Provide supporting data in Remarks or on a separate sheet)
_____ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? **Yes** _____ **No** **x**

Remarks:

SOIL

Sampling Point: 8

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
1-12	10YR2/1	100					clay loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5) (**LRR C**)
- ___ 1 cm Muck (A9) (**LRR D**)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Vernal Pools (F9)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) (**LRR C**)
- ___ 2 cm Muck (A10) (**LRR B**)
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: ___

Depth (inches): ___

Hydric Soil Present? **Yes** ___ **No** **x**

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1) (**Nonriverine**)
- ___ Sediment Deposits (B2) (**Nonriverine**)
- ___ Drift Deposits (B3) (**Nonriverine**)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Biotic Crust (B12)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water Marks (B1) (**Riverine**)
- ___ Sediment Deposits (B2) (**Riverine**)
- ___ Drift Deposits (B3) (**Riverine**)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ___ No x Depth (inches): ___

Water Table Present? Yes ___ No x Depth (inches): ___

Saturation Present? (includes capillary fringe) Yes ___ No x Depth (inches): ___

Wetland Hydrology Present? **Yes** ___ **No** **x**

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Stone Beetland City/County: Sacramento County Sampling Date: 12/22/20
Applicant/Owner: Taylor Builders, LLC State: CA Sampling Point: 9
Investigator(s): Matt Hirkala Section, Township, Range: Section 28, Township 7 North, Range 7 East, MDB&M
Landform (hillslope, terrace, etc.): topographic depression Local relief (concave, convex, none): concave Slope (%): <1
Subregion (LRR): Mediterranean California (LRR C) Lat: 38.464261 Long: -121.463763 Datum: NAD83
Soil Map Unit Name: Clear Lake clay, hardpan substratum, drained, 0 to 1% slopes (115) NWI Classification: N/A
Are climatic / hydrologic conditions on the site typical for this time of year? Yes x No (If no, explain in Remarks.)
Are Vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes x No
Are Vegetation , Soil , or Hydrology naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes **x** No	**Is the Sampled Area within a Wetland?**	**Yes** **No** **x**
Hydric Soil Present?	Yes No **x**		
Wetland Hydrology Present?	Yes No **x**		

Remarks:

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size:)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	0	=Total Cover	

Sapling/Shrub Stratum (Plot size:)			
1.			
2.			
3.			
4.			
5.			
	0	=Total Cover	

Herb Stratum (Plot size: 4'x4')			
1. *Lolium perenne*	60	x	FAC
2. *Epilobium brachycarpum*	20	x	FAC
3. *Bromus hordeaceus*	20	x	FACU
4. *Phalaris paradoxa*	5		FAC
5. *Lactuca serriola*	1		FACU
6.			
7.			
8.			
	106	=Total Cover	

Woody Vine Stratum (Plot size:)			
1.			
2.			
	0	=Total Cover	

% Bare Ground in Herb Stratum 0 % Cover of Biotic Crust 0

Dominance Test worksheet:
Number of Dominant Species That Are OBL, FACW, or FAC: **2** (A)
Total Number of Dominant Species Across All Strata: **3** (B)
Percent of Dominant Species That Are OBL, FACW, or FAC: **67%** (A/B)

Prevalence Index Worksheet:

Total % Cover of:		Multiply by:
OBL species	**0**	x1 = **0**
FACW species	**0**	x2 = **0**
FAC species	**85**	x3 = **255**
FACU species	**21**	x4 = **84**
UPL species	**40**	x5 = **200**
Column Totals:	**146** (A)	**539** (B)

Prevalence Index = B/A = **3.7**

Hydrophytic Vegetation Indicators:
X Dominance Test is >50%
Prevalence Index is ≤3.0[1]
Morphological Adaptationd[1] (Provide supporting data in Remarks or on a separate sheet)
Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? **Yes** **x** **No**

Remarks:

SOIL

Sampling Point: 9

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
1-14	10YR3/1	100					clay	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5) (**LRR C**)
- ___ 1 cm Muck (A9) (**LRR D**)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Vernal Pools (F9)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) (**LRR C**)
- ___ 2 cm Muck (A10) (**LRR B**)
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** _____ **No** **x**

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1) (**Nonriverine**)
- ___ Sediment Deposits (B2) (**Nonriverine**)
- ___ Drift Deposits (B3) (**Nonriverine**)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Biotic Crust (B12)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water Marks (B1) (**Riverine**)
- ___ Sediment Deposits (B2) (**Riverine**)
- ___ Drift Deposits (B3) (**Riverine**)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes _____ No x Depth (inches): _____

Water Table Present? Yes _____ No x Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes _____ No x Depth (inches): _____

Wetland Hydrology Present? **Yes** _____ **No** **x**

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

Attachment D

Plant Species Observed within the Study Area

Plant Species Observed within the Stone Beetland Study Area
20 September 2019 and 22 December 2020

Species Name	Common Name	Wetland Indicator Status
Abutilon theophrasti	Velvet-leaf	UPL
Amaranthus blitoides	Prostrate pigweed	FACU
Ailanthus altissima	Tree-of-heaven	FACU
Amsinckia intermedia	Common fiddleneck	UPL
Arundo donax	Giant reed	FACW
Asclepias fascicularis	Narrow-leaf milkweed	FAC
Avena fatua	Wild oat	UPL
Baccharis pilularis	Coyote brush	UPL
Brassica nigra	Black mustard	UPL
Briza minor	Lesser quaking grass	FAC
Bromus diandrus	Ripgut grass	UPL
Bromus hordeaceus	Soft chess	FACU
Carduus pycnocephalus	Italian thistle	UPL
Centaurea solstitialis	Yellow star-thistle	UPL
Chenopod album	Lamb's quarter	FACU
Cichorium intybus	Chicory	FACU
Cirsium vulgare	Bull thistle	FACU
Conium maculatum	Poison-hemlock	FACW
Convolvulus arvensis	Bindweed	UPL
Croton setigerus	Doveweed	UPL
Cynodon dactylon	Bermuda grass	FACU
Cyperus eragrostis	Tall nutsedge	FACW
Distichlis spicata	Coastal salt grass	FAC
Dittrichia graveolens	Stinkwort	UPL
Eleocharis palustris	Common spike rush	OBL
Elymus caput-medusae	Medusa-head	UPL
Epilobium brachycarpum	Panicled willow-herb	FAC
Erigeron canadensis	Canada horseweed	FACU
Erodium botrys	Long-beaked stork's bill	FACU
Erodium cicutarium	Red-stemmed filaree	UPL
Erodium moschatum	White-stemmed filaree	UPL
Euphorbia maculata	Spotted sandmat	UPL
Galium aparine	Goose grass	FACU
Geranium dissectum	Cut leaf geranium	UPL
Helianthus annuus	Common sunflower	UPL
Helminthotheca echioides	Akan asante	FAC
Heterotheca grandiflora	Telegraph weed	UPL

Species Name	Common Name	Wetland Indicator Status
Holocarpha virgata	Narrow tar plant	UPL
Hordeum marinum	Seaside barley	FAC
Hordeum murinum	Wall barley	FACU
Juglans nigra	Black walnut	UPL
Lactuca serriola	Prickly lettuce	FACU
Lepidium latifolium	Broad-leaf pepperwort	FAC
Lolium perenne	Perennial rye	FAC
Lythrum hyssopifolia	Hyssop loosestrife	OBL
Malva parviflora	Cheeseweed mallow	UPL
Malvella leprosa	Alkali-mallow	FACU
Marrubium vulgare	White horehound	FACU
Matricaria discoidea	Pineapple-weed	FACU
Medicago polymorpha	Toothed medick	FACU
Morus albus	Mulberry	UPL
Paspalum dilatatum	Dallis grass	FAC
Persicaria punctata	Dotted smartweed	OBL
Phalaris aquatica	Harding grass	FACU
Phalaris paradoxa	Hood canary grass	FAC
Pistacia chinensis	Chinese pistache	UPL
Plantago lanceolata	English plantain	FAC
Poa annua	Annual blue grass	FAC
Polygonum aviculare	Prostrate knotweed	FAC
Polypogon monspeliensis	Annual rabbitfoot grass	FACW
Portulaca oleracea	Purslane	FAC
Prunus dulcis	Almond	UPL
Raphanus sativus	Radish	UPL
Rubus armeniacus	Himalayan blackberry	FAC
Rumex conglomeratus	Sharp dock	FACW
Rumex crispus	Curly dock	FAC
Salix exigua	Narrowleaf willow	FACW
Salix gooddingii	Goodding's black willow	FACW
Salix lasiolepis	Arroyo willow	FACW
Silybum marianum	Milk thistle	UPL
Sonchus asper	Spiny-leaf sow-thistle	FAC
Sorghum halepense	Johnson grass	FACU
Stellaria media	Common chickweed	FACU
Toxicodendron diversilobum	Poison oak	UPL
Tribulus terrestris	Puncture vine	UPL
Veronica peregrina	Neck weed	FAC
Vitis californica	Wild grape	FACU

Species Name	Common Name	Wetland Indicator Status
Vicia villosa subsp. *villosa*	Winter vetch	UPL
Vulpia myuros	Rat-tail six-weeks grass	FACU
Xanthium strumarium	Rough cocklebur	FAC

Attachment E

GIS Shapefiles and the Aquatic Resources Excel Spreadsheet (on CD)

Attachment F

Access Letter

AQUATIC RESOURCE FEATURES

WETLANDS

Seasonal Wetland

Feature ID	Acreage
SW-1	0.152
Total:	**0.152**

OTHER WATERS

Ephemeral Ditch

Feature ID	Acreage	Linear Feet
ED-1	0.032	148
ED-2	0.021	311
Total:	**0.053**	**459**

Intermittent Ditch

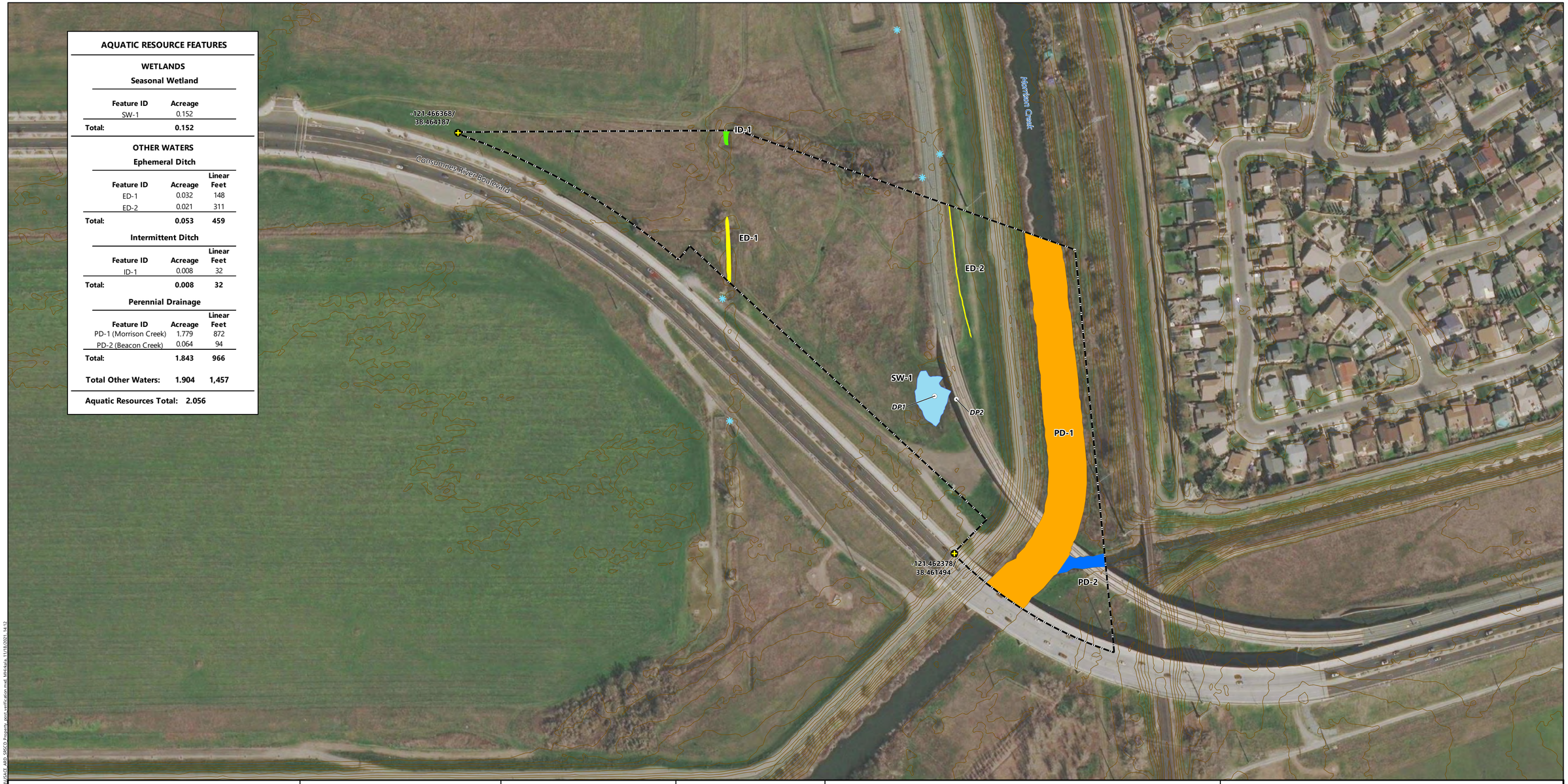
Feature ID	Acreage	Linear Feet
ID-1	0.008	32
Total:	**0.008**	**32**

Perennial Drainage

Feature ID	Acreage	Linear Feet
PD-1 (Morrison Creek)	1.779	872
PD-2 (Beacon Creek)	0.064	94
Total:	**1.843**	**966**

Total Other Waters:	**1.904**	**1,457**

Aquatic Resources Total: 2.056



Notes:
Map Scale: 1 inch = 150 feet
Coordinate System: NAD 1983 State Plane California II
Datum: NAD83 (North American Datum 1983)
Projection: Lambert Conformal Conic
Vertical Data: NAVD88 (North American Vertical Datum 1988)
Aerial Base: Sacramento County 2018
Aerial Base Flown: 26 March 2018
Topographic Contours: Merrick & Company

Date Map Prepared: 9 November 2021
Map Prepared by: M. Fremont/M. Hirkala
Delineation Performed by: M. Hirkala
Definitions:
NAD = North American Datum
NAVD = North American Vertical Datum
NED = National Elevation Datase

N

0 75 150 300
Feet

Prepared For:

Taylor Builders, LLC
c/o Clifton Taylor
508 Gibson Drive, Suite 260
Roseville, CA 95678

- Study Area Boundary (15 acres)
- Data Point
- Culvert
- Ground Surface Elevation
- Reference Point

Aquatic Resources (2.056 acres)
Wetlands
- Seasonal Wetland (0.152 acre)

Other Waters
- Ephemeral Ditch (0.053 acre)
- Intermittent Ditch (0.008 acre)
- Perennial Drainage - Beacon Creek (0.064 acre)
- Perennial Drainage - Morrison Creek (1.779 acres)

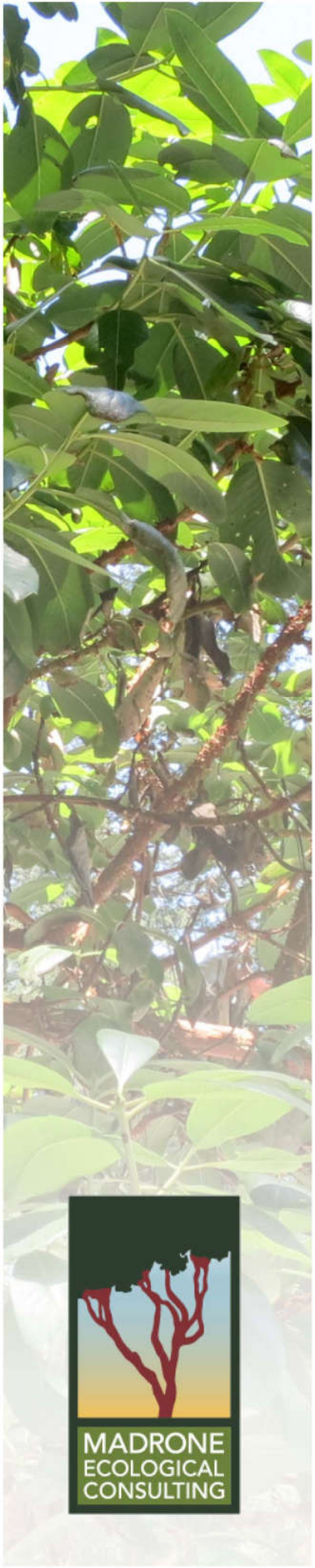
Aquatic Resources Delineation
SRCSD Property
Sacramento, Sacramento County, California, California

MADRONE ECOLOGICAL CONSULTING
8421 Auburn Boulevard, Suite 248
Citrus Heights, California 95610
(916) 822.3220 | www.madroneeco.com

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APPENDIX D

ARBORIST REPORTS



Arborist Report

SRCSD Property

City of Sacramento, Sacramento County, California

16 May 2022

MADRONE ECOLOGICAL CONSULTING

Prepared for:
Clifton Taylor
JP Land Holdings, LLC.
508 Gibson Drive, Suite 260
Roseville, California 95678

Recommended Citation:
Madrone Ecological Consulting, LLC (Madrone). 2022. *Arborist Report – SRCSD Property*. Prepared for JP Land Holdings, LLC.. Published 16 May 2022.

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SRCSD Property

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Figure 1. Vicinity Map
Figure 2. Tree Inventory Map
Figure 3. Impacts to Aquatic Resources and Terrestrial Vegetation Communities

Attachments

Attachment A. Arborist Survey Data

1.0 INTRODUCTION

This report presents the results of an arborist survey conducted for the Sacramento County Sanitation District (SRCSD) Property (Study Area) by Madrone Ecological Consulting, LLC (Madrone) on 21 March 2022. The approximately 14.55-acre Study Area is west of the confluence of Morrison and Beacon Creeks north of Cosumnes River Boulevard within the City of Sacramento, Sacramento County, California. The Study Area is located within Sections 17 and 18, Township 7 North, Range 5 East (MDB&M) (Longitude -121.469194, Latitude 38.466003; NAD83) and is portrayed on the "*Florin, California*" 7.5-Minute Series USGS Topographic Quadrangle (USGS 2018) (**Figure 1**).

2.0 GENERAL SITE CONDITIONS AND HABITAT

According to LiDAR elevation data provided to Sacramento County by Merrick & Company in 2004 and 2007, the Study Area is situated on relatively flat terrain at elevations ranging from approximately 4 to 20 feet above mean sea level.

Most of the site is characterized by flat terrain that has been historically leveled, ditched, and drained for agricultural use. Fallow lands occupy areas to the north, south, and west, and the eastern boundary parallels a reach of Morrison Creek. Morrison Creek, which merges with a reach of Beacon Creek near the southernmost portion of the Study Area, generally flows from north to south and is bracketed by large levees on both sides.

The Sacramento Regional Transit Light Rail "Blue Line" (Light Rail) bisects the east half of the parcel along an approximate north-south axis, and the recently-opened (29 August 2021) Morrison Creek Light Rail station is situated to the north.

2.1 Annual Brome Grasslands

The majority of the Study Area historically supported agricultural lands that were heavily impacted during the construction of the Light Rail and Cosumnes River Boulevard, which started in the early 2010's. Since the completion of these projects, approximately 9.31 acres of the site has reverted to annual brome grasslands that are characterized by soft chess (*Bromus hordeaceus*), wild oats (*Avena fatua*), rip-gut brome (*Bromus diandrus*), and perennial rye (*Lolium perenne*) (**Figure 3**). Common herbaceous species include prickly lettuce (*Lactuca serriola*), yellow star-thistle (*Centauria solstitialis*), and alkali mallow (*Malvella leprosa*).

2.2 Mixed Riparian Woodland

Approximately 0.46 acre of mixed riparian woodland comprised of small stands of sandbar willow (*Salix exigua*) and a scattered mix of escaped non-native fruit/ornamental species flank the east bank of Morrison Creek. This area also includes poison oak (*Toxicodendron diversilobum*), edible fig (*Ficus carica*),

and Himalayan blackberry (*Rubus armeniacus*) (**Figure 3**). A well-developed homeless encampment is present in this area.

2.3 Developed

Approximately 2.73 acres of developed lands were mapped within the Study Area. Developed lands refer to constructed, heavily graded, and/or heavily compacted features such as the Light Rail line and its base and overpass, levee access roads, a gravel staging area, and the portions of the levee within the Study Area adjacent to Morrison Creek (**Figure 3**). Vegetation, if present, is typically sparse or ruderal and includes stinkwort (*Dittrichia graveolens*), Russian thistle (*Salsola tragus*), tumbleweed amaranth (*Amaranthus albus*), pigweed amaranth (*A. blitoides*), rough cocklebur (*Xanthium strumarium*), wild radish (*Raphanus sativus*), milk thistle (*Silybum marianum*), bindweed (*Convolvulus arvensis*), black mustard (*Brassica nigra*), and broad leaf filaree (*Erodium botrys*).

3.0 METHODOLOGY

Madrone ISA Certified Arborist Daria Snider (#WE-8666A) conducted the arborist survey with assistance from Madrone senior biologist Dustin Brown on 21 March 2022. The survey was conducted in accordance with the Sacramento City Code Section 12.56 on tree planting, maintenance, and conservation.

Prior to the survey Madrone queried the City of Sacramento database of City Trees to determine whether any City or Private Protected Trees were within the Study Area. A City Tree means any tree which, when the trunk is measured, measured four and one-half feet above ground, is partially or completely located in a City park, on the City's property, or on a public right-of-way (i.e., any street, road, sidewalk, park, alley, etc.). The Sacramento City Code defines a "Private Protected Tree" as follows:

A. A tree that is designated by city council resolution to have special historical value, special environmental value, or significant community benefit, and is located on private property;
B. Any native Valley Oak (*Quercus lobata*), Blue Oak (*Quercus douglasii*), Interior Live Oak (*Quercus wislizenii*), Coast Live Oak (*Quercus agrifolia*), California Buckeye (*Aesculus californica*), or California Sycamore (*Platanus racemosa*), that has a Diameter at Standard Height (DSH) of 12 inches or more, and is located on private property;
C. A tree that has a DSH of 24 inches or more located on private property that:
    1. Is an undeveloped lot; or
    2. Does not include any single unit or duplex dwellings; or
    3. A tree that has a DSH of 32 inches or more located on private property that includes any single unit or duplex dwellings.

As part of this inventory all native trees with a DSH of 12 inches or more and any tree with a DSH of 24 inches or more were surveyed.

For each tree surveyed, Ms. Snider recorded the tree identification number, tree species, DSH, approximate dripline radius, and general health and structure. Aluminum tags with a unique identification

number were nailed into the trunk of each surveyed tree with the exception of one inaccessible tree (#1). The location of each tree was recorded with a GPS unit capable of sub-meter accuracy (EOS Tools Arrow 100). In one case, dense poison oak precluded access to the tree trunk. In this case, no tag was attached to the tree, and the DBH and physical location was estimated.

The survey did not include trees on the eastern banks of Morrison Creek as no impacts are proposed for that area, and the creek is not passable on foot.

4.0 RESULTS

A total of seven native trees with a DSH greater than 12 inches were inventoried within the Study Area. The data are summarized in Table 1 and a map of the inventoried trees is included as **Figure 2**.

Table 1. Surveyed Trees within the Study Area

Species	Number of Trees (DSH)	Trees in Poor Health (DSH)	Trees in Fair Health (DSH)	Trees in Good Health (DSH)
Interior live oak (*Quercus wislizenii*)	2 (28)		2 (28)	
Boxelder (*Acer negundo*)	2 (73)			2 (73)
Goodding's black willow (*Salix gooddingii*)	2 (111.5)	1 (30)	1 (81.5)	
Northern California black walnut (*Juglans hindsii*)	1 (55)		1 (55)	
Total	7 (280)	1 (30)	4 (164.5)	2 (73)

Several of the trees were burned in a fire in 2021. Tree 597 appears to have almost died and is resprouting mid-way up the trunk and from the base. Tree 1, a large Goodding's black willow is mostly dead and has many cavities.

5.0 REPLACEMENT PLAN

A total of four trees will be removed by the Project including two Goodding's black willow trees (Trees 1 and 592) and two interior live oak trees (Trees 594 and 595). Of these four trees, only the two interior live oak trees qualify as Private Protected trees totaling 28 DSH and require replacement.

Replacement options may be achieved by onsite planting of 28 DSH of native oak trees as described below or by the payment of in-lieu fees equal to $325 per inch or $9,100. If the project proponent chooses to pay in-lieu fees, the fees are paid to the City of Sacramento and are due when the planned project has been approved and the appeal period has expired. An invoice will be mailed to the applicant of the tree permit application around the middle of the month following planning project approval and it is payable upon receipt. If the project proponent chooses to conduct onsite replacement plantings as mitigation, the following specifications shall be followed. Each 15-gallon planting shall be equivalent to 1 inch DSH, each 24" box planting shall be equivalent to 2 DSH, and each 36" box or bigger shall be equivalent to 3 DSH. Each native oak planting shall require a minimum planter width of seven feet and a

minimum planter length of 14-feet. The plantings shall be planted no less than 35 feet apart and shall be adequately irrigated.

6.0 REFERENCES

U.S. Geological Survey (USGS). 2018. *"Florin, California"* 7.5-Minute Series Topographic Quadrangle. U. S. Geological Survey. Denver, Colorado.

Figures

Figure 1. Vicinity Map

Figure 2. Tree Inventory Map

Figure 3. Impacts to Aquatic Resources and Terrestrial Vegetation Communities

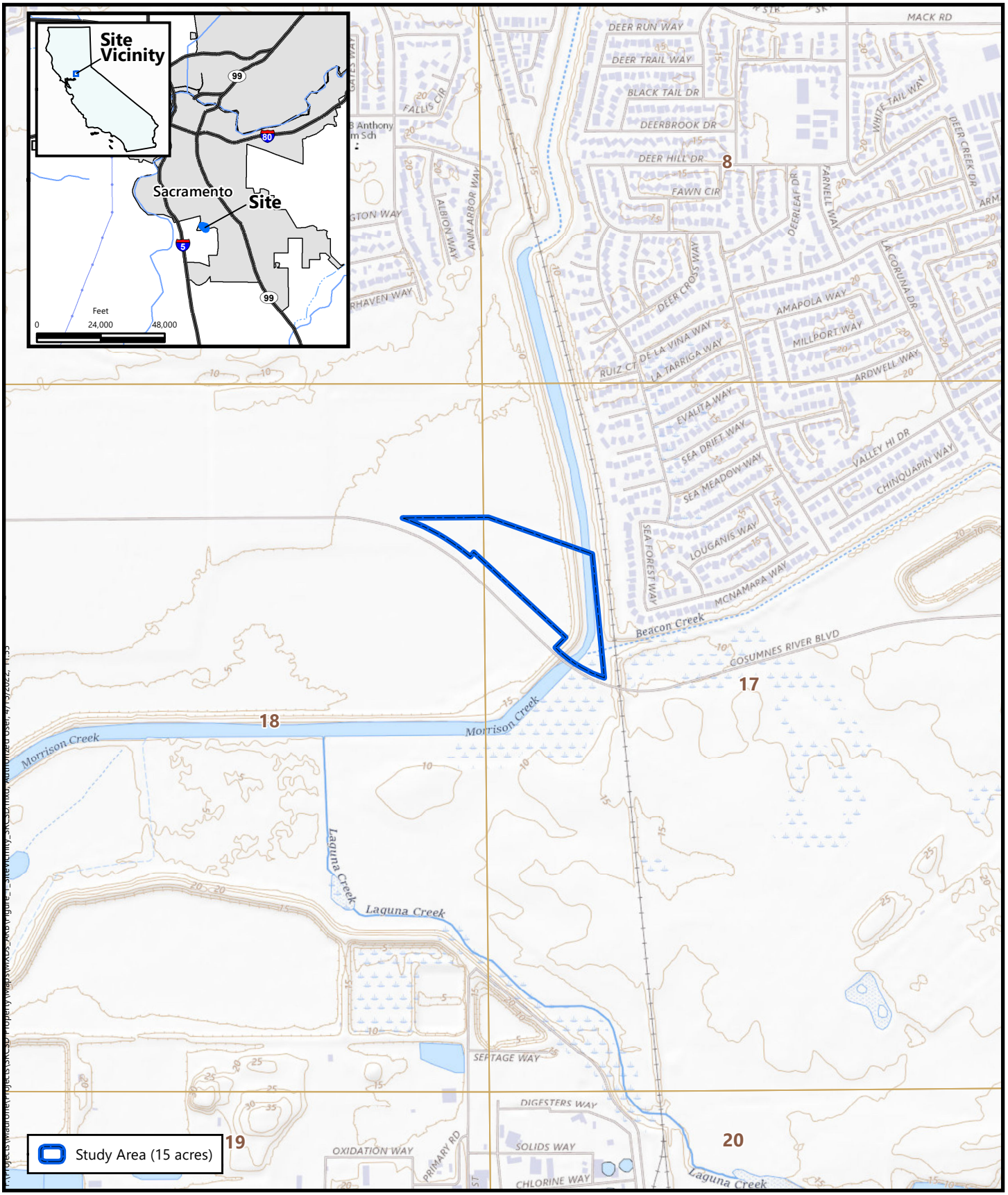
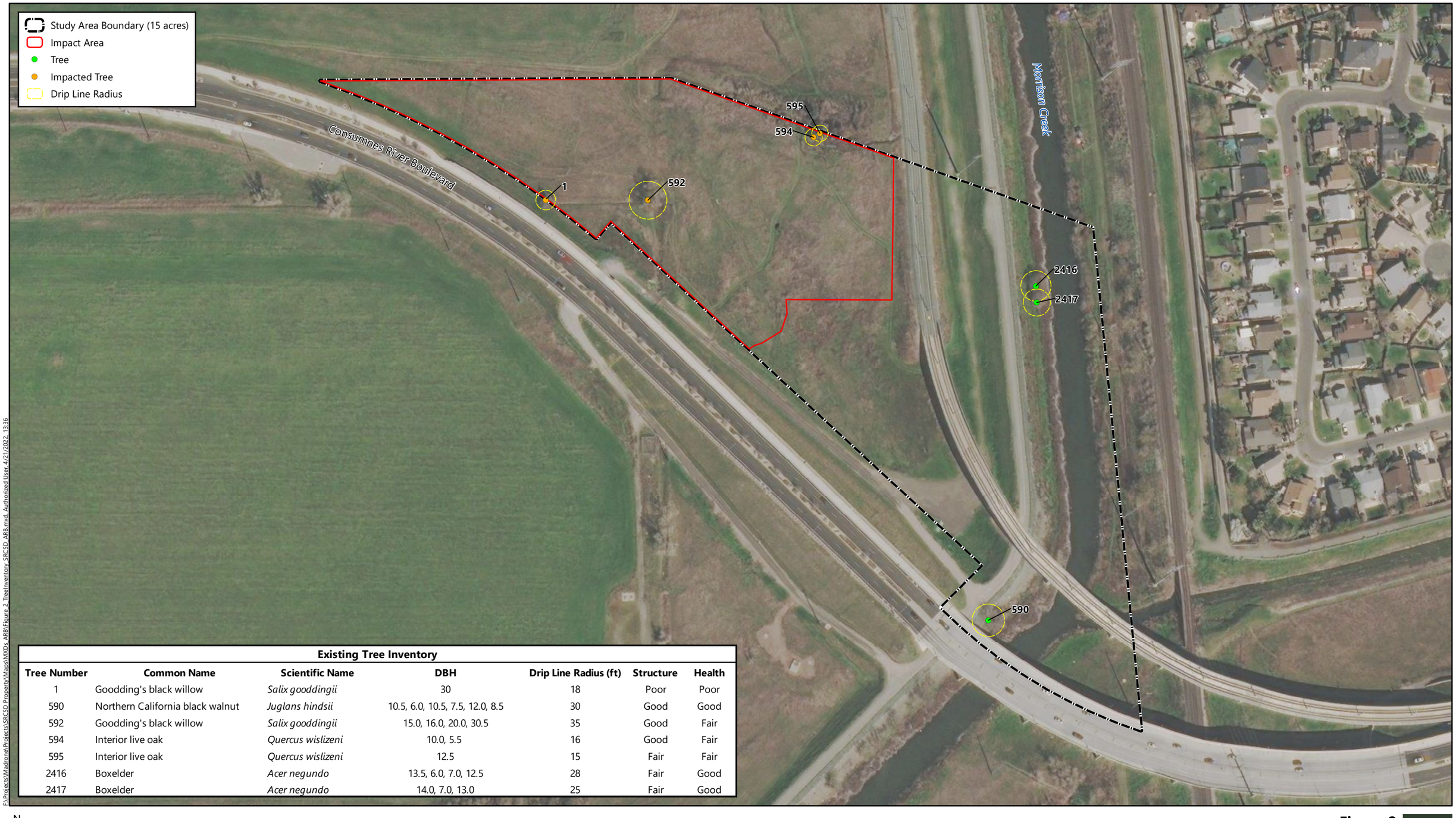


Figure 1
Site and Vicinity

SRCSD Property
Sacramento County, California

Source: United States Geologic Survey, 2018
"Florin, California" 7.5-Minute Topographic Quadrangle
Sections 17-18, Township 7 North, Range 5 East, MDB&M
Longitude -121.462845, Latitude 38.4629216

MADRONE ECOLOGICAL CONSULTING



Existing Tree Inventory

Tree Number	Common Name	Scientific Name	DBH	Drip Line Radius (ft)	Structure	Health
1	Goodding's black willow	*Salix gooddingii*	30	18	Poor	Poor
590	Northern California black walnut	*Juglans hindsii*	10.5, 6.0, 10.5, 7.5, 12.0, 8.5	30	Good	Good
592	Goodding's black willow	*Salix gooddingii*	15.0, 16.0, 20.0, 30.5	35	Good	Fair
594	Interior live oak	*Quercus wislizeni*	10.0, 5.5	16	Good	Fair
595	Interior live oak	*Quercus wislizeni*	12.5	15	Fair	Fair
2416	Boxelder	*Acer negundo*	13.5, 6.0, 7.0, 12.5	28	Fair	Good
2417	Boxelder	*Acer negundo*	14.0, 7.0, 13.0	25	Fair	Good

N

Feet
0 150 300

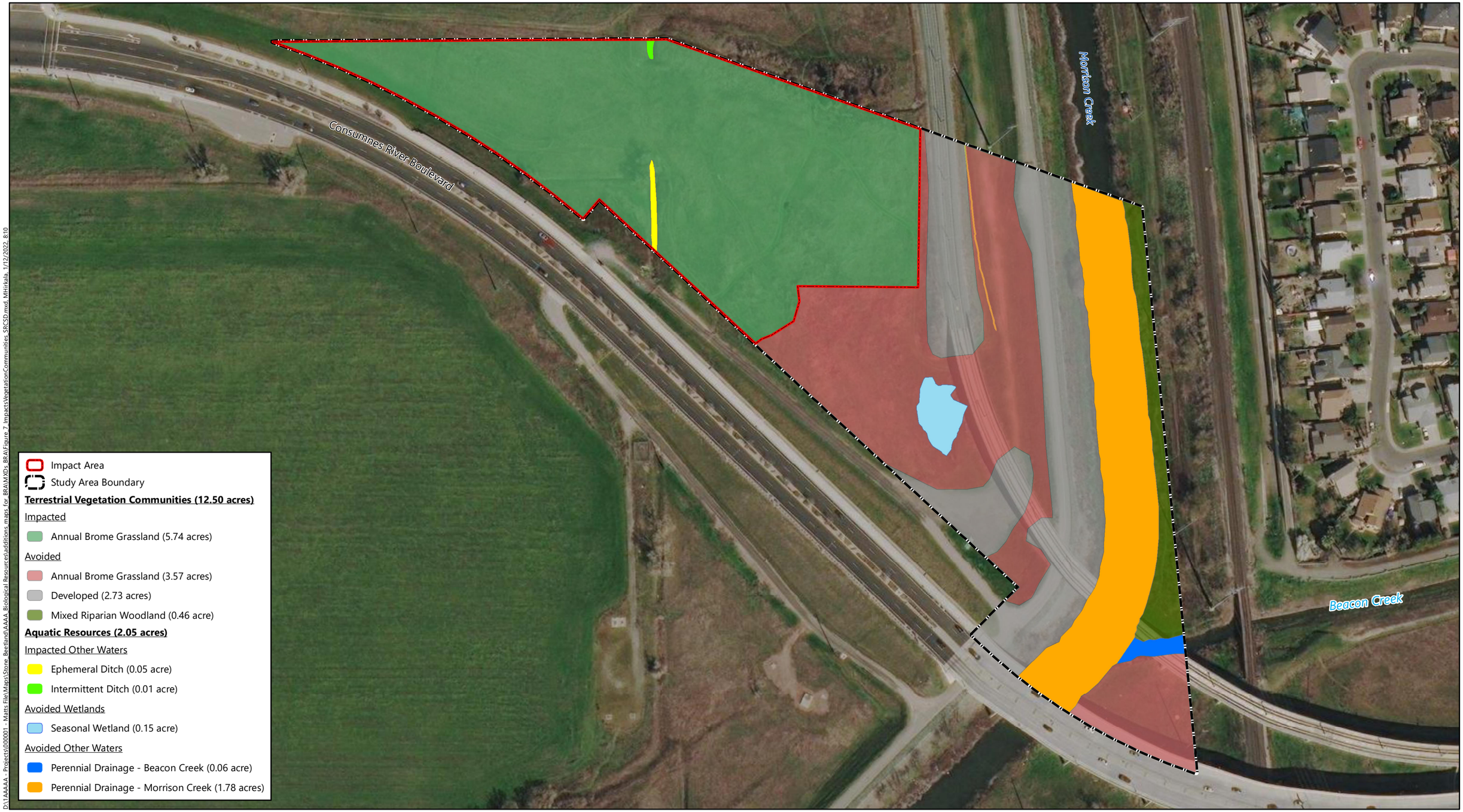
Aerial Source: Maxar, 4 March 2021

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Figure 2
Tree Inventory

SRCSD Property
Sacramento County, California

MADRONE ECOLOGICAL CONSULTING



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Aerial Source: Sac Regional GIS Coop, 26 March 2018

Figure 3
Impacts to Aquatic Resources and Terrestrial Vegetation Communities

SRCSD Property
Sacramento, Sacramento County, California

MADRONE ECOLOGICAL CONSULTING

Attachments

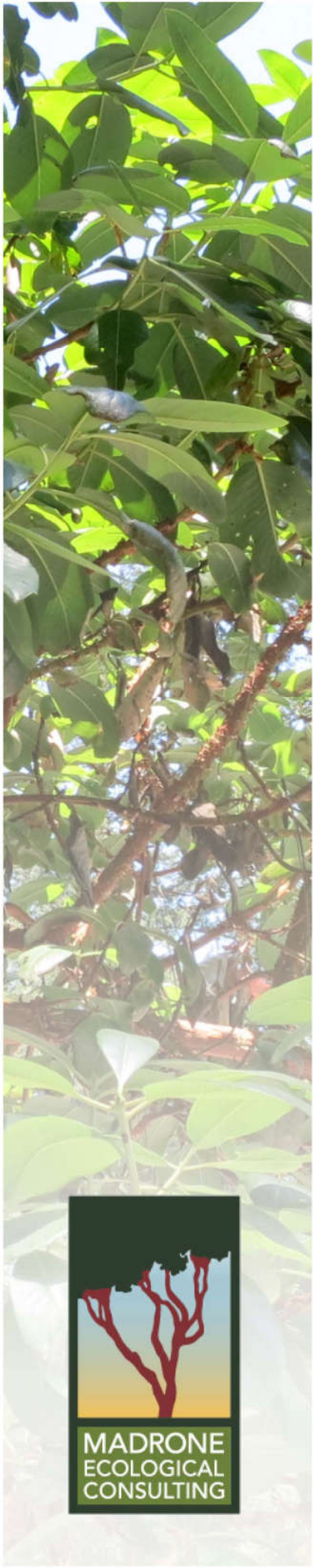
Attachment A: Arborist Survey Data

Attachment A

Arborist Survey Data

SRCSD Property Arborist Survey Data

Tree Number	Common Name	Scientific Name	DBH	Drip Line Radius (ft)	Structure	Health	Notes
1	Goodding's black willow	*Salix gooddingii*	30.0	18	Poor	Poor	Much of tree is dead, large cavaties at base
590	Northern California black walnut	*Juglans hindsii*	10.5, 6.0, 10.5, 7.5, 12.0, 8.5	30	Good	Good	
592	Goodding's black willow	*Salix gooddingii*	15.0, 16.0, 20.0, 30.5	35	Good	Fair	
594	Interior live oak	*Quercus wislizeni*	10.0, 5.5	16	Good	Fair	
595	Interior live oak	*Quercus wislizeni*	12.5	15	Fair	Fair	
2416	Boxelder	*Acer negundo*	13.5, 6.0, 7.0, 12.5	28	Fair	Good	lower bark shredding and missing in areas
2417	Boxelder	*Acer negundo*	14.0, 7.0, 13.0	25	Fair	Good	lower bark missing on one trunk



Arborist Report

Stone Beetland

City of Sacramento, Sacramento County, California

16 May 2022

MADRONE ECOLOGICAL CONSULTING

Prepared for:
Clifton Taylor
JP Land Holdings, LLC.
508 Gibson Drive, Suite 260
Roseville, California 95678

Recommended Citation:
Madrone Ecological Consulting, LLC (Madrone). 2022. *Arborist Report – Stone Beetland*. Prepared for JP Land Holdings, LLC.. Published 16 May 2022.

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Stone Beetland

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Attachment A. Arborist Survey Data

1.0 INTRODUCTION

This report presents the results of an arborist survey conducted for the Stone Beetland Property (Study Area) by Madrone Ecological Consulting, LLC (Madrone) on 21 March 2022. The approximately 127-acre Study Area is west of Morrison Creek north of Cosumnes River Boulevard, and approximately 1 mile east of Interstate 5 within the City of Sacramento, Sacramento County, California. The Study Area is located within Sections 7, 8, 17 and 18, Township 7 North, Range 5 East (MDB&M) (Longitude -121.469194, Latitude 38.466003; NAD83) and is portrayed on the "*Florin, California*" 7.5-Minute Series USGS Topographic Quadrangle (USGS 2018) (**Figure 1**).

2.0 GENERAL SITE CONDITIONS AND HABITAT

According to LiDAR elevation data provided to Sacramento County by Merrick & Company in 2004 and 2007, the Study Area is situated on relatively flat terrain at elevations ranging from approximately 6 to 18 feet above sea level.

Most of the site is characterized by flat terrain that has been historically leveled, ditched, and drained for agricultural use. The northeastern corner displayed uneven topography due to the presence of several trash and spoils piles; several "squatter" gardens were located within the Study Area along the northeastern fence line and appear to have been planted by residents from the abutting neighborhood to the north. An abandoned California Highway Patrol drivers training track is also located to the north of the Study Area and west of the aforementioned neighborhood.

Fallow agricultural lands occupy areas to the south and west, and the eastern boundary borders the toe of a large levee constructed along Morrison Creek. A portion of the Sacramento Regional Transit Light Rail "Blue Line" (Light Rail) and Light Rail station parallels the eastern boundary just west of Morrison Creek.

2.1 Annual Brome Grasslands

The majority of the Study Area historically supported agricultural lands that were partially impacted during the construction of the Light Rail and Cosumnes River Boulevard, which started in the early 2010's. Since the completion of these projects, approximately 9.31 acres of the site has reverted to annual brome grasslands that are characterized by soft chess (*Bromus hordeaceus*), wild oats (*Avena fatua*), rip-gut brome (*Bromus diandrus*), and perennial rye (*Lolium perenne*). Common herbaceous species include prickly lettuce (*Lactuca serriola*), yellow star-thistle (*Centauria solstitialis*), and alkali mallow (*Malvella leprosa*).

2.2 Mixed Riparian Woodland

Approximately 0.46 acre of mixed riparian woodland comprised of small stands of sandbar willow (*Salix exigua*) and a scattered mix of escaped non-native fruit/ornamental species flank the east bank of

Morrison Creek. This area also includes poison oak (*Toxicodendron diversilobum*), edible fig (*Ficus carica*), and Himalayan blackberry (*Rubus armeniacus*). This area appears to have burned in 2021.

2.3 Developed

Approximately 2.73 acres of developed lands were mapped within the Study Area. Developed lands refer to constructed, heavily graded, and/or heavily compacted features such as the Light Rail line and its base and overpass, levee access roads, a gravel staging area, and the portions of the levee within the Study Area adjacent to Morrison Creek. Vegetation, if present, is typically sparse or ruderal and includes stinkwort (*Dittrichia graveolens*), Russian thistle (*Salsola tragus*), tumbleweed amaranth (*Amaranthus albus*), pigweed amaranth (*A. blitoides*), rough cocklebur (*Xanthium strumarium*), wild radish (*Raphanus sativus*), milk thistle (*Silybum marianum*), bindweed (*Convolvulus arvensis*), black mustard (*Brassica nigra*), and broad leaf filaree (*Erodium botrys*). There are several non-native ornamental tree plantings located along the landscaped margin on the north side of Cosumnes River Boulevard.

3.0 METHODOLOGY

Madrone ISA Certified Arborist Daria Snider (#WE-8666A) conducted the arborist survey with assistance from Madrone senior biologist Dustin Brown on 21 March 2022. The survey was conducted in accordance with the Sacramento City Code Section 12.56 on tree planting, maintenance, and conservation.

Prior to the survey Madrone queried the City of Sacramento database of City Trees to determine whether any City or Private Protected Trees were within the Study Area. A City Tree means any tree which, when the trunk is measured, measured four and one-half feet above ground, is partially or completely located in a City park, on the City's property, or on a public right-of-way (i.e., any street, road, sidewalk, park, alley, etc.). The Sacramento City Code defines a "Private Protected Tree" as follows:

A. A tree that is designated by city council resolution to have special historical value, special environmental value, or significant community benefit, and is located on private property;
B. Any native Valley Oak (*Quercus lobata*), Blue Oak (*Quercus douglasii*), Interior Live Oak (*Quercus wislizenii*), Coast Live Oak (*Quercus agrifolia*), California Buckeye (*Aesculus californica*), or California Sycamore (*Platanus racemosa*), that has a Diameter at Standard Height (DSH) of 12 inches or more, and is located on private property;
C. A tree that has a DSH of 24 inches or more located on private property that:
    1. Is an undeveloped lot; or
    2. Does not include any single unit or duplex dwellings; or
    3. A tree that has a DSH of 32 inches or more located on private property that includes any single unit or duplex dwellings.

As part of this inventory all native trees with a DSH of 12 inches or more and any tree with a DSH of 24 inches or more were surveyed.

For each tree surveyed, Ms. Snider recorded the tree identification number, tree species, DSH, approximate dripline radius, and general health and structure. Aluminum tags with a unique identification number were nailed into the trunk of each surveyed tree. The location of each tree was recorded with a GPS unit capable of sub-meter accuracy (EOS Tools Arrow 100).

4.0 RESULTS

A total of three native trees with a DSH greater than 12 inches were inventoried within the Study Area. The data are summarized in Table 1 and a map of the inventoried trees is included as **Figure 2**.

Table 1. Surveyed Trees within the Study Area

Species	Number of Trees (DSH)	Trees in Poor Health (DSH)	Trees in Fair Health (DSH)	Trees in Good Health (DSH)
Interior live oak (*Quercus wislizenii*)	1 (12.5)	1 (12.5)		
Valley oak (*Quercus lobata*)	1 (19.5)			1 (19.5)
Northern California black walnut (*Juglans hindsii*)	1 (41)		1 (41)	
Total	**3 (73)**	**1 (12.5)**	**1 (41)**	**1 (19.5)**

One tree (Tree 597) was burned in a fire in 2021 and appears to have almost died and is resprouting mid-way up the trunk and from the base.

5.0 REPLACEMENT PLAN

A total of three trees will be removed by the Project including one interior live oak (tree 597), one Northern California black walnut (tree 599), and one Valley oak (tree 600). Of these three trees, only the two native oak trees (trees 597 and 600) qualify as Private Protected trees. Tree 597 is in poor health due to being burned severely in a fire in 2021 and does not require replacement mitigation for removal. Thus, tree 600 is the only tree planned for removal that will require replacement mitigation.

Replacement options may be achieved by onsite planting of 20 DSH of native oak trees as described below or by the payment of in-lieu fees equal to $325 per inch or $6,500. If the project proponent chooses to pay in-lieu fees, the fees are paid to the City of Sacramento and are due when the planned project has been approved and the appeal period has expired. An invoice will be mailed to the applicant of the tree permit application around the middle of the month following planning project approval and it is payable upon receipt. If the project proponent chooses to conduct onsite replacement plantings as mitigation, the following specifications shall be followed. Each 15-gallon planting shall be equivalent to 1 inch DSH, each 24" box planting shall be equivalent to 2 DSH, and each 36" box or bigger shall be equivalent to 3 DSH. Each native oak planting shall require a minimum planter width of seven feet and a minimum planter length of 14-feet. The plantings shall be planted no less than 35 feet apart and shall be adequately irrigated.

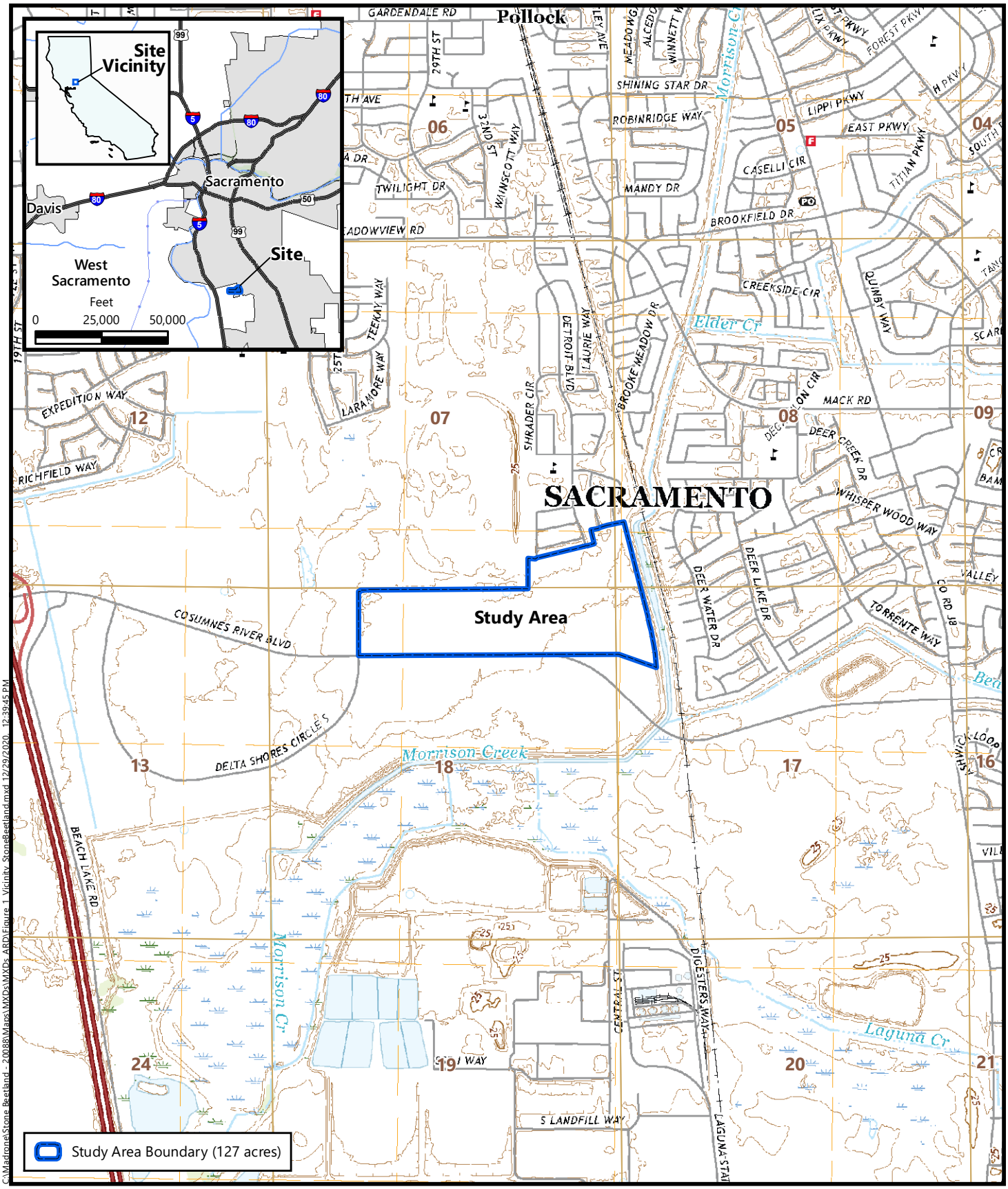
6.0 REFERENCES

U.S. Geological Survey (USGS). 2018. *"Florin, California"* 7.5-Minute Series Topographic Quadrangle. U. S. Geological Survey. Denver, Colorado.

Figures

Figure 1. Vicinity Map

Figure 2. Tree Inventory Map



C:\Madrone\Stone Beetland - 20088\Maps\MXDs\MXDs ARD\Figure 1 Vicinity StoneBeetland.mxd 12/29/2020 12:39:45 PM

Source: United States Geologic Survey, 2018.
"Florin, California" 7.5-Minute Topographic Quadrangle
Sections 7-8, and 17-18, Township 7 North, Range 5 East
Longitude -121.469194, Latitude 38.466003

Figure 1
Site and Vicinity

Stone Beetland
Sacramento County, California

MADRONE ECOLOGICAL CONSULTING



Existing Tree Inventory

Tree Number	Common Name	Scientific Name	DBH	Drip Line Radius (ft)	Structure	Health
597	Interior live oak	*Quercus wislizeni*	12.5	5	Poor	Poor
599	Northern California black walnut	*Juglans hindsii*	13.5, 13.5, 14.0	22	Poor	Fair
600	Valley oak	*Quercus lobata*	19.5	23	Good	Good

N

Feet
0 150 300

Aerial Source: Maxar, 4 March 2021

Figure 2
Tree Inventory

SRCSD Property
Sacramento County, California

MADRONE ECOLOGICAL CONSULTING

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Attachments

Attachment A: Arborist Survey Data

Attachment A

Arborist Survey Data

Stone Beetland Arborist Survey Data

Tree Number	Common Name	Scientific Name	DBH	Drip Line Radius (ft)	Structure	Health	Notes
597	Interior live oak	*Quercus wislizeni*	12.5	5	Poor	Poor	nearly died in fire; one sprout in canopy and stump sprouts, dead drip line is 10'
599	Northern California black walnut	*Juglans hindsii*	13.5, 13.5, 14.0	22	Poor	Fair	
600	Valley oak	*Quercus lobata*	19.5	23	Good	Good	

APPENDIX E

GEOTECHNICAL REPORT



STONE BEETLAND
SACRAMENTO, CALIFORNIA

PRELIMINARY GEOTECHNICAL REPORT

SUBMITTED TO
Mr. Clifton Taylor
Taylor Builders LLC
508 Gibson Drive, Suite 260
Roseville, CA 95678

PREPARED BY
ENGEO Incorporated

January 29, 2021

PROJECT NO.
18064.000.001

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ENGEO
Expect Excellence

Project No.
18064.000.001

January 29, 2021

Mr. Clifton Taylor
Taylor Builders, LLC
508 Gibson Drive, Suite 260
Roseville, CA 95678

Subject: Stone Beetland
Cosumnes River Boulevard
Sacramento, California

PRELIMINARY GEOTECHNICAL REPORT

Dear Mr. Taylor:

ENGEO prepared this preliminary geotechnical report for Taylor Builders LLC as outlined in our agreement dated November 20, 2020. We characterized the subsurface conditions at the site to provide the enclosed preliminary geotechnical recommendations for general planning purposes.

From a geotechnical standpoint, the site is suitable for the planned development provided the conclusions and preliminary recommendations presented in this report are incorporated into the preliminary design. We recommend a design-level study be performed to sufficiently assess existing fill and expansive soil conditions and to provide design-level site improvement recommendations.

If you have any questions or comments regarding this report, please call and we will be glad to discuss them with you.

Sincerely,

ENGEO Incorporated

Stephen Blakely, PG
sb/jb/dt

Jonathon Boland, GE

REGISTERED PROFESSIONAL ENGINEER
JONATHAN BOLAND
No. 2763
GEOTECHNICAL
STATE OF CALIFORNIA

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1.0 INTRODUCTION

1.1 PURPOSE AND SCOPE

ENGEO prepared this preliminary geotechnical report for design of Stone Beetland in Sacramento, California. We prepared this report as outlined in our agreement dated November 20, 2020. Taylor Builders, LLC authorized ENGEO to conduct the following scope of services.

- Service plan development
- Subsurface field exploration
- Soil laboratory testing
- Data analyses and conclusions
- Report preparation

For our use, we received an untitled and undated aerial photograph showing the approximate site boundaries, and a Preliminary A.L.T.A./N.S.P.S Land Title Survey prepared by CBG Civil Engineers, dated December 15, 2020, both delivered electronically via email. We also received a Preliminary Title Report, prepared by Stewart Title of Sacramento, dated August 15, 2019, also delivered electronically via email.

This report was prepared for the exclusive use of our client and their consultants for preliminary design of this project. In the event that any changes are made in the character, design, or layout of the development, we must be contacted to review the conclusions and recommendations contained in this report to evaluate whether modifications are recommended. This document may not be reproduced in whole or in part by any means whatsoever, nor may it be quoted or excerpted without our express written consent.

1.2 PROJECT LOCATION

Figure 1 displays a Site Vicinity Map. The approximately 111-acre site is located north of Cosumnes River Boulevard, west of Morrison Creek, and approximately 1 mile east of Interstate 5 in Sacramento, California. Site access is provided from Cosumnes River Boulevard.

Figure 2 shows site boundaries and our exploratory locations. The site is bordered by a residential development and undeveloped land to the north, undeveloped land to the west, Cosumnes River Boulevard and undeveloped land to the south, and Morrison Creek to the east.

1.3 PROJECT DESCRIPTION

Based on our discussions with you, we understand site development will predominantly include single-family homes in the western portion of the site and multi-family homes in the eastern portion. While no specific development details are available, we assume that the single-family homes will likely be 1- or 2-story wood-frame buildings with associated streets, underground utilities, and landscaping; the multi-family houses will be 2- to 3-story wood-frame buildings with associated streets, parking lots, and utilities. We also assume that cuts and fills for mass grading will be minimal, likely less than 5 feet maximum.

2.0 FINDINGS

2.1 SITE BACKGROUND

We reviewed select topographic maps of the site dating back to 1894 and select aerial photographs dating back to 1937. Based on our review of select maps and photos, the site appears to have been mostly undeveloped land as far back as 1894. The 1894 topographic map depicts the site as undeveloped land with intermittent streams crossing the northeastern and southeastern portions of the site. An intermittent stream is mapped crossing the southeastern portion of the site in the 1941, 1947, and 1953 topographic maps; this stream is mapped east of the site beginning in the 1968 map, and is labelled as Morrison Creek.

PHOTO 2.1-1: 1953 Topographic Map Showing Intermittent Stream

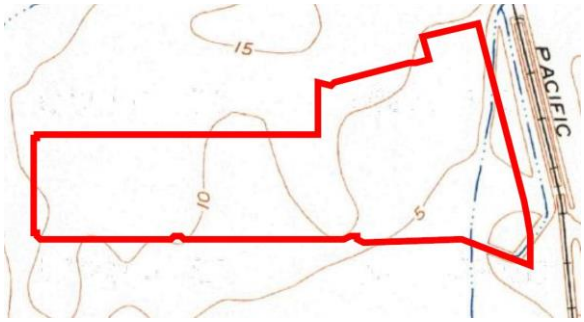
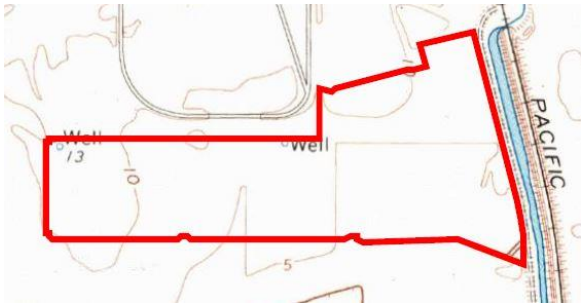


PHOTO 2.1-2: 1968 Topographic Map Showing Morrison Creek realigned



Agricultural fields and row crops are shown on site beginning in the 1957 aerial photograph; the fields remain through the 1999 photograph, with the exception of the northeastern portion of the site, which appears to have last been farmed in the 1966 photograph. Following the agricultural use, the site appears to be vacant in the 2006 through 2016 aerial photographs. Water wells are mapped in the northwestern and north-central portion of the site beginning in the 1968 topographic map. A light rail station and associated rail tracks are shown in the westernmost portion of the site in the 2016 aerial photograph. A few small garden plots are shown in the northeasternmost portion of the site in the 2009 through 2016 photographs.

The light rail station shown in the 2016 aerial photograph is the Sacramento Regional Transit (RT) Morrison Creek Station, a part of the South Sacramento Corridor Phase II Project, and was still under construction at the time of this report. The Preliminary A.L.T.A./N.S.P.S Land Title Survey indicates that this station is within an area granted to the Sacramento Regional Transit District (SRTD) as an easement (Figure 2). We reviewed a Preliminary Geotechnical Report prepared by Taber Consultants, dated May 24, 2006, and a Revised Final Geotechnical Report prepared by Blackburn Consulting, dated January 2010 for the South Sacramento Corridor Phase II Project. The reports included geotechnical recommendations and subsurface conditions at the Morrison Creek Station located on the eastern portion of the site.

The preliminary report (Taber 2006) indicated that the light rail tracks and Morrison Creek Station are underlain by the fill embankment of the Morrison Creek levee, but the report did not perform any explorations west of Morrison Creek. This preliminary report identified the presence of existing fills, medium to high expansion potential of native near-surface soil, and poor drainage of near-surface soil as the geotechnical conditions that required consideration.

The final geotechnical report (Blackburn 2010) included six boring logs from within or very near to the site and provided recommendations for expansive soil mitigation, existing fill mitigation, and other geotechnical considerations. The approximate locations of these previous borings are shown on Figure 2 and the boring logs are included in Appendix C.

We also reviewed boring logs from the DWR Urban Levee Evaluation in the vicinity of the site. Two borings were performed west of the Morrison Creek levee in the vicinity of the site. These borings, WM0009_024B and WM0009_025B, indicate that the levee consists of between 15½ and 17 feet of levee fill, which overlies native fat clay, lean clay, and clayey sand. The approximate locations of the borings are shown on Figure 2 and the boring logs are included in Appendix C.

2.2 FIELD EXPLORATION

We observed drilling of 10 borings at the locations shown on the Site Plan, Figure 2, on January 6 and January 7, 2021. An ENGEO representative observed the drilling and logged the subsurface conditions at each location. We retained a truck-mounted Mobile B24 drill rig and crew to advance the borings using 4-inch-diameter solid-flight auger methods. The borings were advanced to depths ranging from 11 to 41½ feet below existing grade. We permitted and backfilled the borings in accordance with the requirements of the Sacramento County Environmental Management Department. The location and elevations of our explorations are approximate and were estimated by a GPS-enabled smart phone and proximity to site features; they should be considered accurate only to the degree implied by the method used.

PHOTO 2.2-1: Drilling 1-B9



PHOTO 2.2-2: Surface Conditions, Looking West



We obtained bulk soil samples from drill cuttings and retrieved disturbed soil samples at various intervals in the borings using both standard penetration test and modified California drive samplers.

The blow counts for driven samples were obtained by dropping a 140-pound hammer through a 30-inch free fall. The 2-inch O.D. split-spoon sampler was driven 18 inches and the number of blows was recorded for each 6 inches of penetration. In addition, 2.5-inch I.D. samples were obtained using a Modified California Sampler driven into the soil with the 140-pound hammer previously described. Unless otherwise indicated, the blows per foot recorded on the boring log represent the accumulated number of blows to drive the last 1 foot of penetration; the blow counts have not been converted using any correction factors. When sampler driving was difficult, penetration was recorded only as inches penetrated for 50 hammer blows.

We used the field logs to develop the report logs in Appendix A. The logs depict subsurface conditions at the exploration locations for the date of exploration; however, subsurface conditions may vary with time.

2.3 GEOLOGY AND SEISMICITY

2.3.1 Geology

The site is located in the Great Valley Geomorphic Province. The Great Valley is an elongate, northwest-trending structural trough bound by the Coast Ranges on the west and the Sierra Nevada on the east. The Great Valley has been and is presently being filled with sediments primarily derived from surrounding mountain ranges.

As shown in Figure 3, the site is underlain by Pleistocene to Holocene alluvial deposits. Dawson (2009) mapped the underlying geologic formation at the site as the Middle unit of the Riverbank Formation (Qr_2). This formation consists of semi-consolidated red alluvium derived from the western slopes of the Sierra Nevada, and composed of gravel, sand, and silt. In the southeastern portion of the site, the Riverbank Formation is overlain by Holocene Basin deposits (Qhb). These deposits are fine-grained silt and clay derived from the same sources as the Pleistocene alluvium.

2.3.2 Seismicity

The site is not located within a currently designated Alquist-Priolo Earthquake Fault Zone and no known surface expression of active faults is believed to exist within the site. Fault rupture through the site, therefore, is not anticipated.

The Northern California area contains numerous active earthquake faults. Nearby active faults include the Great Valley Midland, Gordon Valley, and Trout Creek faults, located approximately 30.2, 48.3, and 48.7 miles from the site, respectively. An active fault is defined by the California Geologic Survey as one that has had surface displacement within Holocene time (about the last 11,000 years) (Bryant and Hart 2007).

Numerous small earthquakes occur every year in the Northern California Region, and larger earthquakes have been recorded and can be expected to occur in the future. Figure 4 shows the approximate locations of these faults and significant historic earthquakes recorded within the Northern California Region. The Uniform California Earthquake Rupture Forecast (UCERF 3) (Field et al. 2015) estimates the 30-year probability for a magnitude 6.7 or greater earthquake in Northern California at approximately 95 percent, considering the known active seismic sources in the region.

To determine nearby active faults that are capable of generating strong seismic ground shaking at the site, we utilized the USGS Unified Hazard Tool and deaggregated the hazard at the peak ground acceleration (PGA) for 2,475-year return period, with the resulting faults listed below in Table 2.3.2-1.

TABLE 2.3.2-1: Active Faults Capable of Producing Significant Ground Shaking at the Site (Latitude: 38.4657° Longitude: -121.4700°)

SOURCE	R_{RUP}		MOMENT MAGNITUDE M_W
	(KM)	(MILES)	
Great Valley 04b Gordon Valley [3]	48	30	6.95
Great Valley 06 (Midland) alt1 [1]	30	19	6.85
Great Valley 04a Trout Creek [2]	49	30	7.06
Hunting Creek - Berryessa [0]	66	41	7.43

*USGS Unified Hazard Tool - Edition: Dynamic Conterminous U.S. 2014 (update) (v4.2.0)

Historically, no significant damage in the Sacramento region has yet been caused by earthquakes; however, notable ground shaking has been felt from distant earthquakes. These seismic events include the 1892 Vacaville-Winters Magnitude 6.4, the 1906 San Francisco Magnitude 7.8, the 1989 Loma Prieta Magnitude 6.9, and the 2014 South Napa Magnitude 6.0 earthquakes. Although the Foothill Fault System is not mapped in the USGS database, the Cleveland Hills fault Segment near Oroville, part of the Foothills Fault System, is approximately 65 miles from the site and produced a Magnitude 5.8 earthquake in 1975. Segments of the Foothills Fault System are not considered active, but could be capable of a large magnitude earthquake.

2.4 SURFACE CONDITIONS

At the time of our exploration, the surface of the site was relatively level, and covered with a moderate to heavy growth of grasses and weeds. While no topographic data was provided, the surface elevations from Google Earth indicate site grades ranging from approximate Elevation 17 feet above mean sea level (msl) in the north to approximate Elevation 7 feet above msl to the southeast (Datum WGS 84) (across an approximate horizontal distance of 2,250 feet). A break in grade occurs at a north-south-oriented shallow ditch that separates the approximately 40-acre western portion of the site from the eastern approximately 70 acres. At this location, the ground surface is approximately 2 feet higher to the east than to the west of the ditch.

During our exploration, we observed the following additional surface conditions.

- Partially constructed Morrison Creek RT Station, with light rail tracks, equipment/maintenance buildings, and parking lot within an easement in the eastern portion of the site
- A stormwater basin located south of the Morrison Creek RT Station
- Concrete sidewalks and street lighting along Cosumnes River Boulevard
- Underground utility access panels at Cosumnes River Boulevard with utility stubs apparently extending into the site from the south, indicated by posts and signage
- Underground utility manhole access covers and signage, at the western edge of the site
- Several manholes in the central and southeastern portions of the site
- An up to approximately 7-foot-deep, east-west-aligned unlined drainage ditch at the boundary between APN 053-0010-0048 and APN 053-0010-0076
- Two inactive groundwater wells in the north-central and northwestern portion of APN 052-0010-048

- Overhead high-voltage power lines and a gravel access road located in the northern portion of the site oriented approximately east-west
- Stockpiles consisting of soil and debris in the northeastern portion of the site

PHOTO 2.4-1: Partially Constructed Morrison Creek RT Station



PHOTO 2.4-2: City of Sacramento Manhole Located Within Utility Easement



Please refer to the Site Plan, Figure 2, for more information on site features.

2.5 SUBSURFACE CONDITIONS

We observed drilling of ten borings to depths ranging between 11 and 41½ feet at the locations shown on the Site Plan, Figure 2. The borings generally encountered a surficial layer of hard fat clay or elastic silt with varying amounts of sand, extending to a minimum depth of 2½ feet. An exception was Boring 1-B4, which encountered lean clay with sand at the ground surface. The surficial clay / silt was generally underlain by lean clay with sand, sandy lean clay, or clayey sand in Borings 1-B1 through 1-B7. The clay in these borings was generally very stiff to hard and exhibited low to medium plasticity, while the sands were generally fine-grained and very dense. Borings 1-B8 through 1-B10 encountered an approximately 8- to 15½-foot-thick layer of silty sand and/or silt at depths ranging from approximately 8½ feet (1-B9) to approximately 13 feet below the ground surface (1-B8 and 1-B10). The silty sand was loose to medium dense, and generally contained between 20 percent and 40 percent fines. The silt encountered was generally stiff to hard, with varying sand content. Stiff to hard clay was encountered below the sand/silt layer. Boring 1-B10 encountered an approximately 4½-foot-thick layer of silty sand at approximately 33 feet below the ground surface.

Consult the exploration logs in Appendix A for specific subsurface conditions at the exploration locations. The logs contain the soil type, color, consistency, and visual classification in general accordance with the Unified Soil Classification System. The logs graphically depict the subsurface conditions encountered at the time of the explorations.

2.6 GROUNDWATER CONDITIONS

We observed static groundwater in several of our subsurface explorations. We summarize our observations in the table below:

TABLE 2.6-1: Groundwater Observations

EXPLORATION LOCATION	APPROX. DEPTH TO GROUNDWATER (FEET)	APPROX. GROUNDWATER ELEVATION (FEET)
1-B1	17	-2
1-B8	12	-3
1-B9	12	-2
1-B10	17	-2

We reviewed the Department of Water Resources On-line Water Data Library for depth to water in the vicinity of the site. The website identified two wells within 1 mile of the site. Well Number 07N05E18C001M is mapped at the northwestern corner of the site, and has recorded groundwater measurements since 1990. The most recent measurement recorded was 19.4 feet below ground surface in October 2017.

We also reviewed the Sustainable Groundwater Management Act (SGMA) Data Viewer (https://sgma.water.ca.gov/webgis/?appid=SGMADataViewer#gwlevels), a website maintained by the State of California Department of Water Resources, for local groundwater data. The data viewer plotted groundwater contours that indicated groundwater elevations in the vicinity generally between 0 and -10 feet elevation from 2017 to 2020, with groundwater flow generally to the southeast.

Fluctuations in the level of groundwater may occur due to variations in rainfall, irrigation practice, and other factors not evident at the time measurements were made.

2.7 LABORATORY TESTING

We performed laboratory tests on select soil samples to evaluate some of their engineering properties. For this project, we performed moisture content, dry density, plasticity index, expansion index, sieve analysis, and limited soil corrosion testing. Moisture contents, dry densities, fines content, and plasticity indices are recorded on the boring logs in Appendix A; laboratory data sheets are included in Appendix B.

3.0 PRELIMINARY CONCLUSIONS

From a geotechnical engineering viewpoint, in our opinion, the site is suitable for the proposed development, provided the preliminary geotechnical recommendations in this report are properly incorporated into the design plans and specifications.

The primary geotechnical concerns that could affect development on the site are existing fill and expansive soil. We summarize our conclusions below.

3.1 EXISTING FILL/LOOSE SURFACE SOIL

Our review of historical aerial photographs, topographic maps and previous reports and records indicate that portions of the site are underlain by existing fill. Background research indicates that a previous alignment of Morrison Creek once passed through the eastern portion of the site. In addition, two City of Sacramento sewer and drain utility easements cross the site oriented roughly north – south. Both the previous alignment of Morrison Creek and the City of Sacramento underground utilities represent existing fill on the site.

We observed soft/loose surface soil during our exploration. The site appears to have been annually disced, presumably for vegetation/fire control, and the upper approximately 1 foot of soil appears to consist of soft/disturbed clay. We anticipate typical site preparation as described in Section 4.1, Earthwork, will mitigate the soft/loose surface soil at the site.

Non-engineered fills can undergo excessive settlement, especially under new fill or building loads. We recommend that the design-level geotechnical investigation should further investigate and delineate the on-site fill. If documentation of previous fill placement is not obtained, we recommend complete removal and recompaction of the existing fill. We present preliminary fill removal recommendations in Section 4.1.

3.2 EXPANSIVE SOIL

We observed potentially expansive fat clay near the surface of the site in Borings 1-B1 through 1-B3, and 1-B5 through 1-B9. Our laboratory testing indicates that this soil exhibits moderate to high shrink/swell potential with variations in moisture content. The Revised Final Geotechnical Report for the South Sacramento Corridor Phase II Project (Blackburn 2010) included several tests for expansion index from within or near to the site. The tests indicated an expansion index of between 81 and 104, also indicating a moderate to high shrink/swell potential in near surface soil.

Expansive soil changes in volume with changes in moisture. They can shrink or swell and cause heaving and cracking of slabs-on-grade, pavements, and structures founded on shallow foundations. Building damage due to volume changes associated with expansive soil can be reduced by: (1) using a rigid mat foundation that is designed to resist the settlement and heave of expansive soil, (2) deepening the foundations to below the zone of moisture fluctuation, i.e. by using deep footings or drilled piers, and/or (3) using footings at normal shallow depths but bottomed on a layer of select fill having a low expansion potential.

Based on the conditions encountered and our experience with similar developments in the area, it is our opinion that post-tensioned mat foundations may be the preferred foundation system for the proposed structures to mitigate expansive soil conditions. Preliminary design criteria for this foundation type are presented in Section 4.2.

We have also provided specific grading recommendations for compaction of clay soil at the site. The purpose of these recommendations is to reduce the swell potential of the clay by compacting the soil at a high moisture content and controlling the amount of compaction.

The design-level geotechnical report should investigate other expansive soil mitigation alternatives based on the final development details and layout.

3.3 SEISMIC HAZARDS

Potential seismic hazards resulting from a nearby moderate to major earthquake can generally be classified as primary and secondary. The primary effect is ground rupture, also called surface faulting. The common secondary seismic hazards include ground shaking and ground lurching. The following sections present a discussion of these hazards as they apply to the site. Based on topographic and lithologic data, the risk of regional subsidence or uplift, soil liquefaction, lateral spreading, landslides, tsunamis, flooding or seiches is considered low to negligible at the site.

3.3.1 Ground Rupture

Since there are no known active faults crossing the property and the site is not located within an Earthquake Fault Special Study Zone, it is our opinion that ground rupture is unlikely at the subject property.

3.3.2 Ground Shaking

An earthquake of moderate to high magnitude generated within Northern California region could cause considerable ground shaking at the site, similar to that which has occurred in the past. To mitigate the shaking effects, structures should be designed using sound engineering judgment and the 2019 California Building Code (CBC) requirements, as a minimum. Seismic design provisions of current building codes generally prescribe minimum lateral forces, applied statically to the structure, combined with the gravity forces of dead-and-live loads. The code-prescribed lateral forces are generally considered to be substantially smaller than the comparable forces that would be associated with a major earthquake. Therefore, structures should be able to: (1) resist minor earthquakes without damage, (2) resist moderate earthquakes without structural damage but with some nonstructural damage, and (3) resist major earthquakes without collapse but with some structural as well as nonstructural damage. Conformance to the current building code recommendations does not constitute any kind of guarantee that significant structural damage would not occur in the event of a maximum magnitude earthquake; however, it is reasonable to expect that a well-designed and well-constructed structure will not collapse or cause loss of life in a major earthquake (SEAOC, 1996).

3.3.3 Liquefaction

Soil liquefaction results from loss of strength during cyclic loading, such as imposed by earthquakes. Soil most susceptible to liquefaction is clean, loose, saturated, uniformly graded, fine-grained sand. The sand encountered in our borings was generally medium to very dense and contained a significant amount of fine-grained material. Loose layers encountered in our explorations were relatively thin and discontinuous. For these reasons and based upon engineering judgment, it is our opinion that the potential for liquefaction at the site is low during seismic shaking.

3.3.4 Ground Lurching

Ground lurching is a result of the rolling motion imparted to the ground surface during energy released by an earthquake. Such rolling motion can cause ground cracks to form in weaker soil. The potential for the formation of these cracks is considered greater at contacts between deep alluvium and bedrock. Such an occurrence is possible at the site as in other locations in the northern California region, but based on the site location, it is our opinion that the offset is expected to be minor. We provide recommendations for foundation and pavement design in this report that are intended to reduce the potential for adverse impacts from lurch cracking.

3.3.5 Flooding

We reviewed the Federal Emergency Management Agency (FEMA) Flood Insurance Maps for Sacramento County, California and Incorporated Areas (Map 06067C030305H) dated August 16, 2012. The site is mapped as Zone X, an area with reduced flood risk due to levee. The Civil Engineer should review pertinent information relating to possible flood levels for the

subject site based on final pad elevations and provide appropriate design measures for development of the project, as needed.

3.4 SOIL CORROSION POTENTIAL

We obtained representative soil samples and submitted to a qualified analytical lab for determination of pH, minimum resistivity, sulfate content, and chloride content. The results are included in Appendix B and summarized in the tables below.

TABLE 3.4-1: Corrosivity Test Results

SAMPLE LOCATION	DEPTH (FEET)	PH[1]	MINIMUM RESISTIVITY[1] (OHMS-CM)	CHLORIDE[2] (PPM)	SULFATE[3] (PPM)
1-B2	2	6.40	1,050	3.5	10.1
1-B5	5½	7.15	940	2.8	11.5
1-B8	4	7.08	720	50.1	24.9

(1) Per CA DOT Test #643; (2) Per CA DOT Test #422; (3) Per CA DOT Test #417

The 2019 CBC references the 2014 American Concrete Institute Manual, ACI 318-14, Section 19.3.1 for concrete durability requirements. ACI Table 19.3.1.1 provides the following exposure categories and classes, and Table 19.3.2.1 provides requirements for concrete in contact with soil based upon the exposure class.

TABLE 3.4-2: ACI Table 19.3.1.1: Exposure Categories and Classes

CATEGORY	SEVERITY	CLASS	CONDITION	
F Freezing and thawing	Not Applicable	F0	Concrete not exposed to freezing-and-thawing cycles	
	Moderate	F1	Concrete exposed to freezing-and-thawing cycles and occasional exposure to moisture	
	Severe	F2	Concrete exposed to freezing-and-thawing cycles and in continuous contact with moisture	
	Very Severe	F3	Concrete exposed to freezing-and-thawing cycles and in continuous contact with moisture and exposed to deicing chemicals	
			WATER- SOLUBLE SULFATE IN SOIL % BY WEIGHT*	DISSOLVED SULFATE IN WATER MG/KG (PPM)**
S Sulfate	Not applicable	S0	$SO_4 < 0.10$	$SO_4 < 150$
	Moderate	S1	$0.10 \leq SO_4 < 0.20$	$150 \leq SO_4 \leq 1{,}500$ seawater
	Severe	S2	$0.20 \leq SO_4 \leq 2.00$	$1{,}500 \leq SO_4 \leq 10{,}000$
	Very severe	S3	$SO_4 > 2.00$	$SO_4 > 10{,}000$
			CONDITION	
P Requiring low permeability	Not applicable	P0	In contact with water where low permeability is not required.	
	Required	P1	In contact with water where low permeability is required.	
	Not applicable	C0	Concrete dry or protected from moisture	
	Moderate	C1	Concrete exposed to moisture but not to external sources of chlorides	

CATEGORY	SEVERITY	CLASS	CONDITION
C Corrosion protection of reinforcement	Severe	C2	Concrete exposed to moisture and an external source of chlorides from deicing chemicals, salt, brackish water, seawater, or spray from these sources

* Percent sulfate by mass in soil determined by ASTM C1580
**Concentration of dissolved sulfates in water in ppm determined by ASTM D516 or ASTM D4130

In accordance with these ACI tables, the soil at the site is categorized as being within the S0 sulfate exposure class. Considering a S0 sulfate exposure class, the code requires a minimum compressive strength of 2,500 psi. For this sulfate range, we recommend Type II cement and a concrete mix design for foundations and building slabs-on-grade that incorporates a maximum water-cement ratio of 0.50. It should be noted, however, that the project's design requirements for concrete may result in more stringent concrete specifications.

Laboratory tests on representative soil samples from the site indicate chloride concentrations in soil of less than 51 ppm. ACI Table 19.3.1.1 provides exposure categories for corrosion protection of reinforcement and references sources of chlorides from deicing chemicals, salt, brackish water, and seawater. Typical chloride concentrations for seawater are about 19,200 ppm and for brackish water may be in the range of 500 to 5,000 ppm. Since the chloride test results from the site are substantially lower than that of seawater or brackish water, we recommend an exposure class of C0 or C1 depending on the location of the structural element (i.e. protected from moisture or exposed to moisture).

The resistivity measurements indicate the soil at the site is classified as highly to extremely corrosive to buried metal piping, according to the National Association of Corrosion Engineers' 2006 *Corrosion Basics - an Introduction* interpretation of resistivity.

If desired to investigate this further, we recommend a corrosion consultant be retained to evaluate if specific corrosion recommendations are advised for the project.

3.5 2019 CBC SEISMIC DESIGN PARAMETERS

We provide the 2019 CBC seismic design parameters in Table 3.5-1, which include design spectral response acceleration parameters based on the mapped Risk-Targeted Maximum Considered Earthquake (MCE_R) spectral response acceleration parameters. We characterized the site as Site Class D in accordance with the 2019 CBC.

TABLE 3.5-1: 2019 CBC Seismic Design Parameters Latitude: 38.4657° Longitude: -121.4700°

PARAMETER	VALUE
Site Class	D
Mapped MCE_R Spectral Response Acceleration at Short Periods, S_S (g)	0.587
Mapped MCE_R Spectral Response Acceleration at 1-second Period, S_1 (g)	0.256
Site Coefficient, F_a	1.331
Site Coefficient, F_v	Null*
MCE_R Spectral Response Acceleration at Short Periods, S_{MS} (g)	0.781
MCE_R Spectral Response Acceleration at 1-second Period, S_{M1} (g)	Null*
Design Spectral Response Acceleration at Short Periods, S_{DS} (g)	0.52

PARAMETER	VALUE
Design Spectral Response Acceleration at 1-second Period, S_{D1} (g)	Null*
Mapped MCE Geometric Mean (MCE_G) Peak Ground Acceleration, PGA (g)	0.246
Site Coefficient, F_{PGA}	1.354
MCE_G Peak Ground Acceleration adjusted for Site Class effects, PGA_M (g)	0.333

* Requires site-specific ground motion hazard analysis per ASCE 7-16 Section 11.4.8

Considering the 1- to 2-story single-family and 2- to 3-story multi-family residential development, we estimate the fundamental periods of the proposed structures to be less than $1.5T_s$ (where T_s is 0.68 seconds for this project). Therefore, the structural engineer may consider exception(s) of Section 11.4.8 of ASCE 7-16 as follows:

> "A ground motion hazard analysis is not required for structures… where, structures on Site Class D sites with S_1 greater than or equal to 0.2, provided the value of the seismic response coefficient C_s is determined by Eq. (12.8-2) of ASCE 7-16 for values of $T \leq 1.5T_S$."

4.0 PRELIMINARY RECOMMENDATIONS

The preliminary recommendations included in this report should be utilized for project planning purposes and are intended for the areas of the site that will be developed with structural improvements. These areas include, but are not limited to building pads, sidewalks, pavement areas, retaining walls, and/or soundwalls. Prior to development, we should be retained to prepare a design-level geotechnical report.

4.1 EARTHWORK

As used in this report, relative compaction refers to the in-place dry unit weight of soil expressed as a percentage of the maximum dry unit weight of the same soil, as determined by the ASTM D1557 laboratory compaction test procedure, latest edition. Compacted soil is not acceptable if it is unstable; it should exhibit only minimal flexing or pumping, as observed by an ENGEO representative. The term "moisture condition" refers to adjusting the moisture content of the soil by either drying if too wet or adding water if too dry. Expansive soil, as used in this report, refers to soil that exhibits an expansion index (EI) of less than 50.

We define "structural areas" as any area sensitive to settlement of compacted soil. These areas include, but are not limited to building pads, sidewalks, pavement areas, and retaining walls.

4.1.1 Existing Fill Removal

Although we did not identify existing fill in our borings, site background research indicates that a previous alignment of Morrison Creek once passed through the eastern portion of the site. In addition, two City of Sacramento sewer and drain utility easements cross the site oriented roughly north – south. Both the previous alignment of Morrison Creek and the City of Sacramento underground utilities represent existing fill on the site. If documentation of previous fill placement is not obtained, remove existing fill to competent native soil, or as evaluated by ENGEO. Figure 2 displays the approximate locations of existing fill based on our background research. The lateral extent and depth of fill is expected to vary and additional exploration during a design-level geotechnical investigation should further delineate fill onsite.

4.1.2 Fill Compaction

We recommend removal of existing fills, stripping of organics, scarification, moisture conditioning, and compaction of the soil prior to fill placement, following cutting operations, and in areas left at grade. For low-expansion potential native or import soil (Expansion Index less than or equal to 50), we recommend compaction of fill and trench backfill to at least 90 percent relative compaction (ASTM D-1557) and compaction of the upper 6 inches of finish pavement subgrade to at least 95 percent relative compaction prior to aggregate base placement. Soil should be compacted at a minimum of 1 percentage point over optimum moisture content. For expansive native soil (Expansion Index greater than 50), we recommend that fill be compacted within a range of 87 to 92 percent relative compaction at a moisture content at least 4 percentage points above optimum. Landscape fills can generally be compacted to a minimum of 85 percent relative compaction. Relative compaction refers to the in-place dry density of soil expressed as a percentage of the maximum dry density of the same material.

4.1.3 Acceptable Fill

In general, we anticipate the on-site soil should be suitable as fill material provided it is processed to remove concentrations of organic material, debris, and particles greater than 6 inches in maximum dimension. Imported fill should also meet the above requirements and have an Expansion Index less than 50.

4.1.4 Organic Content

We recommend material placed as engineered fill contain no more than 3 percent organic content by weight. We recommend soil samples be collected for laboratory testing to determine organic content during the design-level report. Strip organics from the ground surface to a depth of at least 2 to 3 inches below the surface. Remove strippings from the site or, if considered suitable by the landscape architect and owner, use them in landscape fill.

4.1.5 Slope Gradients

For cut and fill slopes up to 8 feet tall, construct final slope gradients to 2:1 (horizontal:vertical) or flatter. The contractor is responsible to construct temporary construction slopes in accordance with CALOSHA requirements. Final slopes should be protected from surface erosion by installation of appropriate best management practices (BMPs) or finish landscaping.

4.2 FOUNDATIONS

We recommend that 1- and 2-story single-family and 2- to 3-story multi-family structures be supported on post-tensioned (PT) mat foundations bearing on competent native soil or compacted fill. On a preliminary basis, we recommend PT mats be approximately 10 inches thick, or greater, and have a thickened edge at least 2 inches greater than the mat thickness. The thickened edge should be at least 12 inches wide. Design PT mats for a maximum average allowable bearing pressure of 1,000 pounds per square foot (psf) for dead plus live loads, with maximum localized bearing pressures of 1,500 psf at column or wall loads.

Final post-tensioned foundation design should be performed by a structural engineer based on the procedure presented by the Post-Tensioning Institute “Design of Post-Tensioned Slabs-on-Ground” Third Edition, including appropriate addenda (2004).

4.3 PAVEMENTS

4.3.1 Flexible Pavements

Based on our preliminary exploration and laboratory testing, we judged an R-value of 5 to be appropriate for preliminary pavement design. Using a preliminary design R-value of 5 and Procedure 633 of the Caltrans Highway Design Manual (including the asphalt factor of safety), we developed the preliminary pavement sections in Table 4.3.1-1.

TABLE 4.3.1-1: Preliminary Hot Mix Asphalt Pavement Sections

TRAFFIC INDEX (TI)	SECTION	
	HOT MIX ASPHALT (INCHES)	AGGREGATE BASE (INCHES)
4.5	4*	8
5.0	4*	10
6.0	4*	14
7.0	4*	17

*City of Sacramento minimum structural section (Section 15.6.2)

The City of Sacramento 2009 *Design and Procedures Manual* (Section 15 – Street Design Standards) specifies minimum traffic indexes and pavement section thicknesses for various public street classifications. The minimum values are a TI = 4.5 and a minimum structural section of 4 inches of asphalt concrete over 8 inches of aggregate base. The design-level geotechnical report should include R-value testing to confirm final design-level pavement recommendations.

4.3.2 Rigid Pavements

Use concrete pavement sections to resist heavy loads and turning forces in areas such as fire lanes or trash enclosures. Final design of rigid pavement sections and accompanying reinforcement should be performed based on estimated traffic loads and frequencies. We recommend the following preliminary minimum design sections for rigid pavements.

- Use a minimum section of 6 inches of Portland Cement concrete over 6 inches of Caltrans Class 2 Aggregate Base.
- Concrete pavement should have a minimum 28-day compressive strength of 3,500 psi.
- Provide minimum control joint spacing in accordance with Portland Cement Association guidelines.

5.0 DESIGN-LEVEL GEOTECHNICAL REPORT

This report presents findings, conclusions, and preliminary geotechnical recommendations intended for planning purposes only. Future design-level geotechnical explorations should be performed when development plans are finalized. We anticipate the design-level geotechnical report will include:

- Additional subsurface exploration based on the actual development layout.
- Further delineation of suspected undocumented fills.

- Additional laboratory testing to determine moisture density, soil corrosion potential, soil expansion potential, and verify the design R-value for flexible pavements.
- Specific recommendations for site grading, foundations, sound and/or retaining walls (if applicable), and utility trench backfill.

6.0 LIMITATIONS AND UNIFORMITY OF CONDITIONS

This report presents preliminary geotechnical recommendations for design of the improvements discussed in Section 1.3 for the Stone Beetland project in Sacramento, California. If changes occur in the nature or design of the project, we should be allowed to review this report and provide additional recommendations, if any. It is the responsibility of the owner to transmit the information and recommendations of this report to the appropriate organizations or people involved in design of the project, including but not limited to developers, owners, buyers, architects, engineers, and designers. The conclusions and preliminary recommendations contained in this report are solely professional opinions and are valid for a period of no more than 2 years from the date of report issuance.

We strived to perform our professional services in accordance with generally accepted principles and practices currently employed in the area; there is no warranty, express or implied. There are risks of earth movement and property damages inherent in building on or with earth materials. We are unable to eliminate all risks; therefore, we are unable to guarantee or warrant the results of our services.

This report is based upon field and other conditions discovered at the time of report preparation. We developed this report with limited subsurface exploration data. We assumed that our subsurface exploration data are representative of the actual subsurface conditions across the site. Considering possible underground variability of soil and groundwater, additional costs may be required to complete the project. We recommend that the owner establish a contingency fund to cover such costs. If unexpected conditions are encountered, ENGEO must be notified immediately to review these conditions and provide additional and/or modified recommendations, as necessary.

Our services did not include excavation sloping or shoring, soil volume change factors, flood potential, or a geohazard exploration. In addition, our geotechnical exploration did not include work to determine the existence of possible hazardous materials. If any hazardous materials are encountered during construction, the proper regulatory officials must be notified immediately.

This document must not be subject to unauthorized reuse, that is, reusing without written authorization of ENGEO. Such authorization is essential because it requires ENGEO to evaluate the document's applicability given new circumstances, not the least of which is passage of time.

Actual field or other conditions will necessitate clarifications, adjustments, modifications or other changes to ENGEO's documents. Therefore, ENGEO must be engaged to prepare the necessary clarifications, adjustments, modifications or other changes before construction activities commence or further activity proceeds. If ENGEO's scope of services does not include on-site construction observation, or if other persons or entities are retained to provide such services, ENGEO cannot be held responsible for any or all claims arising from or resulting from the performance of such services by other persons or entities, and from any or all claims arising from or resulting from clarifications, adjustments, modifications, discrepancies or other changes necessary to reflect changed field or other conditions.

We determined the lines designating the interface between layers on the exploration logs using visual observations. The transition between the materials may be abrupt or gradual. The exploration logs contain information concerning samples recovered, indications of the presence of various materials such as clay, sand, silt, rock, existing fill, etc., and observations of groundwater encountered. The field logs also contain our interpretation of the subsurface conditions between sample locations. Therefore, the logs contain both factual and interpretative information. Our recommendations are based on the contents of the final logs, which represent our interpretation of the field logs.

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Field, E.H., and 2014 Working Group on California Earthquake Probabilities, 2015, UCERF3: A new earthquake forecast for California's complex fault system: U.S. Geological Survey 2015–3009, 6 p., https://dx.doi.org/10.3133/fs20153009.

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Taber Consultants, 2006, Preliminary Geotechnical Report – Draft Final, South Sacramento Phase II Corridor, Environmental and Preliminary Engineering, dated May 24, 2006.



FIGURES

FIGURE 1: Vicinity Map
FIGURE 2: Site Sampling Locations
FIGURE 3: Geologic Map
FIGURE 4: Regional Faulting and Seismicity Map



N

0 2000
FEET

BASE MAP SOURCE: GOOGLE EARTH MAPPING SERVICE

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VICINITY MAP
STONE BEETLAND
SACRAMENTO, CALIFORNIA

PROJECT NO.: 18064.000.001	FIGURE NO. 1
SCALE: AS SHOWN	
DRAWN BY: CC	CHECKED BY: JCB

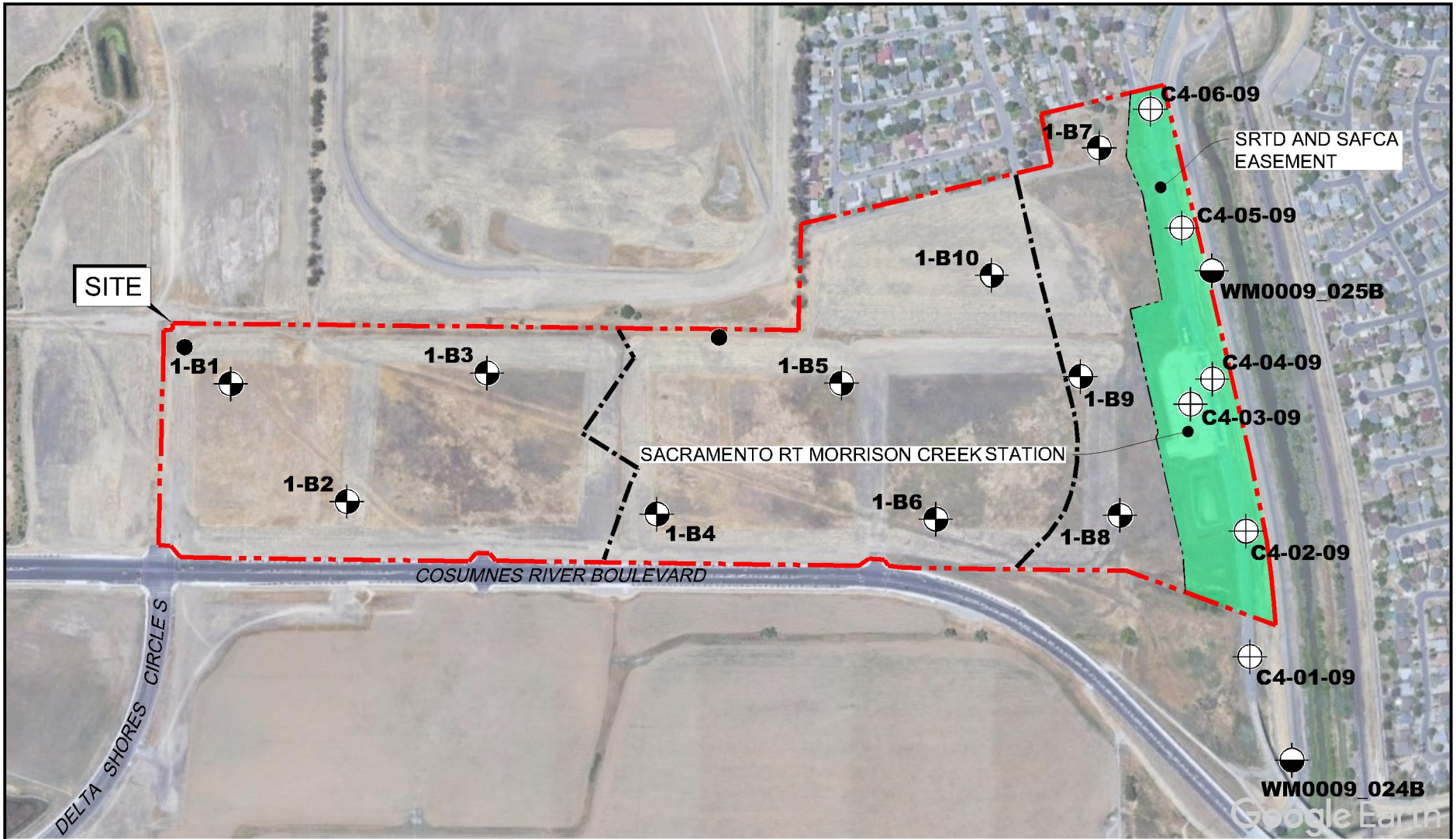
ORIGINAL FIGURE PRINTED IN COLOR

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FILE PATH: \\engeo.com\files\Drafting\PROJECTS_18000 to 19999\18064\18064000001\GEX\18064000001_GEX_VM_1_0121.dwg SAVE DATE: 1/26/2021 2:04:22 PM SAVED BY: CCulbertson

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EXPLANATION

ALL LOCATIONS ARE APPROXIMATE

- CITY OF SACRAMENTO SEWER AND DRAIN EASEMENT
- ABANDONED GROUNDWATER WELLS
- 1-B10 BORING (ENGEO, 2020)
- WM0009_025B BORING (DWR, 2012)
- C4-05-09 BORING (BLACKBURN, 2009)

0 600 FEET

N

BASE MAP SOURCE: GOOGLE EARTH MAPPING SERVICE

ENGEO Expect Excellence

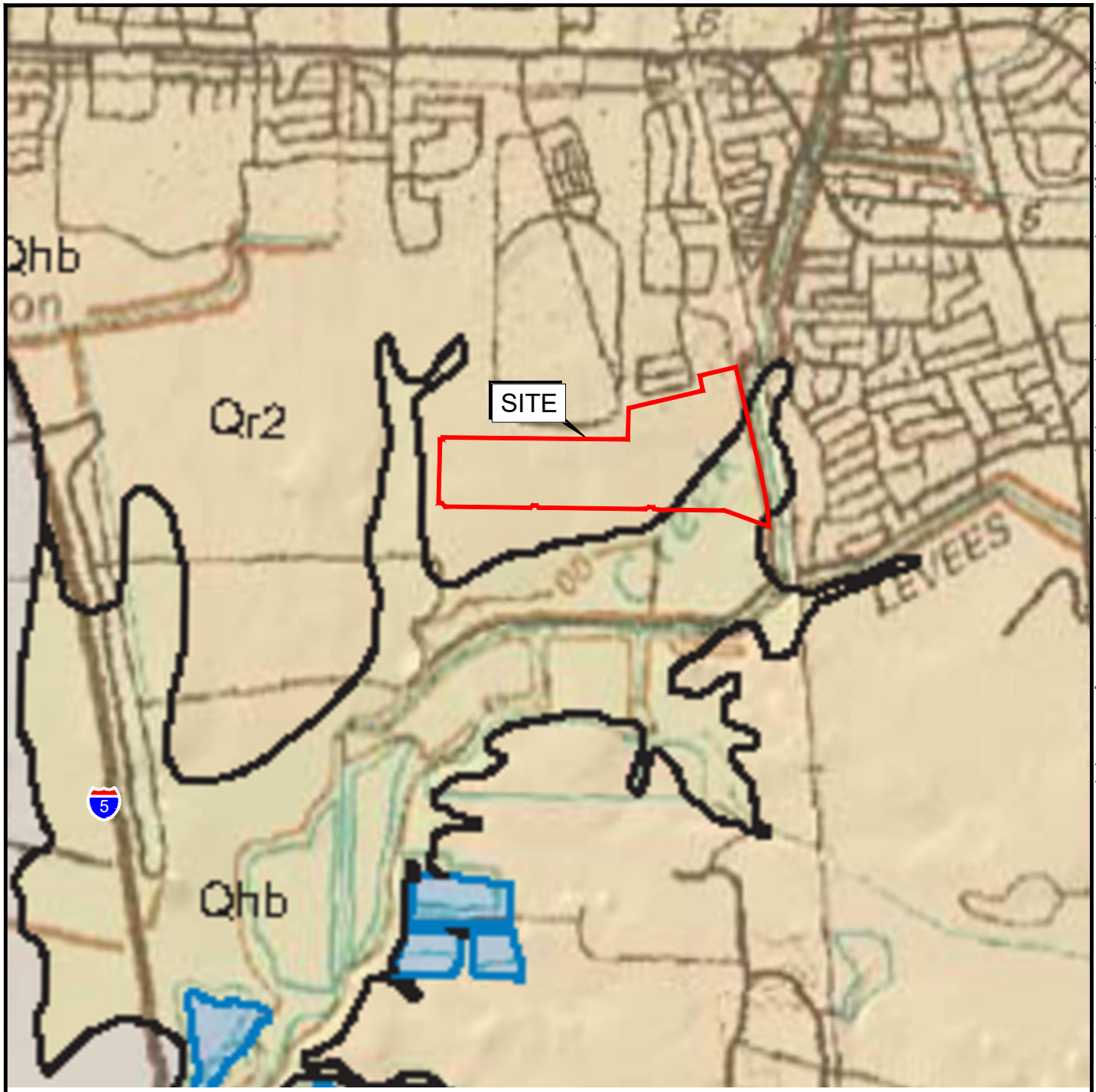
SITE SAMPLING LOCATIONS

STONE BEETLAND

SACRAMENTO, CALIFORNIA

PROJECT NO.: 18064.000.001	FIGURE NO. 2
SCALE: AS SHOWN	
DRAWN BY: CC	CHECKED BY: JCB

ORIGINAL FIGURE PRINTED IN COLOR



EXPLANATION

ALL LOCATIONS ARE APPROXIMATE

——— - - - -	GEOLOGIC CONTACT-DASHED WHERE GRADATIONAL OR APPROXIMATELY LOCATED
Qhb	HOLOCENE BASIN DEPOSITS
Qr2	RIVERBANK FORMATION, MIDDLE UNIT

N

0 2000
FEET

BASE MAP SOURCE: 30'X60' LODI QUADRANGLE, DAWSON 2009

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GEOLOGIC MAP
STONE BEETLAND
SACRAMENTO, CALIFORNIA

PROJECT NO.: 18064.000.001
SCALE: AS SHOWN
DRAWN BY: CC
CHECKED BY: JCB

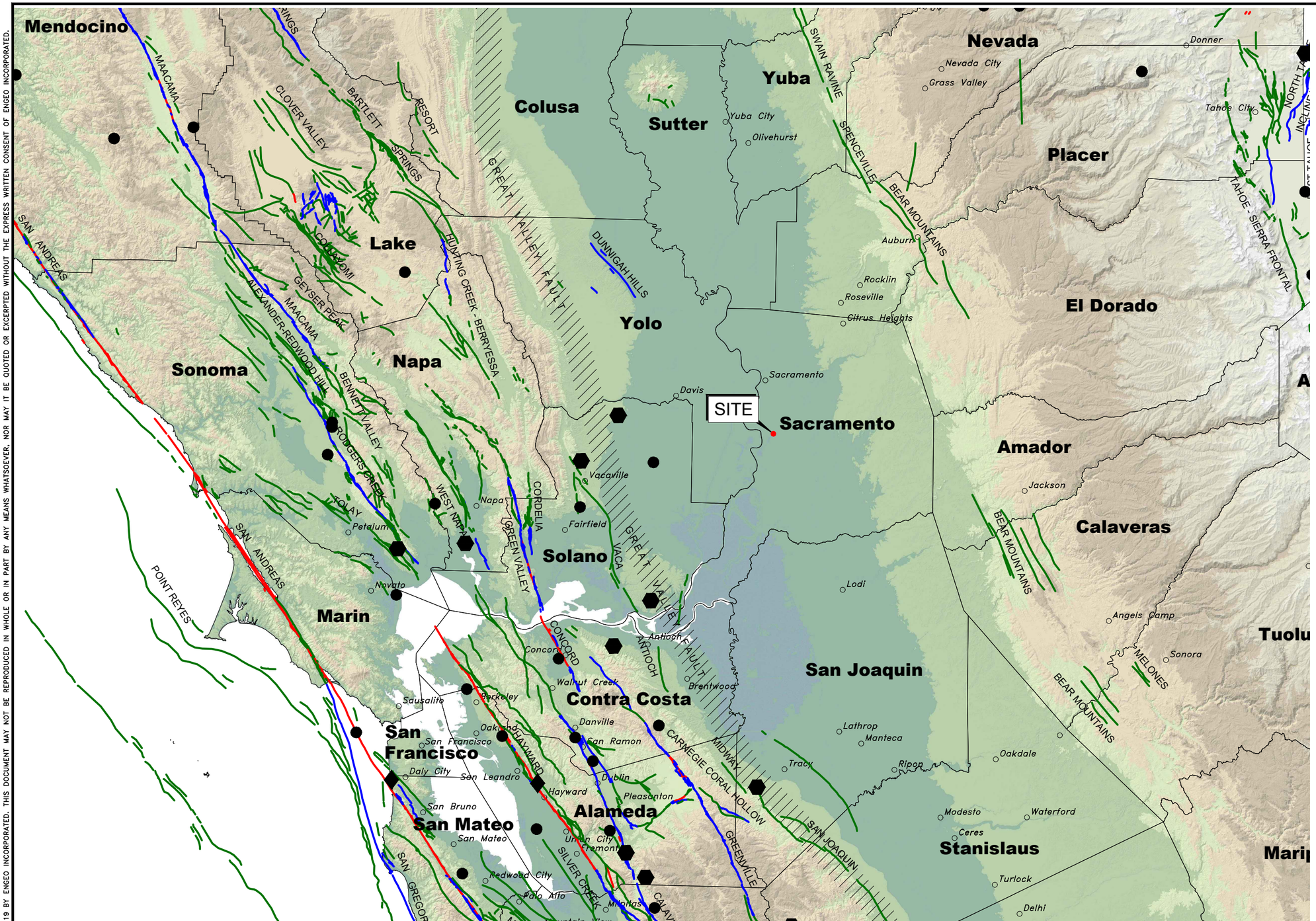
FIGURE NO. 3

ORIGINAL FIGURE PRINTED IN COLOR

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BASE MAP SOURCE:
COLOR HILLSHADE IMAGE BASED ON THE NATIONAL ELEVATION DATASET (NED) AT 30 METER RESOLUTION
U.S.G.S. QUATERNARY FAULT DATABASE, NOVEMBER, 2010
U.S.G.S. HISTORIC EARTHQUAKE DATABASE (1800–2000)

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REGIONAL FAULTING AND SEISMICITY
STONE BEETLAND
SACRAMENTO, CALIFORNIA

PROJECT NO.: 18064.000.001	FIGURE NO. 4
SCALE: AS SHOWN	
DRAWN BY: CC	CHECKED BY: JCB

ORIGINAL FIGURE PRINTED IN COLOR

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APPENDIX A

BORING LOG KEY
EXPLORATION LOGS

KEY TO BORING LOGS

MAJOR TYPES			DESCRIPTION
COARSE-GRAINED SOILS MORE THAN HALF OF MAT'L LARGER THAN #200 SIEVE	GRAVELS MORE THAN HALF COARSE FRACTION IS LARGER THAN NO. 4 SIEVE SIZE	CLEAN GRAVELS WITH LESS THAN 5% FINES	GW - Well graded gravels or gravel-sand mixtures GP - Poorly graded gravels or gravel-sand mixtures
		GRAVELS WITH OVER 12 % FINES	GM - Silty gravels, gravel-sand and silt mixtures GC - Clayey gravels, gravel-sand and clay mixtures
	SANDS MORE THAN HALF COARSE FRACTION IS SMALLER THAN NO. 4 SIEVE SIZE	CLEAN SANDS WITH LESS THAN 5% FINES	SW - Well graded sands, or gravelly sand mixtures SP - Poorly graded sands or gravelly sand mixtures
		SANDS WITH OVER 12 % FINES	SM - Silty sand, sand-silt mixtures SC - Clayey sand, sand-clay mixtures
FINE-GRAINED SOILS MORE THAN HALF OF MAT'L SMALLER THAN #200 SIEVE	SILTS AND CLAYS LIQUID LIMIT 50 % OR LESS		ML - Inorganic silt with low to medium plasticity CL - Inorganic clay with low to medium plasticity OL - Low plasticity organic silts and clays
	SILTS AND CLAYS LIQUID LIMIT GREATER THAN 50 %		MH - Elastic silt with high plasticity CH - Fat clay with high plasticity OH - Highly plastic organic silts and clays
	HIGHLY ORGANIC SOILS		PT - Peat and other highly organic soils

For fine-grained soils with 15 to 29% retained on the #200 sieve, the words "with sand" or "with gravel" (whichever is predominant) are added to the group name.

For fine-grained soil with >30% retained on the #200 sieve, the words "sandy" or "gravelly" (whichever is predominant) are added to the group name.

GRAIN SIZES

U.S. STANDARD SERIES SIEVE SIZE				CLEAR SQUARE SIEVE OPENINGS			
200	40	10	4	3/4 "	3"	12"	
SILTS AND CLAYS	SAND			GRAVEL		COBBLES	BOULDERS
	FINE	MEDIUM	COARSE	FINE	COARSE		

RELATIVE DENSITY

SANDS AND GRAVELS	BLOWS/FOOT (S.P.T.)
VERY LOOSE	0-4
LOOSE	4-10
MEDIUM DENSE	10-30
DENSE	30-50
VERY DENSE	OVER 50

CONSISTENCY

SILTS AND CLAYS	STRENGTH*
VERY SOFT	0-1/4
SOFT	1/4-1/2
MEDIUM STIFF	1/2-1
STIFF	1-2
VERY STIFF	2-4
HARD	OVER 4

SAMPLER SYMBOLS

- Modified California (3" O.D.) sampler
- California (2.5" O.D.) sampler
- S.P.T. - Split spoon sampler
- Shelby Tube
- Dames and Moore Piston
- Continuous Core
- Bag Samples
- Grab Samples
- NR No Recovery

MOISTURE CONDITION

DRY	Dusty, dry to touch
MOIST	Damp but no visible water
WET	Visible freewater

LINE TYPES

- ———— Solid - Layer Break
- – – – – – Dashed - Gradational or approximate layer break

GROUND-WATER SYMBOLS

- Groundwater level during drilling
- Stabilized groundwater level

(S.P.T.) Number of blows of 140 lb. hammer falling 30" to drive a 2-inch O.D. (1-3/8 inch I.D.) sampler

* Unconfined compressive strength in tons/sq. ft., asterisk on log means determined by pocket penetrometer

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LOG OF BORING 1-B1

LATITUDE: 38.46626 LONGITUDE: -121.47689

Geotechnical Exploration
Stone Beetland
Sacramento, CA
18064.000.001

DATE DRILLED: 1/7/2021
HOLE DEPTH: Approx. 21½ ft.
HOLE DIAMETER: 4.0 in.
SURF ELEV (WGS 84): Approx. 15 ft.

LOGGED / REVIEWED BY: B. McEvoy / JB
DRILLING CONTRACTOR: West Coast Exploration
DRILLING METHOD: Solid Flight Auger
HAMMER TYPE: 140 lb. Rope and Cathead

Depth in Feet	Elevation in Feet	Sample Type	DESCRIPTION	Log Symbol	Water Level	Blow Count/Foot	Atterberg Limits: Liquid Limit	Atterberg Limits: Plastic Limit	Atterberg Limits: Plasticity Index	Fines Content (% passing #200 sieve)	Moisture Content (% dry weight)	Dry Unit Weight (pcf)	Unconfined Strength (tsf) *field approx
			FAT CLAY WITH SAND (CH), dark brown, hard, moist, high plasticity, approximately 20% sand										
						38	54	17	37		14.6		>4.5* >4.5*
			Grades to yellowish red										
						50/6"				77			>4.5*
5	10		LEAN CLAY WITH SAND (CL), grayish brown, hard, moist, medium plasticity, approximately 20% sand			50/5"					16.1		>4.5* >4.5*
			CLAYEY SAND (SC), yellowish red, very dense, moist, fine-grained sand, approximately 30% fines										
10	5					50/6"							
15	0		Grades to light yellowish brown with iron staining			66					23.9		
			Wet cuttings		▼								
			LEAN CLAY WITH SAND (CL), light yellowish brown, very stiff, very moist, low plasticity, fine-grained sand										
20	-5					15				61	36.6		
			Bottom of boirng at 21½ feet. Groundwater encountered at 17 feet.										

LOG OF BORING 1-B2

Expect Excellence

LATITUDE: 38.464973 LONGITUDE: -121.475239

Geotechnical Exploration
Stone Beetland
Sacramento, CA
18064.000.001

DATE DRILLED: 1/7/2021
HOLE DEPTH: Approx. 11 ft.
HOLE DIAMETER: 4.0 in.
SURF ELEV (WGS 84): Approx. 14 ft.

LOGGED / REVIEWED BY: B. McEvoy / JB
DRILLING CONTRACTOR: West Coast Exploration
DRILLING METHOD: Solid Flight Auger
HAMMER TYPE: 140 lb. Rope and Cathead

Depth in Feet	Elevation in Feet	Sample Type	DESCRIPTION	Log Symbol	Water Level	Blow Count/Foot	Atterberg Limits: Liquid Limit	Atterberg Limits: Plastic Limit	Atterberg Limits: Plasticity Index	Fines Content (% passing #200 sieve)	Moisture Content (% dry weight)	Dry Unit Weight (pcf)	Unconfined Strength (tsf) *field approx
			FAT CLAY (CH), very dark grayish brown, hard, moist, high plasticity			22							>4.5*
	10					33					18.4	109	4.25*
													4.5*
5			SANDY LEAN CLAY (CL), dark brown to yellowish red, hard, moist, approximately 40% sand			50/6"					19.3		>4.5*
	5												
10						50/6"							>4.5*
			Bottom of boring at 11 feet. No groundwater encountered.										

LOG OF BORING 1-B3

LATITUDE: 38.46641 LONGITUDE: -121.473281

Geotechnical Exploration
Stone Beetland
Sacramento, CA
18064.000.001

DATE DRILLED: 1/7/2021
HOLE DEPTH: Approx. 11 ft.
HOLE DIAMETER: 4.0 in.
SURF ELEV (WGS 84): Approx. 14 ft.

LOGGED / REVIEWED BY: B. McEvoy / JB
DRILLING CONTRACTOR: West Coast Exploration
DRILLING METHOD: Solid Flight Auger
HAMMER TYPE: 140 lb. Rope and Cathead

Depth in Feet	Elevation in Feet	Sample Type	DESCRIPTION	Log Symbol	Water Level	Blow Count/Foot	Atterberg Limits: Liquid Limit	Atterberg Limits: Plastic Limit	Atterberg Limits: Plasticity Index	Fines Content (% passing #200 sieve)	Moisture Content (% dry weight)	Dry Unit Weight (pcf)	Unconfined Strength (tsf) *field approx
			FAT CLAY (CH), very dark grayish brown, hard, moist, high plasticity			43							>4.5*
													>4.5*
			SANDY LEAN CLAY (CL), light yellowish brown, hard, moist, medium plasticity, approximately 40% sand			50/6"							>4.5*
	10												
5						50/6"							>4.5*
	5												
10			Grades to yellowish red			50/6"					24.7		
			Bottom of boring at 11 feet. No groundwater encountered.										

LOG OF BORING 1-B4

LATITUDE: 38.46487 LONGITUDE: -121.470872

Geotechnical Exploration
Stone Beetland
Sacramento, CA
18064.000.001

DATE DRILLED: 1/7/2021
HOLE DEPTH: Approx. 11½ ft.
HOLE DIAMETER: 4.0 in.
SURF ELEV (WGS 84): Approx. 14 ft.

LOGGED / REVIEWED BY: B. McEvoy / JB
DRILLING CONTRACTOR: West Coast Exploration
DRILLING METHOD: Solid Flight Auger
HAMMER TYPE: 140 lb. Rope and Cathead

Depth in Feet	Elevation in Feet	Sample Type	DESCRIPTION	Log Symbol	Water Level	Blow Count/Foot	Atterberg Limits: Liquid Limit	Atterberg Limits: Plastic Limit	Atterberg Limits: Plasticity Index	Fines Content (% passing #200 sieve)	Moisture Content (% dry weight)	Dry Unit Weight (pcf)	Unconfined Strength (tsf) *field approx
			LEAN CLAY WITH SAND (CL), dark gray, hard, moist, medium to high plasticity, approximately 20% sand			38							>4.5*
	10		Grades to gray mottled with dark grayish brown			50/6"	46	18	28	75			>4.5*
5						43							>4.5*
											15.1		>4.5*
	5		Grades to SANDY LEAN CLAY (CL), light yellowish brown, hard, moist, medium plasticity, approximately 40% sand										
10						80/11"					19.6		>4.5*
													>4.5*
			Bottom of boring at 11½ feet. No groundwater encountered.										

LOG OF BORING 1-B5

Expect Excellence

LATITUDE: 38.466338 LONGITUDE: -121.468296

Geotechnical Exploration
Stone Beetland
Sacramento, CA
18064.000.001

DATE DRILLED: 1/7/2021
HOLE DEPTH: Approx. 11½ ft.
HOLE DIAMETER: 4.0 in.
SURF ELEV (WGS 84): Approx. 14 ft.

LOGGED / REVIEWED BY: B. McEvoy / JB
DRILLING CONTRACTOR: West Coast Exploration
DRILLING METHOD: Solid Flight Auger
HAMMER TYPE: 140 lb. Rope and Cathead

Depth in Feet	Elevation in Feet	Sample Type	DESCRIPTION	Log Symbol	Water Level	Blow Count/Foot	Atterberg Limits: Liquid Limit	Atterberg Limits: Plastic Limit	Atterberg Limits: Plasticity Index	Fines Content (% passing #200 sieve)	Moisture Content (% dry weight)	Dry Unit Weight (pcf)	Unconfined Strength (tsf) *field approx
			FAT CLAY WITH SAND (CH), very dark grayish brown, hard, approximately 25% sand			30							>4.5*
	10					38				78			>4.5* >4.5*
5													>4.5*
			SANDY LEAN CLAY (CL), reddish yellow, hard, moist, fine- to medium-grained sand			45				66			>4.5*
	5												
10						62							
			Bottom of boring at 11½ feet. No groundwater encountered.										

LOG - GEOTECHNICAL W/ELEV. 18064.GPJ ENGEO INC.GDT 1/26/21

LOG OF BORING 1-B6

Expect Excellence

LATITUDE: 38.464846 LONGITUDE: -121.466951

Geotechnical Exploration
Stone Beetland
Sacramento, CA
18064.000.001

DATE DRILLED: 1/7/2021
HOLE DEPTH: Approx. 11½ ft.
HOLE DIAMETER: 4.0 in.
SURF ELEV (WGS 84): Approx. 10 ft.

LOGGED / REVIEWED BY: B. McEvoy / JB
DRILLING CONTRACTOR: West Coast Exploration
DRILLING METHOD: Solid Flight Auger
HAMMER TYPE: 140 lb. Rope and Cathead

Depth in Feet	Elevation in Feet	Sample Type	DESCRIPTION	Log Symbol	Water Level	Blow Count/Foot	Atterberg Limits: Liquid Limit	Atterberg Limits: Plastic Limit	Atterberg Limits: Plasticity Index	Fines Content (% passing #200 sieve)	Moisture Content (% dry weight)	Dry Unit Weight (pcf)	Unconfined Strength (tsf) *field approx
			SANDY FAT CLAY (CH), dark gray, hard, moist, high plasticity, approximately 30% sand			27							>4.5* >4.5*
						33							>4.5* >4.5*
5	5		LEAN CLAY WITH SAND (CL), yellowish red, hard, moist, medium plasticity, approximately 20% sand			35							
10	0					33							
			Bottom of boring at 11½ feet. No groundwater encountered.										

LOG - GEOTECHNICAL W/ELEV. 18064.GPJ ENGEO INC.GDT 1/26/21

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LOG OF BORING 1-B7

LATITUDE: 38.468969 LONGITUDE: -121.464698

Geotechnical Exploration
Stone Beetland
Sacramento, CA
18064.000.001

DATE DRILLED: 1/7/2021
HOLE DEPTH: Approx. 11½ ft.
HOLE DIAMETER: 4.0 in.
SURF ELEV (WGS 84): Approx. 16 ft.

LOGGED / REVIEWED BY: B. McEvoy / JB
DRILLING CONTRACTOR: West Coast Exploration
DRILLING METHOD: Solid Flight Auger
HAMMER TYPE: 140 lb. Rope and Cathead

Depth in Feet	Elevation in Feet	Sample Type	DESCRIPTION	Log Symbol	Water Level	Blow Count/Foot	Atterberg Limits: Liquid Limit	Atterberg Limits: Plastic Limit	Atterberg Limits: Plasticity Index	Fines Content (% passing #200 sieve)	Moisture Content (% dry weight)	Dry Unit Weight (pcf)	Unconfined Strength (tsf) *field approx
	15		FAT CLAY (CH), very dark grayish brown, hard, moist, high plasticity			38					14.1		>4.5* >4.5*
			Grades to dark brown Approximately one inch thick sand lense			42							>4.5* >4.5*
5	10		CLAYEY SAND (SC), reddish yellow, very dense, moist, fine-grained sand, approximately 20% fines			50/6					17		
			SANDY LEAN CLAY (CL), light yellowish brown, hard, moist, low plasticity, approximately 40% fine-grained sand										
10	5					63							>4.5* >4.5*
			Bottom of boring at 11½ feet. No groundwater encountered.										

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LOG OF BORING 1-B8

LATITUDE: 38.46491 LONGITUDE: -121.464354

Geotechnical Exploration
Stone Beetland
Sacramento, CA
18064.000.001

DATE DRILLED: 1/7/2021
HOLE DEPTH: Approx. 26½ ft.
HOLE DIAMETER: 4.0 in.
SURF ELEV (WGS 84): Approx. 9 ft.

LOGGED / REVIEWED BY: B. McEvoy / JB
DRILLING CONTRACTOR: West Coast Exploration
DRILLING METHOD: Solid Flight Auger
HAMMER TYPE: 140 lb. Rope and Cathead

Depth in Feet	Elevation in Feet	Sample Type	DESCRIPTION	Log Symbol	Water Level	Blow Count/Foot	Atterberg Limits: Liquid Limit	Atterberg Limits: Plastic Limit	Atterberg Limits: Plasticity Index	Fines Content (% passing #200 sieve)	Moisture Content (% dry weight)	Dry Unit Weight (pcf)	Unconfined Strength (tsf) *field approx
			FAT CLAY (CH), very dark grayish brown, hard, moist, high plasticity, approximately 10% sand			23					19.4	77.7	>4.5*
	5					30							>4.5*
5													>4.5*
			LEAN CLAY (CL), reddish brown, hard, moist, medium plasticity, approximately 10% sand			32					13.5	119	>4.5*
	0		FAT CLAY WITH SAND (CH), yellowish brown, hard, moist, high plasticity, approximately 20% sand										
10						42					20.9	107.4	>4.5*
	-5		SILTY SAND (SM), yellowish brown, medium dense, moist, fine-grained sand, approximately 30% low plasticity fines			30							>4.5*
15			SANDY SILT (ML), yellowish brown, very stiff, moist, low plasticity, fine-grained sand			16				53			
	-10		SILTY SAND (SM), reddish brown, medium dense, moist, fine- to coarse-grained sand, trace fine gravel			27				48			
20			Grades to fine- to medium-grained sand, approximately 30% low plasticity fines										
	-15		SANDY SILT (ML), dark greenish gray, very stiff, moist, low plasticity, fine-grained sand										
25													

LOG - GEOTECHNICAL W/ELEV. 18064.GPJ ENGEO INC.GDT 1/26/21

LOG OF BORING 1-B8

Expect Excellence

LATITUDE: 38.46491 LONGITUDE: -121.464354

Geotechnical Exploration
Stone Beetland
Sacramento, CA
18064.000.001

DATE DRILLED: 1/7/2021
HOLE DEPTH: Approx. 26½ ft.
HOLE DIAMETER: 4.0 in.
SURF ELEV (WGS 84): Approx. 9 ft.

LOGGED / REVIEWED BY: B. McEvoy / JB
DRILLING CONTRACTOR: West Coast Exploration
DRILLING METHOD: Solid Flight Auger
HAMMER TYPE: 140 lb. Rope and Cathead

Depth in Feet	Elevation in Feet	Sample Type	DESCRIPTION	Log Symbol	Water Level	Blow Count/Foot	Atterberg Limits: Liquid Limit	Atterberg Limits: Plastic Limit	Atterberg Limits: Plasticity Index	Fines Content (% passing #200 sieve)	Moisture Content (% dry weight)	Dry Unit Weight (pcf)	Unconfined Strength (tsf) *field approx
			SANDY SILT (ML), dark greenish gray, very stiff, moist, low plasticity, fine-grained sand			53				56			
			Bottom of boring at 26½ feet. Groundwater encountered at 12 feet.										

ENGEO
Expect Excellence

LOG OF BORING 1-B9

LATITUDE: 38.466448 LONGITUDE: -121.464925

Geotechnical Exploration
Stone Beetland
Sacramento, CA
18064.000.001

DATE DRILLED: 1/6/2021
HOLE DEPTH: Approx. 41 ft.
HOLE DIAMETER: 4.0 in.
SURF ELEV (WGS 84): Approx. 10 ft.

LOGGED / REVIEWED BY: B. McEvoy / JB
DRILLING CONTRACTOR: West Coast Exploration
DRILLING METHOD: Solid Flight Auger
HAMMER TYPE: 140 lb. Rope and Cathead

Depth in Feet	Elevation in Feet	Sample Type	DESCRIPTION	Log Symbol	Water Level	Blow Count/Foot	Atterberg Limits: Liquid Limit	Atterberg Limits: Plastic Limit	Atterberg Limits: Plasticity Index	Fines Content (% passing #200 sieve)	Moisture Content (% dry weight)	Dry Unit Weight (pcf)	Unconfined Strength (tsf) *field approx
			FAT CLAY (CH), black, hard, moist, high plasticity			42							>4.5*
						43							>4.5*
5	5		LEAN CLAY (CL), yellowish red, hard, moist, medium plasticity, approximately 5% fine-grained sand Grades to reddish yellow, very stiff			27					21.5		3.75*
			SANDY SILT (ML), yellowish red, very stiff to hard, low plasticity, approximately 30% fine-grained sand			70					24.9		3.5* 4.5*
15	-5		SILTY SAND (SM), yellowish red, loose to medium dense, wet, fine-grained sand, low plasticity fines Wet cuttings			10				48			
			LEAN CLAY (CL), reddish yellow, hard, moist, medium plasticity										
20	-10					100/9"				93			>4.5* >4.5*
25	-15												

LOG - GEOTECHNICAL W/ELEV. 18064.GPJ ENGEO INC.GDT 1/26/21

LOG OF BORING 1-B9

Expect Excellence

LATITUDE: 38.466448 LONGITUDE: -121.464925

Geotechnical Exploration
Stone Beetland
Sacramento, CA
18064.000.001

DATE DRILLED: 1/6/2021
HOLE DEPTH: Approx. 41 ft.
HOLE DIAMETER: 4.0 in.
SURF ELEV (WGS 84): Approx. 10 ft.

LOGGED / REVIEWED BY: B. McEvoy / JB
DRILLING CONTRACTOR: West Coast Exploration
DRILLING METHOD: Solid Flight Auger
HAMMER TYPE: 140 lb. Rope and Cathead

Depth in Feet	Elevation in Feet	Sample Type	DESCRIPTION	Log Symbol	Water Level	Blow Count/Foot	Atterberg Limits: Liquid Limit	Atterberg Limits: Plastic Limit	Atterberg Limits: Plasticity Index	Fines Content (% passing #200 sieve)	Moisture Content (% dry weight)	Dry Unit Weight (pcf)	Unconfined Strength (tsf) *field approx
			Grades to approximately 20% sand			70							4.5*
30	-20					65							4.5*
			Grades to dark greenish gray										
35	-25					50/5"							>4.5*
40	-30					50/6"							>4.5*
			Bottom of boring at 41 feet. Groundwater encountered at 12½ feet.										

LOG - GEOTECHNICAL W/ELEV. 18064.GPJ ENGEO INC.GDT 1/26/21

ENGEO
Expect Excellence

LOG OF BORING 1-B10

LATITUDE: 38.467547 LONGITUDE: -121.466194

Geotechnical Exploration
Stone Beetland
Sacramento, CA
18064.000.001

DATE DRILLED: 1/6/2021
HOLE DEPTH: Approx. 41½ ft.
HOLE DIAMETER: 4.0 in.
SURF ELEV (WGS 84): Approx. 15 ft.

LOGGED / REVIEWED BY: B. McEvoy / JB
DRILLING CONTRACTOR: West Coast Exploration
DRILLING METHOD: Solid Flight Auger
HAMMER TYPE: 140 lb. Rope and Cathead

Depth in Feet	Elevation in Feet	Sample Type	DESCRIPTION	Log Symbol	Water Level	Blow Count/Foot	Atterberg Limits: Liquid Limit	Atterberg Limits: Plastic Limit	Atterberg Limits: Plasticity Index	Fines Content (% passing #200 sieve)	Moisture Content (% dry weight)	Dry Unit Weight (pcf)	Unconfined Strength (tsf) *field approx
			ELASTIC SILT WITH SAND (MH), light reddish brown, hard, moist, medium plasticity, approximately 20% sand			50/6"	38	22	16		12.6		>4.5*
						50/6"							>4.5*
5	10		LEAN CLAY (CL), reddish brown, hard, moist, medium plasticity			50/6"					18.4		>4.5*
10	5					50/6"							
			SILTY SAND (SM), dark yellowish red, medium dense, moist, fine- to medium-grained sand										
15	0				▼	26				21			
			Wet cuttings										
20	-5		Grades to dark gray			24							
25	-10												

LOG - GEOTECHNICAL W/ELEV. 18064.GPJ ENGEO INC.GDT 1/26/21

LOG OF BORING 1-B10

Expect Excellence

LATITUDE: 38.467547 LONGITUDE: -121.466194

Geotechnical Exploration
Stone Beetland
Sacramento, CA
18064.000.001

DATE DRILLED: 1/6/2021
HOLE DEPTH: Approx. 41½ ft.
HOLE DIAMETER: 4.0 in.
SURF ELEV (WGS 84): Approx. 15 ft.

LOGGED / REVIEWED BY: B. McEvoy / JB
DRILLING CONTRACTOR: West Coast Exploration
DRILLING METHOD: Solid Flight Auger
HAMMER TYPE: 140 lb. Rope and Cathead

Depth in Feet	Elevation in Feet	Sample Type	DESCRIPTION	Log Symbol	Water Level	Blow Count/Foot	Atterberg Limits: Liquid Limit	Atterberg Limits: Plastic Limit	Atterberg Limits: Plasticity Index	Fines Content (% passing #200 sieve)	Moisture Content (% dry weight)	Dry Unit Weight (pcf)	Unconfined Strength (tsf) *field approx
			SILTY SAND (SM), dark grey, medium dense, wet, fine- to medium-grained sand			24				95	34.8		
			ELASTIC SILT (MH), yellowish brown, stiff, moist, medium plasticity										
			SANDY LEAN CLAY (CL), dark greenish gray, very stiff, moist, medium plasticity										
30	-15					50/6"					31.9		2.5* 3.25*
			SILTY SAND (SM), dark greenish gray, dense, moist, fine-grained sand, approximately 20% fines										
35	-20					70					26		
			FAT CLAY (CH), greenish gray, very stiff, moist, high plasticity										
40	-25					16							
			Bottom of boring at 41½ feet. Groundwater encountered at 17 feet.										

LOG - GEOTECHNICAL W/ELEV. 18064.GPJ ENGEO INC.GDT 1/26/21

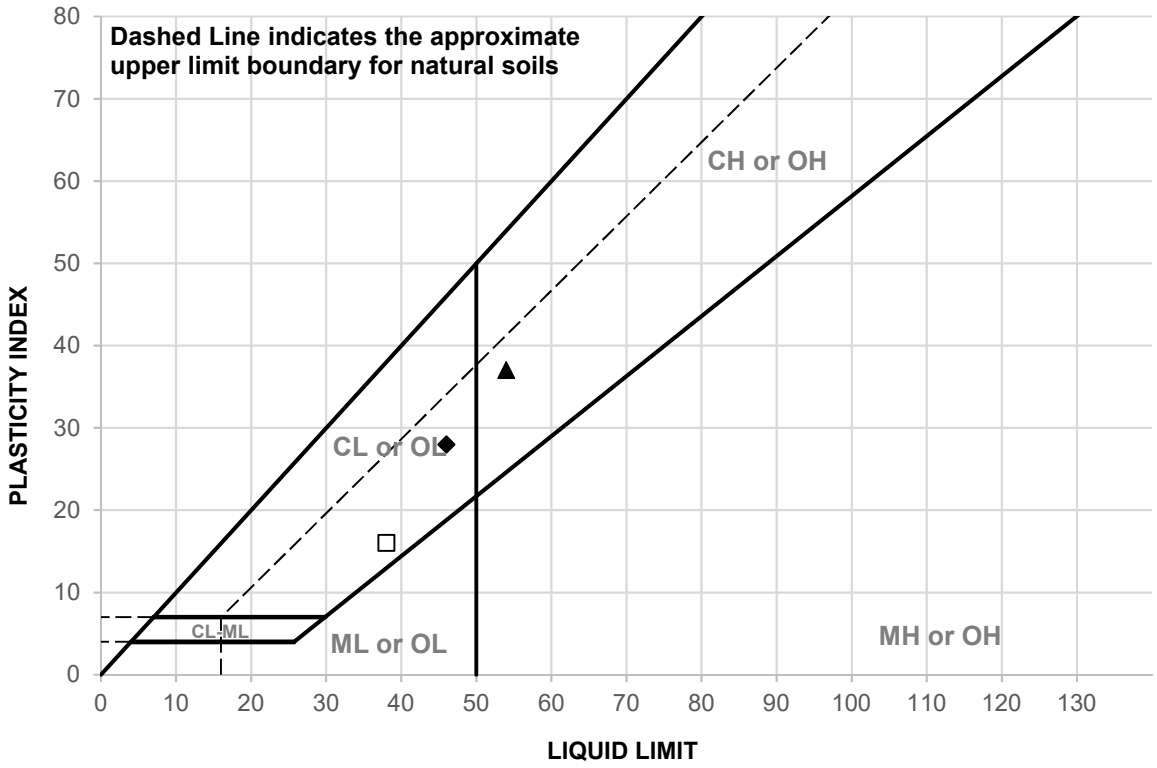


APPENDIX B

LABORATORY TEST DATA

Liquid and Plastic Limits Test Report
Expansion Index
Particle Size Distribution Report
Moisture Content Report
Moisture-Density Determination Report
Analytical Results of Soil Corrosion

LIQUID AND PLASTIC LIMITS TEST REPORT
ASTM D4318



	SAMPLE ID	DEPTH	MATERIAL DESCRIPTION	LL	PL	PI
▲	1-B1@2.0	2 ft	See exploration logs	54	17	37
◆	1-B4@3.5	3.5 ft	See exploration logs	46	18	28
□	1-B10@1.5	1.5 ft	See exploration logs	38	22	16

	SAMPLE ID	TEST METHOD	REMARKS
▲	1-B1@2.0	PI: ASTM D4318, Wet Method	
◆	1-B4@3.5	PI: ASTM D4318, Wet Method	
□	1-B10@1.5	PI: ASTM D4318, Wet Method	

ENGEO
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CLIENT: Taylor Builders, LLC
PROJECT NAME: Stone Beetland
PROJECT NO: 18064.000.001 PH002
PROJECT LOCATION: Sacramento, CA
REPORT DATE: 1/18/2021
TESTED BY: R. Montalvo
REVIEWED BY: M. Gilbert

EXPANSION INDEX TEST REPORT
ASTM D4829

SAMPLE ID	SOIL DESCRIPTION	SAMPLE LOCATION	INITIAL DRY DENSITY (pcf)	INITIAL MOISTURE CONTENT (%)	FINAL MOISTURE CONTENT (%)	EXPANSION INDEX
1-B3@1.5	See exploration logs	1-B3 at 1.5 feet	101.0	12.4	30.9	84

TABLE 1: CLASSIFICATION OF EXPANSIVE SOIL

ASTM D4829

EXPANSION INDEX	POTENTIAL EXPANSION
0-20	Very Low
21-50	Low
51-90	Medium
91-130	High
Above 130	Very High

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CLIENT: Taylor Builders, LLC
PROJECT NAME: Stone Beetland
PROJECT NO: 10864.000.001 PH002
PROJECT LOCATION: Sacramento, CA
REPORT DATE: 1/18/2021
TESTED BY: R. Montalvo
REVIEWED BY: M. Gilbert

EXPANSION INDEX TEST REPORT
ASTM D4829

SAMPLE ID	SOIL DESCRIPTION	SAMPLE LOCATION	INITIAL DRY DENSITY (pcf)	INITIAL MOISTURE CONTENT (%)	FINAL MOISTURE CONTENT (%)	EXPANSION INDEX
1-B9@2.0	See exploration logs	1-B9 at 2.0 feet	97.4	13.0	33.2	102

TABLE 1: CLASSIFICATION OF EXPANSIVE SOIL

ASTM D4829

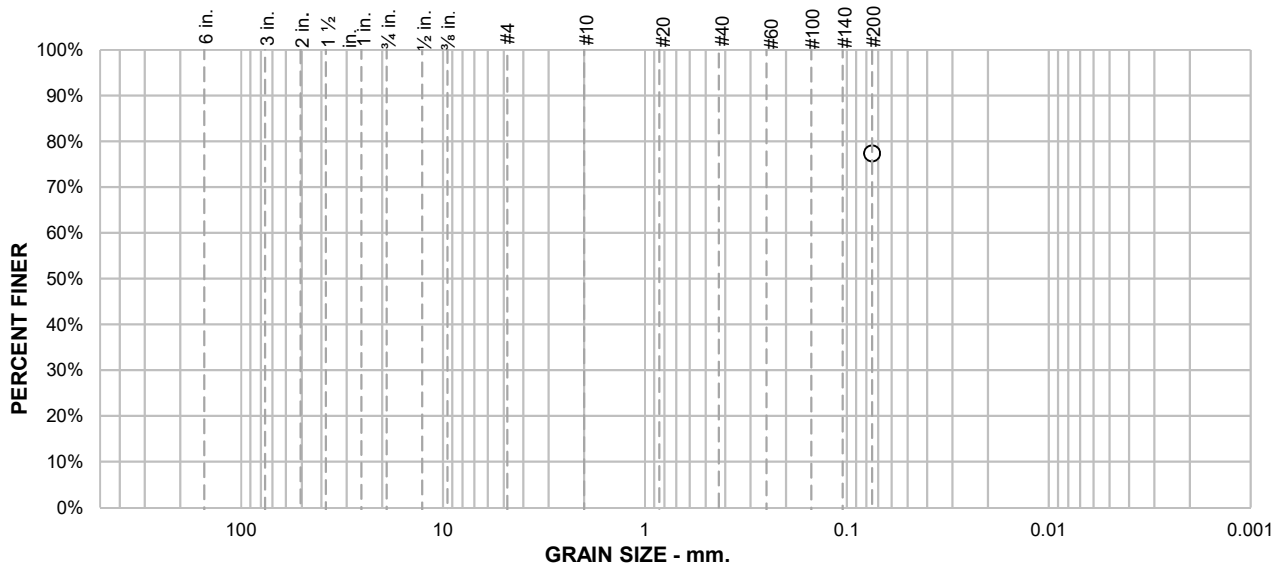
EXPANSION INDEX	POTENTIAL EXPANSION
0-20	Very Low
21-50	Low
51-90	Medium
91-130	High
Above 130	Very High

ENGEO
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CLIENT: Taylor Builders, LLC
PROJECT NAME: Stone Beetland
PROJECT NO: 10864.000.001 PH002
PROJECT LOCATION: Sacramento, CA
REPORT DATE: 1/18/2021
TESTED BY: R. Montalvo
REVIEWED BY: M. Gilbert

PARTICLE SIZE DISTRIBUTION REPORT

ASTM D1140, Method B



SAMPLE ID: 1-B1@3.5

DEPTH (ft): 3.5

% +75mm	% GRAVEL		% SAND			% FINES	
	COARSE	FINE	COARSE	MEDIUM	FINE	SILT	CLAY
						77.4	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
#200	77.4		

SOIL DESCRIPTION

See exploration logs

ATTERBERG LIMITS

PL = LL = PI =

COEFFICIENTS

D_{90} = D_{85} = D_{60} =
D_{50} = D_{30} = D_{15} =
D_{10} = C_u = C_c =

CLASSIFICATION

USCS =

REMARKS

USCS: ASTM D2488

Soak time = 180 min
Dry sample weight = 352.8 g

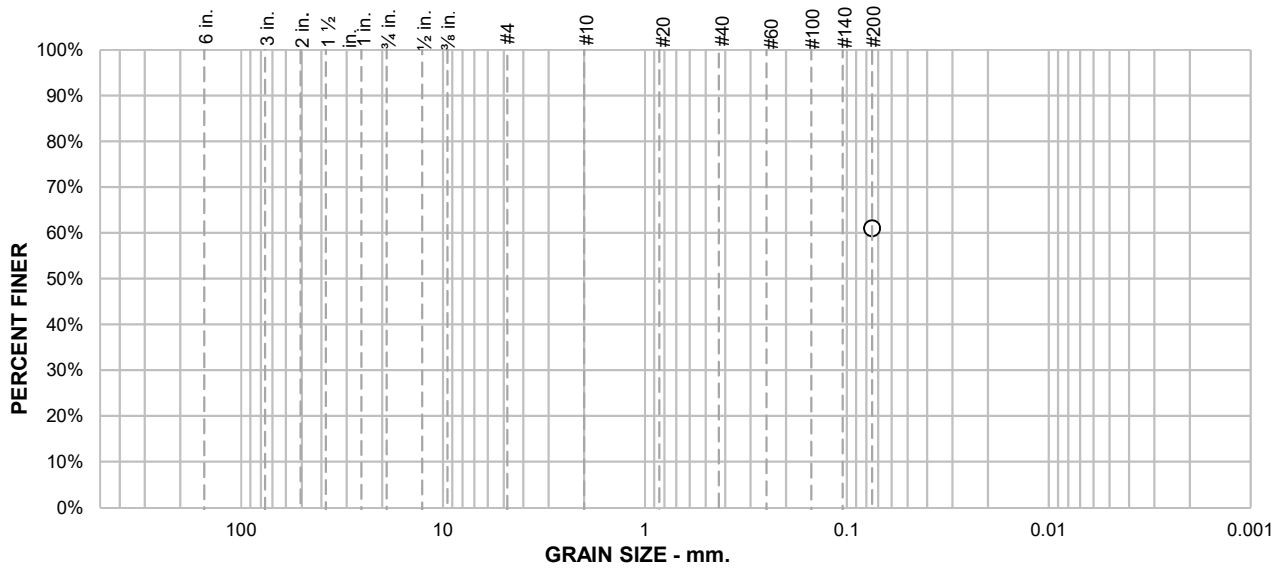
* (no specification provided)

ENGEO
Expect Excellence

CLIENT: Taylor Builders, LLC
PROJECT NAME: Stone Beetland
PROJECT NO: 18064.000.001 PH002
PROJECT LOCATION: Sacramento, CA
REPORT DATE: 1/18/2021
TESTED BY: R. Montalvo
REVIEWED BY: M. Gilbert

PARTICLE SIZE DISTRIBUTION REPORT

ASTM D1140, Method B



SAMPLE ID: 1-B1@20.5

DEPTH (ft): 20.5

% +75mm	% GRAVEL		% SAND			% FINES	
	COARSE	FINE	COARSE	MEDIUM	FINE	SILT	CLAY
						61.0	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
#200	61.0		

SOIL DESCRIPTION

See exploration logs

ATTERBERG LIMITS

PL = LL = PI =

COEFFICIENTS

D_{90} = D_{85} = D_{60} =
D_{50} = D_{30} = D_{15} =
D_{10} = C_u = C_c =

CLASSIFICATION

USCS =

REMARKS

USCS: ASTM D2487

Soak time = 180 min
Dry sample weight = 433.1 g

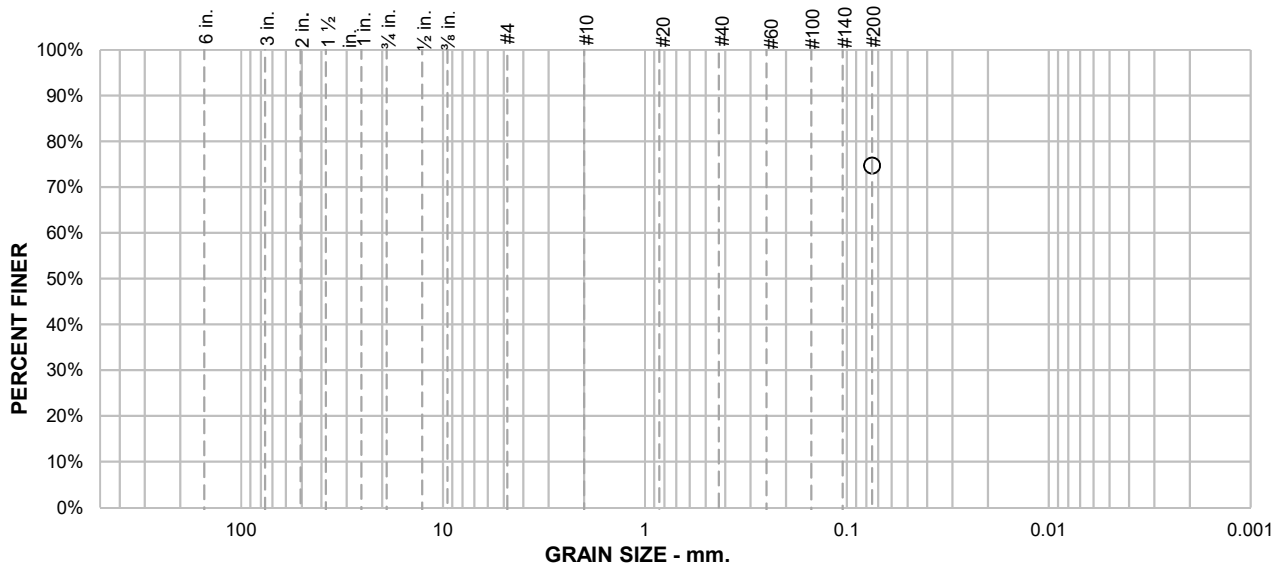
* (no specification provided)

ENGEO
Expect Excellence

CLIENT: Taylor Builders, LLC
PROJECT NAME: Stone Beetland
PROJECT NO: 18064.000.001 PH002
PROJECT LOCATION: Sacramento, CA
REPORT DATE: 1/18/2021
TESTED BY: R. Montalvo
REVIEWED BY: M. Gilbert

PARTICLE SIZE DISTRIBUTION REPORT

ASTM D1140, Method B



SAMPLE ID: 1-B4@3.5

DEPTH (ft): 3.5

% +75mm	% GRAVEL		% SAND			% FINES	
	COARSE	FINE	COARSE	MEDIUM	FINE	SILT	CLAY
						75	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
#200	75		

SOIL DESCRIPTION

See exploration logs

ATTERBERG LIMITS

PL = 18 LL = 46 PI = 28

COEFFICIENTS

D_{90} = D_{85} = D_{60} =
D_{50} = D_{30} = D_{15} =
D_{10} = C_u = C_c =

CLASSIFICATION

USCS = CL

REMARKS

PI: ASTM D4318, Wet Method
USCS: ASTM D2487

Soak time = 180 min
Dry sample weight = 233 g

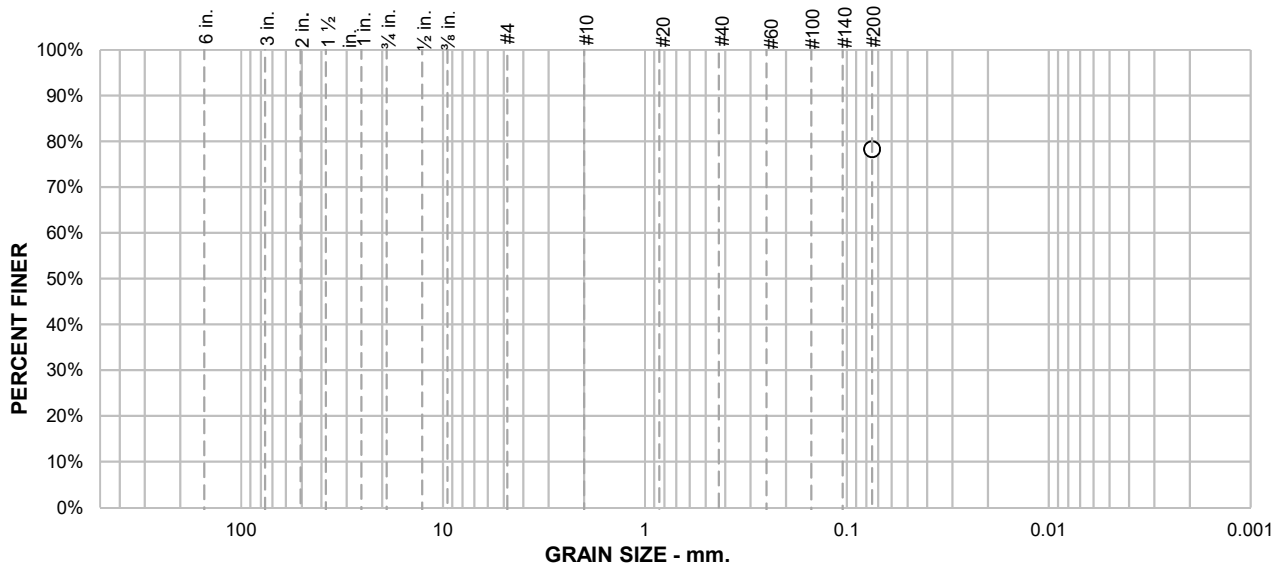
* (no specification provided)

ENGEO
Expect Excellence

CLIENT: Taylor Builders, LLC
PROJECT NAME: Stone Beetland
PROJECT NO: 18064.000.001 PH002
PROJECT LOCATION: Sacramento, CA
REPORT DATE: 1/18/2021
TESTED BY: R. Montalvo
REVIEWED BY: M. Gilbert

PARTICLE SIZE DISTRIBUTION REPORT

ASTM D1140, Method B



SAMPLE ID: 1-B5@4.0

DEPTH (ft): 4

% +75mm	% GRAVEL		% SAND			% FINES	
	COARSE	FINE	COARSE	MEDIUM	FINE	SILT	CLAY
						78.2	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
#200	78.2		

SOIL DESCRIPTION

See exploration logs

ATTERBERG LIMITS

PL = LL = PI =

COEFFICIENTS

D_{90} = D_{85} = D_{60} =
D_{50} = D_{30} = D_{15} =
D_{10} = C_u = C_c =

CLASSIFICATION

USCS =

REMARKS

USCS: ASTM D2487

Soak time = 180 min
Dry sample weight = 289 g

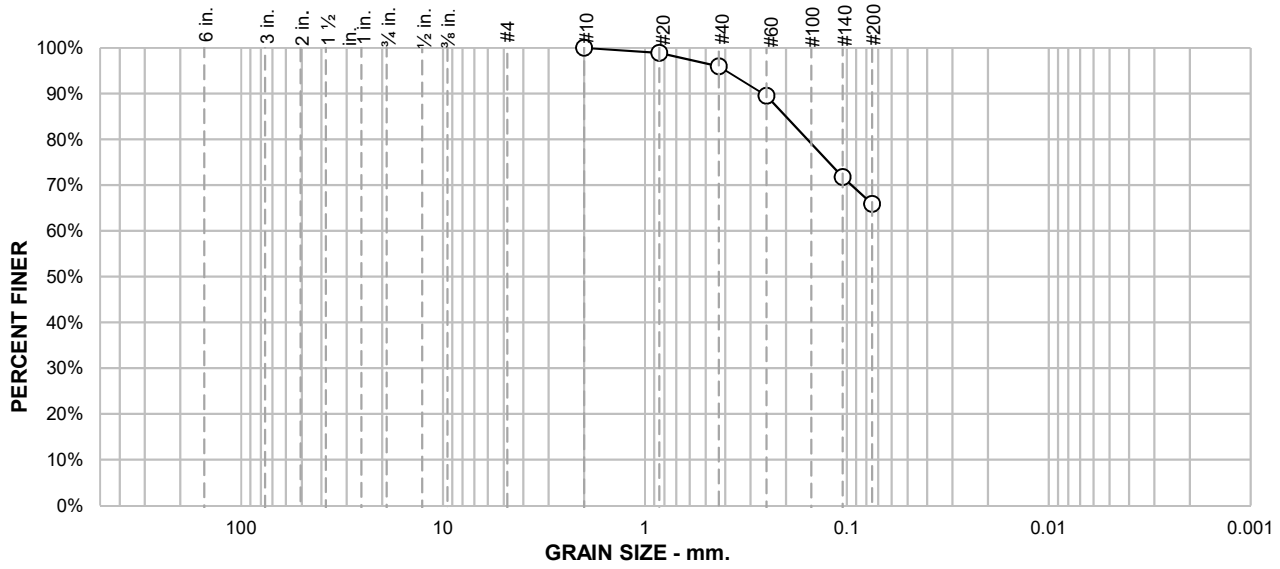
* (no specification provided)

ENGEO
Expect Excellence

CLIENT: Taylor Builders, LLC
PROJECT NAME: Stone Beetland
PROJECT NO: 18064.000.001 PH002
PROJECT LOCATION: Sacramento, CA
REPORT DATE: 1/18/2021
TESTED BY: R. Montalvo
REVIEWED BY: M. Gilbert

PARTICLE SIZE DISTRIBUTION REPORT

ASTM D6913, Method B



SAMPLE ID: 1-B5@6.0

DEPTH (ft): 6

% +75mm	% GRAVEL		% SAND			% FINES	
	COARSE	FINE	COARSE	MEDIUM	FINE	SILT	CLAY
				4.1	30.0	65.9	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
#10	100.0		
#20	98.9		
#40	95.9		
#60	89.5		
#140	71.7		
#200	65.9		

SOIL DESCRIPTION

See exploration logs

ATTERBERG LIMITS

PL = LL = PI =

COEFFICIENTS

D_{90} = 0.2608 mm D_{85} = 0.2008 mm D_{60} =
D_{50} = D_{30} = D_{15} =
D_{10} = C_u = C_c =

CLASSIFICATION

USCS =

REMARKS

USCS: ASTM D2487

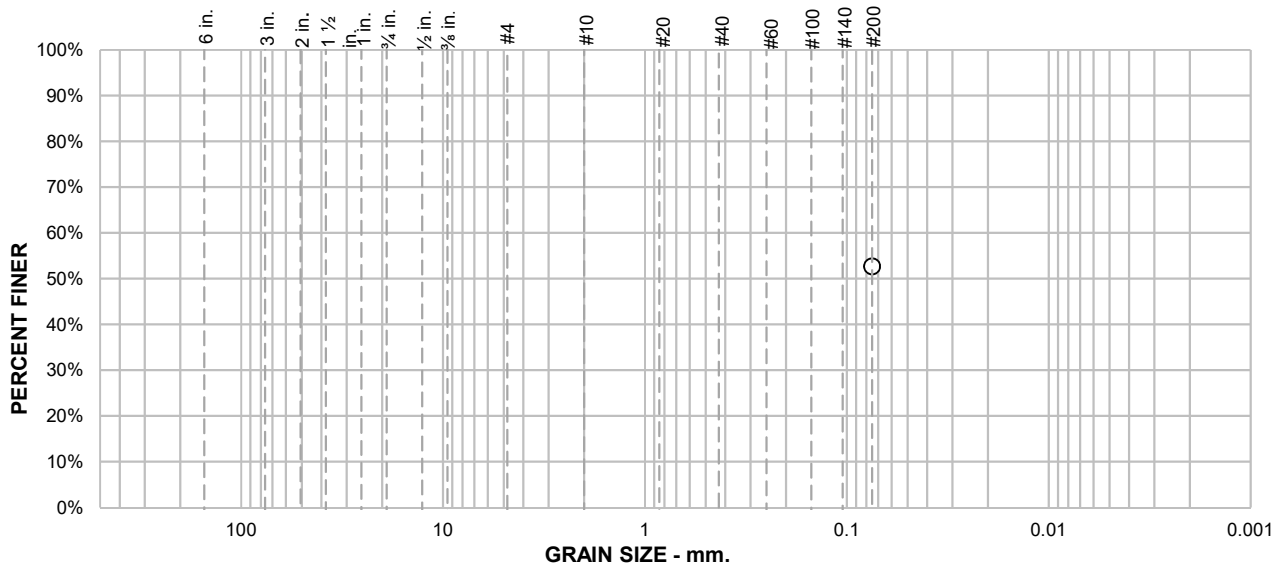
* (no specification provided)

ENGEO
Expect Excellence

CLIENT: Taylor Builders, LLC
PROJECT NAME: Stone Beetland
PROJECT NO: 18064.000.001 PH002
PROJECT LOCATION: Sacramento, CA
REPORT DATE: 1/18/2021
TESTED BY: R. Montalvo
REVIEWED BY: M. Gilbert

PARTICLE SIZE DISTRIBUTION REPORT

ASTM D1140, Method B



SAMPLE ID: 1-B8@17.0

DEPTH (ft): 17

% +75mm	% GRAVEL		% SAND			% FINES	
	COARSE	FINE	COARSE	MEDIUM	FINE	SILT	CLAY
						52.6	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
#200	52.6		

SOIL DESCRIPTION

See exploration logs

ATTERBERG LIMITS

PL = LL = PI =

COEFFICIENTS

D_{90} = D_{85} = D_{60} =
D_{50} = D_{30} = D_{15} =
D_{10} = C_u = C_c =

CLASSIFICATION

USCS =

REMARKS

USCS: ASTM D2487

Soak time = 180 min
Dry sample weight = 431.4 g

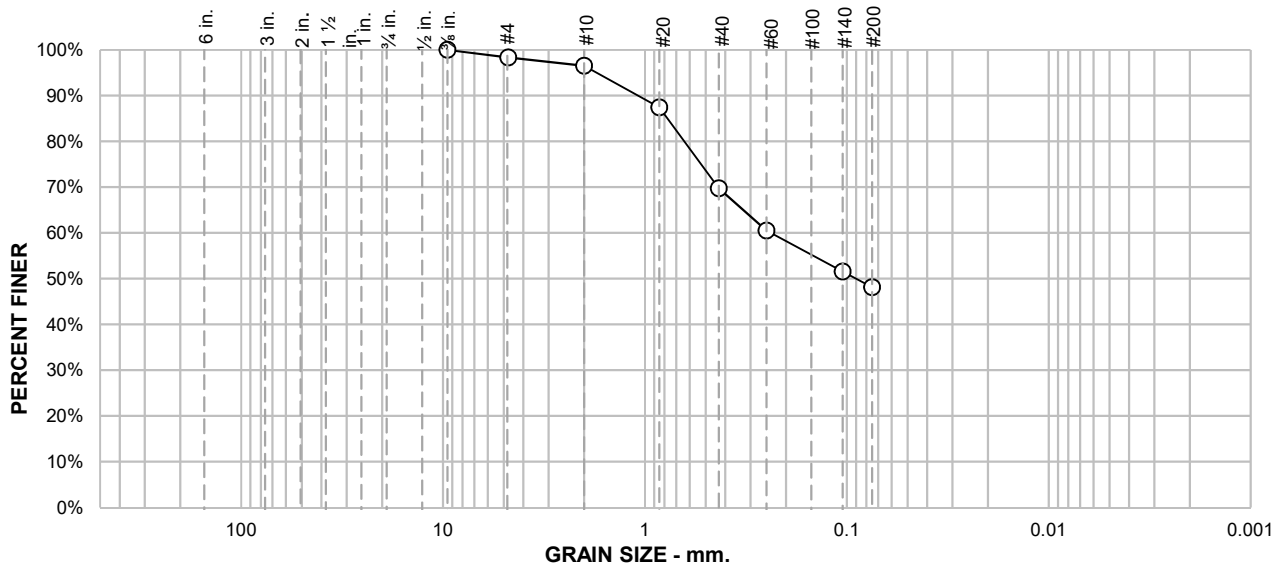
* (no specification provided)

ENGEO
Expect Excellence

CLIENT: Taylor Builders, LLC
PROJECT NAME: Stone Beetland
PROJECT NO: 18064.000.001 PH002
PROJECT LOCATION: Sacramento, CA
REPORT DATE: 1/18/2021
TESTED BY: R. Montalvo
REVIEWED BY: M. Gilbert

PARTICLE SIZE DISTRIBUTION REPORT

ASTM D6913, Method A



SAMPLE ID: 1-B8@20.5

DEPTH (ft): 20.5

% +75mm	% GRAVEL		% SAND			% FINES	
	COARSE	FINE	COARSE	MEDIUM	FINE	SILT	CLAY
		2	2	27	22	48	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
⅜ in.	100		
#4	98		
#10	97		
#20	87		
#40	70		
#60	61		
#140	52		
#200	48		

SOIL DESCRIPTION

See exploration logs

ATTERBERG LIMITS

PL = LL = PI =

COEFFICIENTS

D_{90} = 1.0988 mm D_{85} = 0.7845 mm D_{60} = 0.2270 mm

D_{50} = 0.0887 mm D_{30} = D_{15} =

D_{10} = C_u = C_c =

CLASSIFICATION

USCS =

REMARKS

USCS: ASTM D2487

* (no specification provided)

ENGEO
Expect Excellence

CLIENT: Taylor Builders, LLC

PROJECT NAME: Stone Beetland

PROJECT NO: 18064.000.001 PH002

PROJECT LOCATION: Sacramento, CA

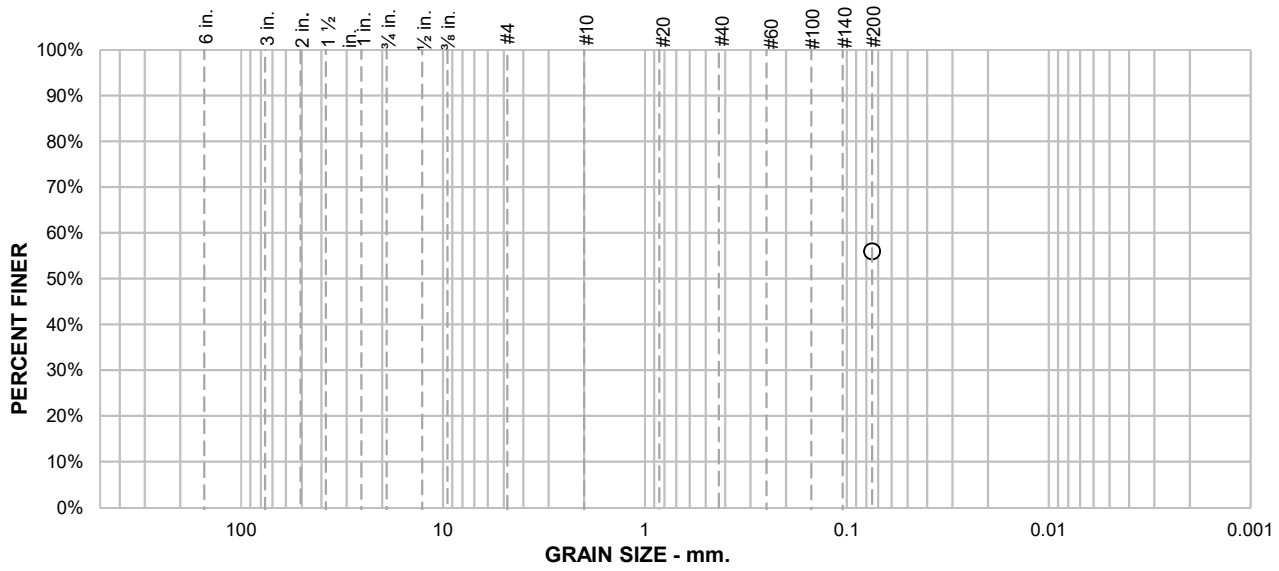
REPORT DATE: 1/18/2021

TESTED BY: R. Montalvo

REVIEWED BY: M. Gilbert

PARTICLE SIZE DISTRIBUTION REPORT

ASTM D1140, Method B



SAMPLE ID: 1-B8@25.5

DEPTH (ft): 25.5

% +75mm	% GRAVEL		% SAND			% FINES	
	COARSE	FINE	COARSE	MEDIUM	FINE	SILT	CLAY
						56.0	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
#200	56.0		

SOIL DESCRIPTION

See exploration logs

ATTERBERG LIMITS

PL = LL = PI =

COEFFICIENTS

D_{90} = D_{85} = D_{60} =
D_{50} = D_{30} = D_{15} =
D_{10} = C_u = C_c =

CLASSIFICATION

USCS =

REMARKS

USCS: ASTM D2487

Soak time = 180 min
Dry sample weight = 415.5 g

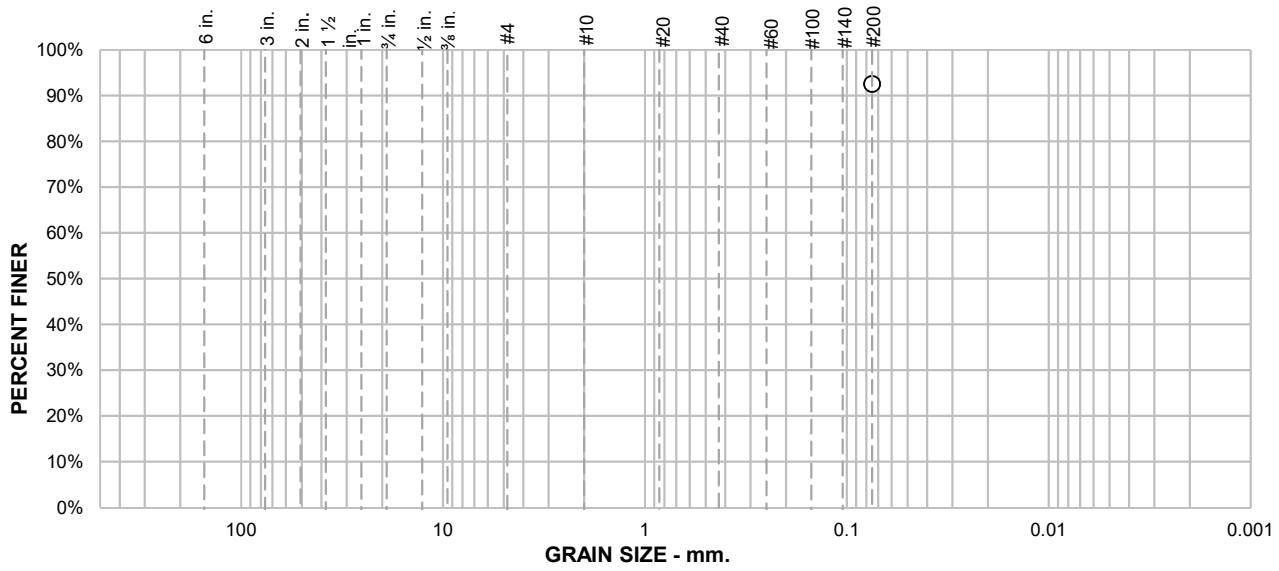
* (no specification provided)

ENGEO
Expect Excellence

CLIENT: Taylor Builders, LLC
PROJECT NAME: Stone Beetland
PROJECT NO: 18064.000.001 PH002
PROJECT LOCATION: Sacramento, CA
REPORT DATE: 1/18/2021
TESTED BY: R. Montalvo
REVIEWED BY: M. Gilbert

PARTICLE SIZE DISTRIBUTION REPORT

ASTM D1140, Method B



SAMPLE ID: 1-B9@21.0

DEPTH (ft): 21

% +75mm	% GRAVEL		% SAND			% FINES	
	COARSE	FINE	COARSE	MEDIUM	FINE	SILT	CLAY
						92.5	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
#200	92.5		

SOIL DESCRIPTION

See exploration logs

ATTERBERG LIMITS

PL = LL = PI =

COEFFICIENTS

D_{90} = D_{85} = D_{60} =
D_{50} = D_{30} = D_{15} =
D_{10} = C_u = C_c =

CLASSIFICATION

USCS =

REMARKS

USCS: ASTM D2487

Soak time = 180 min
Dry sample weight = 426.5 g

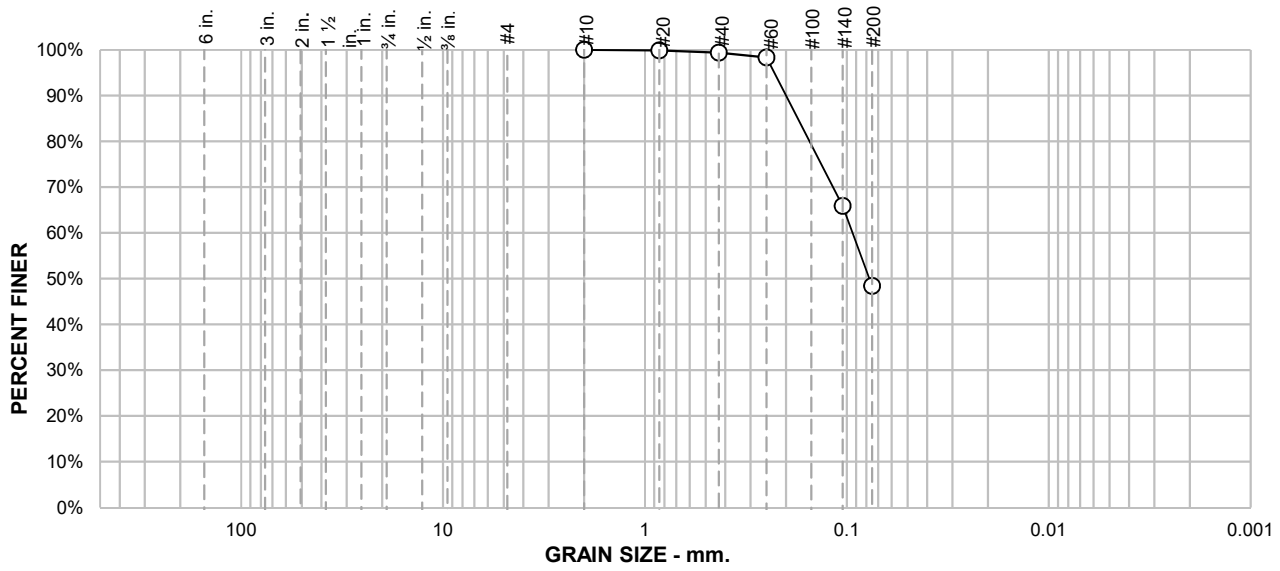
* (no specification provided)

ENGEO
Expect Excellence

CLIENT: Taylor Builders, LLC
PROJECT NAME: Stone Beetland
PROJECT NO: 18064.000.001 PH002
PROJECT LOCATION: Sacramento, CA
REPORT DATE: 1/18/2021
TESTED BY: R. Montalvo
REVIEWED BY: M. Gilbert

PARTICLE SIZE DISTRIBUTION REPORT

ASTM D6913, Method A



SAMPLE ID: 1-B9@15.5

DEPTH (ft): 15.5

% +75mm	% GRAVEL		% SAND			% FINES	
	COARSE	FINE	COARSE	MEDIUM	FINE	SILT	CLAY
				1	51	48	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
#10	100		
#20	100		
#40	99		
#60	98		
#140	66		
#200	48		

SOIL DESCRIPTION

See exploration logs

ATTERBERG LIMITS

PL = LL = PI =

COEFFICIENTS

D_{90} = 0.2013 mm D_{85} = 0.1757 mm D_{60} = 0.0939 mm

D_{50} = 0.0779 mm D_{30} = D_{15} =

D_{10} = C_u = C_c =

CLASSIFICATION

USCS =

REMARKS

USCS: ASTM D2487

* (no specification provided)

ENGEO Expect Excellence

CLIENT: Taylor Builders, LLC

PROJECT NAME: Stone Beetland

PROJECT NO: 18064.000.001 PH002

PROJECT LOCATION: Sacramento, CA

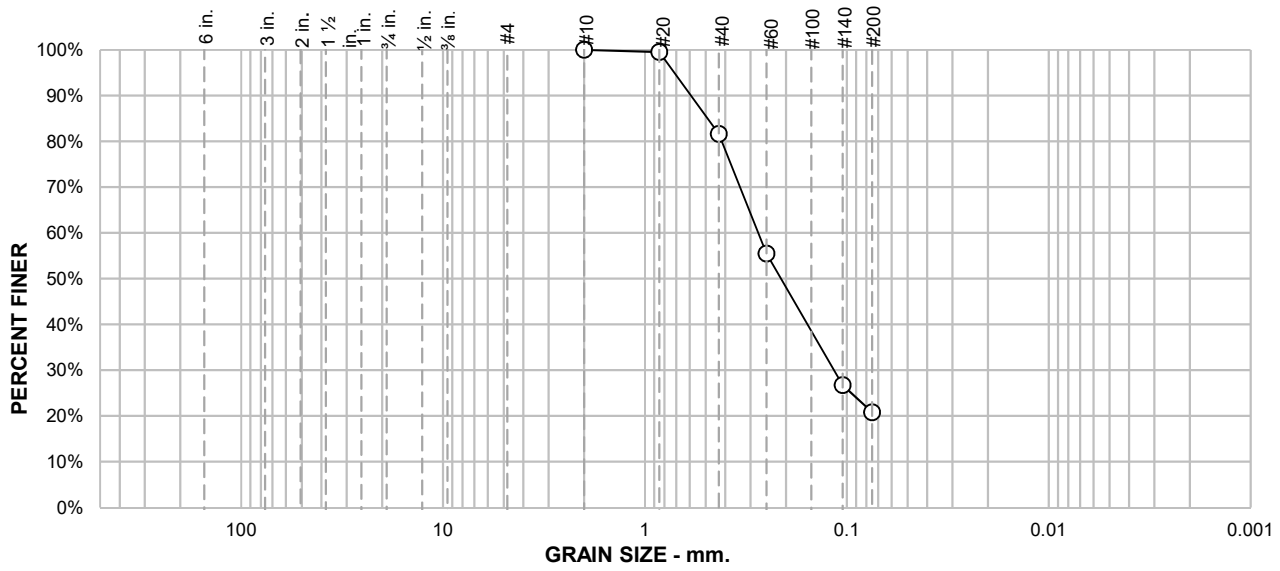
REPORT DATE: 1/18/2021

TESTED BY: R. Montalvo

REVIEWED BY: M. Gilbert

PARTICLE SIZE DISTRIBUTION REPORT

ASTM D6913, Method B



SAMPLE ID: 1-B10@15.5

DEPTH (ft): 15.5

% +75mm	% GRAVEL		% SAND			% FINES	
	COARSE	FINE	COARSE	MEDIUM	FINE	SILT	CLAY
				18.4	60.8	20.8	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
#10	100.0		
#20	99.5		
#40	81.6		
#60	55.5		
#140	26.7		
#200	20.8		

SOIL DESCRIPTION

See exploration logs

ATTERBERG LIMITS

PL = 22 LL = 38 PI = 16

COEFFICIENTS

D_{90} = 0.5920 mm D_{85} = 0.4894 mm D_{60} = 0.2745 mm

D_{50} = 0.2118 mm D_{30} = 0.1160 mm D_{15} =

D_{10} = C_u = C_c =

CLASSIFICATION

USCS = SC

REMARKS

PI: ASTM D4318, Wet Method

USCS: ASTM D2487

* (no specification provided)

ENGEO Expect Excellence

CLIENT: Taylor Builders, LLC

PROJECT NAME: Stone Beetland

PROJECT NO: 18064.000.001 PH002

PROJECT LOCATION: Sacramento, CA

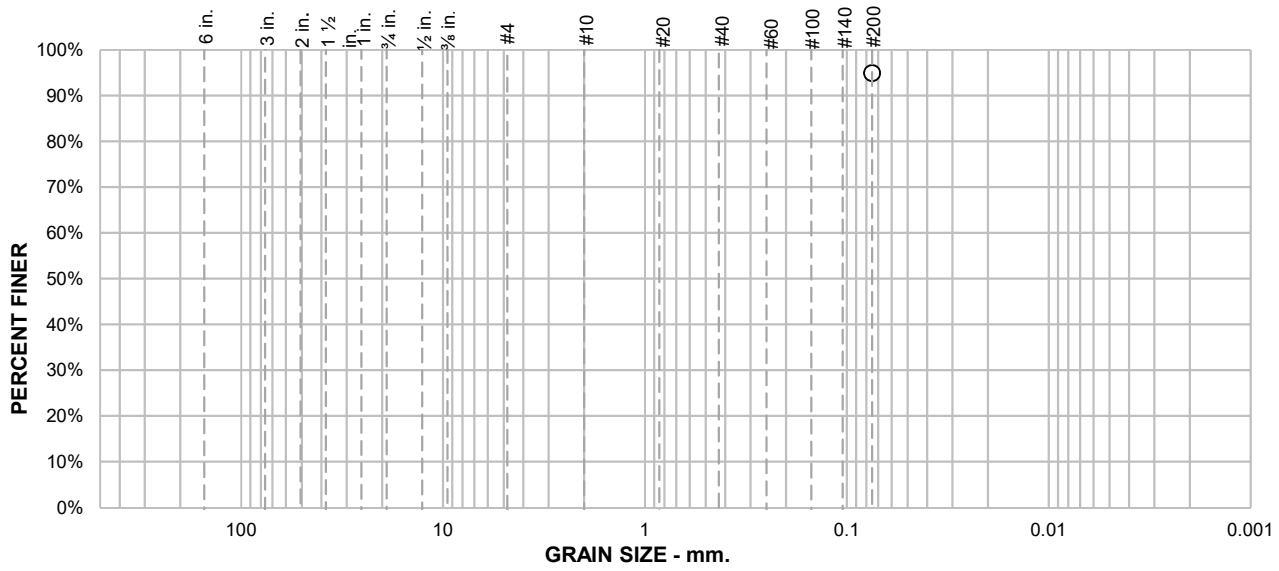
REPORT DATE: 1/18/2021

TESTED BY: R. Montalvo

REVIEWED BY: M. Gilbert

PARTICLE SIZE DISTRIBUTION REPORT

ASTM D1140, Method B



SAMPLE ID: 1-B10@26.0

DEPTH (ft): 26

% +75mm	% GRAVEL		% SAND			% FINES	
	COARSE	FINE	COARSE	MEDIUM	FINE	SILT	CLAY
						94.9	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
#200	94.9		

SOIL DESCRIPTION

See exploration logs

ATTERBERG LIMITS

PL = LL = PI =

COEFFICIENTS

D_{90} = D_{85} = D_{60} =
D_{50} = D_{30} = D_{15} =
D_{10} = C_u = C_c =

CLASSIFICATION

USCS =

REMARKS

USCS: ASTM D2487

Soak time = 180 min
Dry sample weight = 370.1 g

* (no specification provided)

ENGEO
Expect Excellence

CLIENT: Taylor Builders, LLC
PROJECT NAME: Stone Beetland
PROJECT NO: 18064.000.001 PH002
PROJECT LOCATION: Sacramento, CA
REPORT DATE: 1/18/2021
TESTED BY: R. Montalvo
REVIEWED BY: M. Gilbert

MOISTURE CONTENT REPORT
ASTM D2216

SAMPLE ID	1-B1@2.0	1-B1@5.5	1-B1@16.0	1-B1@20	1-B2@5.0	1-B3@10.5	1-B4@6.0	1-B4@10.5
DEPTH (ft.)	2.0	5.5	16.0	20.0	5.0	10.5	6.0	10.5
METHOD A OR B	B	B	B	B	B	B	B	B
MOISTURE CONTENT (%)	14.6	16.1	23.9	36.6	19.3	24.7	15.1	19.6

SAMPLE ID	1-B7@2.0	1-B7@5.0	1-B9@6.0	1-B9@11.0	1-B10@1.5	1-B10@5.5	1-B10@26.0	1-B10@30.0
DEPTH (ft.)	2.0	5.0	6.0	11.0	1.5	5.5	26.0	30.0
METHOD A OR B	B	B	B	B	B	B	B	B
MOISTURE CONTENT (%)	14.1	17.0	21.5	24.9	12.6	18.4	34.8	31.9

SAMPLE ID	1-B10@35.5							
DEPTH (ft.)	35.5							
METHOD A OR B	B							
MOISTURE CONTENT (%)	26.0							

ENGEO
Expect Excellence

CLIENT: Taylor Builders, LLC
PROJECT NAME: Stone Beetland
PROJECT NO: 18064.000.001 PH002
PROJECT LOCATION: Sacramento, CA
REPORT DATE: 1/18/2021
TESTED BY: R. Montalvo
REVIEWED BY: M. Gilbert

MOISTURE-DENSITY DETERMINATION REPORT
ASTM D7263

SAMPLE ID	1-B2@3.5	1-B8@2.0	1-B8@6.0	1-B8@11.0				
DEPTH (ft.)	3.5	2	6	11				
METHOD A OR B	B	B	B	B				
MOISTURE CONTENT (%)	18.4	19.4	13.5	20.9				
DRY DENSITY (pcf)	109.0	77.7	119.0	107.4				

ENGEO
Expect Excellence

CLIENT: Taylor Builders, LLC
PROJECT NAME: Stone Beetland
PROJECT NO: 18064.000.001 PH002
PROJECT LOCATION: Sacramento, CA
REPORT DATE: 1/18/2021
TESTED BY: R. Montalvo
REVIEWED BY: M. Gilbert

Sunland Analytical

11419 Sunrise Gold Circle, #10
Rancho Cordova, CA 95742
(916) 852-8557

Date Reported 01/20/2021
Date Submitted 01/13/2021

To: Stephen Blakely
Engeo, Inc.
2213 Plaza Dr.
Rocklin, CA 95765

From: Gene Oliphant, Ph.D. \ Randy Horney
General Manager \ Lab Manager

The reported analysis was requested for the following location:
Location : 18064.000.001 PH002 Site ID : 1-B2@2FT.
Thank you for your business.

* For future reference to this analysis please use SUN # 83827-174809.

EVALUATION FOR SOIL CORROSION

Soil pH	6.40	
Minimum Resistivity	1.05 ohm-cm (x1000)	
Chloride	3.5 ppm	00.00035 %
Sulfate	10.1 ppm	00.00101 %

METHODS
pH and Min.Resistivity CA DOT Test #643
Sulfate CA DOT Test #417, Chloride CA DOT Test #422m

Sunland Analytical

11419 Sunrise Gold Circle, #10
Rancho Cordova, CA 95742
(916) 852-8557

Date Reported 01/20/2021
Date Submitted 01/13/2021

To: Stephen Blakely
Engeo, Inc.
2213 Plaza Dr.
Rocklin, CA 95765

From: Gene Oliphant, Ph.D. \ Randy Horney
General Manager \ Lab Manager

The reported analysis was requested for the following location:
Location : 18064.000.001 PH002 Site ID : 1-B5@5.5FT.
Thank you for your business.

* For future reference to this analysis please use SUN # 83827-174810.

EVALUATION FOR SOIL CORROSION

Soil pH	7.15	
Minimum Resistivity	0.94 ohm-cm (x1000)	
Chloride	2.8 ppm	00.00028 %
Sulfate	11.5 ppm	00.00115 %

METHODS
pH and Min.Resistivity CA DOT Test #643
Sulfate CA DOT Test #417, Chloride CA DOT Test #422m

Sunland Analytical

11419 Sunrise Gold Circle, #10
Rancho Cordova, CA 95742
(916) 852-8557

Date Reported 01/20/2021
Date Submitted 01/13/2021

To: Stephen Blakely
Engeo, Inc.
2213 Plaza Dr.
Rocklin, CA 95765

From: Gene Oliphant, Ph.D. \ Randy Horney
General Manager \ Lab Manager

The reported analysis was requested for the following location:
Location : 18064.000.001 PH002 Site ID : 1-B8@4FT.
Thank you for your business.

* For future reference to this analysis please use SUN # 83827-174811.

EVALUATION FOR SOIL CORROSION

Soil pH	7.08	
Minimum Resistivity	0.72 ohm-cm (x1000)	
Chloride	50.1 ppm	00.00501 %
Sulfate	24.9 ppm	00.00249 %

METHODS
pH and Min.Resistivity CA DOT Test #643
Sulfate CA DOT Test #417, Chloride CA DOT Test #422m



APPENDIX C

EXPLORATION LOGS BY OTHERS

LOG OF EXPLORATORY BORING C4-01-09

FILE NO.: 1575.1
PROJECT: RT South Sac Corridor Phase II
LOCATION: Sacramento, CA
CLIENT: LAN

DRILLING DATE: 5/22/09
DRILLING METHOD: 4" Solid Flight Auger
HAMMER TYPE: Automatic
LOGGED BY: KIS CHECKED BY: RBL

ELEVATION:
WATER DEPTH: 13 ft.
DATE OF READING:
TIME OF READING:

FIELD						LABORATORY						
DEPTH (FEET)	SAMPLE	SAMPLE NO.	BLOWS PER FT.	POCKET PEN (TSF)	GRAPHIC LOG	DESCRIPTION	DRY DENSITY (PCF)	MOISTURE CONTENT (%)	% <200 SIEVE	PLASTICITY INDEX	LIQUID LIMIT	UNCONFINED COMPRESSIVE STRENGTH (TSF)	ADDITIONAL TESTS
		Bulk A				Fat CLAY (CH); hard, dark gray to black, dry to moist							
		1	34	>4.5									
						CLAYEY SAND (SC); dense, olive brown, moist, fine SAND							
5		2	21	>4.5									
						Poorly-graded SAND (SP); dense, orangish brown, moist, fine SAND	108	11					
10		3	55	4.5		SILT with SAND (ML); very stiff, olive brown, moist, very fine SAND	111	22					
						Poorly-graded SAND with SILT (SP-SM); very dense, orangish brown, wet, medium SAND							
15		4	55			Lean CLAY with SAND (CL); very stiff, orange brown, moist, very fine SAND	115	18					
						Lean CLAY (CL); very stiff, olive brown, moist, orange mottles							
20		5	41	>4.5		CLAYEY SAND (SC); hard, olive brown, moist, orange mottles							
						Lean CLAY (CL); hard, olive brown, moist, orange mottles							
25		6	50/6"	>4.5			105	24					
						Boring terminated at 26 feet bgs Backfilled with cement grout Groundwater encountered at 13 feet bgs							

LOG OF BOREHOLE 1575.1 C4 LOGS (STONE BOSWELL).GPJ BLACKBRN.GDT 7/27/09

Blackburn Consulting

LOG OF EXPLORATORY BORING C4-02-09

FILE NO.: 1575.1
PROJECT: RT South Sac Corridor Phase II
LOCATION: Sacramento, CA
CLIENT: LAN

DRILLING DATE: 5/22/09
DRILLING METHOD: 4" Solid Flight Auger
HAMMER TYPE: Automatic
LOGGED BY: KIS CHECKED BY: RBL

ELEVATION:
WATER DEPTH: 12 ft.
DATE OF READING:
TIME OF READING:

FIELD						LABORATORY						
DEPTH (FEET)	SAMPLE	SAMPLE NO.	BLOWS PER FT.	POCKET PEN (TSF)	GRAPHIC LOG	DESCRIPTION	DRY DENSITY (PCF)	MOISTURE CONTENT (%)	% <200 SIEVE	PLASTICITY INDEX	LIQUID LIMIT	UNCONFINED COMPRESSIVE STRENGTH (TSF)	ADDITIONAL TESTS
		Bulk A				Fat CLAY (CH); stiff, black, moist				38	62		EI=104
		1	19	4.5		Lean CLAY (CL); stiff, dark gray with orange mottles, moist	114	19		27	41		
5		2	14	2.5		SANDY CLAY (CL); medium dense, grayish brown, moist, fine SAND, orange mottles	115	16	60				
						Lean CLAY with SAND (CL); stiff, orange brown, moist, fine SAND							
						Poorly-graded SAND with CLAY (SP-SC); loose, orange brown, wet, medium SAND							
10		3	6			Lean CLAY with SAND (CL); soft, orange brown, moist, fine SAND							
						CLAYEY SAND (SC); loose, orange brown, wet, medium SAND							
15		4	2			fine to medium SAND							
						SILTY CLAY (CL-ML); very stiff, greenish gray, moist, orange mottles							
20		5	40	4.5		CLAYEY SAND (SC); medium dense, dark olive brown, wet, fine SAND, orange mottles							
25		6	14										
						Boring terminated at 26.5 feet bgs Backfilled with cement grout Groundwater encountered at 12 feet bgs							

LOG OF BOREHOLE 1575.1 C4 LOGS (STONE BOSWELL).GPJ BLACKBRN.GDT 8/7/09

Blackburn Consulting

LOG OF EXPLORATORY BORING C4-03-09

FILE NO.: 1575.1
PROJECT: RT South Sac Corridor Phase II
LOCATION: Sacramento, CA
CLIENT: LAN

DRILLING DATE: 5/21/09
DRILLING METHOD: 4" Solid Flight Auger
HAMMER TYPE: Automatic
LOGGED BY: KIS CHECKED BY: RBL

ELEVATION:
WATER DEPTH: 15 ft.
DATE OF READING:
TIME OF READING:

FIELD						DESCRIPTION	LABORATORY						
DEPTH (FEET)	SAMPLE	SAMPLE NO.	BLOWS PER FT.	POCKET PEN (TSF)	GRAPHIC LOG		DRY DENSITY (PCF)	MOISTURE CONTENT (%)	% <200 SIEVE	PLASTICITY INDEX	LIQUID LIMIT	UNCONFINED COMPRESSIVE STRENGTH (TSF)	ADDITIONAL TESTS
		Bulk A				Lean CLAY (CL); very stiff to hard, orangish brown, moist, gray mottles							EI=81
		1	25	>4.5									
5		2	29	>4.5		reddish brown with orange, black and gray mottles							
10		3	21	2.0		Lean CLAY with SAND (CL); medium stiff, orangish brown, moist, fine to medium SAND							
						SANDY lean CLAY (CL); soft, orangish brown, wet, fine SAND ▼							
15		4	4										
		5	P			Lean CLAY (CL); stiff, olive brown, moist, orange mottles							
20		6	35	>4.5		with varying amounts of fine size sand							
						CLAYEY SAND (SC); medium dense, blue gray, wet, fine SAND							
25		7	23										
		8	P										
						Boring terminated at 28 feet bgs Backfilled with cement grout Groundwater encounetered at 15 feet bgs							

LOG OF BOREHOLE 1575.1 C4 LOGS (STONE BOSWELL).GPJ BLACKBRN.GDT 8/7/09

Blackburn Consulting

LOG OF EXPLORATORY BORING C4-04-09

FILE NO.: 1575.1
PROJECT: RT South Sac Corridor Phase II
LOCATION: Sacramento, CA
CLIENT: LAN

DRILLING DATE: 5/21/09
DRILLING METHOD: 4" Solid Flight Auger
HAMMER TYPE: Automatic
LOGGED BY: KIS CHECKED BY: RBL

ELEVATION:
WATER DEPTH: 15 ft.
DATE OF READING:
TIME OF READING:

FIELD						LABORATORY						
DEPTH (FEET)	SAMPLE	SAMPLE NO.	BLOWS PER FT.	POCKET PEN (TSF)	GRAPHIC LOG	DESCRIPTION	DRY DENSITY (PCF)	MOISTURE CONTENT (%)	% <200 SIEVE	PLASTICITY INDEX	LIQUID LIMIT	UNCONFINED COMPRESSIVE STRENGTH (TSF)	ADDITIONAL TESTS
		Bulk A				Lean CLAY (CL); very stiff, orangish brown, moist, gray mottles							
		1	21	>4.5			115	14		17	32		
5		2	20	4.5									
						CLAYEY SAND (SC); medium dense, orangish brown, moist, medium SAND							
10		3	17	3.5			109	20					
						SANDY lean CLAY (CL); soft, brown, wet, fine to medium SAND ▼							
15		4	6										
		5	P					26	53	12	27		
						Lean CLAY (CL); very stiff, olive brown, moist, orange mottles							
20		6	36	4.5		blue gray							
						CLAYEY SAND (SC); medium dense, blue gray, moist to wet							
25		7	29				94	29					
						Boring terminated at 26.5 feet bgs Backfilled with cement grout Groundwater encountered at 15 feet bgs							

LOG OF BOREHOLE 1575.1 C4 LOGS (STONE BOSWELL).GPJ BLACKBRN.GDT 7/27/09

Blackburn Consulting

LOG OF EXPLORATORY BORING C4-05-09

FILE NO.: 1575.1
PROJECT: RT South Sac Corridor Phase II
LOCATION: Sacramento, CA
CLIENT: LAN

DRILLING DATE: 5/21/09
DRILLING METHOD: 4" Solid Flight Auger
HAMMER TYPE: Automatic
LOGGED BY: KIS CHECKED BY: RBL

ELEVATION:
WATER DEPTH: 15 ft.
DATE OF READING:
TIME OF READING:

FIELD						LABORATORY							
DEPTH (FEET)	SAMPLE	SAMPLE NO.	BLOWS PER FT.	POCKET PEN (TSF)	GRAPHIC LOG	DESCRIPTION	DRY DENSITY (PCF)	MOISTURE CONTENT (%)	% <200 SIEVE	PLASTICITY INDEX	LIQUID LIMIT	UNCONFINED COMPRESSIVE STRENGTH (TSF)	ADDITIONAL TESTS
		Bulk A				Fat CLAY (CH); hard, black, moist							EI=89
		1	13	>4.5			87	29					
5		2	21	>4.5									
						Lean CLAY with SAND (CL); medium stiff, brown to orangish brown, moist, orange and gray mottles							
10		3	15	3.5			83	57					
						CLAYEY SAND (SC); loose, brown, wet, fine SAND							
15		4	5				105	23	45				
						FAT CLAY (CH); medium stiff, olive brown, moist, orange mottles	99	24		29	57		
20		5	16										
						CLAYEY SAND (SC); medium dense, brown to orangish brown, moist, fine SAND	98	28					
25		6	39	4.5		Lean CLAY (CL); very stiff, blue gray, moist	96	29					
						Boring terminated at 26.5 feet bgs Backfilled with cement grout Groundwater encountered at 15 feet bgs							

LOG OF BOREHOLE 1575.1 C4 LOGS (STONE BOSWELL).GPJ BLACKBRN.GDT 7/27/09

Blackburn Consulting

LOG OF EXPLORATORY BORING C4-06-09

FILE NO.: 1575.1
PROJECT: RT South Sac Corridor Phase II
LOCATION: Sacramento, CA
CLIENT: LAN

DRILLING DATE: 5/21/09
DRILLING METHOD: 4" Solid Flight Auger
HAMMER TYPE: Automatic
LOGGED BY: KIS CHECKED BY: RBL

ELEVATION:
WATER DEPTH: 13 ft.
DATE OF READING:
TIME OF READING:

FIELD						LABORATORY							
DEPTH (FEET)	SAMPLE	SAMPLE NO.	BLOWS PER FT.	POCKET PEN (TSF)	GRAPHIC LOG	DESCRIPTION	DRY DENSITY (PCF)	MOISTURE CONTENT (%)	% <200 SIEVE	PLASTICITY INDEX	LIQUID LIMIT	UNCONFINED COMPRESSIVE STRENGTH (TSF)	ADDITIONAL TESTS
		Bulk A				Fat CLAY (CH); hard, very dark gray, dry							
		1	30	>4.5									
5		2	28	>4.5		brown with orange and gray mottles							
10		3	28	>4.5		with some fine SAND, yellowish brown with orange mottles							
						CLAYEY SAND (SC); medium dense, yellowish brown, wet, medium SAND ▼							
15		4	19	3.0		Lean CLAY with SAND (CL); stiff, yellowish brown, moist, orange mottles, fine SAND							
						CLAYEY SAND (SC); medium dense, yellowish brown, wet, fine SAND, orange mottles							
20		5	21										
						Lean CLAY (CL); very stiff, yellowish brown, moist, orange mottles							
25		6	35										
						CLAYEY SAND (SC); dense, brown, wet, fine SAND							
						Boring terminated at 26.5 feet bgs Backfilled with cement grout Groundwater encountered at 13 feet bgs							

LOG OF BOREHOLE 1575.1 C4 LOGS (STONE BOSWELL).GPJ BLACKBRN.GDT 7/27/09

DATE STARTED 8/27/12 **DATE COMPLETED** 8/27/12	**GROUND ELEVATION** 23.46 ft **ELEVATION DATUM** NAVD 88		**TOTAL DEPTH OF BORING** 40.5 ft
DRILLING CONTRACTOR Gregg Drilling & Testing, Inc.	**DRILLER'S NAME** Eric Santellan **HELPER'S NAME** Louie Wense		**TOTAL DEPTH OF FILL** 17 ft
DRILLING METHOD Hollow-Stem Auger	**DRILL RIG MAKE AND MODEL** Marl M10XLS (D-44)		**CONSULTANT COMPANY** URS Corporation
DRILL BIT SIZE AND TYPE (HOLE DIAMETER) 8" Hollow Stem	**DRILLING ROD TYPE AND DIAMETER** 2" NWJ		**FIELD LOGGER** M. Maghsoudlou
X VERTICAL ☐ **INCLINED**	**CASING TYPE, DIAMETER, INSTALLATION DEPTH** NA		**FIELD LOG REVIEWER** M. Turner
SAMPLER TYPE(S) StdCal(2.5"), D&M(2.5"x20")	**HAMMER TYPE, MAKE/MODEL, WEIGHT/DROP** Marl, CME, 140 lbs / 30-inch drop		**HAMMER EFFICIENCY** 74.3%
BOREHOLE BACKFILL OR COMPLETION Neat bentonite cement	**GROUNDWATER READING:** **DURING DRILLING** Not encountered	**AFTER DRILLING (DATE-TIME)**	

Elevation, feet	Depth, feet	Material Graphics	CLASSIFICATION OF MATERIALS (Description)	Sample Location	Sample Number	Recovery, %	Blows per 6 in. [Blows per ft]	N_{60}(ASTM)	PP or TV, tsf	LABORATORY DATA: Water Content, %	Liquid Limit	Plasticity Index	Fines, % < #200	Other Lab Tests	REMARKS
	0		Road gravel, aggregate base.												
	1		[LEVEE FILL] LEAN CLAY (CL); hard; brown (10YR 4/3); moist; 93% high dry strength, no dilatancy, medium toughness fines; 7% fine sand; blocks of darker possibly fat clay within fill.		S01B	72			>4.5P	20	37	22	93	UW	S01B_001_002C
	2				S01A				>4.5P	21					S01A_002_003C
20	3														
	4		[LEVEE FILL] SANDY FAT CLAY (CH); very stiff; very dark gray (10YR 3/1); moist; 70% high plasticity, very high dry strength, no dilatancy, high toughness fines; 30% fine sand.		S02B	78			3.75P						S02B_003_004C
	5				S02A				4.0P						S02A_004_005C
	6														
	7		[LEVEE FILL] SANDY LEAN CLAY (CL); hard; dark greenish brown; moist; 70% high dry strength, no dilatancy, medium toughness fines; 30% fine sand.		S03B	83			>4.5P	26				UW	S03B_007_008C
15	8				S03A										S03A_008_009C
	9														
	10		[LEVEE FILL] SANDY FAT CLAY (CH); hard; yellowish brown (10YR 5/4); moist; 70% high dry strength, no dilatancy, medium toughness fines; 30% fine sand.		S04B	89			>4.5P	30	53	31		UW	S04B_010_011C
	11				S04A										S04A_011_012C
	12														
	13				S05B	78			>4.5P						S05B_013_014C
10	14				S05A										S05A_014_015C
	15														
FILL	16				S06A	83			2.25P	47	86	57		UW	S06A_017_018C
	17		FAT CLAY (CH); very stiff; black (10YR 2/1); moist; 95% very high dry strength, no dilatancy, high toughness fines; 5% fine sand.						2.25P						
	18														
5	19				S07B	83			2.75P						S07B_019_020C
	20				S07A				2.5P						S07A_020_021C

Final Report Version 8/14/2013

Borehole Location: Levee Crest **County:** Sacramento
Coordinates: **Northing:** 1,930,619.59 **Easting:** 6,715,753.35
Latitude: 38.46225 **Longitude:** -121.46187
Levee Station or Milepost: 1151+99 **Levee Mile:**
Levee Segment
Survey Method: GIS/LiDAR **Coord. System:** CA State Plane Zone II
Channel / River Name / Feature: Beach - Morrison Creek

LOG OF BORING
WM0009_024B
Sheet 1 of 2

Levee Evaluations
Engineering Support Services

DWR LEVEE U/NU SOIL LOG REV1; GINTDWRULE; DWR OFFICIAL LIBRARY 02032014.GLB; 2/11/14

Elevation, feet	Depth, feet	CLASSIFICATION OF MATERIALS (Description)	Sample Location	Sample Number	Recovery, %	Blows per 6 in. [Blows per ft]	N_{60}(ASTM)	PP or TV, tsf	LABORATORY DATA: Water Content, %	Liquid Limit	Plasticity Index	Fines, % < #200	Other Lab Tests	REMARKS
	20				83									
	21													
	22	LEAN CLAY with Sand (CL); very stiff; reddish brown (2.5YR 4/3); moist; 80% medium plasticity, medium dry strength, no dilatancy, medium toughness fines; 20% fine sand.		S08B	89			2.5P						S08B_022_023C
	23			S08A				2.5P	18				UW	S08A_023_024C
0	24													
	25	SANDY LEAN CLAY (CL); soft to medium stiff; reddish brown (2.5YR 4/3); moist; 65% fines; 35% fine sand.		S09B	78			0.5P						S09B_025_026C
	26			S09A					18			35	UW	S09A_026 027C
	27	CLAYEY SAND (SC); reddish brown (2.5YR 4/3); moist; 55% fine sand; 45% medium plasticity fines.												
-5	28	SILTY CLAY (CL/ML); light olive brown (2.5Y 5/3); moist; 97% low plasticity, low dry strength, slow dilatancy, low toughness fines; 3% fine sand.		S10B	89									S10B_028_029C
	29			S10A					38			97	UW	S10A_029_030C
	30	At 30 feet hard.		S11A	42			>4.5P						S11A_030_031T Dames and Moore 400 psi
	31													
	32	LEAN CLAY with Sand (CL); hard; light olive brown (2.5Y 5/3); moist; 80% fines; 20% sand; variable fines content.		S12A	78			>4.5P		38	14	80	FWK	S12A_032_034T Dames and Moore 450 psi
-10	33								32	35	11	87	PA HD UW	
	34												FWK	
	35			S13A	28			2.25P						S13A_034_035T Dames and Moore 450 psi
	36													
	37	LEAN CLAY (CL); hard; olive brown (2.5Y 4/3); moist; 90% low plasticity, medium dry strength, no dilatancy, medium toughness fines; 10% fine sand.		S14B	83			>4.5P						S14B_036_037C
	38			S14A										S14A_037_038C
-15	39													
	40			S15A	44			>4.5P	30				UW	S15A_039_040C
	41	Bottom of boring at 40.5 feet below ground surface. Backfilled with neat bentonite cement using 12 bags of cement, 25 lbs of bentonite, 60 gallons of water.												
	42													
	43													
-20	44													
	45													

Final Report Version 8/14/2013

Borehole Location: Levee Crest **County:** Sacramento
Coordinates: Northing: 1,930,619.59 **Easting:** 6,715,753.35
Latitude: 38.46225 **Longitude:** -121.46187
Levee Station or Milepost: 1151+99 **Levee Mile:**
Levee Segment
Survey Method: GIS/LiDAR **Coord. System:** CA State Plane Zone II
Channel / River Name / Feature: Beach - Morrison Creek

LOG OF BORING
WM0009_024B
Sheet 2 of 2

Levee Evaluations
Engineering Support Services

DWR LEVEE U/NU SOIL LOG REV1; GINTDWRULE; DWR OFFICIAL LIBRARY 02032014.GLB; 2/11/14

DATE STARTED 8/27/12 **DATE COMPLETED** 8/27/12	**GROUND ELEVATION** 23.50 ft **ELEVATION DATUM** NAVD 88		**TOTAL DEPTH OF BORING** 35.5 ft
DRILLING CONTRACTOR Gregg Drilling & Testing, Inc.	**DRILLER'S NAME** Eric Santellan **HELPER'S NAME** Louie Wense		**TOTAL DEPTH OF FILL** 15.5 ft
DRILLING METHOD Hollow-Stem Auger	**DRILL RIG MAKE AND MODEL** Marl M10XLS (D-44)		**CONSULTANT COMPANY** URS Corporation
DRILL BIT SIZE AND TYPE (HOLE DIAMETER) 8" Hollow Stem	**DRILLING ROD TYPE AND DIAMETER** 2" NWJ		**FIELD LOGGER** M. Maghsoudlou
X VERTICAL ☐ **INCLINED**	**CASING TYPE, DIAMETER, INSTALLATION DEPTH** NA		**FIELD LOG REVIEWER** M. Turner
SAMPLER TYPE(S) StdCal(2.5"), D&M(2.5"x20")	**HAMMER TYPE, MAKE/MODEL, WEIGHT/DROP** Marl, CME, 140 lbs / 30-inch drop		**HAMMER EFFICIENCY** 74.3%
BOREHOLE BACKFILL OR COMPLETION Neat bentonite cement	**GROUNDWATER READING:** **DURING DRILLING** Not encountered	**AFTER DRILLING (DATE-TIME)**	

Elevation, feet	Depth, feet	Material Graphics	CLASSIFICATION OF MATERIALS (Description)	Sample Location	Sample Number	Recovery, %	Blows per 6 in. [Blows per ft]	N_{60}(ASTM)	PP or TV, tsf	LABORATORY DATA: Water Content, %	Liquid Limit	Plasticity Index	Fines, % < #200	Other Lab Tests	REMARKS
	0		Road gravel, aggregate base.												
	1		[LEVEE FILL] LEAN CLAY (CL); hard; brown (10YR 4/3); moist; 95% very high dry strength, no dilatancy, medium toughness fines; 5% fine sand; Blocks of darker possibly fat clay within fill.		S01B	78			>4.5P						S01B_001_002C
	2				S01A				>4.5P	16	28	15		UW	S01A_002_003C
20	3														
	4		[LEVEE FILL] LEAN CLAY with Sand (CL); hard; dark grayish brown (10YR 4/2); moist; 80% low plasticity, very high dry strength, no dilatancy, medium toughness fines; 20% fine sand.		S02B	83									S02B_004_005C
	5				S02A										S02B_005_006C
	6														
	7		At 7.5 feet 74% fines; 26% sand.		S03B	72			3.0P						S03B_007_008C
	8				S03A				>4.5P	18			74	UW	S03A_008_009C
15	9														
	10				S04A	39			3.0P						S04A_010_011C
	11		[LEVEE FILL] FAT CLAY (CH); very stiff; black (10YR 2/1); moist; 95% very high dry strength, no dilatancy, high toughness fines; 5% fine sand.						2.75P						
	12														
	13				S05B	78			2.0P						S05B_013_014C
10	14				S05A				3.0P	24	54	37		UW	S05A_014_015C
FILL	15														
	16		FAT CLAY (CH); soft to medium stiff; black (10YR 2/1); moist; 95% very high dry strength, no dilatancy, high toughness fines; 5% fine sand.		S06A	39			0.5P						S06A_016_017C
	17								3.0P	33	66	45		UW	
	18														
5	19														
	20		SANDY LEAN CLAY (CL); very stiff; brown (10YR 4/3); moist; 70% medium plasticity, medium dry strength, no		S07B	78			3.75P						S07B_019_020C
					S07A				4.0P						S07A_020_021C

Final Report Version 8/14/2013

Borehole Location: Levee Crest **County:** Sacramento
Coordinates: **Northing:** 1,932,580.23 **Easting:** 6,715,394.08
Latitude: 38.46764 **Longitude:** -121.46308
Levee Station or Milepost: 1171+96 **Levee Mile:**
Levee Segment
Survey Method: GIS/LiDAR **Coord. System:** CA State Plane Zone II
Channel / River Name / Feature: Beach - Morrison Creek

LOG OF BORING
WM0009_025B
Sheet 1 of 2

Levee Evaluations
Engineering Support Services

DWR LEVEE U/NU SOIL LOG REV1; GINTDWRULE; DWR OFFICIAL LIBRARY 02032014.GLB; 2/11/14

Elevation, feet	Depth, feet	Material Graphics	CLASSIFICATION OF MATERIALS (Description)	Sample Location	Sample Number	Recovery, %	Blows per 6 in. [Blows per ft]	N_{60}(ASTM)	PP or TV, tsf	LABORATORY DATA: Water Content, %	Liquid Limit	Plasticity Index	Fines, % < #200	Other Lab Tests	REMARKS
	20		dilatancy, medium toughness fines; 30% fine sand.			78									
	21														
	22		CLAYEY SAND (SC); dark grayish brown (10YR 4/2); moist; 52% fine sand; 48% medium plasticity fines.		S08B S08A	72				22			48	UW	S08B_022_023C S08A_023_024C
0	23														
	24														
	25		SANDY LEAN CLAY (CL); soft; brown (10YR 4/3); moist; 65% low plasticity, medium dry strength, no dilatancy, low toughness fines; 35% fine sand.		S09A	89			0.5P 0.5P						S09A_025_027T Dames and Moore 300 psi
	26														
	27				S10A										S10A_027_029T Dames and Moore 100 psi
	28														
-5	29														
	30				S11B	89			0.5P 0.5P	28	43	26		UW	S11B_029_031C
	31		At 31 feet 2" thick sand lense (SP-SM).												
	32		LEAN CLAY (CL); hard; dark greenish gray (5BG 4/1); moist; 95% low dry strength, no dilatancy, low toughness fines; 5% fine sand.		S12A	106			>4.5P						S12A_032_034T Dames and Moore 300 psi
-10	33														
	34														
	35		At 34.5 feet 96% fines; 4% sand.		S13B S13A					37	42	17	96	HD	S13B_034_035C S13A_035_036C
	36		Bottom of boring at 35.5 feet below ground surface. Backfilled with neat bentonite cement using 8 bags of cement, 18 lbs of bentonite, 45 gallons of water.												
	37														
	38														
-15	39														
	40														
	41														
	42														
	43														
-20	44														
	45														

Final Report Version 8/14/2013

Borehole Location: Levee Crest **County:** Sacramento
Coordinates: Northing: 1,932,580.23 **Easting:** 6,715,394.08
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Levee Evaluations
Engineering Support Services

DWR LEVEE U/NU SOIL LOG REV1; GINTDWRULE; DWR OFFICIAL LIBRARY 02032014.GLB; 2/11/14



ENGEO
Expect Excellence

APPENDIX F

MODIFIED PHASE I
ENVIRONMENTAL SITE ASSESSMENT



STONE BEETLAND
SACRAMENTO, CALIFORNIA

DRAFT

MODIFIED PHASE I ENVIRONMENTAL SITE ASSESSMENT

SUBMITTED TO
Mr. Clifton Taylor
Taylor Builders LLC
508 Gibson Drive, Suite 260
Roseville, CA 95678

PREPARED BY
ENGEO Incorporated

January 14, 2021

PROJECT NO.
18064.000.001

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ENGEO
Expect Excellence

Project No.
18064.000.001

January 14, 2021

Mr. Clifton Taylor
Taylor Builders LLC
508 Gibson Drive, Suite 260
Roseville, CA 95678

Subject: Stone Beetland
Cosumnes River Boulevard
Sacramento, California

MODIFIED PHASE I ENVIRONMENTAL SITE ASSESSMENT

Dear Mr. Taylor:

ENGEO is pleased to present our modified phase I environmental site assessment of the subject property (Property), located in Sacramento, California. The attached report includes a description of the site assessment activities, along with ENGEO's findings, opinions, and conclusions regarding the Property.

ENGEO has the specific qualifications based on education, training, and experience to assess the nature, history, and setting of the Property, and has developed and performed all appropriate inquiries in conformance with the standards and practices set forth in 40 CFR Part 312 and the American Standard Testing Method (ASTM) Practice E1527-13. We declare that, to the best of our professional knowledge and belief, the responsible charge for this study meets the definition of Environmental Professional as defined in Section 312.10 of 40 CFR Part 312 and ASTM E1527-13.

DRAFT

We are pleased to be of service to you on this project. If you have any questions concerning the contents of our report, please contact us.

Sincerely,

ENGEO Incorporated

Stephen Blakely, PG

Shawn Munger, CHG

sb/sm/dt

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DRAFT

EXECUTIVE SUMMARY

ENGEO conducted a modified phase I environmental site assessment for the property located on Cosumnes River Boulevard in Sacramento, California (Property). The Property is approximately 111 acres in area and is identified by Assessor's Parcel Numbers (APN) 053-0010-048, 053-0010-049, and 053-0010-076.

The Property consists of predominantly undeveloped land. The future Morrison Creek light rail station, with associated light rail tracks and other improvements, is located in the eastern portion of the Property and is administered by the Sacramento Regional Transit (RT) District. The remainder of the Property consists of fallow farmland and vacant lots, covered with a moderate growth of grass and weeds.

This assessment included a review of local, state, tribal, and federal environmental record sources, standard historical sources, aerial photographs, fire insurance maps and physical setting sources. A reconnaissance of the Property was conducted to review site use and current conditions to check for the storage, use, production or disposal of hazardous or potentially hazardous materials and interviews with persons knowledgeable about current and past site use.

The site reconnaissance and records review did not find documentation or physical evidence of soil, soil gas, or groundwater impairments associated with the use or past use of the Property. A review of regulatory databases maintained by county, state, tribal, and federal agencies found no contaminated facilities within the appropriate American Society for Testing and Materials (ASTM) search distances that would reasonably be expected to impact the Property.

As part of this assessment, soil sampling was performed to address potential past agricultural impacts. A total of 48 soil samples were recovered across the Property, which were analyzed for organochlorine pesticides, lead, and arsenic. Pesticide concentrations were either non-detect with respect to laboratory reporting limits, or below their respective CAL-EPA and USEPA Screening Levels for a residential scenario. Lead concentrations ranged from 9.4 to 21 mg/kg, which are below the current residential screening level of 80 mg/kg and are also within the expected range of background concentrations.

Arsenic was reported throughout the Property, ranging from 4 to 19 mg/kg in the shallow subsurface (approximately 3 to 6 inches below the ground surface). Based on the laboratory analysis, it was shown that levels of arsenic throughout the Property exceeded the current EPA Screening Levels of 0.11 mg/kg. However, in accordance with CAL-EPA Department of Toxic Substances Control (DTSC) protocols, a statistical evaluation was performed for the arsenic dataset (Appendix I). The results of the statistical evaluation indicates there is no evidence of anthropogenic arsenic sources (herbicides/pesticides) at the Property. These findings suggest that the reported arsenic concentrations are representative of background concentrations for the area and would not require further evaluation or mitigation.

Based on review of the sampling and laboratory test results, historical agricultural practices have not significantly impacted the Property.

Based on the findings of this assessment, no Recognized Environmental Conditions (RECs), no historical RECs, and no controlled RECs were identified for the Property.

DRAFT

Based on the review of regulatory databases and site reconnaissance, we present information on features of potential environmental concern that were either contained in the databases or observed on the Property. These features were not considered to be RECs. We briefly discuss each feature below.

- Two approximately 12-inch diameter inactive and abandoned agricultural wells were identified on APN 053-0010-048. The wells should be properly abandoned in accordance with the Sacramento County Environmental Management's Abandoned Wells Program.

- Soil stockpiles containing trash, construction debris, and electronics parts were observed in the northeastern portion of the Property. Documentation regarding the source of the soil and absence of contaminants should be provided.

- Numerous chemical containers, automobile tires and parts, homeless encampment debris, and scattered trash are present on the Property. We recommend disposing of the material at a licensed off-site disposal facility.

ENGEO has performed a phase I environmental site assessment in general conformance with the scope and limitations of ASTM E1527-13 and the standards and practices of the All Appropriate Inquiry – Final Rule (40 Code of Federal Regulations Part 312).

It is our opinion that the findings of this study are based on a sufficient level of information obtained during our contracted scope of services to render a conclusion as to whether additional appropriate investigation is required to identify the presence or likely presence of a REC. The data gaps identified during this process do not affect the conclusions as to the presence or lack of presence of RECs at the Property.

This assessment has revealed no evidence of RECs in connection with the Property, and the Property is suitable for development. ENGEO recommends no further environmental studies at this time.

DRAFT

1.0 INTRODUCTION

1.1 PURPOSE OF PHASE I ENVIRONMENTAL SITE ASSESSMENT

This assessment was performed at the request of Taylor Builders LLC for the purpose of environmental due diligence during property acquisition. The objective of this modified phase I environmental site assessment is to identify Recognized Environmental Conditions (RECs) associated with the Property. As defined in the ASTM Standard Practice E1527-13, an REC is "the presence or likely presence of any hazardous substances or petroleum products in, on, or at a property: (1) due to release to the environment; (2) under conditions indicative of a release to the environment; or (3) under conditions that pose a material threat of a future release to the environment."

1.2 DETAILED SCOPE OF SERVICES

The scope of services performed included the following:

- A review of publicly available and practicably reviewable standard local, state, tribal, and federal environmental record sources.
- A review of publicly available and practicably reviewable standard historical sources, aerial photographs, fire insurance maps and physical setting sources.
- A reconnaissance of the Property to review site use and current conditions. The reconnaissance was conducted to check for the storage, use, production or disposal of hazardous or potentially hazardous materials.
- Recovery of soil samples with laboratory testing.
- Interviews with owners/occupants and public sector officials.
- Preparation of this report with our findings, opinions, and conclusions.

DRAFT

1.3 SITE LOCATION AND DESCRIPTION

ENGEO conducted a modified phase I environmental site assessment for the Property located at Cosumnes River Boulevard in Sacramento, California (Figures 1 and 2). The approximately 111-acre Property is identified as APNs 053-0010-048, 053-0010-049, and 053-0010-076 (Figure 3) and is predominantly undeveloped and unoccupied. A future light rail station, Morrison Creek Station, along with associated light rail tracks and other improvements, is located in the eastern portion of the Property and is administered by the Sacramento Regional Transit (RT) District. The remainder of the Property consists of fallow farmland and vacant lots covered with a moderate growth of grass and weeds.

1.4 CURRENT USE OF PROPERTY AND ADJOINING PROPERTIES

The Blue Line of the Sacramento RT District crosses the eastern portion of the Property. The remainder of the Property was vacant and unused.

Residential subdivisions and undeveloped land are located to the north of the Property. Morrison Creek and Western borders the Property to the east, and Western Pacific Railroad tracks and a residential subdivision are located east of the Creek. To the west and southwest of the Property is the Delta Shores area, which is planned for residential and commercial development. A proposed community park is proposed to the south of the Property. The remaining area to the south is undeveloped land. Cosumnes River Boulevard borders the Property to the south.

1.5 SITE AND VICINITY CHARACTERISTICS

According to Google Earth (WGS 84), the Property ranges in elevation from approximately 17 feet above mean sea level (msl) in the north to approximately 7 feet above msl to the southeast. According to the Geologic Map of the Late Cenozoic Deposits of the Sacramento Valley and Northern Sierra Foothills, California (Helley and Harwood, 1985), the underlying geologic formation at the Property is the Lower Member of the Riverbank Formation. This formation consists of semi consolidated red alluvium derived from the western slopes of the Sierra Nevada, and composed of gravel, sand, and silt. In the southeast portion of the Property, the underlying geologic formation is Basin deposits. These deposits are fine-grained silt and clay derived from the same sources as modern alluvium.

Geocheck – Physical Setting Source Summary of the Environmental Data Resources, Inc. (EDR) report (Appendix A) indicated one Federal United States Geological Survey (USGS), six State wells, and three State oil/gas wells located within 1 mile of the Property. Well Number USGS40000188463 is mapped approximately 0.6 miles east of the Property and eight groundwater level measurements are reported for this well, ranging from 22.71 to 27.1 feet below ground surface from January 1998 to September 2004.

We reviewed the Department of Water Resources On-line Water Data Library for depth to water in the vicinity of the Property. The website identified two wells within 1 mile of the Property. Well Number 07N05E18C001M is mapped at the northwestern corner of the Property, and has recorded groundwater measurements since 1990. The most recent measurement recorded was 19.4 feet below ground surface in October 2017.

We reviewed EnviroStor, a website maintained by the State of California Department of Toxic Substances Control, and GeoTracker, a website maintained by the State of California Water Resources Control Board, for nearby facilities with records that include depth to groundwater measurements. The following information was obtained regarding local groundwater conditions.

TABLE 1.5-1: Local Groundwater Conditions

PROXIMITY TO PROPERTY (miles)	REPORTED DEPTH TO GROUNDWATER (feet)	REPORTED GROUNDWATER FLOW DIRECTION
0.3	15.63 – 20.13	NE
0.98	17.13-21.92	NE
1.0	12.79 – 38.39	NNE

The site-specific depth to groundwater and direction of groundwater flow was not determined as part of this assessment. Fluctuations in groundwater levels may occur seasonally and over a period of years due to variations in precipitation, temperature, irrigation and other factors.

DRAFT

We reviewed the Department of Conservation, Geologic Energy Management (CalGEM), formerly the Department of Conservation, Division of Oil, Gas, and Geothermal Resources (DOGGR), website and map database to determine if any historic oil and/or gas wells were located within the Property. Four wells were mapped within 1 mile of the Property.

2.0 RECORDS REVIEW

2.1 PROPERTY RECORDS

2.1.1 Title Report/Ownership

The Title Report lists recorded land title detail, ownership fees, leases, land contracts, easements, liens, deficiencies, and other encumbrances attached to or recorded against a subject property. Laws and regulations pertaining to land trusts vary from state to state and the detail of information presented in a Title Report can vary greatly by jurisdiction. As a result, ENGEO utilizes a Title Report, when provided to us, as a supplement to other historical record sources.

A Preliminary Title Report for the Property, prepared by Stewart Title of Sacramento and dated August 15, 2019, was provided for our review. The Property title is vested in:

Suzanne Nielsen, as Trustee of the Lisa Stone Kelley 2004 Trust No. 1, established 12/15/2004, an undivided 6% interest; J. W. "Bill" Stone and Mildred M. Stone, as Trustees of the Lisa Stone Kelley 2004 Charitable Remainder Unitrust established 12/15/2004, an undivided 12.5% interest; Suzanne Nielsen, as Trustee of the Lisa Stone Kelley 2004 Trust No. 2 established 12/15/2004, an undivided 14% interest; Suzanne Nielsen, as Trustee of the Melinda C. Stone 2004 Trust established 12/15/2004, an undivided 1% interest; J. W. "Bill" Stone and Mildred M. Stone, as trustees of the Melinda C. Stone 2004 Charitable Remainder Unitrust established 12/15/2004, an undivided 18.5% interest; J. W. "Bill" Stone and Mildred M. Stone, as Trustees of the Bill and Mildred Stone 2004 Charitable Remainder Unitrust, an undivided 24% interest and Stone Enterprises, L. P., a California limited partnership, an undivided 24% interest, all a one-half interest in Parcels 1 and 2; and

Anne Orr Boswell, Trustee of the Anne Orr Boswell 1997 Revocable Grantor Trust dated 02/24/1997, as to an undivided 14.300% interest, Jamie Boswell Sharp, Trustee of the Jamie Boswell Sharp Living Trust dated 12/30/2005, as to an undivided 17.850% interest, Anne Orr Boswell and Jamie Boswell Sharp, Trustees of the Lucy Carolyn Boswell 2003 Trust dated October 23, 2003, as to an undivided 9.350% interest, and John D. Mickus, Conservator of the Estate of Lucy C. Boswell, as to an undivided 8.500% interest, all as tenants in common, all of a one-half interest in Parcel 1; and Leslie Frances Boswell, as to an undivided one-half interest in Parcel 2.

No references to environmental liens, deed restrictions or other potential environmental issues were noted. This report is included in Appendix B.

2.2 HISTORICAL RECORD SOURCES

The purpose of the historical record review is to develop a history of the previous uses or occupancies of the Property and surrounding area in order to identify those uses or occupancies that are likely to have led to recognized environmental conditions on the Property.

DRAFT

2.2.1 Historical Topographic Maps/Aerial Photographs/Sanborn Maps

Historical USGS topographic maps and aerial photographs were reviewed to determine if discernible changes pertaining to the Property had been recorded. EDR provided the following maps and photographs, presented in Appendices C, D, and E.

TABLE 2.2.1-1: Historical Review Summary

Historic Map/Photograph	YEARS
Topographic Maps	1894, 1909, 1941, 1947, 1953, 1968, 1975, 1980, 2012
Aerial Photographs	1937, 1947, 1957, 1964, 1966, 1972, 1984, 1993, 1999, 2006, 2009, 2012, 2016
Sanborn Maps	N/A

ENGEO reviewed topographic maps dating back to 1894 and aerial photographs dating back to 1937; no Sanborn Maps were found. The 1894 topographic map depicts the Property as undeveloped land with intermittent streams crossing the northeast and southeast portions of the Property. In the 1909 topographic map, an approximately northeast-southwest aligned dirt road is mapped crossing the central portion of the Property. An intermittent stream is mapped crossing the southeastern portion of the Property in the 1941, 1947, and 1953 topographic maps; this stream is mapped east of the Property beginning in the 1968 map (Morrison Creek). Water wells are mapped in the northwestern and northcentral portion of the Property beginning in the 1968 topographic map. A light rail station and associated rail tracks is shown in the westernmost portion of the Property in the 2016 aerial photograph.

Agricultural fields and row crops are shown throughout the Property beginning in the 1957 aerial photograph; the fields remain through the 1999 photograph, with the exception of the northeastern portion of the Property, which appears to be last farmed in the 1966 photograph. Following the agricultural use, the Property appears to be predominantly vacant in the 2006 through 2016 aerial photographs. A few small garden plots are shown in the northeastern most portion of the Property in the 2009 through 2016 photographs.

Adjoining Properties - The 1909 topographic map and subsequent maps and aerial photographs show a Western Pacific railroad located east of the Property. A lake or pond is mapped to the southwest on the 1909 and 1953 topographic maps. A residential compound with several structures is mapped and shown north of the eastern portion of the Property border, beginning in 1909 and is last shown in the 1966 aerial photograph. Residential subdivisions are shown north of the Property beginning in the 1964 aerial photograph, and the developments expand in subsequent photographs and maps. Beginning in the 1968 topographic map, a sewage disposal plant is mapped approximately one mile to the south. Residential subdivisions are mapped to the east of the Property in the 2012 topographic map. Other neighboring properties appear undeveloped, or to have primarily been used for row crops or dry farming. Construction activities for Cosumnes River Boulevard are shown south of the Property beginning in the 2006 photograph; the roadway and adjacent light rail tracks are shown to be completed in the 2016 photograph.

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2.2.2 City Directory

City Directories, published since the 18th century for major towns and cities, list the name of the resident or business associated with each address. A city directory search conducted by EDR is located in Appendix F. There are no entries for the Property in the directories.

2.3 ENVIRONMENTAL RECORD SOURCES

EDR performed a search of federal, tribal, state, and local databases regarding the Property and nearby properties. Details regarding the databases searched by EDR are provided in Appendix A. A list of the facilities documented by EDR within the approximate minimum search distance of the Property is provided below.

2.3.1 Environmental Records

2.3.1.1 Subject Property

The Property is not listed on Environmental Record source databases.

2.3.1.2 Other Properties

The following databases include facilities listed within the appropriate ASTM search distances of the Property on Environmental Records sources.

TABLE 2.3.1.2-1

FACILITY	STREET	DATABASES
RAYMOND CORONA	7881 CEDAR SPRINGS WAY SACRAMENTO, CA 95832	RCRA NonGen /NLR
SACRAMENTO CITY UNIFIED SCHOOL DISTRICT	7864 DETROIT BOULEVARD SACRAMENTO, CA 95832	RCRA NonGen /NLR
JOHN BIGLER ELEMENTARY SITE	2200 JOHN STILL DRIVE SACRAMENTO, CA 95832	ENVIROSTOR, SCH
SMUD PCB SUBSTATION SITE #15	MEADOWVIEW ROAD AT WESTERN PACIFIC RR SACRAMENTO, CA 95814	ENVIROSTOR

The Raymond Corona and Sacramento City Unified School District sites are listed on the RCRA NonGen / NLR database. These sites are no longer regulated and do not generate hazardous waste. The John Bigler Site is listed due to a routine DTSC investigation of a school site. The investigation identified no contaminants and recommended no further action. The SMUD PCB Substation Site #15 references a PCB release reported approximately 0.84 miles from the Property, with reported contaminant levels of 7800 ppm on soil samples taken in 1987.

Based on the distances to the identified database sites, regional topographic gradient, and the EDR findings, it is unlikely that the above-stated database sites pose an environmental risk to the Property. Properties that are on the “Orphan Summary” list appear to be located beyond the ASTM recommended radius search criteria.

2.4 REGULATORY AGENCY FILES AND RECORDS

The following agencies were contacted pertaining to possible past development and/or activity at the Property.

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TABLE 2.4-1: Regulatory Agency Records

NAME OF AGENCY	RECORDS REVIEWED
City of Sacramento Building, Planning, and Public Works Departments	We submitted a public records request with the City of Sacramento for any records on the Property. We were directed to the online records library for building, planning, and public works records. The only record for the Property was an electrical inspection application receipt from 1989.
City of Sacramento Fire Department	We submitted a public records request with the City of Sacramento Fire Department for any records on the Property. We were directed to the Citizenserve Code Enforcement online database. No information was available for the Property.
Sacramento County Environmental Management Department	We submitted a public records request with the Environmental Management Department for any records on the Property. We received several records pertaining to agricultural wells on the Property, including an approved inactivation permit for well #WP0058947 that expired in October 2019.
Sacramento County Assessor's Office	The Assessor's Office online database was used to confirm the Parcel Number and physical address, for the Property. The Assessor's Office identified an address of Burlington Way for APNs 053-0010-048-000 and 053-0010-049-000, and an address of 8000 Detroit Boulevard for APN 053-0010-076-000.
Sacramento County Water Agency	We contacted the Sacramento County Water Agency in regards to Sacramento County Well Number SCGA#1. The groundwater level measurement logs indicated that oil or a foreign substance was found in the well casing. We spoke with Bob Stieg at the Water Agency, who informed us that the oil found in the casing was a result of the well pump motor, and not an indicator of a groundwater condition.
California State Water Resources Control Board	The California Regional Water Quality Control Board's online database, GeoTracker, was reviewed for files relating to the Property. No listings are documented for the Property.
California Department of Water Resources	The California Department of Water Resources' online database, Water Data Library, was reviewed for files related to groundwater conditions.
California Department of Toxic Substances Control	The Department of Toxic Substances Control's online database, EnviroStor, was reviewed for files pertaining to the Property. No listings are documented for the Property.

2.5 INDOOR AIR QUALITY

An evaluation of indoor air quality, mold, or radon was not included as part of the contracted scope of services. The California Department of Public Health has conducted studies of radon risks throughout the state, sorted by zip code. Results of the studies indicate that two tests were conducted within the Property zip code, with no tests exceeding the current EPA action level of 4 picocuries per liter {pCi/L}[1]).

In accordance with ASTM E2600-15 (Tier 1) (*Standard Guide for Vapor Encroachment Screening on Property Involved in Real Estate Transactions*); there are no potential petroleum hydrocarbon

[1] California Department of Public Health – Radon Program– (https://www.cdph.ca.gov/Programs/CEH/DRSEM/CDPH%20Document%20Library/EMB/Radon/Radon%20Test%20Results.pdf).

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sources for vapor intrusion within 1/10 mile of the Property or volatile organic compound (VOCs) sources within 1/3 mile of the Property.

3.0 SITE RECONNAISSANCE

3.1 METHODOLOGY

ENGEO conducted a reconnaissance of the Property on December 18, 2020. The reconnaissance was performed by Stephen Blakely, a Project Geologist of ENGEO. The Property was viewed for hazardous materials storage, superficial staining or discoloration, debris, stressed vegetation, or other conditions that may be indicative of potential sources of soil or groundwater contamination. The Property was also checked for evidence of fill/ventilation pipes, ground subsidence, or other evidence of existing or preexisting underground storage tanks. Photographs taken during the site reconnaissance are presented in Figure 4.

We did not enter the RT Station equipment / maintenance building or steel containers located at the RT Station in the eastern portion of the Property.

3.2 SITE OBSERVATIONS

The following table summarizes our observations during the reconnaissance.

TABLE 3.2-1: Exterior Site Observations

FEATURE TYPE	OBSERVATIONS
Structures	A locked equipment/maintenance building was observed behind locked security fences at the RT Station in the eastern portion of the Property. Additionally two locked containers, presumably in use for construction activities, were observed in the RT Station parking lot. No evidence of hazardous materials or conditions were observed at these locations.
Hazardous Substances and Petroleum Products in Connection with Identified Uses	No hazardous substances or petroleum products in connection with identified uses were observed within the Property during the site reconnaissance.
Storage Tanks (underground and above-ground)	No above-ground storage tanks or evidence of existing underground storage tanks was observed during the site reconnaissance.
Odors	No odors indicative of hazardous materials or petroleum material impacts were noted at the time of the reconnaissance.
Pools of Potentially Hazardous Liquid	No pools of potentially hazardous liquid were observed within the Property at the time of our reconnaissance.
Drums	No drums were observed on the Property at the time of the reconnaissance.
Polychlorinated Biphenyls (PCBs) Containing Equipment	Pole-mounted transformers were observed at the northern and eastern boundaries of the Property. No evidence of leakage from the units was observed during our site reconnaissance.
Hazardous Substances and Petroleum Product Containers	Several petroleum product containers were observed near the inactive well in the north-central portion of APN 053-0010-0048.
Pits, Ponds, and Lagoons	During site reconnaissance, a stormwater basin was observed in the eastern portion of the Property, south of the RT Station. No other pits, ponds or lagoons were observed within the Property at the time of our reconnaissance.

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FEATURE TYPE	OBSERVATIONS
Stained Soil/Pavement	A small area of stained soil was observed in the vicinity of the inactive well in the north-central portion of APN 053-0010-0048 during our reconnaissance.
Stressed Vegetation	A small area of stressed vegetation was observed in the vicinity of the inactive well in the north-central portion of APN 053-0010-0048 during our reconnaissance.
Solid Waste/Debris	Several piles of debris consisting of general trash were observed near the northern boundary of the Property, and in the northeast portion of the Property near the RT tracks. In the southeast corner of the Property, it appeared a homeless camp had burned relatively recently, and trash was strewn about. Concrete, vehicle tires, and a pickup camper shell were observed in an east-west aligned drainage ditch at the boundary between APN 053-0010-0048 and APN 053-0010-0076.
Stockpiles/Fill Material	Several stockpiles consisting of soil and debris were observed in the northeastern portion of the Property during the reconnaissance.
Wastewater	Stormwater conveyance systems including drop inlets and manholes were observed in the eastern portion of the Property in the vicinity of the RT tracks and Station. A stormwater basin was also observed at this location. Stormwater and reclaimed water pipelines are also apparent at the western edge of the Property, as evidenced by access covers and signage.
Wells	Two inactive wells were found within the Property during our site reconnaissance. The wells were found located in the north-central and northwestern portion of APN 052-0010-048. The wells appear to be abandoned agricultural / irrigation wells.
Septic Systems	No septic systems were found within the Property during our site reconnaissance. Several Sanitary Sewer manholes were observed on the Property, indicating sewer pipelines are present.

3.3 ASBESTOS, LEAD, AND PCB-CONTAINING MATERIALS

An asbestos, lead, and PCB-containing building material survey was not conducted as part of this assessment. Based on our review of aerial photographs, the structure observed at the RT Station was apparently constructed in late 2014 or early 2015, and is not suspected to contain asbestos, lead, and PCB-containing building materials.

4.0 INTERVIEWS

Mr. Clifton Taylor completed an environmental site questionnaire pertaining to user-related applicable environmental information regarding the Property. In the questionnaire, Mr. Taylor did not identify potentially environmentally related issues with the Property. The questionnaire is presented in its entirety in Appendix G. A summary is provided below.

Mr. Taylor is unaware of commonly known, reasonably ascertainable, or specialized knowledge indicative of releases or threatened releases that is material to the potential presence of Recognized Environmental Conditions.

Mr. Taylor has indicated that the purchase price of the Property is reflective of fair market value of the Property.

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5.0 SOIL SAMPLING

To assess potential residual agricultural impacts the following soil sampling program was performed.

- Collection of near-surface soil samples at 48 representative locations across the Property. The samples were collected in 8-ounce, pre-cleaned jars, transported to a State-certified laboratory and composited by the laboratory into 12 four-point composite samples. The 12 composite samples were analyzed for organochlorine pesticides (EPA 8081A). Additionally, 12 discrete samples were analyzed for total arsenic and lead (EPA 6020).

- Preparation of a summary of the sampling activities and laboratory analytical data, with a comparison of the soil sample laboratory analytical results to the applicable regulatory threshold levels for residential land use scenarios.

Fieldwork was conducted on December 18, 2020. A total of 48 surface soil samples were collected across the Property from approximately 3 to 6 inches below the ground surface. The sample locations are depicted in Figure 4. Sampling was conducted in accordance with Cal-EPA Department of Toxic Substances Control Guidelines (DTSC 2008).

The samples were labeled to indicate a unique sample number, sample location, time and date collected, and the sampler's identification. Samples were preserved in a chilled cooler and transported to California Laboratory Services in Rancho Cordova, California under documented chain-of-custody. The complete laboratory test report is included in Appendix H.

Laboratory analysis of the soil samples included the following target analytes.

- Organochlorine Pesticides (OCPs)(EPA Method 8081A) – 12 four-point (4:1) composite samples.

- Arsenic and Lead (EPA Method 6020) - 12 discrete samples.

Pesticide concentrations were either non-detect with respect to laboratory reporting limits, or below their respective CAL-EPA and USEPA Screening Levels for a residential scenario. Lead concentrations ranged from 9.4 to 21 mg/kg, which are below the current residential screening level of 80 mg/kg and are within the expected range of background concentrations.

Arsenic was reported throughout the Property, ranging from 4 to 19 mg/kg in the shallow subsurface (approximately 3 to 6 inches below the ground surface). Based on the laboratory analysis, it was shown that levels of arsenic throughout the Property exceeded the current EPA Screening Levels of 0.11 mg/kg. However, USEPA ProUCL 5.1 software was used to perform statistical analysis for the data set (Appendix I). The results of the ProUCL indicated a 95 percent UCL (upper confidence limit) of 10.3 mg/kg in the upper 3 to 6 inches. Furthermore, the sample results were plotted on a normality plot to determine if there was an apparent break point that would indicate if non-background concentrations of arsenic existed (Appendix I). The linearity of the plot indicates that the levels of arsenic are representative of background concentrations. These findings suggest that the reported arsenic concentrations are representative of background concentrations for the area.

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6.0 FINDINGS AND CONCLUSIONS

This assessment included a review of local, state, tribal, and federal environmental record sources, standard historical sources, aerial photographs, fire insurance maps and physical setting sources. A reconnaissance of the Property was completed to review site use and current conditions to check for the storage, use, production, or disposal of hazardous or potentially hazardous materials and to conduct written/oral interviews with persons knowledgeable about current and past site use.

The site reconnaissance and records review did not find documentation or physical evidence of soil, soil gas, or groundwater impairments associated with the use or past use of the Property. A review of regulatory databases maintained by county, state, tribal, and federal agencies found no documentation of hazardous materials violations or discharge on the Property and did not identify contaminated facilities within the appropriate American Society for Testing and Materials (ASTM) search distances that would reasonably be expected to impact the Property.

As part of this assessment, soil sampling was performed to address potential past agricultural impacts. A total of 48 soil samples were recovered across the Property, which were analyzed for organochlorine pesticides, lead, and arsenic. Pesticide concentrations were either non-detect with respect to laboratory reporting limits, or below their respective CAL-EPA and USEPA Screening Levels for a residential scenario. Lead concentrations ranged from 9.4 to 21 mg/kg, which are below the current residential screening level of 80 mg/kg and are also within the expected range of background concentrations.

Arsenic was reported throughout the Property, ranging from 4 to 19 mg/kg in the shallow subsurface (approximately 3 to 6 inches below the ground surface). Based on the laboratory analysis, it was shown that levels of arsenic throughout the Property exceeded the current EPA Screening Levels of 0.11 mg/kg. However, ProUCL 5.1 software was used to perform statistical analysis for the data set (Appendix I). The results of the ProUCL indicated a 95 percent UCL (upper confidence limit) of 10.3 mg/kg in the upper 3 to 6 inches. Furthermore, the sample results were plotted on a normality plot to determine if there was an apparent break point that would indicate if non-background concentrations of arsenic existed (Appendix I). The linearity of the plot indicates that the levels of arsenic are representative of background concentrations. These findings suggest that the reported arsenic concentrations are representative of background concentrations for the area, and not a result of past agrichemical applications.

Based on review of the lab test results, historical agricultural practices have not had an adverse impact on the Property.

Based on the findings of this assessment, no Recognized Environmental Conditions (RECs), no historical RECs, and no controlled RECs were identified for the Property.

Based on the review of regulatory databases and site reconnaissance, we present information on features of potential environmental concern that were either contained in the databases or observed on the Property. These features were not considered to be RECs. We briefly discuss each feature below.

- Two approximately 12-inch diameter inactive and abandoned agricultural wells were identified on APN 053-0010-048. The wells should be properly abandoned in accordance with the Sacramento County Environmental Management's Abandoned Wells Program.

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- Soil stockpiles containing trash, construction debris, and electronics parts were observed in the northeastern portion of the Property. Documentation regarding the source of the soil and absence of contaminants should be provided.

- Numerous chemical containers, automobile tires and parts, homeless encampment debris, and scattered trash are present on the Property. We recommend disposing of the material at a licensed off-site disposal facility.

ENGEO has performed a phase I environmental site assessment in general conformance with the scope and limitations of ASTM E1527-13 and the standards and practices of the All Appropriate Inquiry – Final Rule (40 Code of Federal Regulations Part 312).

It is our opinion that the findings of this study are based on a sufficient level of information obtained during our contracted scope of services to render a conclusion as to whether additional appropriate investigation is required to identify the presence or likely presence of a REC.

This assessment has revealed no evidence of Recognized Environmental Conditions in connection with the Property. ENGEO recommends no further environmental studies at this time.

7.0 LIMITATIONS

7.1 SIGNIFICANT ASSUMPTIONS OR DEVIATIONS FROM ASTM STANDARD PRACTICE

There were no significant deviations from ASTM E1527-13.

7.2 OPINIONS AND DATA GAPS

It is our opinion that the findings of this study are based on a sufficient level of information obtained during our contracted scope of services to render a conclusion as to whether additional appropriate investigation is required to identify the presence or likely presence of a REC. The following data gap was identified during this assessment.

- We were not provided with a recent Title Report for the Property.

The data gap identified during this process does not affect the conclusions as to the presence or lack of presence of RECs at the Property.

7.3 LIMITATIONS AND EXCEPTIONS OF ASSESSMENT

The professional staff at ENGEO strives to perform its services in a proper and professional manner with reasonable care and competence but is not infallible. The recommendations and conclusions presented in this report were based on the findings of our study, which were developed solely from the contracted services. The findings of the report are based in part on contracted database research, out-of-house reports, and personal communications. The opinions formed by ENGEO are based on the assumed accuracy of the relied upon data in conjunction with our relevant professional experience related to such data interpretation. ENGEO assumes no liability for the validity of the materials relied upon in the preparation of this report.

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This document must not be subject to unauthorized reuse; that is, reuse without written authorization of ENGEO. Such authorization is essential because it requires ENGEO to evaluate the document's applicability given new circumstances, not the least of which is passage of time. The findings from a phase I environmental site assessment are valid for one year after completion of the report. Updates of portions of the assessment may be necessary after a period of 180 days after completion.

This phase I environmental site assessment is not intended to represent a complete soil, soil gas, or groundwater characterization, nor define the depth or extent of soil, soil gas, or groundwater contamination. It is intended to provide an evaluation of potential environmental concerns associated with the use of the Property. A more extensive assessment that would include a subsurface exploration with laboratory testing of soil, soil gas, and groundwater samples could provide more definitive information concerning site-specific conditions. If additional assessment activities are considered for the Property and if other entities are retained to provide such services, ENGEO cannot be held responsible for any and all claims arising from or resulting from the performance of such services by other persons or entities. ENGEO can also not be held responsible from any and all claims arising or resulting from clarifications, adjustments, modifications, discrepancies or other changes necessary to reflect changed field or other conditions.

7.4 SPECIAL TERMS AND CONDITIONS

ENGEO has prepared this report for the exclusive use of our client, Taylor Builders, LLC. It is recognized and agreed that ENGEO has assumed responsibility only for undertaking the study for the Client. The responsibility for disclosures or reports to a third party and for remedial or mitigative action shall be solely that of the Client.

Laboratory testing of soil gas or groundwater samples was not within the scope of the contracted services. The assessment did not include an asbestos survey, an evaluation of lead-based paint, an inspection of light ballasts for polychlorinated biphenyls (PCBs), or a mold survey. A radon evaluation was not performed.

This report is based upon field and other conditions discovered at the time of preparation of ENGEO's assessment. Visual observations referenced in this report are intended only to represent conditions at the time of the reconnaissance. ENGEO would not be aware of site contamination, such as dumping and/or accidental spillage, that occurred subsequent to the reconnaissance conducted by ENGEO personnel.

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SELECTED REFERENCES

Google Maps (http://maps.google.com)

California Department of Water Resources (http://www.water.ca.gov/waterdatalibrary/)

California Department of Public Health – Radon Program–
(https://www.cdph.ca.gov/Programs/CEH/DRSEM/CDPH%20Document%20Library/EMB/Radon/Radon%20Test%20Results.pdf).

California Geologic Energy Management Division (CalGEM)
(https://www.conservation.ca.gov/calgem)

CalGEM Well Finder
(https://maps.conservation.ca.gov/doggr/wellfinder/#openModal/-118.94276/37.12009/6)

CAL-EPA Department of Toxic Substances Control, Interim Guidance for Sampling Agricultural Properties, Third Revision, August 7, 2008.
http://www.dtsc.ca.gov/Schools/upload/Ag-Guidance-Rev-3-August-7-2008-2.pdf

Helley, E.J., and Harwood, D.S. (1985). Geologic map of the late Cenozoic deposits of the Sacramento Valley and Northern Sierran Foothills, California [map]. 1:62,500. U.S. Geological Survey, Miscellaneous Field Studies Map MF-1790.

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FIGURES

FIGURE 1: Vicinity Map
FIGURE 2: Site Plan
FIGURE 3: Assessor's Parcel Map
FIGURE 4: Site Sampling Locations
FIGURE 5: Site Photographs

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BASE MAP SOURCE: GOOGLE EARTH MAPPING SERVICE

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VICINITY MAP

STONE BEETLAND

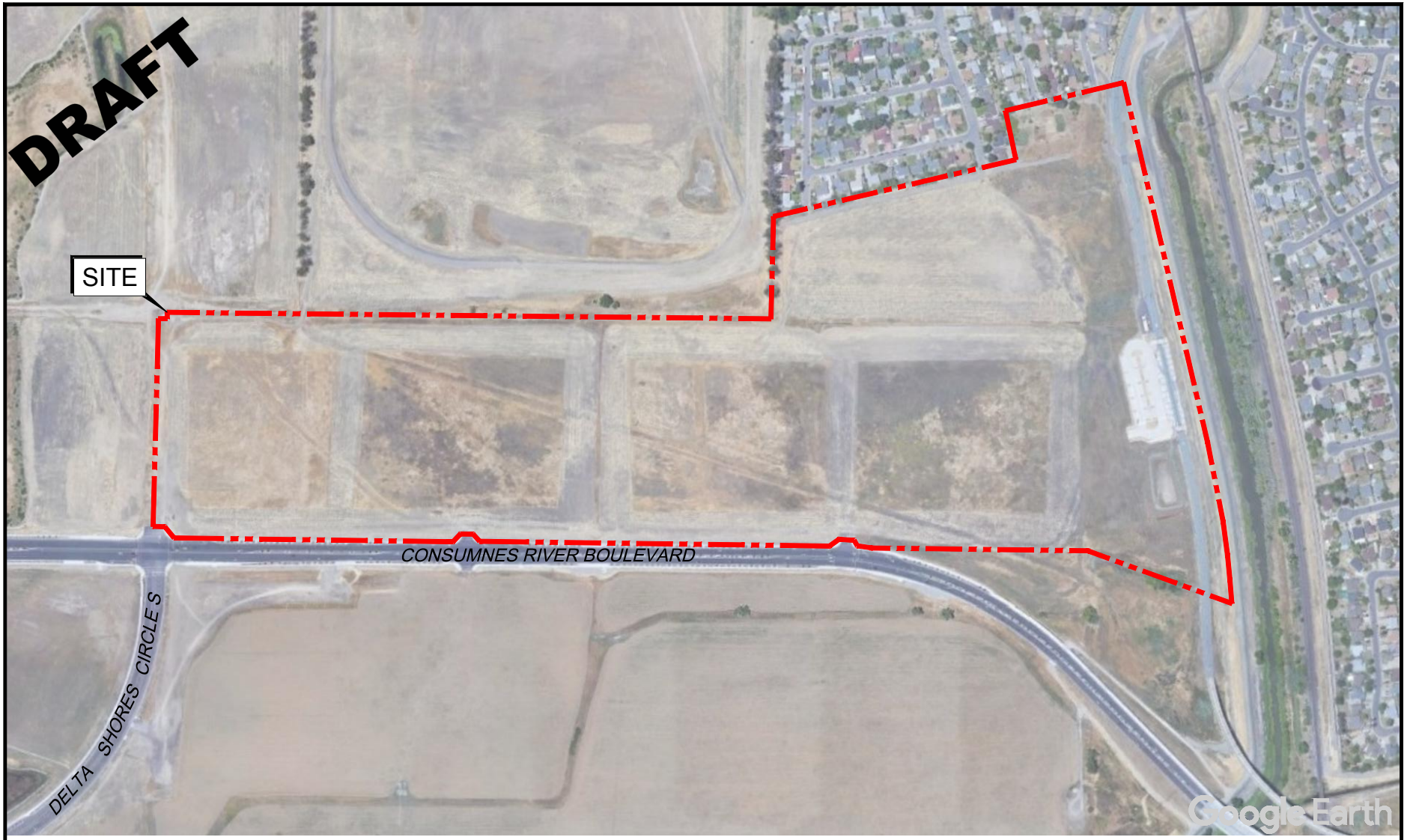
SACRAMENTO, CALIFORNIA

PROJECT NO.: 18064.000.001	FIGURE NO. 1
SCALE: AS SHOWN	
DRAWN BY: CC	CHECKED BY: SPM

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BASE MAP SOURCE: GOOGLE EARTH MAPPING SERVICE

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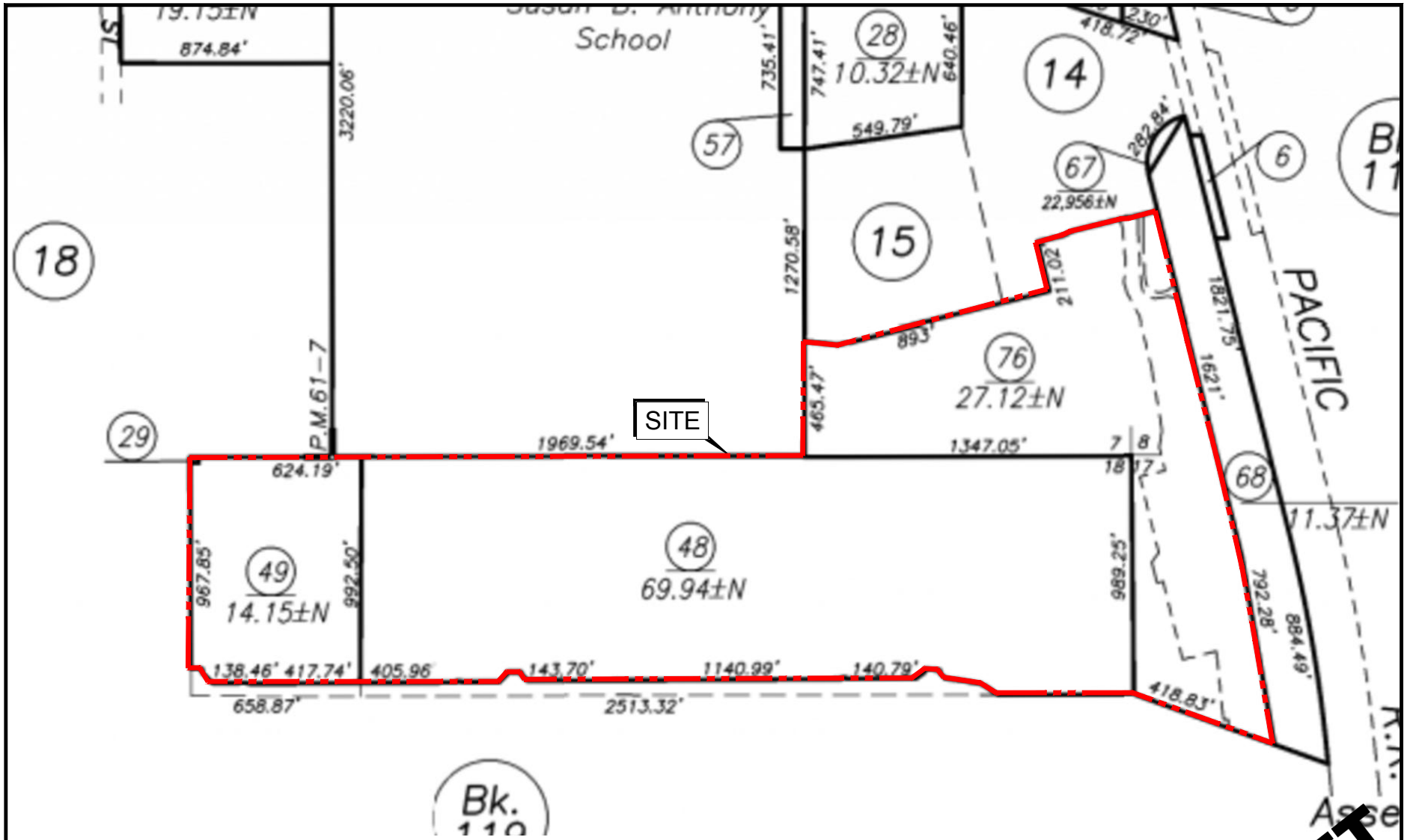
SITE PLAN
STONE BEETLAND
SACRAMENTO, CALIFORNIA

PROJECT NO.: 18064.000.001	FIGURE NO. 2
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BASE MAP SOURCE: CITY OF SACRAMENTO ASSESSOR'S MAP BK. 053 PG. 001

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ASSESSOR'S PARCEL MAP
STONE BEETLAND
SACRAMENTO, CALIFORNIA

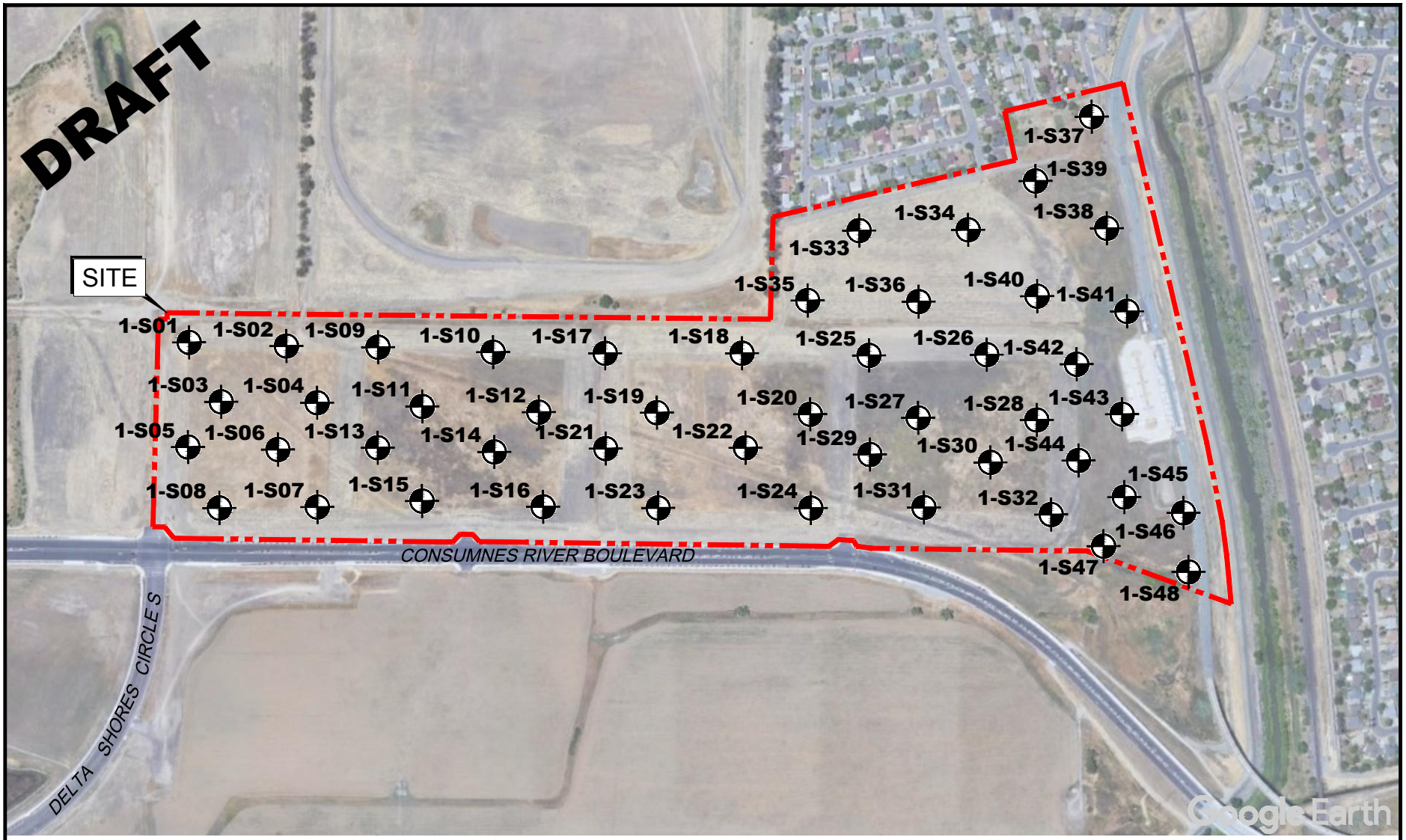
PROJECT NO.: 18064.000.001
SCALE: AS SHOWN
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FIGURE NO. 3

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EXPLANATION

ALL LOCATIONS ARE APPROXIMATE

1-S48 SOIL SAMPLE LOCATION (ENGEO, 2020)

BASE MAP SOURCE: GOOGLE EARTH MAPPING SERVICE

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SITE SAMPLING LOCATIONS

STONE BEETLAND

SACRAMENTO, CALIFORNIA

PROJECT NO.: 18064.000.001	FIGURE NO. 4
SCALE: AS SHOWN	
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SITE CONDITIONS, LOOKING EAST



SITE CONDITIONS, LOOKING EAST



MANHOLE



MANHOLE AND NORTHERN PERIMETER FENCE, LOOKING WEST



UTILITY VAULTS, NORTHERN PROPERTY BOUNDARY



STORMWATER BASIN

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SITE PHOTOGRAPHS
STONE BEETLAND
SACRAMENTO, CALIFORNIA

PROJECT NUMBER: **18064.000.001**		FIGURE NO. 5A
SCALE: **NO SCALE**		
DRAWN BY: **CC**	CHECKED BY: **SPM**	

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POLE-MOUNTED TRANSFORMER, NORTH



POLE-MOUNTED TRANSFORMER, EAST



WELL, NORTHWEST



WELL, NORTH CENTRAL



RT TRACKS, LOOKING NORTH



RT TRACKS AND MAINTENANCE EQUIPMENT SHEDS, LOOKING SOUTH

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SITE PHOTOGRAPHS
STONE BEETLAND
SACRAMENTO, CALIFORNIA

PROJECT NUMBER: **18064.000.001**		FIGURE NO. 5B
SCALE: **NO SCALE**		
DRAWN BY: **CC**	CHECKED BY: **SPM**	

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RT STATION



CONTAINERS AT RT STATION



RAILROAD TIES



CHEMICAL CONTAINERS



SOIL STOCKPILES WITH CONCRETE AND TRASH DEBRIS



DEBRIS PILE, GARDEN PLOTS, AND GRAVEL EASEMENT

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SITE PHOTOGRAPHS
STONE BEETLAND
SACRAMENTO, CALIFORNIA

PROJECT NUMBER: **18064.000.001**		FIGURE NO. 5C
SCALE: **NO SCALE**		
DRAWN BY: **CC**	CHECKED BY: **SPM**	

ORIGINAL FIGURE PRINTED IN COLOR

DRAFT



TRASH AND CONCRETE DEBRIS IN DITCH



DEBRIS PILE



FORMER HOMELESS ENCAMPMENT

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ENGEO Expect Excellence

SITE PHOTOGRAPHS

STONE BEETLAND

SACRAMENTO, CALIFORNIA

PROJECT NUMBER: **18064.000.001**			FIGURE NO. 5D
SCALE: **NO SCALE**			
DRAWN BY: **CC**	CHECKED BY: **SPM**		

ORIGINAL FIGURE PRINTED IN COLOR



DRAFT

APPENDIX A

ENVIRONMENTAL DATA RESOURCES, INC.

Radius Map Report

Stone Beetland
Cosumnes River Boulevard
Sacramento, CA 95832

Inquiry Number: 06275924.2r
November 20, 2020

The EDR Radius Map™ Report with GeoCheck®

6 Armstrong Road, 4th floor
Shelton, CT 06484
Toll Free: 800.352.0050
www.edrnet.com

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GEOCHECK ADDENDUM

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Thank you for your business.
Please contact EDR at 1-800-352-0050
with any questions or comments.

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EXECUTIVE SUMMARY

A search of available environmental records was conducted by Environmental Data Resources, Inc (EDR). The report was designed to assist parties seeking to meet the search requirements of EPA's Standards and Practices for All Appropriate Inquiries (40 CFR Part 312), the ASTM Standard Practice for Environmental Site Assessments (E 1527-13), the ASTM Standard Practice for Environmental Site Assessments for Forestland or Rural Property (E 2247-16), the ASTM Standard Practice for Limited Environmental Due Diligence: Transaction Screen Process (E 1528-14) or custom requirements developed for the evaluation of environmental risk associated with a parcel of real estate.

TARGET PROPERTY INFORMATION

ADDRESS

COSUMNES RIVER BOULEVARD
SACRAMENTO, CA 95832

COORDINATES

Latitude (North):	38.4656300 - 38° 27' 56.26''
Longitude (West):	121.4698970 - 121° 28' 11.62''
Universal Tranverse Mercator:	Zone 10
UTM X (Meters):	633492.1
UTM Y (Meters):	4258382.0
Elevation:	9 ft. above sea level

USGS TOPOGRAPHIC MAP ASSOCIATED WITH TARGET PROPERTY

Target Property Map:	5619710 FLORIN, CA
Version Date:	2012

AERIAL PHOTOGRAPHY IN THIS REPORT

Portions of Photo from:	20140621
Source:	USDA

MAPPED SITES SUMMARY

Target Property Address:
COSUMNES RIVER BOULEVARD
SACRAMENTO, CA 95832

Click on Map ID to see full detail.

MAP ID	SITE NAME	ADDRESS	DATABASE ACRONYMS	RELATIVE ELEVATION	DIST (ft. & mi.) DIRECTION
1	RAYMOND CORONA	7881 CEDAR SPRINGS W	RCRA NonGen / NLR	Higher	323, 0.061, NNE
2	SACRAMENTO CITY UNIF	7864 DETROIT BOULEVA	RCRA NonGen / NLR	Higher	854, 0.162, NNE
3	JOHN BIGLER ELEMENTA	2200 JOHN STILL DRIV	ENVIROSTOR, SCH	Higher	4072, 0.771, NW
4	SMUD PCB SUBSTATION	MEADOWVIEW ROAD AT W	ENVIROSTOR	Higher	4430, 0.839, North

EXECUTIVE SUMMARY

TARGET PROPERTY SEARCH RESULTS

The target property was not listed in any of the databases searched by EDR.

DATABASES WITH NO MAPPED SITES

No mapped sites were found in EDR's search of available ("reasonably ascertainable ") government records either on the target property or within the search radius around the target property for the following databases:

STANDARD ENVIRONMENTAL RECORDS

Federal NPL site list

NPL ---------- National Priority List
Proposed NPL ---------- Proposed National Priority List Sites
NPL LIENS ---------- Federal Superfund Liens

Federal Delisted NPL site list

Delisted NPL ---------- National Priority List Deletions

Federal CERCLIS list

FEDERAL FACILITY ---------- Federal Facility Site Information listing
SEMS ---------- Superfund Enterprise Management System

Federal CERCLIS NFRAP site list

SEMS-ARCHIVE ---------- Superfund Enterprise Management System Archive

Federal RCRA CORRACTS facilities list

CORRACTS ---------- Corrective Action Report

Federal RCRA non-CORRACTS TSD facilities list

RCRA-TSDF ---------- RCRA - Treatment, Storage and Disposal

Federal RCRA generators list

RCRA-LQG ---------- RCRA - Large Quantity Generators
RCRA-SQG ---------- RCRA - Small Quantity Generators
RCRA-VSQG ---------- RCRA - Very Small Quantity Generators (Formerly Conditionally Exempt Small Quantity Generators)

Federal institutional controls / engineering controls registries

LUCIS ---------- Land Use Control Information System

US ENG CONTROLS ..... Engineering Controls Sites List
US INST CONTROLS ..... Institutional Controls Sites List

Federal ERNS list

ERNS ..... Emergency Response Notification System

State- and tribal - equivalent NPL

RESPONSE ..... State Response Sites

State and tribal landfill and/or solid waste disposal site lists

SWF/LF ..... Solid Waste Information System

State and tribal leaking storage tank lists

LUST ..... Geotracker's Leaking Underground Fuel Tank Report
INDIAN LUST ..... Leaking Underground Storage Tanks on Indian Land
CPS-SLIC ..... Statewide SLIC Cases
Sacramento Co. CS ..... Toxic Site Clean-Up List

State and tribal registered storage tank lists

FEMA UST ..... Underground Storage Tank Listing
UST ..... Active UST Facilities
AST ..... Aboveground Petroleum Storage Tank Facilities
INDIAN UST ..... Underground Storage Tanks on Indian Land

State and tribal voluntary cleanup sites

INDIAN VCP ..... Voluntary Cleanup Priority Listing
VCP ..... Voluntary Cleanup Program Properties

State and tribal Brownfields sites

BROWNFIELDS ..... Considered Brownfieds Sites Listing

ADDITIONAL ENVIRONMENTAL RECORDS

Local Brownfield lists

US BROWNFIELDS ..... A Listing of Brownfields Sites

Local Lists of Landfill / Solid Waste Disposal Sites

WMUDS/SWAT ..... Waste Management Unit Database
SWRCY ..... Recycler Database
HAULERS ..... Registered Waste Tire Haulers Listing
INDIAN ODI ..... Report on the Status of Open Dumps on Indian Lands
ODI ..... Open Dump Inventory
DEBRIS REGION 9 ..... Torres Martinez Reservation Illegal Dump Site Locations
IHS OPEN DUMPS ..... Open Dumps on Indian Land

Local Lists of Hazardous waste / Contaminated Sites

US HIST CDL ..... Delisted National Clandestine Laboratory Register

HIST Cal-Sites	Historical Calsites Database
SCH	School Property Evaluation Program
CDL	Clandestine Drug Labs
Toxic Pits	Toxic Pits Cleanup Act Sites
CERS HAZ WASTE	CERS HAZ WASTE
US CDL	National Clandestine Laboratory Register
PFAS	PFAS Contamination Site Location Listing

Local Lists of Registered Storage Tanks

SWEEPS UST	SWEEPS UST Listing
HIST UST	Hazardous Substance Storage Container Database
CERS TANKS	California Environmental Reporting System (CERS) Tanks
CA FID UST	Facility Inventory Database

Local Land Records

LIENS	Environmental Liens Listing
LIENS 2	CERCLA Lien Information
DEED	Deed Restriction Listing

Records of Emergency Release Reports

HMIRS	Hazardous Materials Information Reporting System
CHMIRS	California Hazardous Material Incident Report System
LDS	Land Disposal Sites Listing
MCS	Military Cleanup Sites Listing
SPILLS 90	SPILLS 90 data from FirstSearch

Other Ascertainable Records

FUDS	Formerly Used Defense Sites
DOD	Department of Defense Sites
SCRD DRYCLEANERS	State Coalition for Remediation of Drycleaners Listing
US FIN ASSUR	Financial Assurance Information
EPA WATCH LIST	EPA WATCH LIST
2020 COR ACTION	2020 Corrective Action Program List
TSCA	Toxic Substances Control Act
TRIS	Toxic Chemical Release Inventory System
SSTS	Section 7 Tracking Systems
ROD	Records Of Decision
RMP	Risk Management Plans
RAATS	RCRA Administrative Action Tracking System
PRP	Potentially Responsible Parties
PADS	PCB Activity Database System
ICIS	Integrated Compliance Information System
FTTS	FIFRA/ TSCA Tracking System - FIFRA (Federal Insecticide, Fungicide, & Rodenticide Act)/TSCA (Toxic Substances Control Act)
MLTS	Material Licensing Tracking System
COAL ASH DOE	Steam-Electric Plant Operation Data
COAL ASH EPA	Coal Combustion Residues Surface Impoundments List
PCB TRANSFORMER	PCB Transformer Registration Database
RADINFO	Radiation Information Database
HIST FTTS	FIFRA/TSCA Tracking System Administrative Case Listing
DOT OPS	Incident and Accident Data

CONSENT	Superfund (CERCLA) Consent Decrees
INDIAN RESERV	Indian Reservations
FUSRAP	Formerly Utilized Sites Remedial Action Program
UMTRA	Uranium Mill Tailings Sites
LEAD SMELTERS	Lead Smelter Sites
US AIRS	Aerometric Information Retrieval System Facility Subsystem
US MINES	Mines Master Index File
ABANDONED MINES	Abandoned Mines
FINDS	Facility Index System/Facility Registry System
UXO	Unexploded Ordnance Sites
DOCKET HWC	Hazardous Waste Compliance Docket Listing
ECHO	Enforcement & Compliance History Information
FUELS PROGRAM	EPA Fuels Program Registered Listing
CA BOND EXP. PLAN	Bond Expenditure Plan
Cortese	"Cortese" Hazardous Waste & Substances Sites List
CUPA Listings	CUPA Resources List
DRYCLEANERS	Cleaner Facilities
EMI	Emissions Inventory Data
ENF	Enforcement Action Listing
Financial Assurance	Financial Assurance Information Listing
HAZNET	Facility and Manifest Data
ICE	ICE
HIST CORTESE	Hazardous Waste & Substance Site List
HWP	EnviroStor Permitted Facilities Listing
HWT	Registered Hazardous Waste Transporter Database
MINES	Mines Site Location Listing
Sacramento Co. ML	Master Hazardous Materials Facility List
MWMP	Medical Waste Management Program Listing
NPDES	NPDES Permits Listing
PEST LIC	Pesticide Regulation Licenses Listing
PROC	Certified Processors Database
Notify 65	Proposition 65 Records
UIC	UIC Listing
UIC GEO	UIC GEO (GEOTRACKER)
WASTEWATER PITS	Oil Wastewater Pits Listing
WDS	Waste Discharge System
WIP	Well Investigation Program Case List
MILITARY PRIV SITES	MILITARY PRIV SITES (GEOTRACKER)
PROJECT	PROJECT (GEOTRACKER)
WDR	Waste Discharge Requirements Listing
CIWQS	California Integrated Water Quality System
CERS	CERS
NON-CASE INFO	NON-CASE INFO (GEOTRACKER)
OTHER OIL GAS	OTHER OIL & GAS (GEOTRACKER)
PROD WATER PONDS	PROD WATER PONDS (GEOTRACKER)
SAMPLING POINT	SAMPLING POINT (GEOTRACKER)
WELL STIM PROJ	Well Stimulation Project (GEOTRACKER)
HWTS	Hazardous Waste Tracking System
MINES MRDS	Mineral Resources Data System

EDR HIGH RISK HISTORICAL RECORDS

EDR Exclusive Records

EDR MGP	EDR Proprietary Manufactured Gas Plants

EXECUTIVE SUMMARY

EDR Hist Auto---------- EDR Exclusive Historical Auto Stations
EDR Hist Cleaner---------- EDR Exclusive Historical Cleaners

EDR RECOVERED GOVERNMENT ARCHIVES

Exclusive Recovered Govt. Archives

RGA LF---------- Recovered Government Archive Solid Waste Facilities List
RGA LUST---------- Recovered Government Archive Leaking Underground Storage Tank

SURROUNDING SITES: SEARCH RESULTS

Surrounding sites were identified in the following databases.

Elevations have been determined from the USGS Digital Elevation Model and should be evaluated on a relative (not an absolute) basis. Relative elevation information between sites of close proximity should be field verified. Sites with an elevation equal to or higher than the target property have been differentiated below from sites with an elevation lower than the target property.
Page numbers and map identification numbers refer to the EDR Radius Map report where detailed data on individual sites can be reviewed.

Sites listed in ***bold italics*** are in multiple databases.

Unmappable (orphan) sites are not considered in the foregoing analysis.

STANDARD ENVIRONMENTAL RECORDS

State- and tribal - equivalent CERCLIS

ENVIROSTOR: The Department of Toxic Substances Control's (DTSC's) Site Mitigation and Brownfields Reuse Program's (SMBRP's) EnviroStor database identifes sites that have known contamination or sites for which there may be reasons to investigate further. The database includes the following site types: Federal Superfund sites (National Priorities List (NPL)); State Response, including Military Facilities and State Superfund; Voluntary Cleanup; and School sites. EnviroStor provides similar information to the information that was available in CalSites, and provides additional site information, including, but not limited to, identification of formerly-contaminated properties that have been released for reuse, properties where environmental deed restrictions have been recorded to prevent inappropriate land uses, and risk characterization information that is used to assess potential impacts to public health and the environment at contaminated sites.

A review of the ENVIROSTOR list, as provided by EDR, and dated 07/27/2020 has revealed that there are 2 ENVIROSTOR sites within approximately 1 mile of the target property.

Equal/Higher Elevation	Address	Direction / Distance	Map ID	Page
JOHN BIGLER ELEMENTA Facility Id: 34000006 Status: No Action Required	***2200 JOHN STILL DRIV***	***NW 1/2 - 1 (0.771 mi.)***	***3***	***14***
SMUD PCB SUBSTATION Facility Id: 34490040 Status: Inactive - Needs Evaluation	MEADOWVIEW ROAD AT W	N 1/2 - 1 (0.839 mi.)	4	16

ADDITIONAL ENVIRONMENTAL RECORDS

Other Ascertainable Records

RCRA NonGen / NLR: RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Non-Generators do not presently generate hazardous waste.

A review of the RCRA NonGen / NLR list, as provided by EDR, and dated 06/15/2020 has revealed that there are 2 RCRA NonGen / NLR sites within approximately 0.25 miles of the target property.

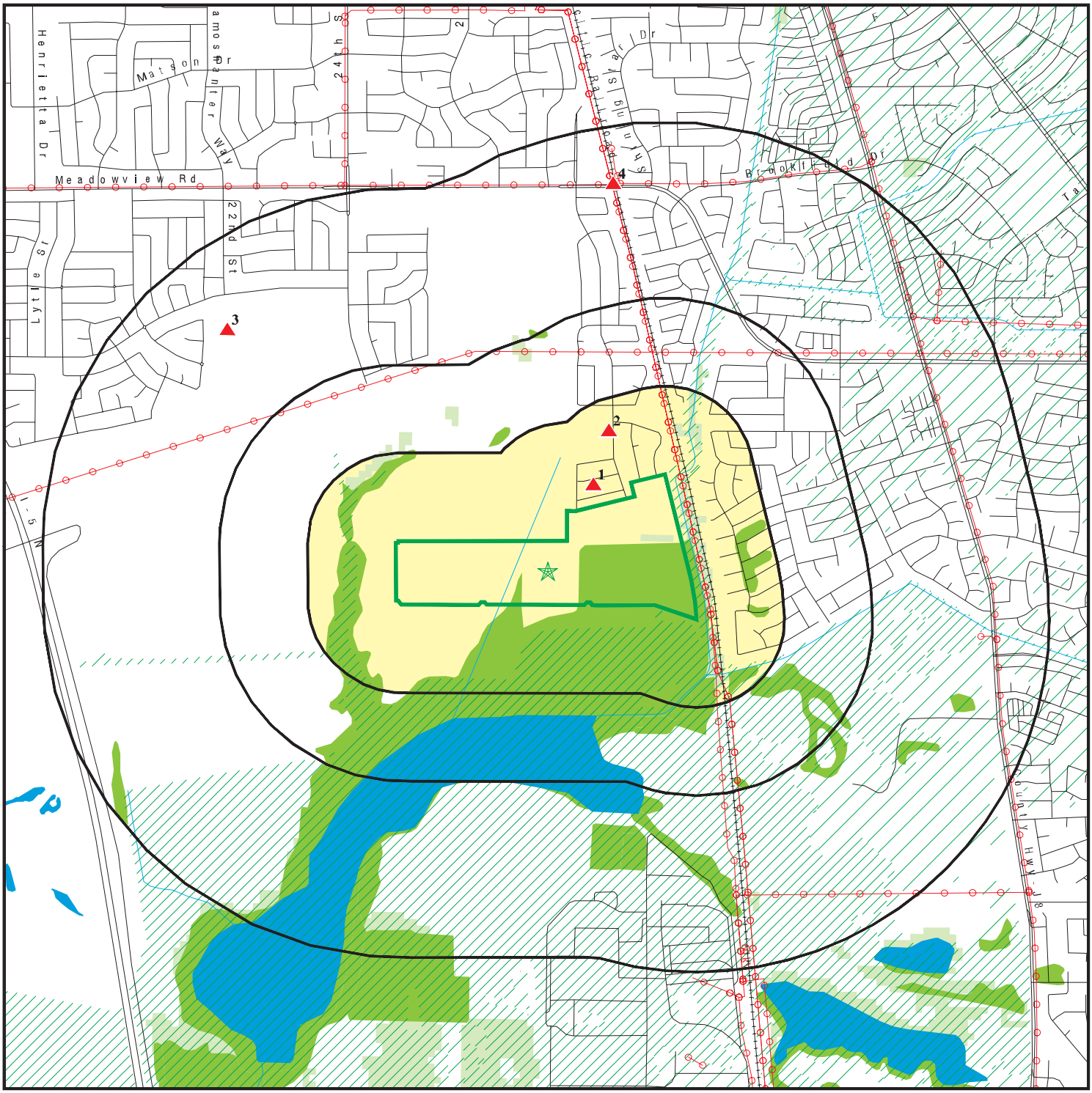
Equal/Higher Elevation	Address	Direction / Distance	Map ID	Page
RAYMOND CORONA EPA ID:: CAC002995715	7881 CEDAR SPRINGS W	NNE 0 - 1/8 (0.061 mi.)	1	9
SACRAMENTO CITY UNIF EPA ID:: CAC002966337	7864 DETROIT BOULEVA	NNE 1/8 - 1/4 (0.162 mi.)	2	11

EXECUTIVE SUMMARY

Due to poor or inadequate address information, the following sites were not mapped. Count: 1 records.

Site Name	Database(s)
POWELL MATERIALS	CPS-SLIC

OVERVIEW MAP - 06275924.2R



Target Property

Sites at elevations higher than or equal to the target property

Sites at elevations lower than the target property

Manufactured Gas Plants

National Priority List Sites

Dept. Defense Sites

0 1/4 1/2 1 Miles

Indian Reservations BIA

Power transmission lines

Special Flood Hazard Area (1%)

0.2% Annual Chance Flood Hazard

National Wetland Inventory

State Wetlands

Areas of Concern

N

This report includes Interactive Map Layers to display and/or hide map information. The legend includes only those icons for the default map view.

SITE NAME:	Stone Beetland	CLIENT:	Engeo Inc.
ADDRESS:	Cosumnes River Boulevard Sacramento CA 95832	CONTACT:	Stephen Blakely
LAT/LONG:	38.46563 / 121.469897	INQUIRY #:	06275924.2r
		DATE:	November 20, 2020 7:07 pm

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DETAIL MAP - 06275924.2R



0 1/8 1/4 1/2 Miles

- Target Property
- Sites at elevations higher than or equal to the target property
- Sites at elevations lower than the target property
- Manufactured Gas Plants
- Sensitive Receptors
- National Priority List Sites
- Dept. Defense Sites
- Indian Reservations BIA
- Power transmission lines
- Special Flood Hazard Area (1%)
- 0.2% Annual Chance Flood Hazard
- National Wetland Inventory
- State Wetlands
- Areas of Concern

This report includes Interactive Map Layers to display and/or hide map information. The legend includes only those icons for the default map view.

SITE NAME:	Stone Beetland	CLIENT:	Engeo Inc.
ADDRESS:	Cosumnes River Boulevard Sacramento CA 95832	CONTACT:	Stephen Blakely
LAT/LONG:	38.46563 / 121.469897	INQUIRY #:	06275924.2r
		DATE:	November 20, 2020 7:08 pm

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MAP FINDINGS SUMMARY

Database	Search Distance (Miles)	Target Property	< 1/8	1/8 - 1/4	1/4 - 1/2	1/2 - 1	> 1	Total Plotted
STANDARD ENVIRONMENTAL RECORDS								
Federal NPL site list								
NPL	1.000		0	0	0	0	NR	0
Proposed NPL	1.000		0	0	0	0	NR	0
NPL LIENS	1.000		0	0	0	0	NR	0
Federal Delisted NPL site list								
Delisted NPL	1.000		0	0	0	0	NR	0
Federal CERCLIS list								
FEDERAL FACILITY	0.500		0	0	0	NR	NR	0
SEMS	0.500		0	0	0	NR	NR	0
Federal CERCLIS NFRAP site list								
SEMS-ARCHIVE	0.500		0	0	0	NR	NR	0
Federal RCRA CORRACTS facilities list								
CORRACTS	1.000		0	0	0	0	NR	0
Federal RCRA non-CORRACTS TSD facilities list								
RCRA-TSDF	0.500		0	0	0	NR	NR	0
Federal RCRA generators list								
RCRA-LQG	0.250		0	0	NR	NR	NR	0
RCRA-SQG	0.250		0	0	NR	NR	NR	0
RCRA-VSQG	0.250		0	0	NR	NR	NR	0
Federal institutional controls / engineering controls registries								
LUCIS	0.500		0	0	0	NR	NR	0
US ENG CONTROLS	0.500		0	0	0	NR	NR	0
US INST CONTROLS	0.500		0	0	0	NR	NR	0
Federal ERNS list								
ERNS	0.001		0	NR	NR	NR	NR	0
State- and tribal - equivalent NPL								
RESPONSE	1.000		0	0	0	0	NR	0
State- and tribal - equivalent CERCLIS								
ENVIROSTOR	1.000		0	0	0	2	NR	2
State and tribal landfill and/or solid waste disposal site lists								
SWF/LF	0.500		0	0	0	NR	NR	0
State and tribal leaking storage tank lists								
LUST	0.500		0	0	0	NR	NR	0

MAP FINDINGS SUMMARY

Database	Search Distance (Miles)	Target Property	< 1/8	1/8 - 1/4	1/4 - 1/2	1/2 - 1	> 1	Total Plotted
INDIAN LUST	0.500		0	0	0	NR	NR	0
CPS-SLIC	0.500		0	0	0	NR	NR	0
Sacramento Co. CS	0.500		0	0	0	NR	NR	0
State and tribal registered storage tank lists								
FEMA UST	0.250		0	0	NR	NR	NR	0
UST	0.250		0	0	NR	NR	NR	0
AST	0.250		0	0	NR	NR	NR	0
INDIAN UST	0.250		0	0	NR	NR	NR	0
State and tribal voluntary cleanup sites								
INDIAN VCP	0.500		0	0	0	NR	NR	0
VCP	0.500		0	0	0	NR	NR	0
State and tribal Brownfields sites								
BROWNFIELDS	0.500		0	0	0	NR	NR	0
ADDITIONAL ENVIRONMENTAL RECORDS								
Local Brownfield lists								
US BROWNFIELDS	0.500		0	0	0	NR	NR	0
Local Lists of Landfill / Solid Waste Disposal Sites								
WMUDS/SWAT	0.500		0	0	0	NR	NR	0
SWRCY	0.500		0	0	0	NR	NR	0
HAULERS	0.001		0	NR	NR	NR	NR	0
INDIAN ODI	0.500		0	0	0	NR	NR	0
ODI	0.500		0	0	0	NR	NR	0
DEBRIS REGION 9	0.500		0	0	0	NR	NR	0
IHS OPEN DUMPS	0.500		0	0	0	NR	NR	0
Local Lists of Hazardous waste / Contaminated Sites								
US HIST CDL	0.001		0	NR	NR	NR	NR	0
HIST Cal-Sites	1.000		0	0	0	0	NR	0
SCH	0.250		0	0	NR	NR	NR	0
CDL	0.001		0	NR	NR	NR	NR	0
Toxic Pits	1.000		0	0	0	0	NR	0
CERS HAZ WASTE	0.250		0	0	NR	NR	NR	0
US CDL	0.001		0	NR	NR	NR	NR	0
PFAS	0.500		0	0	0	NR	NR	0
Local Lists of Registered Storage Tanks								
SWEEPS UST	0.250		0	0	NR	NR	NR	0
HIST UST	0.250		0	0	NR	NR	NR	0
CERS TANKS	0.250		0	0	NR	NR	NR	0
CA FID UST	0.250		0	0	NR	NR	NR	0
Local Land Records								
LIENS	0.001		0	NR	NR	NR	NR	0

MAP FINDINGS SUMMARY

Database	Search Distance (Miles)	Target Property	< 1/8	1/8 - 1/4	1/4 - 1/2	1/2 - 1	> 1	Total Plotted
LIENS 2	0.001		0	NR	NR	NR	NR	0
DEED	0.500		0	0	0	NR	NR	0
Records of Emergency Release Reports								
HMIRS	0.001		0	NR	NR	NR	NR	0
CHMIRS	0.001		0	NR	NR	NR	NR	0
LDS	0.001		0	NR	NR	NR	NR	0
MCS	0.001		0	NR	NR	NR	NR	0
SPILLS 90	0.001		0	NR	NR	NR	NR	0
Other Ascertainable Records								
RCRA NonGen / NLR	0.250		1	1	NR	NR	NR	2
FUDS	1.000		0	0	0	0	NR	0
DOD	1.000		0	0	0	0	NR	0
SCRD DRYCLEANERS	0.500		0	0	0	NR	NR	0
US FIN ASSUR	0.001		0	NR	NR	NR	NR	0
EPA WATCH LIST	0.001		0	NR	NR	NR	NR	0
2020 COR ACTION	0.250		0	0	NR	NR	NR	0
TSCA	0.001		0	NR	NR	NR	NR	0
TRIS	0.001		0	NR	NR	NR	NR	0
SSTS	0.001		0	NR	NR	NR	NR	0
ROD	1.000		0	0	0	0	NR	0
RMP	0.001		0	NR	NR	NR	NR	0
RAATS	0.001		0	NR	NR	NR	NR	0
PRP	0.001		0	NR	NR	NR	NR	0
PADS	0.001		0	NR	NR	NR	NR	0
ICIS	0.001		0	NR	NR	NR	NR	0
FTTS	0.001		0	NR	NR	NR	NR	0
MLTS	0.001		0	NR	NR	NR	NR	0
COAL ASH DOE	0.001		0	NR	NR	NR	NR	0
COAL ASH EPA	0.500		0	0	0	NR	NR	0
PCB TRANSFORMER	0.001		0	NR	NR	NR	NR	0
RADINFO	0.001		0	NR	NR	NR	NR	0
HIST FTTS	0.001		0	NR	NR	NR	NR	0
DOT OPS	0.001		0	NR	NR	NR	NR	0
CONSENT	1.000		0	0	0	0	NR	0
INDIAN RESERV	1.000		0	0	0	0	NR	0
FUSRAP	1.000		0	0	0	0	NR	0
UMTRA	0.500		0	0	0	NR	NR	0
LEAD SMELTERS	0.001		0	NR	NR	NR	NR	0
US AIRS	0.001		0	NR	NR	NR	NR	0
US MINES	0.250		0	0	NR	NR	NR	0
ABANDONED MINES	0.250		0	0	NR	NR	NR	0
FINDS	0.001		0	NR	NR	NR	NR	0
UXO	1.000		0	0	0	0	NR	0
DOCKET HWC	0.001		0	NR	NR	NR	NR	0
ECHO	0.001		0	NR	NR	NR	NR	0
FUELS PROGRAM	0.250		0	0	NR	NR	NR	0
CA BOND EXP. PLAN	1.000		0	0	0	0	NR	0
Cortese	0.500		0	0	0	NR	NR	0
CUPA Listings	0.250		0	0	NR	NR	NR	0

MAP FINDINGS SUMMARY

Database	Search Distance (Miles)	Target Property	< 1/8	1/8 - 1/4	1/4 - 1/2	1/2 - 1	> 1	Total Plotted
DRYCLEANERS	0.250		0	0	NR	NR	NR	0
EMI	0.001		0	NR	NR	NR	NR	0
ENF	0.001		0	NR	NR	NR	NR	0
Financial Assurance	0.001		0	NR	NR	NR	NR	0
HAZNET	0.001		0	NR	NR	NR	NR	0
ICE	0.001		0	NR	NR	NR	NR	0
HIST CORTESE	0.500		0	0	0	NR	NR	0
HWP	1.000		0	0	0	0	NR	0
HWT	0.250		0	0	NR	NR	NR	0
MINES	0.250		0	0	NR	NR	NR	0
Sacramento Co. ML	0.250		0	0	NR	NR	NR	0
MWMP	0.250		0	0	NR	NR	NR	0
NPDES	0.001		0	NR	NR	NR	NR	0
PEST LIC	0.001		0	NR	NR	NR	NR	0
PROC	0.500		0	0	0	NR	NR	0
Notify 65	1.000		0	0	0	0	NR	0
UIC	0.001		0	NR	NR	NR	NR	0
UIC GEO	0.001		0	NR	NR	NR	NR	0
WASTEWATER PITS	0.500		0	0	0	NR	NR	0
WDS	0.001		0	NR	NR	NR	NR	0
WIP	0.250		0	0	NR	NR	NR	0
MILITARY PRIV SITES	0.001		0	NR	NR	NR	NR	0
PROJECT	0.001		0	NR	NR	NR	NR	0
WDR	0.001		0	NR	NR	NR	NR	0
CIWQS	0.001		0	NR	NR	NR	NR	0
CERS	0.001		0	NR	NR	NR	NR	0
NON-CASE INFO	0.001		0	NR	NR	NR	NR	0
OTHER OIL GAS	0.001		0	NR	NR	NR	NR	0
PROD WATER PONDS	0.001		0	NR	NR	NR	NR	0
SAMPLING POINT	0.001		0	NR	NR	NR	NR	0
WELL STIM PROJ	0.001		0	NR	NR	NR	NR	0
HWTS	TP		NR	NR	NR	NR	NR	0
MINES MRDS	0.001		0	NR	NR	NR	NR	0
EDR HIGH RISK HISTORICAL RECORDS								
EDR Exclusive Records								
EDR MGP	1.000		0	0	0	0	NR	0
EDR Hist Auto	0.125		0	NR	NR	NR	NR	0
EDR Hist Cleaner	0.125		0	NR	NR	NR	NR	0
EDR RECOVERED GOVERNMENT ARCHIVES								
Exclusive Recovered Govt. Archives								
RGA LF	0.001		0	NR	NR	NR	NR	0
RGA LUST	0.001		0	NR	NR	NR	NR	0
- Totals --		0	1	1	0	2	0	4

MAP FINDINGS SUMMARY

Database	Search Distance (Miles)	Target Property	< 1/8	1/8 - 1/4	1/4 - 1/2	1/2 - 1	> 1	Total Plotted

NOTES:

TP = Target Property

NR = Not Requested at this Search Distance

Sites may be listed in more than one database

1
NNE
< 1/8
0.061 mi.
323 ft.

RAYMOND CORONA
7881 CEDAR SPRINGS WAY
SACRAMENTO, CA 95832

RCRA NonGen / NLR

1024775783
CAC002995715

Relative:
Higher

Actual:
14 ft.

RCRA NonGen / NLR:

Date Form Received by Agency:	2019-01-08 00:00:00.0
Handler Name:	RAYMOND CORONA
Handler Address:	7881 CEDAR SPRINGS WAY
Handler City,State,Zip:	SACRAMENTO, CA 95832
EPA ID:	CAC002995715
Contact Name:	RAYMOND CORONA
Contact Address:	7881 CEDAR SPRINGS WAY
Contact City,State,Zip:	SACRAMENTO, CA 95832
Contact Telephone:	916-519-6192
Contact Fax:	Not reported
Contact Email:	SACRAMENTO@PWSEI.COM
Contact Title:	Not reported
EPA Region:	09
Land Type:	Not reported
Federal Waste Generator Description:	Not a generator, verified
Non-Notifier:	Not reported
Biennial Report Cycle:	Not reported
Accessibility:	Not reported
Active Site Indicator:	Handler Activities
State District Owner:	Not reported
State District:	Not reported
Mailing Address:	7881 CEDAR SPRINGS WAY
Mailing City,State,Zip:	SACRAMENTO, CA 95832
Owner Name:	RAYMOND CORONA
Owner Type:	Other
Operator Name:	RAYMOND CORONA
Operator Type:	Other
Short-Term Generator Activity:	No
Importer Activity:	No
Mixed Waste Generator:	No
Transporter Activity:	No
Transfer Facility Activity:	No
Recycler Activity with Storage:	No
Small Quantity On-Site Burner Exemption:	No
Smelting Melting and Refining Furnace Exemption:	No
Underground Injection Control:	No
Off-Site Waste Receipt:	No
Universal Waste Indicator:	Yes
Universal Waste Destination Facility:	Yes
Federal Universal Waste:	No
Active Site Fed-Reg Treatment Storage and Disposal Facility:	Not reported
Active Site Converter Treatment storage and Disposal Facility:	Not reported
Active Site State-Reg Treatment Storage and Disposal Facility:	Not reported
Active Site State-Reg Handler:	---
Federal Facility Indicator:	Not reported
Hazardous Secondary Material Indicator:	N
Sub-Part K Indicator:	Not reported
Commercial TSD Indicator:	No
Treatment Storage and Disposal Type:	Not reported
2018 GPRA Permit Baseline:	Not on the Baseline
2018 GPRA Renewals Baseline:	Not on the Baseline
Permit Renewals Workload Universe:	Not reported

RAYMOND CORONA (Continued) **1024775783**

Permit Workload Universe:	Not reported
Permit Progress Universe:	Not reported
Post-Closure Workload Universe:	Not reported
Closure Workload Universe:	Not reported
202 GPRA Corrective Action Baseline:	No
Corrective Action Workload Universe:	No
Subject to Corrective Action Universe:	No
Non-TSDFs Where RCRA CA has Been Imposed Universe:	No
TSDFs Potentially Subject to CA Under 3004 (u)/(v) Universe:	No
TSDFs Only Subject to CA under Discretionary Auth Universe:	No
Corrective Action Priority Ranking:	No NCAPS ranking
Environmental Control Indicator:	No
Institutional Control Indicator:	No
Human Exposure Controls Indicator:	N/A
Groundwater Controls Indicator:	N/A
Operating TSDF Universe:	Not reported
Full Enforcement Universe:	Not reported
Significant Non-Complier Universe:	No
Unaddressed Significant Non-Complier Universe:	No
Addressed Significant Non-Complier Universe:	No
Significant Non-Complier With a Compliance Schedule Universe:	No
Financial Assurance Required:	Not reported
Handler Date of Last Change:	2019-02-22 19:39:43.0
Recognized Trader-Importer:	No
Recognized Trader-Exporter:	No
Importer of Spent Lead Acid Batteries:	No
Exporter of Spent Lead Acid Batteries:	No
Recycler Activity Without Storage:	No
Manifest Broker:	No
Sub-Part P Indicator:	No

Handler - Owner Operator:

Owner/Operator Indicator:	Owner
Owner/Operator Name:	RAYMOND CORONA
Legal Status:	Other
Date Became Current:	Not reported
Date Ended Current:	Not reported
Owner/Operator Address:	7881 CEDAR SPRINGS WAY
Owner/Operator City,State,Zip:	SACRAMENTO, CA 95832
Owner/Operator Telephone:	916-519-6192
Owner/Operator Telephone Ext:	Not reported
Owner/Operator Fax:	Not reported
Owner/Operator Email:	Not reported

Owner/Operator Indicator:	Operator
Owner/Operator Name:	RAYMOND CORONA
Legal Status:	Other
Date Became Current:	Not reported
Date Ended Current:	Not reported
Owner/Operator Address:	7881 CEDAR SPRINGS WAY
Owner/Operator City,State,Zip:	SACRAMENTO, CA 95832
Owner/Operator Telephone:	916-519-6192
Owner/Operator Telephone Ext:	Not reported
Owner/Operator Fax:	Not reported
Owner/Operator Email:	Not reported

RAYMOND CORONA (Continued) **1024775783**

Historic Generators:

Receive Date:	2019-01-08 00:00:00.0
Handler Name:	RAYMOND CORONA
Federal Waste Generator Description:	Not a generator, verified
State District Owner:	Not reported
Large Quantity Handler of Universal Waste:	No
Recognized Trader Importer:	No
Recognized Trader Exporter:	No
Spent Lead Acid Battery Importer:	No
Spent Lead Acid Battery Exporter:	No
Current Record:	Yes
Non Storage Recycler Activity:	Not reported
Electronic Manifest Broker:	Not reported

List of NAICS Codes and Descriptions:

NAICS Code:	56299
NAICS Description:	ALL OTHER WASTE MANAGEMENT SERVICES

Facility Has Received Notices of Violations:

Violations:	No Violations Found

Evaluation Action Summary:

Evaluations:	No Evaluations Found

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2 **SACRAMENTO CITY UNIFIED SCHOOL DISTRICT** **RCRA NonGen / NLR** **1024746565**
NNE **7864 DETROIT BOULEVARD** **CAC002966337**
1/8-1/4 **SACRAMENTO, CA 95832**
0.162 mi.
854 ft.

Relative:
Higher

Actual:
15 ft.

RCRA NonGen / NLR:

Date Form Received by Agency:	2018-06-13 00:00:00.0
Handler Name:	SACRAMENTO CITY UNIFIED SCHOOL DISTRICT
Handler Address:	7864 DETROIT BOULEVARD
Handler City,State,Zip:	SACRAMENTO, CA 95832
EPA ID:	CAC002966337
Contact Name:	KATE BAKER
Contact Address:	425 1ST AVENUE
Contact City,State,Zip:	SACRAMENTO, CA 95818
Contact Telephone:	916-264-4075
Contact Fax:	Not reported
Contact Email:	TINA-ALVAREZ-BEVENS@SCUSD.EDU
Contact Title:	Not reported
EPA Region:	09
Land Type:	Not reported
Federal Waste Generator Description:	Not a generator, verified
Non-Notifier:	Not reported
Biennial Report Cycle:	Not reported
Accessibility:	Not reported
Active Site Indicator:	Handler Activities
State District Owner:	Not reported
State District:	Not reported
Mailing Address:	425 1ST AVENUE
Mailing City,State,Zip:	SACRAMENTO, CA 95818
Owner Name:	SACRAMENTO CITY UNIFIED SCHOOL DIST

SACRAMENTO CITY UNIFIED SCHOOL DISTRICT (Continued) **1024746565**

Owner Type:	Other
Operator Name:	KATE BAKER
Operator Type:	Other
Short-Term Generator Activity:	No
Importer Activity:	No
Mixed Waste Generator:	No
Transporter Activity:	No
Transfer Facility Activity:	No
Recycler Activity with Storage:	No
Small Quantity On-Site Burner Exemption:	No
Smelting Melting and Refining Furnace Exemption:	No
Underground Injection Control:	No
Off-Site Waste Receipt:	No
Universal Waste Indicator:	Yes
Universal Waste Destination Facility:	Yes
Federal Universal Waste:	No
Active Site Fed-Reg Treatment Storage and Disposal Facility:	Not reported
Active Site Converter Treatment storage and Disposal Facility:	Not reported
Active Site State-Reg Treatment Storage and Disposal Facility:	Not reported
Active Site State-Reg Handler:	---
Federal Facility Indicator:	Not reported
Hazardous Secondary Material Indicator:	N
Sub-Part K Indicator:	Not reported
Commercial TSD Indicator:	No
Treatment Storage and Disposal Type:	Not reported
2018 GPRA Permit Baseline:	Not on the Baseline
2018 GPRA Renewals Baseline:	Not on the Baseline
Permit Renewals Workload Universe:	Not reported
Permit Workload Universe:	Not reported
Permit Progress Universe:	Not reported
Post-Closure Workload Universe:	Not reported
Closure Workload Universe:	Not reported
202 GPRA Corrective Action Baseline:	No
Corrective Action Workload Universe:	No
Subject to Corrective Action Universe:	No
Non-TSDFs Where RCRA CA has Been Imposed Universe:	No
TSDFs Potentially Subject to CA Under 3004 (u)/(v) Universe:	No
TSDFs Only Subject to CA under Discretionary Auth Universe:	No
Corrective Action Priority Ranking:	No NCAPS ranking
Environmental Control Indicator:	No
Institutional Control Indicator:	No
Human Exposure Controls Indicator:	N/A
Groundwater Controls Indicator:	N/A
Operating TSDF Universe:	Not reported
Full Enforcement Universe:	Not reported
Significant Non-Complier Universe:	No
Unaddressed Significant Non-Complier Universe:	No
Addressed Significant Non-Complier Universe:	No
Significant Non-Complier With a Compliance Schedule Universe:	No
Financial Assurance Required:	Not reported
Handler Date of Last Change:	2018-08-31 17:13:05.0
Recognized Trader-Importer:	No
Recognized Trader-Exporter:	No
Importer of Spent Lead Acid Batteries:	No
Exporter of Spent Lead Acid Batteries:	No
Recycler Activity Without Storage:	No
Manifest Broker:	No

SACRAMENTO CITY UNIFIED SCHOOL DISTRICT (Continued) **1024746565**

Sub-Part P Indicator: No

Handler - Owner Operator:

Owner/Operator Indicator:	Owner
Owner/Operator Name:	SACRAMENTO CITY UNIFIED SCHOOL DIST
Legal Status:	Other
Date Became Current:	Not reported
Date Ended Current:	Not reported
Owner/Operator Address:	425 1ST AVENUE
Owner/Operator City,State,Zip:	SACRAMENTO, CA 95818
Owner/Operator Telephone:	916-264-4075
Owner/Operator Telephone Ext:	Not reported
Owner/Operator Fax:	Not reported
Owner/Operator Email:	Not reported

Owner/Operator Indicator:	Operator
Owner/Operator Name:	KATE BAKER
Legal Status:	Other
Date Became Current:	Not reported
Date Ended Current:	Not reported
Owner/Operator Address:	425 1ST AVENUE
Owner/Operator City,State,Zip:	SACRAMENTO, CA 95818
Owner/Operator Telephone:	916-264-4075
Owner/Operator Telephone Ext:	Not reported
Owner/Operator Fax:	Not reported
Owner/Operator Email:	Not reported

Historic Generators:

Receive Date:	2018-06-13 00:00:00.0
Handler Name:	SACRAMENTO CITY UNIFIED SCHOOL DISTRICT
Federal Waste Generator Description:	Not a generator, verified
State District Owner:	Not reported
Large Quantity Handler of Universal Waste:	No
Recognized Trader Importer:	No
Recognized Trader Exporter:	No
Spent Lead Acid Battery Importer:	No
Spent Lead Acid Battery Exporter:	No
Current Record:	Yes
Non Storage Recycler Activity:	Not reported
Electronic Manifest Broker:	Not reported

List of NAICS Codes and Descriptions:

NAICS Code:	56299
NAICS Description:	ALL OTHER WASTE MANAGEMENT SERVICES

Facility Has Received Notices of Violations:

Violations:	No Violations Found

Evaluation Action Summary:

Evaluations:	No Evaluations Found

3
NW
1/2-1
0.771 mi.
4072 ft.

JOHN BIGLER ELEMENTARY SITE
2200 JOHN STILL DRIVE
SACRAMENTO, CA 95832

ENVIROSTOR **SCH**
S118756763
N/A

Relative:
Higher

Actual:
17 ft.

ENVIROSTOR:

Name:	JOHN BIGLER ELEMENTARY SITE
Address:	2200 JOHN STILL DRIVE
City,State,Zip:	SACRAMENTO, CA 95832
Facility ID:	34000006
Status:	No Action Required
Status Date:	09/16/2003
Site Code:	104360
Site Type:	School Investigation
Site Type Detailed:	School
Acres:	10
NPL:	NO
Regulatory Agencies:	DTSC
Lead Agency:	DTSC
Program Manager:	Not reported
Supervisor:	Javier Hinojosa
Division Branch:	Northern California Schools & Santa Susana
Assembly:	07
Senate:	06
Special Program:	Not reported
Restricted Use:	NO
Site Mgmt Req:	NONE SPECIFIED
Funding:	School District
Latitude:	38.47686
Longitude:	-121.4873
APN:	NONE SPECIFIED
Past Use:	NONE
Potential COC:	NONE SPECIFIED No Contaminants found
Confirmed COC:	NONE SPECIFIED
Potential Description:	NMA
Alias Name:	JOHN BIGLER ELEMENTARY SITE
Alias Type:	Alternate Name
Alias Name:	SACRAMENTO CITY UNIFIED SCHOOL DISTRICT
Alias Type:	Alternate Name
Alias Name:	SACRAMENTO CITY USD-PRPSD J. BIGLER ELEM
Alias Type:	Alternate Name
Alias Name:	104360
Alias Type:	Project Code (Site Code)
Alias Name:	34000006
Alias Type:	Envirostor ID Number

Completed Info:

Completed Area Name:	PROJECT WIDE
Completed Sub Area Name:	Not reported
Completed Document Type:	Phase 1
Completed Date:	09/16/2003
Comments:	Not reported

Completed Area Name:	PROJECT WIDE
Completed Sub Area Name:	Not reported
Completed Document Type:	Cost Recovery Closeout Memo
Completed Date:	09/19/2003
Comments:	Not reported

JOHN BIGLER ELEMENTARY SITE (Continued) **S118756763**

Future Area Name:	Not reported
Future Sub Area Name:	Not reported
Future Document Type:	Not reported
Future Due Date:	Not reported
Schedule Area Name:	Not reported
Schedule Sub Area Name:	Not reported
Schedule Document Type:	Not reported
Schedule Due Date:	Not reported
Schedule Revised Date:	Not reported

SCH:

Name:	JOHN BIGLER ELEMENTARY SITE
Address:	2200 JOHN STILL DRIVE
City,State,Zip:	SACRAMENTO, CA 95832
Facility ID:	34000006
Site Type:	School Investigation
Site Type Detail:	School
Site Mgmt. Req.:	NONE SPECIFIED
Acres:	10
National Priorities List:	NO
Cleanup Oversight Agencies:	DTSC
Lead Agency:	DTSC
Lead Agency Description:	* DTSC
Project Manager:	Not reported
Supervisor:	Javier Hinojosa
Division Branch:	Northern California Schools & Santa Susana
Site Code:	104360
Assembly:	07
Senate:	06
Special Program Status:	Not reported
Status:	No Action Required
Status Date:	09/16/2003
Restricted Use:	NO
Funding:	School District
Latitude:	38.47686
Longitude:	-121.4873
APN:	NONE SPECIFIED
Past Use:	NONE
Potential COC:	NONE SPECIFIED, No Contaminants found
Confirmed COC:	NONE SPECIFIED
Potential Description:	NMA
Alias Name:	JOHN BIGLER ELEMENTARY SITE
Alias Type:	Alternate Name
Alias Name:	SACRAMENTO CITY UNIFIED SCHOOL DISTRICT
Alias Type:	Alternate Name
Alias Name:	SACRAMENTO CITY USD-PRPSD J. BIGLER ELEM
Alias Type:	Alternate Name
Alias Name:	104360
Alias Type:	Project Code (Site Code)
Alias Name:	34000006
Alias Type:	Envirostor ID Number

Completed Info:

Completed Area Name:	PROJECT WIDE
Completed Sub Area Name:	Not reported
Completed Document Type:	Phase 1

JOHN BIGLER ELEMENTARY SITE (Continued) **S118756763**

Completed Date:	09/16/2003
Comments:	Not reported
Completed Area Name:	PROJECT WIDE
Completed Sub Area Name:	Not reported
Completed Document Type:	Cost Recovery Closeout Memo
Completed Date:	09/19/2003
Comments:	Not reported
Future Area Name:	Not reported
Future Sub Area Name:	Not reported
Future Document Type:	Not reported
Future Due Date:	Not reported
Schedule Area Name:	Not reported
Schedule Sub Area Name:	Not reported
Schedule Document Type:	Not reported
Schedule Due Date:	Not reported
Schedule Revised Date:	Not reported

---

4 **SMUD PCB SUBSTATION SITE #15** **ENVIROSTOR** **S101481781**
North **MEADOWVIEW ROAD AT WESTERN PACIFIC RR** **N/A**
1/2-1 **SACRAMENTO, CA 95814**
0.839 mi.
4430 ft.

Relative:
Higher

Actual:
22 ft.

ENVIROSTOR:

Name:	SMUD PCB SUBSTATION SITE #15
Address:	MEADOWVIEW ROAD AT WESTERN PACIFIC RR
City,State,Zip:	SACRAMENTO, CA 95814
Facility ID:	34490040
Status:	Inactive - Needs Evaluation
Status Date:	02/17/1987
Site Code:	Not reported
Site Type:	Historical
Site Type Detailed:	* Historical
Acres:	Not reported
NPL:	NO
Regulatory Agencies:	NONE SPECIFIED
Lead Agency:	NONE SPECIFIED
Program Manager:	Not reported
Supervisor:	Not reported
Division Branch:	Cleanup Sacramento
Assembly:	09
Senate:	Not reported
Special Program:	Not reported
Restricted Use:	NO
Site Mgmt Req:	NONE SPECIFIED
Funding:	Not reported
Latitude:	0
Longitude:	0
APN:	NONE SPECIFIED
Past Use:	NONE SPECIFIED
Potential COC:	* CONTAMINATED SOIL Polychlorinated biphenyls (PCBs
Confirmed COC:	NONE SPECIFIED
Potential Description:	NONE SPECIFIED
Alias Name:	34490040
Alias Type:	Envirostor ID Number

SMUD PCB SUBSTATION SITE #15 (Continued) **S101481781**

Completed Info:

Completed Area Name:	PROJECT WIDE
Completed Sub Area Name:	Not reported
Completed Document Type:	Site Screening
Completed Date:	02/17/1987
Comments:	SITE SCREENING DONE CONFIRMED PCB RELEASE. NO CLEANUP DOCUMENTED. SAMPLE RESULT=7800 PPM.
Future Area Name:	Not reported
Future Sub Area Name:	Not reported
Future Document Type:	Not reported
Future Due Date:	Not reported
Schedule Area Name:	Not reported
Schedule Sub Area Name:	Not reported
Schedule Document Type:	Not reported
Schedule Due Date:	Not reported
Schedule Revised Date:	Not reported

Count: 1 records. ORPHAN SUMMARY

City	EDR ID	Site Name	Site Address	Zip	Database(s)
SACRAMENTO	S106230388	POWELL MATERIALS	R ST (BETWEEN 25TH AND 26TH)		CPS-SLIC

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

To maintain currency of the following federal and state databases, EDR contacts the appropriate governmental agency on a monthly or quarterly basis, as required.

Number of Days to Update: Provides confirmation that EDR is reporting records that have been updated within 90 days from the date the government agency made the information available to the public.

STANDARD ENVIRONMENTAL RECORDS

Federal NPL site list

NPL: National Priority List

National Priorities List (Superfund). The NPL is a subset of CERCLIS and identifies over 1,200 sites for priority cleanup under the Superfund Program. NPL sites may encompass relatively large areas. As such, EDR provides polygon coverage for over 1,000 NPL site boundaries produced by EPA's Environmental Photographic Interpretation Center (EPIC) and regional EPA offices.

Date of Government Version: 07/29/2020
Date Data Arrived at EDR: 08/03/2020
Date Made Active in Reports: 08/25/2020
Number of Days to Update: 22

Source: EPA
Telephone: N/A
Last EDR Contact: 11/05/2020
Next Scheduled EDR Contact: 01/11/2021
Data Release Frequency: Quarterly

NPL Site Boundaries

Sources:

EPA's Environmental Photographic Interpretation Center (EPIC)
Telephone: 202-564-7333

EPA Region 1
Telephone 617-918-1143

EPA Region 6
Telephone: 214-655-6659

EPA Region 3
Telephone 215-814-5418

EPA Region 7
Telephone: 913-551-7247

EPA Region 4
Telephone 404-562-8033

EPA Region 8
Telephone: 303-312-6774

EPA Region 5
Telephone 312-886-6686

EPA Region 9
Telephone: 415-947-4246

EPA Region 10
Telephone 206-553-8665

Proposed NPL: Proposed National Priority List Sites

A site that has been proposed for listing on the National Priorities List through the issuance of a proposed rule in the Federal Register. EPA then accepts public comments on the site, responds to the comments, and places on the NPL those sites that continue to meet the requirements for listing.

Date of Government Version: 07/29/2020
Date Data Arrived at EDR: 08/03/2020
Date Made Active in Reports: 08/25/2020
Number of Days to Update: 22

Source: EPA
Telephone: N/A
Last EDR Contact: 11/05/2020
Next Scheduled EDR Contact: 01/11/2021
Data Release Frequency: Quarterly

NPL LIENS: Federal Superfund Liens

Federal Superfund Liens. Under the authority granted the USEPA by CERCLA of 1980, the USEPA has the authority to file liens against real property in order to recover remedial action expenditures or when the property owner received notification of potential liability. USEPA compiles a listing of filed notices of Superfund Liens.

Date of Government Version: 10/15/1991
Date Data Arrived at EDR: 02/02/1994
Date Made Active in Reports: 03/30/1994
Number of Days to Update: 56

Source: EPA
Telephone: 202-564-4267
Last EDR Contact: 08/15/2011
Next Scheduled EDR Contact: 11/28/2011
Data Release Frequency: No Update Planned

Federal Delisted NPL site list

Delisted NPL: National Priority List Deletions

The National Oil and Hazardous Substances Pollution Contingency Plan (NCP) establishes the criteria that the EPA uses to delete sites from the NPL. In accordance with 40 CFR 300.425.(e), sites may be deleted from the NPL where no further response is appropriate.

Date of Government Version: 07/29/2020
Date Data Arrived at EDR: 08/03/2020
Date Made Active in Reports: 08/25/2020
Number of Days to Update: 22

Source: EPA
Telephone: N/A
Last EDR Contact: 11/05/2020
Next Scheduled EDR Contact: 01/11/2021
Data Release Frequency: Quarterly

Federal CERCLIS list

FEDERAL FACILITY: Federal Facility Site Information listing

A listing of National Priority List (NPL) and Base Realignment and Closure (BRAC) sites found in the Comprehensive Environmental Response, Compensation and Liability Information System (CERCLIS) Database where EPA Federal Facilities Restoration and Reuse Office is involved in cleanup activities.

Date of Government Version: 04/03/2019
Date Data Arrived at EDR: 04/05/2019
Date Made Active in Reports: 05/14/2019
Number of Days to Update: 39

Source: Environmental Protection Agency
Telephone: 703-603-8704
Last EDR Contact: 10/02/2020
Next Scheduled EDR Contact: 01/11/2021
Data Release Frequency: Varies

SEMS: Superfund Enterprise Management System

SEMS (Superfund Enterprise Management System) tracks hazardous waste sites, potentially hazardous waste sites, and remedial activities performed in support of EPA's Superfund Program across the United States. The list was formerly know as CERCLIS, renamed to SEMS by the EPA in 2015. The list contains data on potentially hazardous waste sites that have been reported to the USEPA by states, municipalities, private companies and private persons, pursuant to Section 103 of the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA). This dataset also contains sites which are either proposed to or on the National Priorities List (NPL) and the sites which are in the screening and assessment phase for possible inclusion on the NPL.

Date of Government Version: 07/29/2020
Date Data Arrived at EDR: 08/03/2020
Date Made Active in Reports: 08/25/2020
Number of Days to Update: 22

Source: EPA
Telephone: 800-424-9346
Last EDR Contact: 11/05/2020
Next Scheduled EDR Contact: 01/25/2021
Data Release Frequency: Quarterly

Federal CERCLIS NFRAP site list

SEMS-ARCHIVE: Superfund Enterprise Management System Archive

SEMS-ARCHIVE (Superfund Enterprise Management System Archive) tracks sites that have no further interest under the Federal Superfund Program based on available information. The list was formerly known as the CERCLIS-NFRAP, renamed to SEMS ARCHIVE by the EPA in 2015. EPA may perform a minimal level of assessment work at a site while it is archived if site conditions change and/or new information becomes available. Archived sites have been removed and archived from the inventory of SEMS sites. Archived status indicates that, to the best of EPA's knowledge, assessment at a site has been completed and that EPA has determined no further steps will be taken to list the site on the National Priorities List (NPL), unless information indicates this decision was not appropriate or other considerations require a recommendation for listing at a later time. The decision does not necessarily mean that there is no hazard associated with a given site; it only means that. based upon available information, the location is not judged to be potential NPL site.

Date of Government Version: 07/29/2020
Date Data Arrived at EDR: 08/03/2020
Date Made Active in Reports: 08/25/2020
Number of Days to Update: 22

Source: EPA
Telephone: 800-424-9346
Last EDR Contact: 11/05/2020
Next Scheduled EDR Contact: 01/25/2021
Data Release Frequency: Quarterly

Federal RCRA CORRACTS facilities list

CORRACTS: Corrective Action Report

CORRACTS identifies hazardous waste handlers with RCRA corrective action activity.

Date of Government Version: 06/15/2020
Date Data Arrived at EDR: 06/22/2020
Date Made Active in Reports: 09/17/2020
Number of Days to Update: 87

Source: EPA
Telephone: 800-424-9346
Last EDR Contact: 09/22/2020
Next Scheduled EDR Contact: 01/04/2021
Data Release Frequency: Quarterly

Federal RCRA non-CORRACTS TSD facilities list

RCRA-TSDF: RCRA - Treatment, Storage and Disposal

RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Transporters are individuals or entities that move hazardous waste from the generator offsite to a facility that can recycle, treat, store, or dispose of the waste. TSDFs treat, store, or dispose of the waste.

Date of Government Version: 06/15/2020
Date Data Arrived at EDR: 06/22/2020
Date Made Active in Reports: 09/18/2020
Number of Days to Update: 88

Source: Environmental Protection Agency
Telephone: (415) 495-8895
Last EDR Contact: 09/22/2020
Next Scheduled EDR Contact: 01/04/2021
Data Release Frequency: Quarterly

Federal RCRA generators list

RCRA-LQG: RCRA - Large Quantity Generators

RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Large quantity generators (LQGs) generate over 1,000 kilograms (kg) of hazardous waste, or over 1 kg of acutely hazardous waste per month.

Date of Government Version: 06/15/2020
Date Data Arrived at EDR: 06/22/2020
Date Made Active in Reports: 09/18/2020
Number of Days to Update: 88

Source: Environmental Protection Agency
Telephone: (415) 495-8895
Last EDR Contact: 09/22/2020
Next Scheduled EDR Contact: 01/04/2021
Data Release Frequency: Quarterly

RCRA-SQG: RCRA - Small Quantity Generators

RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Small quantity generators (SQGs) generate between 100 kg and 1,000 kg of hazardous waste per month.

Date of Government Version: 06/15/2020
Date Data Arrived at EDR: 06/22/2020
Date Made Active in Reports: 09/18/2020
Number of Days to Update: 88

Source: Environmental Protection Agency
Telephone: (415) 495-8895
Last EDR Contact: 09/22/2020
Next Scheduled EDR Contact: 01/04/2021
Data Release Frequency: Quarterly

RCRA-VSQG: RCRA - Very Small Quantity Generators (Formerly Conditionally Exempt Small Quantity Generators)

RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Very small quantity generators (VSQGs) generate less than 100 kg of hazardous waste, or less than 1 kg of acutely hazardous waste per month.

Date of Government Version: 06/15/2020
Date Data Arrived at EDR: 06/22/2020
Date Made Active in Reports: 09/18/2020
Number of Days to Update: 88

Source: Environmental Protection Agency
Telephone: (415) 495-8895
Last EDR Contact: 09/22/2020
Next Scheduled EDR Contact: 01/04/2021
Data Release Frequency: Quarterly

Federal institutional controls / engineering controls registries

LUCIS: Land Use Control Information System

LUCIS contains records of land use control information pertaining to the former Navy Base Realignment and Closure properties.

Date of Government Version: 08/06/2020
Date Data Arrived at EDR: 08/21/2020
Date Made Active in Reports: 11/11/2020
Number of Days to Update: 82

Source: Department of the Navy
Telephone: 843-820-7326
Last EDR Contact: 11/05/2020
Next Scheduled EDR Contact: 02/22/2021
Data Release Frequency: Varies

US ENG CONTROLS: Engineering Controls Sites List

A listing of sites with engineering controls in place. Engineering controls include various forms of caps, building foundations, liners, and treatment methods to create pathway elimination for regulated substances to enter environmental media or effect human health.

Date of Government Version: 10/28/2020
Date Data Arrived at EDR: 11/05/2020
Date Made Active in Reports: 11/18/2020
Number of Days to Update: 13

Source: Environmental Protection Agency
Telephone: 703-603-0695
Last EDR Contact: 11/05/2020
Next Scheduled EDR Contact: 03/08/2021
Data Release Frequency: Varies

US INST CONTROLS: Institutional Controls Sites List

A listing of sites with institutional controls in place. Institutional controls include administrative measures, such as groundwater use restrictions, construction restrictions, property use restrictions, and post remediation care requirements intended to prevent exposure to contaminants remaining on site. Deed restrictions are generally required as part of the institutional controls.

Date of Government Version: 10/28/2020
Date Data Arrived at EDR: 11/05/2020
Date Made Active in Reports: 11/18/2020
Number of Days to Update: 13

Source: Environmental Protection Agency
Telephone: 703-603-0695
Last EDR Contact: 11/05/2020
Next Scheduled EDR Contact: 03/08/2021
Data Release Frequency: Varies

Federal ERNS list

ERNS: Emergency Response Notification System

Emergency Response Notification System. ERNS records and stores information on reported releases of oil and hazardous substances.

Date of Government Version: 06/15/2020
Date Data Arrived at EDR: 06/22/2020
Date Made Active in Reports: 09/17/2020
Number of Days to Update: 87

Source: National Response Center, United States Coast Guard
Telephone: 202-267-2180
Last EDR Contact: 09/22/2020
Next Scheduled EDR Contact: 01/04/2021
Data Release Frequency: Quarterly

State- and tribal - equivalent NPL

RESPONSE: State Response Sites

Identifies confirmed release sites where DTSC is involved in remediation, either in a lead or oversight capacity. These confirmed release sites are generally high-priority and high potential risk.

Date of Government Version: 07/27/2020
Date Data Arrived at EDR: 07/27/2020
Date Made Active in Reports: 10/08/2020
Number of Days to Update: 73

Source: Department of Toxic Substances Control
Telephone: 916-323-3400
Last EDR Contact: 10/26/2020
Next Scheduled EDR Contact: 02/08/2021
Data Release Frequency: Quarterly

State- and tribal - equivalent CERCLIS

ENVIROSTOR: EnviroStor Database

The Department of Toxic Substances Control's (DTSC's) Site Mitigation and Brownfields Reuse Program's (SMBRP's) EnviroStor database identifes sites that have known contamination or sites for which there may be reasons to investigate further. The database includes the following site types: Federal Superfund sites (National Priorities List (NPL)); State Response, including Military Facilities and State Superfund; Voluntary Cleanup; and School sites. EnviroStor provides similar information to the information that was available in CalSites, and provides additional site information, including, but not limited to, identification of formerly-contaminated properties that have been released for reuse, properties where environmental deed restrictions have been recorded to prevent inappropriate land uses, and risk characterization information that is used to assess potential impacts to public health and the environment at contaminated sites.

Date of Government Version: 07/27/2020
Date Data Arrived at EDR: 07/27/2020
Date Made Active in Reports: 10/08/2020
Number of Days to Update: 73

Source: Department of Toxic Substances Control
Telephone: 916-323-3400
Last EDR Contact: 10/26/2020
Next Scheduled EDR Contact: 02/08/2021
Data Release Frequency: Quarterly

State and tribal landfill and/or solid waste disposal site lists

SWF/LF (SWIS): Solid Waste Information System

Active, Closed and Inactive Landfills. SWF/LF records typically contain an inve ntory of solid waste disposal facilities or landfills. These may be active or i nactive facilities or open dumps that failed to meet RCRA Section 4004 criteria for solid waste landfills or disposal sites.

Date of Government Version: 05/11/2020
Date Data Arrived at EDR: 05/12/2020
Date Made Active in Reports: 07/27/2020
Number of Days to Update: 76

Source: Department of Resources Recycling and Recovery
Telephone: 916-341-6320
Last EDR Contact: 11/10/2020
Next Scheduled EDR Contact: 02/22/2021
Data Release Frequency: Quarterly

State and tribal leaking storage tank lists

LUST REG 9: Leaking Underground Storage Tank Report

Orange, Riverside, San Diego counties. For more current information, please refer to the State Water Resources Control Board's LUST database.

Date of Government Version: 03/01/2001
Date Data Arrived at EDR: 04/23/2001
Date Made Active in Reports: 05/21/2001
Number of Days to Update: 28

Source: California Regional Water Quality Control Board San Diego Region (9)
Telephone: 858-637-5595
Last EDR Contact: 09/26/2011
Next Scheduled EDR Contact: 01/09/2012
Data Release Frequency: No Update Planned

LUST REG 8: Leaking Underground Storage Tanks

California Regional Water Quality Control Board Santa Ana Region (8). For more current information, please refer to the State Water Resources Control Board's LUST database.

Date of Government Version: 02/14/2005
Date Data Arrived at EDR: 02/15/2005
Date Made Active in Reports: 03/28/2005
Number of Days to Update: 41

Source: California Regional Water Quality Control Board Santa Ana Region (8)
Telephone: 909-782-4496
Last EDR Contact: 08/15/2011
Next Scheduled EDR Contact: 11/28/2011
Data Release Frequency: No Update Planned

LUST: Leaking Underground Fuel Tank Report (GEOTRACKER)

Leaking Underground Storage Tank (LUST) Sites included in GeoTracker. GeoTracker is the Water Boards data management system for sites that impact, or have the potential to impact, water quality in California, with emphasis on groundwater.

Date of Government Version: 06/08/2020
Date Data Arrived at EDR: 06/09/2020
Date Made Active in Reports: 08/19/2020
Number of Days to Update: 71

Source: State Water Resources Control Board
Telephone: see region list
Last EDR Contact: 09/08/2020
Next Scheduled EDR Contact: 12/21/2020
Data Release Frequency: Quarterly

LUST REG 6L: Leaking Underground Storage Tank Case Listing

For more current information, please refer to the State Water Resources Control Board's LUST database.

Date of Government Version: 09/09/2003
Date Data Arrived at EDR: 09/10/2003
Date Made Active in Reports: 10/07/2003
Number of Days to Update: 27

Source: California Regional Water Quality Control Board Lahontan Region (6)
Telephone: 530-542-5572
Last EDR Contact: 09/12/2011
Next Scheduled EDR Contact: 12/26/2011
Data Release Frequency: No Update Planned

LUST REG 6V: Leaking Underground Storage Tank Case Listing

Leaking Underground Storage Tank locations. Inyo, Kern, Los Angeles, Mono, San Bernardino counties.

Date of Government Version: 06/07/2005
Date Data Arrived at EDR: 06/07/2005
Date Made Active in Reports: 06/29/2005
Number of Days to Update: 22

Source: California Regional Water Quality Control Board Victorville Branch Office (6)
Telephone: 760-241-7365
Last EDR Contact: 09/12/2011
Next Scheduled EDR Contact: 12/26/2011
Data Release Frequency: No Update Planned

LUST REG 1: Active Toxic Site Investigation

Del Norte, Humboldt, Lake, Mendocino, Modoc, Siskiyou, Sonoma, Trinity counties. For more current information, please refer to the State Water Resources Control Board's LUST database.

Date of Government Version: 02/01/2001
Date Data Arrived at EDR: 02/28/2001
Date Made Active in Reports: 03/29/2001
Number of Days to Update: 29

Source: California Regional Water Quality Control Board North Coast (1)
Telephone: 707-570-3769
Last EDR Contact: 08/01/2011
Next Scheduled EDR Contact: 11/14/2011
Data Release Frequency: No Update Planned

LUST REG 2: Fuel Leak List

Leaking Underground Storage Tank locations. Alameda, Contra Costa, Marin, Napa, San Francisco, San Mateo, Santa Clara, Solano, Sonoma counties.

Date of Government Version: 09/30/2004
Date Data Arrived at EDR: 10/20/2004
Date Made Active in Reports: 11/19/2004
Number of Days to Update: 30

Source: California Regional Water Quality Control Board San Francisco Bay Region (2)
Telephone: 510-622-2433
Last EDR Contact: 09/19/2011
Next Scheduled EDR Contact: 01/02/2012
Data Release Frequency: No Update Planned

LUST REG 3: Leaking Underground Storage Tank Database

Leaking Underground Storage Tank locations. Monterey, San Benito, San Luis Obispo, Santa Barbara, Santa Cruz counties.

Date of Government Version: 05/19/2003
Date Data Arrived at EDR: 05/19/2003
Date Made Active in Reports: 06/02/2003
Number of Days to Update: 14

Source: California Regional Water Quality Control Board Central Coast Region (3)
Telephone: 805-542-4786
Last EDR Contact: 07/18/2011
Next Scheduled EDR Contact: 10/31/2011
Data Release Frequency: No Update Planned

LUST REG 4: Underground Storage Tank Leak List

Los Angeles, Ventura counties. For more current information, please refer to the State Water Resources Control Board's LUST database.

Date of Government Version: 09/07/2004
Date Data Arrived at EDR: 09/07/2004
Date Made Active in Reports: 10/12/2004
Number of Days to Update: 35

Source: California Regional Water Quality Control Board Los Angeles Region (4)
Telephone: 213-576-6710
Last EDR Contact: 09/06/2011
Next Scheduled EDR Contact: 12/19/2011
Data Release Frequency: No Update Planned

LUST REG 5: Leaking Underground Storage Tank Database

Leaking Underground Storage Tank locations. Alameda, Alpine, Amador, Butte, Colusa, Contra Costa, Calveras, El Dorado, Fresno, Glenn, Kern, Kings, Lake, Lassen, Madera, Mariposa, Merced, Modoc, Napa, Nevada, Placer, Plumas, Sacramento, San Joaquin, Shasta, Solano, Stanislaus, Sutter, Tehama, Tulare, Tuolumne, Yolo, Yuba counties.

Date of Government Version: 07/01/2008
Date Data Arrived at EDR: 07/22/2008
Date Made Active in Reports: 07/31/2008
Number of Days to Update: 9

Source: California Regional Water Quality Control Board Central Valley Region (5)
Telephone: 916-464-4834
Last EDR Contact: 07/01/2011
Next Scheduled EDR Contact: 10/17/2011
Data Release Frequency: No Update Planned

LUST REG 7: Leaking Underground Storage Tank Case Listing

Leaking Underground Storage Tank locations. Imperial, Riverside, San Diego, Santa Barbara counties.

Date of Government Version: 02/26/2004
Date Data Arrived at EDR: 02/26/2004
Date Made Active in Reports: 03/24/2004
Number of Days to Update: 27

Source: California Regional Water Quality Control Board Colorado River Basin Region (7)
Telephone: 760-776-8943
Last EDR Contact: 08/01/2011
Next Scheduled EDR Contact: 11/14/2011
Data Release Frequency: No Update Planned

INDIAN LUST R5: Leaking Underground Storage Tanks on Indian Land

Leaking underground storage tanks located on Indian Land in Michigan, Minnesota and Wisconsin.

Date of Government Version: 04/14/2020
Date Data Arrived at EDR: 05/20/2020
Date Made Active in Reports: 08/12/2020
Number of Days to Update: 84

Source: EPA, Region 5
Telephone: 312-886-7439
Last EDR Contact: 10/23/2020
Next Scheduled EDR Contact: 02/01/2021
Data Release Frequency: Varies

INDIAN LUST R6: Leaking Underground Storage Tanks on Indian Land

LUSTs on Indian land in New Mexico and Oklahoma.

Date of Government Version: 04/08/2020
Date Data Arrived at EDR: 05/20/2020
Date Made Active in Reports: 08/12/2020
Number of Days to Update: 84

Source: EPA Region 6
Telephone: 214-665-6597
Last EDR Contact: 10/23/2020
Next Scheduled EDR Contact: 02/01/2021
Data Release Frequency: Varies

INDIAN LUST R4: Leaking Underground Storage Tanks on Indian Land
LUSTs on Indian land in Florida, Mississippi and North Carolina.

Date of Government Version: 04/14/2020
Date Data Arrived at EDR: 05/26/2020
Date Made Active in Reports: 08/12/2020
Number of Days to Update: 78
Source: EPA Region 4
Telephone: 404-562-8677
Last EDR Contact: 10/23/2020
Next Scheduled EDR Contact: 02/01/2021
Data Release Frequency: Varies

INDIAN LUST R10: Leaking Underground Storage Tanks on Indian Land
LUSTs on Indian land in Alaska, Idaho, Oregon and Washington.

Date of Government Version: 04/14/2020
Date Data Arrived at EDR: 05/20/2020
Date Made Active in Reports: 08/12/2020
Number of Days to Update: 84
Source: EPA Region 10
Telephone: 206-553-2857
Last EDR Contact: 10/23/2020
Next Scheduled EDR Contact: 02/01/2021
Data Release Frequency: Varies

INDIAN LUST R7: Leaking Underground Storage Tanks on Indian Land
LUSTs on Indian land in Iowa, Kansas, and Nebraska

Date of Government Version: 04/15/2020
Date Data Arrived at EDR: 05/20/2020
Date Made Active in Reports: 08/12/2020
Number of Days to Update: 84
Source: EPA Region 7
Telephone: 913-551-7003
Last EDR Contact: 10/23/2020
Next Scheduled EDR Contact: 02/01/2021
Data Release Frequency: Varies

INDIAN LUST R9: Leaking Underground Storage Tanks on Indian Land
LUSTs on Indian land in Arizona, California, New Mexico and Nevada

Date of Government Version: 04/08/2020
Date Data Arrived at EDR: 05/20/2020
Date Made Active in Reports: 08/12/2020
Number of Days to Update: 84
Source: Environmental Protection Agency
Telephone: 415-972-3372
Last EDR Contact: 10/23/2020
Next Scheduled EDR Contact: 02/01/2021
Data Release Frequency: Varies

INDIAN LUST R1: Leaking Underground Storage Tanks on Indian Land
A listing of leaking underground storage tank locations on Indian Land.

Date of Government Version: 04/29/2020
Date Data Arrived at EDR: 05/20/2020
Date Made Active in Reports: 08/12/2020
Number of Days to Update: 84
Source: EPA Region 1
Telephone: 617-918-1313
Last EDR Contact: 10/23/2020
Next Scheduled EDR Contact: 02/01/2021
Data Release Frequency: Varies

INDIAN LUST R8: Leaking Underground Storage Tanks on Indian Land
LUSTs on Indian land in Colorado, Montana, North Dakota, South Dakota, Utah and Wyoming.

Date of Government Version: 04/14/2020
Date Data Arrived at EDR: 05/20/2020
Date Made Active in Reports: 08/12/2020
Number of Days to Update: 84
Source: EPA Region 8
Telephone: 303-312-6271
Last EDR Contact: 10/23/2020
Next Scheduled EDR Contact: 02/01/2021
Data Release Frequency: Varies

CPS-SLIC: Statewide SLIC Cases (GEOTRACKER)
Cleanup Program Sites (CPS; also known as Site Cleanups [SC] and formerly known as Spills, Leaks, Investigations, and Cleanups [SLIC] sites) included in GeoTracker. GeoTracker is the Water Boards data management system for sites that impact, or have the potential to impact, water quality in California, with emphasis on groundwater.

Date of Government Version: 06/08/2020
Date Data Arrived at EDR: 06/09/2020
Date Made Active in Reports: 08/19/2020
Number of Days to Update: 71
Source: State Water Resources Control Board
Telephone: 866-480-1028
Last EDR Contact: 09/08/2020
Next Scheduled EDR Contact: 12/21/2020
Data Release Frequency: Varies

SLIC REG 1: Active Toxic Site Investigations

The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

Date of Government Version: 04/03/2003
Date Data Arrived at EDR: 04/07/2003
Date Made Active in Reports: 04/25/2003
Number of Days to Update: 18

Source: California Regional Water Quality Control Board, North Coast Region (1)
Telephone: 707-576-2220
Last EDR Contact: 08/01/2011
Next Scheduled EDR Contact: 11/14/2011
Data Release Frequency: No Update Planned

SLIC REG 2: Spills, Leaks, Investigation & Cleanup Cost Recovery Listing

The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

Date of Government Version: 09/30/2004
Date Data Arrived at EDR: 10/20/2004
Date Made Active in Reports: 11/19/2004
Number of Days to Update: 30

Source: Regional Water Quality Control Board San Francisco Bay Region (2)
Telephone: 510-286-0457
Last EDR Contact: 09/19/2011
Next Scheduled EDR Contact: 01/02/2012
Data Release Frequency: No Update Planned

SLIC REG 3: Spills, Leaks, Investigation & Cleanup Cost Recovery Listing

The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

Date of Government Version: 05/18/2006
Date Data Arrived at EDR: 05/18/2006
Date Made Active in Reports: 06/15/2006
Number of Days to Update: 28

Source: California Regional Water Quality Control Board Central Coast Region (3)
Telephone: 805-549-3147
Last EDR Contact: 07/18/2011
Next Scheduled EDR Contact: 10/31/2011
Data Release Frequency: No Update Planned

SLIC REG 4: Spills, Leaks, Investigation & Cleanup Cost Recovery Listing

The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

Date of Government Version: 11/17/2004
Date Data Arrived at EDR: 11/18/2004
Date Made Active in Reports: 01/04/2005
Number of Days to Update: 47

Source: Region Water Quality Control Board Los Angeles Region (4)
Telephone: 213-576-6600
Last EDR Contact: 07/01/2011
Next Scheduled EDR Contact: 10/17/2011
Data Release Frequency: No Update Planned

SLIC REG 5: Spills, Leaks, Investigation & Cleanup Cost Recovery Listing

The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

Date of Government Version: 04/01/2005
Date Data Arrived at EDR: 04/05/2005
Date Made Active in Reports: 04/21/2005
Number of Days to Update: 16

Source: Regional Water Quality Control Board Central Valley Region (5)
Telephone: 916-464-3291
Last EDR Contact: 09/12/2011
Next Scheduled EDR Contact: 12/26/2011
Data Release Frequency: No Update Planned

SLIC REG 6V: Spills, Leaks, Investigation & Cleanup Cost Recovery Listing

The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

Date of Government Version: 05/24/2005
Date Data Arrived at EDR: 05/25/2005
Date Made Active in Reports: 06/16/2005
Number of Days to Update: 22

Source: Regional Water Quality Control Board, Victorville Branch
Telephone: 619-241-6583
Last EDR Contact: 08/15/2011
Next Scheduled EDR Contact: 11/28/2011
Data Release Frequency: No Update Planned

SLIC REG 6L: SLIC Sites
The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

Date of Government Version: 09/07/2004
Date Data Arrived at EDR: 09/07/2004
Date Made Active in Reports: 10/12/2004
Number of Days to Update: 35
Source: California Regional Water Quality Control Board, Lahontan Region
Telephone: 530-542-5574
Last EDR Contact: 08/15/2011
Next Scheduled EDR Contact: 11/28/2011
Data Release Frequency: No Update Planned

SLIC REG 7: SLIC List
The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

Date of Government Version: 11/24/2004
Date Data Arrived at EDR: 11/29/2004
Date Made Active in Reports: 01/04/2005
Number of Days to Update: 36
Source: California Regional Quality Control Board, Colorado River Basin Region
Telephone: 760-346-7491
Last EDR Contact: 08/01/2011
Next Scheduled EDR Contact: 11/14/2011
Data Release Frequency: No Update Planned

SLIC REG 8: Spills, Leaks, Investigation & Cleanup Cost Recovery Listing
The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

Date of Government Version: 04/03/2008
Date Data Arrived at EDR: 04/03/2008
Date Made Active in Reports: 04/14/2008
Number of Days to Update: 11
Source: California Region Water Quality Control Board Santa Ana Region (8)
Telephone: 951-782-3298
Last EDR Contact: 09/12/2011
Next Scheduled EDR Contact: 12/26/2011
Data Release Frequency: No Update Planned

SLIC REG 9: Spills, Leaks, Investigation & Cleanup Cost Recovery Listing
The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

Date of Government Version: 09/10/2007
Date Data Arrived at EDR: 09/11/2007
Date Made Active in Reports: 09/28/2007
Number of Days to Update: 17
Source: California Regional Water Quality Control Board San Diego Region (9)
Telephone: 858-467-2980
Last EDR Contact: 08/08/2011
Next Scheduled EDR Contact: 11/21/2011
Data Release Frequency: No Update Planned

State and tribal registered storage tank lists

FEMA UST: Underground Storage Tank Listing
A listing of all FEMA owned underground storage tanks.

Date of Government Version: 02/01/2020
Date Data Arrived at EDR: 03/19/2020
Date Made Active in Reports: 06/09/2020
Number of Days to Update: 82
Source: FEMA
Telephone: 202-646-5797
Last EDR Contact: 10/01/2020
Next Scheduled EDR Contact: 01/18/2021
Data Release Frequency: Varies

UST: Active UST Facilities
Active UST facilities gathered from the local regulatory agencies

Date of Government Version: 06/08/2020
Date Data Arrived at EDR: 06/09/2020
Date Made Active in Reports: 08/20/2020
Number of Days to Update: 72
Source: SWRCB
Telephone: 916-341-5851
Last EDR Contact: 09/08/2020
Next Scheduled EDR Contact: 12/21/2020
Data Release Frequency: Semi-Annually

UST CLOSURE: Proposed Closure of Underground Storage Tank (UST) Cases

UST cases that are being considered for closure by either the State Water Resources Control Board or the Executive Director have been posted for a 60-day public comment period. UST Case Closures being proposed for consideration by the State Water Resources Control Board. These are primarily UST cases that meet closure criteria under the decisional framework in State Water Board Resolution No. 92-49 and other Board orders. UST Case Closures proposed for consideration by the Executive Director pursuant to State Water Board Resolution No. 2012-0061. These are cases that meet the criteria of the Low-Threat UST Case Closure Policy. UST Case Closure Review Denials and Approved Orders.

Date of Government Version: 05/26/2020
Date Data Arrived at EDR: 06/09/2020
Date Made Active in Reports: 08/20/2020
Number of Days to Update: 72

Source: State Water Resources Control Board
Telephone: 916-327-7844
Last EDR Contact: 09/08/2020
Next Scheduled EDR Contact: 12/21/2020
Data Release Frequency: Varies

MILITARY UST SITES: Military UST Sites (GEOTRACKER)

Military ust sites

Date of Government Version: 06/08/2020
Date Data Arrived at EDR: 06/09/2020
Date Made Active in Reports: 08/19/2020
Number of Days to Update: 71

Source: State Water Resources Control Board
Telephone: 866-480-1028
Last EDR Contact: 09/08/2020
Next Scheduled EDR Contact: 12/21/2020
Data Release Frequency: Varies

AST: Aboveground Petroleum Storage Tank Facilities

A listing of aboveground storage tank petroleum storage tank locations.

Date of Government Version: 07/06/2016
Date Data Arrived at EDR: 07/12/2016
Date Made Active in Reports: 09/19/2016
Number of Days to Update: 69

Source: California Environmental Protection Agency
Telephone: 916-327-5092
Last EDR Contact: 09/15/2020
Next Scheduled EDR Contact: 12/28/2020
Data Release Frequency: Varies

INDIAN UST R1: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 1 (Connecticut, Maine, Massachusetts, New Hampshire, Rhode Island, Vermont and ten Tribal Nations).

Date of Government Version: 04/29/2020
Date Data Arrived at EDR: 05/20/2020
Date Made Active in Reports: 08/12/2020
Number of Days to Update: 84

Source: EPA, Region 1
Telephone: 617-918-1313
Last EDR Contact: 10/23/2020
Next Scheduled EDR Contact: 02/01/2021
Data Release Frequency: Varies

INDIAN UST R8: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 8 (Colorado, Montana, North Dakota, South Dakota, Utah, Wyoming and 27 Tribal Nations).

Date of Government Version: 04/14/2020
Date Data Arrived at EDR: 05/20/2020
Date Made Active in Reports: 08/13/2020
Number of Days to Update: 85

Source: EPA Region 8
Telephone: 303-312-6137
Last EDR Contact: 10/23/2020
Next Scheduled EDR Contact: 02/01/2021
Data Release Frequency: Varies

INDIAN UST R4: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 4 (Alabama, Florida, Georgia, Kentucky, Mississippi, North Carolina, South Carolina, Tennessee and Tribal Nations)

Date of Government Version: 04/14/2020
Date Data Arrived at EDR: 05/26/2020
Date Made Active in Reports: 08/12/2020
Number of Days to Update: 78

Source: EPA Region 4
Telephone: 404-562-9424
Last EDR Contact: 10/23/2020
Next Scheduled EDR Contact: 02/01/2021
Data Release Frequency: Varies

INDIAN UST R5: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 5 (Michigan, Minnesota and Wisconsin and Tribal Nations).

Date of Government Version: 04/14/2020
Date Data Arrived at EDR: 05/20/2020
Date Made Active in Reports: 08/12/2020
Number of Days to Update: 84

Source: EPA Region 5
Telephone: 312-886-6136
Last EDR Contact: 10/23/2020
Next Scheduled EDR Contact: 02/01/2021
Data Release Frequency: Varies

INDIAN UST R10: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 10 (Alaska, Idaho, Oregon, Washington, and Tribal Nations).

Date of Government Version: 04/14/2020
Date Data Arrived at EDR: 05/20/2020
Date Made Active in Reports: 08/12/2020
Number of Days to Update: 84

Source: EPA Region 10
Telephone: 206-553-2857
Last EDR Contact: 10/23/2020
Next Scheduled EDR Contact: 02/01/2021
Data Release Frequency: Varies

INDIAN UST R9: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 9 (Arizona, California, Hawaii, Nevada, the Pacific Islands, and Tribal Nations).

Date of Government Version: 04/08/2020
Date Data Arrived at EDR: 05/20/2020
Date Made Active in Reports: 08/12/2020
Number of Days to Update: 84

Source: EPA Region 9
Telephone: 415-972-3368
Last EDR Contact: 10/23/2020
Next Scheduled EDR Contact: 02/01/2021
Data Release Frequency: Varies

INDIAN UST R7: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 7 (Iowa, Kansas, Missouri, Nebraska, and 9 Tribal Nations).

Date of Government Version: 04/03/2020
Date Data Arrived at EDR: 05/20/2020
Date Made Active in Reports: 08/12/2020
Number of Days to Update: 84

Source: EPA Region 7
Telephone: 913-551-7003
Last EDR Contact: 10/23/2020
Next Scheduled EDR Contact: 02/01/2021
Data Release Frequency: Varies

INDIAN UST R6: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 6 (Louisiana, Arkansas, Oklahoma, New Mexico, Texas and 65 Tribes).

Date of Government Version: 04/08/2020
Date Data Arrived at EDR: 05/20/2020
Date Made Active in Reports: 08/12/2020
Number of Days to Update: 84

Source: EPA Region 6
Telephone: 214-665-7591
Last EDR Contact: 10/23/2020
Next Scheduled EDR Contact: 02/01/2021
Data Release Frequency: Varies

State and tribal voluntary cleanup sites

INDIAN VCP R1: Voluntary Cleanup Priority Listing

A listing of voluntary cleanup priority sites located on Indian Land located in Region 1.

Date of Government Version: 07/27/2015
Date Data Arrived at EDR: 09/29/2015
Date Made Active in Reports: 02/18/2016
Number of Days to Update: 142

Source: EPA, Region 1
Telephone: 617-918-1102
Last EDR Contact: 09/16/2020
Next Scheduled EDR Contact: 01/04/2021
Data Release Frequency: Varies

VCP: Voluntary Cleanup Program Properties

Contains low threat level properties with either confirmed or unconfirmed releases and the project proponents have request that DTSC oversee investigation and/or cleanup activities and have agreed to provide coverage for DTSC's costs.

Date of Government Version: 07/27/2020
Date Data Arrived at EDR: 07/27/2020
Date Made Active in Reports: 10/08/2020
Number of Days to Update: 73

Source: Department of Toxic Substances Control
Telephone: 916-323-3400
Last EDR Contact: 10/26/2020
Next Scheduled EDR Contact: 02/08/2021
Data Release Frequency: Quarterly

INDIAN VCP R7: Voluntary Cleanup Priority Lisitng

A listing of voluntary cleanup priority sites located on Indian Land located in Region 7.

Date of Government Version: 03/20/2008
Date Data Arrived at EDR: 04/22/2008
Date Made Active in Reports: 05/19/2008
Number of Days to Update: 27

Source: EPA, Region 7
Telephone: 913-551-7365
Last EDR Contact: 04/20/2009
Next Scheduled EDR Contact: 07/20/2009
Data Release Frequency: Varies

State and tribal Brownfields sites

BROWNFIELDS: Considered Brownfieds Sites Listing

A listing of sites the SWRCB considers to be Brownfields since these are sites have come to them through the MOA Process.

Date of Government Version: 06/22/2020
Date Data Arrived at EDR: 06/22/2020
Date Made Active in Reports: 09/04/2020
Number of Days to Update: 74

Source: State Water Resources Control Board
Telephone: 916-323-7905
Last EDR Contact: 09/22/2020
Next Scheduled EDR Contact: 01/04/2021
Data Release Frequency: Quarterly

ADDITIONAL ENVIRONMENTAL RECORDS

Local Brownfield lists

US BROWNFIELDS: A Listing of Brownfields Sites

Brownfields are real property, the expansion, redevelopment, or reuse of which may be complicated by the presence or potential presence of a hazardous substance, pollutant, or contaminant. Cleaning up and reinvesting in these properties takes development pressures off of undeveloped, open land, and both improves and protects the environment. Assessment, Cleanup and Redevelopment Exchange System (ACRES) stores information reported by EPA Brownfields grant recipients on brownfields properties assessed or cleaned up with grant funding as well as information on Targeted Brownfields Assessments performed by EPA Regions. A listing of ACRES Brownfield sites is obtained from Cleanups in My Community. Cleanups in My Community provides information on Brownfields properties for which information is reported back to EPA, as well as areas served by Brownfields grant programs.

Date of Government Version: 06/01/2020
Date Data Arrived at EDR: 06/02/2020
Date Made Active in Reports: 06/09/2020
Number of Days to Update: 7

Source: Environmental Protection Agency
Telephone: 202-566-2777
Last EDR Contact: 09/15/2020
Next Scheduled EDR Contact: 12/28/2020
Data Release Frequency: Semi-Annually

Local Lists of Landfill / Solid Waste Disposal Sites

WMUDS/SWAT: Waste Management Unit Database

Waste Management Unit Database System. WMUDS is used by the State Water Resources Control Board staff and the Regional Water Quality Control Boards for program tracking and inventory of waste management units. WMUDS is composed of the following databases: Facility Information, Scheduled Inspections Information, Waste Management Unit Information, SWAT Program Information, SWAT Report Summary Information, SWAT Report Summary Data, Chapter 15 (formerly Subchapter 15) Information, Chapter 15 Monitoring Parameters, TPCA Program Information, RCRA Program Information, Closure Information, and Interested Parties Information.

Date of Government Version: 04/01/2000
Date Data Arrived at EDR: 04/10/2000
Date Made Active in Reports: 05/10/2000
Number of Days to Update: 30

Source: State Water Resources Control Board
Telephone: 916-227-4448
Last EDR Contact: 10/20/2020
Next Scheduled EDR Contact: 02/08/2021
Data Release Frequency: No Update Planned

SWRCY: Recycler Database

A listing of recycling facilities in California.

Date of Government Version: 06/08/2020
Date Data Arrived at EDR: 06/09/2020
Date Made Active in Reports: 08/19/2020
Number of Days to Update: 71

Source: Department of Conservation
Telephone: 916-323-3836
Last EDR Contact: 09/08/2020
Next Scheduled EDR Contact: 12/21/2020
Data Release Frequency: Quarterly

HAULERS: Registered Waste Tire Haulers Listing

A listing of registered waste tire haulers.

Date of Government Version: 05/28/2020
Date Data Arrived at EDR: 05/29/2020
Date Made Active in Reports: 08/12/2020
Number of Days to Update: 75

Source: Integrated Waste Management Board
Telephone: 916-341-6422
Last EDR Contact: 11/05/2020
Next Scheduled EDR Contact: 02/22/2021
Data Release Frequency: Varies

INDIAN ODI: Report on the Status of Open Dumps on Indian Lands

Location of open dumps on Indian land.

Date of Government Version: 12/31/1998
Date Data Arrived at EDR: 12/03/2007
Date Made Active in Reports: 01/24/2008
Number of Days to Update: 52

Source: Environmental Protection Agency
Telephone: 703-308-8245
Last EDR Contact: 10/20/2020
Next Scheduled EDR Contact: 02/08/2021
Data Release Frequency: Varies

DEBRIS REGION 9: Torres Martinez Reservation Illegal Dump Site Locations

A listing of illegal dump sites location on the Torres Martinez Indian Reservation located in eastern Riverside County and northern Imperial County, California.

Date of Government Version: 01/12/2009
Date Data Arrived at EDR: 05/07/2009
Date Made Active in Reports: 09/21/2009
Number of Days to Update: 137

Source: EPA, Region 9
Telephone: 415-947-4219
Last EDR Contact: 10/13/2020
Next Scheduled EDR Contact: 02/01/2021
Data Release Frequency: No Update Planned

ODI: Open Dump Inventory

An open dump is defined as a disposal facility that does not comply with one or more of the Part 257 or Part 258 Subtitle D Criteria.

Date of Government Version: 06/30/1985
Date Data Arrived at EDR: 08/09/2004
Date Made Active in Reports: 09/17/2004
Number of Days to Update: 39

Source: Environmental Protection Agency
Telephone: 800-424-9346
Last EDR Contact: 06/09/2004
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

IHS OPEN DUMPS: Open Dumps on Indian Land

A listing of all open dumps located on Indian Land in the United States.

Date of Government Version: 04/01/2014
Date Data Arrived at EDR: 08/06/2014
Date Made Active in Reports: 01/29/2015
Number of Days to Update: 176

Source: Department of Health & Human Serivces, Indian Health Service
Telephone: 301-443-1452
Last EDR Contact: 10/30/2020
Next Scheduled EDR Contact: 02/08/2021
Data Release Frequency: Varies

Local Lists of Hazardous waste / Contaminated Sites

US HIST CDL: National Clandestine Laboratory Register

A listing of clandestine drug lab locations that have been removed from the DEAs National Clandestine Laboratory Register.

Date of Government Version: 03/18/2020
Date Data Arrived at EDR: 03/19/2020
Date Made Active in Reports: 06/09/2020
Number of Days to Update: 82

Source: Drug Enforcement Administration
Telephone: 202-307-1000
Last EDR Contact: 11/16/2020
Next Scheduled EDR Contact: 03/08/2021
Data Release Frequency: No Update Planned

HIST CAL-SITES: Calsites Database

The Calsites database contains potential or confirmed hazardous substance release properties. In 1996, California EPA reevaluated and significantly reduced the number of sites in the Calsites database. No longer updated by the state agency. It has been replaced by ENVIROSTOR.

Date of Government Version: 08/08/2005
Date Data Arrived at EDR: 08/03/2006
Date Made Active in Reports: 08/24/2006
Number of Days to Update: 21

Source: Department of Toxic Substance Control
Telephone: 916-323-3400
Last EDR Contact: 02/23/2009
Next Scheduled EDR Contact: 05/25/2009
Data Release Frequency: No Update Planned

SCH: School Property Evaluation Program

This category contains proposed and existing school sites that are being evaluated by DTSC for possible hazardous materials contamination. In some cases, these properties may be listed in the CalSites category depending on the level of threat to public health and safety or the environment they pose.

Date of Government Version: 07/27/2020
Date Data Arrived at EDR: 07/27/2020
Date Made Active in Reports: 10/08/2020
Number of Days to Update: 73

Source: Department of Toxic Substances Control
Telephone: 916-323-3400
Last EDR Contact: 10/26/2020
Next Scheduled EDR Contact: 02/08/2021
Data Release Frequency: Quarterly

CDL: Clandestine Drug Labs

A listing of drug lab locations. Listing of a location in this database does not indicate that any illegal drug lab materials were or were not present there, and does not constitute a determination that the location either requires or does not require additional cleanup work.

Date of Government Version: 06/30/2019
Date Data Arrived at EDR: 05/28/2020
Date Made Active in Reports: 08/12/2020
Number of Days to Update: 76

Source: Department of Toxic Substances Control
Telephone: 916-255-6504
Last EDR Contact: 11/11/2020
Next Scheduled EDR Contact: 01/18/2021
Data Release Frequency: Varies

TOXIC PITS: Toxic Pits Cleanup Act Sites

Toxic PITS Cleanup Act Sites. TOXIC PITS identifies sites suspected of containing hazardous substances where cleanup has not yet been completed.

Date of Government Version: 07/01/1995
Date Data Arrived at EDR: 08/30/1995
Date Made Active in Reports: 09/26/1995
Number of Days to Update: 27

Source: State Water Resources Control Board
Telephone: 916-227-4364
Last EDR Contact: 01/26/2009
Next Scheduled EDR Contact: 04/27/2009
Data Release Frequency: No Update Planned

CERS HAZ WASTE: CERS HAZ WASTE

List of sites in the California Environmental Protection Agency (CalEPA) Regulated Site Portal which fall under the Hazardous Chemical Management, Hazardous Waste Onsite Treatment, Household Hazardous Waste Collection, Hazardous Waste Generator, and RCRA LQ HW Generator programs.

Date of Government Version: 07/20/2020
Date Data Arrived at EDR: 07/21/2020
Date Made Active in Reports: 10/07/2020
Number of Days to Update: 78

Source: CalEPA
Telephone: 916-323-2514
Last EDR Contact: 10/19/2020
Next Scheduled EDR Contact: 02/01/2021
Data Release Frequency: Quarterly

US CDL: Clandestine Drug Labs

A listing of clandestine drug lab locations. The U.S. Department of Justice ("the Department") provides this web site as a public service. It contains addresses of some locations where law enforcement agencies reported they found chemicals or other items that indicated the presence of either clandestine drug laboratories or dumpsites. In most cases, the source of the entries is not the Department, and the Department has not verified the entry and does not guarantee its accuracy. Members of the public must verify the accuracy of all entries by, for example, contacting local law enforcement and local health departments.

Date of Government Version: 03/18/2020
Date Data Arrived at EDR: 03/19/2020
Date Made Active in Reports: 06/09/2020
Number of Days to Update: 82

Source: Drug Enforcement Administration
Telephone: 202-307-1000
Last EDR Contact: 11/16/2020
Next Scheduled EDR Contact: 03/08/2021
Data Release Frequency: Quarterly

PFAS: PFAS Contamination Site Location Listing

A listing of PFAS contaminated sites included in the GeoTracker database.

Date of Government Version: 06/08/2020
Date Data Arrived at EDR: 06/09/2020
Date Made Active in Reports: 08/19/2020
Number of Days to Update: 71

Source: State Water Resources Control Board
Telephone: 866-480-1028
Last EDR Contact: 09/08/2020
Next Scheduled EDR Contact: 12/21/2020
Data Release Frequency: Varies

Local Lists of Registered Storage Tanks

SWEEPS UST: SWEEPS UST Listing

Statewide Environmental Evaluation and Planning System. This underground storage tank listing was updated and maintained by a company contacted by the SWRCB in the early 1990's. The listing is no longer updated or maintained. The local agency is the contact for more information on a site on the SWEEPS list.

Date of Government Version: 06/01/1994
Date Data Arrived at EDR: 07/07/2005
Date Made Active in Reports: 08/11/2005
Number of Days to Update: 35

Source: State Water Resources Control Board
Telephone: N/A
Last EDR Contact: 06/03/2005
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

UST MENDOCINO: Mendocino County UST Database

A listing of underground storage tank locations in Mendocino County.

Date of Government Version: 05/20/2020
Date Data Arrived at EDR: 05/20/2020
Date Made Active in Reports: 08/06/2020
Number of Days to Update: 78

Source: Department of Public Health
Telephone: 707-463-4466
Last EDR Contact: 11/16/2020
Next Scheduled EDR Contact: 03/08/2021
Data Release Frequency: Annually

HIST UST: Hazardous Substance Storage Container Database

The Hazardous Substance Storage Container Database is a historical listing of UST sites. Refer to local/county source for current data.

Date of Government Version: 10/15/1990
Date Data Arrived at EDR: 01/25/1991
Date Made Active in Reports: 02/12/1991
Number of Days to Update: 18

Source: State Water Resources Control Board
Telephone: 916-341-5851
Last EDR Contact: 07/26/2001
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

SAN FRANCISCO AST: Aboveground Storage Tank Site Listing
Aboveground storage tank sites

Date of Government Version: 08/03/2020
Date Data Arrived at EDR: 08/05/2020
Date Made Active in Reports: 10/22/2020
Number of Days to Update: 78

Source: San Francisco County Department of Public Health
Telephone: 415-252-3896
Last EDR Contact: 10/28/2020
Next Scheduled EDR Contact: 02/15/2021
Data Release Frequency: Varies

CERS TANKS: California Environmental Reporting System (CERS) Tanks
List of sites in the California Environmental Protection Agency (CalEPA) Regulated Site Portal which fall under the Aboveground Petroleum Storage and Underground Storage Tank regulatory programs.

Date of Government Version: 07/20/2020
Date Data Arrived at EDR: 07/21/2020
Date Made Active in Reports: 10/07/2020
Number of Days to Update: 78

Source: California Environmental Protection Agency
Telephone: 916-323-2514
Last EDR Contact: 10/19/2020
Next Scheduled EDR Contact: 02/01/2021
Data Release Frequency: Quarterly

CA FID UST: Facility Inventory Database
The Facility Inventory Database (FID) contains a historical listing of active and inactive underground storage tank locations from the State Water Resource Control Board. Refer to local/county source for current data.

Date of Government Version: 10/31/1994
Date Data Arrived at EDR: 09/05/1995
Date Made Active in Reports: 09/29/1995
Number of Days to Update: 24

Source: California Environmental Protection Agency
Telephone: 916-341-5851
Last EDR Contact: 12/28/1998
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

Local Land Records

LIENS: Environmental Liens Listing
A listing of property locations with environmental liens for California where DTSC is a lien holder.

Date of Government Version: 08/26/2020
Date Data Arrived at EDR: 08/28/2020
Date Made Active in Reports: 11/17/2020
Number of Days to Update: 81

Source: Department of Toxic Substances Control
Telephone: 916-323-3400
Last EDR Contact: 08/25/2020
Next Scheduled EDR Contact: 12/14/2020
Data Release Frequency: Varies

LIENS 2: CERCLA Lien Information
A Federal CERCLA ('Superfund') lien can exist by operation of law at any site or property at which EPA has spent Superfund monies. These monies are spent to investigate and address releases and threatened releases of contamination. CERCLIS provides information as to the identity of these sites and properties.

Date of Government Version: 07/29/2020
Date Data Arrived at EDR: 08/03/2020
Date Made Active in Reports: 08/25/2020
Number of Days to Update: 22

Source: Environmental Protection Agency
Telephone: 202-564-6023
Last EDR Contact: 11/05/2020
Next Scheduled EDR Contact: 01/11/2021
Data Release Frequency: Semi-Annually

DEED: Deed Restriction Listing

Site Mitigation and Brownfields Reuse Program Facility Sites with Deed Restrictions & Hazardous Waste Management Program Facility Sites with Deed / Land Use Restriction. The DTSC Site Mitigation and Brownfields Reuse Program (SMBRP) list includes sites cleaned up under the program's oversight and generally does not include current or former hazardous waste facilities that required a hazardous waste facility permit. The list represents deed restrictions that are active. Some sites have multiple deed restrictions. The DTSC Hazardous Waste Management Program (HWMP) has developed a list of current or former hazardous waste facilities that have a recorded land use restriction at the local county recorder's office. The land use restrictions on this list were required by the DTSC HWMP as a result of the presence of hazardous substances that remain on site after the facility (or part of the facility) has been closed or cleaned up. The types of land use restriction include deed notice, deed restriction, or a land use restriction that binds current and future owners.

Date of Government Version: 06/01/2020
Date Data Arrived at EDR: 06/02/2020
Date Made Active in Reports: 08/14/2020
Number of Days to Update: 73
Source: DTSC and SWRCB
Telephone: 916-323-3400
Last EDR Contact: 08/31/2020
Next Scheduled EDR Contact: 12/14/2020
Data Release Frequency: Semi-Annually

Records of Emergency Release Reports

HMIRS: Hazardous Materials Information Reporting System

Hazardous Materials Incident Report System. HMIRS contains hazardous material spill incidents reported to DOT.

Date of Government Version: 06/22/2020
Date Data Arrived at EDR: 06/23/2020
Date Made Active in Reports: 09/17/2020
Number of Days to Update: 86
Source: U.S. Department of Transportation
Telephone: 202-366-4555
Last EDR Contact: 09/22/2020
Next Scheduled EDR Contact: 01/04/2021
Data Release Frequency: Quarterly

CHMIRS: California Hazardous Material Incident Report System

California Hazardous Material Incident Reporting System. CHMIRS contains information on reported hazardous material incidents (accidental releases or spills).

Date of Government Version: 06/30/2020
Date Data Arrived at EDR: 07/21/2020
Date Made Active in Reports: 10/07/2020
Number of Days to Update: 78
Source: Office of Emergency Services
Telephone: 916-845-8400
Last EDR Contact: 10/19/2020
Next Scheduled EDR Contact: 02/01/2021
Data Release Frequency: Semi-Annually

LDS: Land Disposal Sites Listing (GEOTRACKER)

Land Disposal sites (Landfills) included in GeoTracker. GeoTracker is the Water Boards data management system for sites that impact, or have the potential to impact, water quality in California, with emphasis on groundwater.

Date of Government Version: 06/08/2020
Date Data Arrived at EDR: 06/09/2020
Date Made Active in Reports: 08/19/2020
Number of Days to Update: 71
Source: State Water Qualilty Control Board
Telephone: 866-480-1028
Last EDR Contact: 09/08/2020
Next Scheduled EDR Contact: 12/21/2020
Data Release Frequency: Quarterly

MCS: Military Cleanup Sites Listing (GEOTRACKER)

Military sites (consisting of: Military UST sites; Military Privatized sites; and Military Cleanup sites [formerly known as DoD non UST]) included in GeoTracker. GeoTracker is the Water Boards data management system for sites that impact, or have the potential to impact, water quality in California, with emphasis on groundwater.

Date of Government Version: 06/08/2020
Date Data Arrived at EDR: 06/09/2020
Date Made Active in Reports: 08/19/2020
Number of Days to Update: 71
Source: State Water Resources Control Board
Telephone: 866-480-1028
Last EDR Contact: 09/08/2020
Next Scheduled EDR Contact: 12/21/2020
Data Release Frequency: Quarterly

SPILLS 90: SPILLS90 data from FirstSearch

Spills 90 includes those spill and release records available exclusively from FirstSearch databases. Typically, they may include chemical, oil and/or hazardous substance spills recorded after 1990. Duplicate records that are already included in EDR incident and release records are not included in Spills 90.

Date of Government Version: 06/06/2012
Date Data Arrived at EDR: 01/03/2013
Date Made Active in Reports: 02/22/2013
Number of Days to Update: 50

Source: FirstSearch
Telephone: N/A
Last EDR Contact: 01/03/2013
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

Other Ascertainable Records

RCRA NonGen / NLR: RCRA - Non Generators / No Longer Regulated

RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Non-Generators do not presently generate hazardous waste.

Date of Government Version: 06/15/2020
Date Data Arrived at EDR: 06/22/2020
Date Made Active in Reports: 09/18/2020
Number of Days to Update: 88

Source: Environmental Protection Agency
Telephone: (415) 495-8895
Last EDR Contact: 09/22/2020
Next Scheduled EDR Contact: 01/04/2021
Data Release Frequency: Quarterly

FUDS: Formerly Used Defense Sites

The listing includes locations of Formerly Used Defense Sites properties where the US Army Corps of Engineers is actively working or will take necessary cleanup actions.

Date of Government Version: 08/05/2020
Date Data Arrived at EDR: 08/13/2020
Date Made Active in Reports: 10/21/2020
Number of Days to Update: 69

Source: U.S. Army Corps of Engineers
Telephone: 202-528-4285
Last EDR Contact: 11/17/2020
Next Scheduled EDR Contact: 03/01/2021
Data Release Frequency: Varies

DOD: Department of Defense Sites

This data set consists of federally owned or administered lands, administered by the Department of Defense, that have any area equal to or greater than 640 acres of the United States, Puerto Rico, and the U.S. Virgin Islands.

Date of Government Version: 12/31/2005
Date Data Arrived at EDR: 11/10/2006
Date Made Active in Reports: 01/11/2007
Number of Days to Update: 62

Source: USGS
Telephone: 888-275-8747
Last EDR Contact: 10/13/2020
Next Scheduled EDR Contact: 01/25/2021
Data Release Frequency: Semi-Annually

FEDLAND: Federal and Indian Lands

Federally and Indian administrated lands of the United States. Lands included are administrated by: Army Corps of Engineers, Bureau of Reclamation, National Wild and Scenic River, National Wildlife Refuge, Public Domain Land, Wilderness, Wilderness Study Area, Wildlife Management Area, Bureau of Indian Affairs, Bureau of Land Management, Department of Justice, Forest Service, Fish and Wildlife Service, National Park Service.

Date of Government Version: 04/02/2018
Date Data Arrived at EDR: 04/11/2018
Date Made Active in Reports: 11/06/2019
Number of Days to Update: 574

Source: U.S. Geological Survey
Telephone: 888-275-8747
Last EDR Contact: 10/08/2020
Next Scheduled EDR Contact: 01/18/2021
Data Release Frequency: N/A

SCRD DRYCLEANERS: State Coalition for Remediation of Drycleaners Listing

The State Coalition for Remediation of Drycleaners was established in 1998, with support from the U.S. EPA Office of Superfund Remediation and Technology Innovation. It is comprised of representatives of states with established drycleaner remediation programs. Currently the member states are Alabama, Connecticut, Florida, Illinois, Kansas, Minnesota, Missouri, North Carolina, Oregon, South Carolina, Tennessee, Texas, and Wisconsin.

Date of Government Version: 01/01/2017
Date Data Arrived at EDR: 02/03/2017
Date Made Active in Reports: 04/07/2017
Number of Days to Update: 63

Source: Environmental Protection Agency
Telephone: 615-532-8599
Last EDR Contact: 11/09/2020
Next Scheduled EDR Contact: 02/22/2021
Data Release Frequency: Varies

US FIN ASSUR: Financial Assurance Information

All owners and operators of facilities that treat, store, or dispose of hazardous waste are required to provide proof that they will have sufficient funds to pay for the clean up, closure, and post-closure care of their facilities.

Date of Government Version: 06/15/2020
Date Data Arrived at EDR: 06/22/2020
Date Made Active in Reports: 09/10/2020
Number of Days to Update: 80

Source: Environmental Protection Agency
Telephone: 202-566-1917
Last EDR Contact: 09/22/2020
Next Scheduled EDR Contact: 01/04/2021
Data Release Frequency: Quarterly

EPA WATCH LIST: EPA WATCH LIST

EPA maintains a "Watch List" to facilitate dialogue between EPA, state and local environmental agencies on enforcement matters relating to facilities with alleged violations identified as either significant or high priority. Being on the Watch List does not mean that the facility has actually violated the law only that an investigation by EPA or a state or local environmental agency has led those organizations to allege that an unproven violation has in fact occurred. Being on the Watch List does not represent a higher level of concern regarding the alleged violations that were detected, but instead indicates cases requiring additional dialogue between EPA, state and local agencies - primarily because of the length of time the alleged violation has gone unaddressed or unresolved.

Date of Government Version: 08/30/2013
Date Data Arrived at EDR: 03/21/2014
Date Made Active in Reports: 06/17/2014
Number of Days to Update: 88

Source: Environmental Protection Agency
Telephone: 617-520-3000
Last EDR Contact: 11/02/2020
Next Scheduled EDR Contact: 02/15/2021
Data Release Frequency: Quarterly

2020 COR ACTION: 2020 Corrective Action Program List

The EPA has set ambitious goals for the RCRA Corrective Action program by creating the 2020 Corrective Action Universe. This RCRA cleanup baseline includes facilities expected to need corrective action. The 2020 universe contains a wide variety of sites. Some properties are heavily contaminated while others were contaminated but have since been cleaned up. Still others have not been fully investigated yet, and may require little or no remediation. Inclusion in the 2020 Universe does not necessarily imply failure on the part of a facility to meet its RCRA obligations.

Date of Government Version: 09/30/2017
Date Data Arrived at EDR: 05/08/2018
Date Made Active in Reports: 07/20/2018
Number of Days to Update: 73

Source: Environmental Protection Agency
Telephone: 703-308-4044
Last EDR Contact: 11/06/2020
Next Scheduled EDR Contact: 02/15/2021
Data Release Frequency: Varies

TSCA: Toxic Substances Control Act

Toxic Substances Control Act. TSCA identifies manufacturers and importers of chemical substances included on the TSCA Chemical Substance Inventory list. It includes data on the production volume of these substances by plant site.

Date of Government Version: 12/31/2016
Date Data Arrived at EDR: 06/17/2020
Date Made Active in Reports: 09/10/2020
Number of Days to Update: 85

Source: EPA
Telephone: 202-260-5521
Last EDR Contact: 09/18/2020
Next Scheduled EDR Contact: 12/28/2020
Data Release Frequency: Every 4 Years

TRIS: Toxic Chemical Release Inventory System

Toxic Release Inventory System. TRIS identifies facilities which release toxic chemicals to the air, water and land in reportable quantities under SARA Title III Section 313.

Date of Government Version: 12/31/2018
Date Data Arrived at EDR: 08/14/2020
Date Made Active in Reports: 11/04/2020
Number of Days to Update: 82

Source: EPA
Telephone: 202-566-0250
Last EDR Contact: 11/17/2020
Next Scheduled EDR Contact: 03/01/2021
Data Release Frequency: Annually

SSTS: Section 7 Tracking Systems

Section 7 of the Federal Insecticide, Fungicide and Rodenticide Act, as amended (92 Stat. 829) requires all registered pesticide-producing establishments to submit a report to the Environmental Protection Agency by March 1st each year. Each establishment must report the types and amounts of pesticides, active ingredients and devices being produced, and those having been produced and sold or distributed in the past year.

Date of Government Version: 07/20/2020
Date Data Arrived at EDR: 07/21/2020
Date Made Active in Reports: 10/08/2020
Number of Days to Update: 79

Source: EPA
Telephone: 202-564-4203
Last EDR Contact: 10/19/2020
Next Scheduled EDR Contact: 02/01/2021
Data Release Frequency: Annually

ROD: Records Of Decision

Record of Decision. ROD documents mandate a permanent remedy at an NPL (Superfund) site containing technical and health information to aid in the cleanup.

Date of Government Version: 07/29/2020
Date Data Arrived at EDR: 08/03/2020
Date Made Active in Reports: 08/25/2020
Number of Days to Update: 22

Source: EPA
Telephone: 703-416-0223
Last EDR Contact: 11/05/2020
Next Scheduled EDR Contact: 12/14/2020
Data Release Frequency: Annually

RMP: Risk Management Plans

When Congress passed the Clean Air Act Amendments of 1990, it required EPA to publish regulations and guidance for chemical accident prevention at facilities using extremely hazardous substances. The Risk Management Program Rule (RMP Rule) was written to implement Section 112(r) of these amendments. The rule, which built upon existing industry codes and standards, requires companies of all sizes that use certain flammable and toxic substances to develop a Risk Management Program, which includes a(n): Hazard assessment that details the potential effects of an accidental release, an accident history of the last five years, and an evaluation of worst-case and alternative accidental releases; Prevention program that includes safety precautions and maintenance, monitoring, and employee training measures; and Emergency response program that spells out emergency health care, employee training measures and procedures for informing the public and response agencies (e.g the fire department) should an accident occur.

Date of Government Version: 07/24/2020
Date Data Arrived at EDR: 08/03/2020
Date Made Active in Reports: 10/21/2020
Number of Days to Update: 79

Source: Environmental Protection Agency
Telephone: 202-564-8600
Last EDR Contact: 10/14/2020
Next Scheduled EDR Contact: 02/01/2021
Data Release Frequency: Varies

RAATS: RCRA Administrative Action Tracking System

RCRA Administration Action Tracking System. RAATS contains records based on enforcement actions issued under RCRA pertaining to major violators and includes administrative and civil actions brought by the EPA. For administration actions after September 30, 1995, data entry in the RAATS database was discontinued. EPA will retain a copy of the database for historical records. It was necessary to terminate RAATS because a decrease in agency resources made it impossible to continue to update the information contained in the database.

Date of Government Version: 04/17/1995
Date Data Arrived at EDR: 07/03/1995
Date Made Active in Reports: 08/07/1995
Number of Days to Update: 35

Source: EPA
Telephone: 202-564-4104
Last EDR Contact: 06/02/2008
Next Scheduled EDR Contact: 09/01/2008
Data Release Frequency: No Update Planned

PRP: Potentially Responsible Parties
A listing of verified Potentially Responsible Parties

Date of Government Version: 04/27/2020
Date Data Arrived at EDR: 05/06/2020
Date Made Active in Reports: 06/09/2020
Number of Days to Update: 34

Source: EPA
Telephone: 202-564-6023
Last EDR Contact: 11/05/2020
Next Scheduled EDR Contact: 02/15/2021
Data Release Frequency: Quarterly

PADS: PCB Activity Database System
PCB Activity Database. PADS Identifies generators, transporters, commercial storers and/or brokers and disposers of PCB's who are required to notify the EPA of such activities.

Date of Government Version: 10/09/2019
Date Data Arrived at EDR: 10/11/2019
Date Made Active in Reports: 12/20/2019
Number of Days to Update: 70

Source: EPA
Telephone: 202-566-0500
Last EDR Contact: 10/02/2020
Next Scheduled EDR Contact: 01/18/2021
Data Release Frequency: Annually

ICIS: Integrated Compliance Information System
The Integrated Compliance Information System (ICIS) supports the information needs of the national enforcement and compliance program as well as the unique needs of the National Pollutant Discharge Elimination System (NPDES) program.

Date of Government Version: 11/18/2016
Date Data Arrived at EDR: 11/23/2016
Date Made Active in Reports: 02/10/2017
Number of Days to Update: 79

Source: Environmental Protection Agency
Telephone: 202-564-2501
Last EDR Contact: 10/01/2020
Next Scheduled EDR Contact: 01/18/2021
Data Release Frequency: Quarterly

FTTS: FIFRA/ TSCA Tracking System - FIFRA (Federal Insecticide, Fungicide, & Rodenticide Act)/TSCA (Toxic Substances Control Act)
FTTS tracks administrative cases and pesticide enforcement actions and compliance activities related to FIFRA, TSCA and EPCRA (Emergency Planning and Community Right-to-Know Act). To maintain currency, EDR contacts the Agency on a quarterly basis.

Date of Government Version: 04/09/2009
Date Data Arrived at EDR: 04/16/2009
Date Made Active in Reports: 05/11/2009
Number of Days to Update: 25

Source: EPA/Office of Prevention, Pesticides and Toxic Substances
Telephone: 202-566-1667
Last EDR Contact: 08/18/2017
Next Scheduled EDR Contact: 12/04/2017
Data Release Frequency: No Update Planned

FTTS INSP: FIFRA/ TSCA Tracking System - FIFRA (Federal Insecticide, Fungicide, & Rodenticide Act)/TSCA (Toxic Substances Control Act)
A listing of FIFRA/TSCA Tracking System (FTTS) inspections and enforcements.

Date of Government Version: 04/09/2009
Date Data Arrived at EDR: 04/16/2009
Date Made Active in Reports: 05/11/2009
Number of Days to Update: 25

Source: EPA
Telephone: 202-566-1667
Last EDR Contact: 08/18/2017
Next Scheduled EDR Contact: 12/04/2017
Data Release Frequency: No Update Planned

MLTS: Material Licensing Tracking System
MLTS is maintained by the Nuclear Regulatory Commission and contains a list of approximately 8,100 sites which possess or use radioactive materials and which are subject to NRC licensing requirements. To maintain currency, EDR contacts the Agency on a quarterly basis.

Date of Government Version: 08/05/2020
Date Data Arrived at EDR: 08/10/2020
Date Made Active in Reports: 10/08/2020
Number of Days to Update: 59

Source: Nuclear Regulatory Commission
Telephone: 301-415-7169
Last EDR Contact: 10/13/2020
Next Scheduled EDR Contact: 01/31/2021
Data Release Frequency: Quarterly

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

COAL ASH DOE: Steam-Electric Plant Operation Data
A listing of power plants that store ash in surface ponds.

Date of Government Version: 12/31/2018
Date Data Arrived at EDR: 12/04/2019
Date Made Active in Reports: 01/15/2020
Number of Days to Update: 42
Source: Department of Energy
Telephone: 202-586-8719
Last EDR Contact: 09/04/2020
Next Scheduled EDR Contact: 12/14/2020
Data Release Frequency: Varies

COAL ASH EPA: Coal Combustion Residues Surface Impoundments List
A listing of coal combustion residues surface impoundments with high hazard potential ratings.

Date of Government Version: 01/12/2017
Date Data Arrived at EDR: 03/05/2019
Date Made Active in Reports: 11/11/2019
Number of Days to Update: 251
Source: Environmental Protection Agency
Telephone: N/A
Last EDR Contact: 08/31/2020
Next Scheduled EDR Contact: 12/14/2020
Data Release Frequency: Varies

PCB TRANSFORMER: PCB Transformer Registration Database
The database of PCB transformer registrations that includes all PCB registration submittals.

Date of Government Version: 09/13/2019
Date Data Arrived at EDR: 11/06/2019
Date Made Active in Reports: 02/10/2020
Number of Days to Update: 96
Source: Environmental Protection Agency
Telephone: 202-566-0517
Last EDR Contact: 11/06/2021
Next Scheduled EDR Contact: 02/15/2021
Data Release Frequency: Varies

RADINFO: Radiation Information Database
The Radiation Information Database (RADINFO) contains information about facilities that are regulated by U.S. Environmental Protection Agency (EPA) regulations for radiation and radioactivity.

Date of Government Version: 07/01/2019
Date Data Arrived at EDR: 07/01/2019
Date Made Active in Reports: 09/23/2019
Number of Days to Update: 84
Source: Environmental Protection Agency
Telephone: 202-343-9775
Last EDR Contact: 09/24/2020
Next Scheduled EDR Contact: 01/11/2021
Data Release Frequency: Quarterly

HIST FTTS: FIFRA/TSCA Tracking System Administrative Case Listing
A complete administrative case listing from the FIFRA/TSCA Tracking System (FTTS) for all ten EPA regions. The information was obtained from the National Compliance Database (NCDB). NCDB supports the implementation of FIFRA (Federal Insecticide, Fungicide, and Rodenticide Act) and TSCA (Toxic Substances Control Act). Some EPA regions are now closing out records. Because of that, and the fact that some EPA regions are not providing EPA Headquarters with updated records, it was decided to create a HIST FTTS database. It included records that may not be included in the newer FTTS database updates. This database is no longer updated.

Date of Government Version: 10/19/2006
Date Data Arrived at EDR: 03/01/2007
Date Made Active in Reports: 04/10/2007
Number of Days to Update: 40
Source: Environmental Protection Agency
Telephone: 202-564-2501
Last EDR Contact: 12/17/2007
Next Scheduled EDR Contact: 03/17/2008
Data Release Frequency: No Update Planned

HIST FTTS INSP: FIFRA/TSCA Tracking System Inspection & Enforcement Case Listing
A complete inspection and enforcement case listing from the FIFRA/TSCA Tracking System (FTTS) for all ten EPA regions. The information was obtained from the National Compliance Database (NCDB). NCDB supports the implementation of FIFRA (Federal Insecticide, Fungicide, and Rodenticide Act) and TSCA (Toxic Substances Control Act). Some EPA regions are now closing out records. Because of that, and the fact that some EPA regions are not providing EPA Headquarters with updated records, it was decided to create a HIST FTTS database. It included records that may not be included in the newer FTTS database updates. This database is no longer updated.

Date of Government Version: 10/19/2006
Date Data Arrived at EDR: 03/01/2007
Date Made Active in Reports: 04/10/2007
Number of Days to Update: 40

Source: Environmental Protection Agency
Telephone: 202-564-2501
Last EDR Contact: 12/17/2008
Next Scheduled EDR Contact: 03/17/2008
Data Release Frequency: No Update Planned

DOT OPS: Incident and Accident Data

Department of Transporation, Office of Pipeline Safety Incident and Accident data.

Date of Government Version: 01/02/2020
Date Data Arrived at EDR: 01/28/2020
Date Made Active in Reports: 04/17/2020
Number of Days to Update: 80

Source: Department of Transporation, Office of Pipeline Safety
Telephone: 202-366-4595
Last EDR Contact: 10/27/2020
Next Scheduled EDR Contact: 02/08/2021
Data Release Frequency: Quarterly

CONSENT: Superfund (CERCLA) Consent Decrees

Major legal settlements that establish responsibility and standards for cleanup at NPL (Superfund) sites. Released periodically by United States District Courts after settlement by parties to litigation matters.

Date of Government Version: 06/30/2020
Date Data Arrived at EDR: 07/15/2020
Date Made Active in Reports: 07/21/2020
Number of Days to Update: 6

Source: Department of Justice, Consent Decree Library
Telephone: Varies
Last EDR Contact: 10/01/2020
Next Scheduled EDR Contact: 01/18/2021
Data Release Frequency: Varies

BRS: Biennial Reporting System

The Biennial Reporting System is a national system administered by the EPA that collects data on the generation and management of hazardous waste. BRS captures detailed data from two groups: Large Quantity Generators (LQG) and Treatment, Storage, and Disposal Facilities.

Date of Government Version: 12/31/2015
Date Data Arrived at EDR: 02/22/2017
Date Made Active in Reports: 09/28/2017
Number of Days to Update: 218

Source: EPA/NTIS
Telephone: 800-424-9346
Last EDR Contact: 09/22/2020
Next Scheduled EDR Contact: 01/04/2021
Data Release Frequency: Biennially

INDIAN RESERV: Indian Reservations

This map layer portrays Indian administered lands of the United States that have any area equal to or greater than 640 acres.

Date of Government Version: 12/31/2014
Date Data Arrived at EDR: 07/14/2015
Date Made Active in Reports: 01/10/2017
Number of Days to Update: 546

Source: USGS
Telephone: 202-208-3710
Last EDR Contact: 10/06/2020
Next Scheduled EDR Contact: 01/18/2021
Data Release Frequency: Semi-Annually

FUSRAP: Formerly Utilized Sites Remedial Action Program

DOE established the Formerly Utilized Sites Remedial Action Program (FUSRAP) in 1974 to remediate sites where radioactive contamination remained from Manhattan Project and early U.S. Atomic Energy Commission (AEC) operations.

Date of Government Version: 08/08/2017
Date Data Arrived at EDR: 09/11/2018
Date Made Active in Reports: 09/14/2018
Number of Days to Update: 3

Source: Department of Energy
Telephone: 202-586-3559
Last EDR Contact: 11/06/2020
Next Scheduled EDR Contact: 02/15/2021
Data Release Frequency: Varies

UMTRA: Uranium Mill Tailings Sites

Uranium ore was mined by private companies for federal government use in national defense programs. When the mills shut down, large piles of the sand-like material (mill tailings) remain after uranium has been extracted from the ore. Levels of human exposure to radioactive materials from the piles are low; however, in some cases tailings were used as construction materials before the potential health hazards of the tailings were recognized.

Date of Government Version: 08/30/2019
Date Data Arrived at EDR: 11/15/2019
Date Made Active in Reports: 01/28/2020
Number of Days to Update: 74

Source: Department of Energy
Telephone: 505-845-0011
Last EDR Contact: 08/21/2020
Next Scheduled EDR Contact: 11/30/2020
Data Release Frequency: Varies

LEAD SMELTER 1: Lead Smelter Sites

A listing of former lead smelter site locations.

Date of Government Version: 07/29/2020
Date Data Arrived at EDR: 08/03/2020
Date Made Active in Reports: 08/25/2020
Number of Days to Update: 22

Source: Environmental Protection Agency
Telephone: 703-603-8787
Last EDR Contact: 11/05/2020
Next Scheduled EDR Contact: 01/11/2021
Data Release Frequency: Varies

LEAD SMELTER 2: Lead Smelter Sites

A list of several hundred sites in the U.S. where secondary lead smelting was done from 1931and 1964. These sites may pose a threat to public health through ingestion or inhalation of contaminated soil or dust

Date of Government Version: 04/05/2001
Date Data Arrived at EDR: 10/27/2010
Date Made Active in Reports: 12/02/2010
Number of Days to Update: 36

Source: American Journal of Public Health
Telephone: 703-305-6451
Last EDR Contact: 12/02/2009
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

US AIRS (AFS): Aerometric Information Retrieval System Facility Subsystem (AFS)

The database is a sub-system of Aerometric Information Retrieval System (AIRS). AFS contains compliance data on air pollution point sources regulated by the U.S. EPA and/or state and local air regulatory agencies. This information comes from source reports by various stationary sources of air pollution, such as electric power plants, steel mills, factories, and universities, and provides information about the air pollutants they produce. Action, air program, air program pollutant, and general level plant data. It is used to track emissions and compliance data from industrial plants.

Date of Government Version: 10/12/2016
Date Data Arrived at EDR: 10/26/2016
Date Made Active in Reports: 02/03/2017
Number of Days to Update: 100

Source: EPA
Telephone: 202-564-2496
Last EDR Contact: 09/26/2017
Next Scheduled EDR Contact: 01/08/2018
Data Release Frequency: Annually

US AIRS MINOR: Air Facility System Data

A listing of minor source facilities.

Date of Government Version: 10/12/2016
Date Data Arrived at EDR: 10/26/2016
Date Made Active in Reports: 02/03/2017
Number of Days to Update: 100

Source: EPA
Telephone: 202-564-2496
Last EDR Contact: 09/26/2017
Next Scheduled EDR Contact: 01/08/2018
Data Release Frequency: Annually

MINES VIOLATIONS: MSHA Violation Assessment Data

Mines violation and assessment information. Department of Labor, Mine Safety & Health Administration.

Date of Government Version: 05/28/2020
Date Data Arrived at EDR: 05/28/2020
Date Made Active in Reports: 08/13/2020
Number of Days to Update: 77

Source: DOL, Mine Safety & Health Admi
Telephone: 202-693-9424
Last EDR Contact: 09/10/2020
Next Scheduled EDR Contact: 12/14/2020
Data Release Frequency: Quarterly

US MINES: Mines Master Index File

Contains all mine identification numbers issued for mines active or opened since 1971. The data also includes violation information.

Date of Government Version: 08/04/2020
Date Data Arrived at EDR: 08/25/2020
Date Made Active in Reports: 11/18/2020
Number of Days to Update: 85

Source: Department of Labor, Mine Safety and Health Administration
Telephone: 303-231-5959
Last EDR Contact: 08/25/2020
Next Scheduled EDR Contact: 12/07/2020
Data Release Frequency: Semi-Annually

US MINES 2: Ferrous and Nonferrous Metal Mines Database Listing

This map layer includes ferrous (ferrous metal mines are facilities that extract ferrous metals, such as iron ore or molybdenum) and nonferrous (Nonferrous metal mines are facilities that extract nonferrous metals, such as gold, silver, copper, zinc, and lead) metal mines in the United States.

Date of Government Version: 05/06/2020
Date Data Arrived at EDR: 05/27/2020
Date Made Active in Reports: 08/13/2020
Number of Days to Update: 78

Source: USGS
Telephone: 703-648-7709
Last EDR Contact: 08/28/2020
Next Scheduled EDR Contact: 12/07/2020
Data Release Frequency: Varies

US MINES 3: Active Mines & Mineral Plants Database Listing

Active Mines and Mineral Processing Plant operations for commodities monitored by the Minerals Information Team of the USGS.

Date of Government Version: 04/14/2011
Date Data Arrived at EDR: 06/08/2011
Date Made Active in Reports: 09/13/2011
Number of Days to Update: 97

Source: USGS
Telephone: 703-648-7709
Last EDR Contact: 08/28/2020
Next Scheduled EDR Contact: 12/07/2020
Data Release Frequency: Varies

ABANDONED MINES: Abandoned Mines

An inventory of land and water impacted by past mining (primarily coal mining) is maintained by OSMRE to provide information needed to implement the Surface Mining Control and Reclamation Act of 1977 (SMCRA). The inventory contains information on the location, type, and extent of AML impacts, as well as, information on the cost associated with the reclamation of those problems. The inventory is based upon field surveys by State, Tribal, and OSMRE program officials. It is dynamic to the extent that it is modified as new problems are identified and existing problems are reclaimed.

Date of Government Version: 06/22/2020
Date Data Arrived at EDR: 06/22/2020
Date Made Active in Reports: 09/10/2020
Number of Days to Update: 80

Source: Department of Interior
Telephone: 202-208-2609
Last EDR Contact: 09/16/2020
Next Scheduled EDR Contact: 12/21/2020
Data Release Frequency: Quarterly

FINDS: Facility Index System/Facility Registry System

Facility Index System. FINDS contains both facility information and 'pointers' to other sources that contain more detail. EDR includes the following FINDS databases in this report: PCS (Permit Compliance System), AIRS (Aerometric Information Retrieval System), DOCKET (Enforcement Docket used to manage and track information on civil judicial enforcement cases for all environmental statutes), FURS (Federal Underground Injection Control), C-DOCKET (Criminal Docket System used to track criminal enforcement actions for all environmental statutes), FFIS (Federal Facilities Information System), STATE (State Environmental Laws and Statutes), and PADS (PCB Activity Data System).

Date of Government Version: 02/03/2020
Date Data Arrived at EDR: 03/03/2020
Date Made Active in Reports: 05/28/2020
Number of Days to Update: 86

Source: EPA
Telephone: (415) 947-8000
Last EDR Contact: 09/15/2020
Next Scheduled EDR Contact: 12/14/2020
Data Release Frequency: Quarterly

ECHO: Enforcement & Compliance History Information

ECHO provides integrated compliance and enforcement information for about 800,000 regulated facilities nationwide.

Date of Government Version: 06/27/2020
Date Data Arrived at EDR: 07/02/2020
Date Made Active in Reports: 09/28/2020
Number of Days to Update: 88

Source: Environmental Protection Agency
Telephone: 202-564-2280
Last EDR Contact: 10/06/2020
Next Scheduled EDR Contact: 01/18/2021
Data Release Frequency: Quarterly

UXO: Unexploded Ordnance Sites
A listing of unexploded ordnance site locations

Date of Government Version: 12/31/2018
Date Data Arrived at EDR: 07/02/2020
Date Made Active in Reports: 09/17/2020
Number of Days to Update: 77
Source: Department of Defense
Telephone: 703-704-1564
Last EDR Contact: 10/08/2020
Next Scheduled EDR Contact: 01/25/2021
Data Release Frequency: Varies

DOCKET HWC: Hazardous Waste Compliance Docket Listing
A complete list of the Federal Agency Hazardous Waste Compliance Docket Facilities.

Date of Government Version: 05/31/2018
Date Data Arrived at EDR: 07/26/2018
Date Made Active in Reports: 10/05/2018
Number of Days to Update: 71
Source: Environmental Protection Agency
Telephone: 202-564-0527
Last EDR Contact: 11/17/2020
Next Scheduled EDR Contact: 03/08/2021
Data Release Frequency: Varies

FUELS PROGRAM: EPA Fuels Program Registered Listing
This listing includes facilities that are registered under the Part 80 (Code of Federal Regulations) EPA Fuels Programs. All companies now are required to submit new and updated registrations.

Date of Government Version: 08/17/2020
Date Data Arrived at EDR: 08/17/2020
Date Made Active in Reports: 10/21/2020
Number of Days to Update: 65
Source: EPA
Telephone: 800-385-6164
Last EDR Contact: 11/13/2020
Next Scheduled EDR Contact: 03/01/2021
Data Release Frequency: Quarterly

CA BOND EXP. PLAN: Bond Expenditure Plan
Department of Health Services developed a site-specific expenditure plan as the basis for an appropriation of Hazardous Substance Cleanup Bond Act funds. It is not updated.

Date of Government Version: 01/01/1989
Date Data Arrived at EDR: 07/27/1994
Date Made Active in Reports: 08/02/1994
Number of Days to Update: 6
Source: Department of Health Services
Telephone: 916-255-2118
Last EDR Contact: 05/31/1994
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

CORTESE: "Cortese" Hazardous Waste & Substances Sites List
The sites for the list are designated by the State Water Resource Control Board (LUST), the Integrated Waste Board (SWF/LS), and the Department of Toxic Substances Control (Cal-Sites).

Date of Government Version: 06/22/2020
Date Data Arrived at EDR: 06/22/2020
Date Made Active in Reports: 09/04/2020
Number of Days to Update: 74
Source: CAL EPA/Office of Emergency Information
Telephone: 916-323-3400
Last EDR Contact: 09/23/2020
Next Scheduled EDR Contact: 01/04/2021
Data Release Frequency: Quarterly

CUPA LIVERMORE-PLEASANTON: CUPA Facility Listing
list of facilities associated with the various CUPA programs in Livermore-Pleasanton

Date of Government Version: 05/01/2019
Date Data Arrived at EDR: 05/14/2019
Date Made Active in Reports: 07/17/2019
Number of Days to Update: 64
Source: Livermore-Pleasanton Fire Department
Telephone: 925-454-2361
Last EDR Contact: 11/13/2020
Next Scheduled EDR Contact: 02/22/2021
Data Release Frequency: Varies

DRYCLEAN AVAQMD: Antelope Valley Air Quality Management District Drycleaner Listing
A listing of dry cleaners in the Antelope Valley Air Quality Management District.

Date of Government Version: 08/25/2020
Date Data Arrived at EDR: 08/26/2020
Date Made Active in Reports: 11/13/2020
Number of Days to Update: 79

Source: Antelope Valley Air Quality Management District
Telephone: 661-723-8070
Last EDR Contact: 08/25/2020
Next Scheduled EDR Contact: 12/14/2020
Data Release Frequency: Varies

DRYCLEAN SOUTH COAST: South Coast Air Quality Management District Drycleaner Listing
A listing of dry cleaners in the South Coast Air Quality Management District

Date of Government Version: 08/19/2020
Date Data Arrived at EDR: 08/21/2020
Date Made Active in Reports: 09/04/2020
Number of Days to Update: 14

Source: South Coast Air Quality Management District
Telephone: 909-396-3211
Last EDR Contact: 11/16/2020
Next Scheduled EDR Contact: 03/08/2021
Data Release Frequency: Varies

DRYCLEANERS: Cleaner Facilities
A list of drycleaner related facilities that have EPA ID numbers. These are facilities with certain SIC codes: power laundries, family and commercial; garment pressing and cleaner's agents; linen supply; coin-operated laundries and cleaning; drycleaning plants, except rugs; carpet and upholster cleaning; industrial launderers; laundry and garment services.

Date of Government Version: 08/06/2020
Date Data Arrived at EDR: 08/28/2020
Date Made Active in Reports: 11/17/2020
Number of Days to Update: 81

Source: Department of Toxic Substance Control
Telephone: 916-327-4498
Last EDR Contact: 08/24/2020
Next Scheduled EDR Contact: 12/14/2020
Data Release Frequency: Annually

EMI: Emissions Inventory Data
Toxics and criteria pollutant emissions data collected by the ARB and local air pollution agencies.

Date of Government Version: 12/31/2018
Date Data Arrived at EDR: 06/16/2020
Date Made Active in Reports: 08/28/2020
Number of Days to Update: 73

Source: California Air Resources Board
Telephone: 916-322-2990
Last EDR Contact: 09/18/2020
Next Scheduled EDR Contact: 12/28/2020
Data Release Frequency: Varies

ENF: Enforcement Action Listing
A listing of Water Board Enforcement Actions. Formal is everything except Oral/Verbal Communication, Notice of Violation, Expedited Payment Letter, and Staff Enforcement Letter.

Date of Government Version: 07/20/2020
Date Data Arrived at EDR: 07/21/2020
Date Made Active in Reports: 10/07/2020
Number of Days to Update: 78

Source: State Water Resoruces Control Board
Telephone: 916-445-9379
Last EDR Contact: 10/19/2020
Next Scheduled EDR Contact: 02/01/2021
Data Release Frequency: Varies

Financial Assurance 1: Financial Assurance Information Listing
Financial Assurance information

Date of Government Version: 07/13/2020
Date Data Arrived at EDR: 07/16/2020
Date Made Active in Reports: 09/29/2020
Number of Days to Update: 75

Source: Department of Toxic Substances Control
Telephone: 916-255-3628
Last EDR Contact: 10/13/2020
Next Scheduled EDR Contact: 02/01/2021
Data Release Frequency: Varies

Financial Assurance 2: Financial Assurance Information Listing
A listing of financial assurance information for solid waste facilities. Financial assurance is intended to ensure that resources are available to pay for the cost of closure, post-closure care, and corrective measures if the owner or operator of a regulated facility is unable or unwilling to pay.

Date of Government Version: 08/05/2020
Date Data Arrived at EDR: 08/05/2020
Date Made Active in Reports: 10/23/2020
Number of Days to Update: 79

Source: California Integrated Waste Management Board
Telephone: 916-341-6066
Last EDR Contact: 11/04/2020
Next Scheduled EDR Contact: 02/22/2021
Data Release Frequency: Varies

HAZNET: Facility and Manifest Data

Facility and Manifest Data. The data is extracted from the copies of hazardous waste manifests received each year by the DTSC. The annual volume of manifests is typically 700,000 - 1,000,000 annually, representing approximately 350,000 - 500,000 shipments. Data are from the manifests submitted without correction, and therefore many contain some invalid values for data elements such as generator ID, TSD ID, waste category, and disposal method. This database begins with calendar year 1993.

Date of Government Version: 12/31/2019
Date Data Arrived at EDR: 04/15/2020
Date Made Active in Reports: 07/02/2020
Number of Days to Update: 78

Source: California Environmental Protection Agency
Telephone: 916-255-1136
Last EDR Contact: 10/05/2020
Next Scheduled EDR Contact: 01/18/2021
Data Release Frequency: Annually

ICE: ICE

Contains data pertaining to the Permitted Facilities with Inspections / Enforcements sites tracked in Envirostor.

Date of Government Version: 08/17/2020
Date Data Arrived at EDR: 08/17/2020
Date Made Active in Reports: 11/05/2020
Number of Days to Update: 80

Source: Department of Toxic Subsances Control
Telephone: 877-786-9427
Last EDR Contact: 11/13/2020
Next Scheduled EDR Contact: 03/01/2021
Data Release Frequency: Quarterly

HIST CORTESE: Hazardous Waste & Substance Site List

The sites for the list are designated by the State Water Resource Control Board [LUST], the Integrated Waste Board [SWF/LS], and the Department of Toxic Substances Control [CALSITES]. This listing is no longer updated by the state agency.

Date of Government Version: 04/01/2001
Date Data Arrived at EDR: 01/22/2009
Date Made Active in Reports: 04/08/2009
Number of Days to Update: 76

Source: Department of Toxic Substances Control
Telephone: 916-323-3400
Last EDR Contact: 01/22/2009
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

HWP: EnviroStor Permitted Facilities Listing

Detailed information on permitted hazardous waste facilities and corrective action ("cleanups") tracked in EnviroStor.

Date of Government Version: 08/17/2020
Date Data Arrived at EDR: 08/17/2020
Date Made Active in Reports: 11/05/2020
Number of Days to Update: 80

Source: Department of Toxic Substances Control
Telephone: 916-323-3400
Last EDR Contact: 11/13/2020
Next Scheduled EDR Contact: 03/01/2021
Data Release Frequency: Quarterly

HWT: Registered Hazardous Waste Transporter Database

A listing of hazardous waste transporters. In California, unless specifically exempted, it is unlawful for any person to transport hazardous wastes unless the person holds a valid registration issued by DTSC. A hazardous waste transporter registration is valid for one year and is assigned a unique registration number.

Date of Government Version: 07/06/2020
Date Data Arrived at EDR: 07/07/2020
Date Made Active in Reports: 09/17/2020
Number of Days to Update: 72

Source: Department of Toxic Substances Control
Telephone: 916-440-7145
Last EDR Contact: 10/06/2020
Next Scheduled EDR Contact: 01/18/2021
Data Release Frequency: Quarterly

MINES: Mines Site Location Listing
A listing of mine site locations from the Office of Mine Reclamation.

Date of Government Version: 06/08/2020
Date Data Arrived at EDR: 06/09/2020
Date Made Active in Reports: 08/19/2020
Number of Days to Update: 71
Source: Department of Conservation
Telephone: 916-322-1080
Last EDR Contact: 09/08/2020
Next Scheduled EDR Contact: 12/21/2020
Data Release Frequency: Quarterly

MWMP: Medical Waste Management Program Listing
The Medical Waste Management Program (MWMP) ensures the proper handling and disposal of medical waste by permitting and inspecting medical waste Offsite Treatment Facilities (PDF) and Transfer Stations (PDF) throughout the state. MWMP also oversees all Medical Waste Transporters.

Date of Government Version: 05/28/2020
Date Data Arrived at EDR: 06/02/2020
Date Made Active in Reports: 08/14/2020
Number of Days to Update: 73
Source: Department of Public Health
Telephone: 916-558-1784
Last EDR Contact: 08/31/2020
Next Scheduled EDR Contact: 12/14/2020
Data Release Frequency: Varies

NPDES: NPDES Permits Listing
A listing of NPDES permits, including stormwater.

Date of Government Version: 08/10/2020
Date Data Arrived at EDR: 08/10/2020
Date Made Active in Reports: 10/29/2020
Number of Days to Update: 80
Source: State Water Resources Control Board
Telephone: 916-445-9379
Last EDR Contact: 11/09/2020
Next Scheduled EDR Contact: 02/22/2021
Data Release Frequency: Quarterly

PEST LIC: Pesticide Regulation Licenses Listing
A listing of licenses and certificates issued by the Department of Pesticide Regulation. The DPR issues licenses and/or certificates to: Persons and businesses that apply or sell pesticides; Pest control dealers and brokers; Persons who advise on agricultural pesticide applications.

Date of Government Version: 06/01/2020
Date Data Arrived at EDR: 06/02/2020
Date Made Active in Reports: 08/14/2020
Number of Days to Update: 73
Source: Department of Pesticide Regulation
Telephone: 916-445-4038
Last EDR Contact: 08/31/2020
Next Scheduled EDR Contact: 12/14/2020
Data Release Frequency: Quarterly

PROC: Certified Processors Database
A listing of certified processors.

Date of Government Version: 06/08/2020
Date Data Arrived at EDR: 06/09/2020
Date Made Active in Reports: 08/19/2020
Number of Days to Update: 71
Source: Department of Conservation
Telephone: 916-323-3836
Last EDR Contact: 09/08/2020
Next Scheduled EDR Contact: 12/21/2020
Data Release Frequency: Quarterly

NOTIFY 65: Proposition 65 Records
Listings of all Proposition 65 incidents reported to counties by the State Water Resources Control Board and the Regional Water Quality Control Board. This database is no longer updated by the reporting agency.

Date of Government Version: 08/21/2020
Date Data Arrived at EDR: 08/21/2020
Date Made Active in Reports: 08/27/2020
Number of Days to Update: 6
Source: State Water Resources Control Board
Telephone: 916-445-3846
Last EDR Contact: 08/20/2020
Next Scheduled EDR Contact: 12/28/2020
Data Release Frequency: No Update Planned

UIC: UIC Listing
A listing of wells identified as underground injection wells, in the California Oil and Gas Wells database.

Date of Government Version: 06/06/2020
Date Data Arrived at EDR: 06/09/2020
Date Made Active in Reports: 08/20/2020
Number of Days to Update: 72
Source: Deaprtment of Conservation
Telephone: 916-445-2408
Last EDR Contact: 09/08/2020
Next Scheduled EDR Contact: 12/21/2020
Data Release Frequency: Varies

UIC GEO: Underground Injection Control Sites (GEOTRACKER)
Underground control injection sites

Date of Government Version: 06/08/2020
Date Data Arrived at EDR: 06/09/2020
Date Made Active in Reports: 08/19/2020
Number of Days to Update: 71
Source: State Water Resource Control Board
Telephone: 866-480-1028
Last EDR Contact: 09/08/2020
Next Scheduled EDR Contact: 12/21/2020
Data Release Frequency: Varies

WASTEWATER PITS: Oil Wastewater Pits Listing
Water officials discovered that oil producers have been dumping chemical-laden wastewater into hundreds of unlined pits that are operating without proper permits. Inspections completed by the Central Valley Regional Water Quality Control Board revealed the existence of previously unidentified waste sites. The water boards review found that more than one-third of the region's active disposal pits are operating without permission.

Date of Government Version: 11/19/2019
Date Data Arrived at EDR: 01/07/2020
Date Made Active in Reports: 03/09/2020
Number of Days to Update: 62
Source: RWQCB, Central Valley Region
Telephone: 559-445-5577
Last EDR Contact: 10/09/2020
Next Scheduled EDR Contact: 01/18/2021
Data Release Frequency: Varies

WDS: Waste Discharge System
Sites which have been issued waste discharge requirements.

Date of Government Version: 06/19/2007
Date Data Arrived at EDR: 06/20/2007
Date Made Active in Reports: 06/29/2007
Number of Days to Update: 9
Source: State Water Resources Control Board
Telephone: 916-341-5227
Last EDR Contact: 11/13/2020
Next Scheduled EDR Contact: 03/01/2021
Data Release Frequency: No Update Planned

WIP: Well Investigation Program Case List
Well Investigation Program case in the San Gabriel and San Fernando Valley area.

Date of Government Version: 07/03/2009
Date Data Arrived at EDR: 07/21/2009
Date Made Active in Reports: 08/03/2009
Number of Days to Update: 13
Source: Los Angeles Water Quality Control Board
Telephone: 213-576-6726
Last EDR Contact: 09/16/2020
Next Scheduled EDR Contact: 01/04/2021
Data Release Frequency: No Update Planned

MILITARY PRIV SITES: Military Privatized Sites (GEOTRACKER)
Military privatized sites

Date of Government Version: 06/08/2020
Date Data Arrived at EDR: 06/09/2020
Date Made Active in Reports: 08/19/2020
Number of Days to Update: 71
Source: State Water Resources Control Board
Telephone: 866-480-1028
Last EDR Contact: 09/08/2020
Next Scheduled EDR Contact: 12/21/2020
Data Release Frequency: Varies

PROJECT: Project Sites (GEOTRACKER)
Projects sites

Date of Government Version: 06/08/2020
Date Data Arrived at EDR: 06/09/2020
Date Made Active in Reports: 08/19/2020
Number of Days to Update: 71

Source: State Water Resources Control Board
Telephone: 866-480-1028
Last EDR Contact: 09/08/2020
Next Scheduled EDR Contact: 12/21/2020
Data Release Frequency: Varies

WDR: Waste Discharge Requirements Listing

In general, the Waste Discharge Requirements (WDRs) Program (sometimes also referred to as the "Non Chapter 15 (Non 15) Program") regulates point discharges that are exempt pursuant to Subsection 20090 of Title 27 and not subject to the Federal Water Pollution Control Act. Exemptions from Title 27 may be granted for nine categories of discharges (e.g., sewage, wastewater, etc.) that meet, and continue to meet, the preconditions listed for each specific exemption. The scope of the WDRs Program also includes the discharge of wastes classified as inert, pursuant to section 20230 of Title 27.

Date of Government Version: 06/08/2020
Date Data Arrived at EDR: 06/09/2020
Date Made Active in Reports: 08/20/2020
Number of Days to Update: 72

Source: State Water Resources Control Board
Telephone: 916-341-5810
Last EDR Contact: 09/08/2020
Next Scheduled EDR Contact: 12/21/2020
Data Release Frequency: Quarterly

CIWQS: California Integrated Water Quality System

The California Integrated Water Quality System (CIWQS) is a computer system used by the State and Regional Water Quality Control Boards to track information about places of environmental interest, manage permits and other orders, track inspections, and manage violations and enforcement activities.

Date of Government Version: 06/01/2020
Date Data Arrived at EDR: 06/02/2020
Date Made Active in Reports: 08/14/2020
Number of Days to Update: 73

Source: State Water Resources Control Board
Telephone: 866-794-4977
Last EDR Contact: 08/31/2020
Next Scheduled EDR Contact: 12/14/2020
Data Release Frequency: Varies

CERS: CalEPA Regulated Site Portal Data

The CalEPA Regulated Site Portal database combines data about environmentally regulated sites and facilities in California into a single database. It combines data from a variety of state and federal databases, and provides an overview of regulated activities across the spectrum of environmental programs for any given location in California. These activities include hazardous materials and waste, state and federal cleanups, impacted ground and surface waters, and toxic materials

Date of Government Version: 07/20/2020
Date Data Arrived at EDR: 07/21/2020
Date Made Active in Reports: 10/07/2020
Number of Days to Update: 78

Source: California Environmental Protection Agency
Telephone: 916-323-2514
Last EDR Contact: 10/19/2020
Next Scheduled EDR Contact: 02/01/2021
Data Release Frequency: Varies

NON-CASE INFO: Non-Case Information Sites (GEOTRACKER)

Non-Case Information sites

Date of Government Version: 06/08/2020
Date Data Arrived at EDR: 06/09/2020
Date Made Active in Reports: 08/19/2020
Number of Days to Update: 71

Source: State Water Resources Control Board
Telephone: 866-480-1028
Last EDR Contact: 09/08/2020
Next Scheduled EDR Contact: 12/21/2020
Data Release Frequency: Varies

OTHER OIL GAS: Other Oil & Gas Projects Sites (GEOTRACKER)

Other Oil & Gas Projects sites

Date of Government Version: 06/08/2020
Date Data Arrived at EDR: 06/09/2020
Date Made Active in Reports: 08/19/2020
Number of Days to Update: 71

Source: State Water Resources Control Board
Telephone: 866-480-1028
Last EDR Contact: 09/08/2020
Next Scheduled EDR Contact: 12/21/2020
Data Release Frequency: Varies

PROD WATER PONDS: Produced Water Ponds Sites (GEOTRACKER)
Produced water ponds sites

Date of Government Version: 06/08/2020
Date Data Arrived at EDR: 06/09/2020
Date Made Active in Reports: 08/19/2020
Number of Days to Update: 71

Source: State Water Resources Control Board
Telephone: 866-480-1028
Last EDR Contact: 09/08/2020
Next Scheduled EDR Contact: 12/21/2020
Data Release Frequency: Varies

SAMPLING POINT: Sampling Point ? Public Sites (GEOTRACKER)
Sampling point - public sites

Date of Government Version: 06/08/2020
Date Data Arrived at EDR: 06/09/2020
Date Made Active in Reports: 08/19/2020
Number of Days to Update: 71

Source: State Water Resources Control Board
Telephone: 866-480-1028
Last EDR Contact: 09/08/2020
Next Scheduled EDR Contact: 12/21/2020
Data Release Frequency: Varies

WELL STIM PROJ: Well Stimulation Project (GEOTRACKER)
Includes areas of groundwater monitoring plans, a depiction of the monitoring network, and the facilities, boundaries, and subsurface characteristics of the oilfield and the features (oil and gas wells, produced water ponds, UIC wells, water supply wells, etc?) being monitored

Date of Government Version: 06/08/2020
Date Data Arrived at EDR: 06/09/2020
Date Made Active in Reports: 08/19/2020
Number of Days to Update: 71

Source: State Water Resources Control Board
Telephone: 866-480-1028
Last EDR Contact: 09/08/2020
Next Scheduled EDR Contact: 12/21/2020
Data Release Frequency: Varies

PCS: Permit Compliance System
PCS is a computerized management information system that contains data on National Pollutant Discharge Elimination System (NPDES) permit holding facilities. PCS tracks the permit, compliance, and enforcement status of NPDES facilities.

Date of Government Version: 07/14/2011
Date Data Arrived at EDR: 08/05/2011
Date Made Active in Reports: 09/29/2011
Number of Days to Update: 55

Source: EPA, Office of Water
Telephone: 202-564-2496
Last EDR Contact: 10/02/2020
Next Scheduled EDR Contact: 01/18/2021
Data Release Frequency: Semi-Annually

PCS INACTIVE: Listing of Inactive PCS Permits
An inactive permit is a facility that has shut down or is no longer discharging.

Date of Government Version: 11/05/2014
Date Data Arrived at EDR: 01/06/2015
Date Made Active in Reports: 05/06/2015
Number of Days to Update: 120

Source: EPA
Telephone: 202-564-2496
Last EDR Contact: 10/02/2020
Next Scheduled EDR Contact: 01/18/2021
Data Release Frequency: Semi-Annually

PCS ENF: Enforcement data
No description is available for this data

Date of Government Version: 12/31/2014
Date Data Arrived at EDR: 02/05/2015
Date Made Active in Reports: 03/06/2015
Number of Days to Update: 29

Source: EPA
Telephone: 202-564-2497
Last EDR Contact: 10/02/2020
Next Scheduled EDR Contact: 01/18/2021
Data Release Frequency: Varies

MINES MRDS: Mineral Resources Data System
Mineral Resources Data System

Date of Government Version: 04/06/2018
Date Data Arrived at EDR: 10/21/2019
Date Made Active in Reports: 10/24/2019
Number of Days to Update: 3

Source: USGS
Telephone: 703-648-6533
Last EDR Contact: 08/28/2020
Next Scheduled EDR Contact: 12/07/2020
Data Release Frequency: Varies

HWTS: Hazardous Waste Tracking System

DTSC maintains the Hazardous Waste Tracking System that stores ID number information since the early 1980s and manifest data since 1993. The system collects both manifest copies from the generator and destination facility.

Date of Government Version: 10/13/2020
Date Data Arrived at EDR: 10/14/2020
Date Made Active in Reports: 11/03/2020
Number of Days to Update: 20

Source: Department of Toxic Substances Control
Telephone: 916-324-2444
Last EDR Contact: 10/01/2020
Next Scheduled EDR Contact: 01/18/2021
Data Release Frequency: Varies

EDR HIGH RISK HISTORICAL RECORDS

EDR Exclusive Records

EDR MGP: EDR Proprietary Manufactured Gas Plants

The EDR Proprietary Manufactured Gas Plant Database includes records of coal gas plants (manufactured gas plants) compiled by EDR's researchers. Manufactured gas sites were used in the United States from the 1800's to 1950's to produce a gas that could be distributed and used as fuel. These plants used whale oil, rosin, coal, or a mixture of coal, oil, and water that also produced a significant amount of waste. Many of the byproducts of the gas production, such as coal tar (oily waste containing volatile and non-volatile chemicals), sludges, oils and other compounds are potentially hazardous to human health and the environment. The byproduct from this process was frequently disposed of directly at the plant site and can remain or spread slowly, serving as a continuous source of soil and groundwater contamination.

Date of Government Version: N/A
Date Data Arrived at EDR: N/A
Date Made Active in Reports: N/A
Number of Days to Update: N/A

Source: EDR, Inc.
Telephone: N/A
Last EDR Contact: N/A
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

EDR Hist Auto: EDR Exclusive Historical Auto Stations

EDR has searched selected national collections of business directories and has collected listings of potential gas station/filling station/service station sites that were available to EDR researchers. EDR's review was limited to those categories of sources that might, in EDR's opinion, include gas station/filling station/service station establishments. The categories reviewed included, but were not limited to gas, gas station, gasoline station, filling station, auto, automobile repair, auto service station, service station, etc. This database falls within a category of information EDR classifies as "High Risk Historical Records", or HRHR. EDR's HRHR effort presents unique and sometimes proprietary data about past sites and operations that typically create environmental concerns, but may not show up in current government records searches.

Date of Government Version: N/A
Date Data Arrived at EDR: N/A
Date Made Active in Reports: N/A
Number of Days to Update: N/A

Source: EDR, Inc.
Telephone: N/A
Last EDR Contact: N/A
Next Scheduled EDR Contact: N/A
Data Release Frequency: Varies

EDR Hist Cleaner: EDR Exclusive Historical Cleaners

EDR has searched selected national collections of business directories and has collected listings of potential dry cleaner sites that were available to EDR researchers. EDR's review was limited to those categories of sources that might, in EDR's opinion, include dry cleaning establishments. The categories reviewed included, but were not limited to dry cleaners, cleaners, laundry, laundromat, cleaning/laundry, wash & dry etc. This database falls within a category of information EDR classifies as "High Risk Historical Records", or HRHR. EDR's HRHR effort presents unique and sometimes proprietary data about past sites and operations that typically create environmental concerns, but may not show up in current government records searches.

Date of Government Version: N/A
Date Data Arrived at EDR: N/A
Date Made Active in Reports: N/A
Number of Days to Update: N/A

Source: EDR, Inc.
Telephone: N/A
Last EDR Contact: N/A
Next Scheduled EDR Contact: N/A
Data Release Frequency: Varies

EDR RECOVERED GOVERNMENT ARCHIVES

Exclusive Recovered Govt. Archives

RGA LF: Recovered Government Archive Solid Waste Facilities List

The EDR Recovered Government Archive Landfill database provides a list of landfills derived from historical databases and includes many records that no longer appear in current government lists. Compiled from Records formerly available from the Department of Resources Recycling and Recovery in California.

Date of Government Version: N/A
Date Data Arrived at EDR: 07/01/2013
Date Made Active in Reports: 01/13/2014
Number of Days to Update: 196

Source: Department of Resources Recycling and Recovery
Telephone: N/A
Last EDR Contact: 06/01/2012
Next Scheduled EDR Contact: N/A
Data Release Frequency: Varies

RGA LUST: Recovered Government Archive Leaking Underground Storage Tank

The EDR Recovered Government Archive Leaking Underground Storage Tank database provides a list of LUST incidents derived from historical databases and includes many records that no longer appear in current government lists. Compiled from Records formerly available from the State Water Resources Control Board in California.

Date of Government Version: N/A
Date Data Arrived at EDR: 07/01/2013
Date Made Active in Reports: 12/30/2013
Number of Days to Update: 182

Source: State Water Resources Control Board
Telephone: N/A
Last EDR Contact: 06/01/2012
Next Scheduled EDR Contact: N/A
Data Release Frequency: Varies

COUNTY RECORDS

ALAMEDA COUNTY:

CS ALAMEDA: Contaminated Sites

A listing of contaminated sites overseen by the Toxic Release Program (oil and groundwater contamination from chemical releases and spills) and the Leaking Underground Storage Tank Program (soil and ground water contamination from leaking petroleum USTs).

Date of Government Version: 01/09/2019
Date Data Arrived at EDR: 01/11/2019
Date Made Active in Reports: 03/05/2019
Number of Days to Update: 53

Source: Alameda County Environmental Health Services
Telephone: 510-567-6700
Last EDR Contact: 10/01/2020
Next Scheduled EDR Contact: 01/18/2021
Data Release Frequency: Semi-Annually

UST ALAMEDA: Underground Tanks

Underground storage tank sites located in Alameda county.

Date of Government Version: 06/30/2020
Date Data Arrived at EDR: 07/01/2020
Date Made Active in Reports: 07/17/2020
Number of Days to Update: 16

Source: Alameda County Environmental Health Services
Telephone: 510-567-6700
Last EDR Contact: 10/01/2020
Next Scheduled EDR Contact: 01/18/2021
Data Release Frequency: Semi-Annually

AMADOR COUNTY:

CUPA AMADOR: CUPA Facility List
Cupa Facility List

Date of Government Version: 05/18/2020
Date Data Arrived at EDR: 05/19/2020
Date Made Active in Reports: 06/01/2020
Number of Days to Update: 13

Source: Amador County Environmental Health
Telephone: 209-223-6439
Last EDR Contact: 10/19/2020
Next Scheduled EDR Contact: 02/15/2021
Data Release Frequency: Varies

BUTTE COUNTY:

CUPA BUTTE: CUPA Facility Listing
Cupa facility list.

Date of Government Version: 04/21/2017
Date Data Arrived at EDR: 04/25/2017
Date Made Active in Reports: 08/09/2017
Number of Days to Update: 106

Source: Public Health Department
Telephone: 530-538-7149
Last EDR Contact: 10/01/2020
Next Scheduled EDR Contact: 01/18/2021
Data Release Frequency: No Update Planned

CALVERAS COUNTY:

CUPA CALVERAS: CUPA Facility Listing
Cupa Facility Listing

Date of Government Version: 06/17/2020
Date Data Arrived at EDR: 06/18/2020
Date Made Active in Reports: 09/02/2020
Number of Days to Update: 76

Source: Calveras County Environmental Health
Telephone: 209-754-6399
Last EDR Contact: 10/01/2020
Next Scheduled EDR Contact: 01/04/2021
Data Release Frequency: Quarterly

COLUSA COUNTY:

CUPA COLUSA: CUPA Facility List
Cupa facility list.

Date of Government Version: 04/06/2020
Date Data Arrived at EDR: 04/23/2020
Date Made Active in Reports: 07/10/2020
Number of Days to Update: 78

Source: Health & Human Services
Telephone: 530-458-0396
Last EDR Contact: 10/28/2020
Next Scheduled EDR Contact: 02/15/2021
Data Release Frequency: Semi-Annually

CONTRA COSTA COUNTY:

SL CONTRA COSTA: Site List
List includes sites from the underground tank, hazardous waste generator and business plan/2185 programs.

Date of Government Version: 07/16/2020
Date Data Arrived at EDR: 07/22/2020
Date Made Active in Reports: 10/08/2020
Number of Days to Update: 78

Source: Contra Costa Health Services Department
Telephone: 925-646-2286
Last EDR Contact: 10/20/2020
Next Scheduled EDR Contact: 02/08/2021
Data Release Frequency: Semi-Annually

DEL NORTE COUNTY:

CUPA DEL NORTE: CUPA Facility List
Cupa Facility list

Date of Government Version: 06/08/2020
Date Data Arrived at EDR: 08/13/2020
Date Made Active in Reports: 10/22/2020
Number of Days to Update: 70

Source: Del Norte County Environmental Health Division
Telephone: 707-465-0426
Last EDR Contact: 10/20/2020
Next Scheduled EDR Contact: 02/08/2021
Data Release Frequency: Varies

EL DORADO COUNTY:

CUPA EL DORADO: CUPA Facility List
CUPA facility list.

Date of Government Version: 08/13/2020
Date Data Arrived at EDR: 08/13/2020
Date Made Active in Reports: 10/22/2020
Number of Days to Update: 70

Source: El Dorado County Environmental Management Department
Telephone: 530-621-6623
Last EDR Contact: 10/20/2020
Next Scheduled EDR Contact: 02/08/2021
Data Release Frequency: Varies

FRESNO COUNTY:

CUPA FRESNO: CUPA Resources List
Certified Unified Program Agency. CUPA's are responsible for implementing a unified hazardous materials and hazardous waste management regulatory program. The agency provides oversight of businesses that deal with hazardous materials, operate underground storage tanks or aboveground storage tanks.

Date of Government Version: 06/30/2020
Date Data Arrived at EDR: 07/01/2020
Date Made Active in Reports: 09/17/2020
Number of Days to Update: 78

Source: Dept. of Community Health
Telephone: 559-445-3271
Last EDR Contact: 10/02/2020
Next Scheduled EDR Contact: 01/11/2021
Data Release Frequency: Semi-Annually

GLENN COUNTY:

CUPA GLENN: CUPA Facility List
Cupa facility list

Date of Government Version: 01/22/2018
Date Data Arrived at EDR: 01/24/2018
Date Made Active in Reports: 03/14/2018
Number of Days to Update: 49

Source: Glenn County Air Pollution Control District
Telephone: 830-934-6500
Last EDR Contact: 10/13/2020
Next Scheduled EDR Contact: 02/01/2021
Data Release Frequency: No Update Planned

HUMBOLDT COUNTY:

CUPA HUMBOLDT: CUPA Facility List
CUPA facility list.

Date of Government Version: 08/13/2020
Date Data Arrived at EDR: 08/17/2020
Date Made Active in Reports: 11/05/2020
Number of Days to Update: 80

Source: Humboldt County Environmental Health
Telephone: N/A
Last EDR Contact: 11/11/2020
Next Scheduled EDR Contact: 03/01/2021
Data Release Frequency: Semi-Annually

IMPERIAL COUNTY:

CUPA IMPERIAL: CUPA Facility List
Cupa facility list.

Date of Government Version: 07/14/2020
Date Data Arrived at EDR: 07/16/2020
Date Made Active in Reports: 09/29/2020
Number of Days to Update: 75

Source: San Diego Border Field Office
Telephone: 760-339-2777
Last EDR Contact: 10/13/2020
Next Scheduled EDR Contact: 02/01/2021
Data Release Frequency: Varies

INYO COUNTY:

CUPA INYO: CUPA Facility List
Cupa facility list.

Date of Government Version: 04/02/2018
Date Data Arrived at EDR: 04/03/2018
Date Made Active in Reports: 06/14/2018
Number of Days to Update: 72

Source: Inyo County Environmental Health Services
Telephone: 760-878-0238
Last EDR Contact: 11/11/2020
Next Scheduled EDR Contact: 03/01/2021
Data Release Frequency: Varies

KERN COUNTY:

CUPA KERN: CUPA Facility List
A listing of sites included in the Kern County Hazardous Material Business Plan.

Date of Government Version: 07/28/2020
Date Data Arrived at EDR: 07/30/2020
Date Made Active in Reports: 10/13/2020
Number of Days to Update: 75

Source: Kern County Public Health
Telephone: 661-321-3000
Last EDR Contact: 10/28/2020
Next Scheduled EDR Contact: 02/15/2021
Data Release Frequency: Varies

UST KERN: Underground Storage Tank Sites & Tank Listing
Kern County Sites and Tanks Listing.

Date of Government Version: 07/28/2020
Date Data Arrived at EDR: 07/30/2020
Date Made Active in Reports: 10/14/2020
Number of Days to Update: 76

Source: Kern County Environment Health Services Department
Telephone: 661-862-8700
Last EDR Contact: 10/28/2020
Next Scheduled EDR Contact: 02/15/2021
Data Release Frequency: Quarterly

KINGS COUNTY:

CUPA KINGS: CUPA Facility List
A listing of sites included in the county's Certified Unified Program Agency database. California's Secretary for Environmental Protection established the unified hazardous materials and hazardous waste regulatory program as required by chapter 6.11 of the California Health and Safety Code. The Unified Program consolidates the administration, permits, inspections, and enforcement activities.

Date of Government Version: 05/11/2020
Date Data Arrived at EDR: 05/12/2020
Date Made Active in Reports: 07/27/2020
Number of Days to Update: 76

Source: Kings County Department of Public Health
Telephone: 559-584-1411
Last EDR Contact: 11/11/2020
Next Scheduled EDR Contact: 03/01/2021
Data Release Frequency: Varies

LAKE COUNTY:

CUPA LAKE: CUPA Facility List
Cupa facility list

Date of Government Version: 08/13/2020
Date Data Arrived at EDR: 08/13/2020
Date Made Active in Reports: 10/23/2020
Number of Days to Update: 71

Source: Lake County Environmental Health
Telephone: 707-263-1164
Last EDR Contact: 10/07/2020
Next Scheduled EDR Contact: 01/25/2021
Data Release Frequency: Varies

LASSEN COUNTY:

CUPA LASSEN: CUPA Facility List
Cupa facility list

Date of Government Version: 07/31/2020
Date Data Arrived at EDR: 08/21/2020
Date Made Active in Reports: 11/09/2020
Number of Days to Update: 80

Source: Lassen County Environmental Health
Telephone: 530-251-8528
Last EDR Contact: 10/13/2020
Next Scheduled EDR Contact: 02/01/2021
Data Release Frequency: Varies

LOS ANGELES COUNTY:

AOCONCERN: Key Areas of Concerns in Los Angeles County
San Gabriel Valley areas where VOC contamination is at or above the MCL as designated by region 9 EPA office. Date of Government Version: 3/30/2009 Exide Site area is a cleanup plan of lead-impacted soil surrounding the former Exide Facility as designated by the DTSC. Date of Government Version: 7/17/2017

Date of Government Version: 03/30/2009
Date Data Arrived at EDR: 03/31/2009
Date Made Active in Reports: 10/23/2009
Number of Days to Update: 206

Source: N/A
Telephone: N/A
Last EDR Contact: 09/10/2020
Next Scheduled EDR Contact: 12/28/2020
Data Release Frequency: No Update Planned

HMS LOS ANGELES: HMS: Street Number List
Industrial Waste and Underground Storage Tank Sites.

Date of Government Version: 07/06/2020
Date Data Arrived at EDR: 07/10/2020
Date Made Active in Reports: 09/28/2020
Number of Days to Update: 80

Source: Department of Public Works
Telephone: 626-458-3517
Last EDR Contact: 10/01/2020
Next Scheduled EDR Contact: 01/18/2021
Data Release Frequency: Semi-Annually

LF LOS ANGELES: List of Solid Waste Facilities
Solid Waste Facilities in Los Angeles County.

Date of Government Version: 07/13/2020
Date Data Arrived at EDR: 07/13/2020
Date Made Active in Reports: 09/29/2020
Number of Days to Update: 78

Source: La County Department of Public Works
Telephone: 818-458-5185
Last EDR Contact: 10/09/2020
Next Scheduled EDR Contact: 01/25/2021
Data Release Frequency: Varies

LF LOS ANGELES CITY: City of Los Angeles Landfills
Landfills owned and maintained by the City of Los Angeles.

Date of Government Version: 12/31/2019
Date Data Arrived at EDR: 08/17/2020
Date Made Active in Reports: 11/05/2020
Number of Days to Update: 80

Source: Engineering & Construction Division
Telephone: 213-473-7869
Last EDR Contact: 10/07/2020
Next Scheduled EDR Contact: 01/25/2021
Data Release Frequency: Varies

LOS ANGELES AST: Active & Inactive AST Inventory

A listing of active & inactive above ground petroleum storage tank site locations, located in the City of Los Angeles.

Date of Government Version: 06/01/2019
Date Data Arrived at EDR: 06/25/2019
Date Made Active in Reports: 08/22/2019
Number of Days to Update: 58

Source: Los Angeles Fire Department
Telephone: 213-978-3800
Last EDR Contact: 09/25/2020
Next Scheduled EDR Contact: 01/04/2021
Data Release Frequency: Varies

LOS ANGELES CO LF METHANE: Methane Producing Landfills

This data was created on April 30, 2012 to represent known disposal sites in Los Angeles County that may produce and emanate methane gas. The shapefile contains disposal sites within Los Angeles County that once accepted degradable refuse material. Information used to create this data was extracted from a landfill survey performed by County Engineers (Major Waste System Map, 1973) as well as historical records from CalRecycle, Regional Water Quality Control Board, and Los Angeles County Department of Public Health

Date of Government Version: 04/30/2012
Date Data Arrived at EDR: 04/17/2019
Date Made Active in Reports: 05/29/2019
Number of Days to Update: 42

Source: Los Angeles County Department of Public Works
Telephone: 626-458-6973
Last EDR Contact: 10/12/2020
Next Scheduled EDR Contact: 01/25/2021
Data Release Frequency: No Update Planned

LOS ANGELES HM: Active & Inactive Hazardous Materials Inventory

A listing of active & inactive hazardous materials facility locations, located in the City of Los Angeles.

Date of Government Version: 06/01/2019
Date Data Arrived at EDR: 06/25/2019
Date Made Active in Reports: 08/22/2019
Number of Days to Update: 58

Source: Los Angeles Fire Department
Telephone: 213-978-3800
Last EDR Contact: 09/25/2020
Next Scheduled EDR Contact: 01/04/2021
Data Release Frequency: Varies

LOS ANGELES UST: Active & Inactive UST Inventory

A listing of active & inactive underground storage tank site locations and underground storage tank historical sites, located in the City of Los Angeles.

Date of Government Version: 06/01/2019
Date Data Arrived at EDR: 06/25/2019
Date Made Active in Reports: 08/22/2019
Number of Days to Update: 58

Source: Los Angeles Fire Department
Telephone: 213-978-3800
Last EDR Contact: 09/25/2020
Next Scheduled EDR Contact: 01/04/2021
Data Release Frequency: Varies

SITE MIT LOS ANGELES: Site Mitigation List

Industrial sites that have had some sort of spill or complaint.

Date of Government Version: 03/25/2020
Date Data Arrived at EDR: 04/14/2020
Date Made Active in Reports: 07/01/2020
Number of Days to Update: 78

Source: Community Health Services
Telephone: 323-890-7806
Last EDR Contact: 10/09/2020
Next Scheduled EDR Contact: 01/25/2021
Data Release Frequency: Annually

UST EL SEGUNDO: City of El Segundo Underground Storage Tank

Underground storage tank sites located in El Segundo city.

Date of Government Version: 01/21/2017
Date Data Arrived at EDR: 04/19/2017
Date Made Active in Reports: 05/10/2017
Number of Days to Update: 21

Source: City of El Segundo Fire Department
Telephone: 310-524-2236
Last EDR Contact: 10/07/2020
Next Scheduled EDR Contact: 01/25/2021
Data Release Frequency: No Update Planned

UST LONG BEACH: City of Long Beach Underground Storage Tank
Underground storage tank sites located in the city of Long Beach.

Date of Government Version: 04/22/2019
Date Data Arrived at EDR: 04/23/2019
Date Made Active in Reports: 06/27/2019
Number of Days to Update: 65

Source: City of Long Beach Fire Department
Telephone: 562-570-2563
Last EDR Contact: 10/13/2020
Next Scheduled EDR Contact: 02/01/2021
Data Release Frequency: Varies

UST TORRANCE: City of Torrance Underground Storage Tank
Underground storage tank sites located in the city of Torrance.

Date of Government Version: 06/27/2019
Date Data Arrived at EDR: 07/30/2019
Date Made Active in Reports: 10/02/2019
Number of Days to Update: 64

Source: City of Torrance Fire Department
Telephone: 310-618-2973
Last EDR Contact: 10/05/2020
Next Scheduled EDR Contact: 02/01/2021
Data Release Frequency: Semi-Annually

MADERA COUNTY:

CUPA MADERA: CUPA Facility List
A listing of sites included in the county's Certified Unified Program Agency database. California's Secretary for Environmental Protection established the unified hazardous materials and hazardous waste regulatory program as required by chapter 6.11 of the California Health and Safety Code. The Unified Program consolidates the administration, permits, inspections, and enforcement activities.

Date of Government Version: 08/10/2020
Date Data Arrived at EDR: 08/12/2020
Date Made Active in Reports: 10/23/2020
Number of Days to Update: 72

Source: Madera County Environmental Health
Telephone: 559-675-7823
Last EDR Contact: 11/11/2020
Next Scheduled EDR Contact: 03/01/2021
Data Release Frequency: Varies

MARIN COUNTY:

UST MARIN: Underground Storage Tank Sites
Currently permitted USTs in Marin County.

Date of Government Version: 09/26/2018
Date Data Arrived at EDR: 10/04/2018
Date Made Active in Reports: 11/02/2018
Number of Days to Update: 29

Source: Public Works Department Waste Management
Telephone: 415-473-6647
Last EDR Contact: 09/23/2020
Next Scheduled EDR Contact: 01/11/2021
Data Release Frequency: Semi-Annually

MERCED COUNTY:

CUPA MERCED: CUPA Facility List
CUPA facility list.

Date of Government Version: 07/28/2020
Date Data Arrived at EDR: 07/30/2020
Date Made Active in Reports: 07/31/2020
Number of Days to Update: 1

Source: Merced County Environmental Health
Telephone: 209-381-1094
Last EDR Contact: 11/11/2020
Next Scheduled EDR Contact: 03/01/2021
Data Release Frequency: Varies

MONO COUNTY:

CUPA MONO: CUPA Facility List
CUPA Facility List

Date of Government Version: 08/20/2020
Date Data Arrived at EDR: 08/24/2020
Date Made Active in Reports: 11/09/2020
Number of Days to Update: 77

Source: Mono County Health Department
Telephone: 760-932-5580
Last EDR Contact: 11/15/2020
Next Scheduled EDR Contact: 03/08/3021
Data Release Frequency: Varies

MONTEREY COUNTY:

CUPA MONTEREY: CUPA Facility Listing
CUPA Program listing from the Environmental Health Division.

Date of Government Version: 07/13/2020
Date Data Arrived at EDR: 07/15/2020
Date Made Active in Reports: 07/31/2020
Number of Days to Update: 16

Source: Monterey County Health Department
Telephone: 831-796-1297
Last EDR Contact: 09/23/2020
Next Scheduled EDR Contact: 01/11/2021
Data Release Frequency: Varies

NAPA COUNTY:

LUST NAPA: Sites With Reported Contamination
A listing of leaking underground storage tank sites located in Napa county.

Date of Government Version: 01/09/2017
Date Data Arrived at EDR: 01/11/2017
Date Made Active in Reports: 03/02/2017
Number of Days to Update: 50

Source: Napa County Department of Environmental Management
Telephone: 707-253-4269
Last EDR Contact: 11/16/2020
Next Scheduled EDR Contact: 03/08/2021
Data Release Frequency: No Update Planned

UST NAPA: Closed and Operating Underground Storage Tank Sites
Underground storage tank sites located in Napa county.

Date of Government Version: 09/05/2019
Date Data Arrived at EDR: 09/09/2019
Date Made Active in Reports: 10/31/2019
Number of Days to Update: 52

Source: Napa County Department of Environmental Management
Telephone: 707-253-4269
Last EDR Contact: 11/16/2020
Next Scheduled EDR Contact: 03/08/2021
Data Release Frequency: No Update Planned

NEVADA COUNTY:

CUPA NEVADA: CUPA Facility List
CUPA facility list.

Date of Government Version: 07/29/2020
Date Data Arrived at EDR: 07/30/2020
Date Made Active in Reports: 10/13/2020
Number of Days to Update: 75

Source: Community Development Agency
Telephone: 530-265-1467
Last EDR Contact: 10/20/2020
Next Scheduled EDR Contact: 02/08/2021
Data Release Frequency: Varies

ORANGE COUNTY:

IND_SITE ORANGE: List of Industrial Site Cleanups
Petroleum and non-petroleum spills.

Date of Government Version: 06/10/2020
Date Data Arrived at EDR: 08/03/2020
Date Made Active in Reports: 10/19/2020
Number of Days to Update: 77

Source: Health Care Agency
Telephone: 714-834-3446
Last EDR Contact: 11/02/2020
Next Scheduled EDR Contact: 02/15/2021
Data Release Frequency: Annually

LUST ORANGE: List of Underground Storage Tank Cleanups
Orange County Underground Storage Tank Cleanups (LUST).

Date of Government Version: 07/02/2020
Date Data Arrived at EDR: 08/05/2020
Date Made Active in Reports: 10/23/2020
Number of Days to Update: 79

Source: Health Care Agency
Telephone: 714-834-3446
Last EDR Contact: 11/02/2020
Next Scheduled EDR Contact: 02/15/2021
Data Release Frequency: Quarterly

UST ORANGE: List of Underground Storage Tank Facilities
Orange County Underground Storage Tank Facilities (UST).

Date of Government Version: 07/01/2020
Date Data Arrived at EDR: 08/03/2020
Date Made Active in Reports: 10/19/2020
Number of Days to Update: 77

Source: Health Care Agency
Telephone: 714-834-3446
Last EDR Contact: 11/03/2020
Next Scheduled EDR Contact: 02/15/2021
Data Release Frequency: Quarterly

PLACER COUNTY:

MS PLACER: Master List of Facilities
List includes aboveground tanks, underground tanks and cleanup sites.

Date of Government Version: 06/08/2020
Date Data Arrived at EDR: 06/10/2020
Date Made Active in Reports: 08/24/2020
Number of Days to Update: 75

Source: Placer County Health and Human Services
Telephone: 530-745-2363
Last EDR Contact: 08/25/2020
Next Scheduled EDR Contact: 12/14/2020
Data Release Frequency: Semi-Annually

PLUMAS COUNTY:

CUPA PLUMAS: CUPA Facility List
Plumas County CUPA Program facilities.

Date of Government Version: 03/31/2019
Date Data Arrived at EDR: 04/23/2019
Date Made Active in Reports: 06/26/2019
Number of Days to Update: 64

Source: Plumas County Environmental Health
Telephone: 530-283-6355
Last EDR Contact: 10/13/2020
Next Scheduled EDR Contact: 02/01/2021
Data Release Frequency: Varies

RIVERSIDE COUNTY:

LUST RIVERSIDE: Listing of Underground Tank Cleanup Sites
Riverside County Underground Storage Tank Cleanup Sites (LUST).

Date of Government Version: 10/06/2020
Date Data Arrived at EDR: 10/07/2020
Date Made Active in Reports: 11/03/2020
Number of Days to Update: 27

Source: Department of Environmental Health
Telephone: 951-358-5055
Last EDR Contact: 09/15/2020
Next Scheduled EDR Contact: 12/28/2020
Data Release Frequency: Quarterly

UST RIVERSIDE: Underground Storage Tank Tank List
Underground storage tank sites located in Riverside county.

Date of Government Version: 10/06/2020
Date Data Arrived at EDR: 10/07/2020
Date Made Active in Reports: 11/03/2020
Number of Days to Update: 27
Source: Department of Environmental Health
Telephone: 951-358-5055
Last EDR Contact: 09/10/2020
Next Scheduled EDR Contact: 12/28/2020
Data Release Frequency: Quarterly

SACRAMENTO COUNTY:

CS SACRAMENTO: Toxic Site Clean-Up List
List of sites where unauthorized releases of potentially hazardous materials have occurred.

Date of Government Version: 02/18/2020
Date Data Arrived at EDR: 03/31/2020
Date Made Active in Reports: 06/15/2020
Number of Days to Update: 76
Source: Sacramento County Environmental Management
Telephone: 916-875-8406
Last EDR Contact: 10/02/2020
Next Scheduled EDR Contact: 01/11/2021
Data Release Frequency: Quarterly

ML SACRAMENTO: Master Hazardous Materials Facility List
Any business that has hazardous materials on site - hazardous material storage sites, underground storage tanks, waste generators.

Date of Government Version: 02/24/2020
Date Data Arrived at EDR: 03/31/2020
Date Made Active in Reports: 06/17/2020
Number of Days to Update: 78
Source: Sacramento County Environmental Management
Telephone: 916-875-8406
Last EDR Contact: 10/02/2020
Next Scheduled EDR Contact: 01/11/2021
Data Release Frequency: Quarterly

SAN BENITO COUNTY:

CUPA SAN BENITO: CUPA Facility List
Cupa facility list

Date of Government Version: 08/04/2020
Date Data Arrived at EDR: 08/05/2020
Date Made Active in Reports: 10/22/2020
Number of Days to Update: 78
Source: San Benito County Environmental Health
Telephone: N/A
Last EDR Contact: 10/28/2020
Next Scheduled EDR Contact: 02/15/2021
Data Release Frequency: Varies

SAN BERNARDINO COUNTY:

PERMITS SAN BERNARDINO: Hazardous Material Permits
This listing includes underground storage tanks, medical waste handlers/generators, hazardous materials handlers, hazardous waste generators, and waste oil generators/handlers.

Date of Government Version: 08/04/2020
Date Data Arrived at EDR: 08/05/2020
Date Made Active in Reports: 10/26/2020
Number of Days to Update: 82
Source: San Bernardino County Fire Department Hazardous Materials Division
Telephone: 909-387-3041
Last EDR Contact: 10/28/2020
Next Scheduled EDR Contact: 02/15/2021
Data Release Frequency: Quarterly

SAN DIEGO COUNTY:

HMMD SAN DIEGO: Hazardous Materials Management Division Database

The database includes: HE58 - This report contains the business name, site address, business phone number, establishment 'H' permit number, type of permit, and the business status. HE17 - In addition to providing the same information provided in the HE58 listing, HE17 provides inspection dates, violations received by the establishment, hazardous waste generated, the quantity, method of storage, treatment/disposal of waste and the hauler, and information on underground storage tanks. Unauthorized Release List - Includes a summary of environmental contamination cases in San Diego County (underground tank cases, non-tank cases, groundwater contamination, and soil contamination are included.)

Date of Government Version: 06/01/2020
Date Data Arrived at EDR: 06/02/2020
Date Made Active in Reports: 08/14/2020
Number of Days to Update: 73

Source: Hazardous Materials Management Division
Telephone: 619-338-2268
Last EDR Contact: 08/31/2020
Next Scheduled EDR Contact: 12/14/2020
Data Release Frequency: Quarterly

LF SAN DIEGO: Solid Waste Facilities

San Diego County Solid Waste Facilities.

Date of Government Version: 04/18/2018
Date Data Arrived at EDR: 04/24/2018
Date Made Active in Reports: 06/19/2018
Number of Days to Update: 56

Source: Department of Health Services
Telephone: 619-338-2209
Last EDR Contact: 11/16/2020
Next Scheduled EDR Contact: 02/01/2021
Data Release Frequency: Varies

SAN DIEGO CO LOP: Local Oversight Program Listing

A listing of all LOP release sites that are or were under the County of San Diego's jurisdiction. Included are closed or transferred cases, open cases, and cases that did not have a case type indicated. The cases without a case type are mostly complaints; however, some of them could be LOP cases.

Date of Government Version: 07/14/2020
Date Data Arrived at EDR: 07/16/2020
Date Made Active in Reports: 09/29/2020
Number of Days to Update: 75

Source: Department of Environmental Health
Telephone: 858-505-6874
Last EDR Contact: 10/13/2020
Next Scheduled EDR Contact: 02/01/2021
Data Release Frequency: Varies

SAN DIEGO CO SAM: Environmental Case Listing

The listing contains all underground tank release cases and projects pertaining to properties contaminated with hazardous substances that are actively under review by the Site Assessment and Mitigation Program.

Date of Government Version: 03/23/2010
Date Data Arrived at EDR: 06/15/2010
Date Made Active in Reports: 07/09/2010
Number of Days to Update: 24

Source: San Diego County Department of Environmental Health
Telephone: 619-338-2371
Last EDR Contact: 08/25/2020
Next Scheduled EDR Contact: 12/14/2020
Data Release Frequency: No Update Planned

SAN FRANCISCO COUNTY:

CUPA SAN FRANCISCO CO: CUPA Facility Listing

Cupa facilities

Date of Government Version: 08/03/2020
Date Data Arrived at EDR: 08/05/2020
Date Made Active in Reports: 10/22/2020
Number of Days to Update: 78

Source: San Francisco County Department of Environmental Health
Telephone: 415-252-3896
Last EDR Contact: 10/28/2020
Next Scheduled EDR Contact: 02/15/2021
Data Release Frequency: Varies

LUST SAN FRANCISCO: Local Oversite Facilities

A listing of leaking underground storage tank sites located in San Francisco county.

Date of Government Version: 09/19/2008
Date Data Arrived at EDR: 09/19/2008
Date Made Active in Reports: 09/29/2008
Number of Days to Update: 10

Source: Department Of Public Health San Francisco County
Telephone: 415-252-3920
Last EDR Contact: 10/28/2020
Next Scheduled EDR Contact: 02/15/2021
Data Release Frequency: No Update Planned

UST SAN FRANCISCO: Underground Storage Tank Information
Underground storage tank sites located in San Francisco county.

Date of Government Version: 08/03/2020
Date Data Arrived at EDR: 08/05/2020
Date Made Active in Reports: 10/26/2020
Number of Days to Update: 82

Source: Department of Public Health
Telephone: 415-252-3920
Last EDR Contact: 10/28/2020
Next Scheduled EDR Contact: 02/15/2021
Data Release Frequency: Quarterly

SAN JOAQUIN COUNTY:

UST SAN JOAQUIN: San Joaquin Co. UST
A listing of underground storage tank locations in San Joaquin county.

Date of Government Version: 06/22/2018
Date Data Arrived at EDR: 06/26/2018
Date Made Active in Reports: 07/11/2018
Number of Days to Update: 15

Source: Environmental Health Department
Telephone: N/A
Last EDR Contact: 09/10/2020
Next Scheduled EDR Contact: 12/28/2020
Data Release Frequency: Semi-Annually

SAN LUIS OBISPO COUNTY:

CUPA SAN LUIS OBISPO: CUPA Facility List
Cupa Facility List.

Date of Government Version: 07/27/2020
Date Data Arrived at EDR: 08/12/2020
Date Made Active in Reports: 10/26/2020
Number of Days to Update: 75

Source: San Luis Obispo County Public Health Department
Telephone: 805-781-5596
Last EDR Contact: 11/11/2020
Next Scheduled EDR Contact: 03/01/2021
Data Release Frequency: Varies

SAN MATEO COUNTY:

BI SAN MATEO: Business Inventory
List includes Hazardous Materials Business Plan, hazardous waste generators, and underground storage tanks.

Date of Government Version: 02/20/2020
Date Data Arrived at EDR: 02/20/2020
Date Made Active in Reports: 04/24/2020
Number of Days to Update: 64

Source: San Mateo County Environmental Health Services Division
Telephone: 650-363-1921
Last EDR Contact: 09/11/2020
Next Scheduled EDR Contact: 12/21/2020
Data Release Frequency: Annually

LUST SAN MATEO: Fuel Leak List
A listing of leaking underground storage tank sites located in San Mateo county.

Date of Government Version: 03/29/2019
Date Data Arrived at EDR: 03/29/2019
Date Made Active in Reports: 05/29/2019
Number of Days to Update: 61

Source: San Mateo County Environmental Health Services Division
Telephone: 650-363-1921
Last EDR Contact: 09/01/2020
Next Scheduled EDR Contact: 12/21/2020
Data Release Frequency: Semi-Annually

SANTA BARBARA COUNTY:

CUPA SANTA BARBARA: CUPA Facility Listing
CUPA Program Listing from the Environmental Health Services division.

Date of Government Version: 09/08/2011
Date Data Arrived at EDR: 09/09/2011
Date Made Active in Reports: 10/07/2011
Number of Days to Update: 28

Source: Santa Barbara County Public Health Department
Telephone: 805-686-8167
Last EDR Contact: 11/11/2020
Next Scheduled EDR Contact: 03/01/2021
Data Release Frequency: No Update Planned

SANTA CLARA COUNTY:

CUPA SANTA CLARA: Cupa Facility List
Cupa facility list

Date of Government Version: 08/20/2020
Date Data Arrived at EDR: 08/20/2020
Date Made Active in Reports: 11/09/2020
Number of Days to Update: 81

Source: Department of Environmental Health
Telephone: 408-918-1973
Last EDR Contact: 11/11/2020
Next Scheduled EDR Contact: 03/01/2021
Data Release Frequency: Varies

HIST LUST SANTA CLARA: HIST LUST - Fuel Leak Site Activity Report
A listing of open and closed leaking underground storage tanks. This listing is no longer updated by the county. Leaking underground storage tanks are now handled by the Department of Environmental Health.

Date of Government Version: 03/29/2005
Date Data Arrived at EDR: 03/30/2005
Date Made Active in Reports: 04/21/2005
Number of Days to Update: 22

Source: Santa Clara Valley Water District
Telephone: 408-265-2600
Last EDR Contact: 03/23/2009
Next Scheduled EDR Contact: 06/22/2009
Data Release Frequency: No Update Planned

LUST SANTA CLARA: LOP Listing
A listing of leaking underground storage tanks located in Santa Clara county.

Date of Government Version: 03/03/2014
Date Data Arrived at EDR: 03/05/2014
Date Made Active in Reports: 03/18/2014
Number of Days to Update: 13

Source: Department of Environmental Health
Telephone: 408-918-3417
Last EDR Contact: 11/16/2020
Next Scheduled EDR Contact: 03/08/2021
Data Release Frequency: No Update Planned

SAN JOSE HAZMAT: Hazardous Material Facilities
Hazardous material facilities, including underground storage tank sites.

Date of Government Version: 07/30/2020
Date Data Arrived at EDR: 07/31/2020
Date Made Active in Reports: 10/16/2020
Number of Days to Update: 77

Source: City of San Jose Fire Department
Telephone: 408-535-7694
Last EDR Contact: 10/28/2020
Next Scheduled EDR Contact: 02/15/2021
Data Release Frequency: Annually

SANTA CRUZ COUNTY:

CUPA SANTA CRUZ: CUPA Facility List
CUPA facility listing.

Date of Government Version: 01/21/2017
Date Data Arrived at EDR: 02/22/2017
Date Made Active in Reports: 05/23/2017
Number of Days to Update: 90

Source: Santa Cruz County Environmental Health
Telephone: 831-464-2761
Last EDR Contact: 11/11/2020
Next Scheduled EDR Contact: 03/01/2021
Data Release Frequency: Varies

SHASTA COUNTY:

CUPA SHASTA: CUPA Facility List
Cupa Facility List.

Date of Government Version: 06/15/2017
Date Data Arrived at EDR: 06/19/2017
Date Made Active in Reports: 08/09/2017
Number of Days to Update: 51

Source: Shasta County Department of Resource Management
Telephone: 530-225-5789
Last EDR Contact: 11/11/2020
Next Scheduled EDR Contact: 03/01/2021
Data Release Frequency: Varies

SOLANO COUNTY:

LUST SOLANO: Leaking Underground Storage Tanks
A listing of leaking underground storage tank sites located in Solano county.

Date of Government Version: 06/04/2019
Date Data Arrived at EDR: 06/06/2019
Date Made Active in Reports: 08/13/2019
Number of Days to Update: 68

Source: Solano County Department of Environmental Management
Telephone: 707-784-6770
Last EDR Contact: 08/25/2020
Next Scheduled EDR Contact: 12/14/2020
Data Release Frequency: Quarterly

UST SOLANO: Underground Storage Tanks
Underground storage tank sites located in Solano county.

Date of Government Version: 08/25/2020
Date Data Arrived at EDR: 08/26/2020
Date Made Active in Reports: 09/16/2020
Number of Days to Update: 21

Source: Solano County Department of Environmental Management
Telephone: 707-784-6770
Last EDR Contact: 08/25/2020
Next Scheduled EDR Contact: 12/14/2020
Data Release Frequency: Quarterly

SONOMA COUNTY:

CUPA SONOMA: Cupa Facility List
Cupa Facility list

Date of Government Version: 07/07/2020
Date Data Arrived at EDR: 07/08/2020
Date Made Active in Reports: 09/25/2020
Number of Days to Update: 79

Source: County of Sonoma Fire & Emergency Services Department
Telephone: 707-565-1174
Last EDR Contact: 09/16/2020
Next Scheduled EDR Contact: 01/04/2021
Data Release Frequency: Varies

LUST SONOMA: Leaking Underground Storage Tank Sites
A listing of leaking underground storage tank sites located in Sonoma county.

Date of Government Version: 07/01/2020
Date Data Arrived at EDR: 07/02/2020
Date Made Active in Reports: 09/17/2020
Number of Days to Update: 77

Source: Department of Health Services
Telephone: 707-565-6565
Last EDR Contact: 09/16/2020
Next Scheduled EDR Contact: 01/04/2021
Data Release Frequency: Quarterly

STANISLAUS COUNTY:

CUPA STANISLAUS: CUPA Facility List
Cupa facility list

Date of Government Version: 02/04/2020
Date Data Arrived at EDR: 02/05/2020
Date Made Active in Reports: 04/15/2020
Number of Days to Update: 70

Source: Stanislaus County Department of Ennvironmental Protection
Telephone: 209-525-6751
Last EDR Contact: 10/02/2020
Next Scheduled EDR Contact: 01/25/2021
Data Release Frequency: Varies

SUTTER COUNTY:

UST SUTTER: Underground Storage Tanks
Underground storage tank sites located in Sutter county.

Date of Government Version: 08/25/2020
Date Data Arrived at EDR: 08/26/2020
Date Made Active in Reports: 11/17/2020
Number of Days to Update: 83

Source: Sutter County Environmental Health Services
Telephone: 530-822-7500
Last EDR Contact: 08/25/2020
Next Scheduled EDR Contact: 12/14/2020
Data Release Frequency: Semi-Annually

TEHAMA COUNTY:

CUPA TEHAMA: CUPA Facility List
Cupa facilities

Date of Government Version: 08/11/2020
Date Data Arrived at EDR: 08/12/2020
Date Made Active in Reports: 10/26/2020
Number of Days to Update: 75

Source: Tehama County Department of Environmental Health
Telephone: 530-527-8020
Last EDR Contact: 11/11/2020
Next Scheduled EDR Contact: 02/15/2021
Data Release Frequency: Varies

TRINITY COUNTY:

CUPA TRINITY: CUPA Facility List
Cupa facility list

Date of Government Version: 07/14/2020
Date Data Arrived at EDR: 07/16/2020
Date Made Active in Reports: 09/29/2020
Number of Days to Update: 75

Source: Department of Toxic Substances Control
Telephone: 760-352-0381
Last EDR Contact: 10/13/2020
Next Scheduled EDR Contact: 02/01/2021
Data Release Frequency: Varies

TULARE COUNTY:

CUPA TULARE: CUPA Facility List
Cupa program facilities

Date of Government Version: 08/06/2020
Date Data Arrived at EDR: 08/06/2020
Date Made Active in Reports: 10/26/2020
Number of Days to Update: 81

Source: Tulare County Environmental Health Services Division
Telephone: 559-624-7400
Last EDR Contact: 10/28/2020
Next Scheduled EDR Contact: 02/15/2021
Data Release Frequency: Varies

TUOLUMNE COUNTY:

CUPA TUOLUMNE: CUPA Facility List
Cupa facility list

Date of Government Version: 04/23/2018
Date Data Arrived at EDR: 04/25/2018
Date Made Active in Reports: 06/25/2018
Number of Days to Update: 61

Source: Divison of Environmental Health
Telephone: 209-533-5633
Last EDR Contact: 10/13/2020
Next Scheduled EDR Contact: 02/01/2021
Data Release Frequency: Varies

VENTURA COUNTY:

BWT VENTURA: Business Plan, Hazardous Waste Producers, and Operating Underground Tanks
The BWT list indicates by site address whether the Environmental Health Division has Business Plan (B), Waste Producer (W), and/or Underground Tank (T) information.

Date of Government Version: 07/10/2020
Date Data Arrived at EDR: 07/22/2020
Date Made Active in Reports: 10/08/2020
Number of Days to Update: 78

Source: Ventura County Environmental Health Division
Telephone: 805-654-2813
Last EDR Contact: 10/19/2020
Next Scheduled EDR Contact: 02/01/2021
Data Release Frequency: Quarterly

LF VENTURA: Inventory of Illegal Abandoned and Inactive Sites
Ventura County Inventory of Closed, Illegal Abandoned, and Inactive Sites.

Date of Government Version: 12/01/2011
Date Data Arrived at EDR: 12/01/2011
Date Made Active in Reports: 01/19/2012
Number of Days to Update: 49

Source: Environmental Health Division
Telephone: 805-654-2813
Last EDR Contact: 09/23/2020
Next Scheduled EDR Contact: 01/11/2021
Data Release Frequency: No Update Planned

LUST VENTURA: Listing of Underground Tank Cleanup Sites
Ventura County Underground Storage Tank Cleanup Sites (LUST).

Date of Government Version: 05/29/2008
Date Data Arrived at EDR: 06/24/2008
Date Made Active in Reports: 07/31/2008
Number of Days to Update: 37

Source: Environmental Health Division
Telephone: 805-654-2813
Last EDR Contact: 11/05/2020
Next Scheduled EDR Contact: 02/22/2021
Data Release Frequency: No Update Planned

MED WASTE VENTURA: Medical Waste Program List
To protect public health and safety and the environment from potential exposure to disease causing agents, the Environmental Health Division Medical Waste Program regulates the generation, handling, storage, treatment and disposal of medical waste throughout the County.

Date of Government Version: 07/10/2020
Date Data Arrived at EDR: 07/22/2020
Date Made Active in Reports: 10/07/2020
Number of Days to Update: 77

Source: Ventura County Resource Management Agency
Telephone: 805-654-2813
Last EDR Contact: 10/19/2020
Next Scheduled EDR Contact: 02/01/2021
Data Release Frequency: Quarterly

UST VENTURA: Underground Tank Closed Sites List
Ventura County Operating Underground Storage Tank Sites (UST)/Underground Tank Closed Sites List.

Date of Government Version: 05/26/2020
Date Data Arrived at EDR: 06/09/2020
Date Made Active in Reports: 08/20/2020
Number of Days to Update: 72

Source: Environmental Health Division
Telephone: 805-654-2813
Last EDR Contact: 09/08/2020
Next Scheduled EDR Contact: 12/21/2020
Data Release Frequency: Quarterly

YOLO COUNTY:

UST YOLO: Underground Storage Tank Comprehensive Facility Report
Underground storage tank sites located in Yolo county.

Date of Government Version: 06/23/2020
Date Data Arrived at EDR: 06/29/2020
Date Made Active in Reports: 09/15/2020
Number of Days to Update: 78

Source: Yolo County Department of Health
Telephone: 530-666-8646
Last EDR Contact: 10/07/2020
Next Scheduled EDR Contact: 01/11/2021
Data Release Frequency: Annually

YUBA COUNTY:

CUPA YUBA: CUPA Facility List
CUPA facility listing for Yuba County.

Date of Government Version: 08/06/2020
Date Data Arrived at EDR: 08/07/2020
Date Made Active in Reports: 10/26/2020
Number of Days to Update: 80

Source: Yuba County Environmental Health Department
Telephone: 530-749-7523
Last EDR Contact: 11/03/2020
Next Scheduled EDR Contact: 02/08/2021
Data Release Frequency: Varies

OTHER DATABASE(S)

Depending on the geographic area covered by this report, the data provided in these specialty databases may or may not be complete. For example, the existence of wetlands information data in a specific report does not mean that all wetlands in the area covered by the report are included. Moreover, the absence of any reported wetlands information does not necessarily mean that wetlands do not exist in the area covered by the report.

CT MANIFEST: Hazardous Waste Manifest Data
Facility and manifest data. Manifest is a document that lists and tracks hazardous waste from the generator through transporters to a tsd facility.

Date of Government Version: 08/10/2020
Date Data Arrived at EDR: 10/20/2020
Date Made Active in Reports: 11/02/2020
Number of Days to Update: 13

Source: Department of Energy & Environmental Protection
Telephone: 860-424-3375
Last EDR Contact: 11/09/2020
Next Scheduled EDR Contact: 02/22/2021
Data Release Frequency: No Update Planned

NJ MANIFEST: Manifest Information
Hazardous waste manifest information.

Date of Government Version: 12/31/2018
Date Data Arrived at EDR: 04/10/2019
Date Made Active in Reports: 05/16/2019
Number of Days to Update: 36

Source: Department of Environmental Protection
Telephone: N/A
Last EDR Contact: 10/09/2020
Next Scheduled EDR Contact: 01/18/2021
Data Release Frequency: Annually

NY MANIFEST: Facility and Manifest Data
Manifest is a document that lists and tracks hazardous waste from the generator through transporters to a TSD facility.

Date of Government Version: 01/01/2019
Date Data Arrived at EDR: 04/29/2020
Date Made Active in Reports: 07/10/2020
Number of Days to Update: 72

Source: Department of Environmental Conservation
Telephone: 518-402-8651
Last EDR Contact: 10/30/2020
Next Scheduled EDR Contact: 02/08/2021
Data Release Frequency: Quarterly

PA MANIFEST: Manifest Information
Hazardous waste manifest information.

Date of Government Version: 06/30/2018
Date Data Arrived at EDR: 07/19/2019
Date Made Active in Reports: 09/10/2019
Number of Days to Update: 53

Source: Department of Environmental Protection
Telephone: 717-783-8990
Last EDR Contact: 10/07/2020
Next Scheduled EDR Contact: 01/25/2021
Data Release Frequency: Annually

RI MANIFEST: Manifest information
Hazardous waste manifest information

Date of Government Version: 12/31/2018
Date Data Arrived at EDR: 10/02/2019
Date Made Active in Reports: 12/10/2019
Number of Days to Update: 69

Source: Department of Environmental Management
Telephone: 401-222-2797
Last EDR Contact: 11/11/2020
Next Scheduled EDR Contact: 03/01/2021
Data Release Frequency: Annually

WI MANIFEST: Manifest Information
Hazardous waste manifest information.

Date of Government Version: 05/31/2018
Date Data Arrived at EDR: 06/19/2019
Date Made Active in Reports: 09/03/2019
Number of Days to Update: 76

Source: Department of Natural Resources
Telephone: N/A
Last EDR Contact: 09/02/2020
Next Scheduled EDR Contact: 12/21/2020
Data Release Frequency: Annually

Oil/Gas Pipelines
Source: Endeavor Business Media
Petroleum Bundle (Crude Oil, Refined Products, Petrochemicals, Gas Liquids (LPG/NGL), and Specialty Gases (Miscellaneous)) N = Natural Gas Bundle (Natural Gas, Gas Liquids (LPG/NGL), and Specialty Gases (Miscellaneous)). This map includes information copyrighted by Endeavor Business Media. This information is provided on a best effort basis and Endeavor Business Media does not guarantee its accuracy nor warrant its fitness for any particular purpose. Such information has been reprinted with the permission of Endeavor Business Media.

Electric Power Transmission Line Data
Source: Endeavor Business Media
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Sensitive Receptors: There are individuals deemed sensitive receptors due to their fragile immune systems and special sensitivity to environmental discharges. These sensitive receptors typically include the elderly, the sick, and children. While the location of all sensitive receptors cannot be determined, EDR indicates those buildings and facilities - schools, daycares, hospitals, medical centers, and nursing homes - where individuals who are sensitive receptors are likely to be located.

AHA Hospitals:
Source: American Hospital Association, Inc.
Telephone: 312-280-5991
The database includes a listing of hospitals based on the American Hospital Association's annual survey of hospitals.

Medical Centers: Provider of Services Listing
Source: Centers for Medicare & Medicaid Services
Telephone: 410-786-3000
A listing of hospitals with Medicare provider number, produced by Centers of Medicare & Medicaid Services, a federal agency within the U.S. Department of Health and Human Services.

Nursing Homes
Source: National Institutes of Health
Telephone: 301-594-6248
Information on Medicare and Medicaid certified nursing homes in the United States.

Public Schools
Source: National Center for Education Statistics
Telephone: 202-502-7300
The National Center for Education Statistics' primary database on elementary and secondary public education in the United States. It is a comprehensive, annual, national statistical database of all public elementary and secondary schools and school districts, which contains data that are comparable across all states.

Private Schools
Source: National Center for Education Statistics
Telephone: 202-502-7300
The National Center for Education Statistics' primary database on private school locations in the United States.

Daycare Centers: Licensed Facilities
Source: Department of Social Services
Telephone: 916-657-4041

Flood Zone Data: This data was obtained from the Federal Emergency Management Agency (FEMA). It depicts 100-year and 500-year flood zones as defined by FEMA. It includes the National Flood Hazard Layer (NFHL) which incorporates Flood Insurance Rate Map (FIRM) data and Q3 data from FEMA in areas not covered by NFHL.
Source: FEMA
Telephone: 877-336-2627
Date of Government Version: 2003, 2015

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

NWI: National Wetlands Inventory. This data, available in select counties across the country, was obtained by EDR in 2002, 2005 and 2010 from the U.S. Fish and Wildlife Service.

State Wetlands Data: Wetland Inventory
Source: Department of Fish and Wildlife
Telephone: 916-445-0411

Current USGS 7.5 Minute Topographic Map
Source: U.S. Geological Survey

STREET AND ADDRESS INFORMATION

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GEOCHECK ®- PHYSICAL SETTING SOURCE ADDENDUM

TARGET PROPERTY ADDRESS

STONE BEETLAND
COSUMNES RIVER BOULEVARD
SACRAMENTO, CA 95832

TARGET PROPERTY COORDINATES

Latitude (North):	38.46563 - 38° 27' 56.27''
Longitude (West):	121.469897 - 121° 28' 11.63''
Universal Tranverse Mercator:	Zone 10
UTM X (Meters):	633492.1
UTM Y (Meters):	4258382.0
Elevation:	9 ft. above sea level

USGS TOPOGRAPHIC MAP

Target Property Map:	5619710 FLORIN, CA
Version Date:	2012

EDR's GeoCheck Physical Setting Source Addendum is provided to assist the environmental professional in forming an opinion about the impact of potential contaminant migration.

Assessment of the impact of contaminant migration generally has two principle investigative components:

1. Groundwater flow direction, and
2. Groundwater flow velocity.

Groundwater flow direction may be impacted by surface topography, hydrology, hydrogeology, characteristics of the soil, and nearby wells. Groundwater flow velocity is generally impacted by the nature of the geologic strata.

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

GROUNDWATER FLOW DIRECTION INFORMATION

Groundwater flow direction for a particular site is best determined by a qualified environmental professional using site-specific well data. If such data is not reasonably ascertainable, it may be necessary to rely on other sources of information, such as surface topographic information, hydrologic information, hydrogeologic data collected on nearby properties, and regional groundwater flow information (from deep aquifers).

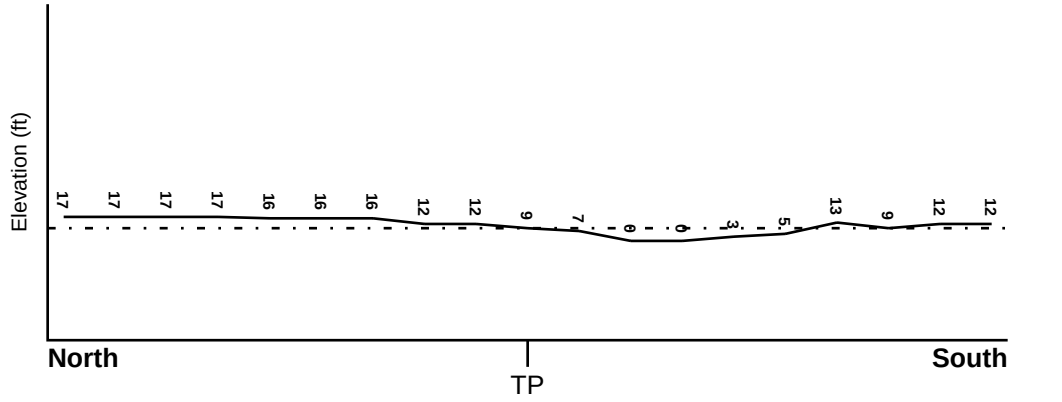
TOPOGRAPHIC INFORMATION

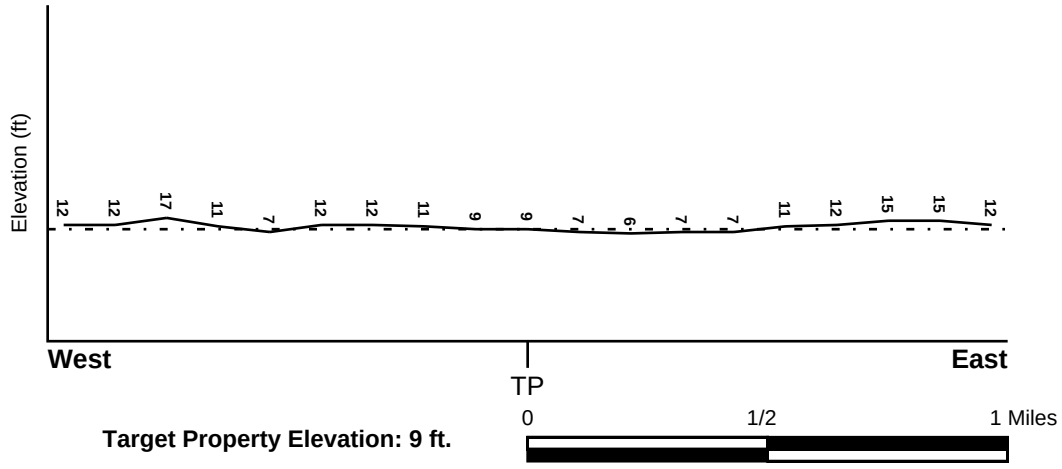
Surface topography may be indicative of the direction of surficial groundwater flow. This information can be used to assist the environmental professional in forming an opinion about the impact of nearby contaminated properties or, should contamination exist on the target property, what downgradient sites might be impacted.

TARGET PROPERTY TOPOGRAPHY

General Topographic Gradient: General SSE

SURROUNDING TOPOGRAPHY: ELEVATION PROFILES





Target Property Elevation: 9 ft.

0 1/2 1 Miles

Source: Topography has been determined from the USGS 7.5' Digital Elevation Model and should be evaluated on a relative (not an absolute) basis. Relative elevation information between sites of close proximity should be field verified.

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

HYDROLOGIC INFORMATION

Surface water can act as a hydrologic barrier to groundwater flow. Such hydrologic information can be used to assist the environmental professional in forming an opinion about the impact of nearby contaminated properties or, should contamination exist on the target property, what downgradient sites might be impacted.

Refer to the Physical Setting Source Map following this summary for hydrologic information (major waterways and bodies of water).

FEMA FLOOD ZONE

Flood Plain Panel at Target Property	FEMA Source Type
06067C0305H	FEMA FIRM Flood data

Additional Panels in search area:	FEMA Source Type
06067C0302H	FEMA FIRM Flood data

NATIONAL WETLAND INVENTORY

NWI Quad at Target Property	NWI Electronic Data Coverage
FLORIN	YES - refer to the Overview Map and Detail Map

HYDROGEOLOGIC INFORMATION

Hydrogeologic information obtained by installation of wells on a specific site can often be an indicator of groundwater flow direction in the immediate area. Such hydrogeologic information can be used to assist the environmental professional in forming an opinion about the impact of nearby contaminated properties or, should contamination exist on the target property, what downgradient sites might be impacted.

Site-Specific Hydrogeological Data*:

Search Radius:	1.25 miles
Status:	Not found

AQUIFLOW®

Search Radius: 1.000 Mile.

EDR has developed the AQUIFLOW Information System to provide data on the general direction of groundwater flow at specific points. EDR has reviewed reports submitted by environmental professionals to regulatory authorities at select sites and has extracted the date of the report, groundwater flow direction as determined hydrogeologically, and the depth to water table.

MAP ID	LOCATION FROM TP	GENERAL DIRECTION GROUNDWATER FLOW
Not Reported		

* ©1996 Site−specific hydrogeological data gathered by CERCLIS Alerts, Inc., Bainbridge Island, WA. All rights reserved. All of the information and opinions presented are those of the cited EPA report(s), which were completed under a Comprehensive Environmental Response Compensation and Liability Information System (CERCLIS) investigation.

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

GROUNDWATER FLOW VELOCITY INFORMATION

Groundwater flow velocity information for a particular site is best determined by a qualified environmental professional using site specific geologic and soil strata data. If such data are not reasonably ascertainable, it may be necessary to rely on other sources of information, including geologic age identification, rock stratigraphic unit and soil characteristics data collected on nearby properties and regional soil information. In general, contaminant plumes move more quickly through sandy-gravelly types of soils than silty-clayey types of soils.

GEOLOGIC INFORMATION IN GENERAL AREA OF TARGET PROPERTY

Geologic information can be used by the environmental professional in forming an opinion about the relative speed at which contaminant migration may be occurring.

ROCK STRATIGRAPHIC UNIT

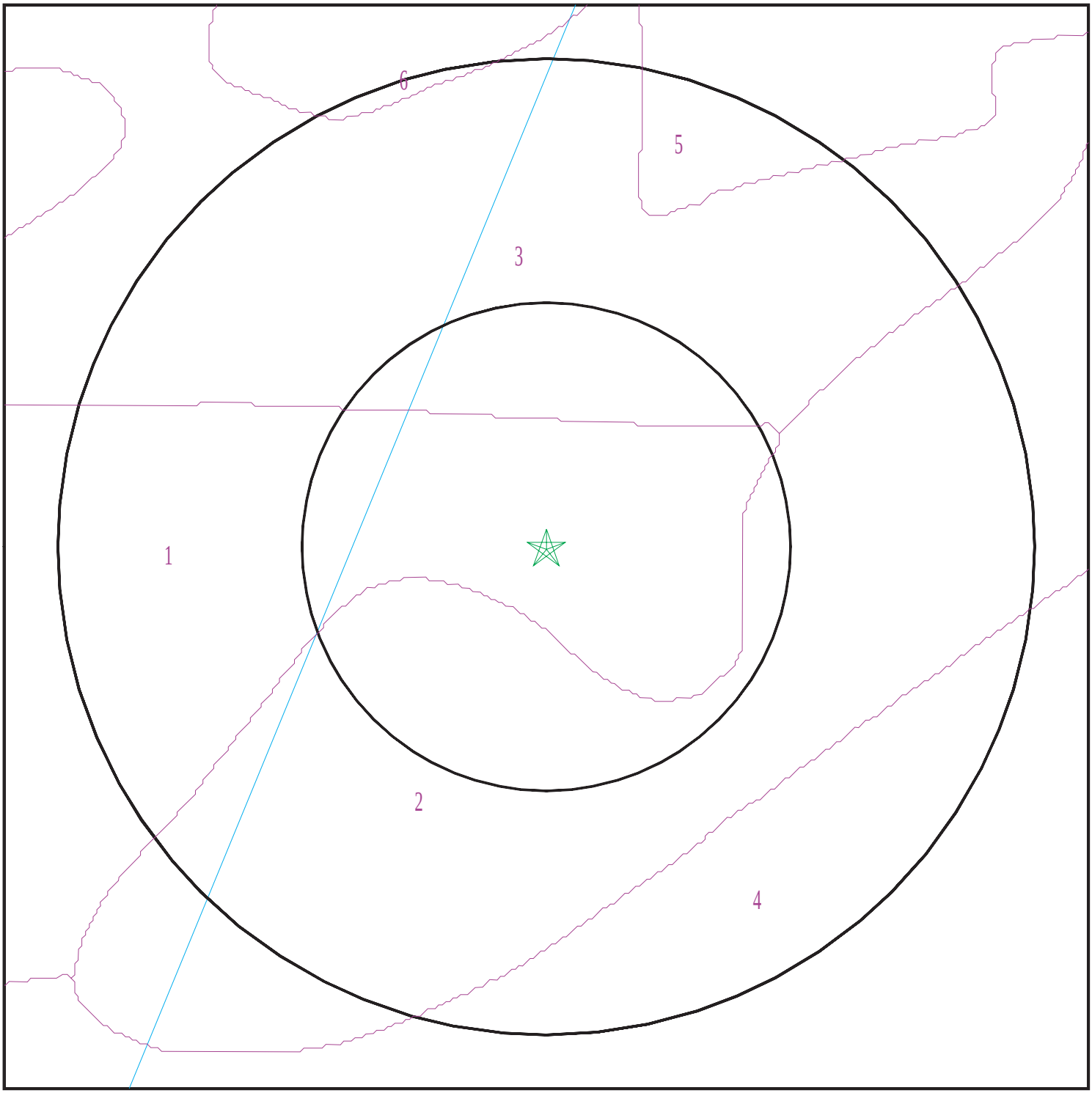
Era:	Cenozoic
System:	Quaternary
Series:	Quaternary
Code:	Q *(decoded above as Era, System & Series)*

GEOLOGIC AGE IDENTIFICATION

Category: Stratifed Sequence

Geologic Age and Rock Stratigraphic Unit Source: P.G. Schruben, R.E. Arndt and W.J. Bawiec, Geology of the Conterminous U.S. at 1:2,500,000 Scale - a digital representation of the 1974 P.B. King and H.M. Beikman Map, USGS Digital Data Series DDS - 11 (1994).

SSURGO SOIL MAP - 06275924.2r



Target Property
SSURGO Soil
Water

0 1/16 1/8 1/4 Miles

N

SITE NAME:	Stone Beetland	CLIENT:	Engeo Inc.
ADDRESS:	Cosumnes River Boulevard Sacramento CA 95832	CONTACT:	Stephen Blakely
LAT/LONG:	38.46563 / 121.469897	INQUIRY #:	06275924.2r
		DATE:	November 20, 2020 7:08 pm

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GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

DOMINANT SOIL COMPOSITION IN GENERAL AREA OF TARGET PROPERTY

The U.S. Department of Agriculture's (USDA) Soil Conservation Service (SCS) leads the National Cooperative Soil Survey (NCSS) and is responsible for collecting, storing, maintaining and distributing soil survey information for privately owned lands in the United States. A soil map in a soil survey is a representation of soil patterns in a landscape. The following information is based on Soil Conservation Service SSURGO data.

Soil Map ID: 1

Soil Component Name: GALT

Soil Surface Texture: clay

Hydrologic Group: Class D - Very slow infiltration rates. Soils are clayey, have a high water table, or are shallow to an impervious layer.

Soil Drainage Class: Moderately well drained

Hydric Status: Partially hydric

Corrosion Potential - Uncoated Steel: High

Depth to Bedrock Min: > 0 inches

Depth to Watertable Min: > 0 inches

Soil Layer Information							
	Boundary			Classification		Saturated hydraulic conductivity micro m/sec	Soil Reaction (pH)
Layer	Upper	Lower	Soil Texture Class	AASHTO Group	Unified Soil		
1	0 inches	12 inches	clay	Silt-Clay Materials (more than 35 pct. passing No. 200), Clayey Soils.	Not reported	Max: 0.01 Min: 0	Max: Min:
2	12 inches	31 inches	clay	Silt-Clay Materials (more than 35 pct. passing No. 200), Clayey Soils.	Not reported	Max: 0.01 Min: 0	Max: Min:
3	31 inches	59 inches	cemented	Silt-Clay Materials (more than 35 pct. passing No. 200), Clayey Soils.	Not reported	Max: 0.01 Min: 0	Max: Min:

Soil Map ID: 2

Soil Component Name: CLEAR LAKE

Soil Surface Texture: clay

Hydrologic Group: Class D - Very slow infiltration rates. Soils are clayey, have a high water table, or are shallow to an impervious layer.

Soil Drainage Class: Somewhat poorly drained

Hydric Status: Partially hydric

Corrosion Potential - Uncoated Steel: High

Depth to Bedrock Min: > 0 inches

Depth to Watertable Min: > 0 inches

Soil Layer Information							
	Boundary			Classification		Saturated hydraulic conductivity micro m/sec	Soil Reaction (pH)
Layer	Upper	Lower	Soil Texture Class	AASHTO Group	Unified Soil		
1	0 inches	42 inches	clay	Silt-Clay Materials (more than 35 pct. passing No. 200), Clayey Soils.	FINE-GRAINED SOILS, Silts and Clays (liquid limit less than 50%), Lean Clay	Max: 4 Min: 1.4	Max: 8.4 Min: 7.4
2	42 inches	61 inches	stratified sandy clay loam to clay loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Clayey Soils.	FINE-GRAINED SOILS, Silts and Clays (liquid limit less than 50%), Lean Clay	Max: 4 Min: 1.4	Max: 8.4 Min: 7.4

Soil Map ID: 3

Soil Component Name: GALT

Soil Surface Texture: clay

Hydrologic Group: Class D - Very slow infiltration rates. Soils are clayey, have a high water table, or are shallow to an impervious layer.

Soil Drainage Class: Moderately well drained

Hydric Status: Partially hydric

Corrosion Potential - Uncoated Steel: High

Depth to Bedrock Min: > 0 inches

Depth to Watertable Min: > 0 inches

Soil Layer Information							
	Boundary			Classification		Saturated hydraulic conductivity micro m/sec	Soil Reaction (pH)
Layer	Upper	Lower	Soil Texture Class	AASHTO Group	Unified Soil		
1	0 inches	12 inches	clay	Silt-Clay Materials (more than 35 pct. passing No. 200), Clayey Soils.	Not reported	Max: 0.01 Min: 0	Max: Min:
2	12 inches	31 inches	clay	Silt-Clay Materials (more than 35 pct. passing No. 200), Clayey Soils.	Not reported	Max: 0.01 Min: 0	Max: Min:
3	31 inches	59 inches	cemented	Silt-Clay Materials (more than 35 pct. passing No. 200), Clayey Soils.	Not reported	Max: 0.01 Min: 0	Max: Min:

Soil Map ID: 4

Soil Component Name: EGBERT

Soil Surface Texture: clay

Hydrologic Group: Class D - Very slow infiltration rates. Soils are clayey, have a high water table, or are shallow to an impervious layer.

Soil Drainage Class: Poorly drained

Hydric Status: All hydric

Corrosion Potential - Uncoated Steel: High

Depth to Bedrock Min: > 0 inches

Depth to Watertable Min: > 0 inches

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

Soil Layer Information							
	Boundary			Classification		Saturated hydraulic conductivity micro m/sec	Soil Reaction (pH)
Layer	Upper	Lower	Soil Texture Class	AASHTO Group	Unified Soil		
1	0 inches	18 inches	clay	Silt-Clay Materials (more than 35 pct. passing No. 200), Clayey Soils.	FINE-GRAINED SOILS, Silts and Clays (liquid limit less than 50%), Lean Clay	Max: 4 Min: 1.4	Max: 8.4 Min: 6.1
2	18 inches	46 inches	silty clay loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Clayey Soils.	FINE-GRAINED SOILS, Silts and Clays (liquid limit less than 50%), Lean Clay	Max: 4 Min: 1.4	Max: 8.4 Min: 6.1
3	46 inches	59 inches	stratified sandy clay loam to clay loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Clayey Soils.	FINE-GRAINED SOILS, Silts and Clays (liquid limit less than 50%), Lean Clay	Max: 4 Min: 1.4	Max: 8.4 Min: 6.1

Soil Map ID: 5

Soil Component Name: GALT

Soil Surface Texture: clay

Hydrologic Group: Class D - Very slow infiltration rates. Soils are clayey, have a high water table, or are shallow to an impervious layer.

Soil Drainage Class: Moderately well drained

Hydric Status: Partially hydric

Corrosion Potential - Uncoated Steel: High

Depth to Bedrock Min: > 0 inches

Depth to Watertable Min: > 0 inches

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

Soil Layer Information							
	Boundary			Classification		Saturated hydraulic conductivity micro m/sec	Soil Reaction (pH)
Layer	Upper	Lower	Soil Texture Class	AASHTO Group	Unified Soil		
1	0 inches	12 inches	clay	Silt-Clay Materials (more than 35 pct. passing No. 200), Clayey Soils.	Not reported	Max: 0.01 Min: 0	Max: Min:
2	12 inches	31 inches	clay	Silt-Clay Materials (more than 35 pct. passing No. 200), Clayey Soils.	Not reported	Max: 0.01 Min: 0	Max: Min:
3	31 inches	59 inches	cemented	Silt-Clay Materials (more than 35 pct. passing No. 200), Clayey Soils.	Not reported	Max: 0.01 Min: 0	Max: Min:

Soil Map ID: 6

Soil Component Name: SAN JOAQUIN

Soil Surface Texture: silt loam

Hydrologic Group: Class D - Very slow infiltration rates. Soils are clayey, have a high water table, or are shallow to an impervious layer.

Soil Drainage Class: Moderately well drained

Hydric Status: Partially hydric

Corrosion Potential - Uncoated Steel: Moderate

Depth to Bedrock Min: > 0 inches

Depth to Watertable Min: > 0 inches

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

Soil Layer Information							
	Boundary			Classification		Saturated hydraulic conductivity micro m/sec	Soil Reaction (pH)
Layer	Upper	Lower	Soil Texture Class	AASHTO Group	Unified Soil		
1	0 inches	22 inches	silt loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Silty Soils.	COARSE-GRAINED SOILS, Sands, Sands with fines, Clayey sand. COARSE-GRAINED SOILS, Sands, Sands with fines, Silty Sand.	Max: 1.4 Min: 0.42	Max: 7.8 Min: 6.1
2	22 inches	27 inches	clay loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Silty Soils.	COARSE-GRAINED SOILS, Sands, Sands with fines, Clayey sand. COARSE-GRAINED SOILS, Sands, Sands with fines, Silty Sand.	Max: 1.4 Min: 0.42	Max: 7.8 Min: 6.1
3	27 inches	53 inches	indurated	Silt-Clay Materials (more than 35 pct. passing No. 200), Silty Soils.	COARSE-GRAINED SOILS, Sands, Sands with fines, Clayey sand. COARSE-GRAINED SOILS, Sands, Sands with fines, Silty Sand.	Max: 1.4 Min: 0.42	Max: 7.8 Min: 6.1
4	53 inches	59 inches	stratified sandy loam to loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Silty Soils.	COARSE-GRAINED SOILS, Sands, Sands with fines, Clayey sand. COARSE-GRAINED SOILS, Sands, Sands with fines, Silty Sand.	Max: 1.4 Min: 0.42	Max: 7.8 Min: 6.1

LOCAL / REGIONAL WATER AGENCY RECORDS

EDR Local/Regional Water Agency records provide water well information to assist the environmental professional in assessing sources that may impact ground water flow direction, and in forming an opinion about the impact of contaminant migration on nearby drinking water wells.

WELL SEARCH DISTANCE INFORMATION

DATABASE	SEARCH DISTANCE (miles)
Federal USGS	1.000
Federal FRDS PWS	Nearest PWS within 1 mile
State Database	1.000

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

FEDERAL USGS WELL INFORMATION

MAP ID	WELL ID	LOCATION FROM TP
A6	USGS40000188463	1/2 - 1 Mile East

FEDERAL FRDS PUBLIC WATER SUPPLY SYSTEM INFORMATION

MAP ID	WELL ID	LOCATION FROM TP

No PWS System Found

Note: PWS System location is not always the same as well location.

STATE DATABASE WELL INFORMATION

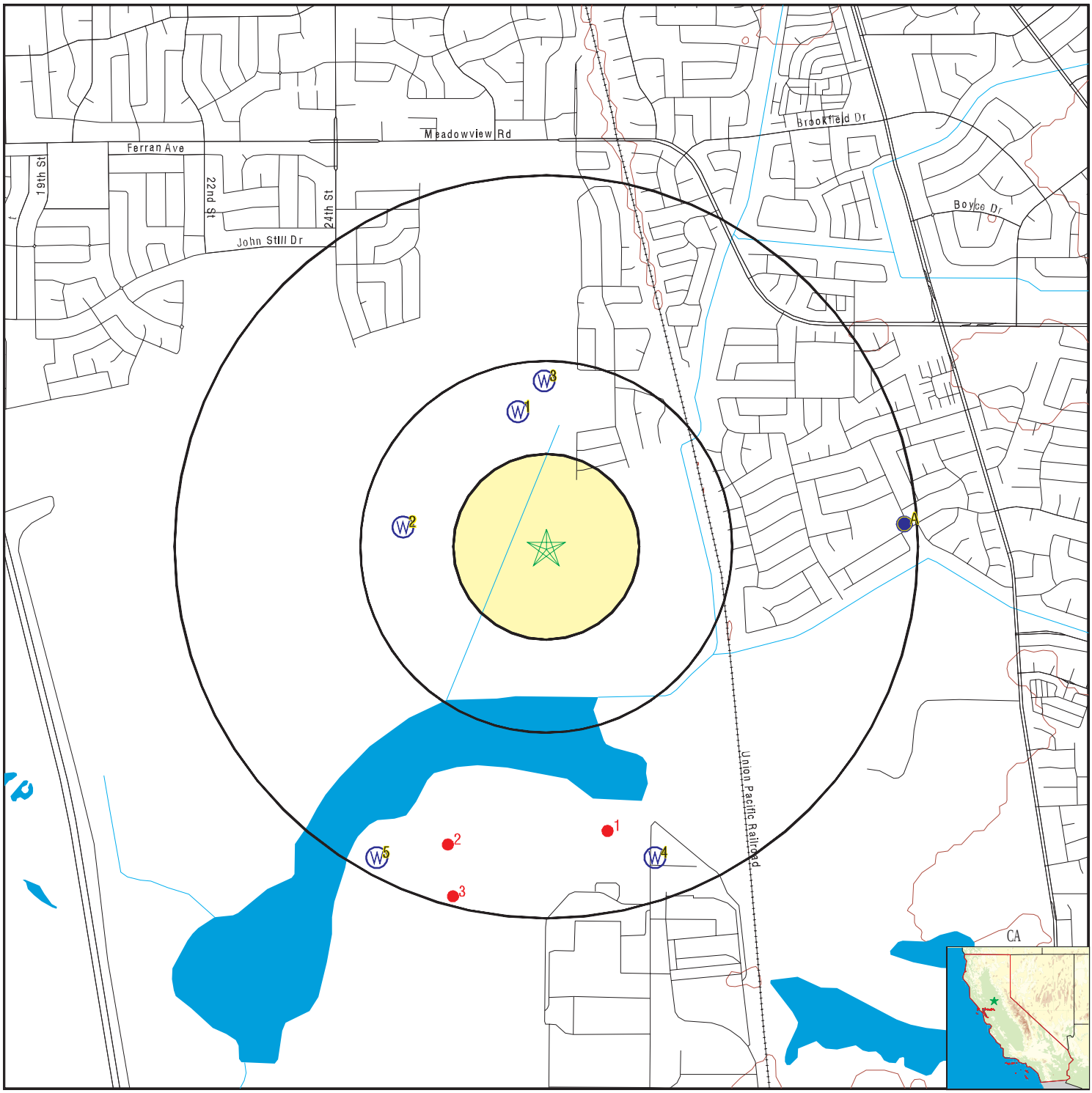
MAP ID	WELL ID	LOCATION FROM TP
1	CAEDF0000023431	1/4 - 1/2 Mile NNW
2	CADWR8000038094	1/4 - 1/2 Mile West
3	CADWR0000024780	1/4 - 1/2 Mile North
4	CAEDF0000016143	1/2 - 1 Mile SSE
5	CAEDF0000099504	1/2 - 1 Mile SSW
A7	CAUSGSN00018465	1/2 - 1 Mile East

OTHER STATE DATABASE INFORMATION

STATE OIL/GAS WELL INFORMATION

MAP ID	WELL ID	LOCATION FROM TP
1	CAOG13000093828	1/2 - 1 Mile SSE
2	CAOG13000093827	1/2 - 1 Mile SSW
3	CAOG13000093823	1/2 - 1 Mile SSW

PHYSICAL SETTING SOURCE MAP - 06275924.2r



- County Boundary
- Major Roads
- Contour Lines
- Earthquake Fault Lines
- Earthquake epicenter, Richter 5 or greater
- Water Wells
- Public Water Supply Wells
- Cluster of Multiple Icons
- Groundwater Flow Direction
- GI Indeterminate Groundwater Flow at Location
- GV Groundwater Flow Varies at Location
- HD Closest Hydrogeological Data
- Oil, gas or related wells

SITE NAME:	Stone Beetland	CLIENT:	Engeo Inc.
ADDRESS:	Cosumnes River Boulevard Sacramento CA 95832	CONTACT:	Stephen Blakely
		INQUIRY #:	06275924.2r
LAT/LONG:	38.46563 / 121.469897	DATE:	November 20, 2020 7:08 pm

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GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Map ID
Direction
Distance
Elevation | Database | EDR ID Number

1
NNW
1/4 - 1/2 Mile
Higher

CA WELLS **CAEDF0000023431**

Well ID:	SL205873047-MW-19	Well Type:	MONITORING
Source:	EDF	Other Name:	MW-19
GAMA PFAS Testing:	Not Reported		
Groundwater Quality Data:	https://gamagroundwater.waterboards.ca.gov/gama/gamamap/public/GamaDataDisplay.asp?dataset=EDF&samp_date=&global_id=SL205873047&assigned_name=MW-19&store_num=		
GeoTracker Data:	https://geotracker.waterboards.ca.gov/profile_report.asp?cmd=MWEDFResults&global_id=SL205873047&assigned_name=MW-19		

2
West
1/4 - 1/2 Mile
Higher

CA WELLS **CADWR8000038094**

State Well #:	07N05E18C001M	Station ID:	27202
Well Name:	SCGA #1	Well Use:	Irrigation
Well Type:	Single Well	Well Depth:	0
Basin Name:	South American	Well Completion Rpt #:	Not Reported

---

3
North
1/4 - 1/2 Mile
Higher

CA WELLS **CADWR0000024780**

Well ID:	07N05E07C001M	Well Type:	UNK
Source:	Department of Water Resources		
Other Name:	07N05E07C001M	GAMA PFAS Testing:	Not Reported
Groundwater Quality Data:	https://gamagroundwater.waterboards.ca.gov/gama/gamamap/public/GamaDataDisplay.asp?dataset=DWR&samp_date=&global_id=&assigned_name=07N05E07C001M&store_num=		
GeoTracker Data:	Not Reported		

4
SSE
1/2 - 1 Mile
Lower

CA WELLS **CAEDF0000016143**

Well ID:	L10007002783-MW-227R	Well Type:	MONITORING
Source:	EDF	Other Name:	MW-227R
GAMA PFAS Testing:	Not Reported		
Groundwater Quality Data:	https://gamagroundwater.waterboards.ca.gov/gama/gamamap/public/GamaDataDisplay.asp?dataset=EDF&samp_date=&global_id=L10007002783&assigned_name=MW-227R&store_num=		
GeoTracker Data:	https://geotracker.waterboards.ca.gov/profile_report.asp?cmd=MWEDFResults&global_id=L10007002783&assigned_name=MW-227R		

Map ID
Direction
Distance
Elevation | Database | EDR ID Number

5
SSW
1/2 - 1 Mile
Lower

CA WELLS **CAEDF0000099504**

Well ID:	L10007002783-MW-219R	Well Type:	MONITORING
Source:	EDF	Other Name:	MW-219R
GAMA PFAS Testing:	Not Reported		
Groundwater Quality Data:	https://gamagroundwater.waterboards.ca.gov/gama/gamamap/public/GamaDataDisplay.asp?dataset=EDF&samp_date=&global_id=L10007002783&assigned_name=MW-219R&store_num=		
GeoTracker Data:	https://geotracker.waterboards.ca.gov/profile_report.asp?cmd=MWEDFResults&global_id=L10007002783&assigned_name=MW-219R		

A6
East
1/2 - 1 Mile
Higher

FED USGS **USGS40000188463**

Organization ID:	USGS-CA		
Organization Name:	USGS California Water Science Center		
Monitor Location:	007N005E17B001M	Type:	Well
Description:	NAWQA DATA ENTRY COM VER 9.30.99 DAWSON BJ		
HUC:	18020109	Drainage Area:	Not Reported
Drainage Area Units:	Not Reported	Contrib Drainage Area:	Not Reported
Contrib Drainage Area Unts:	Not Reported	Aquifer:	Central Valley aquifer system
Formation Type:	Sacramento Valley Aquifer	Aquifer Type:	Unconfined single aquifer
Construction Date:	19971003	Well Depth:	47
Well Depth Units:	ft	Well Hole Depth:	47
Well Hole Depth Units:	ft		

Ground water levels,Number of Measurements:	9	Level reading date:	2004-09-01
Feet below surface:	23.27	Feet to sea level:	Not Reported
Note:	Not Reported		

Level reading date:	2004-06-03	Feet below surface:	22.71
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	2004-05-26	Feet below surface:	23.69
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	2004-03-03	Feet below surface:	23.16
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	2004-02-05	Feet below surface:	23.8
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	2003-11-20	Feet below surface:	23.98
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	2002-06-12	Feet below surface:	23.34
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1998-07-22	Feet below surface:	23.38
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1998-01-13	Feet below surface:	27.10
Feet to sea level:	Not Reported	Note:	Not Reported

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Map ID
Direction
Distance
Elevation

Database	EDR ID Number
CA WELLS	**CAUSGSN00018465**

A7
East
1/2 - 1 Mile
Higher

Well ID:	USGS-382800121270701	Well Type:	UNK
Source:	United States Geological Survey		
Other Name:	USGS-382800121270701	GAMA PFAS Testing:	Not Reported
Groundwater Quality Data:	https://gamagroundwater.waterboards.ca.gov/gama/gamamap/public/GamaDataDisplay.asp?dataset=USGSNEW&samp_date=&global_id=&assigned_name=USGS-382800121270701&store_num=		
GeoTracker Data:	Not Reported		

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Map ID
Direction
Distance

Database EDR ID Number

1
SSE **OIL_GAS** **CAOG13000093828**
1/2 - 1 Mile

API #:	0406700032	Well #:	2
Well Status:	Plugged	Well Type:	DH
Operator Name:	Chevron U.S.A. Inc.	Lease Name:	Sims Community
Field Name:	Freeport Gas (ABD)	Area Name:	Any Area
GIS Source:	hud	Confidential Well:	N
Directionally Drilled:	N	SPUD Date:	11/07/1952

2
SSW **OIL_GAS** **CAOG13000093827**
1/2 - 1 Mile

API #:	0406700031	Well #:	3
Well Status:	Plugged	Well Type:	GAS
Operator Name:	Neaves Petro. Developments		
Lease Name:	Neaves-Standard Oil-Sims	Field Name:	Freeport Gas (ABD)
Area Name:	Any Area	GIS Source:	hud
Confidential Well:	N	Directionally Drilled:	N
SPUD Date:	02/24/1962		

3
SSW **OIL_GAS** **CAOG13000093823**
1/2 - 1 Mile

API #:	0406720201	Well #:	1
Well Status:	Plugged	Well Type:	GAS
Operator Name:	Hilliard Oil & Gas, Inc.	Lease Name:	SRCSD
Field Name:	Freeport Gas (ABD)	Area Name:	Any Area
GIS Source:	hud	Confidential Well:	N
Directionally Drilled:	Y	SPUD Date:	09/11/1982

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS
RADON

AREA RADON INFORMATION

State Database: CA Radon

Radon Test Results

Zipcode	Num Tests	> 4 pCi/L
95832	2	0

Federal EPA Radon Zone for SACRAMENTO County: 3

Note: Zone 1 indoor average level > 4 pCi/L.
: Zone 2 indoor average level >= 2 pCi/L and <= 4 pCi/L.
: Zone 3 indoor average level < 2 pCi/L.

Federal Area Radon Information for Zip Code: 95832

Number of sites tested: 1

Area	Average Activity	% <4 pCi/L	% 4-20 pCi/L	% >20 pCi/L
Living Area - 1st Floor	0.100 pCi/L	100%	0%	0%
Living Area - 2nd Floor	Not Reported	Not Reported	Not Reported	Not Reported
Basement	Not Reported	Not Reported	Not Reported	Not Reported

PHYSICAL SETTING SOURCE RECORDS SEARCHED

TOPOGRAPHIC INFORMATION

USGS 7.5' Digital Elevation Model (DEM)
Source: United States Geologic Survey
EDR acquired the USGS 7.5' Digital Elevation Model in 2002 and updated it in 2006. The 7.5 minute DEM corresponds to the USGS 1:24,000- and 1:25,000-scale topographic quadrangle maps. The DEM provides elevation data with consistent elevation units and projection.

Current USGS 7.5 Minute Topographic Map
Source: U.S. Geological Survey

HYDROLOGIC INFORMATION

Flood Zone Data: This data was obtained from the Federal Emergency Management Agency (FEMA). It depicts 100-year and 500-year flood zones as defined by FEMA. It includes the National Flood Hazard Layer (NFHL) which incorporates Flood Insurance Rate Map (FIRM) data and Q3 data from FEMA in areas not covered by NFHL.
Source: FEMA
Telephone: 877-336-2627
Date of Government Version: 2003, 2015

NWI: National Wetlands Inventory. This data, available in select counties across the country, was obtained by EDR in 2002, 2005 and 2010 from the U.S. Fish and Wildlife Service.

State Wetlands Data: Wetland Inventory
Source: Department of Fish and Wildlife
Telephone: 916-445-0411

HYDROGEOLOGIC INFORMATION

AQUIFLOW^{R} Information System
Source: EDR proprietary database of groundwater flow information
EDR has developed the AQUIFLOW Information System (AIS) to provide data on the general direction of groundwater flow at specific points. EDR has reviewed reports submitted to regulatory authorities at select sites and has extracted the date of the report, hydrogeologically determined groundwater flow direction and depth to water table information.

GEOLOGIC INFORMATION

Geologic Age and Rock Stratigraphic Unit
Source: P.G. Schruben, R.E. Arndt and W.J. Bawiec, Geology of the Conterminous U.S. at 1:2,500,000 Scale - A digital representation of the 1974 P.B. King and H.M. Beikman Map, USGS Digital Data Series DDS - 11 (1994).

STATSGO: State Soil Geographic Database
Source: Department of Agriculture, Natural Resources Conservation Service (NRCS)
The U.S. Department of Agriculture's (USDA) Natural Resources Conservation Service (NRCS) leads the national Conservation Soil Survey (NCSS) and is responsible for collecting, storing, maintaining and distributing soil survey information for privately owned lands in the United States. A soil map in a soil survey is a representation of soil patterns in a landscape. Soil maps for STATSGO are compiled by generalizing more detailed (SSURGO) soil survey maps.

SSURGO: Soil Survey Geographic Database
Source: Department of Agriculture, Natural Resources Conservation Service (NRCS)
Telephone: 800-672-5559
SSURGO is the most detailed level of mapping done by the Natural Resources Conservation Service, mapping scales generally range from 1:12,000 to 1:63,360. Field mapping methods using national standards are used to construct the soil maps in the Soil Survey Geographic (SSURGO) database. SSURGO digitizing duplicates the original soil survey maps. This level of mapping is designed for use by landowners, townships and county natural resource planning and management.

PHYSICAL SETTING SOURCE RECORDS SEARCHED

LOCAL / REGIONAL WATER AGENCY RECORDS

FEDERAL WATER WELLS

PWS: Public Water Systems
Source: EPA/Office of Drinking Water
Telephone: 202-564-3750
Public Water System data from the Federal Reporting Data System. A PWS is any water system which provides water to at least 25 people for at least 60 days annually. PWSs provide water from wells, rivers and other sources.

PWS ENF: Public Water Systems Violation and Enforcement Data
Source: EPA/Office of Drinking Water
Telephone: 202-564-3750
Violation and Enforcement data for Public Water Systems from the Safe Drinking Water Information System (SDWIS) after August 1995. Prior to August 1995, the data came from the Federal Reporting Data System (FRDS).

USGS Water Wells: USGS National Water Inventory System (NWIS)
This database contains descriptive information on sites where the USGS collects or has collected data on surface water and/or groundwater. The groundwater data includes information on wells, springs, and other sources of groundwater.

OTHER STATE DATABASE INFORMATION

Groundwater Ambient Monitoring & Assessment Program
State Water Resources Control Board
Telephone: 916-341-5577
The GAMA Program is Californias comprehensive groundwater quality monitoring program. GAMA collects data by testing the untreated, raw water in different types of wells for naturally-occurring and man-made chemicals. The GAMA data includes Domestic, Monitoring and Municipal well types from the following sources, Department of Water Resources, Department of Heath Services, EDF, Agricultural Lands, Lawrence Livermore National Laboratory, Department of Pesticide Regulation, United States Geological Survey, Groundwater Ambient Monitoring and Assessment Program and Local Groundwater Projects.

Water Well Database
Source: Department of Water Resources
Telephone: 916-651-9648

California Drinking Water Quality Database
Source: Department of Public Health
Telephone: 916-324-2319
The database includes all drinking water compliance and special studies monitoring for the state of California since 1984. It consists of over 3,200,000 individual analyses along with well and water system information.

California Oil and Gas Well Locations
Source: Dept of Conservation, Geologic Energy Management Division
Telephone: 916-323-1779
Oil and Gas well locations in the state.

California Earthquake Fault Lines
Source: California Division of Mines and Geology
The fault lines displayed on EDR's Topographic map are digitized quaternary fault lines prepared in 1975 by the United State Geological Survey. Additional information (also from 1975) regarding activity at specific fault lines comes from California's Preliminary Fault Activity Map prepared by the California Division of Mines and Geology.

RADON

State Database: CA Radon
Source: Department of Public Health
Telephone: 916-210-8558
Radon Database for California

PHYSICAL SETTING SOURCE RECORDS SEARCHED

Area Radon Information
Source: USGS
Telephone: 703-356-4020
The National Radon Database has been developed by the U.S. Environmental Protection Agency (USEPA) and is a compilation of the EPA/State Residential Radon Survey and the National Residential Radon Survey. The study covers the years 1986 - 1992. Where necessary data has been supplemented by information collected at private sources such as universities and research institutions.

EPA Radon Zones
Source: EPA
Telephone: 703-356-4020
Sections 307 & 309 of IRAA directed EPA to list and identify areas of U.S. with the potential for elevated indoor radon levels.

OTHER

Airport Landing Facilities: Private and public use landing facilities
Source: Federal Aviation Administration, 800-457-6656

Epicenters: World earthquake epicenters, Richter 5 or greater
Source: Department of Commerce, National Oceanic and Atmospheric Administration

California Earthquake Fault Lines: The fault lines displayed on EDR's Topographic map are digitized quaternary fault lines, prepared in 1975 by the United State Geological Survey. Additional information (also from 1975) regarding activity at specific fault lines comes from California's Preliminary Fault Activity Map prepared by the California Division of Mines and Geology.

STREET AND ADDRESS INFORMATION

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DRAFT

APPENDIX B

STEWART TITLE OF SACRAMENTO

Preliminary Title Report

stewart title
of sacramento
555 Capitol Mall, Ste. 545
Sacramento, CA 95814
Phone (916) 441-4950

Preliminary Report

Issued For The Sole Use Of:
•
•
•

Escrow Officer: Ruth Alexander
Escrow No.: CM-15017508-RA

Reference:

Property Address:

In response to the above referenced application for a policy of title insurance, **Stewart Title Guaranty Company** hereby reports that it is prepared to issue, or cause to be issued, as of the date hereof, a Policy or Policies of Title Insurance describing the land and the estate or interest therein hereinafter set forth, insuring against loss which may be sustained by reason of any defect, lien or encumbrance not shown referred to as an Exception in Schedule **B** or not excluded from coverage pursuant to the printed Schedules, Conditions and Stipulations of said Policy forms.

The printed Exceptions and Exclusions from the coverage of said Policy or Policies are set forth in the attached list. Copies of the Policy forms should be read. They are available from the office which issued this report.

Please read the exceptions shown or referred to below and the exceptions and exclusions set forth in Exhibit "B" of this report carefully. Limitations on covered risks applicable to the CLTA/ALTA Homeowner's Policy of Title Insurance which establish a deductable amount and a maximum dollar limit of liability for certain coverages are set forth in Exhibit "B". The exceptions and exclusions are meant to provide you with notice of matters which are not covered under the terms of the title insurance policy and should be carefully considered.

It is important to note that this preliminary report is not a written representation as to the condition of title and may not list all liens, defects, and encumbrances affecting title to the land.

This report (and any supplements or amendments hereto) is issued solely for the purpose of facilitating the issuance of a policy of title insurance and no liability is assumed hereby. If it is desired that liability be assumed prior to the issuance of a policy of title insurance, a binder or commitment should be requested.

Dated as of August 15, 2019 at 7:30 a.m.

Title Officer
Alan Murray / tp

Schedule A

The form of policy of title insurance contemplated by this report is:

CLTA STANDARD
ALTA LENDERS

CLTA / ALTA Homeowners applies only if each insured to be named in Schedule A is a natural person (as natural person is defined in said policy). If an Insured to be named in Schedule A is not such a natural person a CLTA Standard Coverage Owners Policy will be issued.

The estate or interest in the land hereinafter described or referred to covered by this Report is:
A Fee

Title to said estate or interest at the date hereof is vested in:

Suzanne Nielsen, as Trustee of the Lisa Stone Kelley 2004 Trust No. 1, established 12/15/2004, an undivided 6% interest; J. W. ''Bill'' Stone and Mildred M. Stone, as Trustees of the Lisa Stone Kelley 2004 Charitable Remainder Unitrust established 12/15/2004, an undivided 12.5% interest; Suzanne Nielsen, as Trustee of the Lisa Stone Kelley 2004 Trust No. 2 established 12/15/2004, an undivided 14% interest; Suzanne Nielsen, as Trustee of the Melinda C. Stone 2004 Trust established 12/15/2004, an undivided 1% interest; J. W. ''Bill'' Stone and Mildred M. Stone, as trustees of the Melinda C. Stone 2004 Charitable Remainder Unitrust established 12/15/2004, an undivided 18.5% interest; J. W. ''Bill'' Stone and Mildred M. Stone, as Trustees of the Bill and Mildred Stone 2004 Charitable Remainder Unitrust, an undivided 24% interest and Stone Enterprises, L. P., a California limited partnership, an undivided 24% interest, all a one-half interest in Parcels 1 and 2; and

Anne Orr Boswell, Trustee of the Anne Orr Boswell 1997 Revocable Grantor Trust dated 02/24/1997, as to an undivided 14.300% interest, Jamie Boswell Sharp, Trustee of the Jamie Boswell Sharp Living Trust dated 12/30/2005, as to an undivided 17.850% interest, Anne Orr Boswell and Jamie Boswell Sharp, Trustees of the Lucy Carolyn Boswell 2003 Trust dated October 23, 2003, as to an undivided 9.350% interest, and John D. Mickus, Conservator of the Estate of Lucy C. Boswell, as to an undivided 8.500% interest, all as tenants in common, all of a one-half interest in Parcel 1; and Leslie Frances Boswell, as to an undivided one-half interest in Parcel 2.

The land referred to in this Report is situated in the State of California, County of Sacramento, City of Sacramento, and is described as follows:

See Exhibit "A" attached hereto and made a part hereof.

Exhibit "A"
Legal Description

Parcel 1:

All that portion of Sections 7, 8, 17 and 18, Township 7 North, Range 5 East, M.D.B. & M., according to the official plat thereof, described as follows: Beginning at a concrete monument with a brass plate located on the northerly line of Section 18 from which the corner common to Sections 7, 8, 17 and 18, bears South 89°57'00'' East 1347.05 feet; thence from said point of beginning North 00°09'50'' East 465.47 feet to a point from which the southwesterly corner of that certain 10.317 acre tract of land described in the Deed to Sacramento City Unified School District recorded in the office of the Recorder of Sacramento County in Book 4210 of Official Records at page 257, bears North 00°09'50'' East 802.45 feet; thence South 83°48'56'' East 110.22 feet; thence North 69°13'00'' East 32.49 feet thence North 76°22'25'' East 893.00 feet; thence North 13°37'35' West 211.02 feet; thence North 76°22'25'' East 110.00 feet; thence North 64°17'40'' East 42.95 feet; thence North 76°22'25'' East 105.00 feet; thence North 13°37'35'' West 1.06 feet; thence North 76°22'25'' East 105.00 feet; thence North 84°53'40'' East 42.47 feet; thence North 76°22'25'' East 110.00 feet to a point on the easterly line of Parcel No. 1 of that certain easement to the City of Sacramento recorded August 31, 1964 in the office of said Recorder in Book 4059 of Official Records at page 207; thence along the Westerly line of said Parcel No. 1 the following two courses and distances: South 13°37'35' East 1465.77 feet and curving to the right on an arc of 5850.00 feet radius, said arc being subtended by a chord bearing South 09°44'35'' East 792.38 feet; thence North 70°10'00'' West 620.37 feet to a fence corner, from which the corner common to said Section 7, 8, 17 and 18 bears North 00°24'30'' West 989.25 feet; thence Westerly in a straight line to a point on the West line of the East one-half of the Northwest one-quarter of said Section 18, located along said line, South 00°29'17'' West 967.35 feet from the Southwest corner of that certain parcel of land deeded to the City of Sacramento in Deed recorded September 29, 1969, in Book 4125 of Official Records, at page 606; thence along said West line, North 00°29'17'' East 967.85 feet to said Southwest corner of said parcel deeded to the City of Sacramento; thence along the Southerly and Easterly boundary of said parcel of land the following two courses and distances: South 89°57'0'' East 35.00 feet and North 00°21'24'' East 25.00 feet to a point on the North line of said Section 18, thence along a fence line marking the North line of said Section 18, South 89°57'00'' East 2523.71 feet to the point of beginning.

Excepting therefrom all that portion of said land described as follows:

Beginning at a point located on the north line of said Section 18 from which the northwest corner thereof bears North 89°57'00'' West 1422.54 feet; thence from said point of beginning easterly along the North line of said Section 18 South 89°57'00'' East 624.19 feet; thence South 00°29'17'' West 992.50 feet; thence North 89°58'50'' West 659.14 feet; thence North 00°29'17'' East 967.85 feet to the southwest corner of that certain parcel of land deeded to the City of Sacramento recorded September 29, 1960 in the office of the Recorder of Sacramento in Book 4125 of Official Records, Page 606; thence along the southerly and easterly boundary of said parcel of land the following two courses and distances: South 89°57'00 East 35.00 feet and North 00°21'24'' East 25.00 feet to the point of beginning.

Legal description continued on next page.....

Exhibit "A"
Legal Description
(continued……)

Further Excepting therefrom an undivided one-half interest in all right, title and interest in those certain minerals, oil, gas and other hydrocarbon substances lying below a depth of 500 feet from the surface of said land and real property, whether now known to exist or hereafter discovered without, however any right to use the surface of said land and real property or any other portion thereof above a depth of 500 feet from the surface of such land and real property for any purpose whatsoever, as conveyed to Money Plan, a California corporation in Grant Deed recorded January 19, 1990 in Book 900119 page 1409, Official Records.

Apn: 053-0010-048 – 053-0010-076

Parcel 2:

All that portion of Section 18, Township 7 North, Range 5 East, M.D.B. & M., according to the official plat thereof, described as follows:

Beginning at a point located on the north line of said Section 18 from which the northwest corner thereof bears North 89°57'00" West 1422.54 feet; thence from said point of beginning easterly along the North line of said Section 18 South 89°57'00" East 624.19 feet; thence South 00°29'17" West 992.50 feet; thence North 89°58'50" West 659.14 feet; thence North 00°29'17" East 967.85 feet to the southwest corner of that certain parcel of land deeded to the City of Sacramento recorded September 29, 1960 in the office of the Recorder of Sacramento in Book 4125 of Official Records, Page 606; thence along the southerly and easterly boundary of said parcel of land the following two courses and distances: South 89°57'00 East 35.00 feet and North 00°21'24" East 25.00 feet to the point of beginning.

Excepting therefrom an undivided one-half interest in all right, title and interest in those certain minerals, oil, gas and other hydrocarbon substances lying below a depth of 500 feet from the surface of said land and real property, whether now known to exist or hereafter discovered without, however any right to use the surface of said land and real property or any other portion thereof above a depth of 500 feet from the surface of such land and real property for any purpose whatsoever, as conveyed to Money Plan, a California corporation in Grant Deed recorded January 19, 1990 in Book 900119 page 1409, Official Records.

Apn: 053-0010-049

Schedule B

At the date hereof exceptions to coverage in addition to the printed Exceptions and Exclusions in the policy form designated on the face page of this report would be as follows:

A. Taxes for the Fiscal Year 2019-2020, a lien not yet due or payable.

B. The herein described land lies within the boundaries of the Sacramento Area Flood Control Agency and is subject to an assessment being collected with the County Taxes.

The amount included in the taxes is $1,195.62, for the Sacramento City 1915 Act Bond – Safca Consolidated Capital Assessment #2. (APN 053-0010-048)

The amount included in the taxes is $241.90, for the Sacramento City 1915 Act Bond – Safca Consolidated Capital Assessment #2. (APN 053-0010-049)

The amount included in the taxes is $463.62, for the Sacramento City 1915 Act Bond – Safca Consolidated Capital Assessment #2. (APN 053-0010-076)

For further information, please contact the Sacramento Area Flood Control Agency at (916) 874-7606.

C. Any and all liens and assessments that may be levied as disclosed by the recordation of the Boundary Map, City of Sacramento, Neighborhood Park Maintenance Community Facilities District No. 2002-02, Future Annexation Area, filed December 13, 2010, in Book 111 of Maps of Assessment and Community Facilities District at Page 28, and recorded December 13, 2010, by Assessment Map Filing Page in Book 20101213, Page 1512, Official Records.

D. Any and all liens and assessments that may be levied as disclosed by the recordation of the Proposed Boundary Map, City of Sacramento, SB 555 Contractual Assessment District, filed September 19, 2012, in Book 114 of Maps of Assessment and Community Facilities District at Page 10, and recorded September 19, 2012, by Assessment Map Filing Page in Book 20120919, Page 89, Official Records.

E. Any and all liens and assessments that may be levied as disclosed by the recordation of the Proposed Boundary Map, City of Sacramento, Community Facilities District No. 2012-01 (Clean Energy), filed October 3, 2012, in Book 114 of Maps of Assessment and Community Facilities District at Page 13, and recorded October 3, 2012, by Assessment Map Filing Page in Book 20121003, Page 418, Official Records.

F. The herein described property may lie within the newly formed California Home Finance Authority Community Facilities District No. 2014-1 (Clean Energy), as disclosed by Notice of Assessment Map, recorded October 5, 2015 in Book 20151005, Page 763, Official Records.

G. Any and all liens and assessments that may be levied as disclosed by the recordation of the County of Sacramento to Establish the Sacramento Tourism Infrastructure District No. 2018-04, recorded May 7, 2018 as Document No. 2018-05070277, Official Records.

H. The Lien of Special Assessments, assessed pursuant to the procedures of the Mello-Roos Community Facilities Act of 1982 and/or the Landscaping & Lighting Act of 1972, amounts are included and collected with the Taxes shown herein.

I. The Lien of Supplemental Taxes, if any, assessed pursuant to the provisions of Chapter 3.5, Revenue and Taxation Code, Section 75 et seq.

J. Any possible outstanding charges for utility services. Amounts may be obtained by contacting the City and/or County of Sacramento's Utility Services and Billing Department.

1. An Easement over said land for a sewer pipeline and access and incidental purposes as Granted to the City of Sacramento in Deed recorded September 29, 1960 in Book 4125 page 606, Official Records.

   Affects: For sewer pipeline: The Westerly 5 feet of the Southerly 30 feet of the Northerly 55 feet of Parcel 2; For access: The Northerly 12.00 feet of the Easterly 145.30 feet of the Westerly 145.30 feet of Parcel 2, as said easements are more particularly described in said deed and as shown on the maps attached thereto.

2. An easement over said land for sewer and drainage pipelines and manholes and incidental purposes as Granted to the City of Sacramento in Deed recorded August 31, 1964 in Book 5049 page 209, Official Records.

   Affects: Strips of land 10 and 20 feet in width across portions of said land, as more particularly described in said Easement.

3. An easement over said land for sewer pipe lines and manholes and incidental purposes as Granted to the City of Sacramento in Deeds recorded August 18, 1969 in Book 690818 pages 498 and 500, Official Records.

   Affects: A strip of land 12 feet in width along portions of the Northerly boundary of APNs 053-0010-048 and 053-0010-049 and along the most Westerly line of APN 053-0010-047, as more particularly described in said Easement.

4. An easement over said land for electrical facilities and incidental purposes as Granted to Sacramento Municipal Utility District in Deed recorded October 20, 1972 in Book 721020 page 314, Official Records.

   Affects: The most Westerly 5 feet of APN 053-0010-047, as more particularly described in said Easement.

5. An easement over said land for a watermain and incidental purposes as Granted to the City of Sacramento in Deeds recorded December 10, 1984 in Book 841210 pages 712 and 714, Official Records.

   Affects: A strip of land 5 feet in width across the Northerly and Easterly portions of APN 053-0010-047, as more particularly described in said Easements.

6. An easement over said land for a levee easement and incidental purposes as Granted to the City of Sacramento in Deeds recorded June 12, 1986 in Book 860612 page 943, and recorded July 18, 1986 in Book 860718 page 1182, Official Records.

   Affects: A strip of land within the Easterly portion of APN 053-0010-047, as more particularly described in said Easement.

7. An easement over said land for temporary construction and incidental purposes as Granted to Sacramento Regional County Sanitation District in Deed recorded October 12, 2004 in Book 20041012 page 1256, Official Records.

   Affects: Within portions of the Southerly 40 feet of APNS 053-0010-048 and 053-0010-049, as more particularly delineated on the map attached to said easement.

8. An easement over said land for flood control works and incidental purposes as Granted to Sacramento Area Flood Control Agency, a Joint Exercise of Powers Agency of the State of California, and the Sacramento and San Joaquin Drainage District, acting by and through the Department of water Resources of the State of California, in Deed recorded in Book 20060906, Page 986, Official Records.
   (As to Parcel 1)

   Reference is hereby made to said instrument for full particulars.

9. An easement over said land for underground pipe, pipelines for transmission and distribution of water and incidental purposes as Granted to Freeport Regional Water Authority, a joint power authority formed under a Joint Powers Agreement between Sacramento County Water Agency and East Bay Municipal Utility District, in Deed recorded in Book 20071115, Page 760, Official Records.
   (As to Parcels 1 and 2)

   Reference is hereby made to said instrument for full particulars.

   Memorandum of Agreement (Easement Use Agreement) by and between Freeport Regional Water Authority, a joint power authority formed under a Joint Powers Agreement between Sacramento County Water Agency and East Bay Municipal Utility District and the City of Sacramento, a municipal corporation, recorded October 30, 2015, in Book 20151030, Page 1624, Official Records. Subject to the terms, conditions and provisions contained there and in any unrecorded agreement disclosed thereby.

10. An easement over said land for a transit system and incidental purposes as Granted to Sacramento Regional Transit District, in Deed recorded April 9, 2013, in Book 20130409, Page 826, Official Records.

    Affects as described and shown in Exhibits ''B'' and ''B-1'' attached to said instrument.
    APN: 053-0010-074

11. An easement over said land for public uses and incidental purposes as Granted to Sacramento Regional Transit District, in Deed recorded April 9, 2013, in Book 20130409, Page 826, Official Records.

    Affects as described and shown in Exhibits ''C'' and ''C-1'' attached to said instrument.
    APN: 053-0010-074

12. An easement over said land for temporary construction and incidental purposes as Granted to Sacramento Regional Transit District, in Deed recorded April 9, 2013, in Book 20130409, Page 826, Official Records.

    Affects as described and show in Exhibits ''D'' and ''D-1'' attached to said instrument.
    APN: 053-0010-075

13. Terms, Conditions and Provisions contained in an instrument entitled "Stormwater Treatment Measure Access and Maintenance Agreement", dated April 1, 2013 by and between Sacramento Regional Transit District, a public corporation and City of Sacramento, a municipal corporation, recorded April 22, 2013 in Book 20130422, Page 328, Official Records.

14. An easement over said land for public road and incidental purposes as Granted to the City of Sacramento, a municipal corporation, in Deed recorded October 21, 2013, in Book 20131021, Page 1443, Official Records.

    Affects APN: 053-0010-048 as described and shown in Exhibits ''A'' and ''B'' attached to said instrument.

15. An easement over said land for public utilities and incidental purposes as Granted to the City of Sacramento, a municipal corporation, in Deed recorded October 21, 2013, in Book 20131021, Page 1444, Official Records.

    Affects: APN: 053-0010-048, as described and shown in Exhibits ''A'' and ''B'' attached to said instruments.

16. An easement over said land for temporary drainage and incidental purposes as Granted to the City of Sacramento, a municipal corporation, in Deed recorded October 21, 2013, in Book 20131021, Page 1445, Official Records.

    Affects: APN: 053-0010-048 as described and shown in Exhibits ''A'' and ''B'' attached to said instrument.

17. An easement over said land for temporary construction purposes and incidental purposes as Granted to the City of Sacramento, a municipal corporation, in Deed recorded October 21, 2013, in Book 20131021, Page 1446, Official Records.

    Affects: APN: 053-0010-048 as described and shown in Exhibits ''A'' and ''B'' attached to said instrument.

18. An easement over said land for water pipelines, utilities and incidental purposes as Granted to Freeport Regional Water Authority, a joint powers authority formed under a Joint Powers Agreement between Sacramento County Water Agency and East Bay Municipal Utility District, in Deed recorded in Book 20140131, Page 846, Official Records.

    Affects a Southerly portion.

19. An easement over said land for a public road, utilities and incidental purposes as Granted to the City of Sacramento, in Deed recorded in Book 20140131, Page 847, Official Records.

    Affects a Southerly portion.

20. An easement over said land for public utilities and incidental purposes as Granted to the City of Sacramento, in Deed recorded in Book 20140131, Page 848, Official Records.

    Affects a Southerly portion.

21. An easement over said land for temporary drainage and incidental purposes as Granted to the City of Sacramento, in Deed recorded in Book 20140131, Page 849, Official Records.

    Affects a Southerly portion.

22. An easement over said land for electrical facilities and incidental purposes as Granted to Sacramento Regional Transit District, in Deed recorded in Book 20150225, Page 956, Official Records.

    Affects a Northerly and Easterly portion of Parcel 1.

    Easement from Sacramento Regional Transit District, a California public corporation to Pacific Gas and Electric Company, a California corporation, for a roadway and incidental purposes, recorded September 6, 2018, Document No. 201809060036, Official Records.

    Affects a Northeasterly portion

23. An easement over said land for gas lines, electrical and communication facilities and incidental purposes as Granted to P.G.&E., in Deed recorded in Book 20160908, Page 241, Official Records.

    Affects an Easterly portion of Parcel 1.

24. An easement over said land for water pipeline and incidental purposes as Granted to Sacramento Regional County Sanitation District, in Deed recorded June 1, 2018, in Document No. 201806010682, Official Records.

    Affects a Westerly portion of Parcel 2.

25. The terms and conditions of the Trust Agreement under which the vestees herein hold title, which Trusts are referred to in the Gift Grant Deed dated December 15, 2004, executed by J. W. ''Bill'' Stone and Mildred M. Stone, husband and wife to Suzanne Nielsen, as Trustee of the Lisa Stone Kelley 2004 Trust No. 1, established 12/15/2004, J. W. ''Bill'' Stone and Mildred M. Stone, as Trustees of the Lisa Stone Kelley 2004 Charitable Remainder Unitrust established 12/15/2004, Suzanne Nielsen, as Trustee of the Lisa Stone Kelley 2004 Trust No. 2 established 12/15/2004, Suzanne Nielsen, as Trustee of the Melinda C. Stone 2004 Trust established 12/15/2004, and J. W. ''Bill'' Stone and Mildred M. Stone, as trustees of the Melinda C. Stone 2004 Charitable Remainder Unitrust established 12/15/2004, recorded December 17, 2004 in Book 20041217 page 708, Official Records and in the Grant Deed dated December 15, 2004, executed by J. W. ''Bill'' Stone and Mildred M. Stone, husband and wife to J. W. ''Bill'' Stone and Mildred M. Stone, as Trustees of the Bill and Mildred Stone 2004 Charitable Remainder Unitrust and Stone Enterprises, L. P., a California limited partnership, recorded December 17, 2004 in Book 20041217 page 709, Official Records.

26. Terms, conditions and limitations, if any contained in that certain trust referred to in the vesting herein.

    The requirement that a copy of said trust be furnished to this company for examination prior to the close of this transaction.

Tax Note: For Proration Purposes Only

- General and Special Taxes for the Fiscal Year 2017-2018, and any assessments and charges collected therewith,

  1st Installment $4,543.55 Paid
  2nd Installment $4,543.55 Paid

  Parcel No. 053-0010-048 Asst. No. 18311288 Code Area 03-054
  Land $263,957.00

  Included in the above installments is the amount of $64.40, for the City Library Services AD #96-02.

  Included in the above Taxes, in the amount of $25.04, for the Sacto Core Library Serv. Tax.

- General and Special Taxes for the Fiscal Year 2017-2018, and any assessments and charges collected therewith,

  1st Installment $1,341.22 Paid
  2nd Installment $1,341.22 Paid

  Parcel No. 053-0010-049 Asst. No. 18311289 Code Area 03-054
  Land $121,806.00

- General and Special Taxes for the Fiscal Year 2017-2018, and any assessments and charges collected therewith,

  1st Installment $1,801.62 Paid
  2nd Installment $1,801.62 Paid

  Parcel No. 053-0010-076 Asst. No. 18311292 Code Area 03-054
  Land $104,550.00

Note: If this property lies within the city limits of Sacramento, it is subject upon sale to a tax of .00275 of the value of consideration. The failure to pay will result in the tax being added to the future property tax bills.

Chain of Title:

According to those public records under the recording laws impart constructive notice to the title to the land described herein, the following matters constitute the chain of title for the thirty-six month period preceding the date hereof:

None

Buyer's Note:

If an Alta Residential Owner's Policy is requested and if the property described herein is determined to be eligible for this policy, the following exceptions from coverage will appear in the policy:

1. Taxes or assessments which are not shown as liens by the public records or by the records of any taxing authority.
2. (a) Water rights, claims or title to water; (b) reservation or exceptions in patents or in Acts authorizing the issuance thereof; (c) unpatented mining claims; whether or not the matters excepted under (a), (b) or (c) are shown by the public records.
3. Any rights, interest or claims of parties in possession of the land which are not shown by the public records.
4. Any easements or liens not shown by the public records. This exception does not limit the lien coverage in Item 8 of the Covered Title Risks.
5. Any facts about the land which a correct survey would disclose and which are not shown by the public records. This exception does not limit the forced removal coverage in Item 12 of the Covered Title Risks.

Note: California "Good Funds" Law

Effective January 1, 1990, California Insurance Code Section 12413.1 (Chapter 598, statutes of 1989), prohibits a title insurance company, controlled escrow company or underwritten title company from disbursing funds from an escrow or sub-escrow account, **(except for funds deposited by wire transfer electronic payment or cash)** until the day these funds are made available to the deposit or pursuant to Part 229 Of Title 12 of the code of Federal Regulations, (Reg. CC). Items such as cashier's, certified or teller's checks may be available for disbursement on the business day following the business day of deposit; however, other forms of deposits may cause extended delays in closing the escrow or sub-escrow.

"Stewart Title Of Sacramento will not be responsible for accruals of interest or other charges resulting from compliance with the disbursement restrictions imposed by State Law"

Lenders Supplemental Report

This report (including any supplements or amendments thereto) is hereby modified and or supplemented in order to reflect the following additional items relating to the issuance of an American Land Title Association Loan Form Policy as follows:

( ) ALTA inspection report to follow.

( ) A physical inspection has been made and no survey will be required. Our ALTA Policy when issued will include Endorsement No. 116.

(X) Said property is designated as a Vacant Land

State of California, County of Sacramento, City of Sacramento.

Exhibit "B"

CLTA PRELIMINARY REPORT FORM
LIST OF PRINTED EXCEPTIONS AND EXCLUSIONS
(Revised 06/17/06)

CALIFORNIA LAND TITLE ASSOCIATION STANDARD COVERAGE POLICY - 1990
EXCLUSIONS FROM COVERAGE

The following matters are expressly excluded from the coverage of this policy and the Company will not pay loss or damage, costs, attorneys' fees or expenses which arise by reason of:

1. (a) Any law, ordinance or governmental regulation (including but not limited to building or zoning laws, ordinances, or regulations) restricting, regulating, prohibiting or relating (i) the occupancy, use, or enjoyment of the land; (ii) the character, dimensions or location of any improvement now or hereafter erected on the land; (iii) a separation in ownership or a change in the dimensions or area of the land or any parcel of which the land is or was a part; or (iv) environmental protection, or the effect of any violation of these laws, ordinances or governmental regulations, except to the extent that a notice of the enforcement thereof or a notice of a defect, lien, or encumbrance resulting from a violation or alleged violation affecting the land has been recorded in the public records at Date of Policy (b) Any governmental police power not excluded by (a) above, except to the extent that a notice of the exercise thereof or notice of a defect, lien or encumbrance resulting from a violation or alleged violation affecting the land has been recorded in the public records at Date of Policy.
2. Rights of eminent domain unless notice of the exercise thereof has been recorded in the public records at Date of Policy, but not excluding from coverage any taking which has occurred prior to Date of Policy which would be binding on the rights of a purchaser for value without knowledge.
3. Defects, liens, encumbrances, adverse claims or other matters:
   (a) whether or not recorded in the public records at Date of Policy, but created, suffered, assumed or agreed to by the insured claimant;
   (b) not known to the Company, not recorded in the public records at Date of Policy, but known to the insured claimant and not disclosed in writing to the Company by the insured claimant prior to the date the insured claimant became an insured under this policy;
   (c) resulting in no loss or damage to the insured claimant;
   (d) attaching or created subsequent to Date of Policy; or
   (e) resulting in loss or damage which would not have been sustained if the insured claimant had paid value for the insured mortgage or for the estate or interest insured by this policy.
4. Unenforceability of the lien of the insured mortgage because of the inability or failure of the insured at Date of Policy, Or the inability or failure of any subsequent owner of the indebtedness, to comply with the applicable doing business laws of the state in which the land is situated.
5. Invalidity or unenforceability of the lien of the insured mortgage, or claim thereof, which arises out of the transaction evidenced by the insured mortgage and is based upon usury or any consumer credit protection or truth in lending law.
6. Any claim, which arises out of the transaction vesting in the insured the estate of interest insured by this policy or the transaction creating the interest of the insured lender, by reason of the operation of federal bankruptcy, state insolvency or similar creditors, rights laws.

EXCEPTIONS FROM COVERAGE
SCHEDULE B, PART I

This policy does not insure against loss or damage (and the Company will not pay costs, attorneys' fees or expenses) which arise by reason of:

1. Taxes or assessments which are not shown as existing liens by the records of any taxing authority that levies taxes or assessments on real property or by the public records.
   Proceedings by a public agency which may result in taxes or assessments, or notices of such proceedings, whether or not shown by the records of such agency or by the public records.
2. Any facts, rights, interests, or claims which are not shown by the public records but which could be ascertained by an inspection of the land or which may be asserted by persons in possession thereof.
3. Easements, liens or encumbrances, or claims thereof. not shown by the public records.
4. Discrepancies, conflicts in boundary lines, shortage in area, encroachments, or any other facts which a correct survey would disclose, and which are not shown by the public records.

5. (a) Unpatented mining claims; (b) reservations or exceptions in patents or in Acts authorizing the issuance thereof; (c) water rights, claims or title to water, whether or not the matters excepted under (a), (b) or (c) are shown by the public records.
6. Any lien or right to a lien for services, labor or material not shown by the public records.

CLTA HOMEOWNER'S POLICY OF TITLE INSURANCE (02-03-10)
ALTA HOMEOWNER'S POLICY OF TITLE INSURANCE
EXCLUSIONS

In addition to the Exceptions in Schedule B, You are not insured against loss, costs, attorneys' fees, and expenses resulting from:

1. Governmental police power, and the existence or violation of those portions of any law or government regulation concerning: a. building; b. zoning; c. land use; d. improvements on the Land; e. land division; and f. environmental protection This Exclusion does not limit the coverage described in Covered Risk 8.a., 14, 15, 16, 18, 19, 20, 23 or 27.
2. The failure of Your existing structures, or any part of them, to be constructed in accordance with applicable building codes, This Exclusion does not limit the coverage described in Covered Risk 14 or 15.
3. The right to take the Land by condemning it. This Exclusion does not limit the coverage described in Covered Risk 17.
4. Risks: a. that are created, allowed, or agreed to by You, whether or not they are recorded in the Public Records; b. that are Known to You at the Policy Date, but not to Us, unless they are recorded in the Public Records at the Policy Date; c. that result in no loss to You; or d. that first occur after the Policy Date - this does not limit the coverage described in Covered Risk 7, 8.e., 25, 26, 27 or 28,
5. Failure to pay value for Your Title.
6. Lack of a right: a. to any Land outside the area specifically described and referred to in paragraph 3 of Schedule A; and b. in streets, alleys, or waterways that touch the Land This Exclusion does not limit the coverage described in Covered Risk 11 or 21.
7. The transfer of the Title to You is invalid as preferential transfer or as a fraudulent transfer or conveyance under federal bankruptcy, state insolvency, or similar creditors' rights laws.

LIMITATIONS ON COVERED RISKS

Your insurance for the following Covered Risks is limited on the Owner's Coverage Statement as follows:

* For Covered Risk 16, 18, 19, and 21 Your Deductible Amount and Our Maximum Dollar Limit of Liability shown in Schedule A.

The deductible amounts and maximum dollar limits shown on Schedule A are as follows:

	Your Deductible Amount	Our Maximum Dollar Limit of Liability
Covered Risk 16:	1 % of Policy Amount or $ 2,500.00 (whichever is less)	$ 10,000.00
Covered Risk 18:	1% of Policy Amount or $ 5,000.00 (whichever is less)	$ 25,000.00
Covered Risk 19:	1% of Policy Amount or $ 5,000.00 (whichever is less)	$ 25,000.00
Covered Risk 21:	1% of Policy Amount or $ 2,500.00 (whichever is less)	$ 5,000.00

AMERICAN LAND TITLE ASSOCIATION
RESIDENTIAL TITLE INSURANCE POLICY (6-1-87)
EXCLUSIONS

In addition to the Exceptions in Schedule B, you are not insured against loss, costs, attorneys' fees, and expenses resulting from:

1. Governmental police power, and the existence or violation of any law or government regulation. This includes building and zoning ordinances and also laws and regulations concerning:
   * Land use * Improvements on the land * Land division * Environmental protection
   This exclusion does not apply to violations or the enforcement of these matters which appear in the public records at Policy Date.
   This exclusion does not limit the zoning coverage described in Items 12 and 13 of Covered Title Risks.
2. The right to take the land by condemning it, unless:
   * a notice of exercising the right appears in the public records
   * on the Policy Date
   * the taking happened prior to the Policy Date and is binding on you if you bought the land without knowing of the taking
3. Title Risks:
   * that are created, allowed, or agreed to by you
   * that are known to you, but not to us, on the Policy Date -- unless they appeared in the public records
   * that result in no loss to you
   * that first affect your title after the Policy Date -- this does not limit the labor and material lien coverage in Item 8 of Covered Title Risks
4. Failure to pay value for your title
5. Lack of a right:
   * to any land outside the area specifically described and referred to in Item 3 of Schedule A
   OR
   * in streets, alleys, or waterways that touch your land

This exclusion does not limit the access coverage in Item 5 of Covered Title Risk.

AMERICAN LAND TITLE ASSOCIATION LOAN POLICY (10-17-92)
WITH ALTA ENDORSEMENT - FORM 1 COVERAGE
EXCLUSIONS FROM COVERAGE

The following matters are expressly excluded from the coverage of this policy and the Company will not pay loss or damage, costs, attorneys' fees or expenses which arise by reason of:

1. (a) Any law, ordinance or governmental regulation (including but not limited to building and zoning laws, ordinances, or regulations) restricting, regulating, prohibiting or relating to (i) the occupancy, use, or enjoyment of the land; (ii) the character, dimensions or location of any improvement now or hereafter erected on the land; (iii) a separation in ownership or a change in the dimensions or area of the land or any parcel of which the land is or was a part; or (iv) environmental protection, or the effect of any violation of these laws, ordinances or governmental regulations, except to the extent that a notice of the enforcement thereof or a notice of a defect, lien or encumbrance resulting from a violation or alleged violation affecting the land has been recorded in the public records at Date of Policy.
   (b) Any governmental police power not excluded by (a) above, except to the extent that a notice of the exercise thereof or a notice of a defect, lien or encumbrance resulting from a violation or alleged violation affecting the land has been recorded in the public records at Date of Policy.
2. Rights of eminent domain unless notice of the exercise thereof has been recorded in the public records at Date of Policy, but not excluding from coverage any taking which has occurred prior to Date of Policy which would be binding on the rights of a purchaser for value without knowledge.
3. Defects, liens, encumbrances, adverse claims or other matters:
   (a) created, suffered, assumed or agreed to by the insured claimant;
   (b) not known to the Company, not recorded in the public records at Date of Policy, but known to the insured claimant and not disclosed in writing to the Company by the insured claimant prior to the date the insured claimant became an insured under this policy;
   (c) resulting in no loss or damage to the insured claimant;

(d) attaching or created subsequent to Date of Policy (except to the extent that this policy insures the priority of the lien of the insured mortgage over any statutory lien for services, labor or material or to the extent insurance is afforded herein as to assessments for street improvements under construction or completed at Date of Policy); or
(e) resulting in loss or damage which would not have been sustained if the insured claimant had paid value for the insured mortgage.

4. Unenforceability of the lien of the insured mortgage because of the inability or failure of the insured at Date of Policy, or the inability or failure of any subsequent owner of the indebtedness, to comply with applicable doing business laws of the state in which the land is situated.
5. Invalidity or unenforceability of the lien of the insured mortgage, or claim thereof. which arises out of the transaction evidenced by the insured mortgage and is based upon usury or any consumer credit protection or truth in lending law,
6. Any statutory lien for services, labor or materials (or the claim of priority of any statutory lien for services, labor or materials over the lien of the insured mortgage) arising from an improvement or work related to the land which is contracted for and commenced subsequent to Date of Policy and is not financed in whole or in part by proceeds of the indebtedness secured by the insured mortgage which at Date of Policy the insured has advanced or is obligated to advance.
7. Any claim, which arises out of the transaction creating the interest of the mortgagee insured by this policy, by reason of the operation of federal bankruptcy, state insolvency, or similar creditors' rights laws, that is based on:
(i) the transaction creating the interest of the insured mortgagee being deemed a fraudulent conveyance or fraudulent transfer; or
(ii) the subordination of the interest of the insured mortgagee as a result of the application of the doctrine or equitable subordination; or
(iii) the transaction creating the interest of the insured mortgagee being deemed a preferential transfer except where the preferential transfer results from the failure:
(a) to timely record the instrument of transfer; or
(b) of such recordation to impart notice to a purchaser for value or a judgment or lien creditor.

The above policy forms may be issued to afford either Standard Coverage or Extended Coverage In addition to the above Exclusions from Coverage, the Exceptions from Coverage in a Standard Coverage policy will also include the following General Exceptions:

EXCEPTIONS FROM COVERAGE

This policy does not insure against loss or damage (and the Company will not pay costs, attorneys' fees or expenses) which arise by reason of:

1. Taxes or assessments which are not shown as existing liens by the records of any taxing authority that levies taxes or assessments on real property or by the public records.
Proceedings by a public agency which may result in taxes or assessments, or notices of such proceedings, whether or not shown by the records of such agency or by the public records.
2. Any facts, rights, interests or claims which are not shown by the public records but which could be ascertained by an inspection of the land or which may be asserted by persons in possession thereof.
3. Easements, liens or encumbrances, or claims thereof. which are not shown by the public records.
4. Discrepancies, conflicts in boundary lines, shortage in area, encroachments, or any other facts which a correct survey would disclose, and which are not shown by the public records.
5. (a) Unpatented mining claims; (b) reservations or exceptions in patents or in Acts authorizing the issuance thereof; (c) water rights, claims or title to water, whether or not the matters excepted under (a), (b) or (c) are shown by the public records.
6. Any lien or right to a lien for services, labor or material not shown by the public records.

2006 ALTA LOAN POLICY (06/17106)
EXCLUSIONS FROM COVERAGE

The following matters are expressly excluded from the coverage of this policy, and the Company will not pay loss or damage, costs, attorneys' fees, or expenses that arise by reason of:

1. (a) Any law, ordinance, permit, or governmental regulation (including those relating to building and zoning) restricting, regulating, prohibiting, or relating to
(i) the occupancy, use, or enjoyment of the Land;
(ii) the character, dimensions, or location of any improvement erected on the Land;

(iii) the subdivision of land; or
(iv) environmental protection;
or the effect of any violation of these laws, ordinances, or governmental regulations, This Exclusion I (a) does not modify or limit the coverage provided under Covered Risk 5.
(b) Any governmental police power. This Exclusion I (b) does not modify or limit the coverage provided under Covered Risk 6.

2. Rights of eminent domain, This Exclusion does not modify or limit the coverage provided under Covered Risk 7 or 8,
3. Defects, liens, encumbrances, adverse claims, or other matters.
(a) created, suffered, assumed, or agreed to by the Insured Claimant;
(b) not Known to the Company, not recorded in the Public Records at Date of Policy. but Known to the Insured Claimant and not disclosed in writing to the Company by the Insured Claimant prior to the date the Insured Claimant became an Insured under this policy;
(c) resulting in no loss or damage to the Insured Claimant;
(d) attaching or created subsequent to Date of Policy (however, this does not modify or limit the coverage provided under Covered Risk 11, 13, or 14); or
(e) resulting in loss or damage that would not have been sustained if the Insured Claimant had paid value for the Insured Mortgage.
4. Unenforceability of the lien of the Insured Mortgage because of the inability or failure of an Insured to comply with applicable doing-business laws of the state where the Land is situated.
5. Invalidity or unenforceability in whole or in part of the lien of the Insured Mortgage that arises out of the transaction evidenced by the Insured Mortgage and is based upon usury or any consumer credit protection or truth-in-lending law,
6. Any claim, by reason of the operation of federal bankruptcy. state insolvency, or similar creditors' rights laws, that the transaction creating the lien of the Insured Mortgage, is
(a) a fraudulent conveyance or fraudulent transfer, or
(b) a preferential transfer for any reason not stated in Covered Risk 13(b) of this policy
7. Any lien on the Title for real estate taxes or assessments imposed by governmental authority and created or attaching between Date of Policy and the date of recording of the Insured Mortgage in the Public Records, This Exclusion does not modify or limit the coverage provided under Covered Risk 11 (b).

The above policy form may be issued to afford either Standard Coverage or Extended Coverage, In addition to the above Exclusions from Coverage, the Exceptions from Coverage in a Standard Coverage policy will also include the following Exceptions from Coverage:

EXCEPTIONS FROM COVERAGE

This policy does not insure against loss or damage (and the Company will not pay costs, attorneys' fees or expenses) that arise by reason of:

1. (a) Taxes or assessments that are not shown as existing liens by the records of any taxing authority that levies taxes or assessments on real property or by the Public Records; (b) proceedings by a public agency that may result in taxes or assessments, or notices of such proceedings, whether or not shown by the records of such agency or by the Public Records.
2.. Any facts, rights, interests, or claims that are not shown by the Public Records but that could be ascertained by an inspection of the Land or that may be asserted by persons in possession of the Land.
3. Easements, liens or encumbrances, or claims thereof. not shown by the Public Records.
4. Any encroachment, encumbrance, violation, variation, or adverse circumstance affecting the Title that would be disclosed by an accurate and complete land survey of the Land and not shown by the Public Records.
5. (a) Unpatented mining claims; (b) reservations or exceptions in patents or in Acts authorizing the issuance thereof; (c) water rights, claims or title to water. whether or not the matters excepted under (a), (b), or (c) are shown by the Public Records.
6. Any lien or right to a lien for services, labor or material not shown by the public records.

AMERICAN LAND TITLE ASSOCIATION OWNER'S POLICY (10/11/92)
EXCLUSIONS FROM COVERAGE

The following matters are expressly excluded from the coverage of this policy and the Company will not pay loss or damage, costs, attorneys' fees or expenses which arise by reason of:

1. (a) Any law, ordinance or governmental regulation (including but not limited to building and zoning laws, ordinances, or regulations) restricting, regulating, prohibiting or relating to (i) the occupancy, use, or enjoyment of the land; (ii) the character, dimensions or location of any improvement now or hereafter erected on the land; (iii) a separation in ownership or a change in the dimensions or area of the land or any parcel of which the land is or was a part; or (iv) environmental protection, or the effect of any violation of these laws, ordinances or governmental regulations, except to the extent that a notice of the enforcement thereof or a notice of a defect, lien or encumbrance resulting from a violation or alleged violation affecting the land has been recorded in the public records at Date of Policy.
   (b) Any governmental police power not excluded by (a) above, except to the extent that a notice of the exercise thereof or a notice of a defect. lien or encumbrance resulting from a violation or alleged violation affecting the land has been recorded in the public records at Date of Policy.
2. Rights of eminent domain unless notice of the exercise thereof has been recorded in the public records at Date of Policy, but not excluding from coverage any taking which has occurred prior to Date of Policy which would be binding on the rights of a purchaser for value without knowledge.
3. Defects, liens, encumbrances, adverse claims or other matters:
   (a) created, suffered, assumed or agreed to by the insured claimant;
   (b) not known to the Company, not recorded in the public records at Date of Policy, but known to the insured claimant and not disclosed in writing to the Company by the insured claimant prior to the date the insured claimant became an insured under this policy;
   (c) resulting in no loss or damage to the insured claimant;
   (d) attaching or created subsequent to Date of Policy; or
   (e) resulting in loss or damage which would not have been sustained if the insured claimant had paid value for the estate or interest insured by this policy.
4. Any claim, which arises out of the transaction vesting in the insured the estate or interest insured by this policy, by reason of the operation of federal bankruptcy, state insolvency, or similar creditors' rights laws, that is based on:
   (i) the transaction creating the estate or interest insured by this policy being deemed a fraudulent conveyance or fraudulent transfer; or
   (ii) the transaction creating the estate or interest insured by this policy being deemed a preferential transfer except where the preferential transfer results from the failure:
   (a) to timely record the instrument of transfer; or
   (b) of such recordation to impart notice to a purchaser for value or a judgment or lien creditor.

The above policy forms may be issued to afford either Standard Coverage or Extended Coverage, In addition to the above Exclusions from Coverage, the Exceptions from Coverage in a Standard Coverage Policy will also include the following General Exceptions:

EXCEPTIONS FROM COVERAGE

This policy does not insure against loss or damage (and the Company will not pay costs, attorneys' fees or expenses) which arise by reason of:

1. Taxes or assessments which are not shown as existing liens by the records of any taxing authority that levies taxes or assessments on real property or by the public records.
   Proceedings by a public agency which may result in taxes or assessments, or notices of such proceedings, whether or not shown by the records of such agency or by the public records.
2. Any facts, rights, interests or claims which are not shown by the public records but which could be ascertained by an inspection of the land or which may be asserted by persons in possession thereof.
3. Easements, liens or encumbrances, or claims thereof, which are not shown by the public records.
4. Discrepancies, conflicts in boundary lines, shortage in area, encroachments, or any other facts which a correct survey would disclose, and which are not shown by the public records.
5. (a) Unpatented mining claims; (b) reservations or exceptions in patents or in Acts authorizing the issuance thereof; (c) water rights, claims or title to water, whether or not the matters excepted under (a), (b) or (c) are shown by the public records.
6. Any lien or right to a lien for services, labor or material not shown by the public records.

2006 ALTA OWNER'S POLICY (06/17/06)
EXCLUSIONS FROM COVERAGE

The following matters are expressly excluded from the coverage of this policy and the Company will not pay loss or damage, costs, attorneys' fees or expenses which arise by reason of:

1. (a) Any law, ordinance, permit, or governmental regulation (including those relating to building and zoning) restricting, regulating, prohibiting, or relating to
(i) the occupancy, use, or enjoyment of the Land;
(ii) the character, dimensions, or location of any improvement erected on the Land;
(iii) the subdivision of land; or
(iv) environmental protection;
or the effect of any violation of these laws, ordinances, or governmental regulations. This Exclusion I (a) does not modify or limit the coverage provided under Covered Risk 5.
(b) Any governmental police power. This Exclusion 1(b) does not modify or limit the coverage provided under Covered Risk 6
2. Rights of eminent domain unless notice of the exercise thereof has been recorded in the public records at Date of Policy but not excluding from coverage any taking which has occurred prior to Date of Policy which would be binding on the rights of a purchaser for value without knowledge.
3. Defects, liens, encumbrances, adverse claims, or other matters.
(a) created, suffered, assumed, or agreed to by the Insured Claimant;
(b) not Known to the Company, not recorded in the Public Records at Date of Policy, but Known to the Insured Claimant and not disclosed in writing to the Company by the Insured Claimant prior to the date tile Insured Claimant became an Insured under this policy;
(c) resulting in no loss or damage to the Insured Claimant;
(d) attaching or created subsequent to Date of Policy (however, this does not modify or limit the coverage provided under Covered Risk 9 and 10); or
(e) resulting in loss or damage that would not have been sustained if the Insured Claimant had paid value for the Title.
4. Any claim, by reason of the operation of federal bankruptcy, state insolvency, or similar creditors' rights laws, that the transaction vesting the Title as shown in Schedule A, is
(a) a fraudulent conveyance or fraudulent transfer; or
(b) a preferential transfer for any reason not stated in Covered Risk 9 of this policy
5. Any lien on the Title for real estate taxes or assessments imposed by governmental authority and created or attaching between Date of Policy and the date of recording of the deed or other instrument of transfer in the Public Records that vests Title as shown in Schedule A.

The above policy form may be issued to afford either Standard Coverage or Extended Coverage. In addition to the above Exclusions from Coverage, the Exceptions from Coverage in a Standard Coverage policy will also include the following Exceptions from Coverage:

EXCEPTIONS FROM COVERAGE

This policy does not insure against loss or damage (and the Company will not pay costs, attorneys' fees or expenses) that arise by reason of:

1. (a) Taxes or assessments that are not shown as existing liens by the records of any taxing authority that levies taxes or assessments on real property or by the Public Records; (b) proceedings by a public agency that may result in taxes or assessments, or notices of such proceedings, whether or not shown by the records of such agency or by the Public Records.
2. Any facts, rights, interests, or claims that are not shown in the Public Records but that could be ascertained by an inspection of the Land or that may be asserted by persons in possession of the Land.
3. Easements, liens or encumbrances, or claims thereof, not shown by the Public Records.
4. Any encroachment, encumbrance, violation, variation, or adverse circumstance affecting the Title that would be disclosed by an accurate and complete land survey of the Land and that are not shown by the Public Records.
5. (a) Unpatented mining claims; (b) reservations or exceptions in patents or in Acts authorizing the issuance thereof; (c) water rights, claims or title to water, whether or not the matters excepted under (a), (b), or (c) are shown by the Public Records.
6. Any lien or right to a lien for services, labor or material not shown by the public records.



DRAFT

APPENDIX C

ENVIRONMENTAL DATA RESOURCES, INC.

Historical Topographic Map Report

Stone Beetland

Cosumnes River Boulevard

Sacramento, CA 95832

Inquiry Number: 6275924.4

November 20, 2020

EDR Historical Topo Map Report

with QuadMatch™

6 Armstrong Road, 4th floor
Shelton, CT 06484
Toll Free: 800.352.0050
www.edrnet.com

EDR Historical Topo Map Report

11/20/20

Site Name:	Client Name:
Stone Beetland	Engeo Inc.
Cosumnes River Boulevard	2010 Crow Canyon Place
Sacramento, CA 95832	San Ramon, CA 94583
EDR Inquiry # 6275924.4	Contact: Stephen Blakely

EDR Topographic Map Library has been searched by EDR and maps covering the target property location as provided by Engeo Inc. were identified for the years listed below. EDR's Historical Topo Map Report is designed to assist professionals in evaluating potential liability on a target property resulting from past activities. EDRs Historical Topo Map Report includes a search of a collection of public and private color historical topographic maps, dating back to the late 1800s.

Search Results:		*Coordinates:*	
P.O.#	18064.000.001	**Latitude:**	38.46563 38° 27' 56" North
Project:	Stone Beetland	**Longitude:**	-121.469897 -121° 28' 12" West
		UTM Zone:	Zone 10 North
		UTM X Meters:	633488.73
		UTM Y Meters:	4258588.59
		Elevation:	9.00' above sea level

Maps Provided:

2012	1894
1980	
1975	
1968	
1953	
1947	
1941	
1909	

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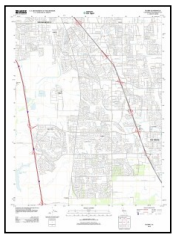
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Topo Sheet Key

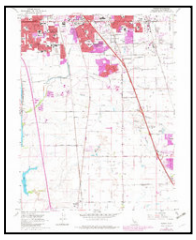
This EDR Topo Map Report is based upon the following USGS topographic map sheets.

2012 Source Sheets



Florin
2012
7.5-minute, 24000

1980 Source Sheets



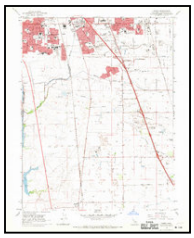
Florin
1980
7.5-minute, 24000
Aerial Photo Revised 1978

1975 Source Sheets



Florin
1975
7.5-minute, 24000
Aerial Photo Revised 1975

1968 Source Sheets



Florin
1968
7.5-minute, 24000
Aerial Photo Revised 1966

Topo Sheet Key

This EDR Topo Map Report is based upon the following USGS topographic map sheets.

1953 Source Sheets



Florin
1953
7.5-minute, 24000
Aerial Photo Revised 1949

1947 Source Sheets



GALT
1947
15-minute, 50000

1941 Source Sheets



Franklin
1941
15-minute, 62500
Aerial Photo Revised 1939

1909 Source Sheets



Florin
1909
7.5-minute, 31680

Topo Sheet Key

This EDR Topo Map Report is based upon the following USGS topographic map sheets.

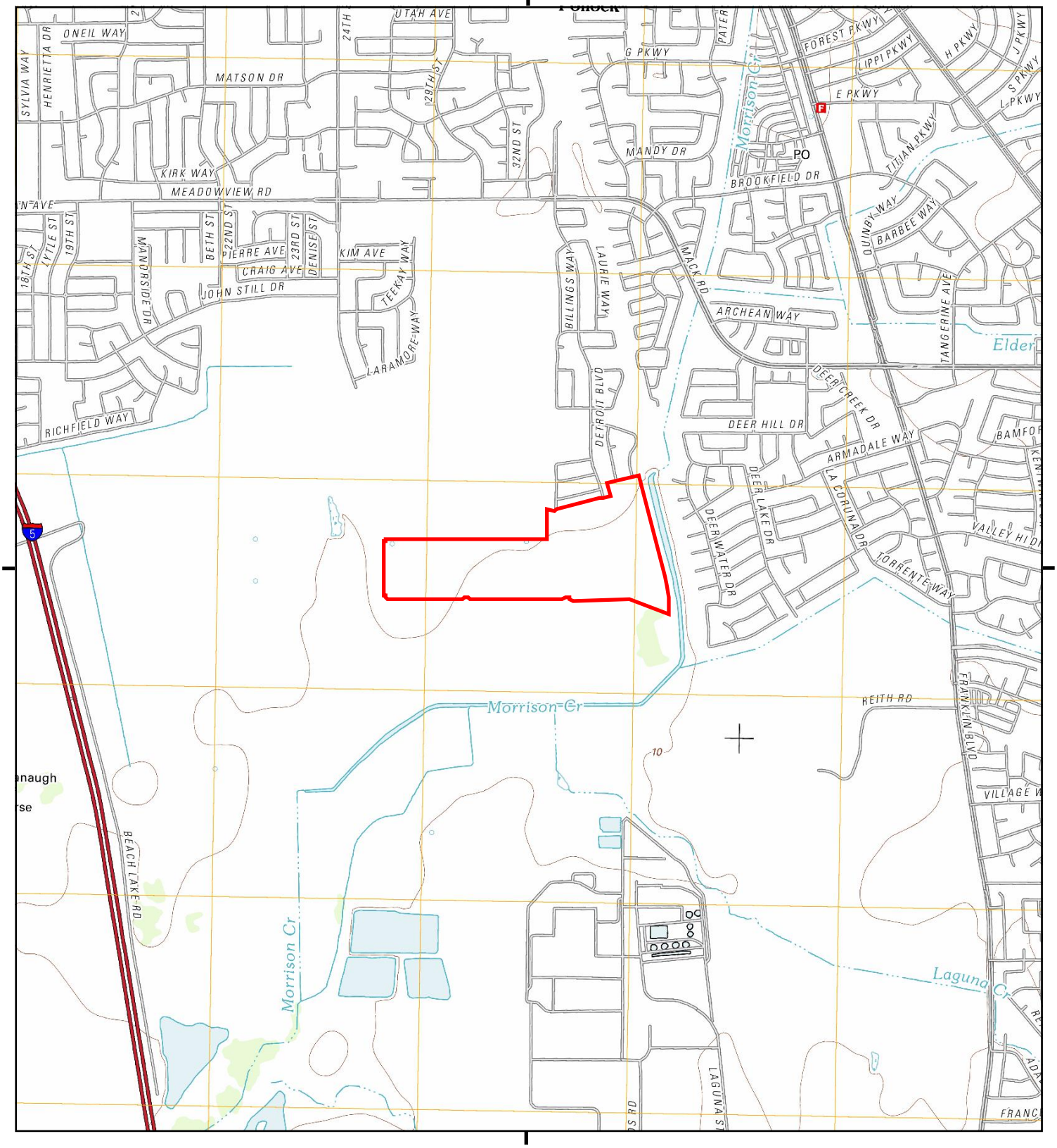
1894 Source Sheets



Lodi
1894
30-minute, 125000

Historical Topo Map

2012



This report includes information from the following map sheet(s).

0 Miles 0.25 0.5 1 1.5

NW N NE
W E
SW S SE

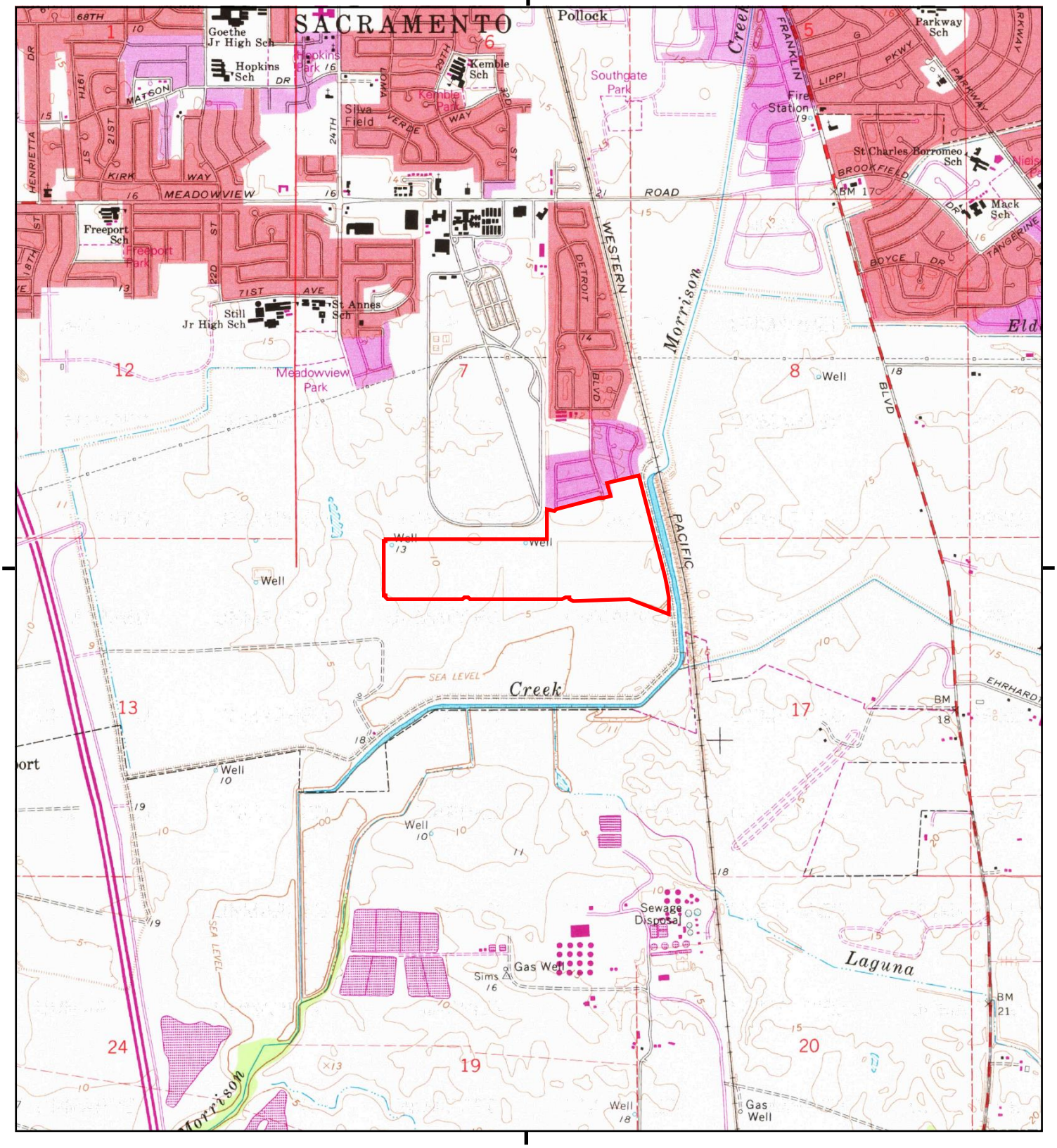
TP, Florin, 2012, 7.5-minute

SITE NAME: Stone Beetland
ADDRESS: Cosumnes River Boulevard
Sacramento, CA 95832
CLIENT: Engeo Inc.

N

Historical Topo Map

1980



This report includes information from the following map sheet(s).

0 Miles 0.25 0.5 1 1.5

NW N NE
W E
SW S SE

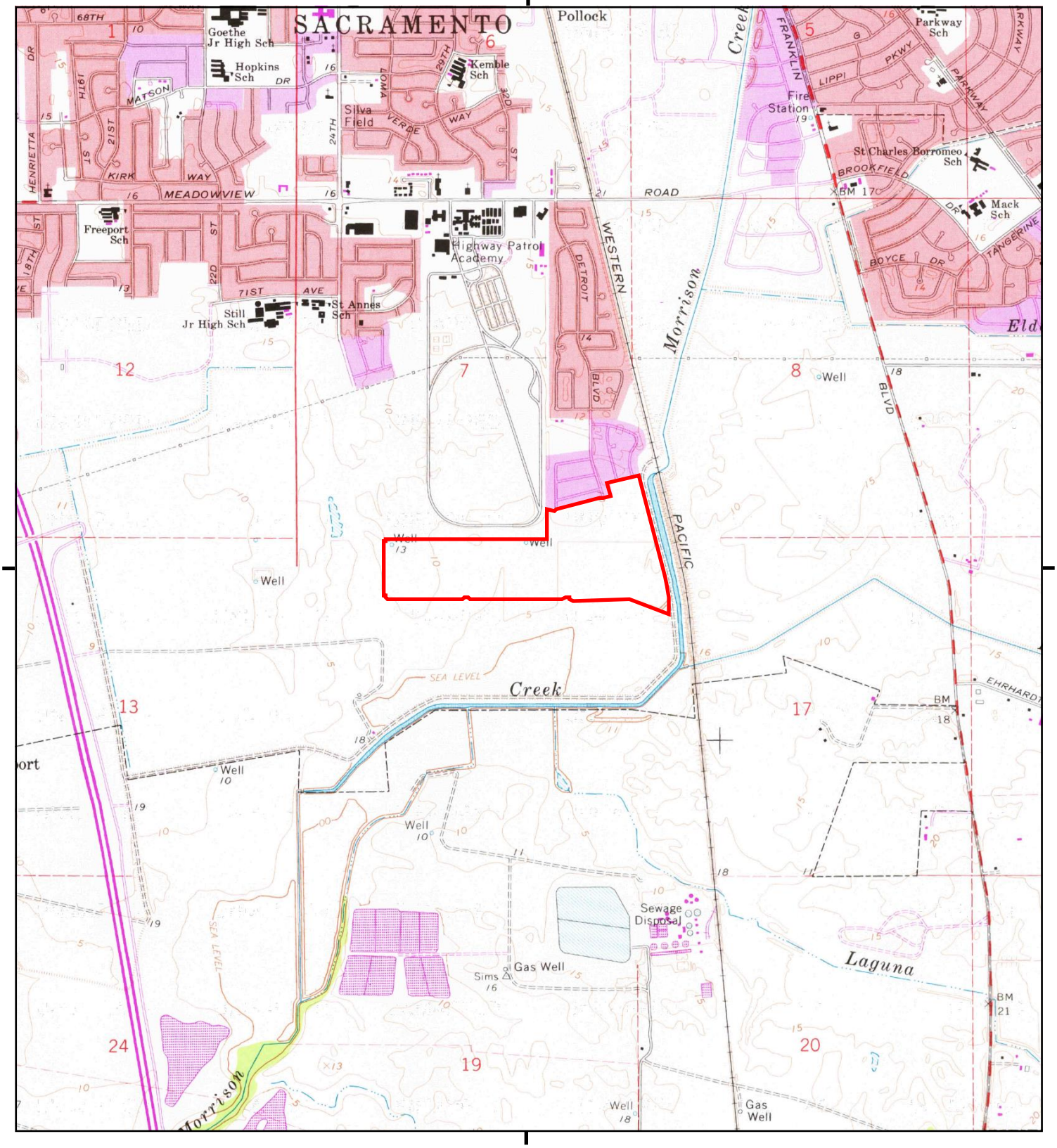
TP, Florin, 1980, 7.5-minute

SITE NAME: Stone Beetland
ADDRESS: Cosumnes River Boulevard
Sacramento, CA 95832
CLIENT: Engeo Inc.

N

Historical Topo Map

1975



This report includes information from the following map sheet(s).

0 Miles 0.25 0.5 1 1.5

NW N NE
W E
SW S SE

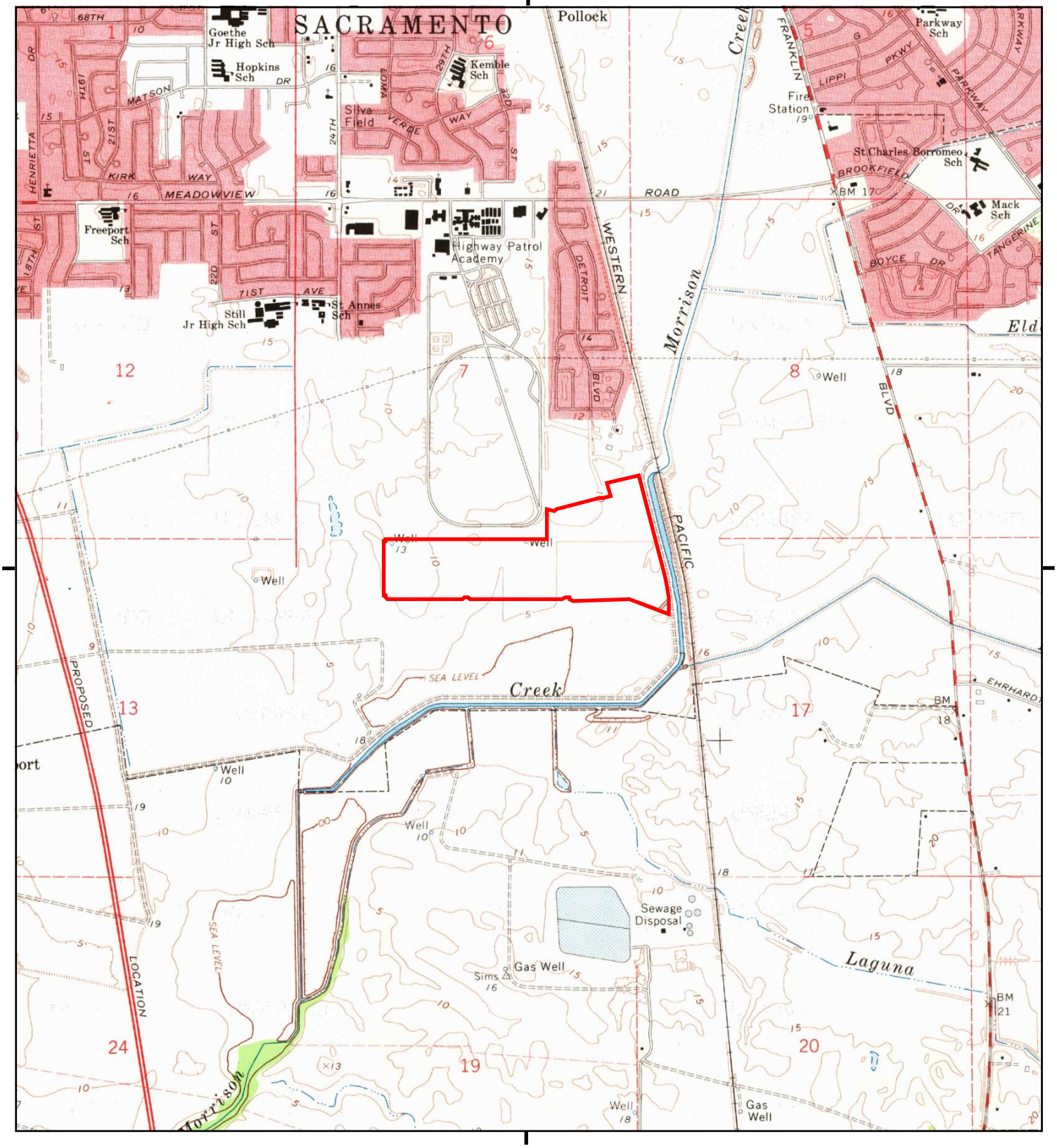
TP, Florin, 1975, 7.5-minute

SITE NAME: Stone Beetland
ADDRESS: Cosumnes River Boulevard
Sacramento, CA 95832
CLIENT: Engeo Inc.

N

Historical Topo Map

1968



This report includes information from the following map sheet(s).

0 Miles 0.25 0.5 1 1.5

NW N NE
W E
SW S SE

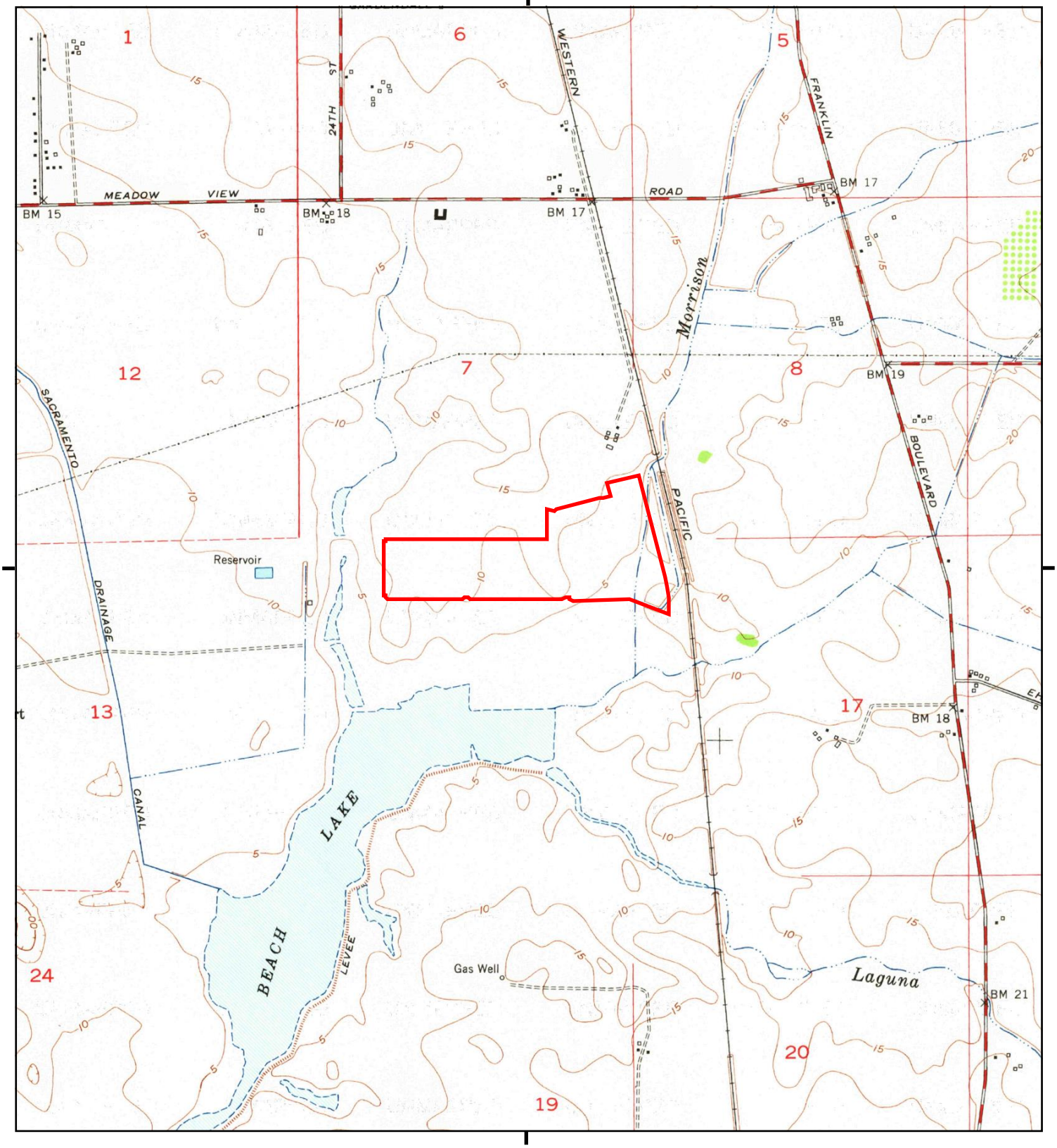
TP, Florin, 1968, 7.5-minute

SITE NAME: Stone Beetland
ADDRESS: Cosumnes River Boulevard
Sacramento, CA 95832
CLIENT: Engeo Inc.

N

Historical Topo Map

1953



This report includes information from the following map sheet(s).

0 Miles 0.25 0.5 1 1.5

NW N NE
W E
SW S SE

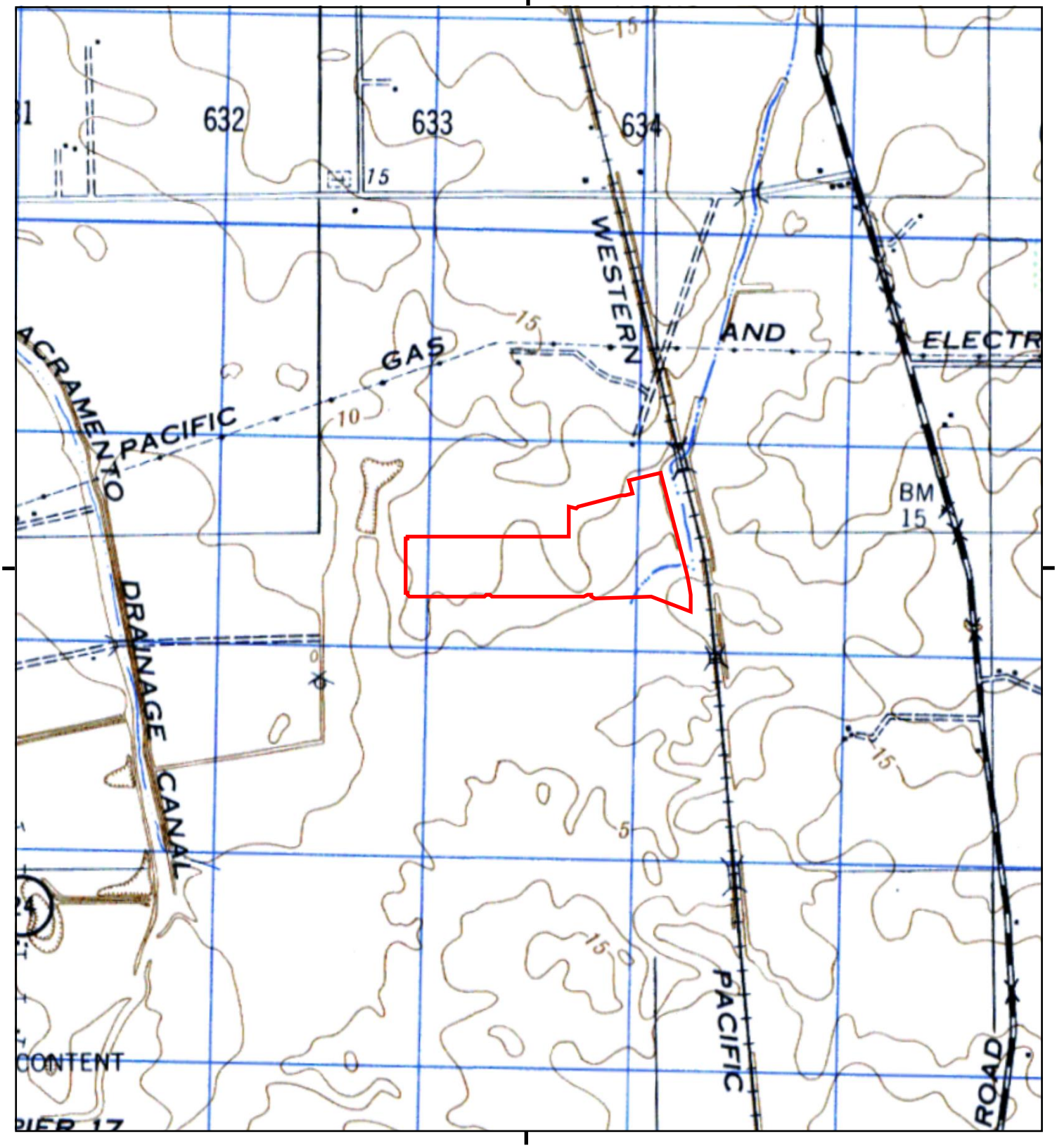
TP, Florin, 1953, 7.5-minute

SITE NAME: Stone Beetland
ADDRESS: Cosumnes River Boulevard
Sacramento, CA 95832
CLIENT: Engeo Inc.

N

Historical Topo Map

1947



This report includes information from the following map sheet(s).

0 Miles 0.25 0.5 1 1.5

NW N NE
W E
SW S SE

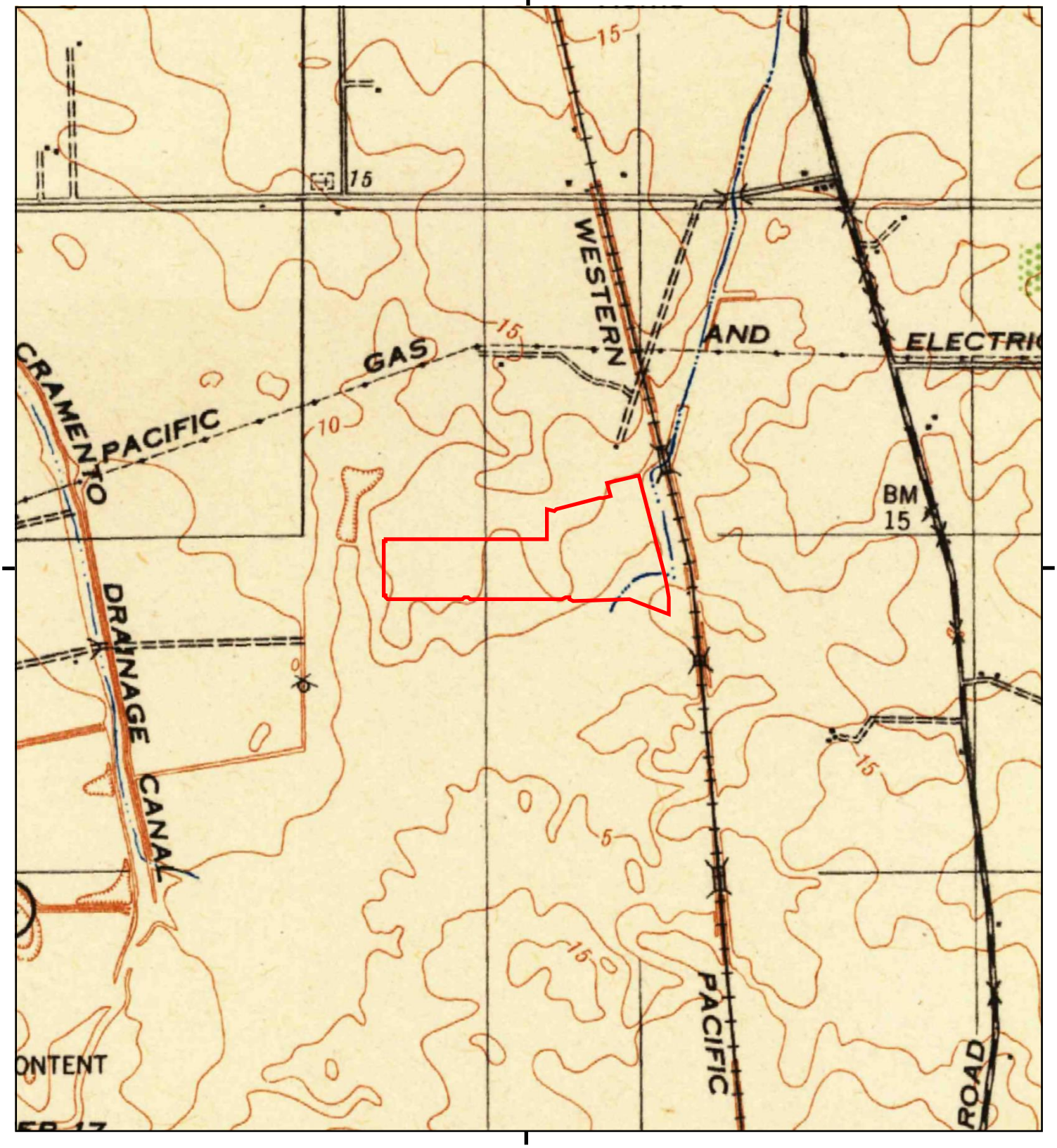
TP, GALT, 1947, 15-minute

SITE NAME: Stone Beetland
ADDRESS: Cosumnes River Boulevard
Sacramento, CA 95832
CLIENT: Engeo Inc.

N

Historical Topo Map

1941



This report includes information from the following map sheet(s).

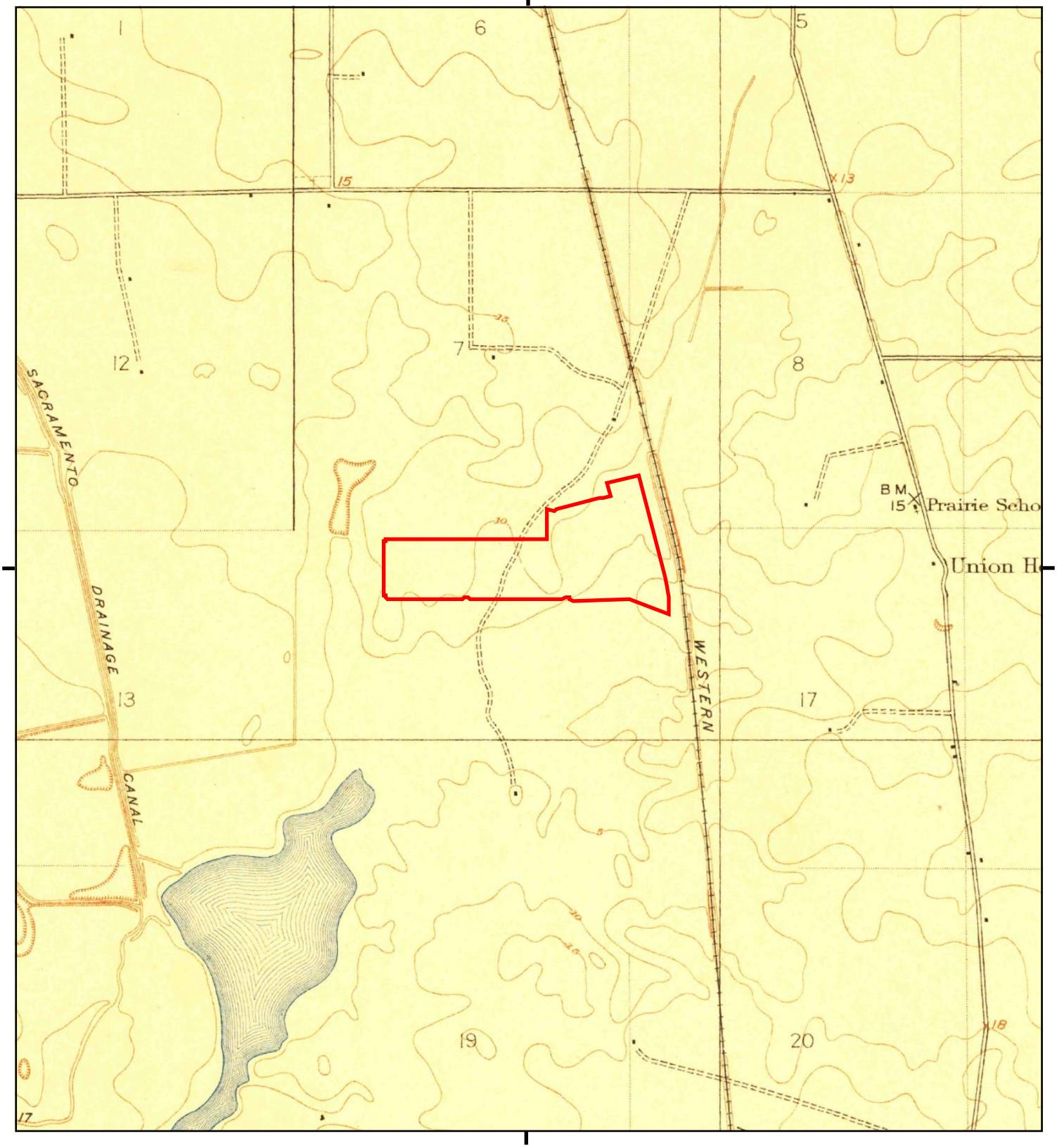
0 Miles 0.25 0.5 1 1.5

NW N NE
W E
SW S SE

TP, Franklin, 1941, 15-minute

SITE NAME: Stone Beetland
ADDRESS: Cosumnes River Boulevard
Sacramento, CA 95832
CLIENT: Engeo Inc.

N



This report includes information from the following map sheet(s).

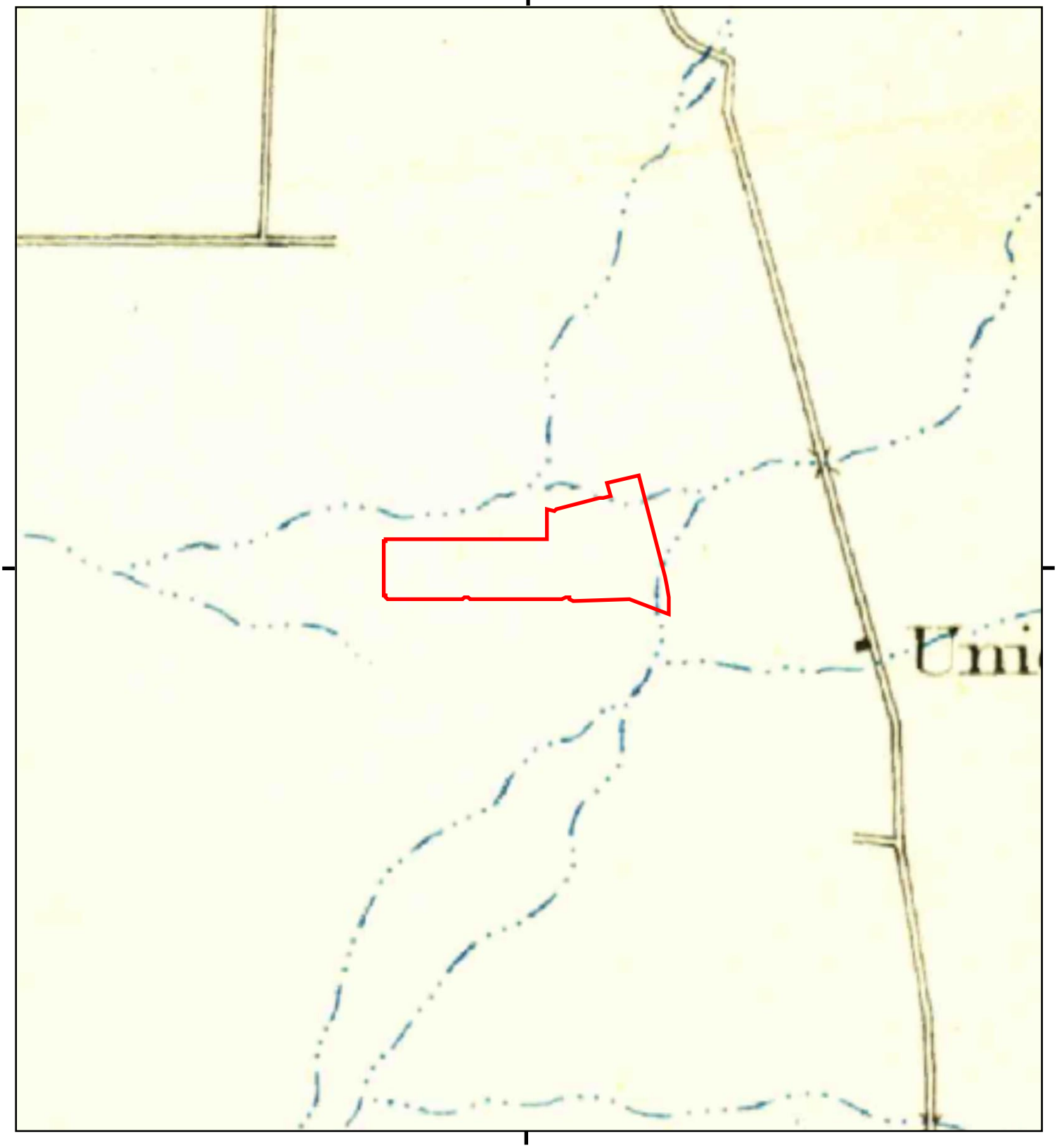
0 Miles 0.25 0.5 1 1.5

NW N NE
W E
SW S SE

TP, Florin, 1909, 7.5-minute

SITE NAME: Stone Beetland
ADDRESS: Cosumnes River Boulevard
Sacramento, CA 95832
CLIENT: Engeo Inc.

N



This report includes information from the following map sheet(s).

0 Miles 0.25 0.5 1 1.5

NW N NE
W E
SW S SE

TP, Lodi, 1894, 30-minute

SITE NAME: Stone Beetland
ADDRESS: Cosumnes River Boulevard
Sacramento, CA 95832
CLIENT: Engeo Inc.

N



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APPENDIX D

ENVIRONMENTAL DATA RESOURCES, INC.

Aerial Photo Decade Package

Stone Beetland

Cosumnes River Boulevard

Sacramento, CA 95832

Inquiry Number: 6275924.8

November 21, 2020

The EDR Aerial Photo Decade Package

6 Armstrong Road, 4th floor
Shelton, CT 06484
Toll Free: 800.352.0050
www.edrnet.com

EDR Aerial Photo Decade Package

11/21/20

Site Name:

Stone Beetland
Cosumnes River Boulevard
Sacramento, CA 95832
EDR Inquiry # 6275924.8

Client Name:

Engeo Inc.
2010 Crow Canyon Place
San Ramon, CA 94583
Contact: Stephen Blakely

Environmental Data Resources, Inc. (EDR) Aerial Photo Decade Package is a screening tool designed to assist environmental professionals in evaluating potential liability on a target property resulting from past activities. EDR's professional researchers provide digitally reproduced historical aerial photographs, and when available, provide one photo per decade.

Search Results:

Year	Scale	Details	Source
2016	1"=750'	Flight Year: 2016	USDA/NAIP
2012	1"=750'	Flight Year: 2012	USDA/NAIP
2009	1"=750'	Flight Year: 2009	USDA/NAIP
2006	1"=750'	Flight Year: 2006	USDA/NAIP
1999	1"=750'	Acquisition Date: January 01, 1999	USGS/DOQQ
1993	1"=750'	Acquisition Date: June 15, 1993	USGS/DOQQ
1984	1"=750'	Flight Date: June 08, 1984	USDA
1972	1"=750'	Flight Date: June 28, 1972	USDA
1966	1"=750'	Flight Date: August 05, 1966	USGS
1964	1"=750'	Flight Date: May 19, 1964	USDA
1957	1"=750'	Flight Date: September 09, 1957	USDA
1947	1"=750'	Flight Date: July 28, 1947	USGS
1937	1"=750'	Flight Date: August 18, 1937	USDA

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INQUIRY #: 6275924.8
YEAR: 2016
= 750'
N
EDR


INQUIRY #: 6275924.8
YEAR: 2012
= 750'
N
EDR


INQUIRY #: 6275924.8
YEAR: 2009
= 750'
N
EDR


INQUIRY #: 6275924.8
YEAR: 2006
= 750'
N
EDR


INQUIRY #: 6275924.8
YEAR: 1999
= 750'
N
EDR



INQUIRY #: 6275924.8

YEAR: 1993

= 750'

N

EDR

Subject boundary not shown because it exceeds image extent or image is not georeferenced.


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YEAR: 1984
= 750'
N
EDR



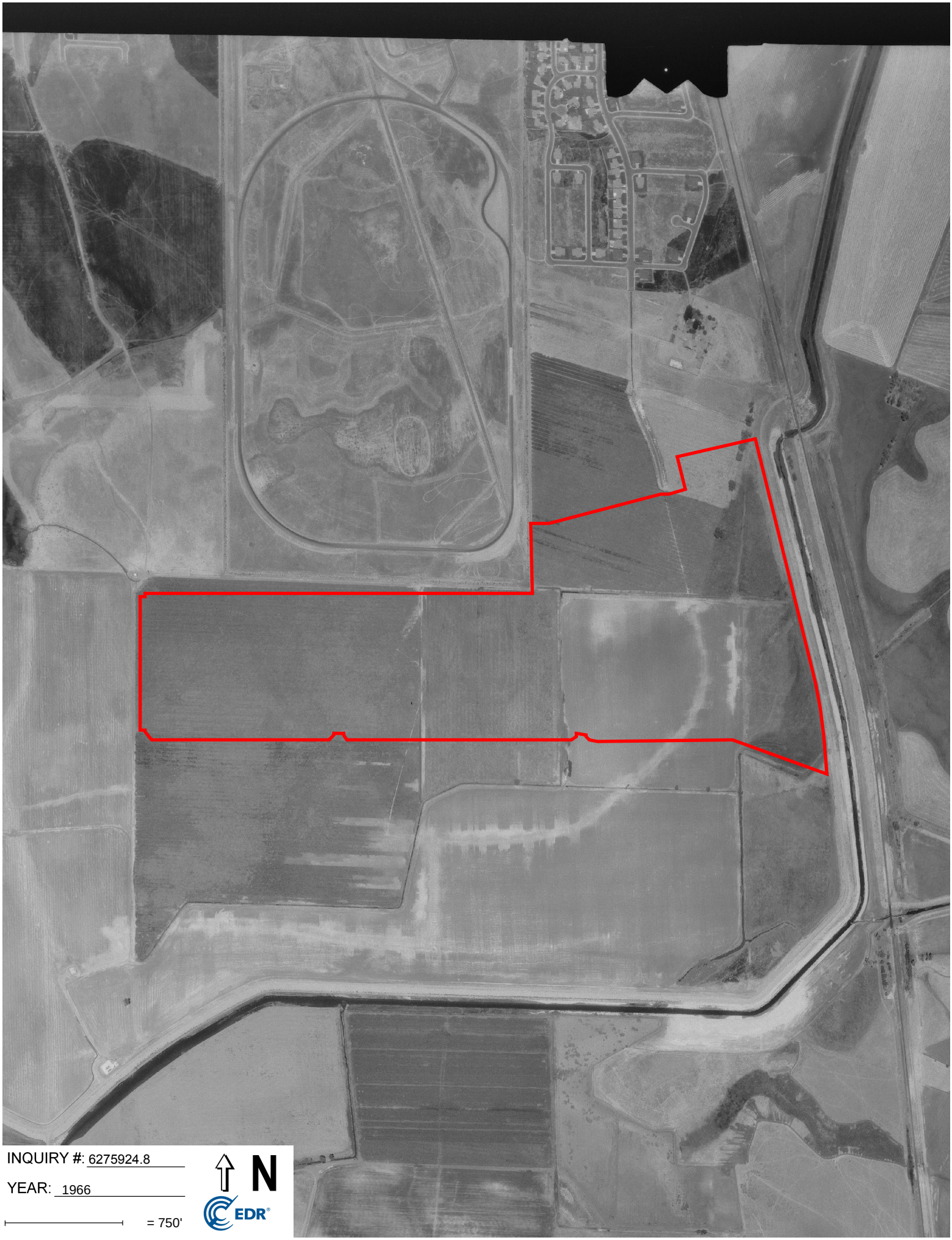
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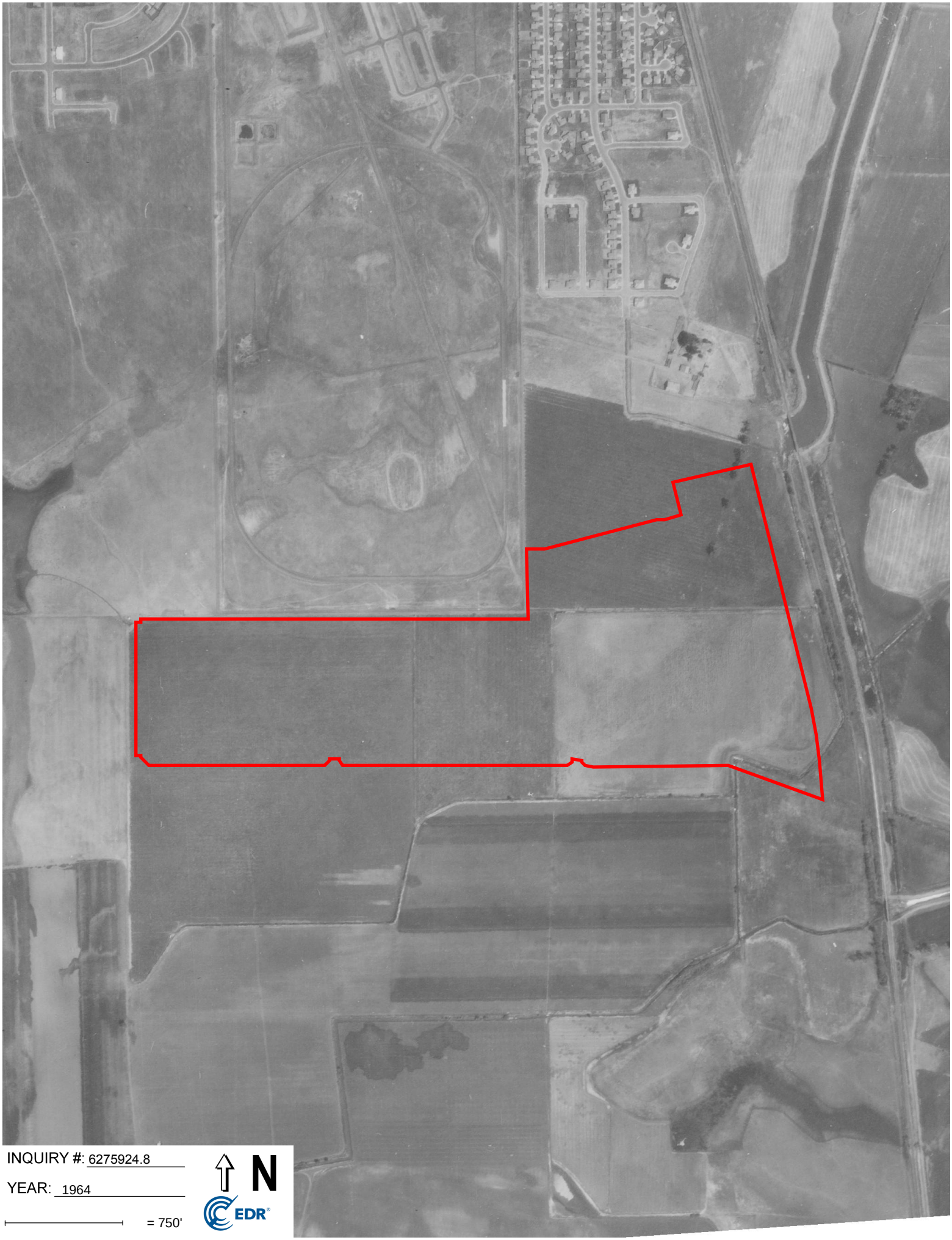
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= 750'

N

EDR


INQUIRY #: 6275924.8
YEAR: 1966
= 750'
N
EDR



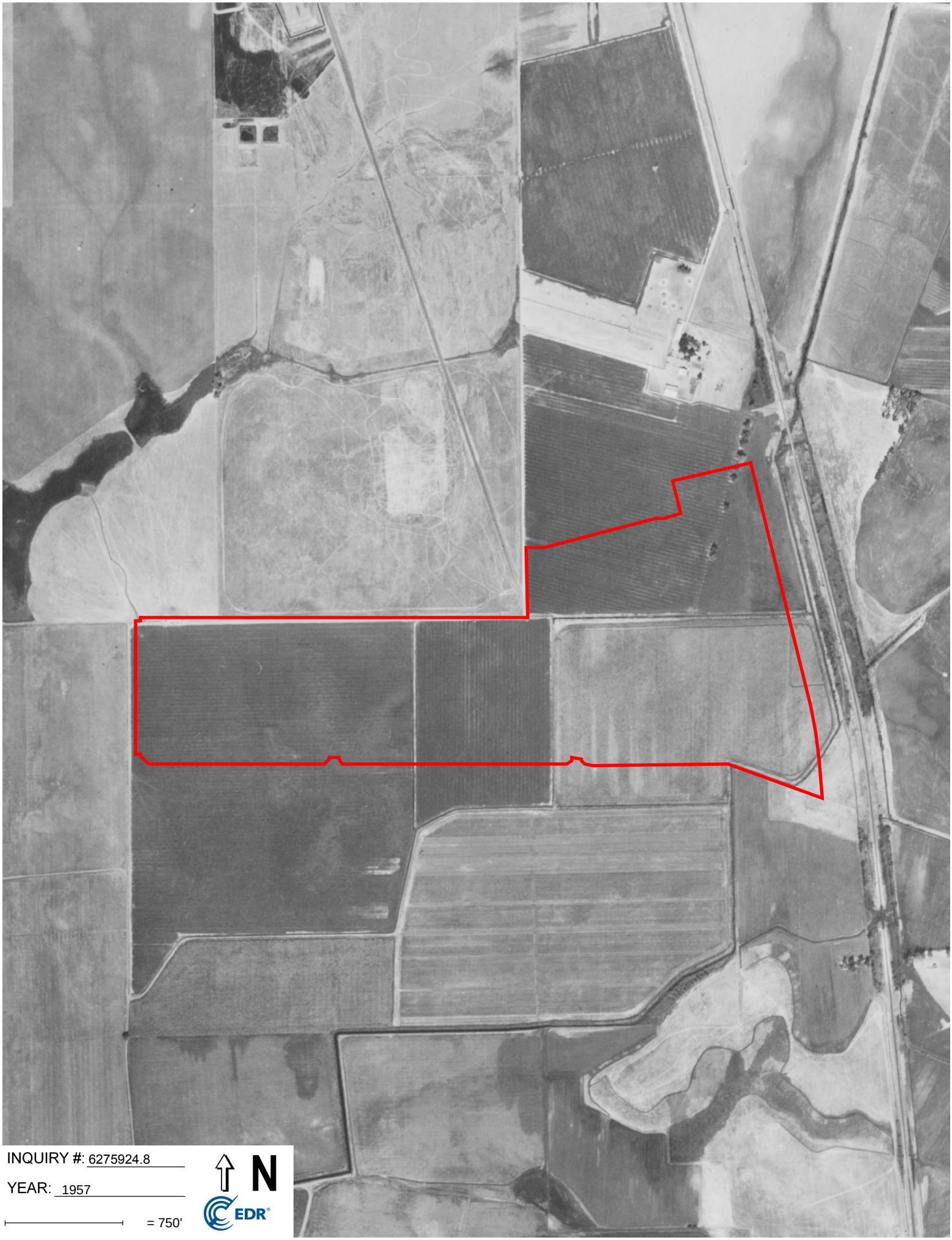
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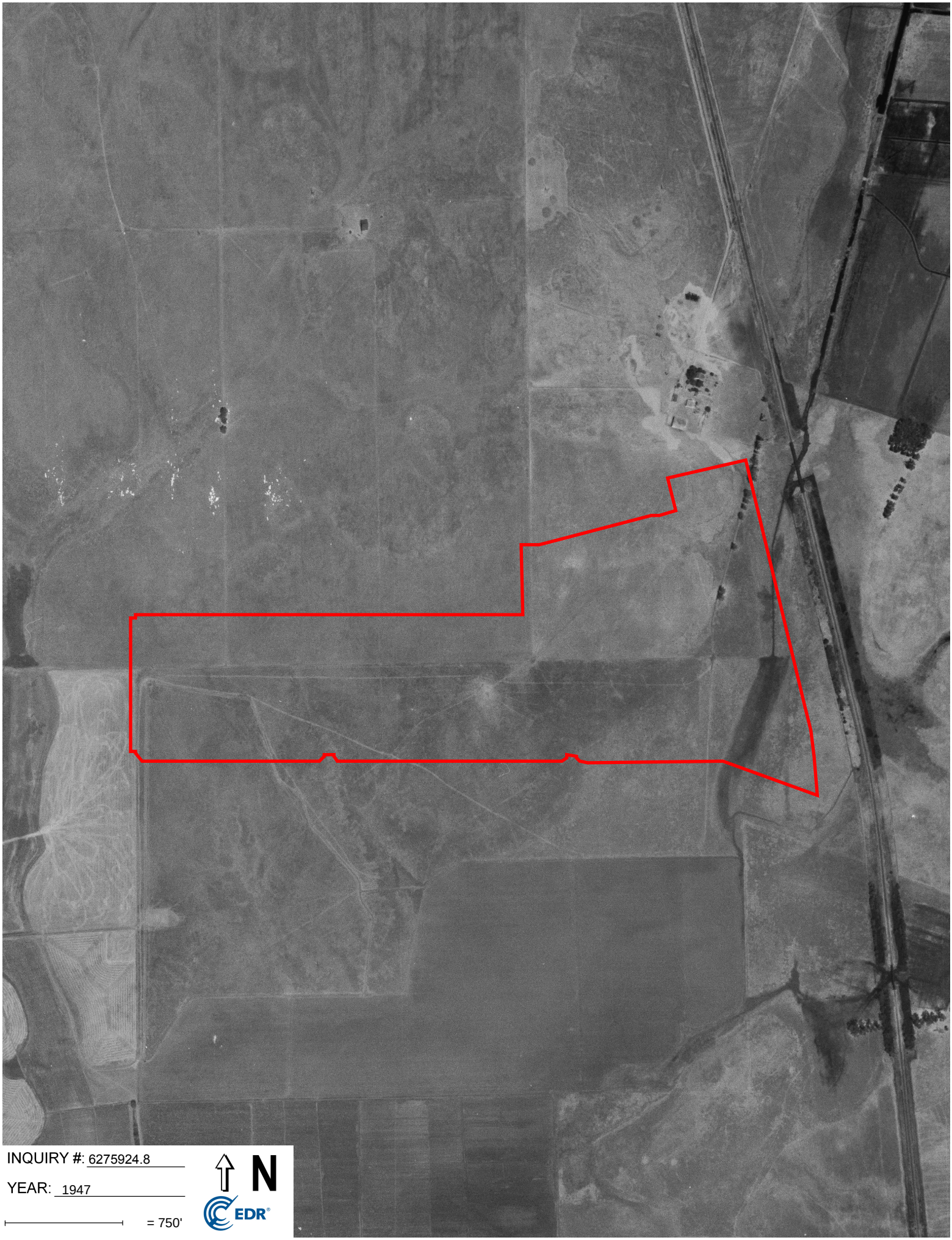
YEAR: 1964

= 750'

N

EDR


INQUIRY #: 6275924.8
YEAR: 1957
= 750'
N
EDR



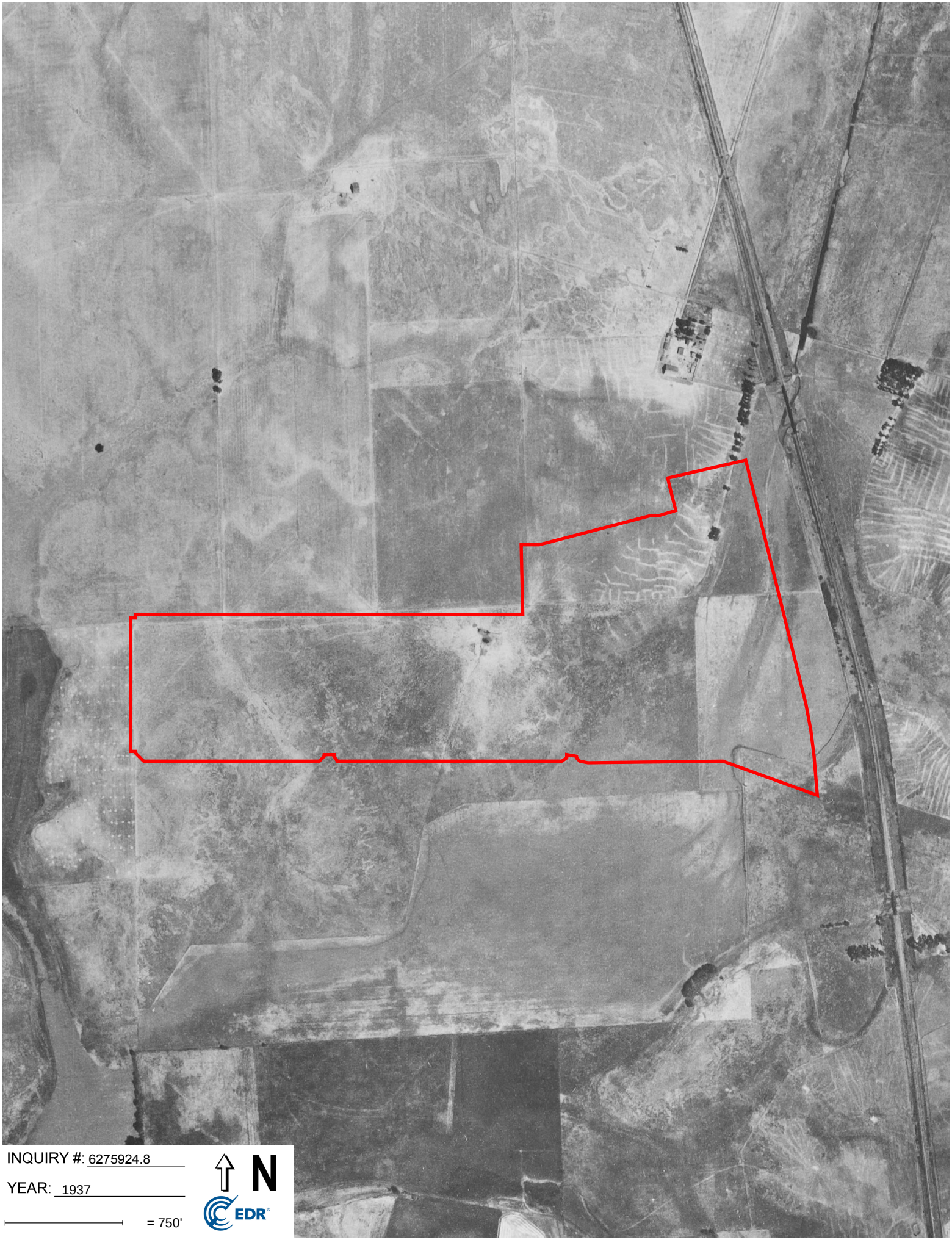
INQUIRY #: 6275924.8

YEAR: 1947

= 750'

N

EDR



INQUIRY #: 6275924.8

YEAR: 1937

= 750'

N

EDR



DRAFT

APPENDIX E

ENVIRONMENTAL DATA RESOURCES, INC.

Sanborn Map Report

Stone Beetland

Cosumnes River Boulevard

Sacramento, CA 95832

Inquiry Number: 6275924.3

November 20, 2020

Certified Sanborn® Map Report

6 Armstrong Road, 4th floor
Shelton, CT 06484
Toll Free: 800.352.0050
www.edrnet.com

Certified Sanborn® Map Report

11/20/20

Site Name:

Stone Beetland
Cosumnes River Boulevard
Sacramento, CA 95832
EDR Inquiry # 6275924.3

Client Name:

Engeo Inc.
2010 Crow Canyon Place
San Ramon, CA 94583
Contact: Stephen Blakely

The Sanborn Library has been searched by EDR and maps covering the target property location as provided by Engeo Inc. were identified for the years listed below. The Sanborn Library is the largest, most complete collection of fire insurance maps. The collection includes maps from Sanborn, Bromley, Perris & Browne, Hopkins, Barlow, and others. Only Environmental Data Resources Inc. (EDR) is authorized to grant rights for commercial reproduction of maps by the Sanborn Library LLC, the copyright holder for the collection. Results can be authenticated by visiting www.edrnet.com/sanborn.

The Sanborn Library is continually enhanced with newly identified map archives. This report accesses all maps in the collection as of the day this report was generated.

Certified Sanborn Results:

Certification # 52C1-44D8-9C53

PO # 18064.000.001

Project Stone Beetland

UNMAPPED PROPERTY

This report certifies that the complete holdings of the Sanborn Library, LLC collection have been searched based on client supplied target property information, and fire insurance maps covering the target property were not found.

Sanborn® Library search results

Certification #: 52C1-44D8-9C53

The Sanborn Library includes more than 1.2 million fire insurance maps from Sanborn, Bromley, Perris & Browne, Hopkins, Barlow and others which track historical property usage in approximately 12,000 American cities and towns. Collections searched:

- ☑ Library of Congress
- ☑ University Publications of America
- ☑ EDR Private Collection

The Sanborn Library LLC Since 1866™

Limited Permission To Make Copies

Engeo Inc. (the client) is permitted to make up to FIVE photocopies of this Sanborn Map transmittal and each fire insurance map accompanying this report solely for the limited use of its customer. No one other than the client is authorized to make copies. Upon request made directly to an EDR Account Executive, the client may be permitted to make a limited number of additional photocopies. This permission is conditioned upon compliance by the client, its customer and their agents with EDR's copyright policy; a copy of which is available upon request.

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APPENDIX F

ENVIRONMENTAL DATA RESOURCES, INC.

City Directory

Stone Beetland
Cosumnes River Boulevard
Sacramento, CA 95832

Inquiry Number: 6275924.5
November 20, 2020

The EDR-City Directory Abstract

Environmental Data Resources Inc

6 Armstrong Road
Shelton, CT 06484
800.352.0050
www.edrnet.com

TABLE OF CONTENTS

SECTION

Executive Summary

Findings

City Directory Images

Thank you for your business.
Please contact EDR at 1-800-352-0050
with any questions or comments.

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EXECUTIVE SUMMARY

DESCRIPTION

Environmental Data Resources, Inc.'s (EDR) City Directory Abstract is a screening tool designed to assist environmental professionals in evaluating potential liability on a target property resulting from past activities. EDR's City Directory Abstract includes a search and abstract of available city directory data. For each address, the directory lists the name of the corresponding occupant at five year intervals.

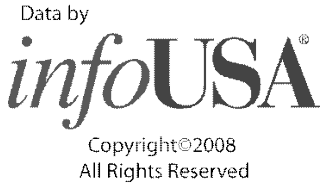
Business directories including city, cross reference and telephone directories were reviewed, if available, at approximately five year intervals for the years spanning 1920 through 2017. This report compiles information gathered in this review by geocoding the latitude and longitude of properties identified and gathering information about properties within 660 feet of the target property.

A summary of the information obtained is provided in the text of this report.

RECORD SOURCES

EDR's Digital Archive combines historical directory listings from sources such as Cole Information and Dun & Bradstreet. These standard sources of property information complement and enhance each other to provide a more comprehensive report.

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RESEARCH SUMMARY

The following research sources were consulted in the preparation of this report. An "X" indicates where information was identified in the source and provided in this report.

Year	Source	TP	Adjoining	Text Abstract	Source Image
2017	Cole Information Services	-	-	-	-
2014	Cole Information Services	-	-	-	-
2009	Cole Information Services	-	-	-	-
2005	Haines Company, Inc.	-	-	-	-
2004	Cole Information Services	-	-	-	-
2002	SBC PACIFIC BELL	-	-	-	-
1999	Cole Information Services	-	-	-	-
	Haines Company	-	-	-	-
1995	Pacific Bell	-	-	-	-
1994	Cole Information Services	-	-	-	-
1991	Pacific Bell	-	-	-	-
1982	R. L. Polk & Co.	-	-	-	-

EXECUTIVE SUMMARY

Year	Source	TP	Adjoining	Text Abstract	Source Image
1980	R. L. Polk & Co.	-	-	-	-
1975	R. L. Polk Co.	-	-	-	-
1970	Sacramento Directory Co.	-	-	-	-
1966	Sacramento Directory Co.	-	-	-	-
1965	Sacramento Directory Co. Publishers	-	-	-	-
1961	Sacramento Directory Co.	-	-	-	-
1957	Sacramento Directory Co.	-	-	-	-
1956	Sacramento Directory Co.	-	-	-	-
1952	Sacramento Directory Co.	-	-	-	-
1947	Sacramento Directory Co.	-	-	-	-
1942	Sacramento Directory Co.	-	-	-	-
1937	Sacramento Directory Co.	-	-	-	-
1933	Sacramento Directory Co.	-	-	-	-
1928	Sacramento Directory Co.	-	-	-	-
1923	Sacramento Directory Co.	-	-	-	-
1920	Sacramento Directory Co.	-	-	-	-

FINDINGS

TARGET PROPERTY INFORMATION

ADDRESS

Cosumnes River Boulevard
Sacramento, CA 95832

FINDINGS DETAIL

Target Property research detail.

FINDINGS

ADJOINING PROPERTY DETAIL

The following Adjoining Property addresses were researched for this report. Detailed findings are provided for each address.

No Addresses Found

FINDINGS

TARGET PROPERTY: ADDRESS NOT IDENTIFIED IN RESEARCH SOURCE

The following Target Property addresses were researched for this report, and the addresses were not identified in the research source.

Address Researched	Address Not Identified in Research Source
Cosumnes River Boulevard	2017, 2014, 2009, 2005, 2004, 2002, 1999, 1995, 1994, 1991, 1982, 1980, 1975, 1970, 1966, 1965, 1961, 1957, 1956, 1952, 1947, 1942, 1937, 1933, 1928, 1923, 1920



DRAFT

APPENDIX G

ENVIRONMENTAL SITE ASSESSMENT QUESTIONNAIRE

ENVIRONMENTAL SITE ASSESSMENT QUESTIONNAIRE
FOR CLIENT

To evaluate the potential for possible environmentally related impacts and site contamination the following information is requested. This questionnaire is to be completed by the user of the phase one environmental site assessment, or their authorized representative.

PART I

1. Property address and Assessor's Parcel Number (APN):

   Per attached title report.

2. Current property owner (name, address, voice/fax number):

   Per attached title report.

3. Date current property owner assumed title of property:

   Per attached title report.

4. Current property development/improvements:

   Unimproved land with major infrastructure constructed by others stubbed to the site.

5. Past property use, development/improvements:

   Agriculture

6. Neighboring property uses:

   Residential and undeveloped

PART II

		Yes	No	N/A
1.	Are you aware of any environmental cleanup liens against the *property* that are filed under federal, tribal, local or state law?	☐	☒	
2.	Are you aware of any activity and land use limitations, such as engineering controls, land use restrictions, or institutional controls that are in place at the property and/or have been filed or recorded in a registry under federal, tribal, state or local law?	☐	☒	
3.	Do you have any specialized knowledge or experience related to the *property* or nearby properties? For example, are you involved in the same line of business as the current or former occupants of the *property* or an adjoining property so that you would have specialized knowledge of the chemicals and processes used by this type of business?	☐	☒	
4.	If a property transaction is occurring in conjunction with this environmental assessment, does the purchase price of this *property* reasonably reflect the fair market value of the *property*?	☒	☐	
5.	If you conclude that there is a difference, have you considered whether the lower purchase price is because contamination is known or believed to be present at the *property?*	☐	☐	☒
6.	Are you aware of any commonly known or reasonably ascertainable information about the property that would help the environmental professional to identify conditions indicative of releases or threatened releases? For example, (a) do you know of specific chemicals that are present or once were present at the *property*? (b) do you know of spills or other chemical releases that have taken place at the *property*? (c) do you know of any environmental cleanups that have taken place at the *property*?	☐	☒	
7.	Based on your knowledge and experience related to the *property* are there any obvious indicators that point to the presence or likely presence of contamination at the *property*?	☐	☒	

If a "Yes" response was provided to any of the above questions, please provide details below:

I certify that the information herein is true and correct to the best of my knowledge as of the date signed below.

Name (Printed/Typed): Clifton Taylor

Signature:  Date: November 19, 2020



DRAFT

APPENDIX H

CALIFORNIA LABORATORY SERVICES

Analytical Test Report

CALIFORNIA LABORATORY SERVICES
Committed. Responsive. Flexible.

December 28, 2020

CLS Work Order #: 20L1056
COC #:
203322,203323,203324,203325

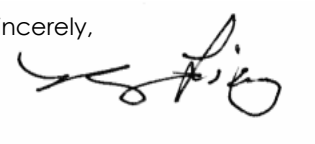
Stephen Blakely
ENGEO
2213 Plaza Drive
Rocklin, CA 95765

Project Name: Stone Beetland

Enclosed are the results of analyses for samples received by the laboratory on 12/18/20 14:59. Samples were analyzed pursuant to client request utilizing EPA or other ELAP approved methodologies. I certify that the results are in compliance both technically and for completeness.

Analytical results are attached to this letter. Please call if we can provide additional assistance.

Sincerely,



James Liang, Ph.D.
Laboratory Director

CA SWRCB ELAP Accreditation/Registration number 1233

CALIFORNIA LABORATORY SERVICES
Committed. Responsive. Flexible.

CHAIN OF CUSTODY

CLS ID No.: 202056

LOG Nº 203322

HIGHLIGHTED AREAS MUST BE FILLED OUT PRIOR TO ACCEPTANCE

REPORT TO:

NAME AND ADDRESS: ENGEO
2213 Plaza Drive
Rocklin CA 95765
PROJECT MANAGER: Stephen Blakely PHONE#: 916-580-5995
PROJECT NAME: Stone Bedland
SAMPLED BY: S. Blakely
JOB DESCRIPTION:
SITE LOCATION: Sacramento

CLIENT JOB NUMBER: 19064.000.001

DESTINATION LABORATORY:
☒ CLS (916) 638-7301
3249 FITZGERALD RD.
RANCHO CORDOVA, CA.
95742
☐ OTHER

PRESERVATIVES

ANALYSIS REQUESTED

GEOTRACKER:
EDF REPORT ☐ YES ☐ NO
GLOBAL ID:

CDPH WRITE ON EDT TRANSMISSION? ☐ YES ☐ NO
STATE SYSTEM NUMBER
IF "YES" PLEASE ENTER THE SOURCE NUMBER(S).

COMPOSITE:

DATE	TIME	SAMPLE IDENTIFICATION	MATRIX	CONTAINER NO.	CONTAINER TYPE	OCPs (EPA 8081)	Total lead (EPA 6020)	Total arsenic (EPA 6020)	TURN AROUND TIME 1 DAY	2 DAY	3 DAY	5 DAY	SPECIAL INSTRUCTIONS OR ALT. ID:
12/18/20	8:26	1-S01	Soil	802	Jar	X	X	X				X	Comp 1-S01 thru 1-S04
	8:35	1-S02											
	9:13	1-S03											
	9:16	1-S04											
	9:19	1-S05					X	X					Comp 1-S05 thru 1-S08
	9:24	1-S06											
	9:34	1-S07											
	9:42	1-S08											
	9:50	1-S09					X	X					INVOICE TO: Comp 1-S09 thru 1-S12
	9:53	1-S10											
	9:58	1-S11											
	10:03	1-S12											P.O. #
													QUOTE #

Email/Address: sblakely@ensco.com

PRESERVATIVES: (1) HCL (2) HNO_3 (3) = COLD (4) = NaOH (5) = H_2SO_4 (6) = $Na_2S_2O_3$ (7) =

RELINQUISHED BY (SIGN)	PRINT NAME / COMPANY	DATE / TIME	RECEIVED BY (SIGN)	PRINT NAME / COMPANY
	Stephen Blakely/ENGEO	12/18/20 1459		

RECD AT LAB BY: DATE / TIME: 12/18/2020 1459 CONDITIONS / COMMENTS: 3.9

SHIPPED BY: ☐ FED X ☐ UPS ☐ OTHER AIR BILL #

White-Lab/Terms and conditions Yellow- Lab file copy/Terms and Conditions Pink - Origin/Terms and Conditions Gold-Project Mgr./Field Sampler/Terms and conditions

CALIFORNIA LABORATORY SERVICES

CHAIN OF CUSTODY

CLS ID No.: _____ LOG Nº 203323

HIGHLIGHTED AREAS MUST BE FILLED OUT PRIOR TO ACCEPTANCE

REPORT TO:

NAME AND ADDRESS: ENGEO

PROJECT MANAGER: S. Blakely PHONE#: 916-580-5995

PROJECT NAME: Stone Bartland

SAMPLED BY: S. Blakely

JOB DESCRIPTION:

SITE LOCATION: Sacramento

CLIENT JOB NUMBER: 18064.000.001

DESTINATION LABORATORY:

☒ CLS (916) 638-7301
3249 FITZGERALD RD.
RANCHO CORDOVA, CA.
95742

☐ OTHER

PRESERVATIVES

ANALYSIS REQUESTED

OCPs (EPA 8081) | Total lead (EPA 6020) | Total arsenic (EPA 6020)

GEOTRACKER:
EDF REPORT ☐ YES ☐ NO
GLOBAL ID: _____

CDPH WRITE ON EDT TRANSMISSION? ☐ YES ☐ NO
STATE SYSTEM NUMBER: _____
IF "YES" PLEASE ENTER THE SOURCE NUMBER(S).

COMPOSITE:

TURN AROUND TIME: 1 DAY | 2 DAY | 3 DAY | 5 DAY

SPECIAL INSTRUCTIONS OR ALT. ID:

DATE	TIME	SAMPLE IDENTIFICATION	MATRIX	CONTAINER NO.	CONTAINER TYPE	OCPs	Total lead	Total arsenic	5 DAY	SPECIAL INSTRUCTIONS
12/18/20	9:42	1-S13	Soil	8oz	Jar		X	X	X	Comp 1-S13 thru 1-S16
	9:44	1-S14								
	9:46	1-S15								
	9:49	1-S16								
	10:00	1-S17					X	X		Comp 1-S17 thru 1-S20
	10:02	1-S18								
	10:04	1-S19								
	10:06	1-S20								
	10:14	1-S21					X	X		INVOICE TO: Comp 1-S21 thru 1-S24
	10:16	1-S22								
	10:18	1-S23								
	10:20	1-S24								P.O. #
										QUOTE #

Email/Address: sblakely@engeo.com

PRESERVATIVES: (1) HCL (2) HNO_3 (3) = COLD (4) = NaOH (5) = H_2SO_4 (6) = $Na_2S_2O_3$ (7) =

RELINQUISHED BY (SIGN)	PRINT NAME / COMPANY	DATE / TIME	RECEIVED BY (SIGN)	PRINT NAME / COMPANY
[signature]	Stefan Blakely/ENGEO	12/18/20 1459		

REC'D AT LAB BY: [signature] DATE / TIME: 12/18/2020 1459 CONDITIONS / COMMENTS: 3.9

SHIPPED BY: ☐ FED X ☐ UPS ☐ OTHER _____ AIR BILL #

White- Lab/Terms and conditions Yellow- Lab file copy/Terms and Conditions Pink- Origin/Terms and Conditions Gold-Project Mgr./Field Sampler/Terms and conditions

CALIFORNIA LABORATORY SERVICES

CHAIN OF CUSTODY

CLS ID No.: _____ LOG № 203324

HIGHLIGHTED AREAS MUST BE FILLED OUT PRIOR TO ACCEPTANCE

REPORT TO:

NAME AND ADDRESS: ENGEO

PROJECT MANAGER: S. Blakely PHONE: 916-580-5995

PROJECT NAME: Stone Bretland

SAMPLED BY: S. Blakely

JOB DESCRIPTION:

SITE LOCATION: Sacramento

CLIENT JOB NUMBER: 18069.600.001

DESTINATION LABORATORY

☒ CLS (916) 638-7301
3249 FITZGERALD RD.
RANCHO CORDOVA, CA.
95742

☐ OTHER

PRESERVATIVES

ANALYSIS REQUESTED

GEOTRACKER:
EDF REPORT ☐ YES ☐ NO
GLOBAL ID:

CDPH WRITE ON EDT TRANSMISSION? ☐ YES ☐ NO
STATE SYSTEM NUMBER
IF "YES" PLEASE ENTER THE SOURCE NUMBER(S).

COMPOSITE:

DATE	TIME	SAMPLE IDENTIFICATION	MATRIX	CONTAINER NO.	CONTAINER TYPE	OCPs (EPA 8081)	Total lead (EPA 6020)	Total arsenic (EPA 6020)	TURN AROUND TIME 1 DAY	2 DAY	3 DAY	5 DAY	SPECIAL INSTRUCTIONS OR ALT. ID:
12/18/20	1403	1-S25	Soil	6oz	Jar	X	X	X				X	Comp FS25 thru FS27
	1407	1-S26											
	1411	1-S27											
	1414	1-S28											
	1420	1-S29				X	X						Comp FS29 thru FS32
	1425	1-S30											
	1428	1-S31											
	1431	1-S32											
	1434	1-S33				X	X						INVOICE TO: Comp FS29 thru FS32
	1440	1-S34											
	1443	1-S35											
	1448	1-S36											P.O. #
													QUOTE #

Email/Address: sblakely@engeo.com

PRESERVATIVES: (1) HCL (2) HNO_3 (3) = COLD (4) = NaOH (5) = H_2SO_4 (6) = $Na_2S_2O_3$ (7) =

RELINQUISHED BY (SIGN)	PRINT NAME / COMPANY	DATE / TIME	RECEIVED BY (SIGN)	PRINT NAME / COMPANY
	Stephen Blakely/ENGEO	12/18/20 1459		

RECD AT LAB BY: _____ DATE / TIME: 12/18/2020 1459 CONDITIONS / COMMENTS: 39

SHIPPED BY: ☐ FED X ☐ UPS ☐ OTHER _____ AIR BILL #

White-Lab/Terms and conditions Yellow- Lab file copy/Terms and Conditions Pink- Origin/Terms and Conditions Gold-Project Mgr./Field Sampler/Terms and conditions

CALIFORNIA LABORATORY SERVICES
Committed. Responsive. Flexible.

4/4

CHAIN OF CUSTODY

CLS ID No.: _____

LOG № 203325

HIGHLIGHTED AREAS MUST BE FILLED OUT PRIOR TO ACCEPTANCE

REPORT TO:

NAME AND ADDRESS: ENGEO

PROJECT MANAGER: S. Blakely PHONE#: 916 530-5995

PROJECT NAME: Stone Boatland

SAMPLED BY: S. Blakely

JOB DESCRIPTION:

SITE LOCATION: Sacramento

CLIENT JOB NUMBER: 18064.000.001

DESTINATION LABORATORY:

☒ CLS (916) 638-7301
3249 FITZGERALD RD.
RANCHO CORDOVA, CA.
95742

☐ OTHER

PRESERVATIVES

ANALYSIS REQUESTED

GEOTRACKER:
EDF REPORT ☐ YES ☐ NO
GLOBAL ID: _____

CDPH WRITE ON EDT TRANSMISSION? ☐ YES ☐ NO
STATE SYSTEM NUMBER _____
IF "YES" PLEASE ENTER THE SOURCE NUMBER(S).

COMPOSITE:

DATE	TIME	SAMPLE IDENTIFICATION	MATRIX	CONTAINER NO.	CONTAINER TYPE	OCPs (EPA 8081)	Total lead (EPA 6020)	Total arsenic (EPA 6020)	TURN AROUND TIME 1 DAY	2 DAY	3 DAY	5 DAY	SPECIAL INSTRUCTIONS OR ALT. ID:
12/11/20	12:44	1-S37	Soil	6oz	Jar	X	X	X				X	Comp 1-S37 through 1-S40
	13:00	1-S38											
	13:15	1-S39											
	13:43	1-S40											
	13:48	1-S41				X	X	X					Comp 1-S41 through 1-S44
	12:19	1-S42											
	13:16	1-S43											
	11:59	1-S44											
	13:21	1-S45				X	X	X					INVOICE TO: Comp 1-S45 through 1-S48
	13:27	1-S46											
	13:35	1-S47											
	13:37	1-S48											P.O. #
													QUOTE #

Email/Address: sblakely@engeo.com

PRESERVATIVES: (1) HCL (2) HNO_3 (3) = COLD (4) = NaOH (5) = H_2SO_4 (6) = $Na_2S_2O_3$ (7) =

RELINQUISHED BY (SIGN)	PRINT NAME / COMPANY	DATE / TIME	RECEIVED BY (SIGN)	PRINT NAME / COMPANY
[signature]	Stephen Blakely/ENGEO	12/15/20 1459		

RECD AT LAB BY: [signature] DATE / TIME: 12/17/2020 1459 CONDITIONS / COMMENTS: 3.9

SHIPPED BY: ☐ FED X ☐ UPS ☐ OTHER _____ AIR BILL #

White-Lab/Terms and conditions Yellow- Lab file copy/Terms and Conditions Pink- Origin/Terms and Conditions Gold-Project Mgr./Field Sampler/Terms and conditions

ENGEO	Project:	Stone Beetland	
2213 Plaza Drive	Project Number:	18064.000.001	**CLS Work Order #: 20L1056**
Rocklin, CA 95765	Project Manager:	Stephen Blakely	COC #: 203322,203323,203324,203325

Metals by EPA 6000/7000 Series Methods

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
1-S01 (20L1056-01) Soil Sampled: 12/18/20 08:26 Received: 12/18/20 14:59									
Arsenic	**4.4**	2.0	mg/kg	10	2010430	12/22/20	12/23/20	EPA 6020	
Lead	**13**	2.5	"	"	"	"	"	"	
1-S05 (20L1056-06) Soil Sampled: 12/18/20 09:18 Received: 12/18/20 14:59									
Arsenic	**7.3**	2.0	mg/kg	10	2010430	12/22/20	12/23/20	EPA 6020	
Lead	**9.4**	2.5	"	"	"	"	"	"	
1-S09 (20L1056-11) Soil Sampled: 12/18/20 08:42 Received: 12/18/20 14:59									
Arsenic	**19**	2.0	mg/kg	10	2010430	12/22/20	12/23/20	EPA 6020	
Lead	**11**	2.5	"	"	"	"	"	"	
1-S13 (20L1056-16) Soil Sampled: 12/18/20 09:42 Received: 12/18/20 14:59									
Arsenic	**11**	2.0	mg/kg	10	2010430	12/22/20	12/23/20	EPA 6020	
Lead	**10**	2.5	"	"	"	"	"	"	
1-S17 (20L1056-21) Soil Sampled: 12/18/20 10:19 Received: 12/18/20 14:59									
Arsenic	**11**	2.0	mg/kg	10	2010430	12/22/20	12/23/20	EPA 6020	
Lead	**12**	2.5	"	"	"	"	"	"	
1-S21 (20L1056-26) Soil Sampled: 12/18/20 10:14 Received: 12/18/20 14:59									
Arsenic	**7.7**	2.0	mg/kg	10	2010430	12/22/20	12/23/20	EPA 6020	
Lead	**10**	2.5	"	"	"	"	"	"	
1-S25 (20L1056-31) Soil Sampled: 12/18/20 14:03 Received: 12/18/20 14:59									
Arsenic	**10**	2.0	mg/kg	10	2010430	12/22/20	12/23/20	EPA 6020	
Lead	**11**	2.5	"	"	"	"	"	"	

ENGEO	Project:	Stone Beetland	
2213 Plaza Drive	Project Number:	18064.000.001	**CLS Work Order #: 20L1056**
Rocklin, CA 95765	Project Manager:	Stephen Blakely	COC #: 203322,203323,203324,203325

Metals by EPA 6000/7000 Series Methods

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
1-S29 (20L1056-36) Soil Sampled: 12/18/20 12:22 Received: 12/18/20 14:59									
Arsenic	**5.1**	2.0	mg/kg	10	2010430	12/22/20	12/23/20	EPA 6020	
Lead	**13**	2.5	"	"	"	"	"	"	
1-S33 (20L1056-41) Soil Sampled: 12/18/20 13:51 Received: 12/18/20 14:59									
Arsenic	**5.1**	2.0	mg/kg	10	2010430	12/22/20	12/23/20	EPA 6020	
Lead	**9.4**	2.5	"	"	"	"	"	"	
1-S37 (20L1056-46) Soil Sampled: 12/18/20 12:44 Received: 12/18/20 14:59									
Arsenic	**5.6**	2.0	mg/kg	10	2010430	12/22/20	12/23/20	EPA 6020	
Lead	**11**	2.5	"	"	"	"	"	"	
1-S41 (20L1056-51) Soil Sampled: 12/18/20 13:08 Received: 12/18/20 14:59									
Arsenic	**7.2**	2.0	mg/kg	10	2010430	12/22/20	12/23/20	EPA 6020	
Lead	**21**	2.5	"	"	"	"	"	"	
1-S45 (20L1056-56) Soil Sampled: 12/18/20 13:21 Received: 12/18/20 14:59									
Arsenic	**4.0**	2.0	mg/kg	10	2010430	12/22/20	12/23/20	EPA 6020	
Lead	**12**	2.5	"	"	"	"	"	"	

ENGEO	Project:	Stone Beetland	
2213 Plaza Drive	Project Number:	18064.000.001	**CLS Work Order #: 20L1056**
Rocklin, CA 95765	Project Manager:	Stephen Blakely	COC #: 203322,203323,203324,203325

Organochlorine Pesticides by EPA Method 8081A

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
1-S01-1-S04 (COMP) (20L1056-05) Soil Sampled: 12/18/20 08:26 Received: 12/18/20 14:59									
4,4´-DDD	ND	3.3	µg/kg	1	2010398	12/21/20	12/22/20	EPA 8081A	
4,4´-DDE	ND	3.3	"	"	"	"	"	"	
4,4´-DDT	ND	3.3	"	"	"	"	"	"	
Aldrin	ND	1.0	"	"	"	"	"	"	
alpha-BHC	ND	1.7	"	"	"	"	"	"	
beta-BHC	ND	1.7	"	"	"	"	"	"	
Chlordane-technical	ND	3.3	"	"	"	"	"	"	
delta-BHC	ND	1.7	"	"	"	"	"	"	
Dieldrin	ND	1.0	"	"	"	"	"	"	
Endosulfan I	ND	1.7	"	"	"	"	"	"	
Endosulfan II	ND	3.3	"	"	"	"	"	"	
Endosulfan sulfate	ND	3.3	"	"	"	"	"	"	
Endrin	ND	3.3	"	"	"	"	"	"	
Endrin aldehyde	ND	3.3	"	"	"	"	"	"	
gamma-BHC (Lindane)	ND	1.7	"	"	"	"	"	"	
Heptachlor	ND	1.7	"	"	"	"	"	"	
Heptachlor epoxide	ND	1.7	"	"	"	"	"	"	
Methoxychlor	ND	17	"	"	"	"	"	"	
Mirex	ND	3.3	"	"	"	"	"	"	
Toxaphene	ND	20	"	"	"	"	"	"	
Surrogate: Decachlorobiphenyl		*51 %*	*52-141*		"	"	"	"	*QS-4*
Surrogate: Tetrachloro-meta-xylene		*54 %*	*46-139*		"	"	"	"	
1-S05-1-S08 (COMP) (20L1056-10) Soil Sampled: 12/18/20 09:18 Received: 12/18/20 14:59									
4,4´-DDD	ND	3.3	µg/kg	1	2010398	12/21/20	12/22/20	EPA 8081A	
4,4´-DDE	ND	3.3	"	"	"	"	"	"	
4,4´-DDT	ND	3.3	"	"	"	"	"	"	
Aldrin	ND	1.0	"	"	"	"	"	"	
alpha-BHC	ND	1.7	"	"	"	"	"	"	
beta-BHC	ND	1.7	"	"	"	"	"	"	
Chlordane-technical	ND	3.3	"	"	"	"	"	"	

ENGEO	Project:	Stone Beetland	
2213 Plaza Drive	Project Number:	18064.000.001	**CLS Work Order #: 20L1056**
Rocklin, CA 95765	Project Manager:	Stephen Blakely	COC #: 203322,203323,203324,203325

Organochlorine Pesticides by EPA Method 8081A

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
1-S05-1-S08 (COMP) (20L1056-10) Soil Sampled: 12/18/20 09:18 Received: 12/18/20 14:59									
delta-BHC	ND	1.7	µg/kg	1	2010398	"	12/22/20	EPA 8081A	
Dieldrin	ND	1.0	"	"	"	"	"	"	
Endosulfan I	ND	1.7	"	"	"	"	"	"	
Endosulfan II	ND	3.3	"	"	"	"	"	"	
Endosulfan sulfate	ND	3.3	"	"	"	"	"	"	
Endrin	ND	3.3	"	"	"	"	"	"	
Endrin aldehyde	ND	3.3	"	"	"	"	"	"	
gamma-BHC (Lindane)	ND	1.7	"	"	"	"	"	"	
Heptachlor	ND	1.7	"	"	"	"	"	"	
Heptachlor epoxide	ND	1.7	"	"	"	"	"	"	
Methoxychlor	ND	17	"	"	"	"	"	"	
Mirex	ND	3.3	"	"	"	"	"	"	
Toxaphene	ND	20	"	"	"	"	"	"	
Surrogate: Decachlorobiphenyl		*43 %*	*52-141*		"	"	"	"	*QS-4*
Surrogate: Tetrachloro-meta-xylene		*50 %*	*46-139*		"	"	"	"	
1-S9-1-S12 (COMP) (20L1056-15) Soil Sampled: 12/18/20 08:42 Received: 12/18/20 14:59									
4,4´-DDD	ND	3.3	µg/kg	1	2010398	12/21/20	12/22/20	EPA 8081A	
4,4´-DDE	ND	3.3	"	"	"	"	"	"	
4,4´-DDT	ND	3.3	"	"	"	"	"	"	
Aldrin	ND	1.0	"	"	"	"	"	"	
alpha-BHC	ND	1.7	"	"	"	"	"	"	
beta-BHC	ND	1.7	"	"	"	"	"	"	
Chlordane-technical	ND	3.3	"	"	"	"	"	"	
delta-BHC	ND	1.7	"	"	"	"	"	"	
Dieldrin	ND	1.0	"	"	"	"	"	"	
Endosulfan I	ND	1.7	"	"	"	"	"	"	
Endosulfan II	ND	3.3	"	"	"	"	"	"	
Endosulfan sulfate	ND	3.3	"	"	"	"	"	"	
Endrin	ND	3.3	"	"	"	"	"	"	
Endrin aldehyde	ND	3.3	"	"	"	"	"	"	

ENGEO	Project:	Stone Beetland	
2213 Plaza Drive	Project Number:	18064.000.001	**CLS Work Order #: 20L1056**
Rocklin, CA 95765	Project Manager:	Stephen Blakely	COC #: 203322,203323,203324,203325

Organochlorine Pesticides by EPA Method 8081A

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
1-S9-1-S12 (COMP) (20L1056-15) Soil Sampled: 12/18/20 08:42 Received: 12/18/20 14:59									
gamma-BHC (Lindane)	ND	1.7	µg/kg	1	2010398	"	12/22/20	EPA 8081A	
Heptachlor	ND	1.7	"	"	"	"	"	"	
Heptachlor epoxide	ND	1.7	"	"	"	"	"	"	
Methoxychlor	ND	17	"	"	"	"	"	"	
Mirex	ND	3.3	"	"	"	"	"	"	
Toxaphene	ND	20	"	"	"	"	"	"	
Surrogate: Decachlorobiphenyl		*46 %*	*52-141*		"	"	"	"	*QS-4*
Surrogate: Tetrachloro-meta-xylene		*47 %*	*46-139*		"	"	"	"	
1-S13-1-S16 (COMP) (20L1056-20) Soil Sampled: 12/18/20 09:36 Received: 12/18/20 14:59									
4,4´-DDD	ND	3.3	µg/kg	1	2010398	12/21/20	12/22/20	EPA 8081A	
4,4´-DDE	ND	3.3	"	"	"	"	"	"	
4,4´-DDT	ND	3.3	"	"	"	"	"	"	
Aldrin	ND	1.0	"	"	"	"	"	"	
alpha-BHC	ND	1.7	"	"	"	"	"	"	
beta-BHC	ND	1.7	"	"	"	"	"	"	
Chlordane-technical	ND	3.3	"	"	"	"	"	"	
delta-BHC	ND	1.7	"	"	"	"	"	"	
Dieldrin	ND	1.0	"	"	"	"	"	"	
Endosulfan I	ND	1.7	"	"	"	"	"	"	
Endosulfan II	ND	3.3	"	"	"	"	"	"	
Endosulfan sulfate	ND	3.3	"	"	"	"	"	"	
Endrin	ND	3.3	"	"	"	"	"	"	
Endrin aldehyde	ND	3.3	"	"	"	"	"	"	
gamma-BHC (Lindane)	ND	1.7	"	"	"	"	"	"	
Heptachlor	ND	1.7	"	"	"	"	"	"	
Heptachlor epoxide	ND	1.7	"	"	"	"	"	"	
Methoxychlor	ND	17	"	"	"	"	"	"	
Mirex	ND	3.3	"	"	"	"	"	"	
Toxaphene	ND	20	"	"	"	"	"	"	

ENGEO	Project:	Stone Beetland	
2213 Plaza Drive	Project Number:	18064.000.001	**CLS Work Order #: 20L1056**
Rocklin, CA 95765	Project Manager:	Stephen Blakely	COC #: 203322,203323,203324,203325

Organochlorine Pesticides by EPA Method 8081A

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
1-S13-1-S16 (COMP) (20L1056-20) Soil	**Sampled: 12/18/20 09:36**	**Received: 12/18/20 14:59**							
Surrogate: Decachlorobiphenyl		*48 %*	*52-141*		*2010398*	"	*12/22/20*	*EPA 8081A*	*QS-4*
Surrogate: Tetrachloro-meta-xylene		*49 %*	*46-139*		"	"	"	"	
1-S17-1-S20 (COMP) (20L1056-25) Soil	**Sampled: 12/18/20 10:19**	**Received: 12/18/20 14:59**							
4,4´-DDD	ND	3.3	µg/kg	1	2010398	12/21/20	12/22/20	EPA 8081A	
4,4´-DDE	ND	3.3	"	"	"	"	"	"	
4,4´-DDT	ND	3.3	"	"	"	"	"	"	
Aldrin	ND	1.0	"	"	"	"	"	"	
alpha-BHC	ND	1.7	"	"	"	"	"	"	
beta-BHC	ND	1.7	"	"	"	"	"	"	
Chlordane-technical	ND	3.3	"	"	"	"	"	"	
delta-BHC	ND	1.7	"	"	"	"	"	"	
Dieldrin	ND	1.0	"	"	"	"	"	"	
Endosulfan I	ND	1.7	"	"	"	"	"	"	
Endosulfan II	ND	3.3	"	"	"	"	"	"	
Endosulfan sulfate	ND	3.3	"	"	"	"	"	"	
Endrin	ND	3.3	"	"	"	"	"	"	
Endrin aldehyde	ND	3.3	"	"	"	"	"	"	
gamma-BHC (Lindane)	ND	1.7	"	"	"	"	"	"	
Heptachlor	ND	1.7	"	"	"	"	"	"	
Heptachlor epoxide	ND	1.7	"	"	"	"	"	"	
Methoxychlor	ND	17	"	"	"	"	"	"	
Mirex	ND	3.3	"	"	"	"	"	"	
Toxaphene	ND	20	"	"	"	"	"	"	
Surrogate: Decachlorobiphenyl		*47 %*	*52-141*		"	"	"	"	*QS-4*
Surrogate: Tetrachloro-meta-xylene		*56 %*	*46-139*		"	"	"	"	

ENGEO	Project:	Stone Beetland	
2213 Plaza Drive	Project Number:	18064.000.001	**CLS Work Order #: 20L1056**
Rocklin, CA 95765	Project Manager:	Stephen Blakely	COC #: 203322,203323,203324,203325

Organochlorine Pesticides by EPA Method 8081A

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
1-S21-1-S24 (COMP) (20L1056-30) Soil Sampled: 12/18/20 10:14 Received: 12/18/20 14:59									
4,4´-DDD	ND	3.3	µg/kg	1	2010398	12/21/20	12/22/20	EPA 8081A	
4,4´-DDE	ND	3.3	"	"	"	"	"	"	
4,4´-DDT	ND	3.3	"	"	"	"	"	"	
Aldrin	ND	1.0	"	"	"	"	"	"	
alpha-BHC	ND	1.7	"	"	"	"	"	"	
beta-BHC	ND	1.7	"	"	"	"	"	"	
Chlordane-technical	ND	3.3	"	"	"	"	"	"	
delta-BHC	ND	1.7	"	"	"	"	"	"	
Dieldrin	ND	1.0	"	"	"	"	"	"	
Endosulfan I	ND	1.7	"	"	"	"	"	"	
Endosulfan II	ND	3.3	"	"	"	"	"	"	
Endosulfan sulfate	ND	3.3	"	"	"	"	"	"	
Endrin	ND	3.3	"	"	"	"	"	"	
Endrin aldehyde	ND	3.3	"	"	"	"	"	"	
gamma-BHC (Lindane)	ND	1.7	"	"	"	"	"	"	
Heptachlor	ND	1.7	"	"	"	"	"	"	
Heptachlor epoxide	ND	1.7	"	"	"	"	"	"	
Methoxychlor	ND	17	"	"	"	"	"	"	
Mirex	ND	3.3	"	"	"	"	"	"	
Toxaphene	ND	20	"	"	"	"	"	"	
Surrogate: Decachlorobiphenyl		*38 %*	*52-141*		"	"	"	"	*QS-4*
Surrogate: Tetrachloro-meta-xylene		*45 %*	*46-139*		"	"	"	"	*QS-4*
1-S25-1-S28 (COMP) (20L1056-35) Soil Sampled: 12/18/20 12:04 Received: 12/18/20 14:59									
4,4´-DDD	ND	3.3	µg/kg	1	2010398	12/21/20	12/22/20	EPA 8081A	
4,4´-DDE	ND	3.3	"	"	"	"	"	"	
4,4´-DDT	ND	3.3	"	"	"	"	"	"	
Aldrin	ND	1.0	"	"	"	"	"	"	
alpha-BHC	ND	1.7	"	"	"	"	"	"	
beta-BHC	ND	1.7	"	"	"	"	"	"	
Chlordane-technical	ND	3.3	"	"	"	"	"	"	

ENGEO	Project:	Stone Beetland	
2213 Plaza Drive	Project Number:	18064.000.001	**CLS Work Order #: 20L1056**
Rocklin, CA 95765	Project Manager:	Stephen Blakely	COC #: 203322,203323,203324,203325

Organochlorine Pesticides by EPA Method 8081A

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
1-S25-1-S28 (COMP) (20L1056-35) Soil Sampled: 12/18/20 12:04 Received: 12/18/20 14:59									
delta-BHC	ND	1.7	µg/kg	1	2010398	"	12/22/20	EPA 8081A	
Dieldrin	ND	1.0	"	"	"	"	"	"	
Endosulfan I	ND	1.7	"	"	"	"	"	"	
Endosulfan II	ND	3.3	"	"	"	"	"	"	
Endosulfan sulfate	ND	3.3	"	"	"	"	"	"	
Endrin	ND	3.3	"	"	"	"	"	"	
Endrin aldehyde	ND	3.3	"	"	"	"	"	"	
gamma-BHC (Lindane)	ND	1.7	"	"	"	"	"	"	
Heptachlor	ND	1.7	"	"	"	"	"	"	
Heptachlor epoxide	ND	1.7	"	"	"	"	"	"	
Methoxychlor	ND	17	"	"	"	"	"	"	
Mirex	ND	3.3	"	"	"	"	"	"	
Toxaphene	ND	20	"	"	"	"	"	"	
Surrogate: Decachlorobiphenyl		*44 %*	*52-141*		*"*	*"*	*"*	*"*	*QS-4*
Surrogate: Tetrachloro-meta-xylene		*54 %*	*46-139*		*"*	*"*	*"*	*"*	
1-S29-1-S32 (COMP) (20L1056-40) Soil Sampled: 12/18/20 11:48 Received: 12/18/20 14:59									
4,4´-DDD	ND	3.3	µg/kg	1	2010426	12/22/20	12/23/20	EPA 8081A	
4,4´-DDE	**3.9**	3.3	"	"	"	"	"	"	
4,4´-DDT	ND	3.3	"	"	"	"	"	"	
Aldrin	ND	1.0	"	"	"	"	"	"	
alpha-BHC	ND	1.7	"	"	"	"	"	"	
beta-BHC	ND	1.7	"	"	"	"	"	"	
Chlordane-technical	ND	3.3	"	"	"	"	"	"	
delta-BHC	ND	1.7	"	"	"	"	"	"	
Dieldrin	ND	1.0	"	"	"	"	"	"	
Endosulfan I	ND	1.7	"	"	"	"	"	"	
Endosulfan II	ND	3.3	"	"	"	"	"	"	
Endosulfan sulfate	ND	3.3	"	"	"	"	"	"	
Endrin	ND	3.3	"	"	"	"	"	"	
Endrin aldehyde	ND	3.3	"	"	"	"	"	"	

ENGEO	Project:	Stone Beetland	
2213 Plaza Drive	Project Number:	18064.000.001	**CLS Work Order #: 20L1056**
Rocklin, CA 95765	Project Manager:	Stephen Blakely	COC #: 203322,203323,203324,203325

Organochlorine Pesticides by EPA Method 8081A

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
1-S29-1-S32 (COMP) (20L1056-40) Soil Sampled: 12/18/20 11:48 Received: 12/18/20 14:59									
gamma-BHC (Lindane)	ND	1.7	µg/kg	1	2010426	"	12/23/20	EPA 8081A	
Heptachlor	ND	1.7	"	"	"	"	"	"	
Heptachlor epoxide	ND	1.7	"	"	"	"	"	"	
Methoxychlor	ND	17	"	"	"	"	"	"	
Mirex	ND	3.3	"	"	"	"	"	"	
Toxaphene	ND	20	"	"	"	"	"	"	
Surrogate: Decachlorobiphenyl		*51 %*	*52-141*		*"*	*"*	*"*	*"*	*QS-4*
Surrogate: Tetrachloro-meta-xylene		*42 %*	*46-139*		*"*	*"*	*"*	*"*	*QS-4*
1-S33-1-S36 (COMP) (20L1056-45) Soil Sampled: 12/18/20 13:46 Received: 12/18/20 14:59									
4,4´-DDD	ND	3.3	µg/kg	1	2010426	12/22/20	12/23/20	EPA 8081A	
4,4´-DDE	ND	3.3	"	"	"	"	"	"	
4,4´-DDT	ND	3.3	"	"	"	"	"	"	
Aldrin	ND	1.0	"	"	"	"	"	"	
alpha-BHC	ND	1.7	"	"	"	"	"	"	
beta-BHC	ND	1.7	"	"	"	"	"	"	
Chlordane-technical	ND	3.3	"	"	"	"	"	"	
delta-BHC	ND	1.7	"	"	"	"	"	"	
Dieldrin	ND	1.0	"	"	"	"	"	"	
Endosulfan I	ND	1.7	"	"	"	"	"	"	
Endosulfan II	ND	3.3	"	"	"	"	"	"	
Endosulfan sulfate	ND	3.3	"	"	"	"	"	"	
Endrin	ND	3.3	"	"	"	"	"	"	
Endrin aldehyde	ND	3.3	"	"	"	"	"	"	
gamma-BHC (Lindane)	ND	1.7	"	"	"	"	"	"	
Heptachlor	ND	1.7	"	"	"	"	"	"	
Heptachlor epoxide	ND	1.7	"	"	"	"	"	"	
Methoxychlor	ND	17	"	"	"	"	"	"	
Mirex	ND	3.3	"	"	"	"	"	"	
Toxaphene	ND	20	"	"	"	"	"	"	

ENGEO	Project:	Stone Beetland	
2213 Plaza Drive	Project Number:	18064.000.001	**CLS Work Order #: 20L1056**
Rocklin, CA 95765	Project Manager:	Stephen Blakely	COC #: 203322,203323,203324,203325

Organochlorine Pesticides by EPA Method 8081A

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
1-S33-1-S36 (COMP) (20L1056-45) Soil	**Sampled: 12/18/20 13:46**	**Received: 12/18/20 14:59**							
Surrogate: Decachlorobiphenyl		*50 %*	*52-141*		*2010426*	"	*12/23/20*	*EPA 8081A*	*QS-4*
Surrogate: Tetrachloro-meta-xylene		*33 %*	*46-139*		"	"	"	"	*QS-4*
1-S37-1-S40 (COMP) (20L1056-50) Soil	**Sampled: 12/18/20 12:44**	**Received: 12/18/20 14:59**							**QRL-8**
4,4´-DDD	ND	17	µg/kg	5	2010426	12/22/20	12/23/20	EPA 8081A	
4,4´-DDE	ND	17	"	"	"	"	"	"	
4,4´-DDT	ND	17	"	"	"	"	"	"	
Aldrin	ND	5.0	"	"	"	"	"	"	
alpha-BHC	ND	8.5	"	"	"	"	"	"	
beta-BHC	ND	8.5	"	"	"	"	"	"	
Chlordane-technical	**140**	17	"	"	"	"	"	"	
delta-BHC	ND	8.5	"	"	"	"	"	"	
Dieldrin	ND	5.0	"	"	"	"	"	"	
Endosulfan I	ND	8.5	"	"	"	"	"	"	
Endosulfan II	ND	17	"	"	"	"	"	"	
Endosulfan sulfate	ND	17	"	"	"	"	"	"	
Endrin	ND	17	"	"	"	"	"	"	
Endrin aldehyde	ND	17	"	"	"	"	"	"	
gamma-BHC (Lindane)	ND	8.5	"	"	"	"	"	"	
Heptachlor	ND	8.5	"	"	"	"	"	"	
Heptachlor epoxide	ND	8.5	"	"	"	"	"	"	
Methoxychlor	ND	85	"	"	"	"	"	"	
Mirex	ND	17	"	"	"	"	"	"	
Toxaphene	ND	100	"	"	"	"	"	"	
Surrogate: Decachlorobiphenyl		*82 %*	*52-141*		"	"	"	"	
Surrogate: Tetrachloro-meta-xylene		*70 %*	*46-139*		"	"	"	"	

ENGEO	Project:	Stone Beetland	
2213 Plaza Drive	Project Number:	18064.000.001	**CLS Work Order #: 20L1056**
Rocklin, CA 95765	Project Manager:	Stephen Blakely	COC #: 203322,203323,203324,203325

Organochlorine Pesticides by EPA Method 8081A

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
1-S41-1-S44 (COMP) (20L1056-55) Soil Sampled: 12/18/20 11:59 Received: 12/18/20 14:59									
4,4´-DDD	ND	3.3	µg/kg	1	2010426	12/22/20	12/23/20	EPA 8081A	
4,4´-DDE	ND	3.3	"	"	"	"	"	"	
4,4´-DDT	ND	3.3	"	"	"	"	"	"	
Aldrin	ND	1.0	"	"	"	"	"	"	
alpha-BHC	ND	1.7	"	"	"	"	"	"	
beta-BHC	ND	1.7	"	"	"	"	"	"	
Chlordane-technical	ND	3.3	"	"	"	"	"	"	
delta-BHC	ND	1.7	"	"	"	"	"	"	
Dieldrin	ND	1.0	"	"	"	"	"	"	
Endosulfan I	ND	1.7	"	"	"	"	"	"	
Endosulfan II	ND	3.3	"	"	"	"	"	"	
Endosulfan sulfate	ND	3.3	"	"	"	"	"	"	
Endrin	ND	3.3	"	"	"	"	"	"	
Endrin aldehyde	ND	3.3	"	"	"	"	"	"	
gamma-BHC (Lindane)	ND	1.7	"	"	"	"	"	"	
Heptachlor	ND	1.7	"	"	"	"	"	"	
Heptachlor epoxide	ND	1.7	"	"	"	"	"	"	
Methoxychlor	ND	17	"	"	"	"	"	"	
Mirex	ND	3.3	"	"	"	"	"	"	
Toxaphene	ND	20	"	"	"	"	"	"	
Surrogate: Decachlorobiphenyl		*60 %*	*52-141*		*"*	*"*	*"*	*"*	
Surrogate: Tetrachloro-meta-xylene		*44 %*	*46-139*		*"*	*"*	*"*	*"*	*QS-4*
1-S45-1-S48 (COMP) (20L1056-60) Soil Sampled: 12/18/20 13:21 Received: 12/18/20 14:59									
4,4´-DDD	ND	3.3	µg/kg	1	2010426	12/22/20	12/23/20	EPA 8081A	
4,4´-DDE	ND	3.3	"	"	"	"	"	"	
4,4´-DDT	ND	3.3	"	"	"	"	"	"	
Aldrin	ND	1.0	"	"	"	"	"	"	
alpha-BHC	ND	1.7	"	"	"	"	"	"	
beta-BHC	ND	1.7	"	"	"	"	"	"	
Chlordane-technical	ND	3.3	"	"	"	"	"	"	

ENGEO	Project:	Stone Beetland	
2213 Plaza Drive	Project Number:	18064.000.001	**CLS Work Order #: 20L1056**
Rocklin, CA 95765	Project Manager:	Stephen Blakely	COC #: 203322,203323,203324,203325

Organochlorine Pesticides by EPA Method 8081A

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
1-S45-1-S48 (COMP) (20L1056-60) Soil Sampled: 12/18/20 13:21 Received: 12/18/20 14:59									
delta-BHC	ND	1.7	µg/kg	1	2010426	"	12/23/20	EPA 8081A	
Dieldrin	ND	1.0	"	"	"	"	"	"	
Endosulfan I	ND	1.7	"	"	"	"	"	"	
Endosulfan II	ND	3.3	"	"	"	"	"	"	
Endosulfan sulfate	ND	3.3	"	"	"	"	"	"	
Endrin	ND	3.3	"	"	"	"	"	"	
Endrin aldehyde	ND	3.3	"	"	"	"	"	"	
gamma-BHC (Lindane)	ND	1.7	"	"	"	"	"	"	
Heptachlor	ND	1.7	"	"	"	"	"	"	
Heptachlor epoxide	ND	1.7	"	"	"	"	"	"	
Methoxychlor	ND	17	"	"	"	"	"	"	
Mirex	ND	3.3	"	"	"	"	"	"	
Toxaphene	ND	20	"	"	"	"	"	"	
Surrogate: Decachlorobiphenyl		*57 %*		*52-141*	"	"	"	"	
Surrogate: Tetrachloro-meta-xylene		*30 %*		*46-139*	"	"	"	"	*QS-4*

ENGEO	Project:	Stone Beetland	
2213 Plaza Drive	Project Number:	18064.000.001	**CLS Work Order #: 20L1056**
Rocklin, CA 95765	Project Manager:	Stephen Blakely	COC #: 203322,203323,203324,203325

Metals by EPA 6000/7000 Series Methods - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 2010430 - EPA 3050B										
Blank (2010430-BLK1)				Prepared: 12/22/20 Analyzed: 12/23/20						
Lead	ND	0.25	mg/kg							
Arsenic	ND	0.20	"							
LCS (2010430-BS1)				Prepared: 12/22/20 Analyzed: 12/23/20						
Lead	9.91	0.25	mg/kg	10.0		99.1	75-125			
Arsenic	9.10	0.20	"	10.0		91	75-125			
Matrix Spike (2010430-MS1)	**Source: 20L1056-01**			Prepared: 12/22/20 Analyzed: 12/23/20						
Lead	22.2	2.5	mg/kg	10.0	13.0	91.7	75-125			
Arsenic	13.5	2.0	"	10.0	4.38	92	75-125			
Matrix Spike Dup (2010430-MSD1)	**Source: 20L1056-01**			Prepared: 12/22/20 Analyzed: 12/23/20						
Lead	23.4	2.5	mg/kg	10.0	13.0	105	75-125	5.62	30	
Arsenic	14.6	2.0	"	10.0	4.38	103	75-125	8	30	

ENGEO	Project:	Stone Beetland	
2213 Plaza Drive	Project Number:	18064.000.001	**CLS Work Order #: 20L1056**
Rocklin, CA 95765	Project Manager:	Stephen Blakely	COC #: 203322,203323,203324,203325

Organochlorine Pesticides by EPA Method 8081A - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 2010398 - LUFT-DHS GCNV										
Blank (2010398-BLK1)				Prepared: 12/21/20 Analyzed: 12/22/20						
Aldrin	ND	1.0	µg/kg							
alpha-BHC	ND	1.7	"							
beta-BHC	ND	1.7	"							
gamma-BHC (Lindane)	ND	1.7	"							
delta-BHC	ND	1.7	"							
Chlordane-technical	ND	3.3	"							
4,4´-DDD	ND	3.3	"							
4,4´-DDE	ND	3.3	"							
4,4´-DDT	ND	3.3	"							
Dieldrin	ND	1.0	"							
Endosulfan I	ND	1.7	"							
Endosulfan II	ND	3.3	"							
Endosulfan sulfate	ND	3.3	"							
Endrin	ND	3.3	"							
Endrin aldehyde	ND	3.3	"							
Heptachlor	ND	1.7	"							
Heptachlor epoxide	ND	1.7	"							
Methoxychlor	ND	17	"							
Mirex	ND	3.3	"							
Toxaphene	ND	20	"							
Surrogate: Tetrachloro-meta-xylene	*5.24*		*"*	*8.33*		*63*	*46-139*			
Surrogate: Decachlorobiphenyl	*7.41*		*"*	*8.33*		*89*	*52-141*			
LCS (2010398-BS1)				Prepared: 12/21/20 Analyzed: 12/22/20						
Aldrin	11.7	1.0	µg/kg	16.7		70	47-132			
gamma-BHC (Lindane)	11.1	1.7	"	16.7		67	56-133			
4,4´-DDT	16.5	3.3	"	16.7		99	46-137			
Dieldrin	14.1	1.0	"	16.7		85	44-143			
Endrin	16.2	3.3	"	16.7		97	30-147			
Heptachlor	12.4	1.7	"	16.7		74	33-148			
Surrogate: Tetrachloro-meta-xylene	*4.75*		*"*	*8.33*		*57*	*46-139*			
Surrogate: Decachlorobiphenyl	*7.78*		*"*	*8.33*		*93*	*52-141*			

ENGEO	Project:	Stone Beetland	
2213 Plaza Drive	Project Number:	18064.000.001	**CLS Work Order #: 20L1056**
Rocklin, CA 95765	Project Manager:	Stephen Blakely	COC #: 203322,203323,203324,203325

Organochlorine Pesticides by EPA Method 8081A - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 2010398 - LUFT-DHS GCNV										
LCS Dup (2010398-BSD1)				Prepared: 12/21/20 Analyzed: 12/22/20						
Aldrin	14.0	1.0	µg/kg	16.7		84	47-132	18	30	
gamma-BHC (Lindane)	13.7	1.7	"	16.7		82	56-133	21	30	
4,4´-DDT	19.7	3.3	"	16.7		118	46-137	17	30	
Dieldrin	15.8	1.0	"	16.7		95	44-143	12	30	
Endrin	18.4	3.3	"	16.7		111	30-147	13	30	
Heptachlor	15.2	1.7	"	16.7		91	33-148	21	30	
Surrogate: Tetrachloro-meta-xylene	*5.02*		*"*	*8.33*		*60*	*46-139*			
Surrogate: Decachlorobiphenyl	*6.94*		*"*	*8.33*		*83*	*52-141*			
Matrix Spike (2010398-MS1)	**Source: 20L1000-05**			Prepared: 12/21/20 Analyzed: 12/22/20						**QRL-8**
Aldrin	13.0	5.0	µg/kg	16.7	ND	78	47-138			
gamma-BHC (Lindane)	13.9	8.5	"	16.7	ND	83	38-144			
4,4´-DDT	14.5	17	"	16.7	ND	87	41-157			
Dieldrin	13.0	5.0	"	16.7	ND	78	46-155			
Endrin	16.1	17	"	16.7	ND	97	34-149			
Heptachlor	14.7	8.5	"	16.7	ND	88	36-155			
Surrogate: Tetrachloro-meta-xylene	*16.4*		*"*	*20.8*		*79*	*46-139*			
Surrogate: Decachlorobiphenyl	*18.1*		*"*	*20.8*		*87*	*52-141*			
Matrix Spike Dup (2010398-MSD1)	**Source: 20L1000-05**			Prepared: 12/21/20 Analyzed: 12/22/20						**QRL-8**
Aldrin	12.4	5.0	µg/kg	16.7	ND	74	47-138	5	35	
gamma-BHC (Lindane)	13.1	8.5	"	16.7	ND	79	38-144	6	35	
4,4´-DDT	13.3	17	"	16.7	ND	80	41-157	9	35	
Dieldrin	12.6	5.0	"	16.7	ND	75	46-155	4	35	
Endrin	15.3	17	"	16.7	ND	92	34-149	5	35	
Heptachlor	14.2	8.5	"	16.7	ND	85	36-155	4	35	
Surrogate: Tetrachloro-meta-xylene	*15.8*		*"*	*20.8*		*76*	*46-139*			
Surrogate: Decachlorobiphenyl	*16.5*		*"*	*20.8*		*79*	*52-141*			

ENGEO	Project:	Stone Beetland	
2213 Plaza Drive	Project Number:	18064.000.001	**CLS Work Order #: 20L1056**
Rocklin, CA 95765	Project Manager:	Stephen Blakely	COC #: 203322,203323,203324,203325

Organochlorine Pesticides by EPA Method 8081A - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 2010426 - LUFT-DHS GCNV										
Blank (2010426-BLK1)				Prepared: 12/22/20 Analyzed: 12/23/20						
Aldrin	ND	1.0	µg/kg							
alpha-BHC	ND	1.7	"							
beta-BHC	ND	1.7	"							
gamma-BHC (Lindane)	ND	1.7	"							
delta-BHC	ND	1.7	"							
Chlordane-technical	ND	3.3	"							
4,4´-DDD	ND	3.3	"							
4,4´-DDE	ND	3.3	"							
4,4´-DDT	ND	3.3	"							
Dieldrin	ND	1.0	"							
Endosulfan I	ND	1.7	"							
Endosulfan II	ND	3.3	"							
Endosulfan sulfate	ND	3.3	"							
Endrin	ND	3.3	"							
Endrin aldehyde	ND	3.3	"							
Heptachlor	ND	1.7	"							
Heptachlor epoxide	ND	1.7	"							
Methoxychlor	ND	17	"							
Mirex	ND	3.3	"							
Toxaphene	ND	20	"							
Surrogate: Tetrachloro-meta-xylene	*5.70*		*"*	*8.33*		*68*	*46-139*			
Surrogate: Decachlorobiphenyl	*7.64*		*"*	*8.33*		*92*	*52-141*			
LCS (2010426-BS1)				Prepared: 12/22/20 Analyzed: 12/23/20						
Aldrin	12.3	1.0	µg/kg	16.7		74	47-132			
gamma-BHC (Lindane)	11.9	1.7	"	16.7		71	56-133			
4,4´-DDT	18.8	3.3	"	16.7		113	46-137			
Dieldrin	14.6	1.0	"	16.7		87	44-143			
Endrin	17.4	3.3	"	16.7		105	30-147			
Heptachlor	13.6	1.7	"	16.7		82	33-148			
Surrogate: Tetrachloro-meta-xylene	*5.00*		*"*	*8.33*		*60*	*46-139*			
Surrogate: Decachlorobiphenyl	*7.90*		*"*	*8.33*		*95*	*52-141*			

ENGEO	Project:	Stone Beetland	
2213 Plaza Drive	Project Number:	18064.000.001	**CLS Work Order #: 20L1056**
Rocklin, CA 95765	Project Manager:	Stephen Blakely	COC #: 203322,203323,203324,203325

Organochlorine Pesticides by EPA Method 8081A - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 2010426 - LUFT-DHS GCNV										
LCS Dup (2010426-BSD1)				Prepared: 12/22/20 Analyzed: 12/23/20						
Aldrin	13.2	1.0	µg/kg	16.7		79	47-132	7	30	
gamma-BHC (Lindane)	12.8	1.7	"	16.7		77	56-133	7	30	
4,4´-DDT	16.8	3.3	"	16.7		101	46-137	12	30	
Dieldrin	14.7	1.0	"	16.7		88	44-143	1	30	
Endrin	16.8	3.3	"	16.7		101	30-147	4	30	
Heptachlor	13.9	1.7	"	16.7		83	33-148	2	30	
Surrogate: Tetrachloro-meta-xylene	*4.60*		*"*	*8.33*		*55*	*46-139*			
Surrogate: Decachlorobiphenyl	*6.43*		*"*	*8.33*		*77*	*52-141*			
Matrix Spike (2010426-MS1)	**Source: 20L1056-40**			Prepared: 12/22/20 Analyzed: 12/23/20						
Aldrin	9.68	1.0	µg/kg	16.7	ND	58	47-138			
gamma-BHC (Lindane)	10.6	1.7	"	16.7	ND	64	38-144			
4,4´-DDT	13.8	3.3	"	16.7	1.41	74	41-157			
Dieldrin	11.9	1.0	"	16.7	ND	71	46-155			
Endrin	13.3	3.3	"	16.7	ND	80	34-149			
Heptachlor	9.83	1.7	"	16.7	ND	59	36-155			
Surrogate: Tetrachloro-meta-xylene	*7.18*		*"*	*20.8*		*34*	*46-139*			*QS-4*
Surrogate: Decachlorobiphenyl	*14.6*		*"*	*20.8*		*70*	*52-141*			
Matrix Spike Dup (2010426-MSD1)	**Source: 20L1056-40**			Prepared: 12/22/20 Analyzed: 12/23/20						
Aldrin	10.5	1.0	µg/kg	16.7	ND	63	47-138	8	35	
gamma-BHC (Lindane)	11.2	1.7	"	16.7	ND	67	38-144	5	35	
4,4´-DDT	13.3	3.3	"	16.7	1.41	71	41-157	3	35	
Dieldrin	12.2	1.0	"	16.7	ND	73	46-155	3	35	
Endrin	13.1	3.3	"	16.7	ND	79	34-149	1	35	
Heptachlor	10.6	1.7	"	16.7	ND	64	36-155	8	35	
Surrogate: Tetrachloro-meta-xylene	*7.58*		*"*	*20.8*		*36*	*46-139*			*QS-4*
Surrogate: Decachlorobiphenyl	*11.4*		*"*	*20.8*		*55*	*52-141*			

ENGEO	Project:	Stone Beetland	
2213 Plaza Drive	Project Number:	18064.000.001	**CLS Work Order #: 20L1056**
Rocklin, CA 95765	Project Manager:	Stephen Blakely	COC #: 203322,203323,203324,203325

Notes and Definitions

QS-4	The surrogate recovery for this sample is outside of established control limits due to a sample matrix effect.
QRL-8	The extract of this sample was dark and/or oily. Therefore, the sample was analyzed with a dilution and the reporting limit was raised for all target compounds.
DET	Analyte DETECTED
ND	Analyte NOT DETECTED at or above the reporting limit (or method detection limit when specified)
NR	Not Reported
dry	Sample results reported on a dry weight basis
RPD	Relative Percent Difference



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APPENDIX I

ProUCL 5.1 RESULTS

UCL Statistics for Uncensored Full Data Sets

User Selected Options	
Date/Time of Computation	ProUCL 5.11/13/2021 1:37:16 PM
From File	WorkSheet.xls
Full Precision	OFF
Confidence Coefficient	0.95
Number of Bootstrap Operations	2000

Arsenic Levels

General Statistics

Total Number of Observations	12	Number of Distinct Observations	10
		Number of Missing Observations	1
Minimum	4	Mean	8.117
Maximum	19	Median	7.25
SD	4.217	Std. Error of Mean	1.217
Coefficient of Variation	0.52	Skewness	1.674

Normal GOF Test

Shapiro Wilk Test Statistic	0.833	**Shapiro Wilk GOF Test**
5% Shapiro Wilk Critical Value	0.859	Data Not Normal at 5% Significance Level
Lilliefors Test Statistic	0.206	**Lilliefors GOF Test**
5% Lilliefors Critical Value	0.243	Data appear Normal at 5% Significance Level

Data appear Approximate Normal at 5% Significance Level

Assuming Normal Distribution

95% Normal UCL		95% UCLs (Adjusted for Skewness)	
95% Student's-t UCL	10.3	95% Adjusted-CLT UCL (Chen-1995)	10.75
		95% Modified-t UCL (Johnson-1978)	10.4

Gamma GOF Test

A-D Test Statistic	0.392	**Anderson-Darling Gamma GOF Test**
5% A-D Critical Value	0.732	Detected data appear Gamma Distributed at 5% Significance Level
K-S Test Statistic	0.154	**Kolmogorov-Smirnov Gamma GOF Test**
5% K-S Critical Value	0.246	Detected data appear Gamma Distributed at 5% Significance Level

Detected data appear Gamma Distributed at 5% Significance Level

Gamma Statistics

k hat (MLE)	5.031	k star (bias corrected MLE)	3.829
Theta hat (MLE)	1.613	Theta star (bias corrected MLE)	2.12
nu hat (MLE)	120.8	nu star (bias corrected)	91.9
MLE Mean (bias corrected)	8.117	MLE Sd (bias corrected)	4.148
		Approximate Chi Square Value (0.05)	70.79
Adjusted Level of Significance	0.029	Adjusted Chi Square Value	67.97

Assuming Gamma Distribution

95% Approximate Gamma UCL (use when n>=50))	10.54	95% Adjusted Gamma UCL (use when n<50)	10.97

Lognormal GOF Test

Shapiro Wilk Test Statistic	0.946	**Shapiro Wilk Lognormal GOF Test**
5% Shapiro Wilk Critical Value	0.859	Data appear Lognormal at 5% Significance Level
Lilliefors Test Statistic	0.138	**Lilliefors Lognormal GOF Test**
5% Lilliefors Critical Value	0.243	Data appear Lognormal at 5% Significance Level

Data appear Lognormal at 5% Significance Level

Lognormal Statistics

Minimum of Logged Data	1.386	Mean of logged Data	1.991
Maximum of Logged Data	2.944	SD of logged Data	0.457

Assuming Lognormal Distribution

95% H-UCL	10.85	90% Chebyshev (MVUE) UCL	11.31
95% Chebyshev (MVUE) UCL	12.78	97.5% Chebyshev (MVUE) UCL	14.83
99% Chebyshev (MVUE) UCL	18.85		

Nonparametric Distribution Free UCL Statistics

Data appear to follow a Discernible Distribution at 5% Significance Level

Nonparametric Distribution Free UCLs

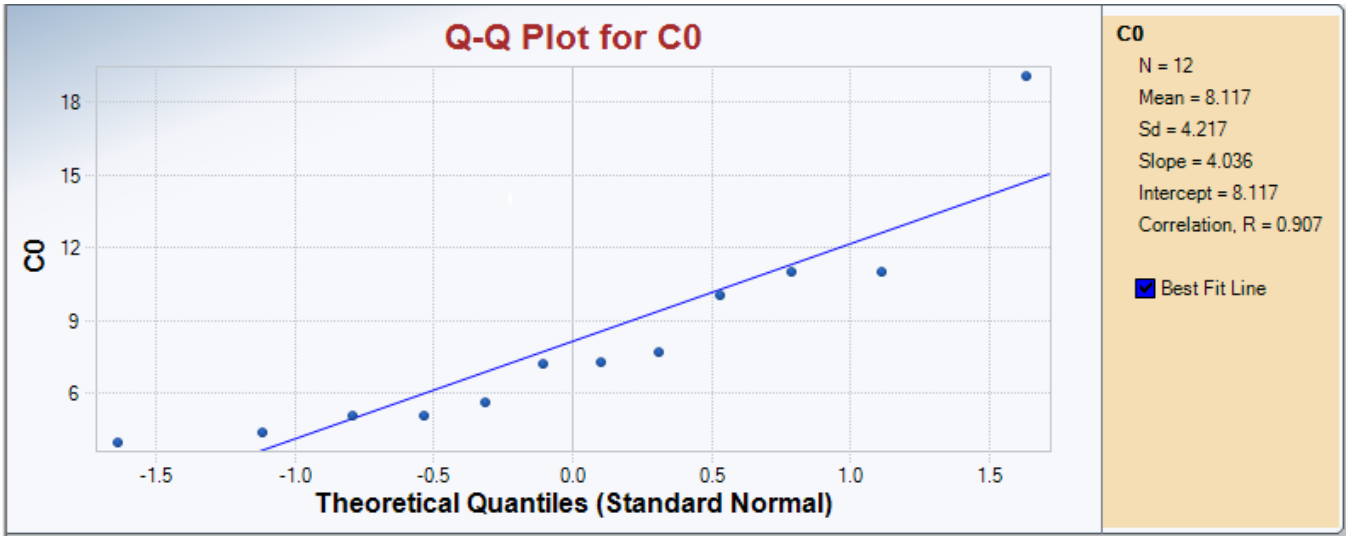
95% CLT UCL	10.12	95% Jackknife UCL	10.3
95% Standard Bootstrap UCL	10.01	95% Bootstrap-t UCL	11.51
95% Hall's Bootstrap UCL	16.34	95% Percentile Bootstrap UCL	10.18
95% BCA Bootstrap UCL	10.75		
90% Chebyshev(Mean, Sd) UCL	11.77	95% Chebyshev(Mean, Sd) UCL	13.42
97.5% Chebyshev(Mean, Sd) UCL	15.72	99% Chebyshev(Mean, Sd) UCL	20.23

Suggested UCL to Use

95% Student's-t UCL 10.3

When a data set follows an approximate (e.g., normal) distribution passing one of the GOF test
When applicable, it is suggested to use a UCL based upon a distribution (e.g., gamma) passing both GOF tests in ProUCL

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
Recommendations are based upon data size, data distribution, and skewness.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician.





DRAFT

APPENDIX J

QUALIFICATIONS OF ENVIRONMENTAL PROFESSIONAL

SHAWN MUNGER, CHG
Principal Geologist

EDUCATION

BS, Geology, U.C. Davis, 1985

EXPERIENCE

Years with ENGEO: 31
Years with Other Firms: 0

REGISTRATIONS & CERTIFICATIONS

Certified Hydrogeologist, CA, 413

8 Hour HAZWOPER Training, CA, 160115576014

Professional Geologist, CA, 5810

Certified Environmental Manager, NV, 1332

40 Hour HAZWOPER Training, CA, 100830513934

SPECIALIZATIONS

- Environmental Assessments and Remediation
- Environmental Restoration
- Water Quality Studies
- Water Wells/Hydrogeology

Since joining ENGEO in 1985, Shawn has been managing groundwater supply evaluations, hydrogeologic studies, chemical assessments, Phase I and II Site Assessment projects, UST site investigations, risk based corrective action (RBCA), VOC remediation, and agricultural impact evaluations. He serves as Principal-in-Charge or Project Manager for environmental and hazardous materials projects involving groundwater hydrology, contaminant fate and transport, and remediation. He is Principal-in-Charge of the environmental components of our on-call contracts with the City of Sacramento and the County of Sacramento.

Select Project Experience

14234 Saratoga Sunnyvale Road—Saratoga, CA
Project Geologist. Shawn performed Principal review of ENGEO's environmental documents. This 2.2-acre townhome site is planned for a new multi-family development comprising up to 20 units in 8 buildings. The site immediately borders Saratoga Creek and contains numerous mature trees, many of which are to be saved. Site challenges include shallow groundwater, creek bank stability, and the potential for liquefaction and lateral spreading.

Lenihan Dam Outlet Modification—Los Gatos, CA
Principal Geologist. Shawn provided technical advice, coordination, consultation, and review of ENGEO's documents to provide quality mitigation measures. The findings were presented to SCVWD and it was concluded that the stockpile was sufficient for transportation. This analysis led to significant project budget savings by avoiding removal and disposal at a solid waste disposal facility. The project consisted of a stockpile approximately 6,000 cubic yards that required profiling as requested by Santa Clara Valley Water District before use of as site backfill.

199 River Oaks Parkway—San Jose, CA
Principal in Charge. Shawn provided principal oversight, data analysis, and consultation regarding site characterization, risk evaluation, and demolition observation plans. The project consists of a proposed six-story podium structure with one level to be constructed below grade. The property is a former semiconductor facility that has received conditional closure from the Regional Water Quality Control Board and is approved for construction.

Riverside Avenue Property—Roseville, CA
Principal in Charge. Shawn provided principal oversight of a Phase II Environmental Site Assessments and site

characterization. The project site consists of an active auto sales and service facility. The historic use of the facility for industrial purposes resulted in soil and groundwater impacts beneath the site. The City of Roseville revised its plans for acquiring and redeveloping the site due to the identified soil and groundwater impacts.

1301 Standard Oil Ave—Pittsburg, CA
Principal in Charge. Shawn provided principal oversight of a Phase II Environmental Site Characterization. The property is an abandoned wastewater treatment plant with processing buildings, clarifier tanks, and sludge beds.

Pleasant Hill BART Station—Walnut Creek, CA
Principal in Charge. Shawn provided oversight, data analysis and consultation during the preparation of a Phase II Environmental Site Assessment. The property is an existing BART station that encompasses 20 acres, including the platform/station area, electrical facilities, a parking garage and additional paved parking areas.

County Crossings Property—Antioch, CA
Principal in Charge. Shawn provided environmental consultation and data review with regard to soil and groundwater contamination. Constituents of concern include petroleum hydrocarbons, nitrates and manganese. The approximately 264-acre site includes several former industrial facilities and petroleum pipelines. Soil and groundwater at the site has been impacted with petroleum hydrocarbons, nitrates and manganese. Planned uses include commercial, residential, retail, and a BART-oriented transit village. The center, which is currently in the entitlement phase, is estimated to break ground in 2011.

620 North Ninth Street—San Jose, CA
Principal in Charge. Shawn provided oversight of soil, groundwater and soil gad characterizations, risk evaluations and Remedial Action Plan preparation. Shawn also closely interacted with RWQCB staff to achieve approval for residential development. The property is a former fruit packing plant and food preparation facility. The proposed development consists of a single-family residential subdivision.

Westshore—Richmond, CA
Project Manager. Shawn conducted Phase I and II Site Assessments, risk evaluations and prepared a soil management plan. The property was a former automotive manufacturing plant proposed for a multi-unit condominium development, including a 6-story podium structure to include five residential floors with 269 units and one parking floor.

Mills Ranch—King City, CA
Principal in Charge. Shawn provided principal oversight of Phase I/II Environmental Site Assessments and risk evaluations. The approximate 80-acre property is used for agricultural cultivation and commercial uses. The proposed mixed-use development includes over 400 single-family residential lots.

Select Foods Site/Cross Creek—Hayward, CA
Principal in Charge. Shawn provided principal oversight, consultation, and data analysis. The property was a former processed food facility, a drum recycling business, battery manufacturing operation and a bus assembly plant. Following completion of soil remediation under RWQCB oversight, the property was developed into a single-family residential subdivision.

Arroyo Crossing—Livermore, CA
Principal in Charge. Shawn provided oversight, data analysis and regulatory consultation while ENGEO provided geotechnical and environmental engineering services for this 34-acre site. This former corporation yard and quarry site was developed into a single-family residential subdivision.

Renaissance Square—Concord, CA
Project Manager. Shawn provided consultation, data analysis, and field observation. This former automotive dealership was redeveloped as a five-story multi-family residential structure supported on slab-on-grade foundations, with two levels of below-grade parking. Petroleum hydrocarbon-impacted soil was encountered during excavation of the parking structure, which required characterization and remediation. Soil impacts were attributed to former sumps, USTs and hydraulic lifts.

Union Pacific Railroad Corridor—San Jose, CA
Project Manager. Shawn prepared a Phase I and II Environmental Site Assessment. Work included a site reconnaissance, historical records research and recovery of soil samples with laboratory analysis. Lead impacted soil was identified which required risk evaluation. This former1800 lineal foot section of the former Union Pacific Railroad Corridor was proposed for mixed-use development.

Former SFPP Alignment—Concord, CA
Project Manager. Shawn prepared a Phase I and II Environmental Site Assessment. The site was a former ±6,500-foot corridor formerly occupied by the Southern Pacific Railroad. Kinder Morgan petroleum pipelines existed within an easement along the property. The southern portion of the site was crossed by East Bay Municipal Utilities District water distribution lines and a multi-lane highway overpass. The corridor was developed as a self-storage facility. Work included the recovery of soil and groundwater samples along the SP right of way.

Hercules Property—Hercules, CA
Project Manager. Shawn provided oversight of a Phase I Environmental Site Assessment, site asbestos survey, site characterization, and demolition observation/contaminant assessment. The project area consists of ±167 acres located near and along the southeastern shore of San Pablo Bay in Hercules. The property was once a portion of a 1300-acre manufacturing facility that was operated by DuPont from 1879 to 1913 and Hercules Incorporated from 1913 to 1979. The planned development includes single/multi-family residential development with some commercial components.

Highlands Ranch—Antioch, CA
Principal in Charge. Shawn provided oversight, data analysis, and collaboration with RWQCB personnel. The project site consists of a 140-acre portion of the former Chevron Los Medanos Tank Farm located in Pittsburg, California. The site was historically occupied by 24 crude oil tanks and four wax ponds. Remediation of the crude oil tank and wax pond locations was conducted according to a remedial action plan (RAP) and oversight was provided by the CRWQCB. Remediation was performed over a period of four months and consisted of excavating approximately 110,000 cubic yards of impacted soil and placing the material in windrows for ex-situ bioremediation.



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APPENDIX G

DRAINAGE MASTER PLAN

Drainage Master Plan

STONE BEETLAND
SACRAMENTO, CALIFORNIA

NOVEMBER 2021

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FIGURES

Figure 1 Project Location
Figure 2 Proposed Land Use
Figure 3 Existing Storm Drain Facilities
Figure 4 Hydrology Work Map
Figure 5 East Basin Area Exhibit

APPENDICES

Appendix A Model Output

I. BACKGROUND

The Stone Beetland property ("Project") is located directly east of the Delta Shores master planned community. The Project is approximately 140 acres and is bound by Cosumnes River Boulevard to the south, Delta Shores and the future 24th Street extension to the west, US Government Job Corps property and the Detroit Boulevard Neighborhood to the north and the Sacramento Regional Transit Blue Line light rail line and station, and Morrison Creek to the east. See Figure 1 depicting the Project Location. The proposed Project includes the development of a mixed-use community with a range of residential densities that transition from singular housing types as the surrounding communities to higher densities surrounding the Light Rail station, promoting transit-oriented development. The current land uses within the Project include approximately 1,160 residential units, 6 acres of commercial uses and 28 acres of trails, open space and integrated drainage facilities. See Figure 2 depicting the proposed Project Land Use Plan.

The proposed Project was considered as a future development site within the Delta Shores Drainage Master Plan, dated August 2013. Accordingly, the infrastructure downstream of the Project and within the Sump 89 Watershed has been planned to provide capacity for the Project. Additionally, the existing storm drain pipelines and culverts crossing existing Cosumnes River Boulevard have been planned and constructed to convey the stormwater runoff from the Project site.

II. EXISTING CONDITIONS

The Project site existing conditions consist of undeveloped agricultural lands. The existing drainage pattern of the Project site is gently sloped from the north and west to the lower lying southeast corner. The existing ground elevations of the Project site range from elevation 12' to 13' along the northern boundary to elevation 5' in the southwest corner. The existing stormwater runoff within the site is conveyed by surface flows to small ditches that convey runoff to the southwest, where existing culverts convey runoff across Cosumnes River Blvd and to the downstream Sump 89 facilities and outfall to Morrison Creek.

The majority of the Project site is within FEMA Zone X (areas of outside of the 100-year floodplain) per FEMA's FIRM Panel 06067C0305H, dated August 16, 2012. The southeastern corner of portions of the Project site is within FEMA Zone AE (areas subject to the 100-year

floodplain). The portion of the Project within FEMA Zone X is protected from flood inundation by the certified levee along the west bank of Morrison Creek.

III. EXISTING STORM DRAIN FACILITIES

There are two existing storm drain pipelines that bisect the Project site. These pipelines convey runoff from the US Govt Job Corps property and Detroit Boulevard Neighborhood through the Project Site and to the downstream facilities. The existing storm drain pipeline bisecting the center of the Project was referred to as the "Z Line" in the 2013 Delta Shores Drainage Master Plan. The Z Line conveys runoff from the undeveloped US Govt Job Corps property and it ranges from 24" to 30" in diameter. The existing storm drain pipeline bisecting the eastern portions of the Project was referred to as the "Y Line" in the 2013 Master Plan. The Y Line conveys runoff from the Detroit Boulevard Neighborhood and it ranges from 27" – 42" in diameter.

There is also an existing drainage basin that treats and detains the runoff from the Light Rail station parking lot. This facility discharges into a ditch that then is collected and conveyed by a 42" culvert crossing Cosumnes River Blvd.

All of the existing storm drain facilities discussed above extend southerly and convey stormwater across the existing Cosumnes River Blvd. These pipelines then converge into larger diameter pipelines, ranging from 54" to 78" in diameter, which then connect to the existing Sump 89 discharge to Morrison Creek. The existing storm drain facilities within and downstream of the Project site are reflected on Figure 3.

IV. STORMWATER MODELING METHODOLOGY

Stormwater modeling has been conducted utilizing the xpStorm platform, starting with the regional modeling runs provided by the City of Sacramento (file name "Ult-10-16-13-100-yr"). This corresponds to the approved 2013 Delta Shores Drainage Master Plan. The design criteria established for the Stone Beetland drainage system is to provide storm drain infrastructure that does not increase the hydraulic grade line elevations downstream or upstream of the Project site for the 100-year design storm.

The stormwater model has maintained the same parameterization as that in the approved 2013 Delta Shores Drainage Master Plan. The only updates incorporated include the hydrologic inputs that more accurately represent the proposed drainage areas within the Project site and the hydraulic inputs that more accurately reflect the proposed pipeline relocations and basin locations within the Project site. The model assumed consistent slope, analogous width parameters and identical infiltration parameters as included in the approved original model. Also, the 100-year, 24-hour design storm, with a total rainfall of 4.28 inches, was utilized for the updated stormwater model.

V. PROPOSED DRAINAGE AREAS

The 2013 Delta Shores Drainage Master Plan represented the area encompassed by the proposed Project in five distinct sub-watersheds with a combined total area of 135.7 acres. All five of these sub-watersheds were routed to a single stormwater basin designated "BodDB". This aggregate area included the full Stone Beetland site plus the intervening properties (Light Rail and Regional Sanitation) to the east as far as the Morrison Creek levee.

For the purposes of preliminary drainage planning, the Project site was also divided into five drainage management areas (DMAs), with two additional off-site DMAs encompassing the remainder of the previous "Boswell" area. These DMAs are shown on the attached Figure 4 – Hydrology Workmap along with the pre-project storm drain system immediately downstream and upstream of the site. The calculated aggregate drainage area of 137.9 acres compares well with the value in the 2013 Delta Shores Drainage Master Plan.

The stormwater planning is to route the four eastern DMAs to a single stormwater basin as referred to herein as the East Basin. The West DMA will be routed separately to a single stormwater basin identified as the West Basin. The characteristics of the stormwater basins are discussed in the following section.

Hydrologic properties used in the updated modeling are summarized in Table 1 for the on-site DMAs and Table 2 for the off-site DMAs.

Table 1 – Hydrologic Parameters for On-Site DMA's

DMA	Area (acres)	Impervious (%)	Width (feet)	Connection Node
East	25.4	90	2,400	SE-50
North	22.1	70	2,200	SE-54
East Central	13.0	65	1,600	SE-60
West Central	15.7	60	1,800	SE-70
East Basin Subtotal	**76.2**	**74**	**----**	**----**
West	32.6	50	2,600	SW-50
West Basin Subtotal	**32.6**	**50**	**----**	**----**
Project Total	**108.8**	**67**	**----**	**----**

Table 2 – Hydrologic Parameters for the Off-Site DMAs

DMA	Area (acres)	Impervious (%)	Width (feet)	Connection Node
Light Rail	9.3	45	1,400	LR-B
Reg San	19.8	5	2,000	RS-40
Off-Site Subtotal	**29.1**	**18**	**----**	**----**
Project	108.8	67	----	----
Study Area Total	**137.9**	**57**	**----**	**----**

VI. PROJECT STORMWATER BASINS

As noted previously, Project plans currently call for two multi-function stormwater basins to provide runoff water-quality treatment and peak flow attenuation (detention). With respect to water-quality treatment, these facilities will be combination extended detention basins that have been sized using the design guidance in the Stormwater Quality Design Manual for the Sacramento Region (July 2018).

The East Basin will receive runoff from the four eastern Project DMAs as well as all runoff from the existing Detroit Avenue neighborhood and will have a total water quality treatment volume of 8.03 acre-feet and additional detention storage volume of 31.85 acre-feet (including freeboard to top of bank).

The West basin will receive runoff from the West DMA and was sized with a water quality treatment volume of 1.22 acre-feet and additional detention storage volume of 17.91 acre-feet.

Parameters used for sizing these basins are summarized in Table 3.

Table 3 – Stormwater Basin Sizing Parameters

Watershed	Area (acres)	Impervious (%)	East Basin	
On-Site	76.2	74	**Unit Storage**	0.365 inches
Detroit Avenue	135	39	**Water Quality Volume**	8.03 ac-ft
East Basin Subtotal	**211.2**	**52**	**Permanent Pool Volume**	4.02 ac-ft
			West Basin	
On-Site	32.6	50	**Unit Storage**	0.360 inches
West Basin Subtotal	**32.6**	**50**	**Water Quality Volume**	1.22 ac-ft
			Permanent Pool Volume	0.61 ac-ft

The West Basin is considerably larger than the East Basin on a unit drainage area basis. This difference is solely attributable to the required detention storage and not the water quality treatment volume. This reflect the fact that the 2013 Master Drainage Plan had all runoff from the Project area routed to the Y Line pipe infrastructure. However, the current Project plans propose to connect outflow from the West Basin to the Z Line pipe system, which conveys runoff from the large, undeveloped U.S. Govt Job Corps property to the north. This adds a considerable additional load on that system and requires "over detention" to avoid having any increase in HGL values along the Z Line system south of Cosumnes River Boulevard.

Runoff from the Light Rail DMA is currently routed to a stormwater basin on that property. This facility is proposed to be relocated further to the south to allow for additional development areas adjacent to the Light Rail station. The size and function of this basin will be replaced to the south. This will remain unchanged. Lastly, the Reg San DMA is presently routed to a ditch system that crosses under Consumnes River Boulevard and south from there. The east basin and Light Rail basin will be located within this Reg San DMA, but the flow routing of the ditch system will remain as under pre-project conditions. See Figure 5 depicting these facilities.

VII. SUMMARY OF HYDRAULIC MODELING

The Project parameters were loaded into the updated version of the hydrologic / hydraulic model and iterative model runs were carried out to identify the appropriate outlet configurations for the two stormwater basins and required pipe diameters that would fully contain runoff from the 100-year design storm without an overtopping. The latter criterion of no overtopping is not strictly a requirement as overland release for the 100-year event is allowed with proper design. However, this modeling approach is conservative and the only practical approach for this stage of the Project. Additionally, full containment of the 100-year event essentially assures that the runoff from the 10-year design storm can be accommodated with the required system freeboard. Modeled pipe sizes may well be reduced through the final design.

The resulting alignment and sizing of the proposed backbone pipe system and immediately adjacent existing infrastructure are depicted on the Figure 4 – Hydrology Workmap. Table 4 summarizes the pre- and post- project hydraulic modeling results in terms of modeled HGL as pertinent downstream and upstream existing system nodes.

Table 4 – Summary of Modeled Hydraulic Gradeline Values

Model Node	Pre-Project	100-ye HGL (feet) Post-Project	Difference
xPS	0.70	0.67	-0.03
X2 Jct Box	1.31	1.25	-0.06
Y2	1.99	1.88	-0.11
Y8	4.01	3.75	-0.26
Y10	5.19	4.75	-0.43
Y14	9.58	8.90	-0.68
Z2	5.61	5.61	-0.01
Z6	11.37	10.62	-0.75

VIII. CONCLUSION

Hydrologic and hydraulic modeling to update previously approved drainage master planning shows that the Stone Beetland Project can provide adequate stormwater quality treatment, peak flow controls, and conveyance infrastructure that would allow a mix of higher density land uses without adverse impact to the existing regional storm drain system. In fact, with allocation of an appropriate land area (just over 4 acres total) the proposed East Basin will provide full remedial water quality treatment for the existing Detroit Avenue subdivision.

FIGURES

MEADOWVIEW ROAD

FREEPORT BLVD.

MACK ROAD

FRANKLIN BLVD.

24TH STREET

DELTA SHORES

STONE BEETLAND PROPERTY

COSUMNES RIVER BLVD.

INTERSTATE 5

SACRAMENTO RIVER

Stone Creek Avenue

LDR 13.45
LDR 4.91
MDR 5.27
LDR 3.39
LDR 7.43
LDR 6.42
LDR 7.99
LDR 15.60
LDR 6.27
HDR 5.88
MDR 14.20
MDR 8.77
MDR 10.46
MDR 11.4
MDR 7.53
ES 9.98
Community Center 2.60
Park 6.6
W 1.65
MDR 9.71
HDR 8.46
MDR 9.43
Park 3.10
MDR 5.74
HDR 3.92
Commercial Retail 24.73 ac., (250k - 316k SF)
HDR 5.96
Park 1.76
F 2.0
5k - 15k SF
HDR 4.06
MDR 8.90
MDR 9.44
MDR 5.78
HDR 4.99
HDR 3.99
Park 3.49
HDR 8.63
MDR 7.60
MDR 9.66
MDR 9.35
MU-1 5.44 ac
MU-2 14.49 ac (Commercial 90k - 161k SF)
Community Park 26.64
Detention Basin 7.28
HDR 5.80
HDR 5.85
ES 9.92
Park 5.05
HDR 6.83
MDR 14.13
MDR 8.65
Commercial Retail 29.24 ac., (256k - 320k SF)
MDR 11.37
Park 3.01
LDR 9.36
Detention Basin 7.57
Park 6.02
LDR 12.21
Commercial Retail 37.16 ac., (256k - 300k SF)
Commercial Retail 30.76 ac., (276k - 336k SF)
Detention Basin 17.00

0 400 800 1200

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FIGURE 1
CONTEXTUAL REGIONAL MAP
STONE BEETLAND

CITY OF SACRAMENTO SACRAMENTO COUNTY CALIFORNIA

SCALE:1"=400' DATE: NOVEMBER, 2021

F:\3377-000\ACAD\EXHIBITS\XB_CONTEXTUAL MAP (SRCSD).DWG

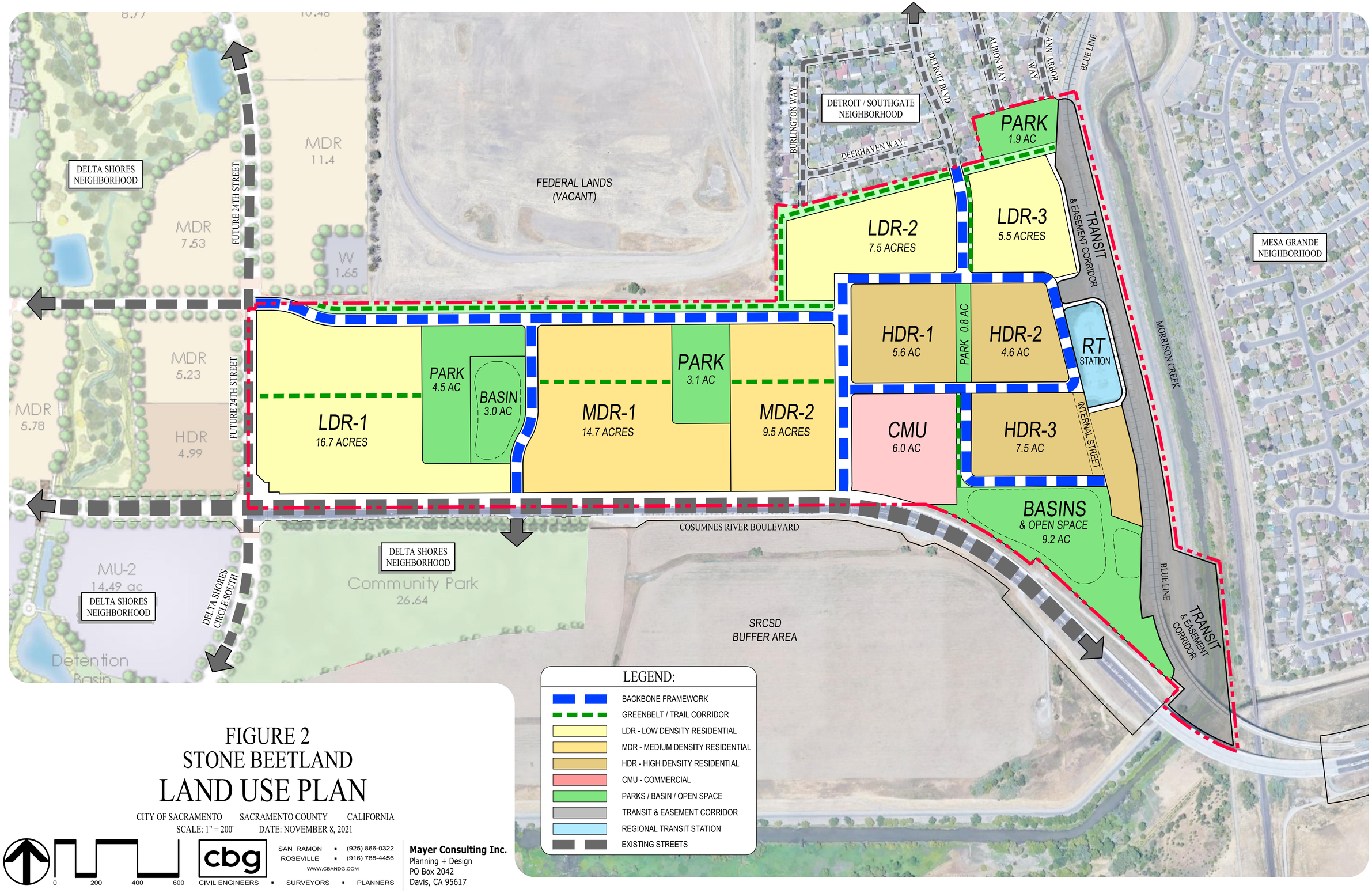


FIGURE 2
STONE BEETLAND
LAND USE PLAN

CITY OF SACRAMENTO SACRAMENTO COUNTY CALIFORNIA

SCALE: 1" = 200' DATE: NOVEMBER 8, 2021

0 200 400 600

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WWW.CBANDG.COM

Mayer Consulting Inc.
Planning + Design
PO Box 2042
Davis, CA 95617

F:\3377-000\ACAD\EXHIBITS\XB_LAND USE PLAN.DWG

DETROIT / SOUTHGATE

DETROIT BOULEVARD

ALBION WAY

ANN ARBOR WAY

BURLINGTON WAY

DEERHAVEN WAY

FEDERAL LANDS

RT STATION

TRANSIT CORRIDOR

LEVEE

MORRISON CREEK

EX TREATMENT SWALE TO THE BASIN

DELTA SHORES

DELTA SHORES CIRCLE SOUTH

COSUMNES RIVER BOULEVARD

SRCSD
APN 119-0090-014

EX 42" CULVERT

FEMA FLOOD X
FEMA FLOOD ZONE AE

SUMP 89 & OUTFALL TO MORRISON CREEK

APN 119-0080-030

APN 119-0080-031

APN 119-0080-032

APN 119-0080-033

APN 119-0080-034

APN 119-0080-035

FIGURE 3
EXISTING STORM DRAIN FACILITIES
STONE BEETLAND

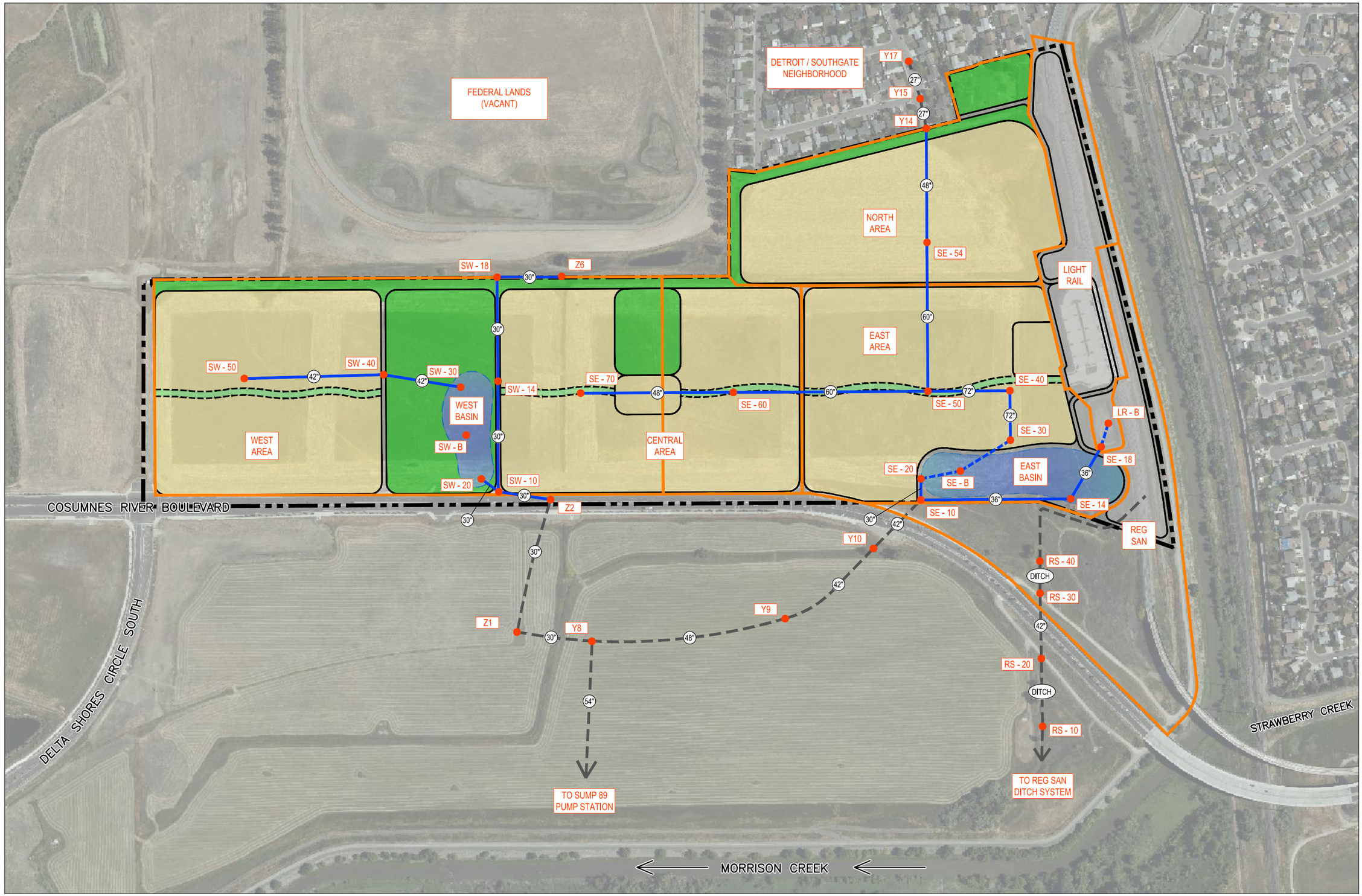
CITY OF SACRAMENTO SACRAMENTO COUNTY CALIFORNIA

SCALE: 1" = 150' DATE: NOVEMBER 8, 2021

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ROSEVILLE ▪ (916) 788-4456
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0 150 300 450

FIGURE 4



STORMWATER BIORETENTION AREA

DMA BOUNDARY

30" EXISTING STORMDRAIN PIPE (30" DIAMETER)

RS - 40 STORMDRAIN NODE

OPEN SPACE

42" STORMDRAIN PIPE (42" DIAMETER)

PROJECT BOUNDARY

CONCEPTUAL DESIGN - NOT FOR CONSTRUCTION

N

0' 100' 200' 400'

SCALE: 1" = 200'

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800 Bancroft Way • Suite 101 • Berkeley, CA 94710
(510) 704-1000 • (510) 704-1001
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DATE	BY	SUBMITTALS / REVISIONS

DESIGNED BY	DRAWN BY	CHECKED BY	IN CHARGE	DATE

NOT FOR CONSTRUCTION

HYDROLOGY WORKMAP

STONE BEETLAND

CITY OF SACRAMENTO, SACTRAMENTO COUNTY, CALIFORNIA

PROJECT NUMBER 221044

SCALE (AT 22" X 34") AS NOTED

SHEET

LOT MDR-2

LOT HDR-1

LOT HDR-2

LOT PU-1

TRANSIT CORRIDOR

MORRISON CREEK

E STREET

C STREET

G STREET

LOT MDR-2

LOT CMU-1

LOT HDR-3

LOT HDR-3

G STREET

LOT B/OS-1

LOT OS-2

COSUMNES RIVER BOULEVARD

SRCSD
APN 119-0090-014

REMOVE EXISTING STORM DRAIN

REMOVE EXISTING STORM DRAIN

EX TRANSIT STORM DRAIN TO REMAIN

INTERCEPT EXISTING TRANSIT BIO SWALE

RELOCATE TRANSIT BASIN SOUTH

REMOVE EXISTING STORM DRAIN

CONNECT TO EX 42" STORM DRAIN

INLET STRUCTURE WITH ORIFICE OPENINGS

REROUTE TRANSIT DRAINAGE TO NEW BASIN LOCATION

INTERCEPT EXISTING DRAINAGE DITCH

REMOVE EX STORM DRAIN CULVERT

RELOCATED TRANSIT STOP BASIN

CONNECT TO EX 42" CULVERT

42" SD

54" SD

18" SD

30" SD

72" SD

36" SD

24" SD

EX 21" SD

FIGURE 5
RT STATION BASIN RELOCATION
STONE BEETLAND

CITY OF SACRAMENTO SACRAMENTO COUNTY CALIFORNIA

SCALE: 1" = 60' DATE: NOVEMBER 8, 2021

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0 60 120 180

F:\3377-000\ACAD\EXHIBITS\XB_RT STATION BASIN RELOCATION.DWG

APPENDICES

APPENDIX A
MODEL OUTPUT

Table 1. Hydraulic Model Output for Pertinent System Nodes, Stone Beetland Project

Node Name	Node Elevations: Invert (feet)	Node Elevations: Ground (feet)	Watershed Area (acres)	Inflow (cfs)	Maximum WSE (feet)	Overflow Duration (sec)
LR-B	-0.02	8.50	9.3	24.4	6.41	0
RegSan	-3.00	8.00	151.0	126.0	5.12	0
RS-10	-0.15	6.00	0.0	0.0	5.13	0
RS-20	0.15	6.00	0.0	0.0	5.13	0
RS-30	0.35	6.00	0.0	0.0	5.13	0
RS-40	0.49	6.00	19.8	15.4	5.13	0
SE-10	-5.78	10.00	0.0	0.0	5.08	0
SE-14	-2.00	9.00	0.0	0.0	5.12	0
SE-18	-0.02	9.00	0.0	0.0	5.14	0
SE-20	-5.31	10.00	0.0	0.0	5.18	0
SE-30	-6.48	10.00	0.0	0.0	5.71	0
SE-40	-5.81	10.50	0.0	0.0	5.73	0
SE-50	-4.70	10.50	25.4	74.8	5.95	0
SE-54	-2.68	11.00	22.1	61.1	8.06	0
SE-60	-2.57	11.00	13.0	38.0	9.12	0
SE-70	-0.90	11.00	15.7	43.0	11.10	1
SE-B	-8.00	10.00	0.0	0.0	5.68	0
SW-10	-5.21	10.50	0.0	0.0	6.19	0
SW-14	-4.36	10.50	0.0	0.0	7.58	0
SW-18	-3.55	10.50	0.0	0.0	9.36	0
SW-20	-5.07	10.50	0.0	0.0	6.19	0
SW-30	-3.00	10.50	0.0	0.0	6.21	0
SW-40	-2.15	10.50	0.0	0.0	6.21	0
SW-50	-0.62	11.00	32.6	70.0	9.92	0
SW-B	-8.00	10.00	0.0	0.0	6.21	0
X1	-13.08	4.00	0.0	0.0	0.89	0
X2-JctBox	-12.69	4.00	0.0	0.0	1.25	0
xPS	-14.00	4.00	0.0	0.0	0.67	0
Y10	-6.22	7.50	0.0	0.0	4.75	0
Y14	-1.14	11.58	10.6	26.1	8.90	0
Y15	-0.42	12.18	5.1	12.5	12.20	1
Y16	2.83	11.18	18.2	39.6	13.36	317
Y17	1.68	13.28	7.6	18.5	14.09	60
Y2	-10.29	4.00	0.0	0.0	1.88	0
Y3	-10.17	4.00	0.0	0.0	1.99	0
Y4	-9.75	4.00	0.0	0.0	2.34	0
Y5	-9.42	4.00	0.0	0.0	2.63	0
Y6	-9.07	4.00	0.0	0.0	2.92	0
Y7	-8.61	4.00	0.0	0.0	3.31	0
Y8	-8.09	6.00	0.0	0.0	3.75	0
Y9	-6.99	6.00	0.0	0.0	4.21	0
Z1	-5.89	5.00	0.0	0.0	4.41	0
Z2	-5.56	10.50	0.0	0.0	5.61	0
Z6-USGov	-3.04	11.00	150.0	125.3	10.62	0

Table 2. Hydraulic Model Output for Pertinent System Links, Stone Beetland Project

Link Name	Bounding Nodes		Diameter	Length	Roughness	Shape	Invert Elevation		Maximum Water Surface		Maximum Flow	Maximum Velocity
	Upstream	Downstream	(feet)	(feet)			Upstream (feet)	Downstream (feet)	Upstream (feet)	Downstream (feet)	(cfs)	(ft/sec)
LR-B-Out	LR-B	SE-18							6.41	5.14	1.0	10.79
LFDrain	RegSan	Y2	2.0	400	0.015	Circular	-3.00	-5.00	5.12	1.88	22.9	7.21
RS-10 Overflow	RS-10	RegSan									14.1	0.00
RS-20-C	RS-20	RS-10	n.a.	297	0.070	Natural	0.15	-0.15	5.13	5.13	15.0	0.32
RS-30-P	RS-30	RS-20	3.5	285	0.015	Circular	0.35	0.15	5.13	5.13	15.5	1.74
RS-40-C	RS-40	RS-30	n.a	142	0.070	Natural	0.49	0.35	5.13	5.13	14.6	0.62
SB-10-P	SE-10	Y10	3.5	295	0.015	Circular	-5.78	-6.22	5.08	4.75	29.4	3.63
SE-14-P	SE-14	SE-10	3.0	656	0.015	Circular	-2.00	-5.28	5.12	5.08	-7.0	1.64
SE-18-P	SE-18	SE-14	3.0	264	0.015	Circular	-0.02	-2.00	5.14	5.12	-1.9	2.57
SE-20-P	SE-20	SE-10	3.5	93	0.015	Circular	-5.31	-5.78	5.18	5.08	28.8	4.12
EB-In	SE-30	SE-B									287.8	0.00
SE-40-P	SE-40	SE-30	6.0	216	0.015	Circular	-5.81	-6.48	5.73	5.71	288.5	10.18
SE-50-P	SE-50	SE-40	6.0	359	0.015	Circular	-4.70	-5.81	6.09	5.73	287.9	10.15
SE-54-P	SE-54	SE-50	5.0	651	0.015	Circular	-2.68	-4.70	8.14	6.09	121.9	6.18
SE-60-P	SE-60	SE-50	5.0	851	0.015	Circular	-2.57	-4.70	9.44	6.09	97.0	4.92
SE-70-P	SE-70	SE-60	4.0	668	0.015	Circular	-0.90	-2.57	11.10	9.44	68.4	5.38
EB-Out	SE-B	SE-20	Basin Oulet Orifice						5.68	5.18	6.9	12.48
EB-Out	SE-B	SE-20	Basin Outlet Weir						5.68	5.18	25.6	5.54
SW-10-P	SW-10	Z2	2.5	231	0.015	Circular	-5.21	-5.56	6.19	5.61	18.9	3.77
SW-14-P	SW-14	SW-10	2.5	483	0.015	Circular	-4.36	-5.21	7.58	6.19	26.4	5.30
SW-18-P	SW-18	SW-14	2.5	455	0.015	Circular	-3.55	-4.36	9.36	7.58	26.4	5.28
SW-20-P	SW-20	SW-10	2.5	95	0.015	Circular	-5.07	-5.21	6.19	6.19	17.2	3.50
WB-In	SW-30	SW-B									70.5	0.00
SW-40-P	SW-40	SW-30	3.5	341	0.015	Circular	-2.15	-3.00	6.21	6.21	70.6	7.29
SW-50-P	SW-50	SW-40	3.5	609	0.015	Circular	-0.62	-2.15	9.93	6.21	70.3	7.23
WB-Out	SW-B	SW-20	Basin Oulet Orifice						6.21	6.19	3.2	8.42
WB-Out	SW-B	SW-20	Basin Outlet Weir						6.21	6.19	14.2	9.25
x1p	X1	xPS	6.5	223	0.015	Circular	-13.08	-13.30	0.95	0.71	150.7	6.67
x2p	X2-JctBox	X1	6.5	387	0.015	Circular	-12.69	-13.08	1.26	0.95	147.9	6.02
y10p	Y10	Y9	3.5	500	0.015	Circular	-6.22	-6.99	4.75	4.21	29.4	3.36
Y-14-P	Y14	SE-54	4.0	498	0.015	Circular	-1.14	-2.68	9.07	8.14	60.0	4.74
y15p	Y15	Y14	2.3	305	0.015	Circular	-0.42	-1.14	12.20	9.07	40.0	9.92
y16p	Y16	Y15	1.3	280	0.015	Circular	2.83	0.83	13.36	12.20	7.1	5.58
y17p	Y17	Y15	2.3	320	0.015	Circular	1.68	-0.42	14.09	12.20	29.0	7.13
y2p	Y2	X2-JctBox	4.5	494	0.015	Circular	-10.29	-10.69	1.88	1.26	65.0	4.97
y3p	Y3	Y2	4.5	156	0.015	Circular	-10.17	-10.29	1.99	1.88	57.0	4.15
y4p	Y4	Y3	4.5	530	0.015	Circular	-9.75	-10.17	2.35	1.99	55.3	3.87
y5p	Y5	Y4	4.5	415	0.015	Circular	-9.42	-9.75	2.64	2.35	53.4	3.60
y6p	Y6	Y5	4.5	415	0.015	Circular	-9.07	-9.42	2.92	2.64	51.8	3.45
y7p	Y7	Y6	4.5	571	0.015	Circular	-8.61	-9.07	3.31	2.92	49.9	3.29
y8p	Y8	Y7	4.5	648	0.015	Circular	-8.09	-8.61	3.76	3.31	46.3	3.13
y9p	Y9	Y8	4.0	854	0.015	Circular	-6.99	-7.59	4.21	3.76	29.4	2.92
z1p	Z1	Y8	2.5	329	0.015	Circular	-5.89	-6.06	4.41	3.76	18.9	4.34
z2p	Z2	Z1	2.5	525	0.015	Circular	-5.56	-5.89	5.61	4.41	18.9	3.78
Z-6-P	Z6-USGov	SW-18	2.5	285	0.015	Circular	-3.04	-3.55	10.62	9.36	26.4	5.27

APPENDIX H

ENVIRONMENTAL NOISE AND VIBRATION IMPACT ASSESSMENT

Environmental Noise and Vibration Assessment

Stone-Beetland Mixed-Use Development

Sacramento, California

BAC Job # 2022-004

Prepared For:

JP Land Holdings, LLC.

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1478 Stone Point Drive, Suite 100
Roseville, CA 95661

Prepared By:

Bollard Acoustical Consultants, Inc.

Paul Bollard, President

April 7, 2023

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Introduction

The Stone-Beetland (Project) area is located on an approximately 141-acre site in the City of Sacramento bounded by Detroit Boulevard Neighborhood to the northeast, Sacramento Regional Transit (RT) Blue Line Light Rail to the east, and Cosumnes River Boulevard to the south. The Project area is currently zoned for residential and agricultural uses (R-1, R1-A, A). The project consists of the rezoning and development of a mixed-use community containing residential uses of various densities, commercial, commercial/residential mixed-use, park, and open space uses. The project area location and preliminary project land use plan are shown on Figures 1 and 2, respectively.

Bollard Acoustical Consultants, Inc. (BAC) was retained by the project applicant to prepare this noise and vibration evaluation for the project. The specific objectives of this evaluation are provided in the following section.

Objectives of This Analysis

The objectives of this analysis are as follows:

- To provide background information pertaining to the effects of noise & vibration.
- To identify existing sensitive land uses in the project area vicinity.
- To quantify existing ambient noise levels and identify ambient sources of vibration at those nearest noise-sensitive land uses.
- To identify the City of Sacramento noise & vibration standards which would be most applicable to this project.
- To predict project-related noise & vibration levels at off-site sensitive areas, and to compare those levels against the applicable noise & vibration standards per California Environmental Quality Act (CEQA) guidelines.
- To evaluate consistency of the sensitive land uses proposed within the project area with City of Sacramento 2030 General Plan noise and vibration standards.
- To recommend mitigation, as necessary, to ensure compliance with the applicable project noise & vibration standards.
- To summarize the results of this analysis into a report for eventual use in the development of the project environmental documents.



Legend

- Project Border (Approximate)
- Long-term Noise Measurement Locations
- Short-term Noise & Vibration Measurement Locations
- Short-term Vibration Measurement Locations

N

Scale (Feet)

0 500 1000

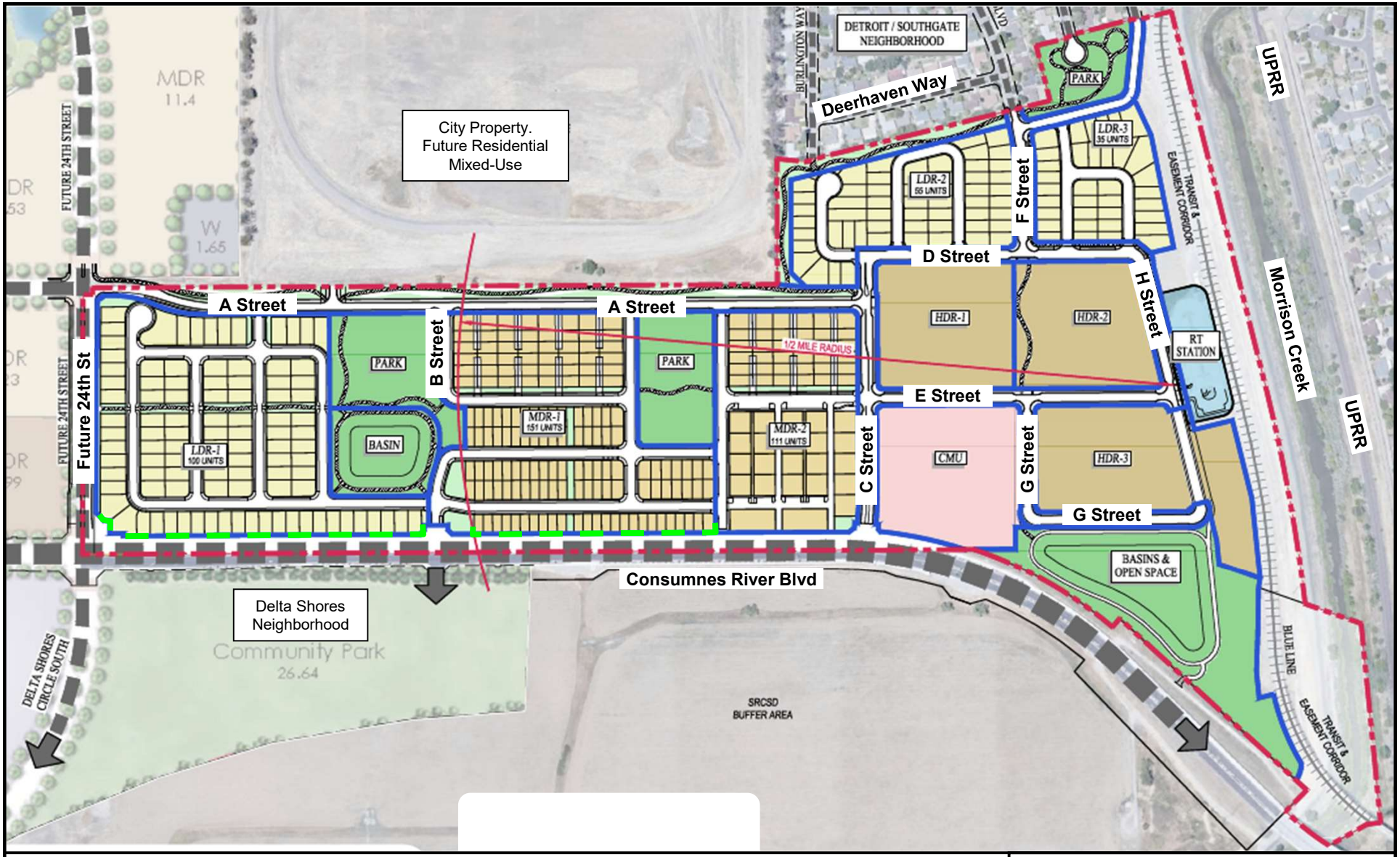
Stone Beetland

Sacramento, California

Project Area & Noise Survey Sites

Figure 1

BOLLARD Acoustical Consultants



Legend

- Recommended 6' Traffic Noise Barriers
- Recommended Window Construction Upgrades: STC 32 (Upper-Floors Only)

N

Scale (Feet)

0 225 450

Stone Beetland

Sacramento, California

Site Plan

Figure 2

BOLLARD Acoustical Consultants

Noise Fundamentals & Terminology

General

Noise is often described as unwanted sound. Sound is defined as any pressure variation in air that the human ear can detect. If the pressure variations occur frequently enough (at least 20 times per second), they can be heard and are designated as sound. The number of pressure variations per second is called the frequency of sound and is expressed as cycles per second, or Hertz (Hz). Definitions of acoustical terminology are provided in Appendix A.

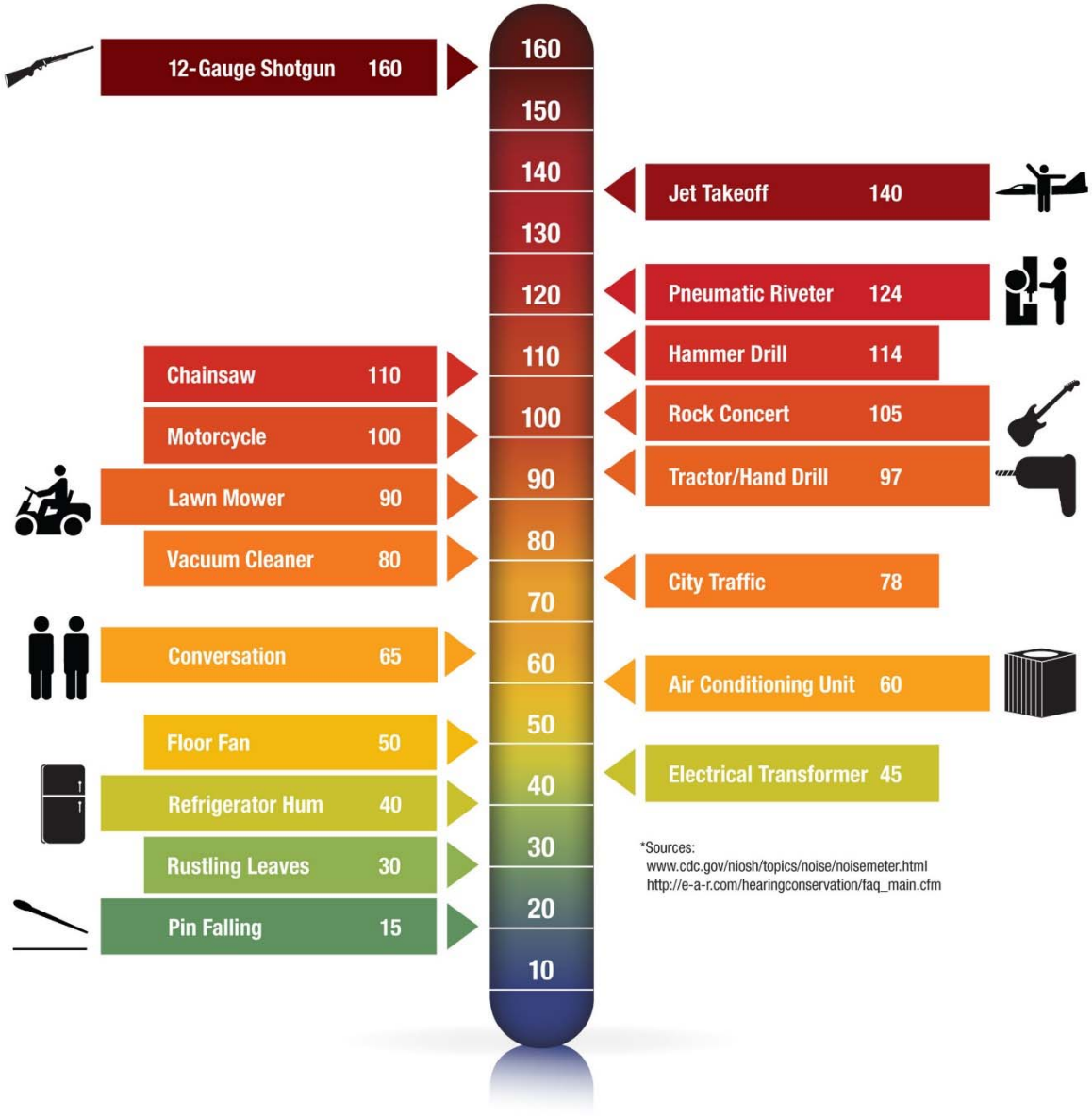
Measuring sound directly in terms of pressure would require a very large and awkward range of numbers. To avoid this, the decibel scale was devised. The decibel scale uses the hearing threshold (20 micropascals of pressure) as a point of reference, defined as 0 dB. Other sound pressures are then compared to the reference pressure, and the logarithm is taken to keep the numbers in a practical range. The decibel scale allows a million-fold increase in pressure to be expressed as 120 dB. Another useful aspect of the decibel scale is that changes in decibel levels correspond closely to human perception of relative loudness. Noise levels associated with common noise sources are provided in Figure 3.

A-Weighting and Noise Metrics

The perceived loudness of sounds is dependent upon many factors, including sound pressure level and frequency content. However, within the usual range of environmental noise levels, perception of loudness is relatively predictable and can be approximated by filtering the frequency response of a sound level meter by means of the standardized A-weighting network. There is a strong correlation between A-weighted sound levels (expressed as dBA) and community response to noise. For this reason, the A-weighted sound level has become the standard tool of environmental noise assessment. All noise levels reported in this section are in terms of A-weighted levels.

Community noise is commonly described in terms of the ambient noise level, which is defined as the all-encompassing noise level associated with a given noise environment. A common statistical tool to measure the ambient noise level is the average, or equivalent, sound level (L_{eq}). The L_{eq} is the foundation of the day-night average noise descriptor, DNL (or L_{dn}), and shows very good correlation with community response to noise. DNL is based on the average noise level over a 24-hour day, with a +10-decibel weighting applied to noise occurring during nighttime (10:00 PM to 7:00 AM) hours. The nighttime penalty is based on the assumption that people react to nighttime noise exposures as though they were twice as loud as daytime exposures. Because DNL represents a 24-hour average, it tends to disguise short-term variations in the noise environment.

Figure 3
Noise Levels Associated with Common Noise Sources



The City of Sacramento General Plan utilizes DNL for the assessment of land use compatibility for a variety of land use designations. The Sacramento City Code utilizes a graduated set of standards based on the duration of a one-hour period in which the intrusive sound is present (L_n–based standards). The City's noise standards are discussed in detail later in this report.

In addition to applying the applicable County noise standards to this Project, the California Environmental Quality Act (CEQA) requires that noise impacts be assessed relative to ambient noise levels that are present without the project. As a result, ambient noise surveys were conducted, and comparisons of Project to No-Project noise levels were made to assess noise impacts.

It should be noted that audibility is not a test of significance according to CEQA. If this were the case, any project which added any audible amount of noise to the environment would be considered significant according to CEQA. Because every physical process creates noise, the use of audibility alone as significance criteria would be unworkable. Under CEQA, a significant impact may occur when there is a *substantial* increase in noise levels, not simply an audible change. The discussion of what constitutes a substantial change in noise environments, both existing and cumulative, is provided in the Regulatory Setting section of this report.

Effects of Noise on People

The effects of noise on people can be divided into three categories:

1. Subjective effects of annoyance, nuisance, dissatisfaction;
2. Interference with activities such as speech, sleep, and learning; and
3. Physiological effects such as hearing loss or sudden startling.

Environmental noise typically produces effects in the first two categories. Workers in industrial plants can experience noise in the third category. There is no completely satisfactory way to measure the subjective effects of noise, or the corresponding reactions of annoyance and dissatisfaction. A wide variation in individual thresholds of annoyance exists, and different tolerances to noise tend to develop based on an individual's past experiences with noise.

Generally, most noise is generated by transportation systems, primarily motor vehicles, aircraft, and railroads. Prominent sources of indoor noise are office equipment, factory machinery, appliances, power tools, lighting hum, and audio entertainment systems. An important way of predicting a human reaction to a new noise environment is the way it compares to the existing environment (or ambient noise) to which one has adapted. In general, the more a new noise exceeds the previously existing ambient noise level, the less acceptable the new noise will be judged by those hearing it. With regard to increases in A-weighted noise levels, the following relationships occur (Caltrans, 2013):

- Under controlled conditions in an acoustics laboratory, the trained healthy human ear is able to discern changes in sound levels of 1 dBA;
- Outside such controlled conditions, the trained ear can detect changes of 2 dBA in normal environmental noise;
- It is widely accepted that the average healthy ear, however, can barely perceive noise level changes of 3 dBA;

Noise Attenuation over Distance

Stationary "point" sources of noise, including stationary mobile sources such as idling vehicles, attenuate (lessen) at a rate of approximately 6+ dBA per doubling of distance from the source, depending upon environmental conditions (i.e., atmospheric conditions and noise barriers, either vegetative or manufactured, etc.). Widely distributed noises, such as a large industrial facility, spread over many acres or a street with moving vehicles (a "line" or "moving point" source), would typically attenuate at a lower rate, approximately 4 to 6 dBA per doubling distance from the source (also dependent upon environmental conditions) (Caltrans, 2013). Noise from large construction sites (with heavy equipment moving dirt and trucks entering and exiting the site daily) would have characteristics of both "point" and "line" sources, so attenuation would generally range between 4.5 and 7.5 dBA per doubling of distance. Atmospheric absorption of sound varies depending on temperature and relative humidity, as well as the frequency content of the noise source. In general, "average day" atmospheric conditions result in attenuation at a rate of approximately 1.5 dB per thousand feet of distance (SAE ARP 866A, 1975).

Vibration Fundamentals & Terminology

Vibration is like noise in that it involves a source, a transmission path, and a receiver. While vibration is related to noise, it differs in that noise is generally considered to be pressure waves transmitted through air, while vibration is usually associated with transmission through the ground or structures. As with noise, vibration consists of an amplitude and frequency. A person's response to vibration will depend on their individual sensitivity as well as the amplitude and frequency of the source.

Vibration can be described in terms of acceleration, velocity, or displacement. A common practice is to monitor vibration in terms of velocity in inches per second peak particle velocity (IPS, PPV) or root-mean-square (VdB, RMS). Standards pertaining to perception as well as damage to structures have been developed for vibration in terms of peak particle velocity as well as RMS velocities. In terms of RMS velocities, vibration levels below approximately 65 VdB are typically considered to be below the threshold of perception.

As vibrations travel outward from the source, they excite the particles of rock and soil through which they pass and cause them to oscillate. Differences in subsurface geologic conditions and distance from the source of vibration will result in different vibration levels characterized by different frequencies and intensities. In all cases, vibration amplitudes will decrease with increasing distance.

According to the Transportation and Construction-Induced Vibration Guidance Manual (Caltrans, April 2020), operation of construction equipment and construction techniques generate ground vibration. Traffic traveling on roadways can also be a source of such vibration. At high enough amplitudes, ground vibration has the potential to damage structures and/or cause cosmetic damage. Ground vibration can also be a source of annoyance to individuals who live or work close to vibration-generating activities. However, traffic, rarely generates vibration amplitudes high enough to cause structural or cosmetic damage.

Existing Environment

Land Uses in the Project Vicinity

Noise-sensitive land uses are generally defined as locations where people reside or where the presence of unwanted sound could adversely affect the primary intended use of the land. Places where people live, sleep, recreate, worship, and study are generally considered to be sensitive to noise because intrusive noise can be disruptive to these activities.

The nearest sensitive receptors to the project area consist primarily of existing and future residential uses. Existing residential developments are to the north and east of the project area. However, the existing residential development to the east is separated from the project area by the Union Pacific Railroad (UPRR), Morrison Creek, and open space. Future residential developments are proposed to the west and north-west of the project area as part of the Delta Shores development.

Noise Sources Affecting the Project Vicinity

The existing ambient noise environment in the immediate project vicinity is defined primarily by Cosumnes River Boulevard traffic to the south, the Regional Transit (RT) Light Rail tracks immediately east of the project area, and Union Pacific Railroad (UPRR) operations further east of the RT Light Rail. Evaluations of each of the major noise sources affecting the project vicinity and the overall ambient noise environment within the project vicinity from all sources are evaluated below.

Existing Overall Ambient Noise Environment within the Project area Vicinity

To quantify existing ambient noise environment within the Project area and Project vicinity, BAC conducted short-term ambient noise surveys at two locations on March 2, 2022 and long-term (continuous), ambient noise level measurements at four locations between February 28 and March 4, 2022. The long-term surveys spanned a 5-day, Monday through Friday, monitoring period at each location.

Noise measurement site LT-1 was selected to be representative of the existing UPRR noise levels behind the existing residential development to the east. Microphone heights of 5 and 10 feet were used at Site LT-1 to represent locations behind and above the existing railroad sound wall at that location. Site LT-2 was selected to represent the Light Rail and UPRR noise on the Project area. Sites LT-3 and LT-4 were selected to represent Cosumnes River Boulevard traffic noise. The noise measurement sites are shown on Figure 1. The short-term sites were selected to be representative of ambient conditions at the existing residential development to the north and Light Rail noise exposure at the eastern boundary of the site. Photographs of the noise survey locations are provided in Appendix B.

Larson Davis Laboratories (LDL) precision integrating sound level meters were used to complete the noise level measurements. The meters were calibrated immediately before and after use with an LDL Model CA200 acoustical calibrator to ensure the accuracy of the measurements. The equipment used meets all specifications of the American National Standards Institute requirements for Type 1 sound level meters (ANSI S1.4).

The long-term noise level measurement survey results are summarized in Table 1. The detailed results of the long-term ambient noise survey are contained in Appendix C in tabular format and graphically in Appendix D. The short-term noise level measurement results are summarized in Table 2.

Table 1
Summary of Long-Term Ambient Noise Level Measurement Results[1]
Stone-Beetland Project – Sacramento, California

Site[2]	Height	Date[5]	DNL	Average Measured Hourly Noise Levels (dBA)			
				Daytime[3]		Nighttime[4]	
				L_{50}	L_{max}	L_{50}	L_{max}
LT-1	5’	Monday, February 28	51	47	63	44	57
		Tuesday, March 1	58	58	69	48	59
		Wednesday, March 2	56	52	68	49	60
		Thursday, March 3	55	50	64	49	62
		Friday, March 4	57	55	70	50	55
LT-1	10’	Monday, February 28	54	49	66	47	58
		Tuesday, March 1	66	56	67	60	71
		Wednesday, March 2	56	50	64	50	65
		Thursday, March 3	63	58	66	57	67
		Friday, March 4	-	-	-	-	-
LT-2	5’	Monday, February 28	55	51	67	48	66
		Tuesday, March 1	57	52	69	50	66
		Wednesday, March 2	57	53	69	50	66
		Thursday, March 3	57	52	69	50	63
		Friday, March 4	59	57	76	51	64
LT-3	5’	Monday, February 28	61	56	76	55	79
		Tuesday, March 1	62	57	74	55	73
		Wednesday, March 2	61	56	76	54	71
		Thursday, March 3	65	62	76	58	75
		Friday, March 4	73	67	84	66	74
LT-4	5’	Monday, February 28	62	57	75	55	71
		Tuesday, March 1	62	57	75	56	69
		Wednesday, March 2	62	56	74	55	71
		Thursday, March 3	61	55	73	55	69
		Friday, March 4	63	61	72	55	68

[1] Detailed summaries of the noise monitoring results are provided in graphically in Appendix C.
[2] Long-term ambient noise monitoring conducted from February 28 to March 4, 2022. Noise measurement locations are identified on Figure 1.
[3] Daytime hours: 7:00 AM to 10:00 PM
[4] Nighttime hours: 10:00 PM to 7:00 AM
[5] Data collected on February 28 and March 4 is not a full 24-hour period.
Source: Bollard Acoustical Consultants, Inc. (2022)

The Table 1 data indicate that measured day-night average noise levels (DNL) were highest at Sites LT-1 and LT-4, which were heavily influenced by noise from UPRR operations and Consumnes River Boulevard traffic, respectively.

Table 2
Short-Term Ambient Noise Level Measurement Results – March 2, 2022
Stone-Beetland Project – Sacramento, California

Site	Duration	Time	Average Measured Hourly Noise Levels (dBA)		
			L_{50}	L_{eq}	L_{max}
ST-1	30 minutes	11:20 – 11:50 AM	43	57	80
ST-2	30 minutes	3:16 – 3:46 PM	47	50	68

Noise measurement locations are identified on Figure 1.
Source: Bollard Acoustical Consultants, Inc. (2022)

The short-term noise survey results shown in Table 2 data indicate that the ambient noise environment at the existing residences on Deerhaven Way was fairly low during the survey period, with measured average and maximum levels of 50 and 68 dBA, respectively. The short-term survey results at Site ST-1 were higher due to the proximity of that site to the RT Light Rail tracks.

Existing Traffic Noise Levels Along Project Area Roadway Network

The existing traffic noise environment on the project site is defined by Cosumnes River Boulevard traffic. Traffic on residential streets to the north is insignificant compared to Cosumnes River Boulevard traffic.

In addition to the assessment of potential noise impacts affecting the project site, CEQA also requires that the noise impacts caused by the project be considered. As a result, noise impacts resulting from increases in off-site traffic noise levels along the roadways which would provide access to the project site are also evaluated.

The FHWA Traffic Noise Model (FHWA-RD-77-108) was used to quantify existing traffic noise levels at the existing sensitive land uses nearest to the project area roadway network. The Model was also used to quantify the distances to the 60, 65 and 70 dB DNL traffic noise contours for these roadways. The FHWA Model predicts hourly L_{eq} values for free-flowing traffic conditions. Estimates of the hourly distribution of traffic for a typical 24-hour period were used to develop DNL values from L_{eq} values.

Traffic data in the form of average daily traffic volumes (ADT) were obtained from the project transportation impact study prepared by Fehr & Peers. The existing traffic noise levels at the distances representing the nearest existing and proposed sensitive land uses to the project area roadways and distances from the centerlines of selected roadways to the 60 dB, 65 dB and 70 dB DNL contours are summarized in Table 3. Appendix E contains the FHWA Model inputs for existing conditions. The actual distances to noise level contours may vary from the distances shown in Table 3 due to factors such as roadway elevation, curvature, grade, and shielding from local topography or structures.

Table 3
Existing Traffic Noise Levels at Nearest Receptors and Distances to DNL Contours

#	Roadway	From	To	DNL at Nearest Sensitive Receptor [dB]	Distance to Contour [ft]		
					70 dB DNL	65 dB DNL	60 dB DNL
1	Meadowview Rd	29th Street	Detroit Blvd	70.0	60	129	278
2	Meadowview Rd	Detroit Blvd	Railroad	71.4	62	133	286
3	Detroit Blvd	Meadowview Rd	Laurie Way	61.3	13	28	61
4	Detroit Blvd	Laurie Way	Reel Cir	57.2	7	15	33
5	Detroit Blvd	Reel Cir	Ann Arbor Way	55.8	6	12	26
6	Detroit Blvd	Ann Arbor Way	Burlington Way	45.8	1	3	6
7	Cosumnes River Blvd	Delta Shores Cir (W)	Delta Shores Cir (E)	70.9	92	199	428
8	Cosumnes River Blvd	Delta Shores Cir (E)	Railroad	54.5	39	83	179
9	Cosumnes River Blvd	Railroad	Franklin Blvd	54.5	39	83	179
10	Delta Shores Cir	Cosumnes River Blvd (W)	Cosumnes River Blvd (E)	60.4	14	30	64

Source: FHWA-RD-77-108 with inputs from project traffic impact study. Appendix E contains FHWA model inputs.

Existing Ambient Vibration Environment

To generally quantify existing vibration levels at representative locations within the project site, BAC conducted short-term (15-minute) vibration measurements at four (4) locations within the Project area as shown on Figure 1. Photographs of the vibration survey locations are provided in Appendix B.

A Larson-Davis Laboratories Model LxT precision integrating sound level meter equipped with a vibration transducer was used to complete the measurements. The system was calibrated in the field prior to use to ensure the accuracy of the measurements. The ambient vibration monitoring results are summarized in Table 4.

Table 4
Summary of Ambient Vibration Monitoring Results – March 2, 2022

Site[1]	Time	Average Measured Vibration Level, VdB ()[1]
V-1	11:22 AM	43
V-2	10:36 AM	39
V-3	12:21 PM	39
V-4	3:16 PM	32

[1]Vibration measurement sites are shown on Figure 1.
Source: Bollard Acoustical Consultants, Inc. (2022)

The Table 4 data indicate that measured average vibration levels at the project area were below the 65 VdB threshold of perception, which is consistent with the BAC staff observations.

Criteria for Acceptable Noise and Vibration Exposure

California Environmental Quality Act (CEQA)

The State of California has established regulatory criteria that are applicable to this assessment. Specifically, Appendix G of the State of California Environmental Quality Act (CEQA) Guidelines are used to assess the potential significance of impacts pursuant to local General Plan policies, Municipal Code standards, or the applicable standards of other agencies. According to Appendix G of the CEQA guidelines, a significant noise or vibration impact may occur if the Project results 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 other 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.

City of Sacramento 2035 General Plan

The General Plan focuses on the effect that noise from various sources has on the community. The noise element of the City of Sacramento 2035 General Plan is intended to ensure that noise control is incorporated into the planning process and to achieve and maintain appropriate noise levels for existing and proposed land uses. The following policies of the City of Sacramento 2035 General Plan relating to noise would apply to the proposed project:

- **Policy EC 3.1.1 Exterior Noise Standards.** The City shall require noise mitigation for all development where the exterior noise standards exceed those shown in Table 5 (Table EC-1 of the General Plan), to the extent feasible.

- **Policy EC 3.1.2 Exterior Incremental Noise Standards.** The City shall require mitigation for all development that increases existing noise levels by more than the allowable increment as shown in Table 6 (Table EC-2 of the General Plan), to the extent feasible.

- **Policy EC 3.1.3 Interior Noise Standards.** The City shall require new development to include noise mitigation to assure acceptable interior noise levels appropriate to the land use type: 45 dBA L_{dn} for residential, transient lodgings, hospitals, nursing homes and other uses where people normally sleep; and 45 dBA L_{eq} (peak hour) for office buildings and similar uses.

Table 5
Exterior Noise Compatibility Standards for Various Land Uses

Land Use Type	Highest Level of Noise Exposure that is Regarded as "Normally Acceptable"[1] (L_{dn}[2] or CNEL[3])[4]
Residential – Low Density Single Family, Duplex, Mobile Homes	60 dBA[5,6]
Residential – Multi-family	65 dBA
Urban Residential Infill[7] and Mixed-Use Projects[8]	70 dBA
Transient Lodging–Motels, Hotels	65 dBA
Schools, Libraries, Churches, Hospitals, Nursing Homes	70 dBA
Auditoriums, Concert Halls, Amphitheaters	Mitigation based on site–specific study
Sports Arena, Outdoor Spectator Sports	Mitigation based on site–specific study
Playgrounds, Neighborhood Parks	70 dBA
Golf Courses, Riding Stables, Water Recreation, Cemeteries	75 dBA
Office Buildings–Business, Commercial, and Professional	70 dBA
Industrial, Manufacturing, Utilities, Agriculture	75 dBA

Source: Governor's Office of Planning and Research, State of California General Plan Guidelines 2003, October 2003

[1] As defined in the Guidelines, "Normally Acceptable" means that the "specified land use is satisfactory, based upon the assumption that any building involved is of normal conventional construction, without any special noise insulation requirements."

[2] L_{dn} or Day Night Average Level is an average 24-hour noise measurement that factors in day and night noise levels.

[3] CNEL or Community Noise Equivalent Level measurements are a weighted average of sound levels gathered throughout a 24-hour period.

[4] These standards shall not apply to balconies or small attached patios in multi-stories multi-family structures.

[5] dBA or A-weighted decibel, a measure of noise intensity.

[6] The exterior noise standard for the residential area west of McClellan Airport known as McClellan Heights/Parker Homes is 65 dBA.

[7] With land use designations of Central Business District, Urban Neighborhood (Low, Medium, or High) Urban Center (Low or High), Urban Corridor (Low or High).

[8] All mixed-use projects located anywhere in the City of Sacramento.

- **Policy EC 3.1.4 Interior Noise Review for Multiple, Loud Short-Term Events.** In cases where new development is proposed in areas subject to frequent, high-noise events (such as aircraft overflights, or train and truck pass-bys), the City shall evaluate substantiated noise impacts on any sensitive receptors from such events when considering whether to approve the development proposal, taking into account potential for sleep disturbance, undue annoyance, and interruption in conversation, to ensure that the proposed development is compatible within the context of its surroundings.

- **Policy EC 3.1.5 Interior Vibration Standards.** The City shall require construction projects anticipated to generate a significant amount of vibration to ensure acceptable interior vibration levels at nearby residential and commercial uses based on the current City or Federal Transit Administration (FTA) criteria.

- **Policy EC 3.1.6 Effects of Vibration.** The City shall consider potential effects of vibration when reviewing new residential and commercial projects that are proposed in the vicinity of rail lines or Light Rail lines.

- **Policy EC 3.1.7 Vibration.** The City shall require an assessment of the damage potential of vibration-induced construction activities, highways, and rail lines in close proximity to historic buildings and archaeological sites and require all feasible mitigation measures be implemented to ensure no damage would occur.

- **Policy EC 3.1.8 Operational Noise.** The City shall require mixed-use, commercial and industrial projects to mitigate operational noise impacts to adjoining sensitive uses when operational noise thresholds are exceeded.

- **Policy EC 3.1.9 Compatibility with Park and Recreation Uses.** The City shall limit the hours of operation of parks and active recreation areas in residential areas to minimize disturbance to residences.

- **Policy EC 3.1.10 Construction Noise.** The City shall require development projects subject to discretionary approval to assess potential construction noise impacts on nearby sensitive uses and to minimize impacts on these uses to the extent feasible.

Table 6
Allowable Incremental Noise Increases

Residences and buildings where people normally sleep[1]		Institutional land uses with primarily daytime and evening uses[2]	
Existing L_{dn}	Allowable Noise Increment	Existing L_{dn}	Allowable Noise Increment
45	8	45	12
50	5	50	9
55	3	55	6
60	2	60	5
65	1	65	4
70	1	70	4
75	0	75	1
80	0	80	0

Notes:
[1] This category includes homes, hospitals, and hotels where a nighttime sensitivity to noise is assumed to be of utmost importance.
[2] This category includes schools, libraries, theaters, and churches where it is important to avoid interference with such activities as speech, meditation, and concentration on reading material.
Source: City of Sacramento. 2009. Sacramento 2030 General Plan Master Environmental Impact Report. Certified March 3, 2009

- **Policy EC 3.1.11 Alternatives to Sound Walls.** The City shall encourage the use of design strategies and other noise reduction methods along transportation corridors in lieu of sound walls to mitigate noise impacts and enhance aesthetics.

Sacramento City Code

The City of Sacramento Noise Ordinance (Section 8.68 of the Sacramento City Code) states that it is unlawful for any person at any location within the City to create any noise that causes ambient noise levels at an affected receptor to exceed the noise standards shown in Table 7. The Table 7 standards are specifically applicable to sources of noise which can be controlled at the local level. The Table 7 standards do not apply to traffic, aircraft or railroad noise exposure as control of noise from those sources is subject to state or Federal oversight, and not subject to local control.

Table 7
Noise Ordinance Standards Applicable at Exterior Spaces of Residential Uses

Cumulative Duration of Intrusive Sound	Noise Metric	Daytime, dB	Nighttime, dB
Cumulative period of 30 minutes per hour	L_{50}	55	50
Cumulative period of 15 minutes per hour	L_{25}	60	55
Cumulative period of 5 minutes per hour	L_{08}	65	60
Cumulative period of 1 minute per hour	L_{02}	70	65
Level not to be exceeded for any time during hour	L_{max}	75	70

Notes: Daytime is defined as 7 a.m. to 10 p.m. and Nighttime is defined as 10 p.m. to 7 a.m.
Each of the noise limits specified above shall be reduced by 5 dBA for impulsive or simple tone noise or for noises consisting of speech or music. If the existing ambient noise levels exceed that permitted in the first four noise-limit categories, the allowable limit shall be increased in 5 dB increments to encompass the ambient.
Source: City of Sacramento Noise Ordinance. www.qcode.us/codes/sacramento/view.php?topic=8-8_68-ii&frames=off.

With respect to construction noise, the City of Sacramento Noise Ordinance (Section 8.68.080d) exempts noise generated by construction activities from the standards identified above in Table 7, as follows:

> Noise sources due to the erection (including excavation), demolition, alteration or repair of any building or structure between the hours of seven a.m. and six p.m., on Monday, Tuesday, Wednesday, Thursday, Friday and Saturday, and between nine a.m. and six p.m. on Sunday; provided, however, that the operation of an internal combustion engine shall not be exempt pursuant to this subsection if such engine is not equipped with suitable exhaust and intake silencers which are in good working order. The director of building inspections, may permit work to be done during the hours not exempt by this subsection in the case of urgent necessity and in the interest of public health and welfare for a period not to exceed three days. Application for this exemption may be made in conjunction with the application for the work permit or during progress of the work.

With respect to noise generated at neighborhood parks, the City of Sacramento Noise Ordinance (Section 8.68.080b) specifically exempts noise generated by activities conducted at parks or public playgrounds, provided such parks and playgrounds are owned and operated by a public entity.

Railroad Single-Event Noise Level Criteria

As noted in City of Sacramento General Plan Policy EC 3.1.4, in cases where new development is proposed in areas subject to frequent, high-noise events (such as train pass-bys), the City shall evaluate noise impacts on any sensitive receptors from such events when considering whether to approve the development proposal, taking into account potential for sleep disturbance, undue annoyance, and interruption in conversation, to ensure that the proposed development is compatible within the context of its surroundings. The City of Sacramento General Plan does not, however, provide a quantifiable threshold against which single-event noise impacts are to be evaluated.

Studies of sleep disturbance have indicated that an interior Sound Exposure Level (SEL) of 65 dBA resulted in an average percentage of awakening of approximately 2% of the population. Because 2% of the population can be expected to regularly awaken due a variety of factors not related to noise, the use of an interior SEL threshold of 65 dBA for the assessment of single-event impacts within residences is both reasonable and scientifically defensible.

Vibration Standards

The City of Sacramento Noise Element Policies EC 3.1.5 through EC 3.1.7 pertain to vibration, referencing the Federal Transit Administration (FTA) guidelines (FTA Noise and Vibration Manual), as being appropriate. The FTA guidelines identify vibration levels of 98 VdB as being the threshold at which damage to engineered timber and masonry buildings could occur and 75 VdB at the threshold at which annoyance from frequent vibration events would occur.

Noise & Vibration Standards Applied to this Assessment

According to the City of Sacramento Planning Department (Johnson), for purposes of this noise evaluation in support of the CEQA Initial Study, impacts due to noise may be considered significant if construction and/or implementation of the Proposed Project would result in the following impacts that remain significant after implementation of general plan policies:

- Result in exterior noise levels in the project area that are above the upper value of the normally acceptable category for various land uses due to the project's noise level increases;
- Result in residential interior noise levels of 45 dBA Ldn or greater caused by noise level increases due to the project;
- Result in construction noise levels that exceed the standards in the City of Sacramento Noise Ordinance;
- Permit existing and/or planned residential and commercial areas to be exposed to vibration-peak-particle velocities greater than 0.5 inches per second due to project construction;
- Permit adjacent residential and commercial areas to be exposed to vibration peak particle velocities greater than 0.5 inches per second due to highway traffic and rail operations; or

- Permit historic buildings and archaeological sites to be exposed to vibration-peak-particle velocities greater than 0.2 inches per second due to project construction and highway traffic.

Noise Impacts and Mitigation Measures

Noise Impacts from Project-Generated Increases in Off-Site Traffic Noise Levels

With development of the project, traffic volumes on the local roadway network will increase. Those increases in Average Daily Traffic (ADT) volumes will result in a corresponding increase in traffic noise levels at existing sensitive uses located along those roadways. The vacant City Property identified on Figure 2 may be developed prior to this proposed project. Therefore, two (2) baseline scenarios were evaluated for the existing condition: Existing and Existing + City Property Project.

The FHWA Traffic Noise Model (FHWA-RD-77-108) was used to quantify increases in baseline traffic noise levels at the existing sensitive land uses nearest to the project area roadway network. The FHWA Model predicts hourly L_{eq} values for free-flowing traffic conditions. Estimates of the hourly distribution of traffic for a typical 24-hour period were used to develop DNL values from L_{eq} values. The FHWA Model was used with traffic input data from the transportation impact analysis prepared by Fehr & Peers, Inc. to predict project traffic noise level increases relative to Existing, Existing + City, and no project conditions.

Impact 1: Increases in Baseline Traffic Noise Levels due to the Project

The *Existing* and *Existing + Project* traffic noise levels at the distances representing the nearest sensitive land uses to the project area roadways are summarized in Table 8. Table 8 also shows the normally acceptable threshold for residential noise exposure, whether the roadway segment contains sensitive uses, and whether or not the project-related traffic noise increases would result in the residential threshold being exceeded (where it is not currently exceeded). Appendix E contains the FHWA Model inputs for existing and existing plus project conditions.

Factors such as roadway elevation, curvature, grade, and shielding from local topography or structures, or elevated receivers may affect actual traffic noise propagation. Along roadway segments where existing noise barriers are present, the degree of shielding provided by those barriers was estimated and included in the Table 8 results.

The data in Table 8 indicate that project-generated traffic noise level increases would not result in significant noise impacts along the project-area roadway segments where sensitive receptors are currently located. Therefore, off-site traffic noise impacts related to increases in traffic resulting from the implementation of the project (existing vs. existing plus project conditions) are identified as being ***less than significant***.

Table 8
Predicted Traffic Noise Level Increases at Existing Sensitive Receptors – Existing vs. Existing + Project Conditions

#	Roadway	From	To	Predicted DNL, dBA			Residential Significance Threshold[1]	Threshold Exceeded due to Project?	Sensitive Receptors Present?[2]	Significant Impact Identified?[3]
				Existing	Existing + Project	Increase				
1	Meadowview Rd	29th Street	Detroit Blvd	70.0	70.1	0.1	60	No	Yes	No
2	Meadowview Rd	Detroit Blvd	Railroad	71.4	71.5	0.1	60	No	Yes	No
3	Detroit Blvd	Meadowview Rd	Laurie Way	61.3	62.3	1.0	60	No	Yes	No
4	Detroit Blvd	Laurie Way	Reel Cir	57.2	59.0	1.8	60	No	Yes	No
5	Detroit Blvd	Reel Cir	Ann Arbor Way	55.8	58.1	2.3	60	No	Yes	No
6	Detroit Blvd	Ann Arbor Way	Burlington Way	45.8	56.6	10.8	60	No	Yes	No
7	Cosumnes River Blvd	Delta Shores Cir (W)	Delta Shores Cir I	70.9	71.6	0.7	60	No	No	No
8	Cosumnes River Blvd	Delta Shores CI(E)	Railroad	54.5	55.0	0.5	60	No	Yes	No
9	Cosumnes River Blvd	Railroad	Franklin Blvd	54.5	55.3	0.8	60	No	Yes	No
10	Delta Shores Cir	Cosumnes River Blvd (W)	Cosumnes River Blvd (E)	60.4	61.1	0.7	60	No	No	No

Notes

1. Significance threshold is maximum normally acceptable noise level for residential land uses (i.e. 60 dB DNL for single family residential and 65 dB DNL for multi-family residential).
2. Sensitive receptors were considered to be residences of all densities, schools, & transient lodging facilities.
3. A significant impact is identified only along segments where the project-related traffic noise level increase would exceed the significance threshold AND where sensitive receptors are present along the roadway segment. The noise impact is insignificant if the Existing condition already exceeds the City's noise standards as summarized in column: Residential Significance Threshold.

Source: FHWA-RD-77-108 with inputs from project traffic impact study. Appendix E contains FHWA Model inputs.

Noise Impacts from Project Components on Existing Sensitive Uses

Impact 2: Commercial Mixed-Use Noise at Existing Sensitive Uses

The location of the proposed commercial mixed-use area within the Stone-Beetland Project is shown on Figure 2. As indicated in Figure 2, the proposed commercial mixed-use area would be buffered from existing residential uses by distance and by intervening uses proposed within the project site. As a result, noise generated within the commercial mixed-use area is predicted to be well below the applicable City Code noise standards shown in Table 7 and well below existing ambient noise levels at the existing residential uses located in the general project vicinity. Therefore, ***this impact is identified as being less than significant.***

Impact 3: Park Activity Noise at Existing Sensitive Uses

With the exception of the small park proposed within the northeast corner of the Stone-Beetland development, the proposed parks would be separated from existing noise-sensitive uses (residences) by distance, intervening roadways, and intervening residences proposed within the project area. As a result, noise levels generated within the proposed park areas are predicted to be below existing ambient noise levels at the existing residential uses located in the general project vicinity. In addition, the size of the park proposed within the northeast corner of the project site is such that it would likely be used primarily for passive recreation activities which do not generate appreciable noise levels (i.e. walking, picnic, reading, etc.). Finally, the City of Sacramento Noise Ordinance (Section 8.68.080) specifically exempts noise generated by activities conducted at parks or public playgrounds, provided such parks and playgrounds are owned and operated by a public entity. As a result, this impact is identified as being ***less than significant.***

Noise & Vibration Impacts from Proposed Project On-Site Construction Activities

Impact 4: On-Site Construction Noise at Existing Sensitive Uses

During project construction, heavy equipment would be used for demolition, clearing, grading excavation, paving, and building construction, which would increase ambient noise levels when in use. Noise levels would vary depending on the type of equipment used, how it is operated, and how well it is maintained. Noise exposure at any single point outside the project work area would also vary depending on the proximity of equipment activities to that location. The nearest existing residences are located adjacent to the northern project boundary, within approximately 50 feet of project construction activities.

Table 9 includes the range of maximum noise levels for equipment commonly used in general construction projects at full-power operation at a distance of 50 feet. Not all of these construction activities would be required of this project.

Table 9
Construction Equipment Reference Noise Levels and Predicted Noise Levels at 25 Feet

Equipment Description	Maximum Noise Level at 50 Feet (dBA)
Air compressor	80
Backhoe	80
Ballast equalizer	82
Ballast tamper	83
Compactor	82
Concrete mixer	85
Concrete pump	82
Concrete vibrator	76
Crane, mobile	83
Dozer	85
Generator	82
Grader	85
Impact wrench	85
Loader	80
Paver	85
Pneumatic tool	85
Pump	77
Saw	76
Scarifier	83
Scraper	85
Shovel	82
Spike driver	77
Tie cutter	84
Tie handler	80
Tie inserter	85
Truck	84

Source: Federal Transit Administration Noise and Vibration Impact Assessment Manual, Table 7-1 (2018)

Based on the equipment noise levels in Table 9, worst-case on-site project construction equipment maximum noise levels at the nearest existing noise-sensitive uses are expected to range from approximately 76 to 85 dB while construction equipment is operating near the site boundaries closest to those residences. Thus, some construction activities occurring within the project area would result in substantial short-term increases over ambient maximum noise levels at the nearest existing sensitive uses.

City of Sacramento Noise Ordinance (Section 8.68.080, D) offers an exemption for construction noise provided that the certain activities occur during specified hours and days of the week. Provided construction activities within the project area occur pursuant to Sacramento City Code section 8.68.080(d), project construction activities would be exempt, and this impact would be considered less than significant. However, if construction activities are proposed during the hours not exempted by the City Code, noise levels generated by construction activities could result in annoyance at nearby existing residential uses. As a result, ***noise impacts associated with project on-site construction activities are identified as being potentially significant***.

Mitigation for Impact 4

MM-1: The following measures shall be incorporated into the project on-site construction operations:

- Noise-generating construction activities within the Plan area shall occur pursuant to the hours and days outlined in Municipal Code Section 6.68.080(d).
- All noise-producing project equipment and vehicles using internal-combustion engines shall be equipped with manufacturers-recommended mufflers and be maintained in good working condition.
- All mobile or fixed noise-producing equipment used on the project site that are regulated for noise output by a federal, state, or local agency shall comply with such regulations while in the course of project activity.
- Electrically powered equipment shall be used instead of pneumatic or internal-combustion-powered equipment, where feasible.
- Material stockpiles and mobile equipment staging, parking, and maintenance areas shall be located as far as practicable from noise-sensitive uses.
- Project area and site access road speed limits shall be established and enforced during the construction period.
- Nearby residences shall be notified of construction schedules so that arrangements can be made, if desired, to limit their exposure to short-term increases in ambient noise levels.
- In the event that unusual circumstances or emergencies prevent certain project construction activities from complying with the Municipal Code Section 6.68.090(e) then a noise control plan shall be developed to ensure that sufficient mitigation is implemented during project construction to ensure adverse noise impacts are avoided.

Significance of Impact 4 after Mitigation: ***Less Than Significant***

Impact 5: On-Site Construction Vibration at Existing Sensitive Uses

As noted in Impact 4, during project construction, heavy equipment would be used for grading, excavation, paving, and building construction, which would generate localized vibration in the immediate vicinity of the construction. The nearest identified existing structures (newer engineered residences which are not highly susceptible to damage by vibration) are located approximately 50 feet from where construction activities would occur within the Project area.

Table 10 includes the range of vibration levels for equipment commonly used in general construction projects at a distance of 25 feet. The Table 10 data also include predicted equipment vibration levels at a distance of 50 feet from proposed construction activities.

Table 10
Vibration Source Levels for Construction Equipment

Equipment	Maximum Vibration Velocity Level at 25 feet		Predicted Maximum Vibration Velocity Level at 50 feet	
	VdB (rms)	PPV (Inches / Second)	VdB (rms)	PPV (Inches / Second)
Vibratory Roller	94	0.21	84	0.07
Hoe Ram	87	0.09	77	0.03
Large bulldozer	87	0.09	77	0.03
Loaded trucks	86	0.08	76	0.03
Jackhammer	79	0.04	69	0.01
Small bulldozer	58	0.01	48	<0.01
Source: 2018 FTA Transit Noise and Vibration Impact Assessment Manual and BAC calculations				

As shown in Table 10, vibration levels generated from on-site construction activities are predicted to be below thresholds for damage to engineered residential structures (98 VdB and 0.5 ips, PPV) at a distance of 50 feet from those activities. However, while construction-related vibration levels are generally predicted to be below levels considered to be annoying (75 VdB) at the nearest residences, some construction activities could result in short-term periods of annoyance by exceeding the 75 VdB threshold. As a result, ***this impact is considered to be potentially significant.***

Mitigation for Impact 5

MM-2: Refrain from utilizing vibratory rollers within 100 feet of existing residences and hoe rams and large bulldozers within 75 feet of existing residences.

Significance of Impact 6 after Mitigation: ***Less than Significant***

Noise Impacts Upon Proposed Sensitive Uses within the Project

The California Supreme Court issued an opinion in *California Building Industry Association v. Bay Area Air Quality Management District (2015)* holding that CEQA is primarily concerned with the impacts of a project *on* the environment and generally does not require agencies to analyze the impact of existing or future conditions on a project's future users or residents. Nevertheless, the Sacramento 2035 General Plan contains policies that address acceptable noise exposure at future sensitive uses developed within the City. As a result, noise and vibration impacts upon the project are evaluated for General Plan consistency in the following section.

On-Site Noise Impacts from Traffic

Impact 6: Future Exterior Traffic Noise Levels at Proposed Sensitive Uses

The project proposes development of residential uses of varying densities. While the interior spaces of residential uses share the same noise-sensitivity regardless of density, the noise-sensitivity of exterior areas varies according to the type of proposed residential use. For example, in single-family residential developments, the noise-sensitive exterior spaces where the City's exterior noise standards are applied are commonly considered to be backyards. Within higher density residential developments, such as apartments, the City's exterior noise standards are applied at common outdoor usage areas such as pool or park spaces rather than individual patios or balconies. Furthermore, the "normally acceptable" DNL also varies depending on land use type (Table 5).

The FHWA Model was used with *Existing + City + Project* scenario traffic data, described previously in the report in section *Noise Impacts from Project Increases in Off-Site Traffic*, to predict distances to future traffic noise at nearest proposed noise-sensitive receptors. To evaluate future traffic conditions for comparison against the Table 5 standards, this analysis assumed a doubling of traffic over time, which would result in a 3 dB DNL increase relative to existing traffic volumes.

Detailed FHWA Model inputs for the internal roadways and existing roadways that would affect project development are provided in Appendix E. Cross-sections of future roadways proposed within the Project area were used to determine the distances from the roadway centerlines to the nearest proposed outdoor activity areas along each roadway segment. Table 11 shows the predicted future traffic noise exposure at the nearest proposed residential locations along each roadway segment and a comparison of those predicted levels against the applicable General Plan exterior noise standards (Table 5).

Table 11
Predicted Future Traffic Noise Levels along Roadways Affecting Development within the Project Area

No	Roadway	From	To	Dist. To Nearest Noise-Sensitive Receptor [ft][1]	Future Traffic DNL[2]	Noise Standards, DNL	Standard Exceeded?[3]
1	Cosumnes River Blvd	Delta Shores Cir (E)	Railroad	80	75	60-65	Yes
2	24th Street	A Street	Cosumnes River Blvd	60	64	60	Yes
3	A Street	24th Street	West park boundary	50	63	60	Yes
4	A Street	West park boundary	B Street	50	61	70	No
5	A Street	B Street	C Street	50	65	65	No
6	B Street	A Street	Cosumnes River Blvd	50	61	60-70	Yes
7	C Street	D Street	E Street	55	65	65	No
8	C Street	E Street	Cosumnes River Blvd	55	69	65	Yes
9	D Street	East of C Street	N/A	50	63	60-65	Yes
10	E Street	East of C Street	N/A	50	66	65	Yes

Notes

1. The distance from the roadway segment centerline to the nearest potential location for an outdoor activity area based on preliminary site plans.
2. The Day/Night Average Level (DNL) computed at the distance cited in the "Distance" column.
3. If the predicted DNL at the nearest potential outdoor activity areas exceeds the City's exterior noise level standards as defined in Table 5, then this column is flagged as "Yes".

Source: FHWA-RD-77-108 with inputs from project traffic impact study. Appendix E contains FHWA Model inputs.

As indicated in Table 11, predicted future traffic noise level exposure is predicted to exceed the noise standards applicable to the various land uses along six (6) roadway segments. Although the conceptual project site plans contain the general locations of the proposed single-family residential uses, the specific locations of the individual residences and outdoor activity areas had not been specified at the time of this writing. This is also true of the designs for the medium-density and high-density residential uses proposed within the project development. Because residential outdoor activity areas could be located in areas where future traffic noise exposure is predicted to exceed the applicable exterior noise standards shown in Table 5, ***this impact is identified as being potentially significant.***

Mitigation for Impact 6

To satisfy the City of Sacramento General Plan exterior noise level standards at the outdoor activity areas of future residential uses proposed within the project area, the following noise mitigation measures should be considered either singularly or in combination during project design, depending on the level of sound attenuation required. At proposed residential locations adjacent to Consumnes River Boulevard, it is probable that a combination of the following measures would be required:

MM-3: Residential outdoor activity areas shall be located beyond the applicable 60 DNL contours for single-family residences and beyond the 65 DNL contour for common outdoor activity areas of multi-family residences.

OR

MM-4: Residential outdoor activity areas proposed within the 65 dBA DNL noise contour distances shown in Table 15 shall be screened from view of the roadway by intervening structures or sound barriers. If sound barriers are proposed, project-specific grading plans shall be reviewed to determine the location and heights of barriers necessary to achieve compliance with the City's noise standards. With the exception of single-family residences proposed adjacent to Consumnes River Boulevard, noise barriers along other roadways would not need to exceed 6 feet in height to provide the required traffic noise attenuation.

If noise barriers are to be constructed within the Project area, the traffic noise barriers shall take the form of a masonry wall, earthen berm, or combination of the two, or, if reviewed and approved by an acoustical consultant as providing comparable performance prior to construction, other materials may be acceptable (i.e., wood or wood composite fence with overlapping slat construction).

OR

MM-5: Single-family residences shall be oriented such that the front of the residence faces the roadway segment where levels exceeding the applicable noise standard would occur, thereby using the residence to shield the backyard from the roadway and creating a larger setback between the roadway centerline and backyard outdoor activity area.

Significance of Impact 6 after Mitigation: ***Less than Significant***

Impact 7: Future Interior Traffic Noise Levels at Proposed Sensitive Uses

Based upon years of experience and testing conducted by BAC, standard building construction (stucco siding, STC-27 windows, door weather-stripping, exterior wall insulation, composition plywood roof), typically results in an exterior to interior noise reduction of at least 25 dBA with windows closed and approximately 15 dB with windows open. Therefore, provided predicted future traffic noise exposure at residential building facades does not exceed 70 dBA DNL, standard construction would be adequate to reduce interior noise levels to a state of compliance with the City's 45 dBA DNL interior noise level standard.

As indicated in Table 11, with the exception of residences constructed adjacent to Consumnes River Boulevard, future traffic noise levels are not predicted to exceed 70 dBA DNL at any residential areas within the project site. Therefore, construction upgrades would not be required at those residential areas where future traffic noise exposure is not predicted to exceed 70 DNL. At residential uses proposed adjacent to Consumnes River Boulevard, it is probable that future traffic noise exposure would exceed the County's 45 dBA DNL interior noise level standard without mitigation, particularly at upper floor locations which would not likely be shielded from view of roadways by sound walls (where required). As a result, this impact is identified as being **potentially significant**.

Mitigation Impact 7:

MM-6: At locations where residential building facades are proposed in future noise environments exceeding 70 dBA DNL, project plans shall be reviewed by a qualified acoustical consultant to ensure that appropriate construction upgrades (typically higher-rated STC values for windows) are specified to ensure compliance with the County's interior noise standard.

Significance of Impact 7 after Mitigation: ***Less than Significant***

Noise Impacts from Light Rail and Heavy Rail Operations

Impact 8: Noise Generated by UPRR Operations

Noise monitoring site LT-1 was located 130 feet from the UPRR tracks at the position indicated on Figure 1. The highest measured DNL at that the 10-foot high monitoring location at LT-1 was 66 DNL. The nearest proposed residential uses to the UPRR tracks consist of the low-density residential uses in the northeast area of the project site and the high-density residential uses in the southeast area of the project site. These proposed residential uses are approximately 500 feet from the UPRR tracks. At that distance, the computed DNL for UPRR operations compute to 56 DNL at the exterior areas of the proposed residential uses and 31 DNL at the interior areas of the proposed residential uses. These levels would be satisfactory relative to the City of Sacramento 60/65 DNL exterior standards for single-family and multi-family residential uses, as well as the 45 dB DNL interior noise standard for all residential uses. ***As a result, this impact is considered less than significant.***

Impact 9: Noise Generated by Regional Transit Light Rail Operations

The project proposes both low-density and high-density residential uses in close proximity to the RT Light Rail tracks and the Morrison Creek station. Operational information obtained from the Regional Transit website (http://www.sacrt.com/schedules/) were used to identify the number of daily Light Rail train passbys of the project site during both daytime and nighttime periods. BAC utilized single-event noise level data for RT Light Rail passbys collected at monitoring site ST-1 (See Figure 1) with the operational data to compute DNL and SEL values at the nearest proposed residences within the Stone-Beetland project to the RT Light Rail tracks. Table 12 contains the predicted RT Light Rail noise levels at the project site.

Table 12
Predicted Future Light Rail Noise Levels at Nearest Proposed Residences[1]
Stone-Beetland Project – Sacramento, California

Proposed Residential Location	Distance from Center of Light Rail Tracks[2]	Computed DNL	Computed SEL
Northern Low Density Residential	135	54	77
Central High Density Residential	285	49	73
Southern High Density Residential	60	59	83

Notes:
[1] Predicted future Light Rail noise levels based on information obtained from the current SacRT Blue Line train schedule, and a reference SEL of 80 dB at a distance of 90 feet.
[2] Distances measured from indicated location to the center of the Light Rail tracks.
Source: Bollard Acoustical Consultants, Inc. (2022)

As shown in Table 12, noise levels from SacRT Light Rail operations are predicted to comply with the City of Sacramento exterior standards of 60 dB DNL at the low density residential area nearest to the RT tracks and 65 dB DNL at the high density residential areas nearest to the RT tracks. As a result, no adverse noise impacts are identified relative to the City of Sacramento General Plan DNL standards. After accounting for the minimum 25 dB of noise attenuation provided by the building facades of the proposed residential uses, interior DNL noise levels would range from 24 to 34 dB, which are well within compliance of the City's 45 dB DNL interior noise standard applicable to new residential uses.

Table 12 also indicates that computed Sound Exposure Levels (SEL) at the exterior building facades of the nearest proposed residences to the RT tracks would range from 73 to 83 dB, depending on proximity to the tracks. After accounting for the minimum 25 dB of noise attenuation provided by the building facades of the proposed residential uses interior SEL noise levels would range from 48 to 58 dB. Because this range of levels is below the 65 dB SEL criteria for the onset of sleep disturbance, no adverse noise impacts are identified relative to single-event noise.

Because Regional Transit Light Rail operations are predicted to satisfy the City's General Plan exterior and interior noise standards at the nearest residences proposed to the RT tracks, and because single-event noise levels within those residences would be below the criteria for sleep disturbance, ***this impact is identified as less than significant.***

Vibration Impacts from Light Rail and Heavy Rail Operations

Impact 10: Vibration Generated by UPRR Operations

The nearest proposed residential uses within the Stone-Beetland development are located approximately 500 feet from the existing UPRR tracks to the east. Railroad vibration levels are typically below thresholds for damage to structures and annoyance at a distance of 100 feet from the tracks. At a distance of 500 feet from the tracks, railroad vibration levels would be in excess of 20 VdB below levels expected at 100 feet, which would result in vibration levels well below thresholds required for damage to structures or annoyance. Therefore, ***this impact is identified as less than significant.***

Impact 11: Vibration Generated by Light Rail Operations

To quantify Light Rail vibration levels from potential future operations adjacent to the project site, BAC utilized vibration data collected at short-term vibration monitoring site V-1. The vibration measurement site was located approximately 90 feet from the center of the Light Rail tracks. A Larson-Davis Laboratories Model LxT precision integrating sound level meter equipped with a vibration transducer was used to complete the measurements. The measured typical vibration level associated with light rail train passbys was 66 VdB at the measurement site. At the nearest proposed residences to the tracks (HDR in southeastern area of site – 60 feet from tracks), the computed vibration level computes to 71 VdB.

Based on the current SacRT Blue Line route schedule, an average of 135 trains will pass the project site during a typical weekday. Based on this level of activity, the corresponding FTA numerical standard of 72 VdB for "frequent events" (>70 events per day) affecting residences and buildings where people normally sleep (Category 2) would be applicable to this project. The predicted Light Rail train passby vibration levels would therefore be satisfactory relative to the applicable 72 VdB FTA vibration standard and this impact is identified ***as less than significant.***

Noise Impacts from Proposed Commercial / Mixed Use Activities at Proposed Sensitive Uses

Impact 12: Commercial Mixed-Use Noise at Proposed Sensitive Uses

Based on the experience and data collected by BAC on various commercial uses, typical noise sources which can be expected consist of parking lot movements, truck deliveries, fast-food drive-throughs, and mechanical heating, ventilating and air-conditioning equipment (HVAC).

Specific plans for the commercial uses which would be located within the Commercial Mixed-Use (CMU) portion of the project area have yet to be developed. Furthermore, the specific commercial tenants and types of noise generation associated with those tenants are similarly unknown at the

time of this writing. As a result, a detailed prediction of the noise generation of the future commercial uses and the effects of that noise generation on residences constructed within the CMU area and residences proposed adjacent to the CMU area cannot be completed at this time. However, given the potential noise generation of such commercial activities, the possibility exists for exceedance of the applicable Sacramento City Code noise standards at future residential uses constructed within the Stone-Beetland development. Therefore, ***this impact is identified as being potentially significant.***

Mitigation for Impact 12:

To ensure that the applicable Sacramento City Code exterior and interior daytime and nighttime noise level standards are satisfied at noise-sensitive uses proposed within this development, the following noise mitigation measure should be implemented:

MM-7: A site specific noise impact study that addresses Commercial Mixed-Use activities shall be completed by a qualified noise consultant once site-specific development plans are completed. The noise impact study shall include an analysis of Commercial Mixed-Use parking, truck delivery, drive-through lane (if applicable), and HVAC noise exposure at the nearest proposed noise-sensitive uses (residential). The analysis shall include associated mitigation measures (as appropriate) to reduce commercial noise levels to a state of compliance with applicable Sacramento City Code exterior and interior noise level limits at nearby proposed sensitive receptors. Such measures could include, but are not limited to, increasing setbacks between sensitive uses and parking areas, construction of noise barriers where appropriate, and incorporation of upgraded residential building construction.

Significance of Impact 12 after Mitigation: ***Less than Significant***

Appendix A
Acoustical Terminology

Acoustics The science of sound.

Ambient Noise The distinctive acoustical characteristics of a given space consisting of all noise sources audible at that location. In many cases, the term ambient is used to describe an existing or pre-project condition such as the setting in an environmental noise study.

Attenuation The reduction of an acoustic signal.

A-Weighting A frequency-response adjustment of a sound level meter that conditions the output signal to approximate human response.

Decibel or dB Fundamental unit of sound. A Bell is defined as the logarithm of the ratio of the sound pressure squared over the reference pressure squared. A Decibel is one-tenth of a Bell.

CNEL Community Noise Equivalent Level. Defined as the 24-hour average noise level with noise occurring during evening hours (7 - 10 p.m.) weighted by a factor of three and nighttime hours weighted by a factor of 10 prior to averaging.

Frequency The measure of the rapidity of alterations of a periodic signal, expressed in cycles per second or hertz.

IIC Impact Insulation Class (IIC): A single-number representation of a floor/ceiling partition's impact generated noise insulation performance. The field-measured version of this number is the FIIC.

L_{dn} Day/Night Average Sound Level. Similar to CNEL but with no evening weighting.

L_{eq} Equivalent or energy-averaged sound level.

L_{max} The highest root-mean-square (RMS) sound level measured over a given period of time.

Loudness A subjective term for the sensation of the magnitude of sound.

Masking The amount (or the process) by which the threshold of audibility is for one sound is raised by the presence of another (masking) sound.

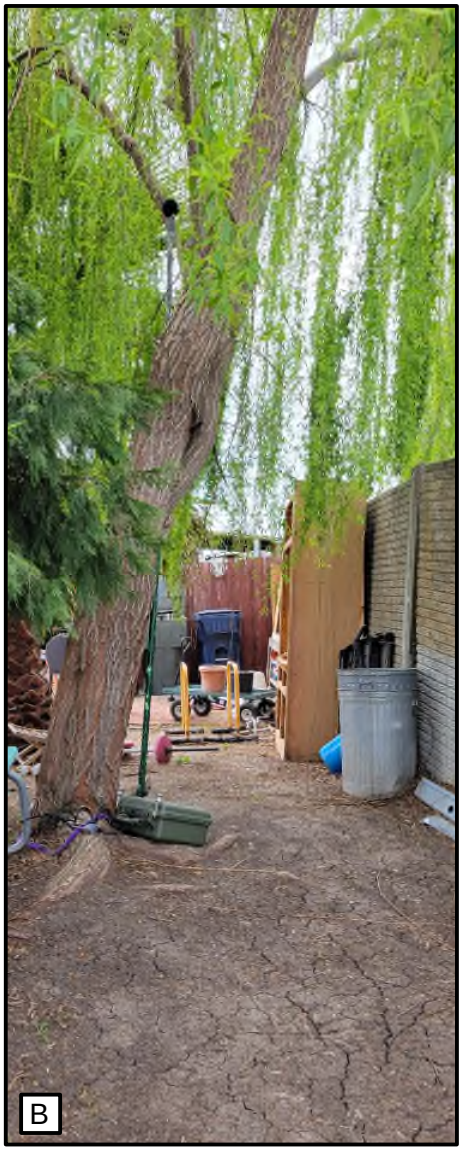
Noise Unwanted sound.

Peak Noise The level corresponding to the highest (not RMS) sound pressure measured over a given period of time. This term is often confused with the "Maximum" level, which is the highest RMS level.

RT_{60} The time it takes reverberant sound to decay by 60 dB once the source has been removed.

STC Sound Transmission Class (STC): A single-number representation of a partition's noise insulation performance. This number is based on laboratory-measured, 16-band (1/3-octave) transmission loss (TL) data of the subject partition. The field-measured version of this number is the FSTC.









Legend

- A Site LT-1: 5 Feet
- B Site LT-1: 10 Feet
- C Site LT-2
- D Site LT-3

Stone Beetland

Sacramento, California

Photographs of Long-term Noise Survey Locations

Appendix B-1

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Legend

- A Sites ST-1 & V-1
- B Sites ST-1 & V-1
- C Sites ST-2 & V-4
- D Sites ST-2 & V-4

Stone Beetland

Sacramento, California

Photographs of Short-term Noise & Vibration Survey Locations

Appendix B-2

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Legend

A Site V-2

B Site V-3

Stone Beetland

Sacramento, California

Photographs of Short-term Vibration Survey Locations

Appendix B-3

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Appendix C-1
Long-Term Ambient Noise Monitoring Results - Site LT-1: 10'
Stone Beetland - Sacramento, California
Monday, February 28, 2022

Hour	Leq	Lmax	L50	L90
12:00 AM				
1:00 AM				
2:00 AM				
3:00 AM				
4:00 AM				
5:00 AM				
6:00 AM				
7:00 AM				
8:00 AM				
9:00 AM				
10:00 AM				
11:00 AM				
12:00 PM				
1:00 PM				
2:00 PM				
3:00 PM	51	66	46	39
4:00 PM	50	69	45	40
5:00 PM	50	65	46	42
6:00 PM	51	68	47	44
7:00 PM	50	67	46	44
8:00 PM	47	69	45	43
9:00 PM	46	59	45	44
10:00 PM	46	58	45	43
11:00 PM	47	58	45	43

	Statistical Summary					
	Daytime (7 a.m. - 10 p.m.)			Nighttime (10 p.m. - 7 a.m.)		
	High	Low	Average	High	Low	Average
Leq (Average)	51	46	49	47	46	47
Lmax (Maximum)	69	59	66	58	58	58
L50 (Median)	47	45	46	45	45	45
L90 (Background)	44	39	42	43	43	43

Computed DNL, dB	54
% Daytime Energy	75%
% Nighttime Energy	25%

GPS Coordinates	38°28'6.55"N
	121°27'43.01"W

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Appendix C-2
Long-Term Ambient Noise Monitoring Results - Site LT-1: 10'
Stone Beetland - Sacramento, California
Tuesday, March 1, 2022

Hour	Leq	Lmax	L50	L90
12:00 AM	44	57	43	42
1:00 AM	42	59	41	39
2:00 AM	43	59	42	39
3:00 AM	63	84	44	42
4:00 AM				
5:00 AM				
6:00 AM				
7:00 AM	47	64	46	44
8:00 AM	45	62	45	43
9:00 AM	46	64	44	41
10:00 AM	46	65	44	42
11:00 AM	44	55	43	41
12:00 PM	63	85	44	42
1:00 PM	47	54	46	44
2:00 PM	49	62	49	47
3:00 PM	64	88	51	49
4:00 PM	53	65	53	51
5:00 PM	50	66	49	46
6:00 PM	51	68	48	44
7:00 PM	58	73	56	45
8:00 PM	55	68	52	43
9:00 PM	50	69	46	41
10:00 PM	63	83	57	48
11:00 PM	61	81	50	42

	Statistical Summary					
	Daytime (7 a.m. - 10 p.m.)			Nighttime (10 p.m. - 7 a.m.)		
	High	Low	Average	High	Low	Average
Leq (Average)	64	44	56	63	42	60
Lmax (Maximum)	88	54	67	84	57	71
L50 (Median)	56	43	48	57	41	46
L90 (Background)	51	41	44	48	39	42

Computed DNL, dB	66
% Daytime Energy	44%
% Nighttime Energy	56%

GPS Coordinates	38°28'6.55"N
	121°27'43.01"W

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Appendix C-3
Long-Term Ambient Noise Monitoring Results - Site LT-1: 10'
Stone Beetland - Sacramento, California
Wednesday, March 2, 2022

Hour	Leq	Lmax	L50	L90
12:00 AM	52	71	47	43
1:00 AM	51	67	47	44
2:00 AM	48	61	47	44
3:00 AM	49	61	48	46
4:00 AM	49	63	47	45
5:00 AM	49	67	46	44
6:00 AM	49	65	46	44
7:00 AM	47	65	45	44
8:00 AM	48	65	45	43
9:00 AM	44	63	43	41
10:00 AM	43	54	43	40
11:00 AM	45	60	43	41
12:00 PM	44	59	44	42
1:00 PM	46	56	45	44
2:00 PM	48	67	47	45
3:00 PM	51	70	50	47
4:00 PM	53	65	52	51
5:00 PM	59	81	50	45
6:00 PM	49	67	45	40
7:00 PM	46	60	42	38
8:00 PM	48	68	43	39
9:00 PM	48	66	46	39
10:00 PM	49	69	46	43
11:00 PM	50	63	47	44

Statistical Summary						
	Daytime (7 a.m. - 10 p.m.)			Nighttime (10 p.m. - 7 a.m.)		
	High	Low	Average	High	Low	Average
Leq (Average)	59	43	50	52	48	50
Lmax (Maximum)	81	54	64	71	61	65
L50 (Median)	52	42	45	48	46	47
L90 (Background)	51	38	43	46	43	44

Computed DNL, dB	56
% Daytime Energy	66%
% Nighttime Energy	34%

GPS Coordinates	38°28'6.55"N
	121°27'43.01"W

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Appendix C-4
Long-Term Ambient Noise Monitoring Results - Site LT-1: 10'
Stone Beetland - Sacramento, California
Thursday, March 3, 2022

Hour	Leq	Lmax	L50	L90
12:00 AM	49	64	47	44
1:00 AM	49	71	45	43
2:00 AM	50	66	47	44
3:00 AM	48	63	45	43
4:00 AM	47	60	45	43
5:00 AM	65	86	46	44
6:00 AM	46	62	45	44
7:00 AM	48	67	44	41
8:00 AM	63	83	44	42
9:00 AM	42	54	41	39
10:00 AM	41	53	40	39
11:00 AM	42	58	41	40
12:00 PM	41	50	41	39
1:00 PM	44	56	43	41
2:00 PM	64	84	46	45
3:00 PM	50	64	48	46
4:00 PM	51	67	49	48
5:00 PM	64	85	50	48
6:00 PM				
7:00 PM				
8:00 PM				
9:00 PM				
10:00 PM				
11:00 PM				

	Statistical Summary					
	Daytime (7 a.m. - 10 p.m.)			Nighttime (10 p.m. - 7 a.m.)		
	High	Low	Average	High	Low	Average
Leq (Average)	64	41	58	65	46	57
Lmax (Maximum)	85	50	66	86	60	67
L50 (Median)	50	40	44	47	45	46
L90 (Background)	48	39	42	44	43	44

Computed DNL, dB	63
% Daytime Energy	71%
% Nighttime Energy	29%

GPS Coordinates	38°28'6.55"N
	121°27'43.01"W

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Appendix C-5
Long-Term Ambient Noise Monitoring Results - Site LT-1: 5'
Stone Beetland - Sacramento, California
Monday, February 28, 2022

Hour	Leq	Lmax	L50	L90
12:00 AM				
1:00 AM				
2:00 AM				
3:00 AM				
4:00 AM				
5:00 AM				
6:00 AM				
7:00 AM				
8:00 AM				
9:00 AM				
10:00 AM				
11:00 AM				
12:00 PM				
1:00 PM				
2:00 PM				
3:00 PM	49	67	43	35
4:00 PM	48	70	42	36
5:00 PM	47	62	43	39
6:00 PM	48	63	44	41
7:00 PM	46	61	44	42
8:00 PM	44	62	43	41
9:00 PM	44	58	43	42
10:00 PM	44	53	43	42
11:00 PM	45	60	44	42

	Statistical Summary					
	Daytime (7 a.m. - 10 p.m.)			Nighttime (10 p.m. - 7 a.m.)		
	High	Low	Average	High	Low	Average
Leq (Average)	49	44	47	45	44	44
Lmax (Maximum)	70	58	63	60	53	57
L50 (Median)	44	42	43	44	43	43
L90 (Background)	42	35	39	42	42	42

Computed DNL, dB	51
% Daytime Energy	76%
% Nighttime Energy	24%

GPS Coordinates	38°28'6.55"N
	121°27'43.01"W

BOLLARD
Acoustical Consultants

Appendix C-6
Long-Term Ambient Noise Monitoring Results - Site LT-1: 5'
Stone Beetland - Sacramento, California
Tuesday, March 1, 2022

Hour	Leq	Lmax	L50	L90
12:00 AM	42	55	41	40
1:00 AM	40	52	39	37
2:00 AM	41	57	40	37
3:00 AM	56	76	42	41
4:00 AM	43	51	43	42
5:00 AM	46	56	46	44
6:00 AM	49	71	47	45
7:00 AM	56	75	47	46
8:00 AM	46	67	45	43
9:00 AM	68	88	44	37
10:00 AM	43	67	39	36
11:00 AM	45	68	38	35
12:00 PM	54	78	38	34
1:00 PM	45	64	39	33
2:00 PM	45	63	41	35
3:00 PM	57	79	41	33
4:00 PM	47	65	42	35
5:00 PM	47	61	42	38
6:00 PM	46	62	43	40
7:00 PM	57	78	45	42
8:00 PM	44	59	43	41
9:00 PM	46	66	45	43
10:00 PM	45	59	44	43
11:00 PM	44	54	44	43

	Statistical Summary					
	Daytime (7 a.m. - 10 p.m.)			Nighttime (10 p.m. - 7 a.m.)		
	High	Low	Average	High	Low	Average
Leq (Average)	68	43	58	56	40	48
Lmax (Maximum)	88	59	69	76	51	59
L50 (Median)	47	38	42	47	39	43
L90 (Background)	46	33	38	45	37	41

Computed DNL, dB	58
% Daytime Energy	93%
% Nighttime Energy	7%

GPS Coordinates	38°28'6.55"N
	121°27'43.01"W

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Appendix C-7
Long-Term Ambient Noise Monitoring Results - Site LT-1: 5'
Stone Beetland - Sacramento, California
Wednesday, March 2, 2022

Hour	Leq	Lmax	L50	L90
12:00 AM	45	57	44	42
1:00 AM	43	55	43	41
2:00 AM	43	49	43	42
3:00 AM	55	77	43	42
4:00 AM	45	51	44	43
5:00 AM	47	55	46	45
6:00 AM	50	73	49	47
7:00 AM	58	80	50	48
8:00 AM	48	67	45	41
9:00 AM	47	63	44	41
10:00 AM	55	68	53	42
11:00 AM	53	67	50	41
12:00 PM	47	73	42	36
1:00 PM	58	77	54	45
2:00 PM	55	78	47	40
3:00 PM	50	68	44	39
4:00 PM	48	72	43	40
5:00 PM	44	60	43	39
6:00 PM	46	59	44	42
7:00 PM	46	63	43	41
8:00 PM	45	61	43	42
9:00 PM	46	59	44	43
10:00 PM	45	61	44	43
11:00 PM	46	60	45	43

	Statistical Summary					
	Daytime (7 a.m. - 10 p.m.)			Nighttime (10 p.m. - 7 a.m.)		
	High	Low	Average	High	Low	Average
Leq (Average)	58	44	52	55	43	49
Lmax (Maximum)	80	59	68	77	49	60
L50 (Median)	54	42	46	49	43	45
L90 (Background)	48	36	41	47	41	43

Computed DNL, dB	56
% Daytime Energy	79%
% Nighttime Energy	21%

GPS Coordinates	38°28'6.55"N
	121°27'43.01"W

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Appendix C-8
Long-Term Ambient Noise Monitoring Results - Site LT-1: 5'
Stone Beetland - Sacramento, California
Thursday, March 3, 2022

Hour	Leq	Lmax	L50	L90
12:00 AM	45	62	43	42
1:00 AM	42	47	42	41
2:00 AM	41	59	41	40
3:00 AM	43	57	43	42
4:00 AM	45	60	44	43
5:00 AM	46	69	44	42
6:00 AM	49	72	47	45
7:00 AM	49	62	49	48
8:00 AM	54	78	46	41
9:00 AM	47	63	41	36
10:00 AM	43	59	39	34
11:00 AM	46	68	40	35
12:00 PM	46	58	45	36
1:00 PM	46	61	43	38
2:00 PM	46	63	44	41
3:00 PM	47	60	45	42
4:00 PM	47	68	44	41
5:00 PM	47	59	45	42
6:00 PM	47	60	43	40
7:00 PM	44	59	42	40
8:00 PM	58	78	44	43
9:00 PM	44	66	43	42
10:00 PM	44	60	43	41
11:00 PM	56	75	42	40

	Statistical Summary					
	Daytime (7 a.m. - 10 p.m.)			Nighttime (10 p.m. - 7 a.m.)		
	High	Low	Average	High	Low	Average
Leq (Average)	58	43	50	56	41	49
Lmax (Maximum)	78	58	64	75	47	62
L50 (Median)	49	39	43	47	41	43
L90 (Background)	48	34	40	45	40	42

Computed DNL, dB	55
% Daytime Energy	67%
% Nighttime Energy	33%

GPS Coordinates	38°28'6.55"N
	121°27'43.01"W

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Appendix C-9
Long-Term Ambient Noise Monitoring Results - Site LT-1: 5'
Stone Beetland - Sacramento, California
Friday, March 4, 2022

Hour	Leq	Lmax	L50	L90
12:00 AM	41	49	41	40
1:00 AM	40	49	39	39
2:00 AM	41	50	40	39
3:00 AM	41	52	40	39
4:00 AM	41	50	40	39
5:00 AM	57	77	44	42
6:00 AM	47	59	46	44
7:00 AM	49	66	47	46
8:00 AM	58	80	46	45
9:00 AM	52	65	47	44
10:00 AM				
11:00 AM				
12:00 PM				
1:00 PM				
2:00 PM				
3:00 PM				
4:00 PM				
5:00 PM				
6:00 PM				
7:00 PM				
8:00 PM				
9:00 PM				
10:00 PM				
11:00 PM				

	Statistical Summary					
	Daytime (7 a.m. - 10 p.m.)			Nighttime (10 p.m. - 7 a.m.)		
	High	Low	Average	High	Low	Average
Leq (Average)	58	49	55	57	40	50
Lmax (Maximum)	80	65	70	77	49	55
L50 (Median)	47	46	47	46	39	41
L90 (Background)	46	44	45	44	39	40

Computed DNL, dB	57
% Daytime Energy	84%
% Nighttime Energy	16%

GPS Coordinates	38°28'6.55"N
	121°27'43.01"W

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Appendix C-10
Long-Term Ambient Noise Monitoring Results - Site LT-2
Stone Beetland - Sacramento, California
Monday, February 28, 2022

Hour	Leq	Lmax	L50	L90
12:00 AM				
1:00 AM				
2:00 AM				
3:00 AM				
4:00 AM				
5:00 AM				
6:00 AM				
7:00 AM				
8:00 AM				
9:00 AM				
10:00 AM				
11:00 AM				
12:00 PM				
1:00 PM	48	67	44	39
2:00 PM	47	61	46	41
3:00 PM	50	67	47	42
4:00 PM	53	68	51	47
5:00 PM	53	67	51	47
6:00 PM	54	80	49	46
7:00 PM	51	66	48	46
8:00 PM	49	64	47	45
9:00 PM	48	65	46	44
10:00 PM	47	65	45	42
11:00 PM	48	66	45	42

	Statistical Summary					
	Daytime (7 a.m. - 10 p.m.)			Nighttime (10 p.m. - 7 a.m.)		
	High	Low	Average	High	Low	Average
Leq (Average)	54	47	51	48	47	48
Lmax (Maximum)	80	61	67	66	65	66
L50 (Median)	51	44	48	45	45	45
L90 (Background)	47	39	44	42	42	42

Computed DNL, dB	55
% Daytime Energy	77%
% Nighttime Energy	23%

GPS Coordinates	38°27'50.81"N
	121°27'49.35"W

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Appendix C-11
Long-Term Ambient Noise Monitoring Results - Site LT-2
Stone Beetland - Sacramento, California
Tuesday, March 1, 2022

Hour	Leq	Lmax	L50	L90
12:00 AM	44	61	44	41
1:00 AM	44	62	42	39
2:00 AM	43	54	43	39
3:00 AM	53	75	45	43
4:00 AM	48	68	45	43
5:00 AM	51	69	49	47
6:00 AM	52	72	49	47
7:00 AM	57	73	51	50
8:00 AM	53	67	51	49
9:00 AM	53	68	48	45
10:00 AM	50	66	48	44
11:00 AM	50	65	47	44
12:00 PM	50	71	46	43
1:00 PM	49	67	45	41
2:00 PM	49	66	46	42
3:00 PM	53	70	47	43
4:00 PM	52	67	50	46
5:00 PM	54	68	51	48
6:00 PM	52	68	51	47
7:00 PM	53	73	50	47
8:00 PM	50	66	47	44
9:00 PM	52	75	49	46
10:00 PM	51	66	49	46
11:00 PM	48	63	47	45

	Statistical Summary					
	Daytime (7 a.m. - 10 p.m.)			Nighttime (10 p.m. - 7 a.m.)		
	High	Low	Average	High	Low	Average
Leq (Average)	57	49	52	53	43	50
Lmax (Maximum)	75	65	69	75	54	66
L50 (Median)	51	45	49	49	42	46
L90 (Background)	50	41	45	47	39	43

Computed DNL, dB	57
% Daytime Energy	76%
% Nighttime Energy	24%

GPS Coordinates	38°27'50.81"N
	121°27'49.35"W

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Appendix C-12
Long-Term Ambient Noise Monitoring Results - Site LT-2
Stone Beetland - Sacramento, California
Wednesday, March 2, 2022

Hour	Leq	Lmax	L50	L90
12:00 AM	46	62	44	42
1:00 AM	46	63	45	42
2:00 AM	47	61	46	44
3:00 AM	51	71	46	44
4:00 AM	49	65	48	46
5:00 AM	52	70	49	47
6:00 AM	53	66	52	49
7:00 AM	55	70	53	52
8:00 AM	53	65	50	46
9:00 AM	52	67	48	45
10:00 AM	53	73	48	44
11:00 AM	50	68	45	41
12:00 PM	50	67	47	44
1:00 PM	52	67	50	46
2:00 PM	52	76	48	44
3:00 PM	54	70	51	47
4:00 PM	55	69	54	50
5:00 PM	54	66	52	48
6:00 PM	54	69	52	49
7:00 PM	52	69	50	48
8:00 PM	52	65	50	48
9:00 PM	52	71	49	46
10:00 PM	51	69	49	46
11:00 PM	50	66	48	45

	Statistical Summary					
	Daytime (7 a.m. - 10 p.m.)			Nighttime (10 p.m. - 7 a.m.)		
	High	Low	Average	High	Low	Average
Leq (Average)	55	50	53	53	46	50
Lmax (Maximum)	76	65	69	71	61	66
L50 (Median)	54	45	50	52	44	47
L90 (Background)	52	41	46	49	42	45

Computed DNL, dB	57
% Daytime Energy	76%
% Nighttime Energy	24%

GPS Coordinates	38°27'50.81"N
	121°27'49.35"W

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Appendix C-13
Long-Term Ambient Noise Monitoring Results - Site LT-2
Stone Beetland - Sacramento, California
Thursday, March 3, 2022

Hour	Leq	Lmax	L50	L90
12:00 AM	46	61	44	42
1:00 AM	45	53	45	43
2:00 AM	46	58	45	43
3:00 AM	47	61	45	43
4:00 AM	50	70	47	45
5:00 AM	52	65	50	47
6:00 AM	54	68	52	50
7:00 AM	55	67	54	53
8:00 AM	57	76	52	47
9:00 AM	53	75	49	46
10:00 AM	51	72	45	40
11:00 AM	47	67	42	38
12:00 PM	47	68	42	39
1:00 PM	50	65	48	43
2:00 PM	50	62	49	45
3:00 PM	51	63	50	47
4:00 PM	52	65	51	47
5:00 PM	54	70	52	48
6:00 PM	51	71	49	46
7:00 PM	51	67	49	45
8:00 PM	51	75	49	45
9:00 PM	49	67	47	44
10:00 PM	49	66	47	44
11:00 PM	51	65	45	42

	Statistical Summary					
	Daytime (7 a.m. - 10 p.m.)			Nighttime (10 p.m. - 7 a.m.)		
	High	Low	Average	High	Low	Average
Leq (Average)	57	47	52	54	45	50
Lmax (Maximum)	76	62	69	70	53	63
L50 (Median)	54	42	48	52	44	47
L90 (Background)	53	38	45	50	42	44

Computed DNL, dB	57
% Daytime Energy	74%
% Nighttime Energy	26%

GPS Coordinates	38°27'50.81"N
	121°27'49.35"W

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Appendix C-14
Long-Term Ambient Noise Monitoring Results - Site LT-2
Stone Beetland - Sacramento, California
Friday, March 4, 2022

Hour	Leq	Lmax	L50	L90
12:00 AM	46	59	43	39
1:00 AM	46	72	42	38
2:00 AM	45	61	43	39
3:00 AM	43	56	41	38
4:00 AM	49	64	45	41
5:00 AM	55	69	52	47
6:00 AM	56	66	56	52
7:00 AM	58	76	56	53
8:00 AM	58	81	55	52
9:00 AM	55	72	52	49
10:00 AM				
11:00 AM				
12:00 PM				
1:00 PM				
2:00 PM				
3:00 PM				
4:00 PM				
5:00 PM				
6:00 PM				
7:00 PM				
8:00 PM				
9:00 PM				
10:00 PM				
11:00 PM				

	Statistical Summary					
	Daytime (7 a.m. - 10 p.m.)			Nighttime (10 p.m. - 7 a.m.)		
	High	Low	Average	High	Low	Average
Leq (Average)	58	55	57	56	43	51
Lmax (Maximum)	81	72	76	72	56	64
L50 (Median)	56	52	55	56	41	46
L90 (Background)	53	49	51	52	38	42

Computed DNL, dB	59
% Daytime Energy	87%
% Nighttime Energy	13%

GPS Coordinates	38°27'50.81"N
	121°27'49.35"W

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Appendix C-15
Long-Term Ambient Noise Monitoring Results - Site LT-3
Stone Beetland - Sacramento, California
Monday, February 28, 2022

Hour	Leq	Lmax	L50	L90
12:00 AM				
1:00 AM				
2:00 AM				
3:00 AM				
4:00 AM				
5:00 AM				
6:00 AM				
7:00 AM				
8:00 AM				
9:00 AM				
10:00 AM				
11:00 AM				
12:00 PM				
1:00 PM	51	72	47	41
2:00 PM	51	74	47	40
3:00 PM	54	75	49	43
4:00 PM	55	72	54	48
5:00 PM	58	72	56	51
6:00 PM	61	86	57	52
7:00 PM	57	75	55	50
8:00 PM	57	78	54	49
9:00 PM	55	77	52	48
10:00 PM	54	76	50	45
11:00 PM	56	82	49	44

	Statistical Summary					
	Daytime (7 a.m. - 10 p.m.)			Nighttime (10 p.m. - 7 a.m.)		
	High	Low	Average	High	Low	Average
Leq (Average)	61	51	56	56	54	55
Lmax (Maximum)	86	72	76	82	76	79
L50 (Median)	57	47	52	50	49	50
L90 (Background)	52	40	47	45	44	45

Computed DNL, dB	61
% Daytime Energy	69%
% Nighttime Energy	31%

GPS Coordinates	38°27'52.90"N
	121°28'6.13"W

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Appendix C-16
Long-Term Ambient Noise Monitoring Results - Site LT-3
Stone Beetland - Sacramento, California
Tuesday, March 1, 2022

Hour	Leq	Lmax	L50	L90
12:00 AM	50	68	46	43
1:00 AM	48	64	43	38
2:00 AM	50	74	44	40
3:00 AM	52	72	47	42
4:00 AM	55	74	50	44
5:00 AM	59	86	54	49
6:00 AM	59	75	57	52
7:00 AM	61	84	59	54
8:00 AM	56	78	54	50
9:00 AM	54	75	51	45
10:00 AM	53	67	50	43
11:00 AM	52	69	50	43
12:00 PM	55	78	50	43
1:00 PM	52	73	49	42
2:00 PM	54	74	50	44
3:00 PM	54	69	52	46
4:00 PM	57	74	55	49
5:00 PM	58	73	56	52
6:00 PM	58	69	57	52
7:00 PM	58	73	56	52
8:00 PM	57	73	54	49
9:00 PM	59	84	56	50
10:00 PM	58	81	54	48
11:00 PM	52	65	49	44

	Statistical Summary					
	Daytime (7 a.m. - 10 p.m.)			Nighttime (10 p.m. - 7 a.m.)		
	High	Low	Average	High	Low	Average
Leq (Average)	61	52	57	59	48	55
Lmax (Maximum)	84	67	74	86	64	73
L50 (Median)	59	49	53	57	43	49
L90 (Background)	54	42	48	52	38	44

Computed DNL, dB	62
% Daytime Energy	69%
% Nighttime Energy	31%

GPS Coordinates	38°27'52.90"N
	121°28'6.13"W

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Appendix C-17
Long-Term Ambient Noise Monitoring Results - Site LT-3
Stone Beetland - Sacramento, California
Wednesday, March 2, 2022

Hour	Leq	Lmax	L50	L90
12:00 AM	54	79	46	41
1:00 AM	49	67	45	42
2:00 AM	48	67	46	43
3:00 AM	53	72	48	45
4:00 AM	54	71	50	46
5:00 AM	57	71	54	48
6:00 AM	58	71	57	52
7:00 AM	59	78	56	52
8:00 AM	57	81	53	47
9:00 AM	54	79	51	45
10:00 AM	52	69	48	41
11:00 AM	54	77	50	44
12:00 PM	53	75	51	44
1:00 PM	55	74	53	46
2:00 PM	55	77	52	46
3:00 PM	56	71	54	48
4:00 PM	58	75	57	51
5:00 PM	59	74	57	53
6:00 PM	58	71	57	53
7:00 PM	58	80	55	51
8:00 PM	56	80	54	49
9:00 PM	56	81	53	48
10:00 PM	54	70	51	46
11:00 PM	51	69	47	43

	Statistical Summary					
	Daytime (7 a.m. - 10 p.m.)			Nighttime (10 p.m. - 7 a.m.)		
	High	Low	Average	High	Low	Average
Leq (Average)	59	52	56	58	48	54
Lmax (Maximum)	81	69	76	79	67	71
L50 (Median)	57	48	53	57	45	49
L90 (Background)	53	41	48	52	41	45

Computed DNL, dB	61
% Daytime Energy	74%
% Nighttime Energy	26%

GPS Coordinates	38°27'52.90"N
	121°28'6.13"W

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Appendix C-18
Long-Term Ambient Noise Monitoring Results - Site LT-3
Stone Beetland - Sacramento, California
Thursday, March 3, 2022

Hour	Leq	Lmax	L50	L90
12:00 AM	49	64	46	42
1:00 AM	50	73	46	43
2:00 AM	52	76	45	42
3:00 AM	52	75	47	42
4:00 AM	54	75	49	44
5:00 AM	57	71	54	50
6:00 AM	66	87	57	52
7:00 AM	66	86	58	53
8:00 AM	70	91	55	48
9:00 AM	54	72	51	45
10:00 AM	51	70	47	40
11:00 AM	50	70	45	39
12:00 PM	50	73	45	40
1:00 PM	52	73	47	42
2:00 PM	52	71	49	43
3:00 PM	53	73	50	46
4:00 PM	68	89	52	47
5:00 PM	66	85	52	47
6:00 PM	54	75	50	46
7:00 PM	52	67	50	45
8:00 PM	51	71	49	45
9:00 PM	52	70	49	45
10:00 PM	53	78	50	45
11:00 PM	51	75	48	42

	Statistical Summary					
	Daytime (7 a.m. - 10 p.m.)			Nighttime (10 p.m. - 7 a.m.)		
	High	Low	Average	High	Low	Average
Leq (Average)	70	50	62	66	49	58
Lmax (Maximum)	91	67	76	87	64	75
L50 (Median)	58	45	50	57	45	49
L90 (Background)	53	39	45	52	42	44

Computed DNL, dB	65
% Daytime Energy	83%
% Nighttime Energy	17%

GPS Coordinates	38°27'52.90"N
	121°28'6.13"W

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Appendix C-19
Long-Term Ambient Noise Monitoring Results - Site LT-3
Stone Beetland - Sacramento, California
Friday, March 4, 2022

Hour	Leq	Lmax	L50	L90
12:00 AM	48	64	45	39
1:00 AM	48	72	43	37
2:00 AM	48	67	43	38
3:00 AM	45	72	41	37
4:00 AM	49	69	45	40
5:00 AM	56	81	52	46
6:00 AM	75	93	57	51
7:00 AM	72	93	58	53
8:00 AM	57	75	56	51
9:00 AM	57	84	53	48
10:00 AM				
11:00 AM				
12:00 PM				
1:00 PM				
2:00 PM				
3:00 PM				
4:00 PM				
5:00 PM				
6:00 PM				
7:00 PM				
8:00 PM				
9:00 PM				
10:00 PM				
11:00 PM				

Statistical Summary						
	Daytime (7 a.m. - 10 p.m.)			Nighttime (10 p.m. - 7 a.m.)		
	High	Low	Average	High	Low	Average
Leq (Average)	72	57	67	75	45	66
Lmax (Maximum)	93	75	84	93	64	74
L50 (Median)	58	53	56	57	41	47
L90 (Background)	53	48	51	51	37	41

Computed DNL, dB	73
% Daytime Energy	67%
% Nighttime Energy	33%

GPS Coordinates	38°27'52.90"N
	121°28'6.13"W

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Appendix C-20
Long-Term Ambient Noise Monitoring Results - Site LT-4
Stone Beetland - Sacramento, California
Monday, February 28, 2022

Hour	Leq	Lmax	L50	L90
12:00 AM				
1:00 AM				
2:00 AM				
3:00 AM				
4:00 AM				
5:00 AM				
6:00 AM				
7:00 AM				
8:00 AM				
9:00 AM				
10:00 AM				
11:00 AM				
12:00 PM				
1:00 PM				
2:00 PM	54	72	51	45
3:00 PM	56	76	53	47
4:00 PM	56	68	55	49
5:00 PM	58	74	57	51
6:00 PM	59	79	57	53
7:00 PM	58	83	56	52
8:00 PM	59	85	55	52
9:00 PM	55	67	53	51
10:00 PM	55	70	54	51
11:00 PM	55	73	52	49

	Statistical Summary					
	Daytime (7 a.m. - 10 p.m.)			Nighttime (10 p.m. - 7 a.m.)		
	High	Low	Average	High	Low	Average
Leq (Average)	59	54	57	55	55	55
Lmax (Maximum)	85	67	75	73	70	71
L50 (Median)	57	51	55	54	52	53
L90 (Background)	53	45	50	51	49	50

Computed DNL, dB	62
% Daytime Energy	74%
% Nighttime Energy	26%

GPS Coordinates	38°27'52.24"N
	121°28'47.34"W

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Appendix C-21
Long-Term Ambient Noise Monitoring Results - Site LT-4
Stone Beetland - Sacramento, California
Tuesday, March 1, 2022

Hour	Leq	Lmax	L50	L90
12:00 AM	52	66	49	45
1:00 AM	48	62	44	40
2:00 AM	50	63	48	44
3:00 AM	54	73	52	49
4:00 AM	55	73	53	50
5:00 AM	58	71	57	53
6:00 AM	60	76	58	55
7:00 AM	60	76	59	55
8:00 AM	56	66	55	51
9:00 AM	53	70	51	45
10:00 AM	53	71	50	43
11:00 AM	52	69	50	43
12:00 PM	53	75	50	44
1:00 PM	53	75	50	43
2:00 PM	54	74	50	44
3:00 PM	56	80	53	46
4:00 PM	58	78	55	48
5:00 PM	59	81	56	50
6:00 PM	57	67	57	52
7:00 PM	59	82	57	52
8:00 PM	57	76	55	50
9:00 PM	59	84	56	51
10:00 PM	57	75	55	52
11:00 PM	55	66	54	50

Statistical Summary						
	Daytime (7 a.m. - 10 p.m.)			Nighttime (10 p.m. - 7 a.m.)		
	High	Low	Average	High	Low	Average
Leq (Average)	60	52	57	60	48	56
Lmax (Maximum)	84	66	75	76	62	69
L50 (Median)	59	50	53	58	44	52
L90 (Background)	55	43	48	55	40	49

Computed DNL, dB	62
% Daytime Energy	67%
% Nighttime Energy	33%

GPS Coordinates	38°27'52.24"N
	121°28'47.34"W

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Appendix C-22
Long-Term Ambient Noise Monitoring Results - Site LT-4
Stone Beetland - Sacramento, California
Wednesday, March 2, 2022

Hour	Leq	Lmax	L50	L90
12:00 AM	55	78	53	49
1:00 AM	51	66	49	44
2:00 AM	51	71	48	45
3:00 AM	52	66	49	46
4:00 AM	54	67	52	48
5:00 AM	58	74	55	51
6:00 AM	58	68	57	52
7:00 AM	59	72	59	57
8:00 AM	56	74	53	47
9:00 AM	55	74	52	47
10:00 AM	53	72	50	43
11:00 AM	52	74	50	43
12:00 PM	54	79	51	43
1:00 PM	55	74	52	45
2:00 PM	54	71	51	44
3:00 PM	57	73	54	46
4:00 PM	59	74	57	50
5:00 PM	58	72	57	52
6:00 PM	58	74	57	52
7:00 PM	58	79	56	53
8:00 PM	56	71	55	52
9:00 PM	57	81	55	52
10:00 PM	56	73	55	52
11:00 PM	55	75	54	50

	Statistical Summary					
	Daytime (7 a.m. - 10 p.m.)			Nighttime (10 p.m. - 7 a.m.)		
	High	Low	Average	High	Low	Average
Leq (Average)	59	52	56	58	51	55
Lmax (Maximum)	81	71	74	78	66	71
L50 (Median)	59	50	54	57	48	52
L90 (Background)	57	43	48	52	44	49

Computed DNL, dB	62
% Daytime Energy	70%
% Nighttime Energy	30%

GPS Coordinates	38°27'52.24"N
	121°28'47.34"W

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Appendix C-23
Long-Term Ambient Noise Monitoring Results - Site LT-4
Stone Beetland - Sacramento, California
Thursday, March 3, 2022

Hour	Leq	Lmax	L50	L90
12:00 AM	52	66	51	48
1:00 AM	50	64	48	44
2:00 AM	50	67	46	43
3:00 AM	53	73	48	44
4:00 AM	54	69	52	46
5:00 AM	58	70	56	53
6:00 AM	59	69	58	54
7:00 AM	58	68	58	55
8:00 AM	56	74	54	49
9:00 AM	56	70	54	49
10:00 AM	54	75	50	44
11:00 AM	52	74	48	43
12:00 PM	52	68	50	45
1:00 PM	54	71	52	47
2:00 PM	56	69	54	48
3:00 PM	56	77	54	49
4:00 PM	56	71	55	49
5:00 PM	57	75	55	49
6:00 PM	55	77	54	49
7:00 PM	55	71	54	48
8:00 PM	54	74	53	49
9:00 PM	55	74	53	49
10:00 PM	55	78	52	49
11:00 PM	52	64	50	45

	Statistical Summary					
	Daytime (7 a.m. - 10 p.m.)			Nighttime (10 p.m. - 7 a.m.)		
	High	Low	Average	High	Low	Average
Leq (Average)	58	52	55	59	50	55
Lmax (Maximum)	77	68	73	78	64	69
L50 (Median)	58	48	53	58	46	51
L90 (Background)	55	43	48	54	43	47

Computed DNL, dB	61
% Daytime Energy	65%
% Nighttime Energy	35%

GPS Coordinates	38°27'52.24"N
	121°28'47.34"W

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Appendix C-24
Long-Term Ambient Noise Monitoring Results - Site LT-4
Stone Beetland - Sacramento, California
Friday, March 4, 2022

Hour	Leq	Lmax	L50	L90
12:00 AM	50	68	48	44
1:00 AM	49	68	47	43
2:00 AM	50	71	47	43
3:00 AM	49	63	47	43
4:00 AM	52	65	51	45
5:00 AM	58	72	57	52
6:00 AM	60	68	60	56
7:00 AM	62	72	61	57
8:00 AM	60	71	59	54
9:00 AM				
10:00 AM				
11:00 AM				
12:00 PM				
1:00 PM				
2:00 PM				
3:00 PM				
4:00 PM				
5:00 PM				
6:00 PM				
7:00 PM				
8:00 PM				
9:00 PM				
10:00 PM				
11:00 PM				

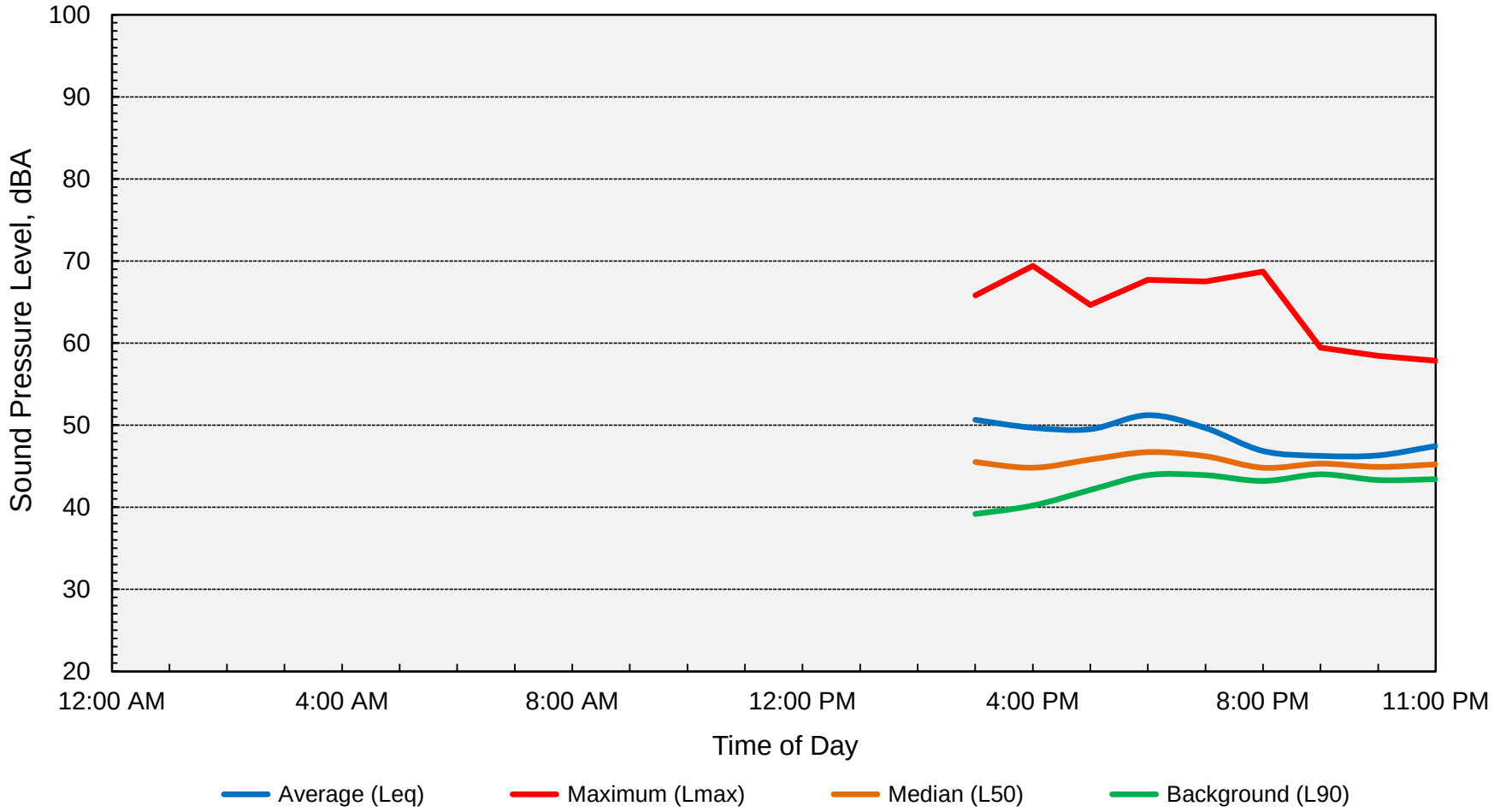
	Statistical Summary					
	Daytime (7 a.m. - 10 p.m.)			Nighttime (10 p.m. - 7 a.m.)		
	High	Low	Average	High	Low	Average
Leq (Average)	62	60	61	60	49	55
Lmax (Maximum)	72	71	72	72	63	68
L50 (Median)	61	59	60	60	47	51
L90 (Background)	57	54	55	56	43	47

Computed DNL, dB	63
% Daytime Energy	87%
% Nighttime Energy	13%

GPS Coordinates	38°27'52.24"N
	121°28'47.34"W

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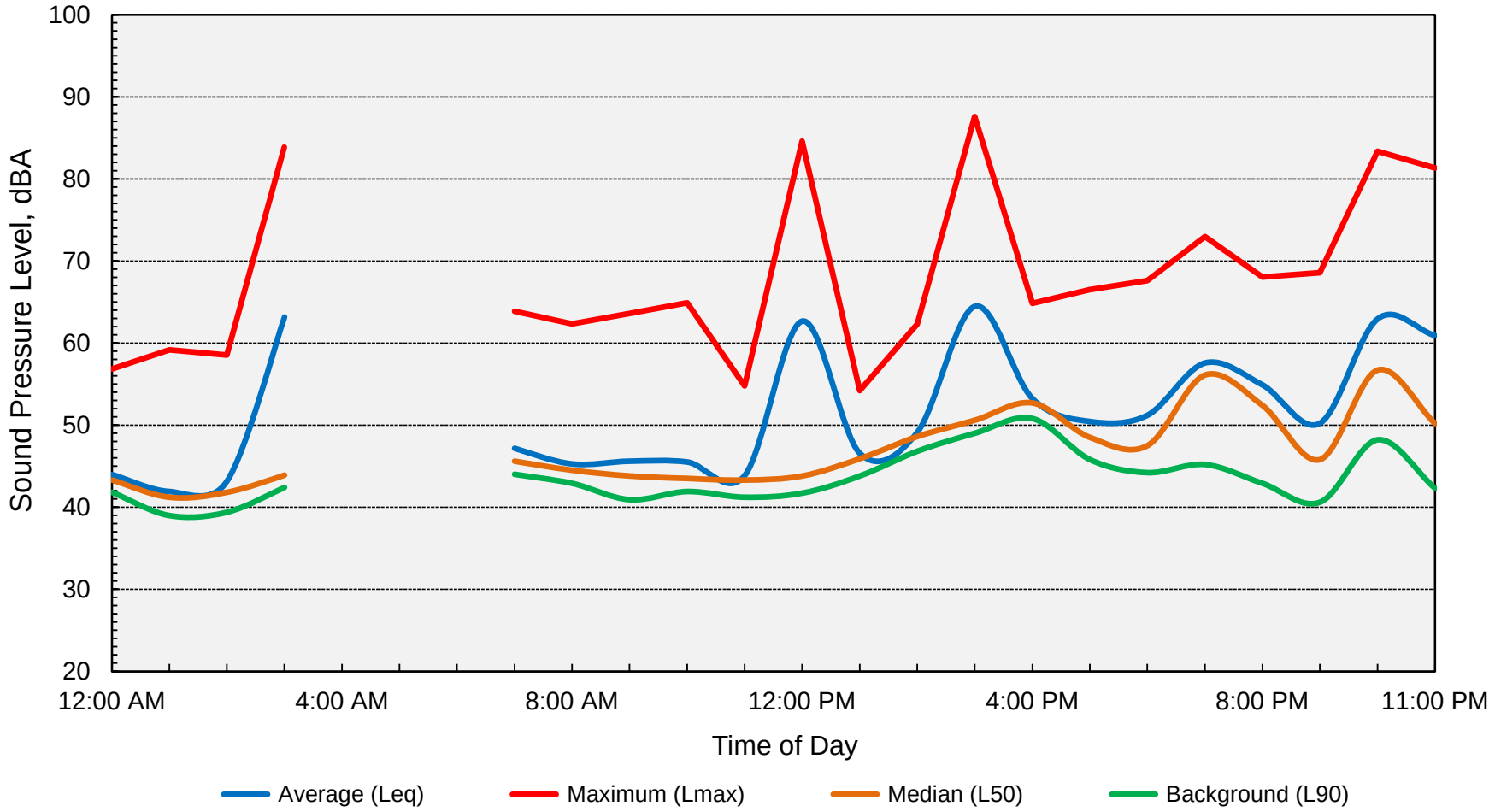
Appendix D-1
Long-Term Ambient Noise Monitoring Results - Site LT-1: 10'
Stone Beetland - Sacramento, California
Monday, February 28, 2022



Computed DNL = 54 dB

BOLLARD
Acoustical Consultants

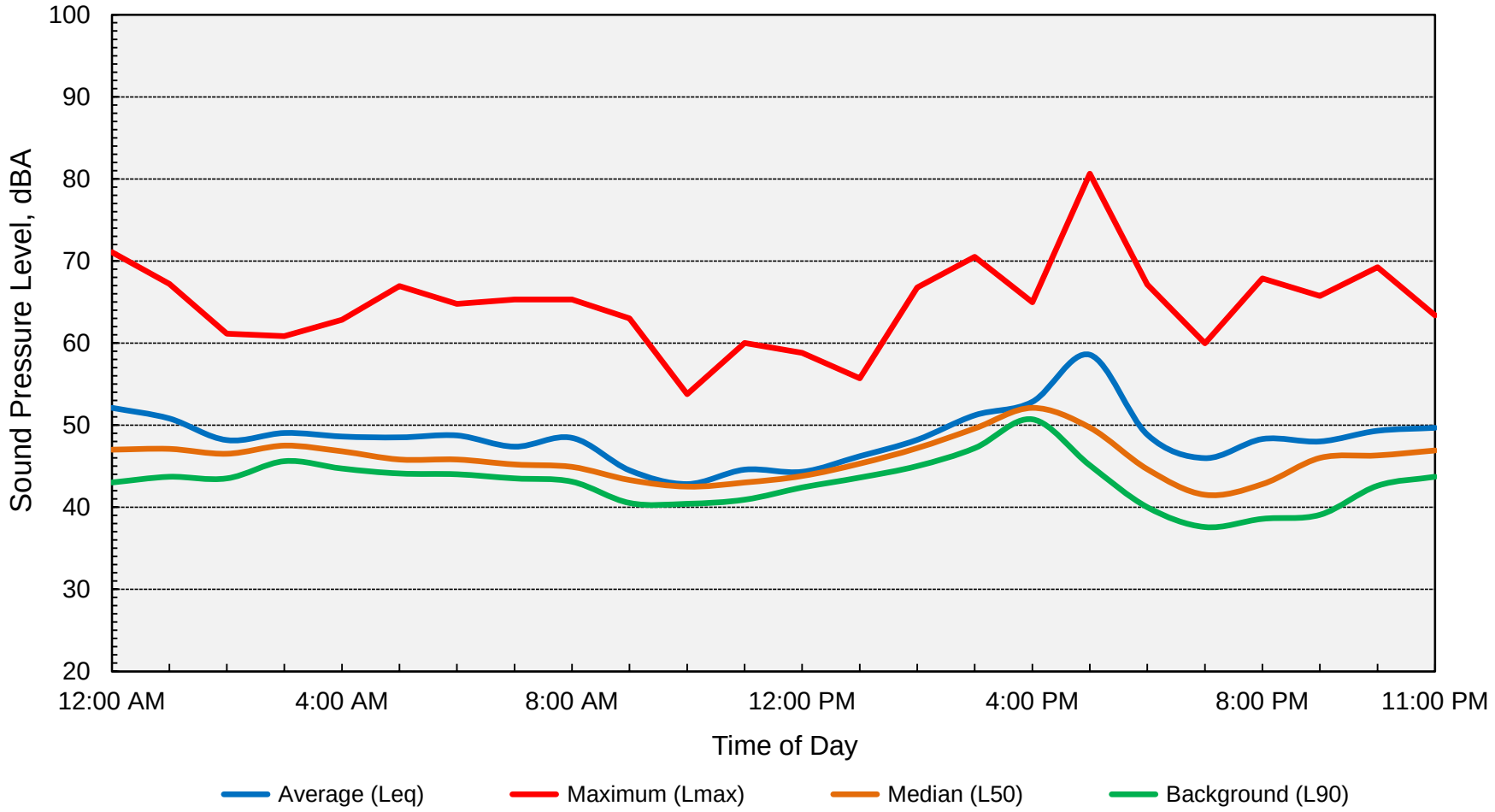
Appendix D-2
Long-Term Ambient Noise Monitoring Results - Site LT-1: 10'
Stone Beetland - Sacramento, California
Tuesday, March 1, 2022



Computed DNL = 64 dB

BOLLARD
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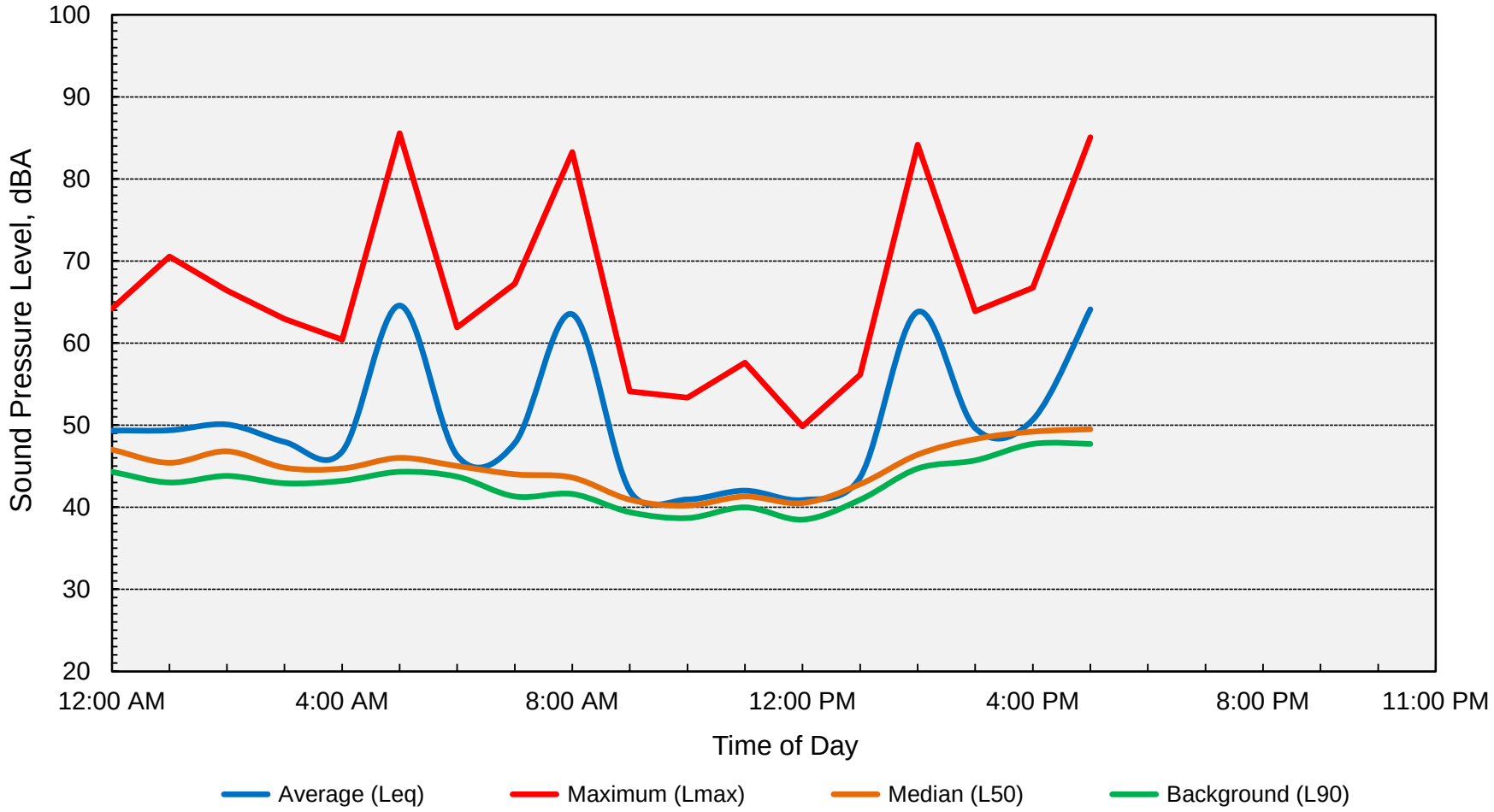
Appendix D-3
Long-Term Ambient Noise Monitoring Results - Site LT-1: 10'
Stone Beetland - Sacramento, California
Wednesday, March 2, 2022



Computed DNL = 56 dB

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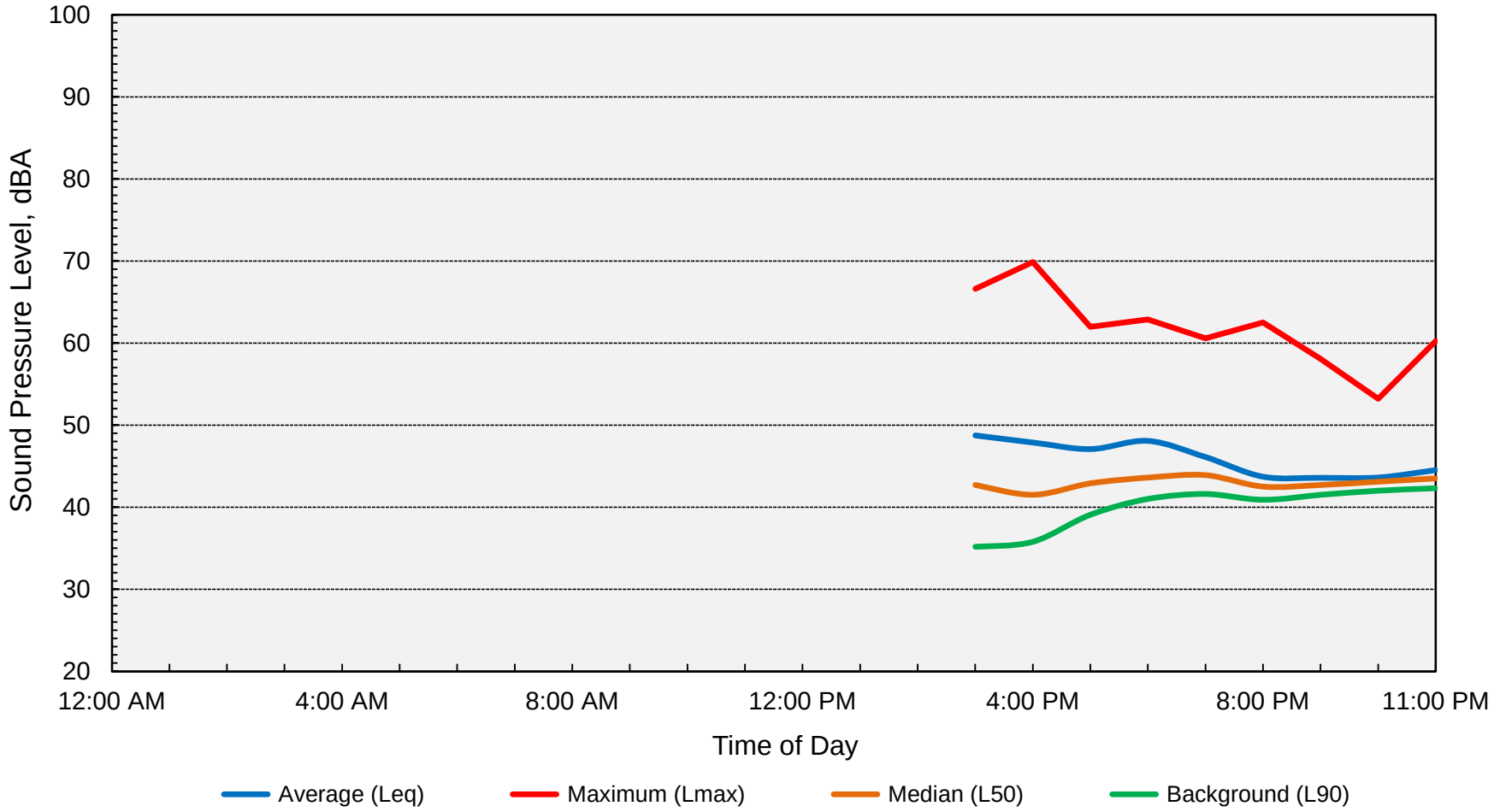
Appendix D-4
Long-Term Ambient Noise Monitoring Results - Site LT-1: 10'
Stone Beetland - Sacramento, California
Thursday, March 3, 2022



Computed DNL = 62 dB

BOLLARD
Acoustical Consultants

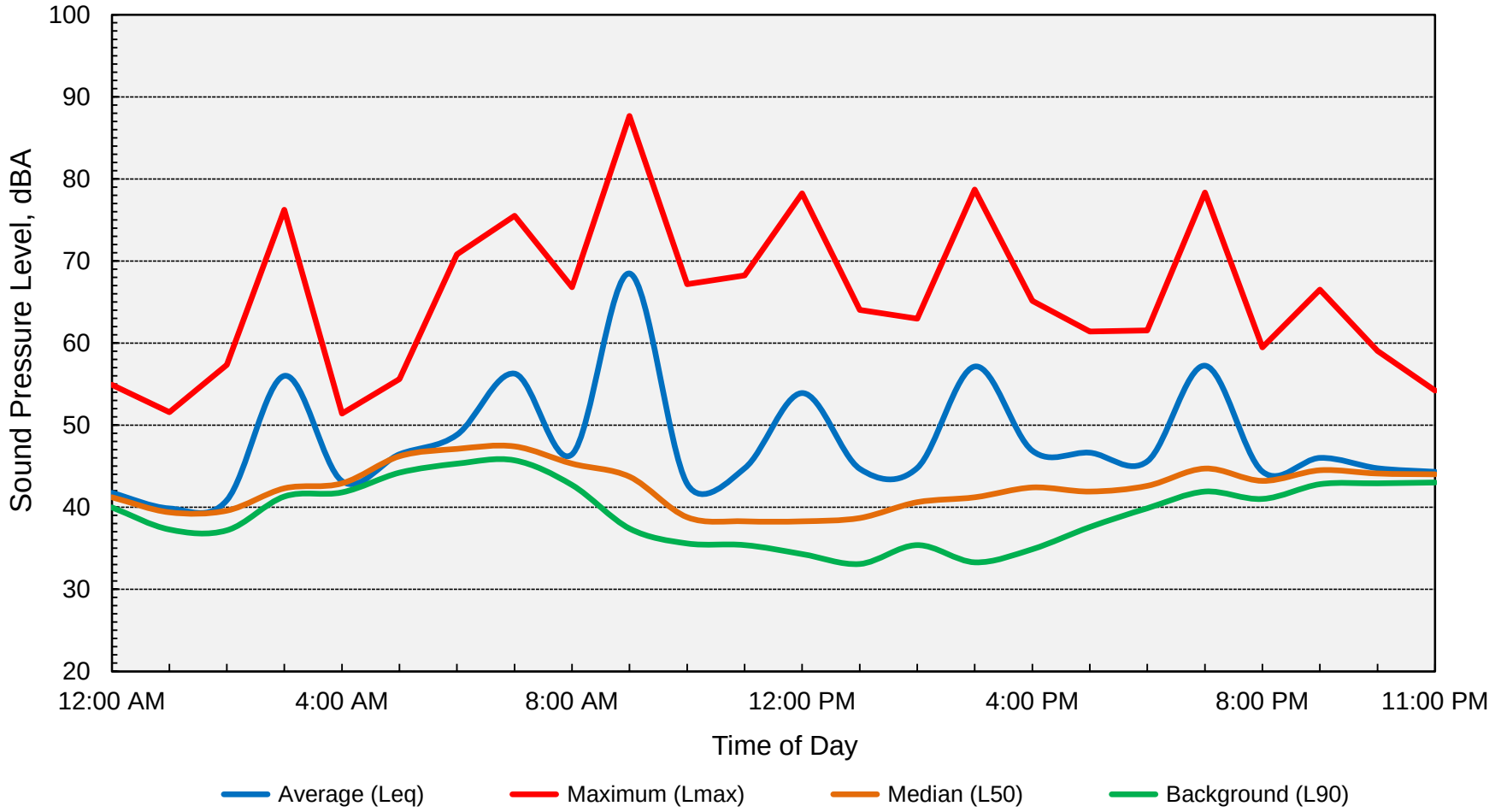
Appendix D-5
Long-Term Ambient Noise Monitoring Results - Site LT-1: 5'
Stone Beetland - Sacramento, California
Monday, February 28, 2022



Computed DNL = 51 dB

BOLLARD
Acoustical Consultants

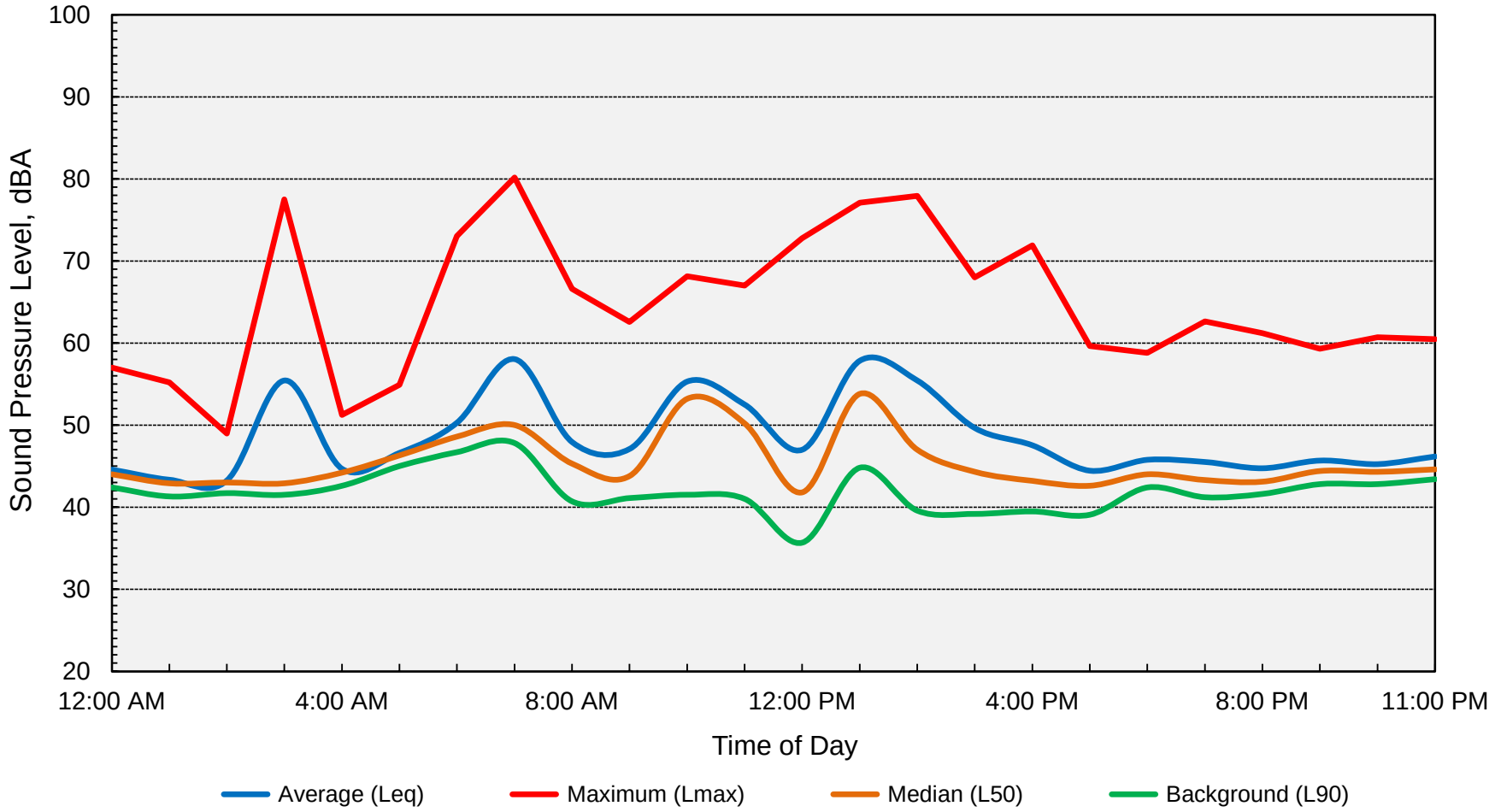
Appendix D-6
Long-Term Ambient Noise Monitoring Results - Site LT-1: 5'
Stone Beetland - Sacramento, California
Tuesday, March 1, 2022



Computed DNL = 58 dB

BOLLARD
Acoustical Consultants

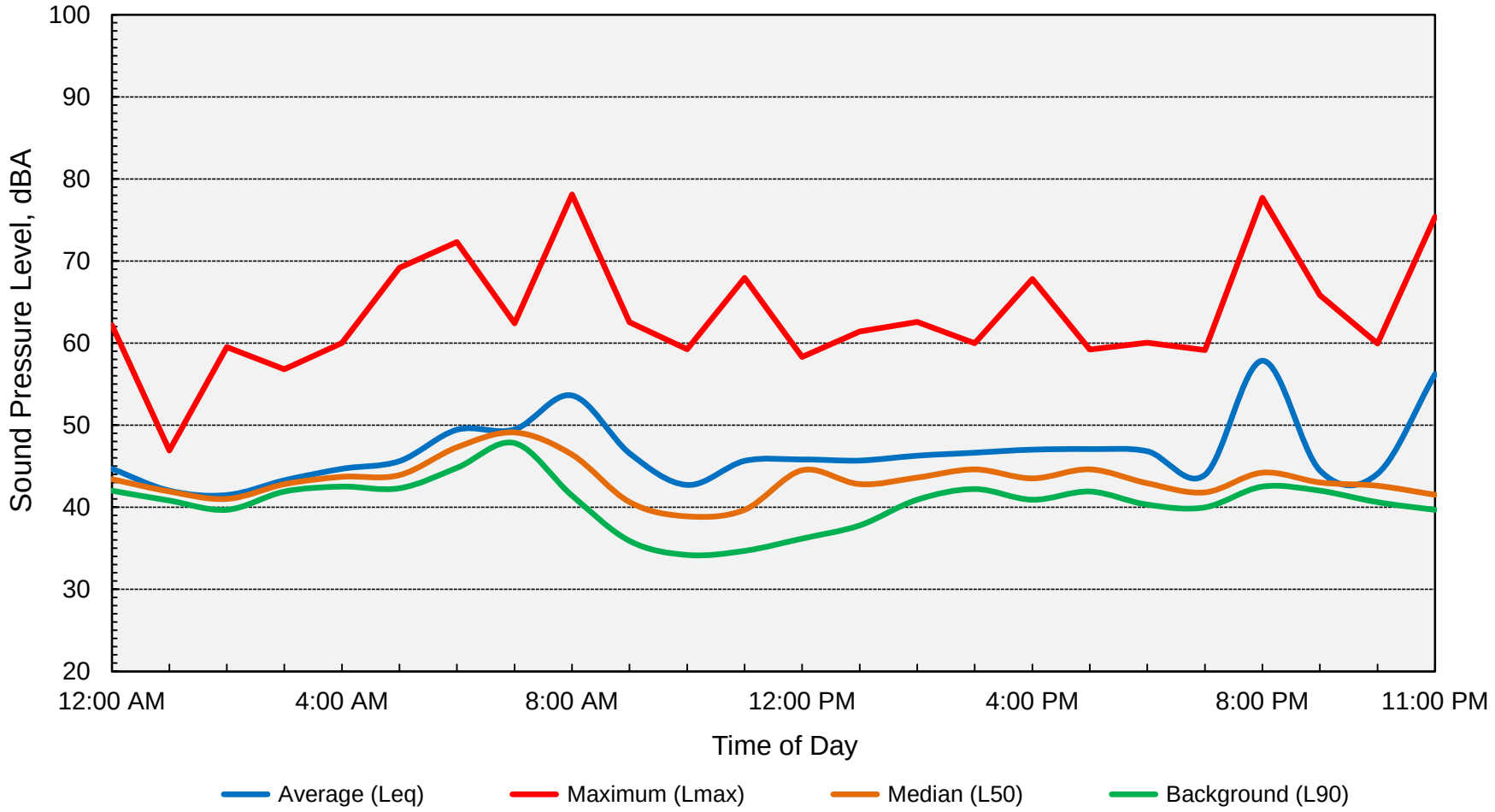
Appendix D-7
Long-Term Ambient Noise Monitoring Results - Site LT-1: 5'
Stone Beetland - Sacramento, California
Wednesday, March 2, 2022



Computed DNL = 56 dB

BOLLARD
Acoustical Consultants

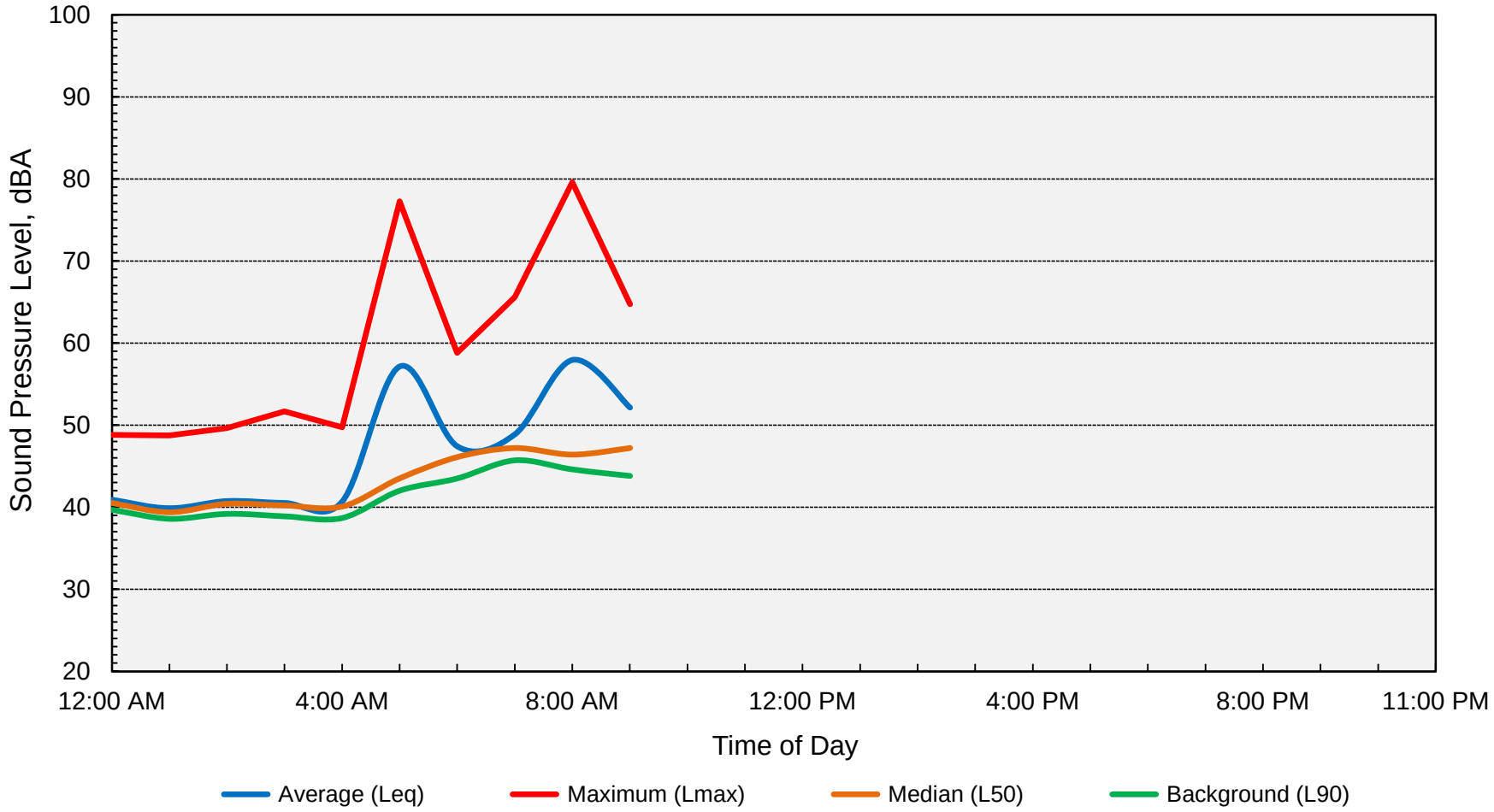
Appendix D-8
Long-Term Ambient Noise Monitoring Results - Site LT-1: 5'
Stone Beetland - Sacramento, California
Thursday, March 3, 2022



Computed DNL = 55 dB

BOLLARD
Acoustical Consultants

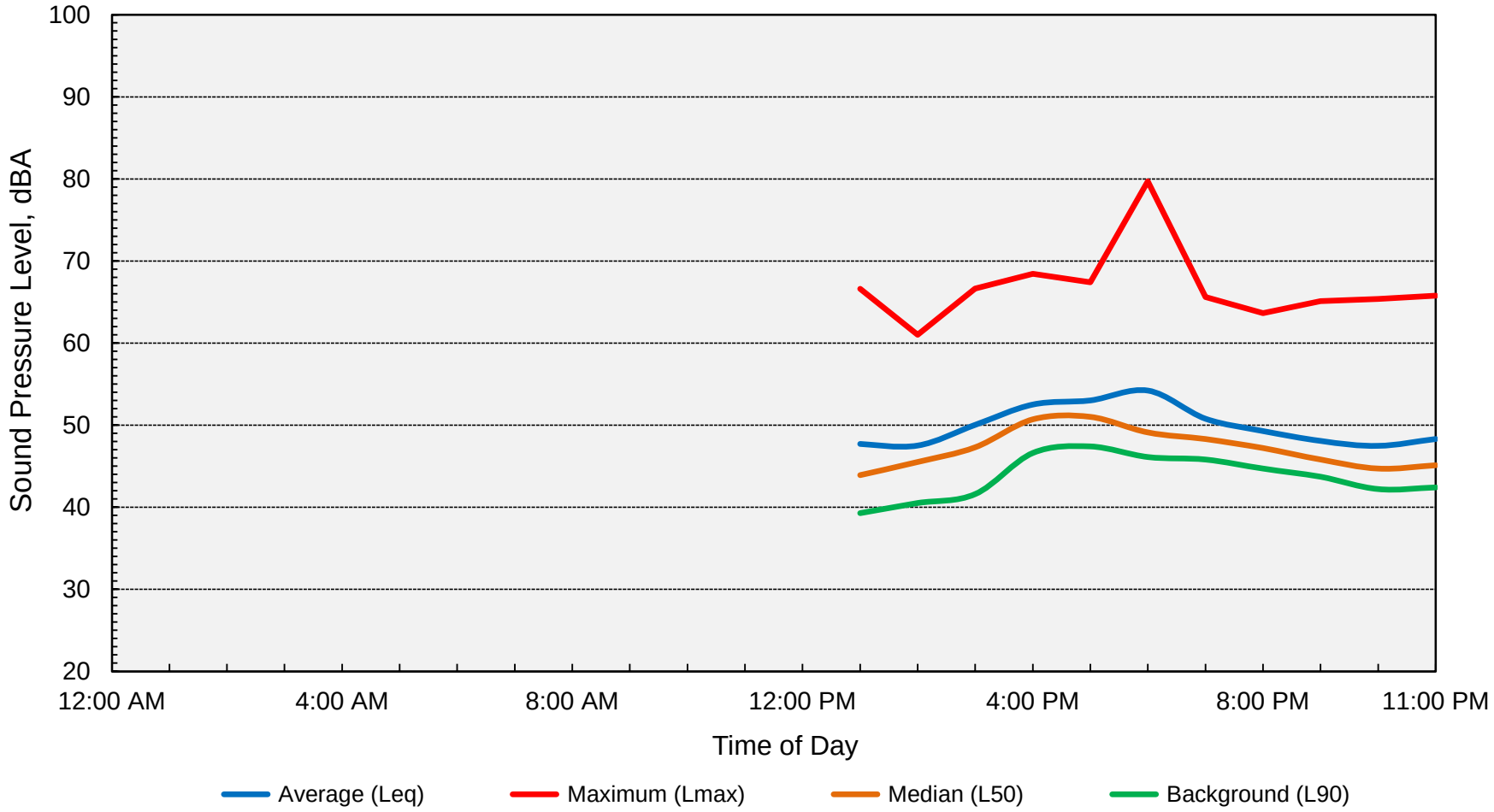
Appendix D-9
Long-Term Ambient Noise Monitoring Results - Site LT-1: 5'
Stone Beetland - Sacramento, California
Friday, March 4, 2022



Computed DNL = 55 dB

BOLLARD
Acoustical Consultants

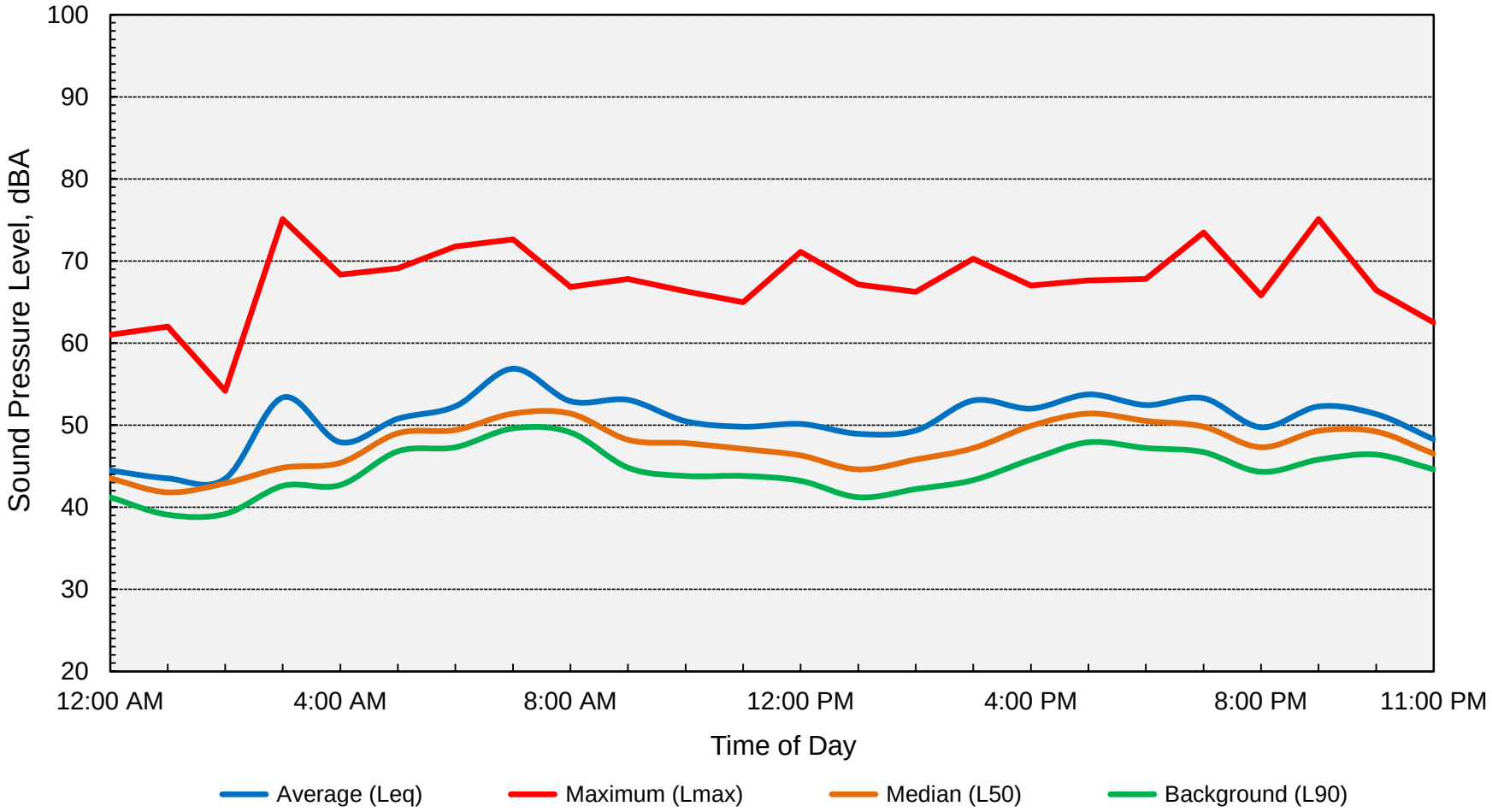
Appendix D-10
Long-Term Ambient Noise Monitoring Results - Site LT-2
Stone Beetland - Sacramento, California
Monday, February 28, 2022



Computed DNL = 55 dB

BOLLARD
Acoustical Consultants

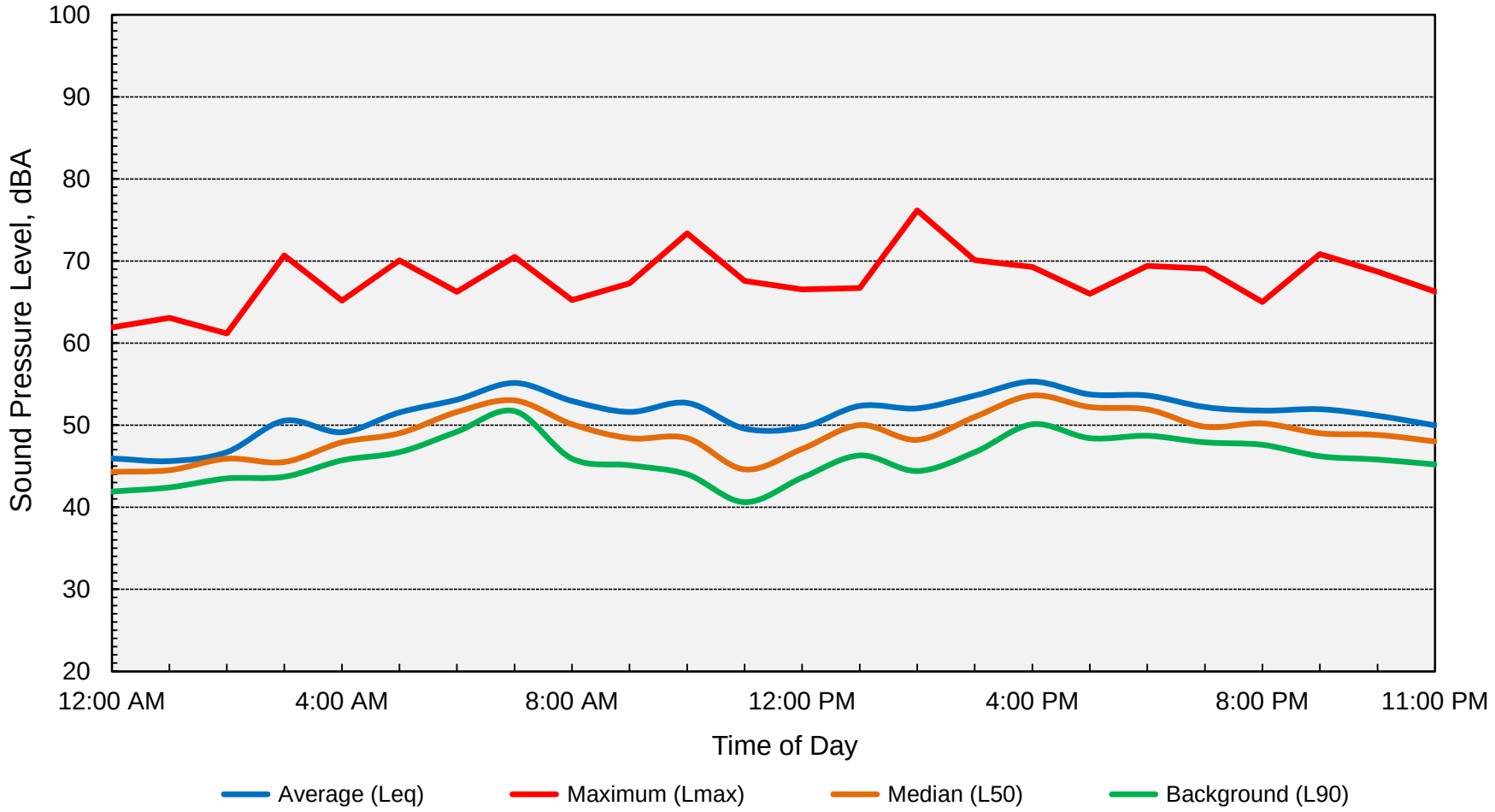
Appendix D-11
Long-Term Ambient Noise Monitoring Results - Site LT-2
Stone Beetland - Sacramento, California
Tuesday, March 1, 2022



Computed DNL = 57 dB

BOLLARD
Acoustical Consultants

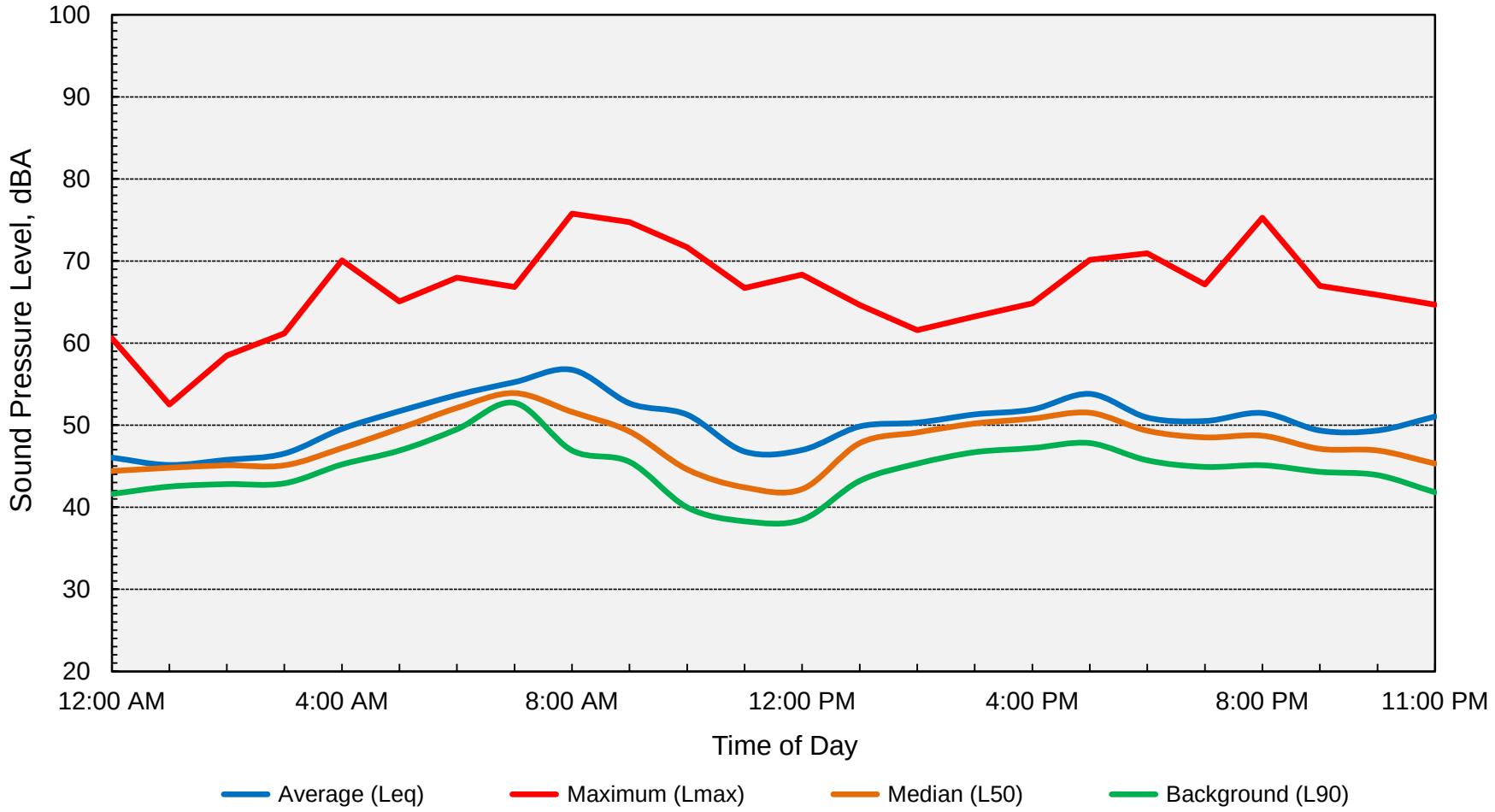
Appendix D-12
Long-Term Ambient Noise Monitoring Results - Site LT-2
Stone Beetland - Sacramento, California
Wednesday, March 2, 2022



Computed DNL = 57 dB

BOLLARD
Acoustical Consultants

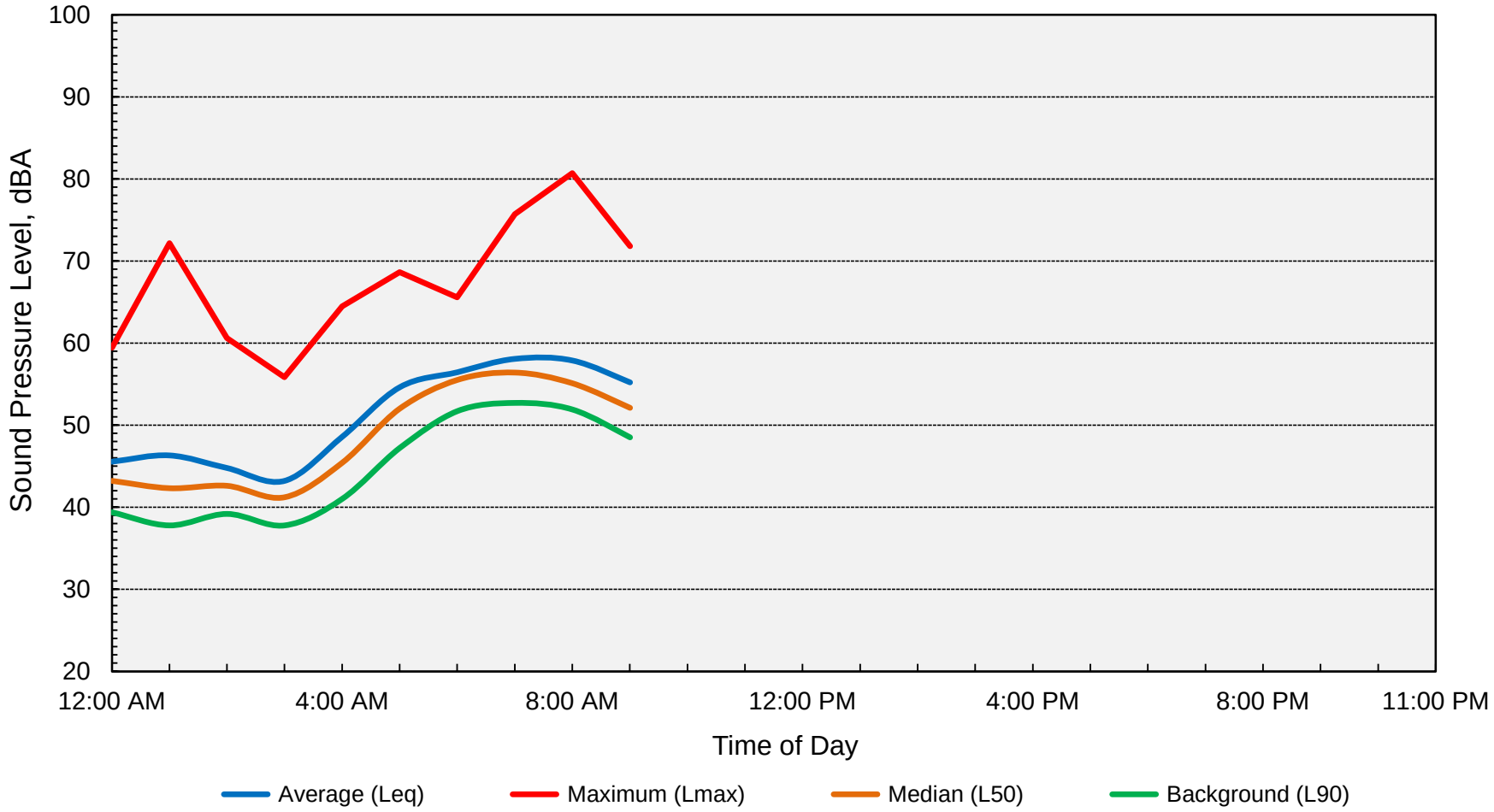
Appendix D-13
Long-Term Ambient Noise Monitoring Results - Site LT-2
Stone Beetland - Sacramento, California
Thursday, March 3, 2022



Computed DNL = 57 dB

BOLLARD
Acoustical Consultants

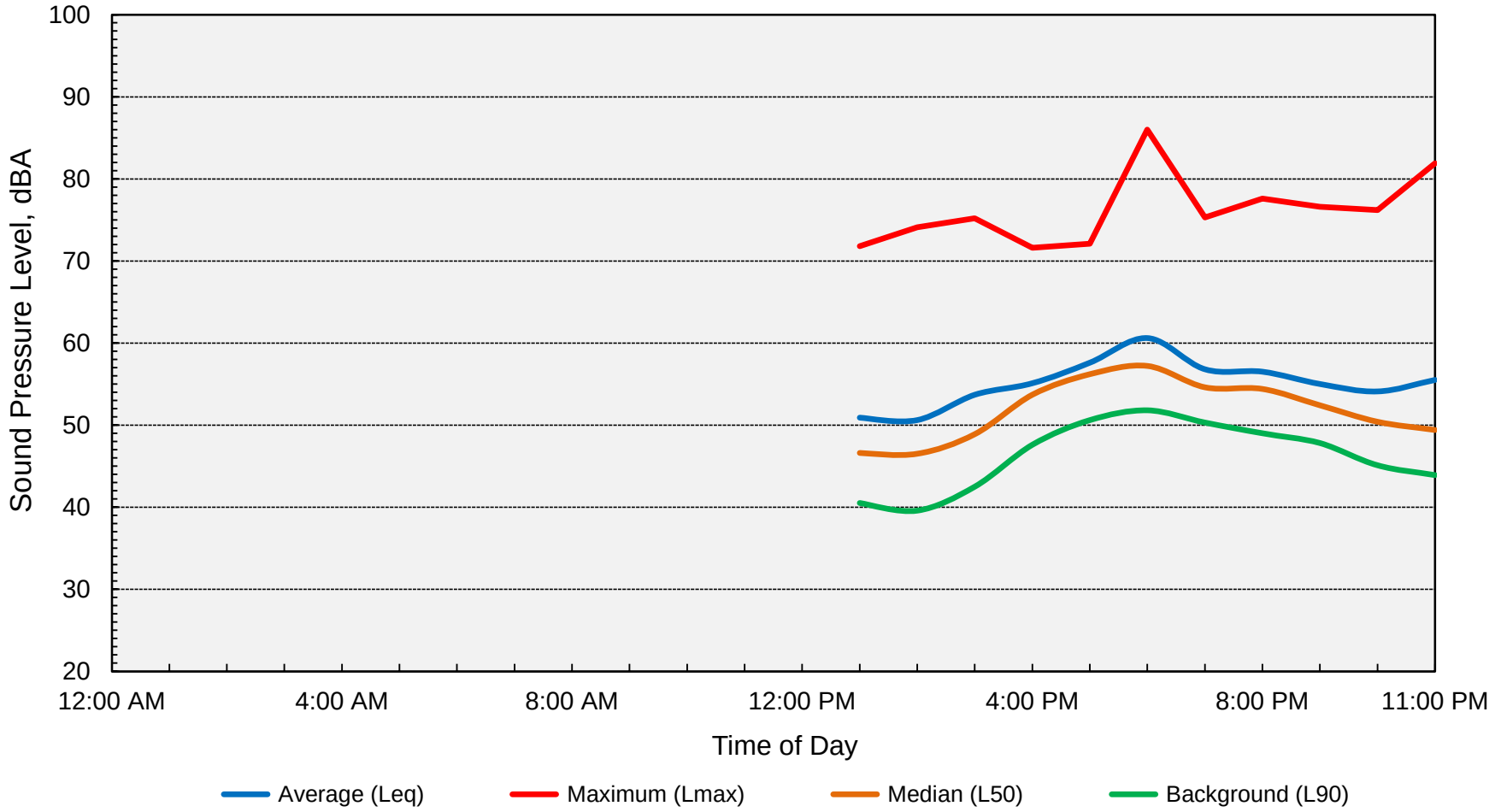
Appendix D-14
Long-Term Ambient Noise Monitoring Results - Site LT-2
Stone Beetland - Sacramento, California
Friday, March 4, 2022



Computed DNL = 59 dB

BOLLARD
Acoustical Consultants

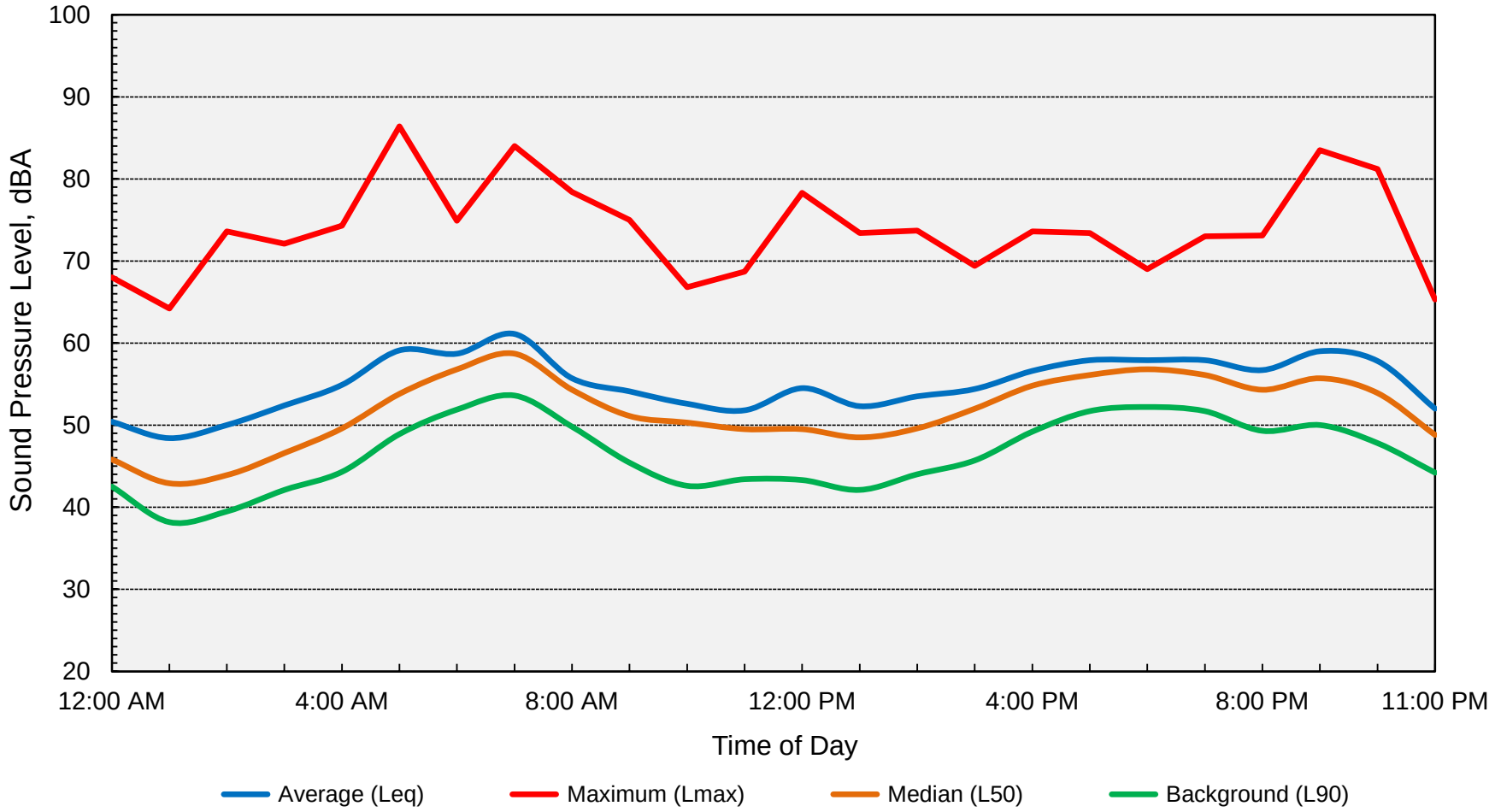
Appendix D-15
Long-Term Ambient Noise Monitoring Results - Site LT-3
Stone Beetland - Sacramento, California
Monday, February 28, 2022



Computed DNL = 61 dB

BOLLARD
Acoustical Consultants

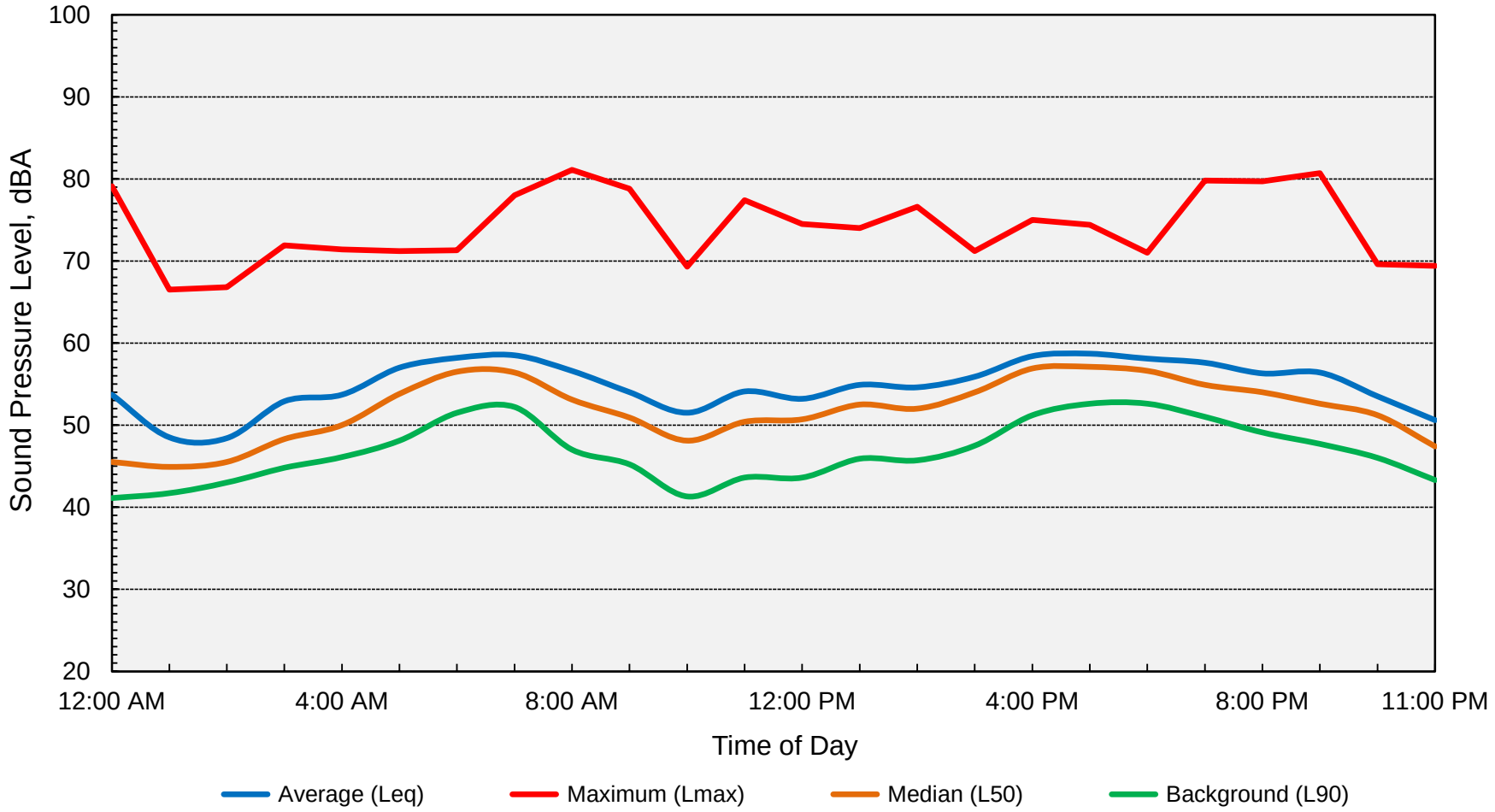
Appendix D-16
Long-Term Ambient Noise Monitoring Results - Site LT-3
Stone Beetland - Sacramento, California
Tuesday, March 1, 2022



Computed DNL = 62 dB

BOLLARD
Acoustical Consultants

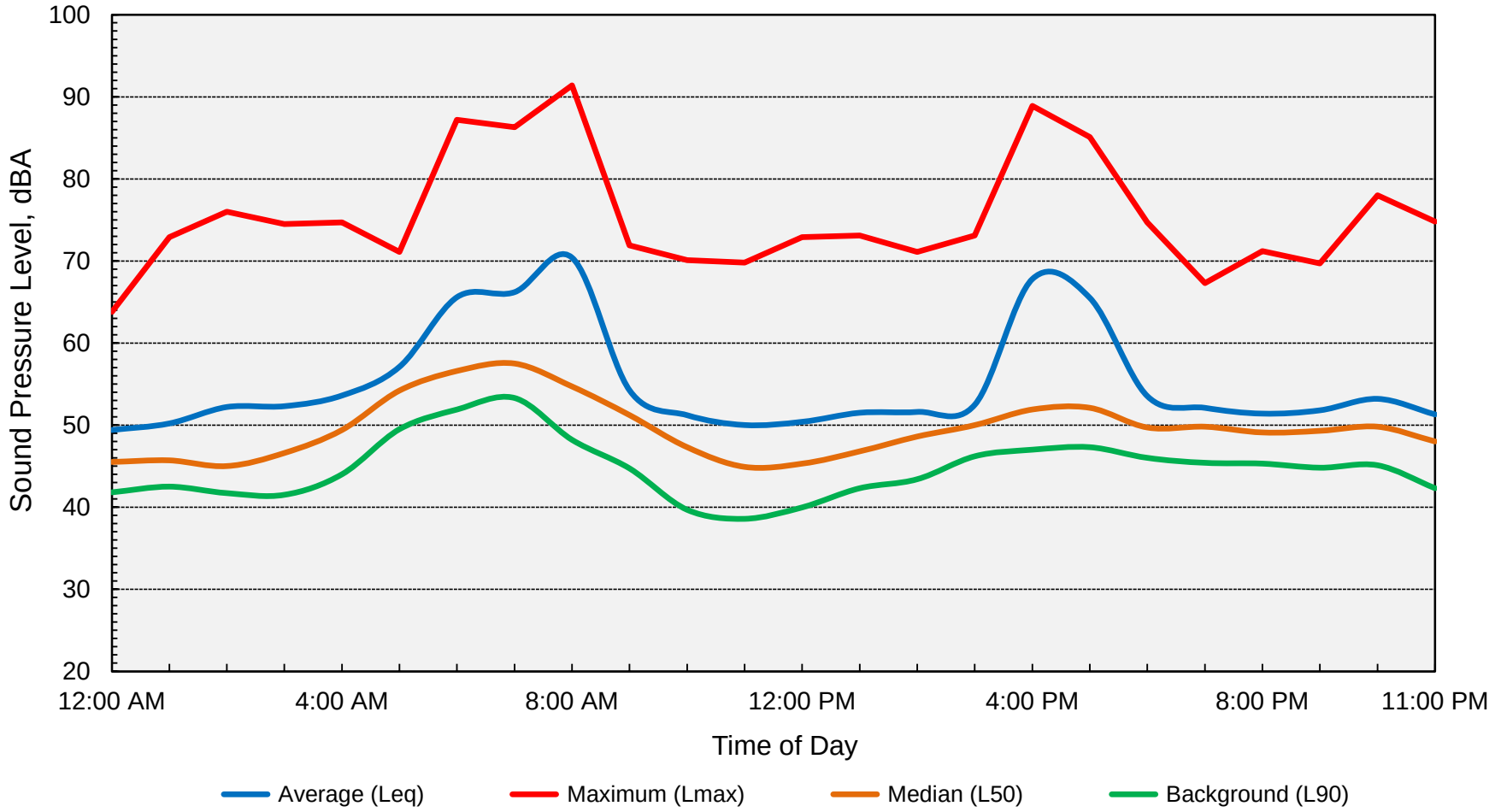
Appendix D-17
Long-Term Ambient Noise Monitoring Results - Site LT-3
Stone Beetland - Sacramento, California
Wednesday, March 2, 2022



Computed DNL = 61 dB

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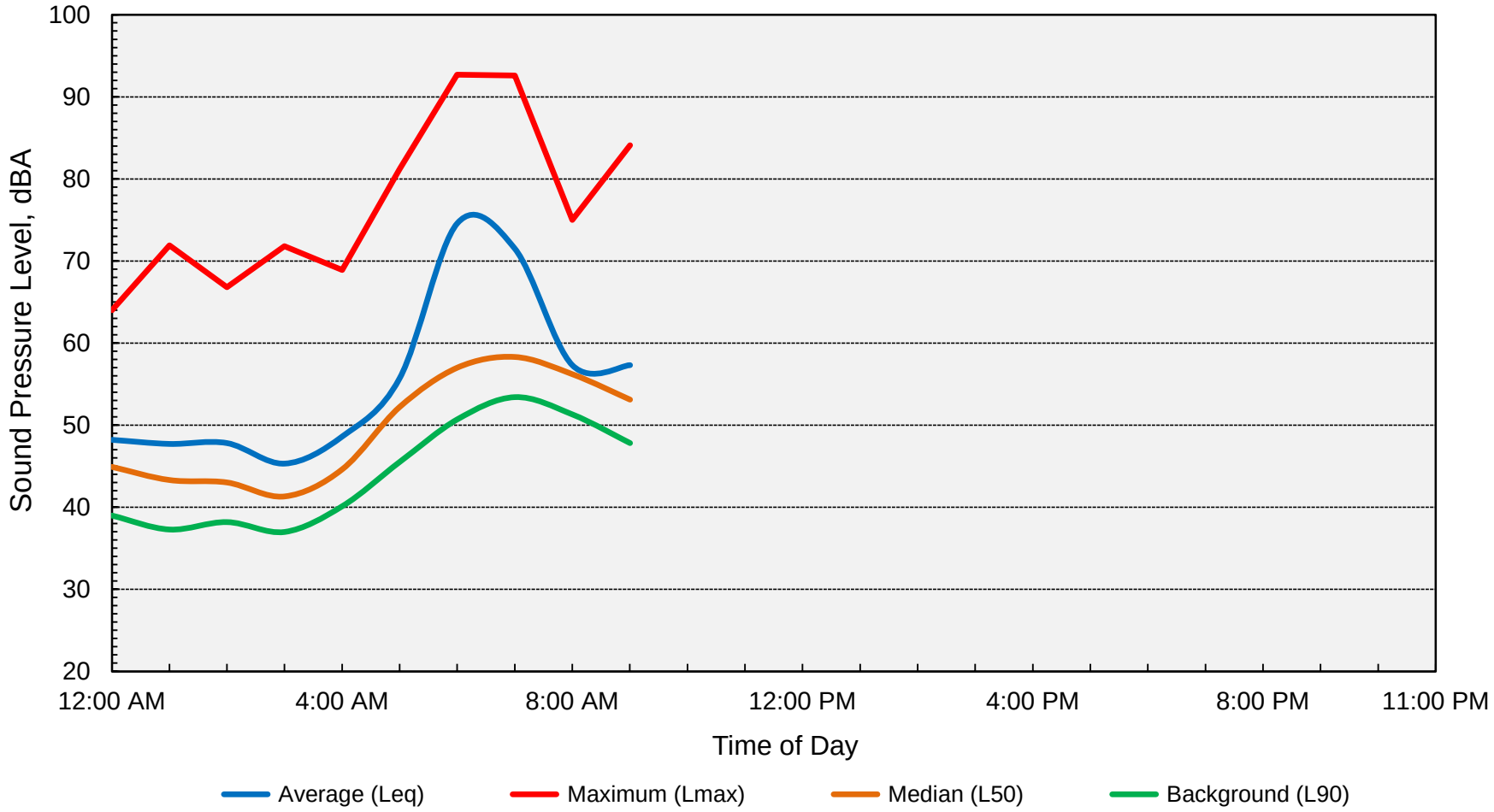
Appendix D-18
Long-Term Ambient Noise Monitoring Results - Site LT-3
Stone Beetland - Sacramento, California
Thursday, March 3, 2022



Computed DNL = 65 dB

BOLLARD
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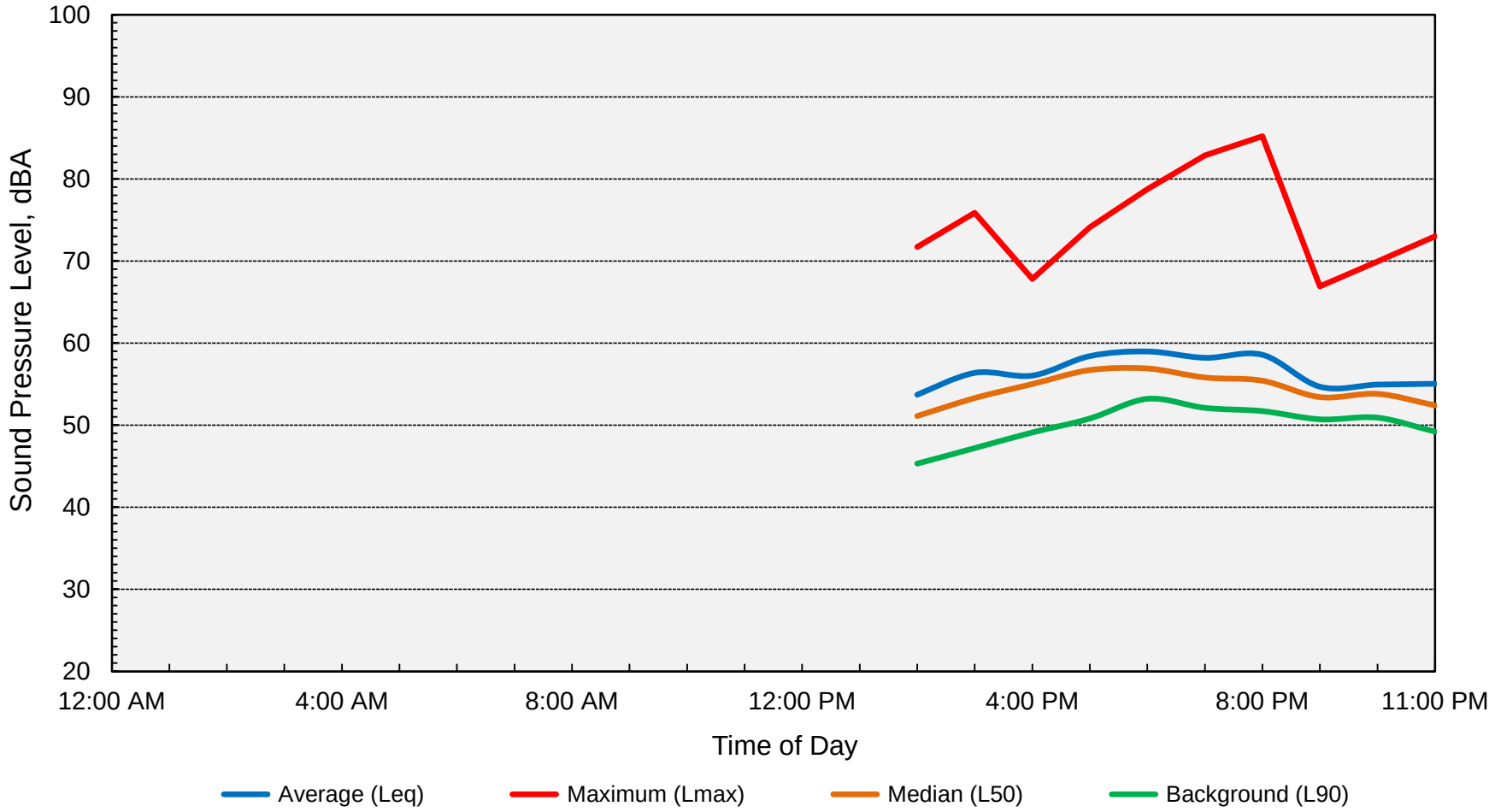
Appendix D-19
Long-Term Ambient Noise Monitoring Results - Site LT-3
Stone Beetland - Sacramento, California
Friday, March 4, 2022



Computed DNL = 73 dB

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Acoustical Consultants

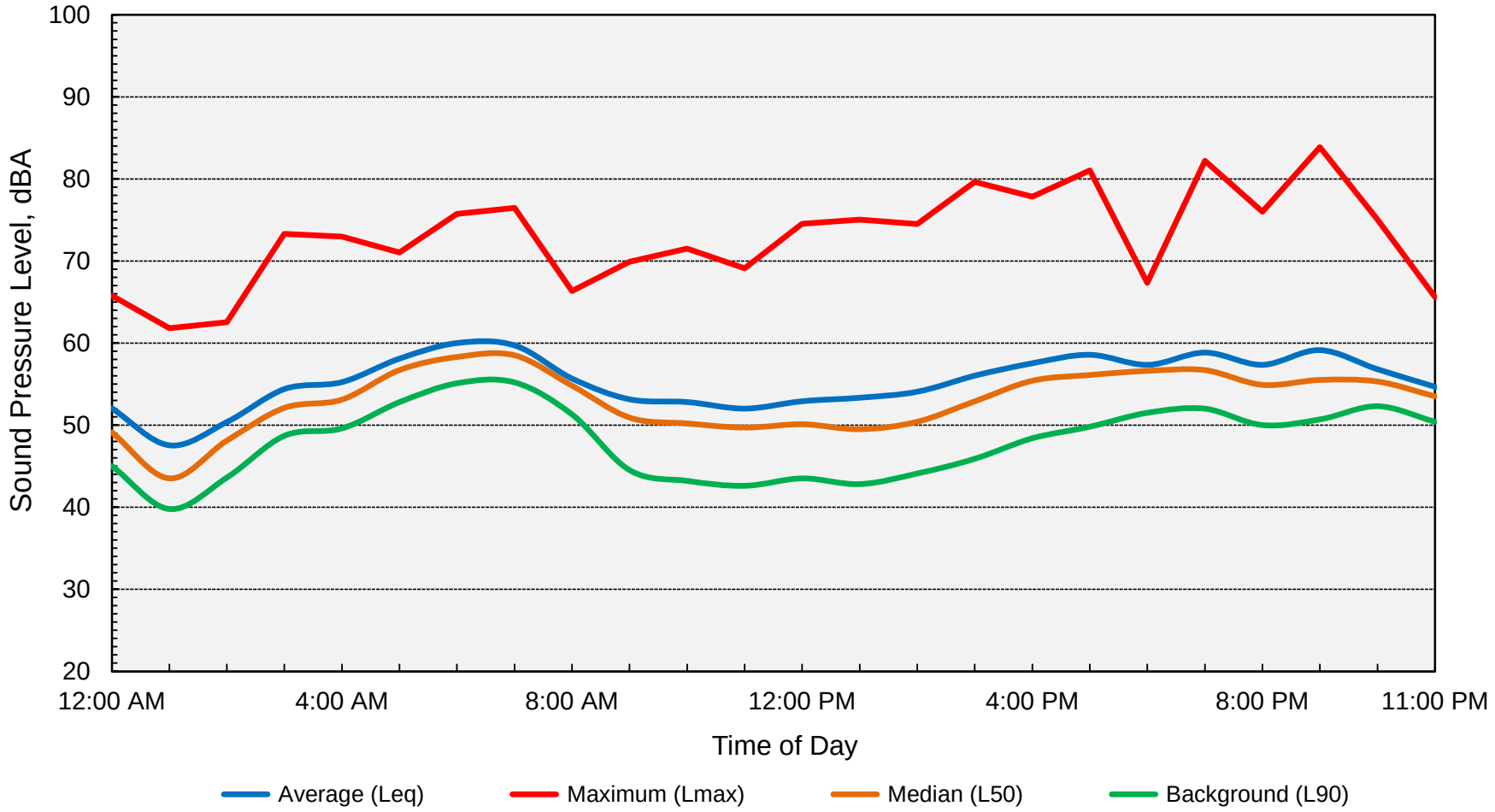
Appendix D-20
Long-Term Ambient Noise Monitoring Results - Site LT-4
Stone Beetland - Sacramento, California
Monday, February 28, 2022



Computed DNL = 62 dB

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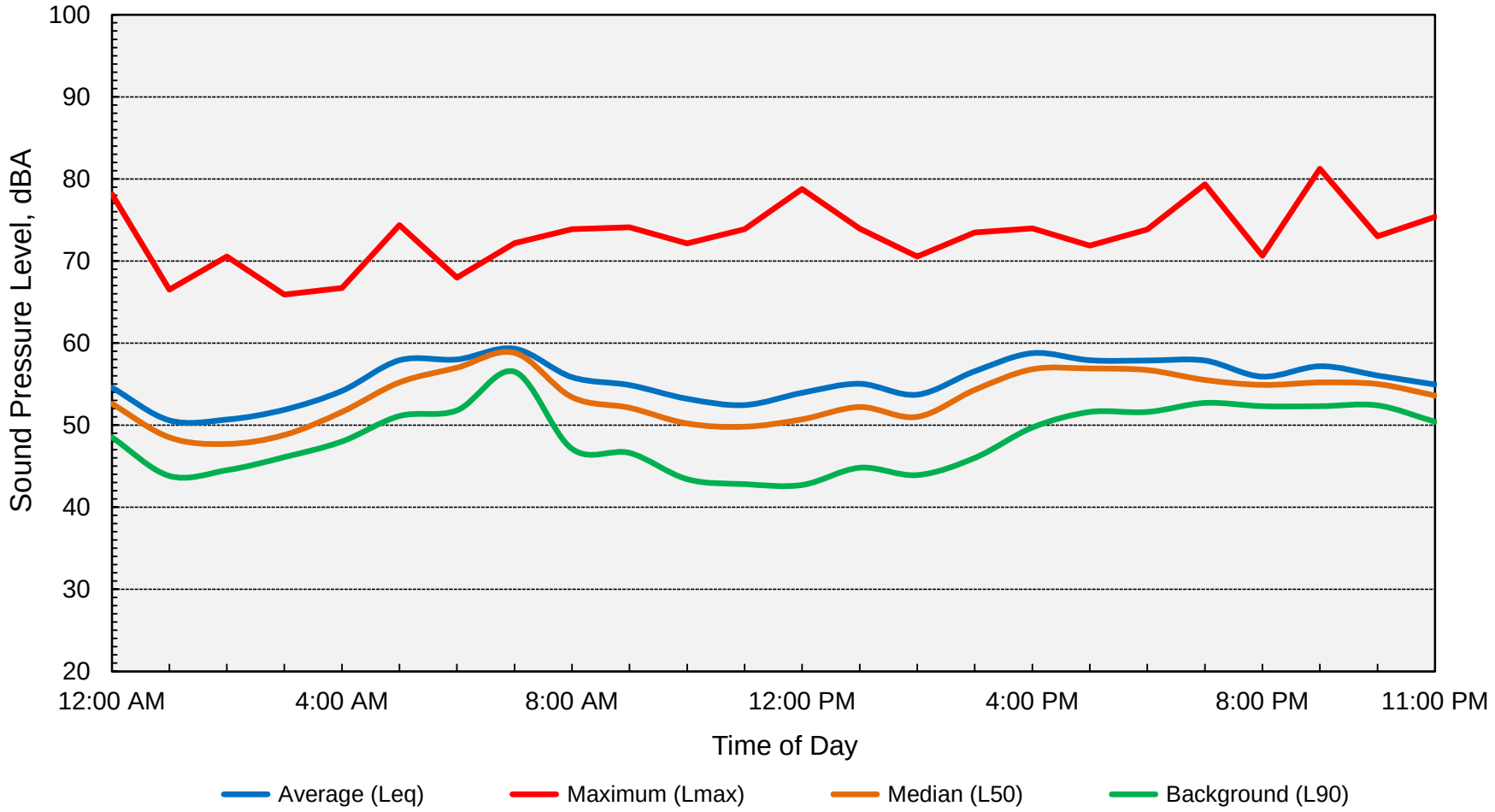
Appendix D-21
Long-Term Ambient Noise Monitoring Results - Site LT-4
Stone Beetland - Sacramento, California
Tuesday, March 1, 2022



Computed DNL = 62 dB

BOLLARD
Acoustical Consultants

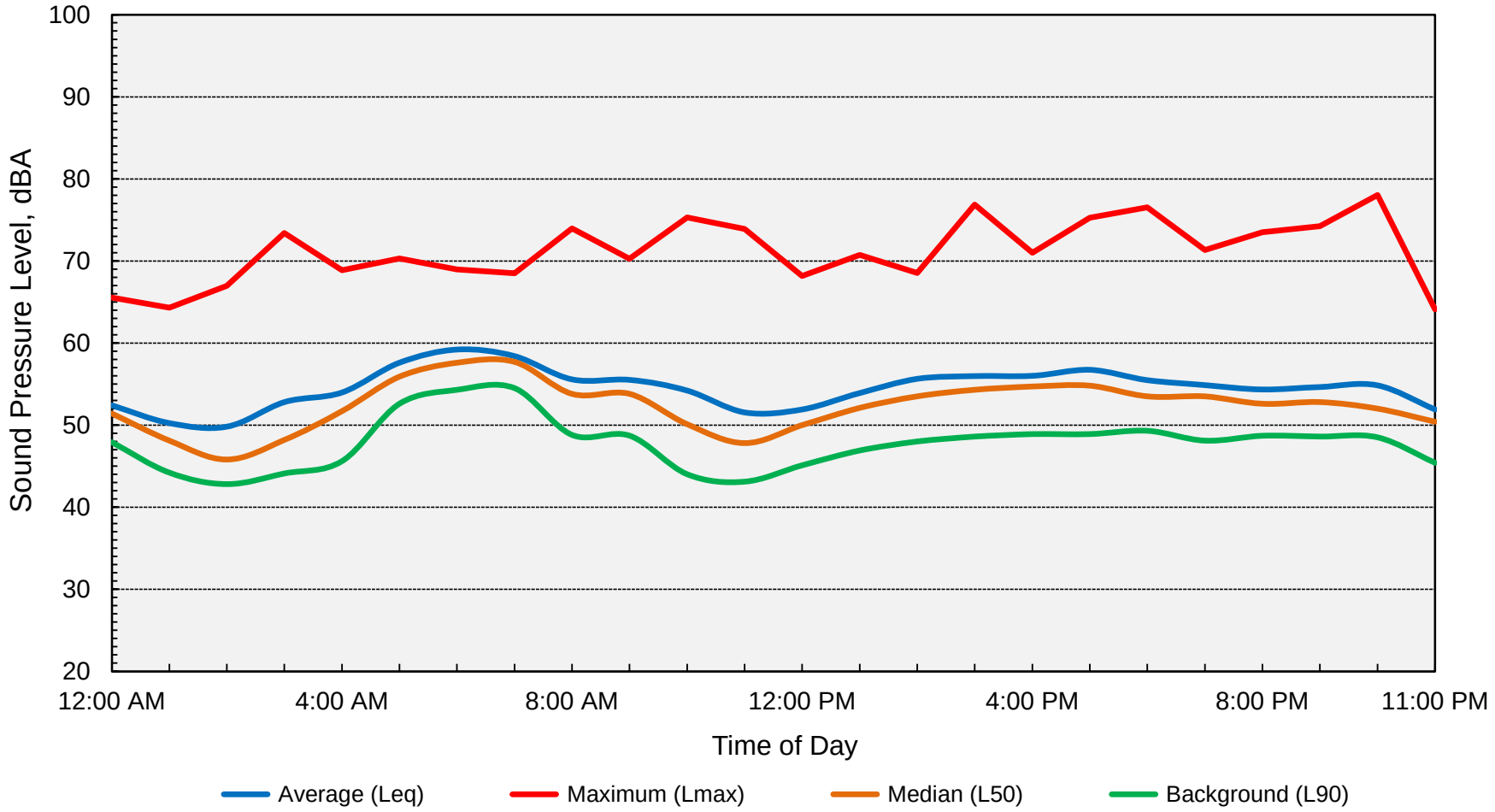
Appendix D-22
Long-Term Ambient Noise Monitoring Results - Site LT-4
Stone Beetland - Sacramento, California
Wednesday, March 2, 2022



Computed DNL = 62 dB

BOLLARD
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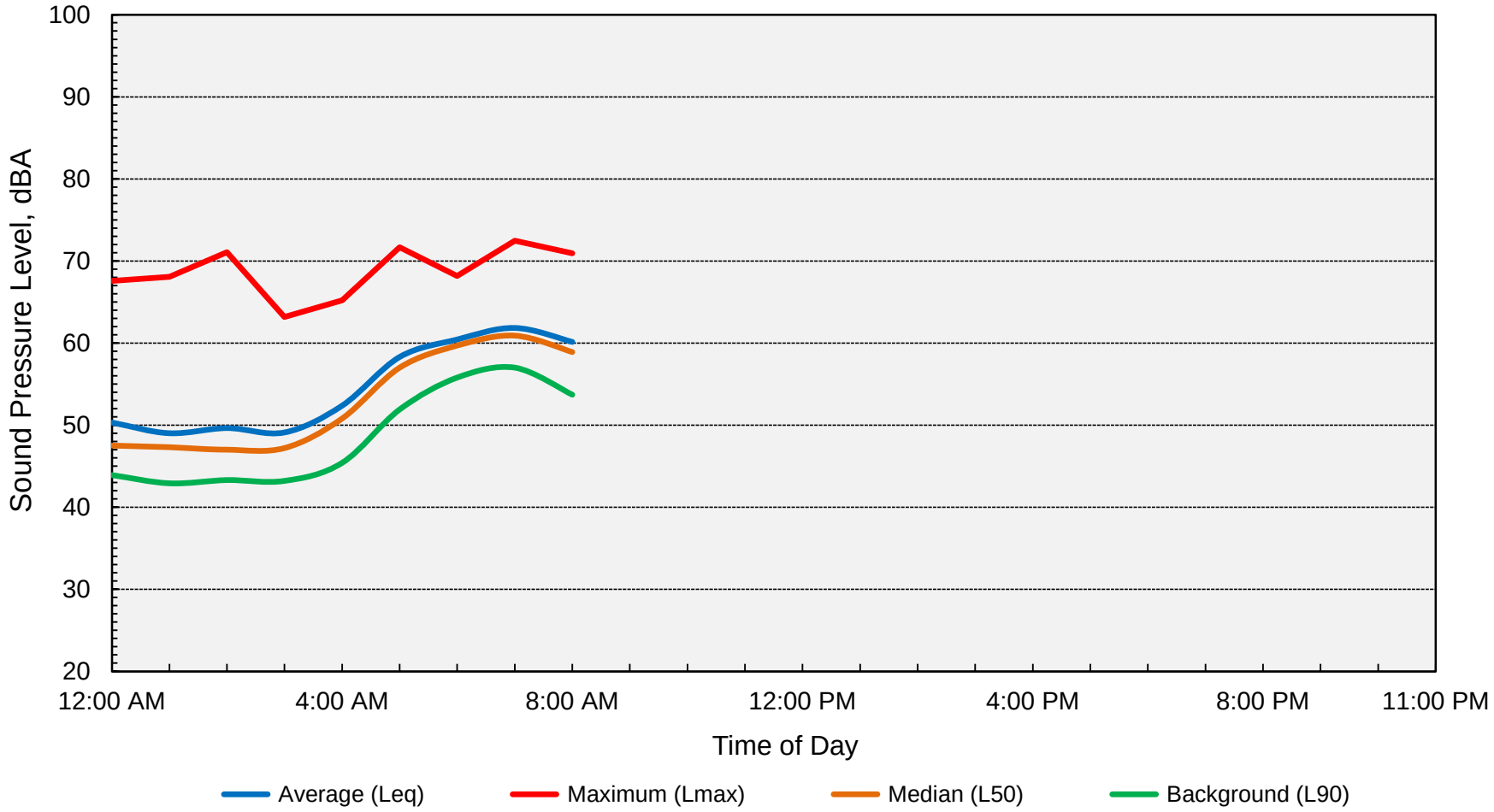
Appendix D-23
Long-Term Ambient Noise Monitoring Results - Site LT-4
Stone Beetland - Sacramento, California
Thursday, March 3, 2022



Computed DNL = 61 dB

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Appendix D-24
Long-Term Ambient Noise Monitoring Results - Site LT-4
Stone Beetland - Sacramento, California
Friday, March 4, 2022



Computed DNL = 63 dB

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Appendix E-1

FHWA-RD-77-108 Highway Traffic Noise Prediction Model

Data Input Sheet

Project #: 2022-004
Description: Existing
Ldn/CNEL: Ldn
Hard/Soft: Soft

Segment	Roadway Name	Segment Description	ADT	Day %	Eve %	Night %	% Med. Trucks	% Hvy. Trucks	Speed	Distance	Offset (dB)
1	Meadowview Rd	29th Street to Detroit Blvd	27,700	80		20	2	1	40	60	
2	Meadowview Rd	Detroit Blvd to RR	28,900	80		20	2	1	40	50	
3	Detroit Blvd	Meadowview Rd to Laurie Way	5,000	80		20	2	1	30	40	
4	Detroit Blvd	Laurie Way to Reel Cir	2,800	80		20	2	1	30	40	
5	Detroit Blvd	Reel Cir to Ann Arbor Way	2,000	80		20	2	1	30	40	
6	Detroit Blvd	Ann Arbor Way to Burlington Way	200	80		20	2	1	30	50	
7	Cosumnes River Blvd	Delta Shores Cir (W) to Delta Shores Cir (E)	24,000	80		20	2	1	55	3000	
8	Cosumnes River Blvd	Delta Shores Cir (W) to RR	25,900	80		20	2	1	55	420	-6
9	Cosumnes River Blvd	RR to Franklin Blvd	25,900	80		20	2	1	55	420	-6
10	Delta Shores Cir	South of Cosumnes River Blvd	2,300	80		20	2	1	45	3000	
11	24th Street (DNE)	A Street to Cosumnes River Blvd	0	80			2	1	45	100	
12	A Street (DNE)	24th Street to West of Park	0	80			2	1	35	100	
13	A Street (DNE)	West of Park to B Street	0	80			2	1	35	100	
14	A Street (DNE)	B Street to C Street	0	80			2	1	35	100	
15	B Street (DNE)	A Street to Cosumnes River Blvd	0	80			2	1	30	100	
16	C Street (DNE)	D Street to E Street	0	80			2	1	35	100	
17	C Street (DNE)	E Street to Cosumnes River Blvd	0	80			2	1	35	100	
18	D Street (DNE)	East of C Street	0	80			2	1	30	100	
19	E Street (DNE)	East of C Street	0	80			2	1	30	100	

Appendix E-2

FHWA-RD-77-108 Highway Traffic Noise Prediction Model
Data Input Sheet

Project #: 2022-004
Description: Existing + Project (nearest existing receptors)
Ldn/CNEL: Ldn
Hard/Soft: Soft

Segment	Roadway Name	Segment Description	ADT	Day %	Eve %	Night %	% Med. Trucks	% Hvy. Trucks	Speed	Distance	Offset (dB)
1	Meadowview Rd	29th Street to Detroit Blvd	28,300	80		20	2	1	40	60	
2	Meadowview Rd	Detroit Blvd to RR	29,500	80		20	2	1	40	50	
3	Detroit Blvd	Meadowview Rd to Laurie Way	6,200	80		20	2	1	30	40	
4	Detroit Blvd	Laurie Way to Reel Cir	4,200	80		20	2	1	30	40	
5	Detroit Blvd	Reel Cir to Ann Arbor Way	3,400	80		20	2	1	30	40	
6	Detroit Blvd	Ann Arbor Way to Burlington Way	2,400	80		20	2	1	30	50	
7	Cosumnes River Blvd	Delta Shores Cir (W) to Delta Shores Cir (E)	27,900	80		20	2	1	55	3000	
8	Cosumnes River Blvd	Delta Shores Cir (W) to RR	29,700	80		20	2	1	55	420	-6
9	Cosumnes River Blvd	RR to Franklin Blvd	31,500	80		20	2	1	55	420	-6
10	Delta Shores Cir	South of Cosumnes River Blvd	2,700	80		20	2	1	45	3000	
11	24th Street	A Street to Cosumnes River Blvd	800	80		20	2	1	45	100	
12	A Street	24th Street to West of Park	800	80		20	2	1	35	100	
13	A Street	West of Park to B Street	800	80		20	2	1	35	100	
14	A Street	B Street to C Street	1,200	80		20	2	1	35	100	
15	B Street	A Street to Cosumnes River Blvd	1,500	80		20	2	1	30	100	
16	C Street	D Street to E Street	2,400	80		20	2	1	35	100	
17	C Street	E Street to Cosumnes River Blvd	9,500	80		20	2	1	35	100	
18	D Street	East of C Street	2,300	80		20	2	1	30	100	
19	E Street	East of C Street	7,700	80		20	2	1	30	100	

Appendix E-3

FHWA-RD-77-108 Highway Traffic Noise Prediction Model
Data Input Sheet

Project #: 2022-004
Description: Existing + Project + City Property
Ldn/CNEL: Ldn
Hard/Soft: Soft

Segment	Roadway Name	Segment Description	ADT	Day %	Eve %	Night %	% Med. Trucks	% Hvy. Trucks	Speed	Distance	Offset (dB)
1	Meadowview Rd	29th Street to Detroit Blvd	28,700	80		20	2	1	40	60	
2	Meadowview Rd	Detroit Blvd to RR	30,100	80		20	2	1	40	50	
3	Detroit Blvd	Meadowview Rd to Laurie Way	7,200	80		20	2	1	30	40	
4	Detroit Blvd	Laurie Way to Reel Cir	5,200	80		20	2	1	30	40	
5	Detroit Blvd	Reel Cir to Ann Arbor Way	4,400	80		20	2	1	30	40	
6	Detroit Blvd	Ann Arbor Way to Burlington Way	3,400	80		20	2	1	30	50	
7	Cosumnes River Blvd	Delta Shores Cir (W) to Delta Shores Cir (E)	29,900	80		20	2	1	55	1250	
8	Cosumnes River Blvd	Delta Shores Cir (W) to RR	29,700	80		20	2	1	55	980	
9	Cosumnes River Blvd	RR to Franklin Blvd	34,500	80		20	2	1	55	420	-6
10	Delta Shores Cir	South of Cosumnes River Blvd	2,900	80		20	2	1	45	1300	
11	24th Street	A Street to Cosumnes River Blvd	3,000	80		20	2	1	45	600	
12	A Street	24th Street to West of Park	3,000	80		20	2	1	35	80	
13	A Street	West of Park to B Street	1,700	80		20	2	1	35	80	
14	A Street	B Street to C Street	5,100	80		20	2	1	35	80	
15	B Street	A Street to Cosumnes River Blvd	1,500	80		20	2	1	30	100	
16	C Street	D Street to E Street	5,400	80		20	2	1	35	330	
17	C Street	E Street to Cosumnes River Blvd	12,500	80		20	2	1	35	600	
18	D Street	East of C Street	3,300	80		20	2	1	30	330	
19	E Street	East of C Street	7,700	80		20	2	1	30	610	

Appendix E-4

FHWA-RD-77-108 Highway Traffic Noise Prediction Model
Data Input Sheet

Project #: 2022-004
Description: Project Only (distance to nearest existing/city development receptor)
Ldn/CNEL: Ldn
Hard/Soft: Soft

Segment	Roadway Name	Segment Description	ADT	Day %	Eve %	Night %	% Med. Trucks	% Hvy. Trucks	Speed	Distance	Offset (dB)
1	Meadowview Rd	29th Street to Detroit Blvd	600	80		20	2	1	40	60	
2	Meadowview Rd	Detroit Blvd to RR	600	80		20	2	1	40	50	
3	Detroit Blvd	Meadowview Rd to Laurie Way	1,200	80		20	2	1	30	40	
4	Detroit Blvd	Laurie Way to Reel Cir	1,400	80		20	2	1	30	40	
5	Detroit Blvd	Reel Cir to Ann Arbor Way	1,400	80		20	2	1	30	40	
6	Detroit Blvd	Ann Arbor Way to Burlington Way	2,200	80		20	2	1	30	50	
7	Cosumnes River Blvd	Delta Shores Cir (W) to Delta Shores Cir (E)	3,900	80		20	2	1	55	1250	
8	Cosumnes River Blvd	Delta Shores Cir (W) to RR	3,800	80		20	2	1	55	980	
9	Cosumnes River Blvd	RR to Franklin Blvd	5,600	80		20	2	1	55	420	-6
10	Delta Shores Cir	South of Cosumnes River Blvd	400	80		20	2	1	45	1300	
11	24th Street	A Street to Cosumnes River Blvd	800	80		20	2	1	45	600	
12	A Street	24th Street to West of Park	800	80		20	2	1	35	80	
13	A Street	West of Park to B Street	800	80		20	2	1	35	80	
14	A Street	B Street to C Street	1,200	80		20	2	1	35	80	
15	B Street	A Street to Cosumnes River Blvd	1,500	80		20	2	1	30	100	
16	C Street	D Street to E Street	2,400	80		20	2	1	35	330	
17	C Street	E Street to Cosumnes River Blvd	9,500	80		20	2	1	35	600	
18	D Street	East of C Street	2,300	80		20	2	1	30	330	
19	E Street	East of C Street	7,700	80		20	2	1	30	610	

Appendix E-5

FHWA-RD-77-108 Highway Traffic Noise Prediction Model
Data Input Sheet

Project #: 2022-004
Description: Existing + City Property (distance to nearest existing/city development receptor)
Ldn/CNEL: Ldn
Hard/Soft: Soft

Segment	Roadway Name	Segment Description	ADT	Day %	Eve %	Night %	% Med. Trucks	% Hvy. Trucks	Speed	Distance	Offset (dB)
1	Meadowview Rd	29th Street to Detroit Blvd	28,100	80		20	2	1	40	60	
2	Meadowview Rd	Detroit Blvd to RR	29,500	80		20	2	1	40	50	
3	Detroit Blvd	Meadowview Rd to Laurie Way	6,000	80		20	2	1	30	40	
4	Detroit Blvd	Laurie Way to Reel Cir	3,800	80		20	2	1	30	40	
5	Detroit Blvd	Reel Cir to Ann Arbor Way	3,000	80		20	2	1	30	40	
6	Detroit Blvd	Ann Arbor Way to Burlington Way	1,200	80		20	2	1	30	50	
7	Cosumnes River Blvd	Delta Shores Cir (W) to Delta Shores Cir (E)	26,000	80		20	2	1	55	1250	
8	Cosumnes River Blvd	Delta Shores Cir (W) to RR	25,900	80		20	2	1	55	980	
9	Cosumnes River Blvd	RR to Franklin Blvd	28,900	80		20	2	1	55	420	-6
10	Delta Shores Cir	South of Cosumnes River Blvd	2,500	80		20	2	1	45	1300	
11	24th Street	A Street to Cosumnes River Blvd	2,200	80		20	2	1	45	600	
12	A Street	24th Street to West of Park	2,200	80		20	2	1	35	80	
13	A Street	West of Park to B Street	900	80		20	2	1	35	80	
14	A Street	B Street to C Street	3,900	80		20	2	1	35	80	
15	B Street (DNE)	A Street to Cosumnes River Blvd	0	80			2	1	30	100	
16	C Street	D Street to E Street	3,000	80		20	2	1	35	330	
17	C Street	E Street to Cosumnes River Blvd	3,000	80		20	2	1	35	600	
18	D Street	East of C Street	1,000	80		20	2	1	30	330	
19	E Street (DNE)	East of C Street	0	80			2	1	30	610	

Appendix E-6

FHWA-RD-77-108 Highway Traffic Noise Prediction Model
Data Input Sheet

Project #: 2022-004
Description: Existing + Project + City Property (distance to nearest proposed receptors)
Ldn/CNEL: Ldn
Hard/Soft: Soft

Segment	Roadway Name	Segment Description	ADT	Day %	Eve %	Night %	% Med. Trucks	% Hvy. Trucks	Speed	Distance	Offset (dB)
1	Cosumnes River Blvd	Delta Shores Cir (W) to RR	29,700	80		20	2	1	55	80	
2	24th Street	A Street to Cosumnes River Blvd	3,000	80		20	2	1	45	60	
3	A Street	24th Street to West of Park	3,000	80		20	2	1	35	50	
4	A Street	West of Park to B Street	1,700	80		20	2	1	35	50	
5	A Street	B Street to C Street	5,100	80		20	2	1	35	50	
6	B Street	A Street to Cosumnes River Blvd	1,500	80		20	2	1	30	50	
7	C Street	D Street to E Street	5,400	80		20	2	1	35	55	
8	C Street	E Street to Cosumnes River Blvd	12,500	80		20	2	1	35	55	
9	D Street	East of C Street	3,300	80		20	2	1	30	50	
10	E Street	East of C Street	7,700	80		20	2	1	30	50	

APPENDIX I

WATER MASTER PLAN

Water Master Plan

STONE BEETLAND

SACRAMENTO, CALIFORNIA

APRIL 2023



CARLSON, BARBEE & GIBSON, Inc.

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- Average Day
- Maximum Day
- Peak Hour
- Maximum Day Plus Fire Flow

Appendix B SB610 Water Supply Assessment Form

Appendix C Model Boundary Conditions – Flow Test Results

I. STUDY PURPOSE AND OBJECTIVES

The Stone Beetland property ("Project") is located directly east of the Delta Shores master-planned community. The Project is approximately 140 acres and is bound by Cosumnes River Boulevard to the south, Delta Shores and the future 24th Street extension to the west, City of Sacramento property and the Detroit Boulevard Neighborhood to the north and the Sacramento Regional Transit Blue Line light rail line and station, and Morrison Creek to the east. See Figure 1 depicting the Project Location.

The proposed Project includes the development of a mixed-use community with a range of residential densities that transition from similar housing types as the surrounding communities to higher densities surrounding the Light Rail station, promoting transit-oriented development. The current land uses within the Project include approximately 1,163 residential units, 6 acres of commercial uses and 28 acres of trails, open space and integrated drainage facilities. See Figure 2 depicting the proposed Project Land Use Plan.

The proposed Project was considered as a future development site within the Delta Shores Water Master Plan, dated June 2013. Accordingly, the infrastructure surrounding the Project has been planned to provide capacity for the Project. This includes an existing 24-inch transmission pipeline and a 12-inch diameter pipeline that were installed in Cosumnes River Boulevard along the Project's southern boundary and with existing 12-inch stubs into the Project. This study is to confirm the design conditions and criteria of the proposed distribution lines within the Project meet the City of Sacramento criteria and Project demands.

II. STUDY AREA

The Study Area of this Plan includes the Project Site and surrounding infrastructure included in Cosumnes River Boulevard and future 24th Street. The proposed water distribution system includes the backbone framework within the Project Site reflected on Figure 2. The proposed pipelines will range from 8 to 12 inches in diameter.

A water model for the proposed distribution system has been assembled specific to the Stone Beetland project. The model points of connection have been coordinated with the City of Sacramento Department of Utilities and flow tests have been conducted at the following locations:

- POC 1: 8" Main at Southern Terminus of Detroit Boulevard
- POC 2: 12" Main at Cosumnes River Boulevard and Proposed "B" Street

Detailed information for the model boundary conditions provided by the City of Sacramento is enclosed in Appendix C.

III. DEMAND AND PEAKING FACTOR PROJECTIONS

This study utilizes the water demand values, system losses and peaking factors from the 2018 City of Sacramento Water Study Design Manual. Average Day Demand (ADD) unit water use factors for each land use per the Design Manual have been utilized to calculate the estimated water demand associated with the proposed Project. These water use factors include a 10% unaccounted water loss factor. A peaking factor of 2.0 was used to generate the Maximum Day Demand (MDD) and a 2.6 peaking factor was used to generate the Peak Hour Demand (PHD). The Project demands are summarized in Table 1.

Table 1 – Project Demands

Land Use	Total Units / Area	Base Unit Water Demand Factors (gpd)	Avg. Day Demand (gpd)	Peaking Factors	Max. Day Demand (gpd)	Peaking Factors	Peak Hour Demand (gpd)
Low Density Residential	190 DU	544.54	103,462	2.0	206,924	2.6	269,000
Medium Density Residential	262 DU	348.15	91,214	2.0	182,428	2.6	237,157
High Density Residential	711 DU	107.12	76,164	2.0	152,327	2.6	198,025
Commercial	6.1 AC	1,339	8,168	2.0	16,336	2.6	21,237
Open Space / Park Site	20.5 AC	2,678	54,900	2.0	109,800	2.6	142,740
Transit Station	17.6 AC	0	0	2.0	0	2.6	0
Roadways	18 AC	0	0	2.0	0	2.6	0
TOTALS:			**333,908**		**667,815**		**868,159**

IV. PROPOSED WATER SYSTEM

The following system criteria for minimum operating conditions were established to ensure that the system criteria distribution systems are adequately sized to serve the Project.

Table 2 – System Criteria for Minimum Operating Conditions

Condition	Goal
Average Day Demand Condition	
Minimum Pressure	30 psi
Maximum Pressure	80 psi
Maximum Head Loss	7 ft/kft
Maximum Velocity	5 fps
Minimum Velocity	0.10 fps
Maximum Day Plus Fire Flow Demand Condition	
Minimum Pressure	20 psi
Maximum Head Loss	10 ft/kft
Maximum Velocity	10 fps
Peak Hour Demand Condition	
Minimum Pressure	30 psi
Maximum Head Loss	7 ft/kft
Maximum Velocity	7 fps

V. HYDRAULIC ANALYSIS SUMMARY

A. Model Description

H20 NET Water Version 17.0 was used for the water modeling. The model was updated to include the street framework and specific parcel layouts and demands within the Project area. The hydraulic modeling assumptions, criteria, and results are described below. The proposed water system that was included in the model is depicted on Figure 3.

B. Assumptions

The following are the assumptions of the hydraulic modeling:

- A Hazen Williams "C" value of 130 was used to represent all pipe material, including Ductile Iron Pipe (DIP), Welded Steel, Concrete Cylinder and Polyvinyl Chloride (PVC) mains.

- Extended Period Simulations (EPS) are not warranted for this Study.

- Water demands and boundary pressure conditions were provided by the City of Sacramento Department of Utilities at two separate points of connection. These boundary conditions and flow test results are enclosed in Appendix C.

C. Hydraulic Demand Scenarios

Three hydraulic demand scenarios were modeled to observe the operating behavior and to determine water supply facility sizing for the Project. This was done to size distribution lines and to check fire flow pressures and velocities through the mains. Fire flow demands are analyzed at appropriate nodes in the system and the results are used to determine the maximum available flow while maintaining the minimum required 20 psi pressure. The locations within the system that are most sensitive to fire flow demand are analyzed to determine the overall system response to the fire flow.

D. Hydraulic Modeling Results

The hydraulic modeling criteria were used to determine the ability of the designed system to convey adequate flows and sustain sufficient pressures. In review of the various demand scenarios, the transmission and distribution mains are sized to meet current City of Sacramento Department of Utilities design standards with respect to pressure and velocity.

The table below summarize the normal operating hydraulic results from the various demand scenarios utilizing the criteria outlined above. Detailed results from each demand scenario can be found in Appendix A.

Table 3 – Modeling Results

Demand Scenario	POC 1 Operating Pressure Node J169 (psi)	POC 2 Operating Pressure Node J299 (psi)	Minimum Pressure in Development (psi)	Minimum Pressure Location (Node)	Maximum Velocity in Development (fps)	Maximum Velocity Location (Pipe)
Average Day	34.66	34.64	34.64	J299	0.42	P789
Maximum Day	34.57	34.51	34.51	J245	0.80	P789
Peak Hour	34.48	34.38	34.38	J245	1.04	P789
Maximum Day Plus Fire Flow	29.18	28.04	22.33	J243	4.67	P789

POC 1: 8-inch main at the Southern Terminus of Detroit Boulevard
POC 2: 12-inch main at Cosumnes River Boulevard and Street B

FIGURES

MEADOWVIEW ROAD

FREEPORT BLVD.

MACK ROAD

FRANKLIN BLVD.

24TH STREET

DELTA SHORES

STONE BEETLAND PROPERTY

COSUMNES RIVER BLVD.

INTERSTATE 5

SACRAMENTO RIVER

Stone Creek Avenue

LDR 13.45
LDR 4.91
MDR 5.27
LDR 3.39
LDR 7.43
LDR 6.42
LDR 7.99
LDR 15.60
LDR 6.27
HDR 5.88
MDR 14.20
MDR 8.77
MDR 10.46
MDR 11.4
MDR 7.53
ES 9.98
Community Center 2.60
Park 6.6
W 1.65
MDR 9.71
HDR 8.46
MDR 9.43
Park 3.10
MDR 5.74
HDR 3.92
Commercial Retail 24.73 ac., (250k - 316k SF)
HDR 5.96
Park 1.76
F 2.0
5k - 15k SF
HDR 4.06
MDR 8.90
MDR 9.44
MDR 5.78
HDR 4.99
HDR 3.99
Park 3.49
HDR 8.63
MDR 7.60
MDR 9.66
MDR 9.35
MU-1 5.44 ac
MU-2 14.49 ac (Commercial 90k - 161k SF)
Community Park 26.64
Detention Basin 7.28
HDR 5.80
HDR 5.85
ES 9.92
Park 5.05
HDR 6.83
MDR 14.13
MDR 8.65
Commercial Retail 29.24 ac., (256k - 320k SF)
MDR 11.37
Park 3.01
LDR 9.36
Detention Basin 7.57
Park 6.02
LDR 12.21
Commercial Retail 37.16 ac., (256k - 300k SF)
Commercial Retail 30.76 ac., (276k - 336k SF)
Detention Basin 17.00

0 400 800 1200

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FIGURE 1
CONTEXTUAL REGIONAL MAP
STONE BEETLAND

CITY OF SACRAMENTO SACRAMENTO COUNTY CALIFORNIA

SCALE:1"=400' DATE: NOVEMBER, 2021

F:\3377-000\ACAD\EXHIBITS\XB_CONTEXTUAL MAP (SRCSD).DWG

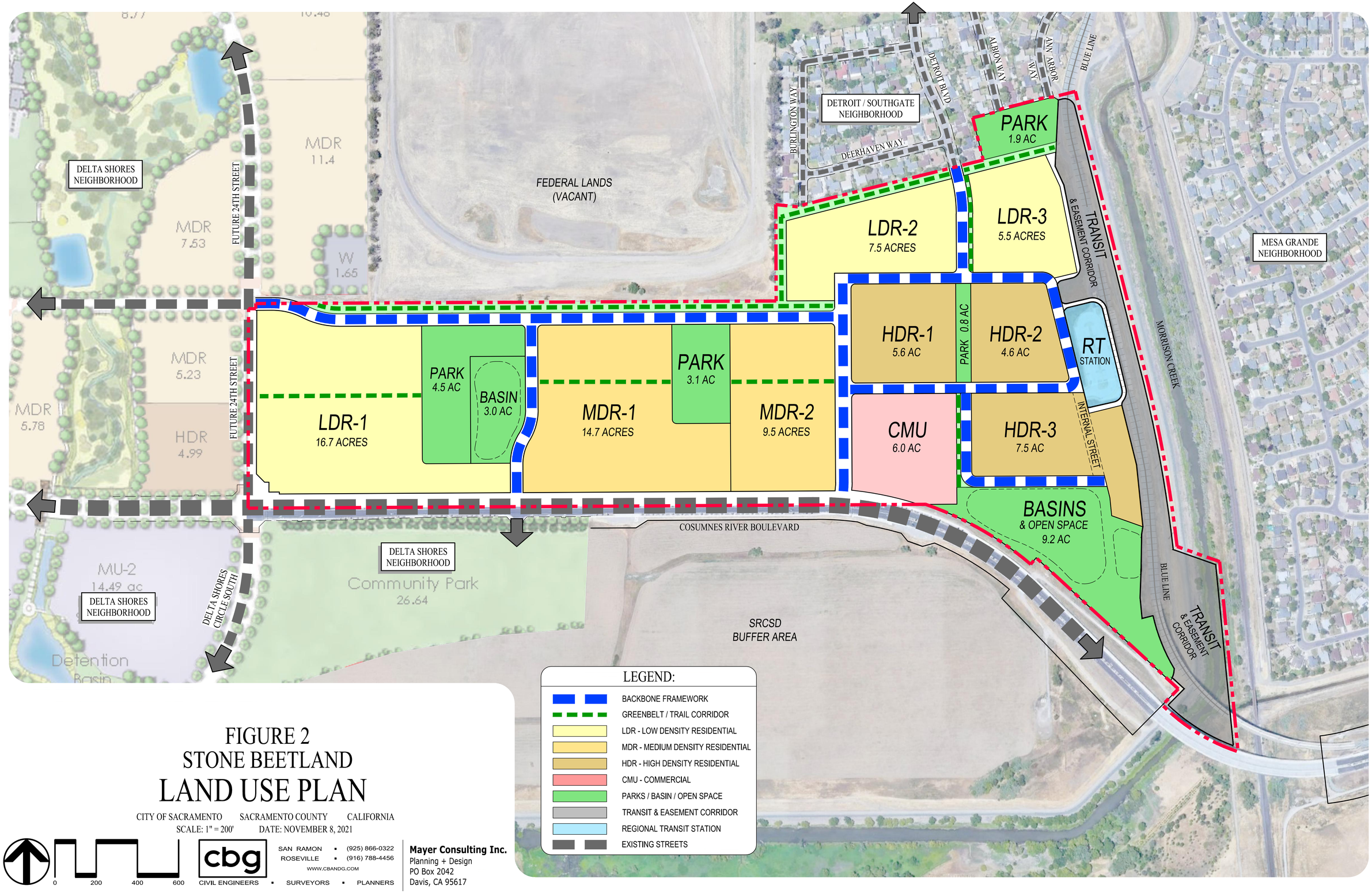


FIGURE 2
STONE BEETLAND
LAND USE PLAN

CITY OF SACRAMENTO SACRAMENTO COUNTY CALIFORNIA

SCALE: 1" = 200' DATE: NOVEMBER 8, 2021

0 200 400 600

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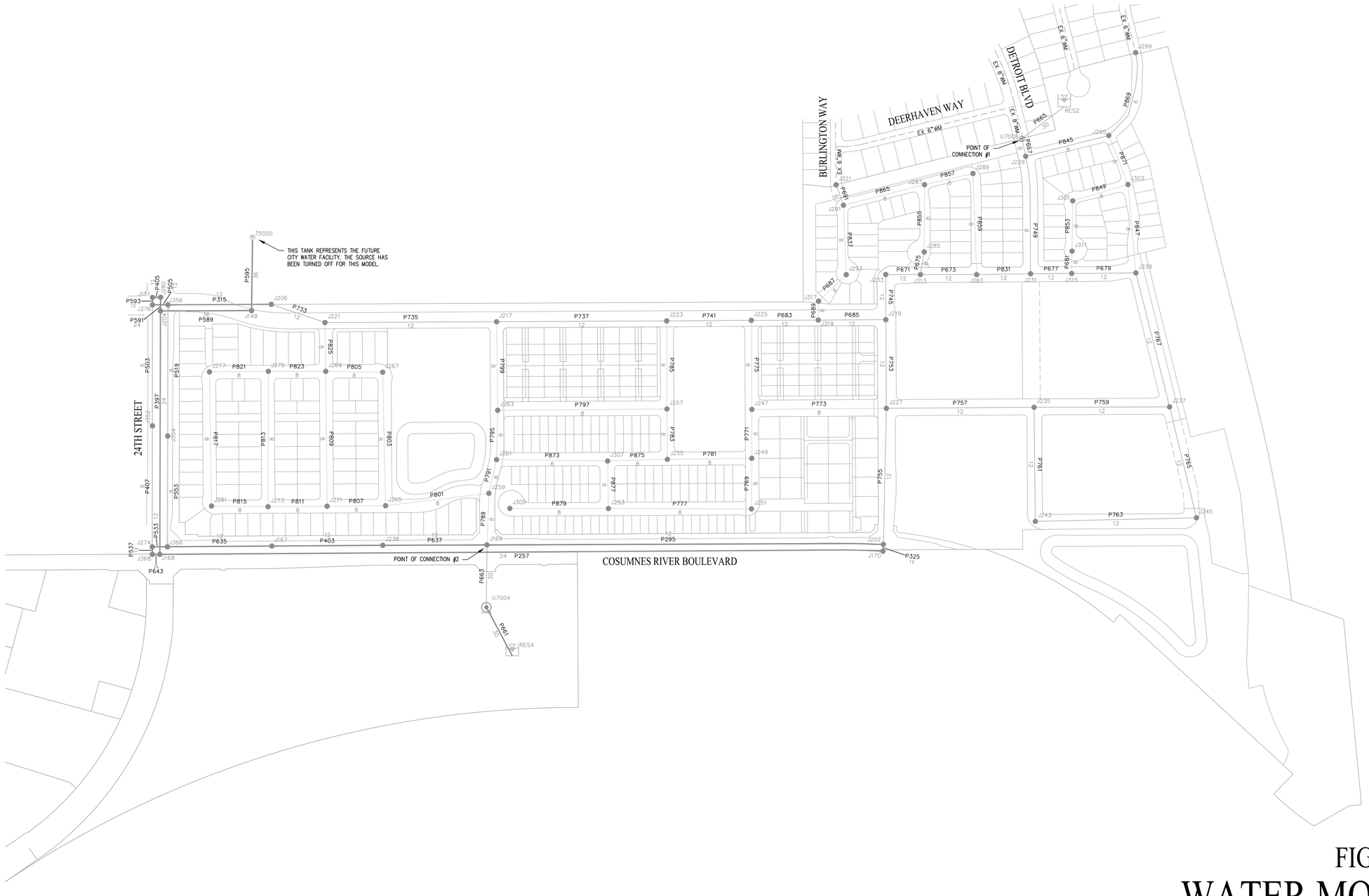


FIGURE 3
WATER MODEL SYSTEM
STONE BEETLAND

CITY OF SACRAMENTO SACRAMENTO COUNTY CALIFORNIA

SCALE: 1"=200' DATE: MARCH 31, 2023

0 200 400 600

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APPENDICES

APPENDIX A
Model Results

Average Day

		ID	Demand (gpm)	Elevation (ft)	Head (ft)	Pressure (psi)
1	☐	J169	0.00	10.00	90.00	34.66
2	☐	J238	0.00	10.00	89.99	34.66
3	☐	J167	0.00	10.00	89.98	34.66
4	☐	J366	0.00	10.00	89.98	34.65
5	☐	J274	0.00	10.00	89.98	34.65
6	☐	J354	0.00	10.00	89.98	34.65
7	☐	J352	0.00	10.00	89.97	34.65
8	☐	J368	0.00	10.00	89.98	34.65
9	☐	J168	0.00	10.00	89.97	34.65
10	☐	J259	1.13	10.00	89.97	34.65
11	☐	J149	0.00	10.00	89.97	34.65
12	☐	J204	0.00	10.00	89.97	34.65
13	☐	J280	0.00	10.00	89.97	34.65
14	☐	J151	0.00	10.00	89.97	34.65
15	☐	J170	0.00	10.00	89.97	34.65
16	☐	J276	0.00	10.00	89.97	34.65
17	☐	J202	0.00	10.00	89.97	34.65
18	☐	J356	0.00	10.00	89.97	34.65
19	☐	J206	0.00	10.00	89.97	34.65
20	☐	J221	0.00	10.00	89.97	34.65
21	☐	J265	4.16	10.00	89.97	34.65
22	☐	J267	2.27	10.00	89.97	34.65
23	☐	J269	3.78	10.00	89.97	34.65
24	☐	J271	5.67	10.00	89.97	34.65
25	☐	J261	6.14	10.00	89.97	34.65
26	☐	J217	2.90	10.00	89.97	34.65
27	☐	J275	4.16	10.00	89.97	34.65
28	☐	J273	5.67	10.00	89.97	34.65
29	☐	J281	5.21	10.00	89.97	34.65
30	☐	J277	5.67	10.00	89.97	34.65
31	☐	J263	12.22	10.00	89.97	34.65
32	☐	J223	2.90	10.00	89.96	34.65
33	☐	J257	4.84	10.00	89.96	34.65
34	☐	J307	4.11	10.00	89.96	34.65
35	☐	J255	2.18	10.00	89.96	34.65
36	☐	J253	6.04	10.00	89.96	34.65
37	☐	J309	2.42	10.00	89.96	34.65
38	☐	J225	2.90	10.00	89.96	34.65
39	☐	J249	2.42	10.00	89.96	34.65
40	☐	J251	7.49	10.00	89.96	34.65
41	☐	J247	14.12	10.00	89.96	34.65
42	☐	J227	18.85	10.00	89.96	34.65
43	☐	J319	0.00	10.00	89.96	34.65
44	☐	J317	0.00	10.00	89.96	34.65
45	☐	J219	1.21	10.00	89.96	34.65
46	☐	J293	3.03	10.00	89.96	34.65
47	☐	J233	4.48	10.00	89.96	34.64
48	☐	J321	0.00	10.00	89.96	34.64
49	☐	J291	3.03	10.00	89.96	34.64
50	☐	J313	0.00	10.00	89.96	34.64
51	☐	J285	3.03	10.00	89.96	34.64
52	☐	J287	1.89	10.00	89.96	34.64
53	☐	J289	3.03	10.00	89.95	34.64
54	☐	J283	3.03	10.00	89.95	34.64
55	☐	J235	13.22	10.00	89.95	34.64
56	☐	J231	9.67	10.00	89.95	34.64
57	☐	J315	0.00	10.00	89.95	34.64
58	☐	J239	5.57	10.00	89.95	34.64
59	☐	J243	5.06	10.00	89.95	34.64
60	☐	J311	2.27	10.00	89.95	34.64
61	☐	J237	8.74	10.00	89.95	34.64

		ID	Demand (gpm)	Elevation (ft)	Head (ft)	Pressure (psi)
62	☐	J229	3.03	10.00	89.95	34.64
63	☐	J301	3.03	10.00	89.95	34.64
64	☐	J303	3.78	10.00	89.95	34.64
65	☐	J295	1.51	10.00	89.95	34.64
66	☐	J245	22.17	10.00	89.95	34.64
67	☐	J299	3.53	10.00	89.95	34.64

		ID	From Node	To Node	Length (ft)	Diameter (in)	Roughness	Flow (gpm)	Velocity (ft/s)	HL/1000 (ft/k-ft)
1	☐	P789	J169	J259	206.04	8.00	130.00	65.18	0.42	0.12
2	☐	P791	J259	J261	137.35	8.00	130.00	42.85	0.27	0.05
3	☐	P755	J227	J202	542.10	12.00	130.00	-90.19	0.26	0.03
4	☐	P739	J217	J169	893.75	8.00	130.00	-34.10	0.22	0.04
5	☐	P403	J167	J238	441.66	12.00	130.00	-68.74	0.19	0.02
6	☐	P635	J366	J167	416.28	12.00	130.00	-68.74	0.19	0.02
7	☐	P637	J238	J169	415.02	12.00	130.00	-68.74	0.19	0.02
8	☐	P295	J169	J202	1,578.94	12.00	130.00	63.55	0.18	0.02
9	☐	P533	J274	J366	60.00	12.00	130.00	-61.43	0.17	0.01
10	☐	P537	J274	J368	29.96	12.00	130.00	57.01	0.16	0.01
11	☐	P873	J261	J307	442.54	8.00	130.00	21.62	0.14	0.02
12	☐	P801	J259	J265	414.60	8.00	130.00	21.20	0.14	0.01
13	☐	P737	J223	J217	677.43	12.00	130.00	-46.90	0.13	0.01
14	☐	P745	J233	J219	179.85	12.00	130.00	-46.41	0.13	0.01
15	☐	P757	J235	J227	588.20	12.00	130.00	-43.99	0.12	0.01
16	☐	P741	J225	J223	337.20	12.00	130.00	-42.36	0.12	0.01
17	☐	P315	J356	J206	411.71	12.00	130.00	42.10	0.12	0.01
18	☐	P733	J221	J206	225.66	12.00	130.00	-42.10	0.12	0.01
19	☐	P661	RES4	U7004	50.00	30.00	130.00	231.56	0.11	0.00
20	☐	P663	U7004	J169	5.00	30.00	130.00	231.56	0.11	0.00
21	☐	P505	J276	J356	61.69	12.00	130.00	34.79	0.10	0.01
22	☐	P825	J269	J221	194.47	8.00	130.00	-15.39	0.10	0.01
23	☐	P795	J261	J263	196.68	8.00	130.00	15.08	0.10	0.01
24	☐	P683	J225	J319	266.49	12.00	130.00	32.97	0.09	0.00
25	☐	P671	J233	J313	138.16	12.00	130.00	32.09	0.09	0.00
26	☐	P797	J257	J263	674.05	8.00	130.00	-13.87	0.09	0.01
27	☐	P877	J253	J307	189.37	8.00	130.00	-13.86	0.09	0.01
28	☐	P593	J151	J276	29.39	12.00	130.00	30.37	0.09	0.00
29	☐	P405	J280	J151	32.15	12.00	130.00	30.37	0.09	0.00
30	☐	P687	J293	J317	152.75	8.00	130.00	-12.70	0.08	0.01
31	☐	P689	J317	J319	75.24	8.00	130.00	-12.70	0.08	0.01
32	☐	P831	J231	J283	214.59	12.00	130.00	-27.75	0.08	0.00
33	☐	P753	J219	J227	353.29	12.00	130.00	-27.34	0.08	0.00
34	☐	P781	J249	J255	336.20	8.00	130.00	-12.14	0.08	0.01
35	☐	P673	J313	J283	224.11	12.00	130.00	27.09	0.08	0.00
36	☐	P735	J217	J221	683.58	12.00	130.00	-26.71	0.08	0.00
37	☐	P325	J170	J202	27.23	12.00	130.00	26.64	0.08	0.00
38	☐	P807	J265	J271	232.86	8.00	130.00	11.43	0.07	0.00
39	☐	P823	J275	J269	228.70	8.00	130.00	-11.24	0.07	0.00
40	☐	P799	J263	J217	352.64	8.00	130.00	-11.01	0.07	0.00
41	☐	P783	J255	J257	200.47	8.00	130.00	-10.67	0.07	0.00
42	☐	P747	J231	J233	576.84	8.00	130.00	-9.84	0.06	0.00
43	☐	P837	J291	J293	276.72	8.00	130.00	-9.67	0.06	0.00
44	☐	P811	J271	J273	235.09	8.00	130.00	9.47	0.06	0.00
45	☐	P685	J319	J219	269.08	12.00	130.00	20.27	0.06	0.00
46	☐	P677	J231	J315	163.70	12.00	130.00	17.58	0.05	0.00
47	☐	P771	J249	J247	194.85	8.00	130.00	7.63	0.05	0.00
48	☐	P553	J366	J354	440.90	8.00	130.00	7.31	0.05	0.00
49	☐	P519	J356	J354	523.02	8.00	130.00	-7.31	0.05	0.00
50	☐	P681	J311	J315	88.91	8.00	130.00	-7.18	0.05	0.00
51	☐	P761	J243	J235	454.61	12.00	130.00	-15.65	0.04	0.00
52	☐	P759	J237	J235	539.80	12.00	130.00	-15.12	0.04	0.00
53	☐	P857	J287	J289	197.91	8.00	130.00	6.72	0.04	0.00
54	☐	P865	J287	J291	333.25	8.00	130.00	-6.64	0.04	0.00
55	☐	P775	J247	J225	354.94	8.00	130.00	-6.49	0.04	0.00
56	☐	P643	J368	J168	30.00	24.00	130.00	57.01	0.04	0.00
57	☐	P869	J295	J299	366.86	6.00	130.00	3.53	0.04	0.00
58	☐	P821	J277	J275	234.18	8.00	130.00	-5.67	0.04	0.00
59	☐	P749	J229	J231	469.29	8.00	130.00	-5.66	0.04	0.00
60	☐	P803	J265	J267	531.78	8.00	130.00	5.61	0.04	0.00
61	☐	P777	J251	J253	569.75	8.00	130.00	-5.40	0.03	0.00

		ID	From Node	To Node	Length (ft)	Diameter (in)	Roughness	Flow (gpm)	Velocity (ft/s)	HL/1000 (ft/k-ft)
62	☐	P815	J273	J281	225.33	8.00	130.00	5.21	0.03	0.00
63	☐	P765	J245	J237	454.61	12.00	130.00	-11.58	0.03	0.00
64	☐	P675	J285	J313	91.58	8.00	130.00	-5.00	0.03	0.00
65	☐	P853	J301	J311	200.46	8.00	130.00	-4.91	0.03	0.00
66	☐	P763	J245	J243	641.81	12.00	130.00	-10.59	0.03	0.00
67	☐	P751	J239	J231	419.44	8.00	130.00	-4.69	0.03	0.00
68	☐	P679	J315	J239	255.73	12.00	130.00	10.39	0.03	0.00
69	☐	P503	J276	J352	482.01	8.00	130.00	-4.42	0.03	0.00
70	☐	P407	J352	J274	482.01	8.00	130.00	-4.42	0.03	0.00
71	☐	P847	J303	J239	353.40	8.00	130.00	-4.31	0.03	0.00
72	☐	P809	J271	J269	537.32	8.00	130.00	-3.71	0.02	0.00
73	☐	P859	J289	J283	403.45	8.00	130.00	3.69	0.02	0.00
74	☐	P875	J307	J255	237.90	8.00	130.00	3.65	0.02	0.00
75	☐	P591	J280	J204	54.27	24.00	130.00	-30.37	0.02	0.00
76	☐	P397	J204	J168	969.72	24.00	130.00	-30.37	0.02	0.00
77	☐	P805	J267	J269	226.91	8.00	130.00	3.34	0.02	0.00
78	☐	P257	J170	J168	2,880.19	24.00	130.00	-26.64	0.02	0.00
79	☐	P845	J295	J229	341.23	8.00	130.00	-2.63	0.02	0.00
80	☐	P879	J253	J309	392.67	8.00	130.00	2.42	0.02	0.00
81	☐	P871	J303	J295	209.72	8.00	130.00	2.41	0.02	0.00
82	☐	P767	J237	J239	550.60	12.00	130.00	-5.20	0.01	0.00
83	☐	P769	J251	J249	201.37	8.00	130.00	-2.09	0.01	0.00
84	☐	P855	J285	J287	268.07	8.00	130.00	1.97	0.01	0.00
85	☐	P849	J303	J301	229.53	8.00	130.00	-1.88	0.01	0.00
86	☐	P785	J257	J223	351.06	8.00	130.00	-1.64	0.01	0.00
87	☐	P813	J273	J275	539.11	8.00	130.00	-1.41	0.01	0.00
88	☐	P667	U7008	J229	72.10	8.00	130.00	0.00	0.00	0.00
89	☐	P691	J291	J321	86.30	6.00	130.00	0.00	0.00	0.00
90	☐	P773	J247	J227	535.60	8.00	130.00	0.00	0.00	0.00
91	☐	P665	RES2	U7008	10.00	30.00	130.00	0.00	0.00	0.00
92	☐	P595	J149	T5000	282.60	36.00	130.00	0.00	0.00	0.00
93	☐	P589	J204	J149	362.77	36.00	130.00	0.00	0.00	0.00
94	☐	P817	J281	J277	534.50	8.00	130.00	0.00	0.00	0.00

Maximum Day

		ID	Demand (gpm)	Elevation (ft)	Head (ft)	Pressure (psi)
1	☐	J169	0.00	10.00	89.78	34.57
2	☐	J238	0.00	10.00	89.75	34.56
3	☐	J167	0.00	10.00	89.72	34.54
4	☐	J259	8.70	10.00	89.70	34.53
5	☐	J366	0.00	10.00	89.70	34.53
6	☐	J274	0.00	10.00	89.69	34.53
7	☐	J354	0.00	10.00	89.69	34.53
8	☐	J368	0.00	10.00	89.69	34.53
9	☐	J168	0.00	10.00	89.69	34.53
10	☐	J170	0.00	10.00	89.69	34.53
11	☐	J202	0.00	10.00	89.69	34.53
12	☐	J149	0.00	10.00	89.69	34.53
13	☐	J204	0.00	10.00	89.69	34.53
14	☐	J280	0.00	10.00	89.69	34.53
15	☐	J151	0.00	10.00	89.69	34.53
16	☐	J276	0.00	10.00	89.69	34.53
17	☐	J356	0.00	10.00	89.69	34.53
18	☐	J352	45.12	10.00	89.68	34.53
19	☐	J206	0.00	10.00	89.68	34.53
20	☐	J221	0.00	10.00	89.68	34.52
21	☐	J261	7.74	10.00	89.68	34.52
22	☐	J265	8.32	10.00	89.68	34.52
23	☐	J217	5.80	10.00	89.67	34.52
24	☐	J267	5.30	10.00	89.67	34.52
25	☐	J269	7.56	10.00	89.67	34.52
26	☐	J271	11.34	10.00	89.67	34.52
27	☐	J263	23.44	10.00	89.67	34.52
28	☐	J275	9.08	10.00	89.67	34.52
29	☐	J273	11.34	10.00	89.67	34.52
30	☐	J277	7.56	10.00	89.67	34.52
31	☐	J281	10.58	10.00	89.67	34.52
32	☐	J223	5.80	10.00	89.66	34.52
33	☐	J307	0.00	10.00	89.66	34.52
34	☐	J257	21.96	10.00	89.66	34.52
35	☐	J255	9.68	10.00	89.66	34.51
36	☐	J309	0.00	10.00	89.65	34.51
37	☐	J253	12.08	10.00	89.65	34.51
38	☐	J225	4.36	10.00	89.65	34.51
39	☐	J249	4.36	10.00	89.65	34.51
40	☐	J227	15.96	10.00	89.65	34.51
41	☐	J247	10.16	10.00	89.65	34.51
42	☐	J251	22.72	10.00	89.65	34.51
43	☐	J319	0.00	10.00	89.65	34.51
44	☐	J219	4.36	10.00	89.65	34.51
45	☐	J317	0.00	10.00	89.65	34.51
46	☐	J293	5.30	10.00	89.65	34.51
47	☐	J233	2.26	10.00	89.65	34.51
48	☐	J321	0.00	10.00	89.64	34.51
49	☐	J291	5.30	10.00	89.64	34.51
50	☐	J313	0.00	10.00	89.64	34.51
51	☐	J285	4.54	10.00	89.64	34.51
52	☐	J287	5.30	10.00	89.64	34.51
53	☐	J289	6.06	10.00	89.64	34.51
54	☐	J283	6.06	10.00	89.64	34.51
55	☐	J231	3.02	10.00	89.64	34.51
56	☐	J315	0.00	10.00	89.64	34.51
57	☐	J311	0.00	10.00	89.64	34.51
58	☐	J229	3.78	10.00	89.64	34.51
59	☐	J299	0.00	10.00	89.64	34.51
60	☐	J295	2.26	10.00	89.64	34.51
61	☐	J239	3.02	10.00	89.64	34.51

		ID	Demand (gpm)	Elevation (ft)	Head (ft)	Pressure (psi)
62	☐	J301	6.80	10.00	89.64	34.51
63	☐	J303	6.06	10.00	89.64	34.51
64	☐	J237	0.00	10.00	89.64	34.51
65	☐	J235	76.66	10.00	89.64	34.51
66	☐	J243	0.00	10.00	89.64	34.51
67	☐	J245	40.46	10.00	89.64	34.51

		ID	From Node	To Node	Length (ft)	Diameter (in)	Roughness	Flow (gpm)	Velocity (ft/s)	HL/1000 (ft/k-ft)
1	☐	P789	J169	J259	206.04	8.00	130.00	125.05	0.80	0.39
2	☐	P791	J259	J261	137.35	8.00	130.00	75.00	0.48	0.15
3	☐	P755	J227	J202	542.10	12.00	130.00	-147.01	0.42	0.07
4	☐	P739	J217	J169	893.75	8.00	130.00	-64.65	0.41	0.11
5	☐	P403	J167	J238	441.66	12.00	130.00	-135.95	0.39	0.06
6	☐	P635	J366	J167	416.28	12.00	130.00	-135.95	0.39	0.06
7	☐	P637	J238	J169	415.02	12.00	130.00	-135.95	0.39	0.06
8	☐	P295	J169	J202	1,578.94	12.00	130.00	124.56	0.35	0.05
9	☐	P533	J274	J366	60.00	12.00	130.00	-121.60	0.34	0.05
10	☐	P537	J274	J368	29.96	12.00	130.00	96.70	0.27	0.03
11	☐	P801	J259	J265	414.60	8.00	130.00	41.35	0.26	0.05
12	☐	P757	J235	J227	588.20	12.00	130.00	-84.64	0.24	0.03
13	☐	P873	J261	J307	442.54	8.00	130.00	37.22	0.24	0.04
14	☐	P737	J223	J217	677.43	12.00	130.00	-79.23	0.22	0.02
15	☐	P593	J151	J276	29.39	12.00	130.00	74.24	0.21	0.02
16	☐	P405	J280	J151	32.15	12.00	130.00	74.24	0.21	0.02
17	☐	P661	RES4	U7004	50.00	30.00	130.00	450.20	0.20	0.01
18	☐	P663	U7004	J169	5.00	30.00	130.00	450.20	0.20	0.01
19	☐	P745	J233	J219	179.85	12.00	130.00	-71.46	0.20	0.02
20	☐	P315	J356	J206	411.71	12.00	130.00	68.37	0.19	0.02
21	☐	P733	J221	J206	225.66	12.00	130.00	-68.37	0.19	0.02
22	☐	P795	J261	J263	196.68	8.00	130.00	30.04	0.19	0.03
23	☐	P825	J269	J221	194.47	8.00	130.00	-29.73	0.19	0.03
24	☐	P741	J225	J223	337.20	12.00	130.00	-63.13	0.18	0.02
25	☐	P407	J352	J274	482.01	8.00	130.00	-24.90	0.16	0.02
26	☐	P797	J257	J263	674.05	8.00	130.00	-24.86	0.16	0.02
27	☐	P505	J276	J356	61.69	12.00	130.00	54.02	0.15	0.01
28	☐	P671	J233	J313	138.16	12.00	130.00	53.55	0.15	0.01
29	☐	P877	J253	J307	189.37	8.00	130.00	-23.38	0.15	0.02
30	☐	P683	J225	J319	266.49	12.00	130.00	50.90	0.14	0.01
31	☐	P807	J265	J271	232.86	8.00	130.00	21.96	0.14	0.02
32	☐	P823	J275	J269	228.70	8.00	130.00	-20.96	0.13	0.01
33	☐	P687	J293	J317	152.75	8.00	130.00	-20.78	0.13	0.01
34	☐	P689	J317	J319	75.24	8.00	130.00	-20.78	0.13	0.01
35	☐	P753	J219	J227	353.29	12.00	130.00	-45.70	0.13	0.01
36	☐	P503	J276	J352	482.01	8.00	130.00	20.22	0.13	0.01
37	☐	P673	J313	J283	224.11	12.00	130.00	43.54	0.12	0.01
38	☐	P831	J231	J283	214.59	12.00	130.00	-41.76	0.12	0.01
39	☐	P799	J263	J217	352.64	8.00	130.00	-18.26	0.12	0.01
40	☐	P811	J271	J273	235.09	8.00	130.00	17.60	0.11	0.01
41	☐	P781	J249	J255	336.20	8.00	130.00	-17.37	0.11	0.01
42	☐	P735	J217	J221	683.58	12.00	130.00	-38.64	0.11	0.01
43	☐	P677	J231	J315	163.70	12.00	130.00	35.32	0.10	0.01
44	☐	P747	J231	J233	576.84	8.00	130.00	-15.66	0.10	0.01
45	☐	P837	J291	J293	276.72	8.00	130.00	-15.48	0.10	0.01
46	☐	P767	J237	J239	550.60	12.00	130.00	-32.48	0.09	0.00
47	☐	P553	J366	J354	440.90	8.00	130.00	14.35	0.09	0.01
48	☐	P519	J356	J354	523.02	8.00	130.00	-14.35	0.09	0.01
49	☐	P875	J307	J255	237.90	8.00	130.00	13.85	0.09	0.01
50	☐	P685	J319	J219	269.08	12.00	130.00	30.13	0.09	0.00
51	☐	P783	J255	J257	200.47	8.00	130.00	-13.20	0.08	0.01
52	☐	P679	J315	J239	255.73	12.00	130.00	26.68	0.08	0.00
53	☐	P769	J251	J249	201.37	8.00	130.00	-11.42	0.07	0.00
54	☐	P765	J245	J237	454.61	12.00	130.00	-25.53	0.07	0.00
55	☐	P777	J251	J253	569.75	8.00	130.00	-11.30	0.07	0.00
56	☐	P803	J265	J267	531.78	8.00	130.00	11.07	0.07	0.00
57	☐	P643	J368	J168	30.00	24.00	130.00	96.70	0.07	0.00
58	☐	P751	J239	J231	419.44	8.00	130.00	-10.43	0.07	0.00
59	☐	P857	J287	J289	197.91	8.00	130.00	10.35	0.07	0.00
60	☐	P785	J257	J223	351.06	8.00	130.00	-10.30	0.07	0.00
61	☐	P865	J287	J291	333.25	8.00	130.00	-10.18	0.06	0.00

		ID	From Node	To Node	Length (ft)	Diameter (in)	Roughness	Flow (gpm)	Velocity (ft/s)	HL/1000 (ft/k-ft)
62	☐	P675	J285	J313	91.58	8.00	130.00	-10.01	0.06	0.00
63	☐	P325	J170	J202	27.23	12.00	130.00	22.46	0.06	0.00
64	☐	P821	J277	J275	234.18	8.00	130.00	-9.28	0.06	0.00
65	☐	P815	J273	J281	225.33	8.00	130.00	8.86	0.06	0.00
66	☐	P749	J229	J231	469.29	8.00	130.00	-8.65	0.06	0.00
67	☐	P853	J301	J311	200.46	8.00	130.00	-8.64	0.06	0.00
68	☐	P681	J311	J315	88.91	8.00	130.00	-8.64	0.06	0.00
69	☐	P397	J204	J168	969.72	24.00	130.00	-74.24	0.05	0.00
70	☐	P591	J280	J204	54.27	24.00	130.00	-74.24	0.05	0.00
71	☐	P775	J247	J225	354.94	8.00	130.00	-7.86	0.05	0.00
72	☐	P809	J271	J269	537.32	8.00	130.00	-6.98	0.04	0.00
73	☐	P761	J243	J235	454.61	12.00	130.00	-14.93	0.04	0.00
74	☐	P763	J245	J243	641.81	12.00	130.00	-14.93	0.04	0.00
75	☐	P805	J267	J269	226.91	8.00	130.00	5.77	0.04	0.00
76	☐	P855	J285	J287	268.07	8.00	130.00	5.47	0.03	0.00
77	☐	P845	J295	J229	341.23	8.00	130.00	-4.87	0.03	0.00
78	☐	P859	J289	J283	403.45	8.00	130.00	4.29	0.03	0.00
79	☐	P759	J237	J235	539.80	12.00	130.00	6.95	0.02	0.00
80	☐	P871	J303	J295	209.72	8.00	130.00	-2.61	0.02	0.00
81	☐	P813	J273	J275	539.11	8.00	130.00	-2.60	0.02	0.00
82	☐	P257	J170	J168	2,880.19	24.00	130.00	-22.46	0.02	0.00
83	☐	P849	J303	J301	229.53	8.00	130.00	-1.84	0.01	0.00
84	☐	P817	J281	J277	534.50	8.00	130.00	-1.72	0.01	0.00
85	☐	P847	J303	J239	353.40	8.00	130.00	-1.62	0.01	0.00
86	☐	P771	J249	J247	194.85	8.00	130.00	1.58	0.01	0.00
87	☐	P773	J247	J227	535.60	8.00	130.00	-0.72	0.00	0.00
88	☐	P691	J291	J321	86.30	6.00	130.00	0.00	0.00	0.00
89	☐	P869	J295	J299	366.86	6.00	130.00	0.00	0.00	0.00
90	☐	P667	U7008	J229	72.10	8.00	130.00	0.00	0.00	0.00
91	☐	P665	RES2	U7008	10.00	30.00	130.00	0.00	0.00	0.00
92	☐	P595	J149	T5000	282.60	36.00	130.00	0.00	0.00	0.00
93	☐	P589	J204	J149	362.77	36.00	130.00	0.00	0.00	0.00
94	☐	P879	J253	J309	392.67	8.00	130.00	0.00	0.00	0.00

Peak Hour

		ID	Demand (gpm)	Elevation (ft)	Head (ft)	Pressure (psi)
1	☐	J169	0.00	10.00	89.58	34.48
2	☐	J238	0.00	10.00	89.54	34.46
3	☐	J167	0.00	10.00	89.49	34.44
4	☐	J259	11.31	10.00	89.45	34.42
5	☐	J366	0.00	10.00	89.45	34.42
6	☐	J274	0.00	10.00	89.44	34.42
7	☐	J354	0.00	10.00	89.44	34.42
8	☐	J368	0.00	10.00	89.44	34.42
9	☐	J168	0.00	10.00	89.44	34.42
10	☐	J170	0.00	10.00	89.44	34.42
11	☐	J202	0.00	10.00	89.44	34.42
12	☐	J149	0.00	10.00	89.44	34.42
13	☐	J204	0.00	10.00	89.44	34.42
14	☐	J280	0.00	10.00	89.44	34.42
15	☐	J151	0.00	10.00	89.44	34.42
16	☐	J276	0.00	10.00	89.44	34.42
17	☐	J356	0.00	10.00	89.44	34.42
18	☐	J352	58.66	10.00	89.43	34.42
19	☐	J206	0.00	10.00	89.43	34.41
20	☐	J221	0.00	10.00	89.42	34.41
21	☐	J261	10.06	10.00	89.41	34.41
22	☐	J265	10.82	10.00	89.41	34.41
23	☐	J217	7.54	10.00	89.41	34.41
24	☐	J267	6.89	10.00	89.41	34.41
25	☐	J269	9.83	10.00	89.41	34.41
26	☐	J271	14.74	10.00	89.41	34.41
27	☐	J263	30.47	10.00	89.41	34.41
28	☐	J275	11.80	10.00	89.40	34.41
29	☐	J273	14.74	10.00	89.40	34.41
30	☐	J277	9.83	10.00	89.40	34.41
31	☐	J281	13.75	10.00	89.40	34.41
32	☐	J223	7.54	10.00	89.39	34.40
33	☐	J307	0.00	10.00	89.38	34.40
34	☐	J257	28.55	10.00	89.38	34.40
35	☐	J255	12.58	10.00	89.38	34.40
36	☐	J309	0.00	10.00	89.38	34.40
37	☐	J253	15.70	10.00	89.38	34.40
38	☐	J225	5.67	10.00	89.38	34.39
39	☐	J249	5.67	10.00	89.38	34.39
40	☐	J227	20.75	10.00	89.38	34.39
41	☐	J247	13.21	10.00	89.38	34.39
42	☐	J251	29.54	10.00	89.38	34.39
43	☐	J319	0.00	10.00	89.37	34.39
44	☐	J219	5.67	10.00	89.37	34.39
45	☐	J317	0.00	10.00	89.37	34.39
46	☐	J293	6.89	10.00	89.37	34.39
47	☐	J233	2.94	10.00	89.37	34.39
48	☐	J321	0.00	10.00	89.36	34.39
49	☐	J291	6.89	10.00	89.36	34.39
50	☐	J313	0.00	10.00	89.36	34.39
51	☐	J285	5.90	10.00	89.36	34.39
52	☐	J287	6.89	10.00	89.36	34.39
53	☐	J289	7.88	10.00	89.36	34.39
54	☐	J283	7.88	10.00	89.36	34.39
55	☐	J231	3.93	10.00	89.36	34.39
56	☐	J315	0.00	10.00	89.36	34.39
57	☐	J311	0.00	10.00	89.36	34.39
58	☐	J229	4.91	10.00	89.36	34.39
59	☐	J299	0.00	10.00	89.36	34.38
60	☐	J295	2.94	10.00	89.36	34.38
61	☐	J239	3.93	10.00	89.36	34.38

		ID	Demand (gpm)	Elevation (ft)	Head (ft)	Pressure (psi)
62	☐	J301	8.84	10.00	89.36	34.38
63	☐	J303	7.88	10.00	89.36	34.38
64	☐	J237	0.00	10.00	89.35	34.38
65	☐	J235	99.66	10.00	89.35	34.38
66	☐	J243	0.00	10.00	89.35	34.38
67	☐	J245	52.60	10.00	89.35	34.38

		ID	From Node	To Node	Length (ft)	Diameter (in)	Roughness	Flow (gpm)	Velocity (ft/s)	HL/1000 (ft/k-ft)
1	☐	P789	J169	J259	206.04	8.00	130.00	162.57	1.04	0.63
2	☐	P791	J259	J261	137.35	8.00	130.00	97.50	0.62	0.25
3	☐	P755	J227	J202	542.10	12.00	130.00	-191.13	0.54	0.12
4	☐	P739	J217	J169	893.75	8.00	130.00	-84.04	0.54	0.19
5	☐	P403	J167	J238	441.66	12.00	130.00	-176.74	0.50	0.10
6	☐	P635	J366	J167	416.28	12.00	130.00	-176.74	0.50	0.10
7	☐	P637	J238	J169	415.02	12.00	130.00	-176.74	0.50	0.10
8	☐	P295	J169	J202	1,578.94	12.00	130.00	161.93	0.46	0.09
9	☐	P533	J274	J366	60.00	12.00	130.00	-158.08	0.45	0.08
10	☐	P537	J274	J368	29.96	12.00	130.00	125.71	0.36	0.05
11	☐	P801	J259	J265	414.60	8.00	130.00	53.76	0.34	0.08
12	☐	P757	J235	J227	588.20	12.00	130.00	-110.04	0.31	0.04
13	☐	P873	J261	J307	442.54	8.00	130.00	48.39	0.31	0.07
14	☐	P737	J223	J217	677.43	12.00	130.00	-103.00	0.29	0.04
15	☐	P593	J151	J276	29.39	12.00	130.00	96.51	0.27	0.03
16	☐	P405	J280	J151	32.15	12.00	130.00	96.51	0.27	0.03
17	☐	P661	RES4	U7004	50.00	30.00	130.00	585.28	0.27	0.01
18	☐	P663	U7004	J169	5.00	30.00	130.00	585.28	0.27	0.01
19	☐	P745	J233	J219	179.85	12.00	130.00	-92.91	0.26	0.03
20	☐	P315	J356	J206	411.71	12.00	130.00	88.88	0.25	0.03
21	☐	P733	J221	J206	225.66	12.00	130.00	-88.88	0.25	0.03
22	☐	P795	J261	J263	196.68	8.00	130.00	39.05	0.25	0.04
23	☐	P825	J269	J221	194.47	8.00	130.00	-38.64	0.25	0.04
24	☐	P741	J225	J223	337.20	12.00	130.00	-82.07	0.23	0.02
25	☐	P407	J352	J274	482.01	8.00	130.00	-32.37	0.21	0.03
26	☐	P797	J257	J263	674.05	8.00	130.00	-32.32	0.21	0.03
27	☐	P505	J276	J356	61.69	12.00	130.00	70.23	0.20	0.02
28	☐	P671	J233	J313	138.16	12.00	130.00	69.62	0.20	0.02
29	☐	P877	J253	J307	189.37	8.00	130.00	-30.39	0.19	0.03
30	☐	P683	J225	J319	266.49	12.00	130.00	66.18	0.19	0.02
31	☐	P807	J265	J271	232.86	8.00	130.00	28.55	0.18	0.03
32	☐	P823	J275	J269	228.70	8.00	130.00	-27.25	0.17	0.02
33	☐	P687	J293	J317	152.75	8.00	130.00	-27.01	0.17	0.02
34	☐	P689	J317	J319	75.24	8.00	130.00	-27.01	0.17	0.02
35	☐	P753	J219	J227	353.29	12.00	130.00	-59.41	0.17	0.01
36	☐	P503	J276	J352	482.01	8.00	130.00	26.29	0.17	0.02
37	☐	P673	J313	J283	224.11	12.00	130.00	56.61	0.16	0.01
38	☐	P831	J231	J283	214.59	12.00	130.00	-54.30	0.15	0.01
39	☐	P799	J263	J217	352.64	8.00	130.00	-23.73	0.15	0.02
40	☐	P811	J271	J273	235.09	8.00	130.00	22.87	0.15	0.02
41	☐	P781	J249	J255	336.20	8.00	130.00	-22.58	0.14	0.02
42	☐	P735	J217	J221	683.58	12.00	130.00	-50.24	0.14	0.01
43	☐	P677	J231	J315	163.70	12.00	130.00	45.92	0.13	0.01
44	☐	P747	J231	J233	576.84	8.00	130.00	-20.36	0.13	0.01
45	☐	P837	J291	J293	276.72	8.00	130.00	-20.12	0.13	0.01
46	☐	P767	J237	J239	550.60	12.00	130.00	-42.22	0.12	0.01
47	☐	P553	J366	J354	440.90	8.00	130.00	18.65	0.12	0.01
48	☐	P519	J356	J354	523.02	8.00	130.00	-18.65	0.12	0.01
49	☐	P875	J307	J255	237.90	8.00	130.00	18.00	0.11	0.01
50	☐	P685	J319	J219	269.08	12.00	130.00	39.17	0.11	0.01
51	☐	P783	J255	J257	200.47	8.00	130.00	-17.16	0.11	0.01
52	☐	P679	J315	J239	255.73	12.00	130.00	34.69	0.10	0.01
53	☐	P769	J251	J249	201.37	8.00	130.00	-14.85	0.09	0.01
54	☐	P765	J245	J237	454.61	12.00	130.00	-33.19	0.09	0.00
55	☐	P777	J251	J253	569.75	8.00	130.00	-14.69	0.09	0.01
56	☐	P803	J265	J267	531.78	8.00	130.00	14.39	0.09	0.01
57	☐	P643	J368	J168	30.00	24.00	130.00	125.71	0.09	0.00
58	☐	P751	J239	J231	419.44	8.00	130.00	-13.56	0.09	0.01
59	☐	P857	J287	J289	197.91	8.00	130.00	13.45	0.09	0.01
60	☐	P785	J257	J223	351.06	8.00	130.00	-13.39	0.09	0.01
61	☐	P865	J287	J291	333.25	8.00	130.00	-13.23	0.08	0.01

		ID	From Node	To Node	Length (ft)	Diameter (in)	Roughness	Flow (gpm)	Velocity (ft/s)	HL/1000 (ft/k-ft)
62	☐	P675	J285	J313	91.58	8.00	130.00	-13.01	0.08	0.01
63	☐	P325	J170	J202	27.23	12.00	130.00	29.20	0.08	0.00
64	☐	P821	J277	J275	234.18	8.00	130.00	-12.07	0.08	0.01
65	☐	P815	J273	J281	225.33	8.00	130.00	11.51	0.07	0.00
66	☐	P749	J229	J231	469.29	8.00	130.00	-11.24	0.07	0.00
67	☐	P853	J301	J311	200.46	8.00	130.00	-11.23	0.07	0.00
68	☐	P681	J311	J315	88.91	8.00	130.00	-11.23	0.07	0.00
69	☐	P397	J204	J168	969.72	24.00	130.00	-96.51	0.07	0.00
70	☐	P591	J280	J204	54.27	24.00	130.00	-96.51	0.07	0.00
71	☐	P775	J247	J225	354.94	8.00	130.00	-10.22	0.07	0.00
72	☐	P809	J271	J269	537.32	8.00	130.00	-9.07	0.06	0.00
73	☐	P761	J243	J235	454.61	12.00	130.00	-19.41	0.06	0.00
74	☐	P763	J245	J243	641.81	12.00	130.00	-19.41	0.06	0.00
75	☐	P805	J267	J269	226.91	8.00	130.00	7.50	0.05	0.00
76	☐	P855	J285	J287	268.07	8.00	130.00	7.11	0.05	0.00
77	☐	P845	J295	J229	341.23	8.00	130.00	-6.33	0.04	0.00
78	☐	P859	J289	J283	403.45	8.00	130.00	5.57	0.04	0.00
79	☐	P759	J237	J235	539.80	12.00	130.00	9.03	0.03	0.00
80	☐	P871	J303	J295	209.72	8.00	130.00	-3.39	0.02	0.00
81	☐	P813	J273	J275	539.11	8.00	130.00	-3.38	0.02	0.00
82	☐	P257	J170	J168	2,880.19	24.00	130.00	-29.20	0.02	0.00
83	☐	P849	J303	J301	229.53	8.00	130.00	-2.39	0.02	0.00
84	☐	P817	J281	J277	534.50	8.00	130.00	-2.24	0.01	0.00
85	☐	P847	J303	J239	353.40	8.00	130.00	-2.10	0.01	0.00
86	☐	P771	J249	J247	194.85	8.00	130.00	2.06	0.01	0.00
87	☐	P773	J247	J227	535.60	8.00	130.00	-0.93	0.01	0.00
88	☐	P691	J291	J321	86.30	6.00	130.00	0.00	0.00	0.00
89	☐	P869	J295	J299	366.86	6.00	130.00	0.00	0.00	0.00
90	☐	P667	U7008	J229	72.10	8.00	130.00	0.00	0.00	0.00
91	☐	P665	RES2	U7008	10.00	30.00	130.00	0.00	0.00	0.00
92	☐	P595	J149	T5000	282.60	36.00	130.00	0.00	0.00	0.00
93	☐	P589	J204	J149	362.77	36.00	130.00	0.00	0.00	0.00
94	☐	P879	J253	J309	392.67	8.00	130.00	0.00	0.00	0.00

Maximum Day Plus Fire Flow

		ID	Static Demand (gpm)	Static Pressure (psi)	Static Head (ft)	Fire-Flow Demand (gpm)	Residual Pressure (psi)	Available Flow at Hydrant (gpm)	Available Flow Pressure (psi)
1	☐	J243	0.00	34.51	89.64	3,500.00	22.33	3,901.92	20.00
2	☐	J309	0.00	34.51	89.65	1,500.00	22.54	1,689.30	20.00
3	☐	J235	76.66	34.51	89.64	3,500.00	24.16	4,408.56	20.00
4	☐	J227	15.96	34.51	89.65	3,500.00	26.35	5,074.69	20.00
5	☐	J202	0.00	34.53	89.69	3,500.00	27.17	5,396.87	20.00
6	☐	J245	40.46	34.51	89.64	2,500.00	27.22	3,933.80	20.00
7	☐	J281	10.58	34.52	89.67	1,500.00	27.31	2,344.70	20.00
8	☐	J277	7.56	34.52	89.67	1,500.00	27.32	2,344.68	20.00
9	☐	J237	0.00	34.51	89.64	2,500.00	28.17	4,297.12	20.00
10	☐	J239	3.02	34.51	89.64	2,500.00	28.66	4,572.15	20.00
11	☐	J273	11.34	34.52	89.67	1,500.00	28.69	2,715.51	20.00
12	☐	J315	0.00	34.51	89.64	2,500.00	28.72	4,606.34	20.00
13	☐	J283	6.06	34.51	89.64	2,500.00	28.84	4,668.77	20.00
14	☐	J275	9.08	34.52	89.67	1,500.00	28.86	2,769.90	20.00
15	☐	J313	0.00	34.51	89.64	2,500.00	28.91	4,702.77	20.00
16	☐	J231	3.02	34.51	89.64	2,500.00	28.94	4,746.89	20.00
17	☐	J267	5.30	34.52	89.67	1,500.00	28.95	2,790.92	20.00
18	☐	J233	2.26	34.51	89.65	2,500.00	29.06	4,795.05	20.00
19	☐	J251	22.72	34.51	89.65	1,500.00	29.11	2,916.48	20.00
20	☐	J253	12.08	34.51	89.65	1,500.00	29.13	2,901.93	20.00
21	☐	J319	0.00	34.51	89.65	2,500.00	29.14	4,822.05	20.00
22	☐	J219	4.36	34.51	89.65	2,500.00	29.29	4,949.38	20.00
23	☐	J291	5.30	34.51	89.64	1,500.00	29.33	2,982.07	20.00
24	☐	J271	11.34	34.52	89.67	1,500.00	29.56	3,051.79	20.00
25	☐	J289	6.06	34.51	89.64	1,500.00	29.79	3,201.21	20.00
26	☐	J293	5.30	34.51	89.65	1,500.00	29.83	3,225.80	20.00
27	☐	J295	2.26	34.51	89.64	1,500.00	29.85	3,252.89	20.00
28	☐	J301	6.80	34.51	89.64	1,500.00	29.95	3,312.67	20.00
29	☐	J265	8.32	34.52	89.68	1,500.00	30.04	3,281.90	20.00
30	☐	J307	0.00	34.52	89.66	1,500.00	30.31	3,496.58	20.00
31	☐	J269	7.56	34.52	89.67	1,500.00	30.33	3,470.06	20.00
32	☐	J287	5.30	34.51	89.64	1,500.00	30.33	3,544.08	20.00
33	☐	J249	4.36	34.51	89.65	1,500.00	30.38	3,591.97	20.00
34	☐	J303	6.06	34.51	89.64	1,500.00	30.46	3,649.69	20.00
35	☐	J229	3.78	34.51	89.64	1,500.00	30.54	3,875.24	20.00
36	☐	J311	0.00	34.51	89.64	1,500.00	30.56	3,738.97	20.00
37	☐	J255	9.68	34.51	89.66	1,500.00	30.57	3,724.52	20.00
38	☐	J285	4.54	34.51	89.64	1,500.00	30.68	3,817.76	20.00
39	☐	J257	21.96	34.52	89.66	1,500.00	30.71	3,846.14	20.00
40	☐	J247	10.16	34.51	89.65	1,500.00	30.75	3,907.59	20.00
41	☐	J263	23.44	34.52	89.67	1,500.00	30.92	3,983.73	20.00
42	☐	J261	7.74	34.52	89.68	1,500.00	31.22	4,221.57	20.00
43	☐	J223	5.80	34.52	89.66	1,500.00	31.47	4,778.25	20.00
44	☐	J225	4.36	34.51	89.65	1,500.00	31.50	4,825.38	20.00
45	☐	J259	8.70	34.53	89.70	1,500.00	31.53	4,493.57	20.00
46	☐	J217	5.80	34.52	89.67	1,500.00	31.66	4,921.29	20.00

		ID	From Node	To Node	Length (ft)	Diameter (in)	Roughness	Flow (gpm)	Velocity (ft/s)	Headloss (ft)	HL/1000
1	☐	P789	J169	J259	206.04	8.00	130.00	732.40	4.67	2.11	10.26
2	☐	P325	J170	J202	27.23	12.00	130.00	1,555.60	4.41	0.16	5.75
3	☐	P667	U7008	J229	72.10	8.00	130.00	658.33	4.20	0.61	8.42
4	☐	P295	J169	J202	1,578.94	12.00	130.00	1,081.75	3.07	4.63	2.93
5	☐	P637	J238	J169	415.02	12.00	130.00	-1,072.51	3.04	1.20	2.89
6	☐	P403	J167	J238	441.66	12.00	130.00	-1,072.51	3.04	1.27	2.89
7	☐	P635	J366	J167	416.28	12.00	130.00	-1,072.51	3.04	1.20	2.89
8	☐	P533	J274	J366	60.00	12.00	130.00	-1,013.87	2.88	0.16	2.60
9	☐	P537	J274	J368	29.96	12.00	130.00	995.71	2.82	0.08	2.51
10	☐	P791	J259	J261	137.35	8.00	130.00	440.90	2.81	0.55	4.01
11	☐	P739	J217	J169	893.75	8.00	130.00	-405.21	2.59	3.06	3.43
12	☐	P755	J227	J202	542.10	12.00	130.00	862.65	2.45	1.05	1.93
13	☐	P749	J229	J231	469.29	8.00	130.00	356.23	2.27	1.27	2.70
14	☐	P845	J295	J229	341.23	8.00	130.00	-298.32	1.90	0.66	1.94
15	☐	P871	J303	J295	209.72	8.00	130.00	-296.06	1.89	0.40	1.92
16	☐	P801	J259	J265	414.60	8.00	130.00	282.79	1.81	0.73	1.76
17	☐	P505	J276	J356	61.69	12.00	130.00	-586.85	1.66	0.06	0.94
18	☐	P405	J280	J151	32.15	12.00	130.00	-559.90	1.59	0.03	0.87
19	☐	P593	J151	J276	29.39	12.00	130.00	-559.90	1.59	0.03	0.87
20	☐	P795	J261	J263	196.68	8.00	130.00	244.87	1.56	0.27	1.35
21	☐	P315	J356	J206	411.71	12.00	130.00	-528.21	1.50	0.32	0.78
22	☐	P733	J221	J206	225.66	12.00	130.00	528.21	1.50	0.18	0.78
23	☐	P663	U7004	J169	5.00	30.00	130.00	3,291.87	1.49	0.00	0.27
24	☐	P661	RES4	U7004	50.00	30.00	130.00	3,291.87	1.49	0.01	0.27
25	☐	P753	J219	J227	353.29	12.00	130.00	498.76	1.41	0.25	0.70
26	☐	P825	J269	J221	194.47	8.00	130.00	211.71	1.35	0.20	1.03
27	☐	P873	J261	J307	442.54	8.00	130.00	188.29	1.20	0.37	0.83
28	☐	P257	J170	J168	2,880.19	24.00	130.00	-1,555.60	1.10	0.57	0.20
29	☐	P807	J265	J271	232.86	8.00	130.00	164.77	1.05	0.15	0.65
30	☐	P847	J303	J239	353.40	8.00	130.00	161.02	1.03	0.22	0.62
31	☐	P773	J247	J227	535.60	8.00	130.00	160.89	1.03	0.33	0.62
32	☐	P767	J237	J239	550.60	12.00	130.00	-336.08	0.95	0.19	0.34
33	☐	P735	J217	J221	683.58	12.00	130.00	316.50	0.90	0.21	0.30
34	☐	P771	J249	J247	194.85	8.00	130.00	134.82	0.86	0.09	0.45
35	☐	P849	J303	J301	229.53	8.00	130.00	128.98	0.82	0.09	0.41
36	☐	P741	J225	J223	337.20	12.00	130.00	-281.22	0.80	0.08	0.24
37	☐	P799	J263	J217	352.64	8.00	130.00	123.60	0.79	0.13	0.38
38	☐	P681	J311	J315	88.91	8.00	130.00	122.18	0.78	0.03	0.37
39	☐	P853	J301	J311	200.46	8.00	130.00	122.18	0.78	0.07	0.37
40	☐	P745	J233	J219	179.85	12.00	130.00	257.66	0.73	0.04	0.21
41	☐	P643	J368	J168	30.00	24.00	130.00	995.71	0.71	0.00	0.09
42	☐	P803	J265	J267	531.78	8.00	130.00	109.70	0.70	0.16	0.30
43	☐	P685	J319	J219	269.08	12.00	130.00	245.47	0.70	0.05	0.19
44	☐	P683	J225	J319	266.49	12.00	130.00	240.63	0.68	0.05	0.18
45	☐	P805	J267	J269	226.91	8.00	130.00	104.40	0.67	0.06	0.28
46	☐	P875	J307	J255	237.90	8.00	130.00	102.88	0.66	0.06	0.27
47	☐	P831	J231	J283	214.59	12.00	130.00	227.62	0.65	0.04	0.16
48	☐	P797	J257	J263	674.05	8.00	130.00	-97.83	0.62	0.17	0.25
49	☐	P757	J235	J227	588.20	12.00	130.00	218.96	0.62	0.09	0.15
50	☐	P737	J223	J217	677.43	12.00	130.00	-206.51	0.59	0.09	0.14
51	☐	P781	J249	J255	336.20	8.00	130.00	-88.56	0.57	0.07	0.21
52	☐	P759	J237	J235	539.80	12.00	130.00	197.22	0.56	0.07	0.13
53	☐	P877	J253	J307	189.37	8.00	130.00	-85.41	0.55	0.04	0.19
54	☐	P671	J233	J313	138.16	12.00	130.00	-190.23	0.54	0.02	0.12
55	☐	P811	J271	J273	235.09	8.00	130.00	81.78	0.52	0.04	0.18
56	☐	P673	J313	J283	224.11	12.00	130.00	-183.66	0.52	0.02	0.11
57	☐	P785	J257	J223	351.06	8.00	130.00	80.51	0.51	0.06	0.17
58	☐	P777	J251	J253	569.75	8.00	130.00	-73.33	0.47	0.08	0.14
59	☐	P809	J271	J269	537.32	8.00	130.00	71.65	0.46	0.07	0.14
60	☐	P747	J231	J233	576.84	8.00	130.00	69.69	0.44	0.08	0.13
61	☐	P679	J315	J239	255.73	12.00	130.00	140.70	0.40	0.02	0.07

		ID	From Node	To Node	Length (ft)	Diameter (in)	Roughness	Flow (gpm)	Velocity (ft/s)	Headloss (ft)	HL/1000
62	☐	P397	J204	J168	969.72	24.00	130.00	559.90	0.40	0.03	0.03
63	☐	P591	J280	J204	54.27	24.00	130.00	559.90	0.40	0.00	0.03
64	☐	P765	J245	J237	454.61	12.00	130.00	-138.85	0.39	0.03	0.07
65	☐	P553	J366	J354	440.90	8.00	130.00	58.64	0.37	0.04	0.10
66	☐	P519	J356	J354	523.02	8.00	130.00	-58.64	0.37	0.05	0.10
67	☐	P769	J251	J249	201.37	8.00	130.00	50.61	0.32	0.01	0.07
68	☐	P665	RES2	U7008	10.00	30.00	130.00	658.33	0.30	0.00	0.01
69	☐	P763	J245	J243	641.81	12.00	130.00	98.39	0.28	0.02	0.03
70	☐	P761	J243	J235	454.61	12.00	130.00	98.39	0.28	0.02	0.03
71	☐	P823	J275	J269	228.70	8.00	130.00	43.22	0.28	0.01	0.05
72	☐	P859	J289	J283	403.45	8.00	130.00	-37.91	0.24	0.02	0.04
73	☐	P751	J239	J231	419.44	8.00	130.00	-37.38	0.24	0.02	0.04
74	☐	P775	J247	J225	354.94	8.00	130.00	-36.23	0.23	0.01	0.04
75	☐	P813	J273	J275	539.11	8.00	130.00	35.57	0.23	0.02	0.04
76	☐	P815	J273	J281	225.33	8.00	130.00	34.87	0.22	0.01	0.04
77	☐	P857	J287	J289	197.91	8.00	130.00	-31.85	0.20	0.01	0.03
78	☐	P503	J276	J352	482.01	8.00	130.00	26.96	0.17	0.01	0.02
79	☐	P817	J281	J277	534.50	8.00	130.00	24.29	0.16	0.01	0.02
80	☐	P407	J352	J274	482.01	8.00	130.00	-18.16	0.12	0.01	0.01
81	☐	P821	J277	J275	234.18	8.00	130.00	16.73	0.11	0.00	0.01
82	☐	P865	J287	J291	333.25	8.00	130.00	15.44	0.10	0.00	0.01
83	☐	P855	J285	J287	268.07	8.00	130.00	-11.11	0.07	0.00	0.00
84	☐	P837	J291	J293	276.72	8.00	130.00	10.14	0.06	0.00	0.00
85	☐	P677	J231	J315	163.70	12.00	130.00	18.52	0.05	0.00	0.00
86	☐	P675	J285	J313	91.58	8.00	130.00	6.57	0.04	0.00	0.00
87	☐	P687	J293	J317	152.75	8.00	130.00	4.84	0.03	0.00	0.00
88	☐	P689	J317	J319	75.24	8.00	130.00	4.84	0.03	0.00	0.00
89	☐	P783	J255	J257	200.47	8.00	130.00	4.64	0.03	0.00	0.00
90	☐	P869	J295	J299	366.86	6.00	130.00	0.00	0.00	0.00	0.00
91	☐	P595	J149	T5000	282.60	36.00	130.00	0.00	0.00	0.00	0.00
92	☐	P589	J204	J149	362.77	36.00	130.00	0.00	0.00	0.00	0.00
93	☐	P691	J291	J321	86.30	6.00	130.00	0.00	0.00	0.00	0.00
94	☐	P879	J253	J309	392.67	8.00	130.00	0.00	0.00	0.00	0.00

APPENDIX B
SB610 Water Supply Assessment Form

☐ Press to clear form

City of Sacramento
SB 610/SB 221 Water Supply Assessment and Certification Form

This form may be used to complete water supply assessments for projects located in an area covered by the City's most recent Urban Water Management Plan.

Note: Please do not use this form if the projected water demand for your project area was not included in the City's latest Urban Water Management Plan. To review the City's Urban Water Management Plan, please visit: https://www.cityofsacramento.org/Utilities/Reports

Project: Stone Beetland

Date: January 19, 2023

Project Applicant (Name of Company): Carlson, Barbee & Gibson, Inc.

Applicant Contact (Name of Individual): Angelo Obertello

Phone Number: (916) 788-4456

E-mail: aobertello@cbandg.com

Address: 1430 Blue Oaks Blvd, Suite 110, Roseville CA 95747

Project Applicant to fill in the following:

1. Does the project include:

Type of Development	Yes	No
A proposed residential development of 500 or more dwelling units	☐	☐
A shopping Center employing more than 1,000 persons or having more than 500,000 square feet?	☐	☐
A Commercial Office building employing more than 1,000 persons or having more than 250,000 square feet?	☐	☐
A proposed hotel or motel, or both, having more than 500 rooms	☐	☐
A proposed industrial, manufacturing, or processing plant or industrial park planned to house more than 1,000 persons, occupying more than 40 acres of land, or having more than 650,000 square feet of floor area	☐	☐
A mixed use project that includes one or more of the projects specified above	☐	☐
A project that would demand an amount of water equivalent to, or greater than, the water required by a 500 dwelling unit project	☐	☐

If the answer is no to all of the above, a water supply assessment is not required for the project.

2. Is the projected water demand for the project location included in the City's 2020 Urban Water Management Plan, adopted June 29, 2021?

Yes: ☐ No: ☐

If the answer is no, you cannot use this form. Please refer to the requirements of SB 610 for preparing a water supply assessment.

3. Please fill in the project demands below:

Type of Development	Land Use Category	Demand Factor		Proposed Development			Current Zoning		
		Residential Water Use Factor, afy/dwelling unit	Non-Residential Water Use Factor, afy/employee	Number Dwelling Units	Number Employees	Total Demand	Number Dwelling Units	Number Employees	Total Demand
Residential - Low	Rural Residential (RR)	.61	.09						
	Suburban Neighborhood Low Density (SNLD)								
	Traditional Neighborhood Low Density (TLDR)			186		113.5	98		59.8
Residential - Medium	Suburban Neighborhood Medium Density (SMDR)	.39	.09						
	Urban Neighborhood Low Density (ULDR)								
Residential - High	Suburban Neighborhood High Density (SHDR)	.12	.04						
	Traditional Neighborhood Medium Density (TMDR)			262		31.4	1,787		214.4
	Urban Neighborhood Medium Density (UMDR)			711		85.3			
	Traditional Neighborhood High Density (THDR)						243		29.2
Mixed Use	Employment Center Mid Rise (ECMR)	.19	.09						
	Suburban Center (SCnt)								
	Suburban Corridor (Scor)								
	Traditional Center (TCnt)				160	14.4		N/A	

Mixed Use - Higher Density	Urban Center High (UCntHigh)	.15	.04						
	Urban Center Low (UcntLow)								
	Urban Corridor High (UCorHigh)								
	Urban Corridor Low (UCorLow)								
Central Business District	Central Business District (CBD)	.15	.02						
	Urban Neighborhood High Density (UHDR)								
Commercial	Regional Commercial (RC)	.15	.09						
	Employment Center Low Rise (ECLR)								
Industrial	Industrial (IND)		.14						
Public	Public/Quasi-Public (PUB)	.37	.17		N/A			60	10.2
Park	Parks and Recreation (PRK)	.37	.17						
Open Space	Open Space (OS)	0	0						
Other									
Other									
Other									
Total Demand (AFY)						244.6			313.5

4. Required Elements of Water Supply Assessment (Water Code § 10910)

A. Water supply entitlements, water rights or water service contracts (Water Code § 10910(d)):

The City's water supply entitlements, water rights and water service contract are identified and discussed in the Urban Water Management Plan, Chapters 3, 6, and 7.

All infrastructure necessary to deliver a water supply to the project is in place, excepting any distribution facilities required to be constructed and financed by the project applicant: Yes: ☐ No: ☐

B. Identification of other sources of water supply if no water has been received under City's existing entitlements, water rights or water service contracts (Water Code § 10910(e)):

Not applicable.

C. Information and analysis pertaining to groundwater supply (Water Code § 10910(f)):

Addressed by Urban Water Management Plan, Chapters 3, 6, and 7.

Verification of Water Supply
(for residential development of more than 500 dwelling units)

Based on the City's most recent Urban Water Management Plan, are there sufficient water supplies for the project during normal, single dry and multiple dry years over a 20 year period?

Yes: ☐ No: ☐

By: Brett Ewart

Title: Supervising Engineer

Date: 1/20/2023

This box to be filled in by the City

Distribution:

Applicant
Development Services Department (Org: 4913) – Assigned Planner:_____
Utilities Department (Org: 3334) - Development Review (Tony Bertrand)
Utilities Department (Org: 3332) - Capital Improvements (Brett Ewart)

APPENDIX C
Model Boundary Conditions – Flow Test Results

WATER SUPPLY TEST - DEPARTMENT OF UTILITIES

City of Sacramento **Community Development Dept.** **300 Richards Blvd., 3rd Floor** **Sacramento, CA 95811**	WORK ORDER #: 576962	WST NUMBER: 2301891
	ANALYSIS FEE: $519.00	DATE PAID: 2/1/2023
	FIELD TEST FEE: $1,092.00	DATE PAID: 2/1/2023
	HYDRAULIC BOUNDARY CONDITION FEE: $615.00; optional see item (3) below.	DATE PAID: N/A
CONTACT: Rick Hansen		TEST NUMBER: 1 of 2
COMPANY: MSA a CBG Co.	PHONE NUMBER: 916-788-4456	EMAIL: RickHansen@msa-cbg.com
ADDRESS: 1430 Blue Oaks Blvd Ste 110, Roseville, CA	OUNDARY CONDITION Stone Beetland Development	
	ASSESSOR'S PARCEL NUMBER: 053-0010-048, 049, 076; 119-0090-014; 119-0080-001; 119-0080-029 (Portion)	

The undersigned agrees to the following items and conditions:

(1) The street address and/or parcel number shown above is correct

(2) Water supply data is developed from several sources of information which may include water supply test data, computer models, and pressure recording stations. The water supply data given is to be used for design purposes.

(3) Based on hydrant locations, test results may not provide accurate flow information at the point of connection, for a fee the City can provide the hydraulic analysis necessary to transfer the results to a single point of connection.

(4) Although the water supply data reported herein is believed to be accurate, the City makes no warranty, guaranty, certification or other representation of any kind that such data is accurate or correct, or that the pressures and/or flow rates reported herein can or will be maintained. The undersigned agrees that the City, its officers and employees shall not be liable for any damages of any kind resulting from the use of or reliance upon the water supply data reported herein by the undersigned or by any third party.

(5) When more than one water supply test has been performed, the decision is left to the Fire Plan Checker as to which water supply test is to be used.

(6) If the undersigned desires to witness the water supply test performed by the City, please check the box below:

☐ *I want to witness this water supply test, which will be scheduled at the convenience of the Department of Utilities.*

(7) If the undersigned elects to hire a licensed engineer, at the undersigned's sole expense, to witness and certify the water supply test performed by the City, please check the box below:

☐ *At my expense, I will arrange for a licensed engineer to witness and certify this water supply test, which will be scheduled at the convenience of the Department of Utilities.*

PRINT NAME: Rick Hansen SIGNATURE: *Rick C. Hansen*

DATE: 01.26.2023

DATE OF TEST: 2/6/2023 TIME OF TEST: 8am

WTR. MAIN SIZE: 12 TEST CONDUCTED BY: J.Ramirez

	Hydrant Number	Map Page	Static Pres. (PSI)	Residual Pres. (PSI)	Pitot Pres. (PSI)	Outlet Dia. (Inches)	Coefficient C_1	Coefficient C_2	Calc. Flow @ Pres. (GPM)	Flow @ 20 PSI (G.P.M.)
Residual	601	XX16	52	40						
Flowed	502	XX16			31	4.5	0.90	0.83	2512	3220
Flowed	603	XX16			30	4.5	0.90	0.83	2471	3168
Flowed										
Flowed										

* THE WATER SUPPLY TEST DATA IS NOT TO BE USED FOR THE DESIGN OF DOMESTIC WATER SYSTEMS.

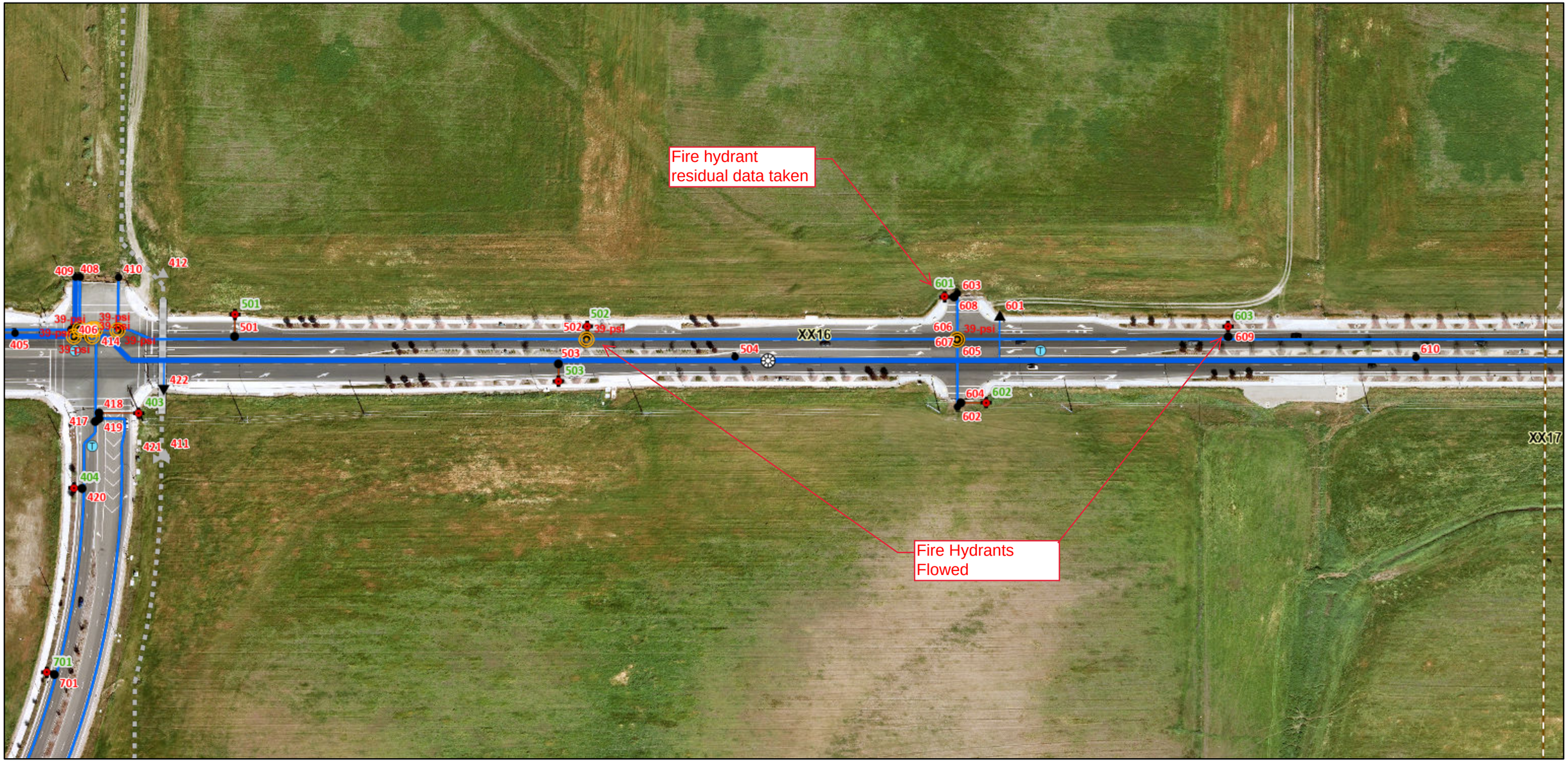
* (STATIC PRES. - RESIDUAL PRES.) / (STATIC PRES. - 20 PSI) MUST NOT BE LESS THAN 25%. THEREFORE, THESE RESULTS ARE ONLY VALID FOR RESIDUAL PRESSURES LESS THAN 44 PSI

WATER SUPPLY DATA SUMMARY

	Design (1)
Static Pressure	39 PSI
Residual Pressure	27 PSI
Total Flow @ Residual	5000 G.P.M.
Total Flow @ 20 PSI	6400 G.P.M.

(1) The Design Water Supply Data reflects fluctuations and future demands on the water distribution system. It is to be used for design purposes.

Hydrants use for WST



2/9/2023, 11:05:29 AM

DOU MapBook Grid
Water Casings (Other Owned)
Water Lateral Lines (Other Owned)
Lateral Line
Water Mains (Other Owned)
Transmission
Distribution

Water Control Valves (Other Owned)
Air Release
Water System Valves (Other Owned)
Butterfly
Water Lateral Lines (City Owned)
Air Release
Blowoff
Domestic

Hydrant
Irrigation
Water Mains (City Owned)
Transmission
Distribution
Water Service Connections (New) (City Owned)
Irrigation
Water Test Stations (City Owned)

Water Access Points (City Owned)
Manhole
Water Hydrants (City Owned)
Standard
Water Control Valves (City Owned)
Air Release
Blowoff

Water System Valves (City Owned)
Butterfly
Gate
Water Pressure
38 - 41
Cubic_2022
Red: Red
Green: Green

1:2,257

0 0.02 0.04 0.08 mi
0 0.03 0.07 0.13 km

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GIS/IT
City of Sacramento GIS/IT Department

WATER SUPPLY TEST - DEPARTMENT OF UTILITIES

City of Sacramento **Community Development Dept.** **300 Richards Blvd., 3rd Floor** **Sacramento, CA 95811**	WORK ORDER #: 576962	WST NUMBER: 2301891
	ANALYSIS FEE: $519.00	DATE PAID:
	FIELD TEST FEE: $1,092.00	DATE PAID:
	HYDRAULIC BOUNDARY CONDITION FEE: $481.00; optional see item (3) below.	DATE PAID: N/A
CONTACT: Rick Hansen		TEST NUMBER: 2 of 2
COMPANY: MSA a CBG Co.	PHONE NUMBER: 916-788-4456	EMAIL: RickHansen@msa-cbg.com
ADDRESS: 1430 Blue Oaks Blvd Ste 110, Roseville, CA	ADDRESS OF TEST: Stone Beetland Development	
	ASSESSOR'S PARCEL NUMBER: 053-0010-048, 049, 076; 119-0090-014; 119-00	

The undersigned agrees to the following items and conditions:

(1) The street address and/or parcel number shown above is correct

(2) Water supply data is developed from several sources of information which may include water supply test data, computer models, and pressure recording stations. The water supply data given is to be used for design purposes.

(3) Based on hydrant locations, test results may not provide accurate flow information at the point of connection, for a fee the City can provide the hydraulic analysis necessary to transfer the results to a single point of connection.

(4) Although the water supply data reported herein is believed to be accurate, the City makes no warranty, guaranty, certification or other representation of any kind that such data is accurate or correct, or that the pressures and/or flow rates reported herein can or will be maintained. The undersigned agrees that the City, its officers and employees shall not be liable for any damages of any kind resulting from the use of or reliance upon the water supply data reported herein by the undersigned or by any third party.

(5) When more than one water supply test has been performed, the decision is left to the Fire Plan Checker as to which water supply test is to be used.

(6) If the undersigned desires to witness the water supply test performed by the City, please check the box below:

☐ *I want to witness this water supply test, which will be scheduled at the convenience of the Department of Utilities.*

(7) If the undersigned elects to hire a licensed engineer, at the undersigned's sole expense, to witness and certify the water supply test performed by the City, please check the box below:

☐ *At my expense, I will arrange for a licensed engineer to witness and certify this water supply test, which will be scheduled at the convenience of the Department of Utilities.*

PRINT NAME: Rick Hansen SIGNATURE:

DATE:

DATE OF TEST: 44963 TIME OF TEST: 8am

WTR. MAIN SIZE: 12 TEST CONDUCTED BY: J.Ramirez

	Hydrant Number	Map Page	Static Pres. (PSI)	Residual Pres. (PSI)	Pitot Pres. (PSI)	Outlet Dia. (Inches)	Coefficient C_1	Coefficient C_2	Calc. Flow @ Pres. (GPM)	Flow @ 20 PSI (G.P.M.)
Residual	meter ser	WW17	51	32						
Flowed	801	WW17			20	4.5	0.90	0.83	2018	1839
Flowed										
Flowed										
Flowed										

* THE WATER SUPPLY TEST DATA IS NOT TO BE USED FOR THE DESIGN OF DOMESTIC WATER SYSTEMS.

* (STATIC PRES. - RESIDUAL PRES.) / (STATIC PRES. - 20 PSI) MUST NOT BE LESS THAN 25%. THEREFORE, THESE RESULTS ARE ONLY VALID FOR RESIDUAL PRESSURES LESS THAN 43 PSI

WATER SUPPLY DATA SUMMARY

	Design (1)
Static Pressure	36 PSI
Residual Pressure	17 PSI
Total Flow @ Residual	2000 G.P.M.
Total Flow @ 20 PSI	1800 G.P.M.

(1) The Design Water Supply Data reflects fluctuations and future demands on the water distribution system. It is to be used for design purposes.

HPA 7/2022

Hydrants use for WST



2/9/2023, 11:16:27 AM

DOU MapBook Grid

Water Lateral Lines (City Owned)

Hydrant

Water Mains (City Owned)

Distribution

Water Service Connections (Centroids) (City Owned)

Water Hydrants (City Owned)

Standard

Water System Valves (City Owned)

Gate

Water Fittings (City Owned)

Elbow

Tee

Water Pressure

34 - 37

Cubic_2022

Red: Red

Green: Green

Blue: Blue

Parcel Boundary

1:1,128

0 0.01 0.02 0.04 mi

0 0.01 0.03 0.06 km

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GIS/IT

City of Sacramento GIS/IT Department

APPENDIX J

WATER SUPPLY ASSESSMENT

☐ Press to clear form

City of Sacramento
SB 610/SB 221 Water Supply Assessment and Certification Form

This form may be used to complete water supply assessments for projects located in an area covered by the City's most recent Urban Water Management Plan.

Note: Please do not use this form if the projected water demand for your project area was not included in the City's latest Urban Water Management Plan. To review the City's Urban Water Management Plan, please visit: https://www.cityofsacramento.org/Utilities/Reports

Project: Stone Beetland

Date: January 19, 2023

Project Applicant (Name of Company): Carlson, Barbee & Gibson, Inc.

Applicant Contact (Name of Individual): Angelo Obertello

Phone Number: (916) 788-4456

E-mail: aobertello@cbandg.com

Address: 1430 Blue Oaks Blvd, Suite 110, Roseville CA 95747

Project Applicant to fill in the following:

1. Does the project include:

Type of Development	Yes	No
A proposed residential development of 500 or more dwelling units	✔	
A shopping Center employing more than 1,000 persons or having more than 500,000 square feet?		✔
A Commercial Office building employing more than 1,000 persons or having more than 250,000 square feet?		✔
A proposed hotel or motel, or both, having more than 500 rooms		✔
A proposed industrial, manufacturing, or processing plant or industrial park planned to house more than 1,000 persons, occupying more than 40 acres of land, or having more than 650,000 square feet of floor area		✔
A mixed use project that includes one or more of the projects specified above	✔	
A project that would demand an amount of water equivalent to, or greater than, the water required by a 500 dwelling unit project	✔	

If the answer is no to all of the above, a water supply assessment is not required for the project.

2. Is the projected water demand for the project location included in the City's 2020 Urban Water Management Plan, adopted June 29, 2021?

Yes: ✔ No: ☐

If the answer is no, you cannot use this form. Please refer to the requirements of SB 610 for preparing a water supply assessment.

3. Please fill in the project demands below:

Type of Development	Land Use Category	Demand Factor		Proposed Development			Current Zoning		
		Residential Water Use Factor, afy/dwelling unit	Non-Residential Water Use Factor, afy/employee	Number Dwelling Units	Number Employees	Total Demand	Number Dwelling Units	Number Employees	Total Demand
Residential - Low	Rural Residential (RR)	.61	.09						
	Suburban Neighborhood Low Density (SNLD)								
	Traditional Neighborhood Low Density (TLDR)			186		113.5	98		59.8
Residential - Medium	Suburban Neighborhood Medium Density (SMDR)	.39	.09						
	Urban Neighborhood Low Density (ULDR)								
Residential - High	Suburban Neighborhood High Density (SHDR)	.12	.04						
	Traditional Neighborhood Medium Density (TMDR)			262		31.4	1,787		214.4
	Urban Neighborhood Medium Density (UMDR)			711		85.3			
	Traditional Neighborhood High Density (THDR)						243		29.2
Mixed Use	Employment Center Mid Rise (ECMR)	.19	.09						
	Suburban Center (SCnt)								
	Suburban Corridor (Scor)								
	Traditional Center (TCnt)				160	14.4		N/A	

Mixed Use - Higher Density	Urban Center High (UCntHigh)	.15	.04						
	Urban Center Low (UcntLow)								
	Urban Corridor High (UCorHigh)								
	Urban Corridor Low (UCorLow)								
Central Business District	Central Business District (CBD)	.15	.02						
	Urban Neighborhood High Density (UHDR)								
Commercial	Regional Commercial (RC)	.15	.09						
	Employment Center Low Rise (ECLR)								
Industrial	Industrial (IND)		.14						
Public	Public/Quasi-Public (PUB)	.37	.17		N/A			60	10.2
Park	Parks and Recreation (PRK)	.37	.17						
Open Space	Open Space (OS)	0	0						
Other									
Other									
Other									
Total Demand (AFY)						244.6			313.5

4. Required Elements of Water Supply Assessment (Water Code § 10910)

A. Water supply entitlements, water rights or water service contracts (Water Code § 10910(d)):

The City's water supply entitlements, water rights and water service contract are identified and discussed in the Urban Water Management Plan, Chapters 3, 6, and 7.

All infrastructure necessary to deliver a water supply to the project is in place, excepting any distribution facilities required to be constructed and financed by the project applicant: Yes: ✔ No: ☐

B. Identification of other sources of water supply if no water has been received under City's existing entitlements, water rights or water service contracts (Water Code § 10910(e)):

Not applicable.

C. Information and analysis pertaining to groundwater supply (Water Code § 10910(f)):

Addressed by Urban Water Management Plan, Chapters 3, 6, and 7.

Verification of Water Supply
(for residential development of more than 500 dwelling units)

Based on the City's most recent Urban Water Management Plan, are there sufficient water supplies for the project during normal, single dry and multiple dry years over a 20 year period?

Yes: ✔ No: ☐

By: Brett Ewart

Title: Supervising Engineer

Date: 1/20/2023

This box to be filled in by the City

Distribution:

Applicant
Development Services Department (Org: 4913) – Assigned Planner:_____
Utilities Department (Org: 3334) - Development Review (Tony Bertrand)
Utilities Department (Org: 3332) - Capital Improvements (Brett Ewart)

Stone Beetland

PUD GUIDELINES

Prepared for

JP Landholdings, LLC

November 12, 2021

Revised October 27, 2022

Table of Contents

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1.1	Purpose and Intent	1
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1.5	Parks and Open Space	5
1.6	Procedures for Approval and Amendments	7
SECTION 2: PLANNING STANDARDS AND GUIDELINES		
2.1	Development Standards	7
2.2	Design Guidelines	8

SECTION 1: INTRODUCTION

1.1 Purpose and Intent

The Stone Beetland PUD Guidelines contain discussion and guiding language, details, conditions and restrictions to direct the build-out of the Stone Beetland Plan Area (Plan Area). To achieve the overriding goal to develop a new high quality residential community, these PUD Guidelines are formulated in a flexible manner to allow creative solutions to a variety of design situations. These guidelines are intended as a supplement to the development regulations in Title 17 of the City of Sacramento Development Code. These guidelines shall prevail when there is a difference, otherwise the regulations of Title 17 shall be applicable.

1.2 Context and Applicability

The Stone Beetland Plan Area, approximately 140.7 acres in size, is located south of the Detroit Boulevard Neighborhood and west of the Deerfield Mesa Grande Neighborhood, separated by Sacramento Regional Transit's Blue Line light rail route and Morrison Creek. The south boundary of the Plan Area is Cosumnes River Boulevard, the west boundary is the extension of 24th Avenue, the east boundary is along Morrison Creek and the north boundary is irregular, abutting the Federal Jobs Corps site and abutting the Detroit Boulevard Neighborhood in the northeast corner of the Plan Area.

The Plan Area has been organized into 4 sub- areas: The Transit Village, the North Village, Central Village and West Village as shown in Exhibit 1. The PUD Schematic Plan, Exhibit 2, is shown on page 4.

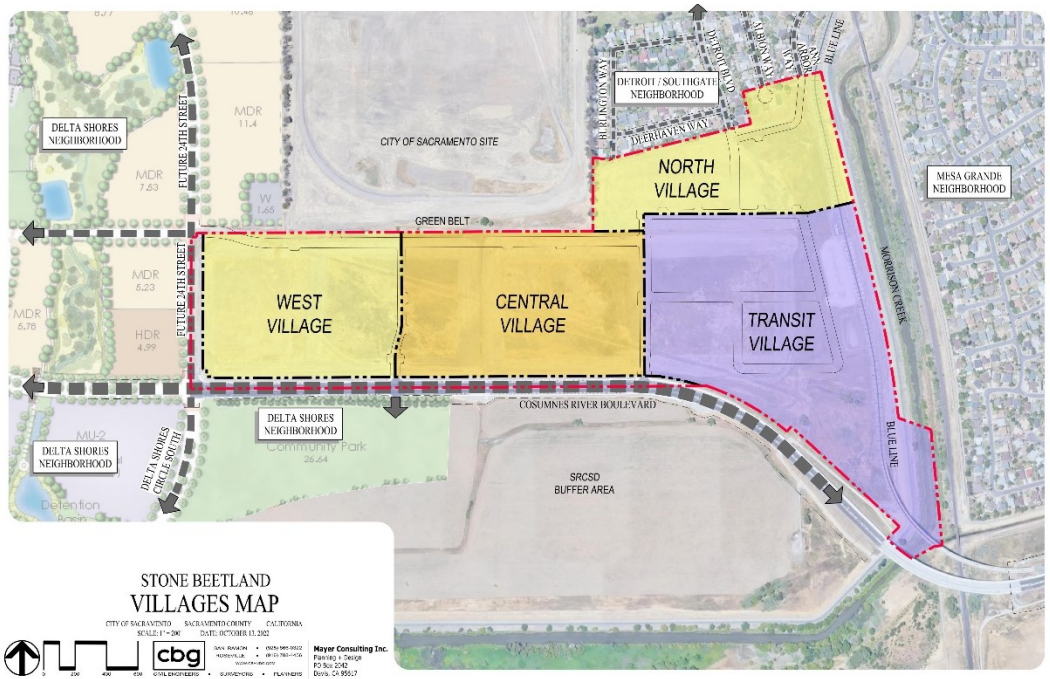


Exhibit 1: Sub Areas/Villages

Stone Beetland is a Transit Priority Project (TPP), which is a new type of project created by SB 375. As a TPP, the project is required to incorporate and comply with the following criteria:

1) At least 50% of total site must be designated for residential use.
2) Be consistent with the use designation, density, building intensity, and applicable policies of the regional sustainable community's strategy.
3) Be located within ½ mile of a high-quality transit corridor included in the regional transportation plan (No parcel shall be more than 25% further, and less than 10% of units, no or more than 100 units further than 0.5 miles).
4) achieves a minimum of 20 dwelling units to the net acres

Consistent with the TPP criteria, the density and intensity of the land uses is highest at the eastern edge adjacent to the Transit Stop and gradually decreases towards the north and west. The West Village, which is beyond the ½ mile distance from the transit stop, has a maximum of 100 dwelling units. The minimum overall density of 20 dwelling units per net acre must be maintained.

The West Village and North Villages are anticipated to include single-unit detached housing products which will conform to the R-1A Single-Unit/ Duplex Dwelling Zone and development standards pursuant to Section 17.204 Article III of the City Code.

The three HDR parcels in the Transit Village will conform to R-4 Multi Unit Zone and development standards pursuant to Section 17.208 Article V of the City Code. The 6 acre Commercial parcel within the Transit Village will conform to C-1, Limited Commercial Zone and development standards pursuant to Section 17.216 Article VI of the City Code.

The Central Village anticipates for a variety of creative lot types, such as compact detached lots, halfplexes, I-courts, courtyard homes, bungalows, condominiums and townhomes. The underlying zone is R-2A, however the anticipated housing products may not conform to the minimum area, dimensions and setback requirements of the R-2A zone per Section 17.208 Article I of the City Code. Any necessary deviations to the R-2A development standards within the Central Village will be determined through the site plan and design review process.

1.3 Land Use Mix

Table 1-1 Land Use Mix lists the anticipated housing types for each Village, however these PUD Guidelines are intended to allow the flexibility to change housing types within any village in response to changing market conditions subject to the following:
1. The overall net density of the Plan Area may not be less than 20 units per net residential acre. Net acres is defined as follows: *"Acre, net" means the total area of a site excluding land dedicated to a public agency for parks, public buildings, schools,*

street right-of-way, and utility facilities; private park and recreation facilities that receive parkland dedication credit under this code; and private street right-of-way when built to city street standards.

2. The total number of dwelling units to be built within a particular village shall fall within the *Density Range and Target DU's* as listed in Table 1-1. However, the total number of dwelling units in the West Village (if adjusted, any portion of the West Village beyond ½ mile from the Transit Stop) may not exceed 100 units.

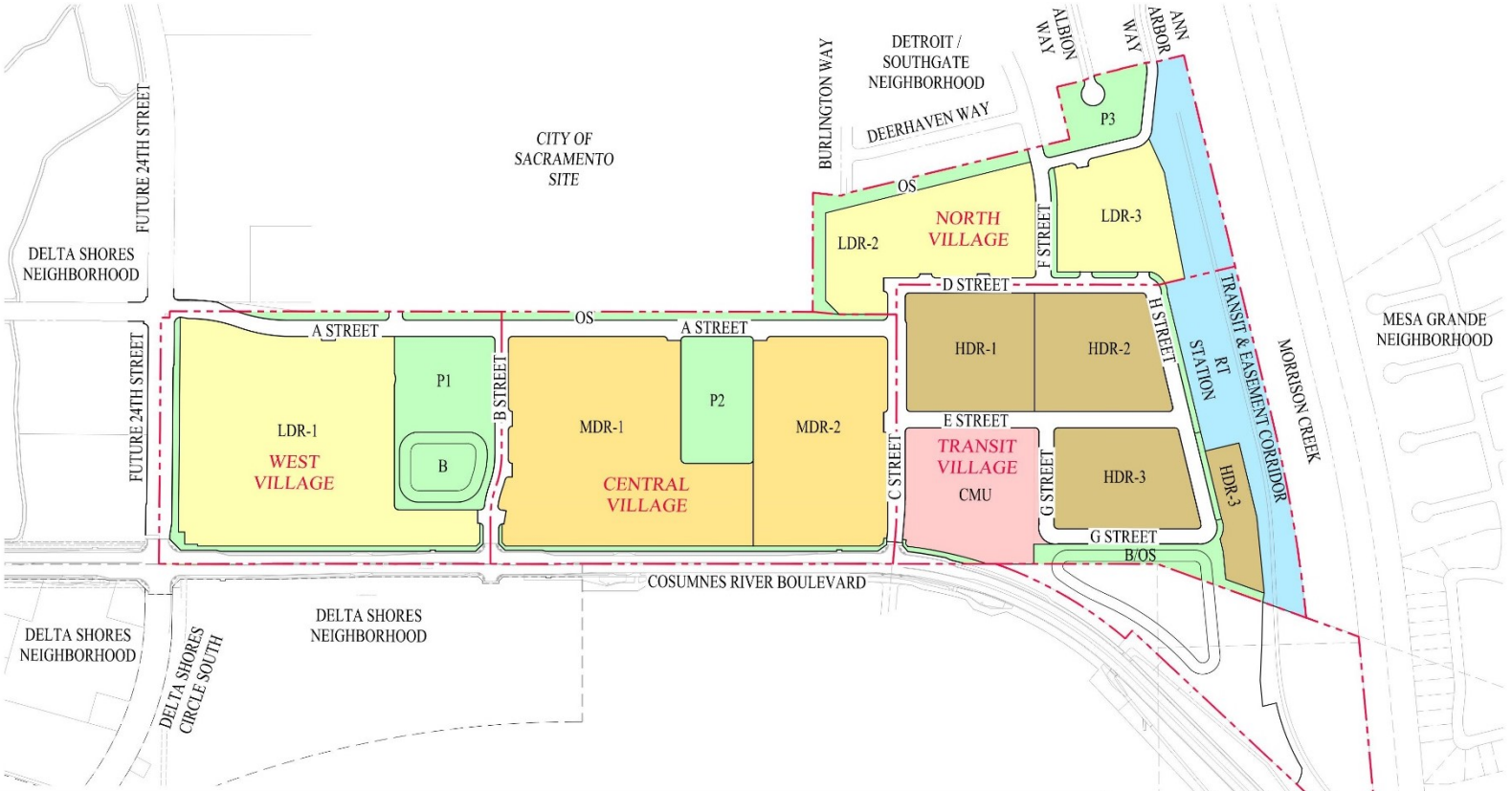
3. The boundaries of a particular Village as shown on by *Exhibit 2 PUD Schematic Plan* may be adjusted in response to more accurate subdivision improvement plans, final mapping, infrastructure phasing, or in response to market conditions without a PUD Amendment or any additional approvals if items 1-2 above are satisfied.

TABLE 1-1: Residential Land Use Mix

Zoning Designation	*Max Density*	*Density Range*	*PUD Land Use*	*PUD Density Range*	*Acres*	*Target DU*	*Net Acres*	*Net Density*	*% of D.U.'s*
R1-A (PUD)	2/lot	8-36	LDR-1	8.0 – 17.0	17.4	100[1]	11.4	8.8	
R1-A (PUD)	2/lot	8-36	LDR-2	8.0 – 17.0	7.5	55	6.0	9.2	
R1-A (PUD)	2/lot	8-36	LDR-3	8.0 – 17.0	4.8	31	3.9	7.9	
			LDR SUBTOTAL:		**29.7**	**186[2]**	**21.3**	**8.7**	16.1%
R2-A(PUD)	17	8-36	MDR-1	8.0 – 17.0	15.0	151	10.1	15.0	
R2-A(PUD)	17	8-36	MDR-2	8.0 – 17.0	9.9	111	7.4	15.0	
			MDR SUBTOTAL:		**24.9**	**262[2]**	**17.5**	**15.0**	22.6%
R-4 (PUD)	60	33-110	HDR-1	17.0 - 45.0	5.4	241	5.4	44.6	
R-4 (PUD)	60	33-110	HDR-2	17.0 - 45.0	5.3	198	4.6	44.0	
R-4 (PUD)	60	33-110	HDR-3	17.0 - 45.0	7.3	272	6.6	41.2	
			HDR SUBTOTAL:		**18.0**	**711[2]**	**16.6**	**42.8**	61.3%
			RESIDENTIAL TOTAL:		**72.6**	**1,159[2]**	**55.4**	**20.9**	100%

Table 1.1 Footnotes:

1. LDR-1 is capped at 100 maximum dwelling units.
2. In order to achieve the minimum density of 20.0 units per net acre per the TPP policy, total of LDR, MDR and HDR must achieve 1,108 units, as a minimum.



LAND USE SUMMARY

COLOR	VILLAGE	USE	KEY	ZONING	PUD DENSITY RANGE
	WEST/NORTH VILLAGES	LOW DENSITY RESIDENTIAL	LDR	R1-A (PUD)	8-17
	CENTRAL VILLAGE	MEDIUM DENSITY RESIDENTIAL	MDR	R-2A (PUD)	8-17
	TRANSIT VILLAGE	HIGH DENSITY RESIDENTIAL	HDR	R-4 (PUD)	17-45
	TRANSIT VILLAGE	COMMERCIAL MIXED USE	CMU	C-1 (PUD)	FAR 0.3-2.0
	NORTH/TRANSIT VILLAGES	REGIONAL TRANSIT STATION AND EASEMENTS	RT	R-1A & R-4 (PUD)	-
	ALL VILLAGES	PARK/BASIN/OPEN SPACE	P/B/OS	UNDERLYING	-
	ALL VILLAGES	ROADWAYS	RW	UNDERLYING	-

PUD SCHEMATIC PLAN

STONE BEETLAND

CITY OF SACRAMENTO SACRAMENTO COUNTY CALIFORNIA

SCALE: 1" = 200' DATE: OCTOBER 13, 2022

0 200 400 600

cbg CIVIL ENGINEERS • SURVEYORS • PLANNERS

SAN RAMON • (925) 866-0322
ROSEVILLE • (916) 788-4456
WWW.CBANDG.COM

JOB NO.: 3377-000

Exhibit 2: PUD Schematic Plan

1.4 Circulation System - Streets and Non-Vehicular

Stone Beetland incorporates the values of new urbanism and smart growth. A modified grid pattern of streets is utilized to provide excellent connectivity between neighbors and separated sidewalks and street tree plantings will provide for a pleasant, shaded walking environment. The Mobility Framework Plan, Exhibit 3, is shown on page 6.

The circulation system and streetscapes are significant factors in determining the character and identity of a community. Placement of curb bulb-outs may be considered at various locations in the project to serve as a traffic calming devices and provide a pedestrian priority intersection designs, such as the primary entry into Stone Beetland community on C Street near the CMU site in the Transit Village. The circulation system should be logical, predictable, and designed to promote safety for all transportation modes, particularly pedestrians and bicyclists.

The residential village neighborhoods are designed to provide a mix of housing types which are integrated and interconnected. Each of the four Villages are oriented with a park or open space as a central focal element. All residents will be within a 5 minute walk (1/4 mile) to a park, activity area or greenbelt trail. In addition, approximately 80% of the total residences are less than 10 minute walk (½ mile) to the Light Rail stop. Tree lined streets, convenient access to trails and safe street crossings will promote a neighborhood identity of connectedness and interaction. Convenient bicycle and pedestrian paths will encourage these modes of transportation, thereby reducing vehicular trips.

1.5 Parks and Open Space

Approximately 23% of the site is dedicated to public parks, landscape corridors, open spaces, landscape lots and drainage basins. The Mobility Plan on page 6 illustrates these facilities. The public areas provide a visual amenity for the enjoyment of future residents and space for recreational activities to improve public health.

Three neighborhood parks sites are provided, totaling 9.3 acres. A 5% private facilities credit of is also given for the HOA maintained central spine trail amenity that extends from 24th Street on the west to proposed C Street, linking the West and Central neighborhoods to the Transit Village. Based on 1,159 proposed housing units, the parkland dedication is 9.52 acres, however with the 5% private facilities credit of 0.476, the required park acreage is reduced to 9.044 acres. Park design shall comply with the City of Sacramento Department of Parks and Recreation Design Guidelines.

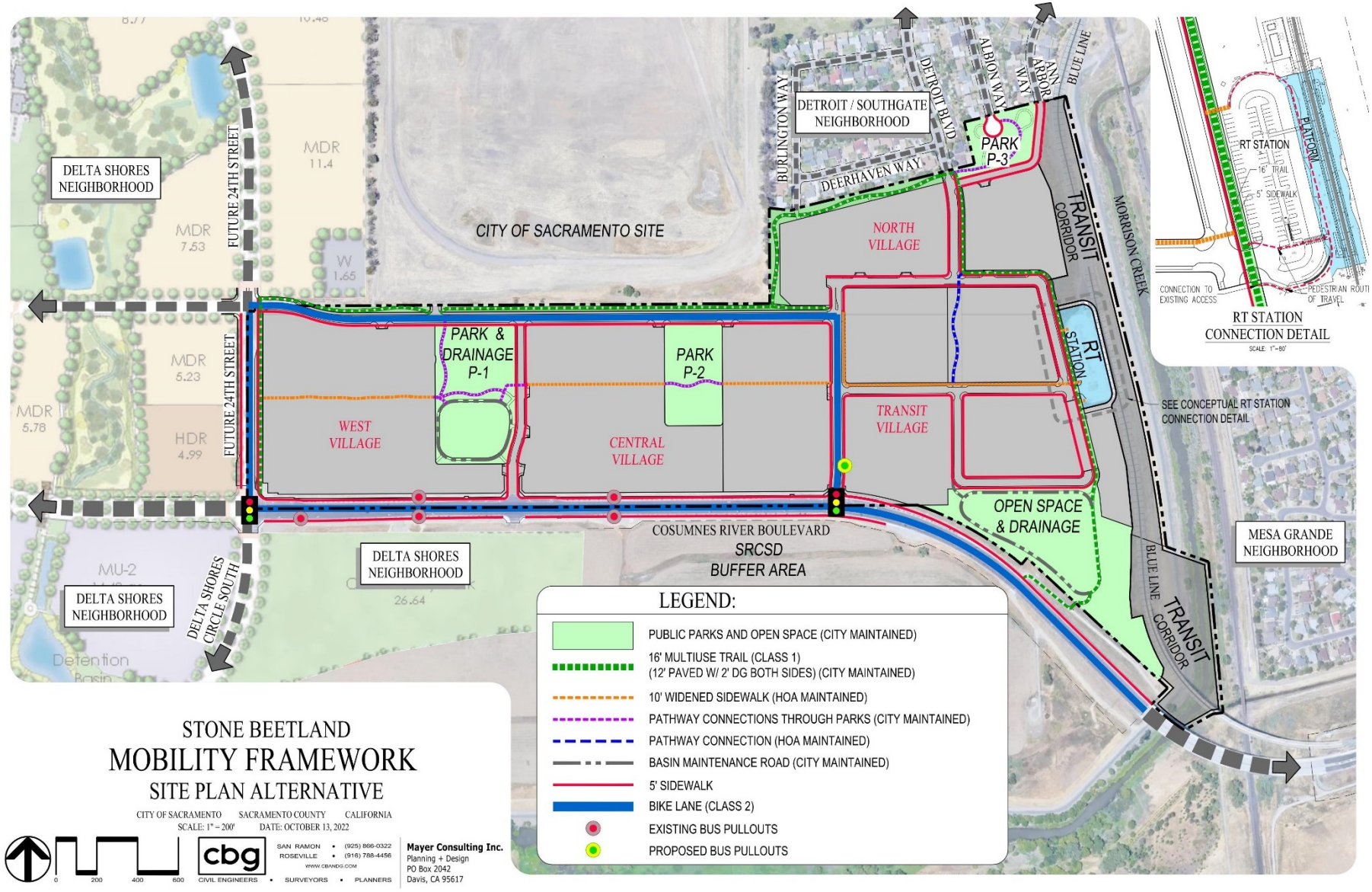


Exhibit 3: Mobility Framework

1.6 Procedures for Approval and Amendments

The procedures for approval of development under, as well as amendments to, these PUD guidelines are as set forth in Chapter 17.452 of Title 17 of the Sacramento City Code, and may be amended occasionally.

SECTION 2: PLANNING STANDARDS AND GUIDELINES

2.1 Development Standards

With the exception of the Central Village, all development within the Plan Area will conform to existing City zoning and development standards.

1. West Village LDR	R1-A (PUD) Single Unit/Duplex Dwelling Zone
2. North Village LDR	R1-A (PUD) Single Unit/Duplex Dwelling Zone
3. Transit Village HDR	R-4 (PUD) Multi Unit Zone
4. Transit Village CMU	C-1 (PUD) Limited Commercial Zone

The Central Village is anticipated for innovative attached and detached single-family detached products, such as but not limited to compact lots, zero lot line, courtyards, bungalows, greencourts, townhouses or similar home configurations. The underlying zone for the Central Village is R-2A (PUD), however the anticipated housing products may not conform to the minimum area, dimensions and setback requirements of the R-2A zone. In order to provide the flexibility needed to address innovative housing products, all necessary deviations to the R-2A development standards within the Central Village (R-2A zone) will be determined through the site plan and design review process.

2.2 Design Guidelines

Development within the Plan Area will follow the Citywide Design Guidelines, as applicable. The following Design Guidelines address specific aspects of the project design and shall supercede the Citywide Design Guidelines. Where these guidelines are silent, the Citywide Design Guidelines shall prevail.

A. Community Design

1. Circulation and mobility patterns should emphasize high degree of connectivity to allow vehicular, bike and pedestrian linkages with the adjacent Detroit Boulevard neighborhood and City Property to the north.

2. At least one street stub from Street A should be provided to the City Property to the north of the Plan Area.

B. Neighborhood Design

1. House designs that have garage access from the rear is preferred along A Street. Driveways to individual lots and homes on A Street within the West and Central Village should be minimized to avoid “back-up” conflicts with vehicular traffic.

2. To the extent feasible, all homes/residential units should front onto residential streets.

3. The lots surrounding Lot P3 (in the northeast corner of the community) or in close proximity, shall be generally oriented to front on to the extension of Ann Arbor Way and the landscape amenity to provide “eyes-on-the-park”.

4. Lots should avoid backing onto any park, greenbelt or open space.

5. Houses adjacent to paseos should consider locating entrances along the pathways to increase natural surveillance.

C. Detached and Attached Residential Housing Design

1. The floor plans and elevations should be designed to ensure that garages not dominate the streetscape and will be subordinate to the main living area/designated outdoor living space.

2. To achieve diverse and varied streetscapes, the setback for garage doors shall be equal to or greater than the minimum setback to the livable portion or outdoor living area of the home (e.g., porch or patio).

3. Floor plans should include covered front porches and other techniques to de-emphasize garage doors.

4. Encourage providing enhanced elevations for housing units facing a public street, school, park, basins, trails or other public spaces.

5. Encourage builders to design some lots to accommodate accessory dwelling units (ADU's), where feasible.

D. Trails, Greenbelts and Paseos

1. The Greenbelts and Pedestrian paseos should be illuminated to a minimum of 1/3 foot candles per square foot area at a6:1 average to minimum ratio.

2. The Greenbelts and Paseos shall be sited, landscaped and designed to avoid hiding places.

3. Houses adjacent to paseos should consider orienting front doors along the pathways and/or utilize "corner" home elevations to increase natural surveillance.

E. Landscape Design

1. Enhanced landscaping should be provided at all street entrances along Cosumnes River Boulevard and 24th Street to provide a sense of arrival and community identity.

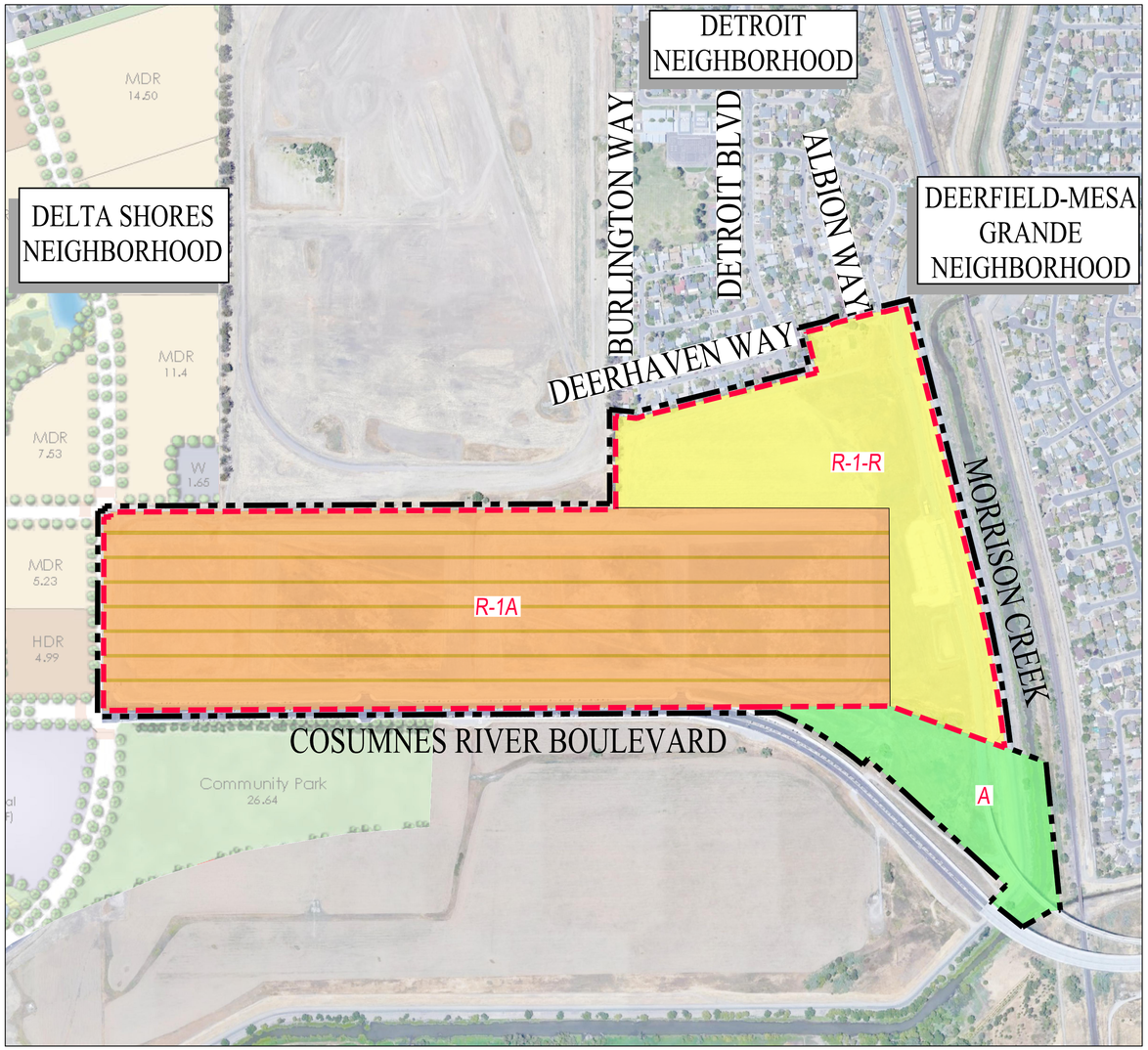
2. Incorporate trees to shade new and existing pavements to the full extent feasible, in addition to meeting the parking lot tree shading requirement.

3. Landscaping should consist of climate-appropriate plantings, including drought-tolerant and native species suited to Sacramento.

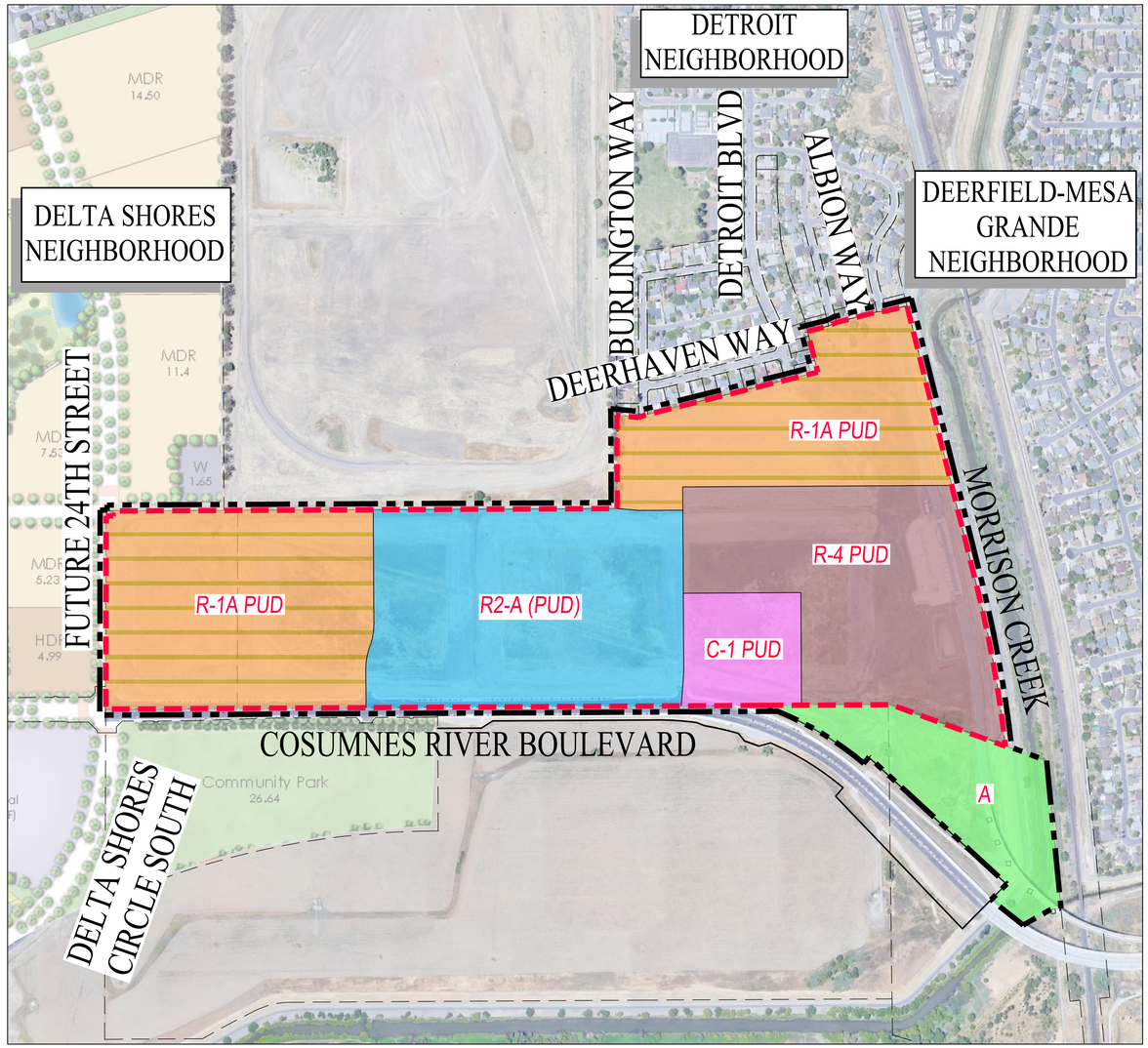
F. Sustainability

1. Use of cool pavement and certified cool roofs is encouraged, where feasible.

2. Home and building design and placement should take advantage of passive solar opportunities.



EXISTING ZONING DESIGNATIONS



PROPOSED ZONING DESIGNATIONS

LEGEND

- R-1A: SINGLE FAMILY ALTERNATIVE
- R-1-R: STANDARD SINGLE FAMILY
- R-4: MULTI-FAMILY
- C-1: LIMITED COMMERCIAL
- R-2A: MULTI-FAMILY (UP TO 17 UNITS/ACRE)
- A: AGRICULTURAL
- PROJECT BOUNDARY
- LIMITS OF ZONING AMENDMENT

FIGURE 2
STONE BEETLAND
REZONING EXHIBIT

CITY OF SACRAMENTO SACRAMENTO COUNTY CALIFORNIA
SCALE: 1" = 350' DATE: OCTOBER 17, 2022

0 350 700 1,050

cbg CIVIL ENGINEERS ▪ SURVEYORS ▪ PLANNERS
SAN RAMON ▪ (925) 866-0322
ROSEVILLE ▪ (916) 788-4456
WWW.CBANDG.COM

Mayer Consulting Inc.
Planning + Design
PO Box 2042
Davis, CA 95617

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APPENDIX K

SEWER MASTER PLAN

Sanitary Sewer Master Plan

STONE BEETLAND
SACRAMENTO, CALIFORNIA

OCTOBER 2022

CARLSON, BARBEE & GIBSON, Inc.
CIVIL ENGINEERS • SURVEYORS • PLANNERS

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I. BACKGROUND

The Stone Beetland property ("Project") is located directly east of the Delta Shores master-planned community. The Project is approximately 141 acres and is bound by Cosumnes River Boulevard to the south, Delta Shores and the future 24th Street extension to the west, City of Sacramento property and the Detroit Boulevard Neighborhood to the north and the Sacramento Regional Transit Blue Line light rail line and station, and Morrison Creek to the east. See Figure 1 depicting the Project Location. The proposed Project includes the development of a mixed-use community with a range of residential densities that transition from similar housing types as the surrounding communities to higher densities surrounding the Light Rail station, promoting transit-oriented development. The current land uses within the Project include approximately 1,160 residential units, 6.2 acres of commercial uses and 33 acres of trails, open space and integrated drainage facilities. See Figure 2 depicting the proposed Project Land Use Plan.

The proposed Project was considered as a future development site within the Delta Shores Sewer Master Plan, dated July 2014. Accordingly, the infrastructure downstream of the Project and within the Sump 53 Sewer Shed has been planned to provide capacity for the Project.

II. EXISTING AND PLANNED SANITARY SEWER FACILITIES

The Project site is within the existing Sump 53 Sewershed. The existing Sump 53 is located at the northwest corner of the Project. From this facility, there is an existing force main that conveys sanitary sewer to the existing sewer pipeline system located in 24th Street to the north of Delta Shores. This system of pipelines eventually connects to the existing 96" City Interceptor that is located along Interstate 5 and conveys flows to the wastewater treatment plant.

The Delta Shores Sewer Master Plan identified that the 96" City Interceptor has capacity for 1.283 MGD of flow from the Delta Shores / Stone Beetland / City of Sacramento projects. Once the flows from these developments exceed this capacity, a new Sump 53 pump station is planned to be constructed south of the 24th Street / Cosumnes River Blvd intersection. Sanitary sewer flows from the North and South Sheds of Delta Shores and all of the Stone Beetland and City of Sacramento properties will be directed to the new Sump 53. The new Sump 53 will discharge to a force main that will be located along the Cosumnes River Blvd corridor, conveying flows approximately 10,000

linear feet in distance, and eventually connecting to the existing SRCSD Central Interceptor pipeline located near Franklin Boulevard.

There is also an existing sanitary sewer collection pipeline within the Project site. This pipeline is located along the northern boundary and conveys sanitary sewer from the portions of Detroit Boulevard Neighborhood to the existing Sump 53.

III. PROPOSED SANITARY SEWER FLOWS

The sanitary sewer flows to be generated by the proposed development of the Project have been estimated based upon the criteria identified in the County of Sacramento Improvement Standards and Sacramento Area Sewer Design Standards, which are summarized below.

FLOW GENERATION	LAND USES			MODIFIERS
	Single-Family Residential	Multiple-Family Residential	Commercial / Industrial	Minimum plan density shall be RD-6
310 gpd/ESD	ESD's per acre shall be either the number of units per acre per land use zone, or per the proposed development agreement, or 6, whichever is greatest.	ESD is 232 gpd (Multiply the ESD's/Acre by 0.75)	6 ESD's per acre	Rainfall Dependent I/I: New Development Areas – 1,000 gpd/acre

The estimated sanitary sewer design flows generated from Stone Beetland are as follows and further detailed in Appendix :

- Q_{peak} = PWWF = PDWF + I/I
- Peaking Factor = $3.5 - 1.8Q^{0.05}$

  Q = ADWF

  Minimum shall be 1.2
- Q_{avg} = 189 SFD(ESD) x 310 gpd/ESD = 58,590 gpd

  971 MFR(ESD) x 232 gpd/ESD = 225,272 gpd

  6.2 Acre Comm. x 6 ESD x 310 gpd/ESD = 11,532 gpd

  Q_{avg} = 295,394 gpd

- Peaking Factor = $3.5 - 1.8Q_{avg}^{0.05}$
  = $3.5 - 1.8\ (0.2959)^{0.05}$
  = 1.8
- I/I = 1,000 gpd/acre x 141 acres (Includes RT and Roadways) = 141,000 gpd
- Q_{peak} = 295,394 gpd x 1.8 peaking factor + 141,000 gpd
  = 672,709 gpd
  = 0.673 MGD

The approved Delta Shores Sewer Master Plan had assumed a design flow from the Stone Beetland property of 0.76 MGD, which exceeds the current estimated flows of 0.67 MGD. See the original estimated sanitary sewer flows for the Stone Beetland property highlighted in Appendix B. The reduction in estimated flow is related to the original assumed land uses within the Project have transitioned since the Delta Shore Sewer Master Plan was completed. The current proposed land uses now include more multi-family units within the Project to focus on transit-oriented development near the Light Rail station, and therefore less total ESDs associated with the Project. Accordingly, the downstream systems that have been planned and or constructed to date have adequate capacity assumed for the Project site.

IV. PROPOSED SANITARY SEWER SYSTEM IMPROVEMENTS

The Project will install a system of sanitary sewer collection pipelines, ranging from 8" to 15" in diameter, within the proposed street framework. The pipelines will collect and convey sanitary sewer flows generated by the Project from east to west. The existing pipeline from the Detroit Boulevard Neighborhood will be removed and those flows will be intercepted by the new system of collection pipelines. Also, future flows from the City of Sacramento site have been planned to be connected to the downstream portions of the proposed system. The proposed collection pipelines will ultimately connect into the planned 24" trunk line in 24th Street. The 24" trunk line will convey flows southerly, across Cosumnes River Blvd, and to the planned new Sump 53.

Depending on the status of adjacent development within Delta Shores, there may be an opportunity to connect initial phases of development to the existing Sump 53 and utilize the remaining capacity

within the 96” City Interceptor Line. This will require more detailed analysis to determine if this interim condition is feasible at the time of final design.

See Figure 3 depicting the proposed sanitary sewer system within the Project and surrounding existing and planned sewer facilities. See the sewer pipeline hydraulic calculations in Appendix C demonstrating the proposed system meets the required minimum pipeline velocities and capacity criteria.

FIGURES

MEADOWVIEW ROAD

FREEPORT BLVD.

MACK ROAD

FRANKLIN BLVD.

24TH STREET

DELTA SHORES

STONE BEETLAND PROPERTY

COSUMNES RIVER BLVD.

INTERSTATE 5

SACRAMENTO RIVER

Stone Creek Avenue

LDR 13.45
LDR 4.91
MDR 5.27
LDR 3.39
LDR 7.43
LDR 6.42
LDR 7.99
LDR 15.60
LDR 6.27
HDR 5.88
MDR 14.20
MDR 8.77
MDR 10.46
MDR 11.4
MDR 7.53
ES 9.98
Community Center 2.60
Park 6.6
W 1.65
MDR 9.71
HDR 8.46
MDR 9.43
Park 3.10
MDR 5.74
HDR 3.92
Commercial Retail 24.73 ac., (250k - 316k SF)
HDR 5.96
Park 1.76
F 2.0
5k - 15k SF
HDR 4.06
MDR 8.90
MDR 9.44
MDR 5.78
HDR 4.99
HDR 3.99
Park 3.49
HDR 8.63
MDR 7.60
MDR 9.66
MDR 9.35
MU-1 5.44 ac
MU-2 14.49 ac (Commercial 90k - 161k SF)
Community Park 26.64
Detention Basin 7.28
HDR 5.80
HDR 5.85
ES 9.92
Park 5.05
HDR 6.83
MDR 14.13
MDR 8.65
Commercial Retail 29.24 ac., (256k - 320k SF)
MDR 11.37
Park 3.01
LDR 9.36
Detention Basin 7.57
Park 6.02
LDR 12.21
Commercial Retail 37.16 ac., (256k - 300k SF)
Commercial Retail 30.76 ac., (276k - 336k SF)
Detention Basin 17.00

0 400 800 1200

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FIGURE 1
CONTEXTUAL REGIONAL MAP
STONE BEETLAND

CITY OF SACRAMENTO SACRAMENTO COUNTY CALIFORNIA

SCALE:1"=400' DATE: NOVEMBER, 2021

F:\3377-000\ACAD\EXHIBITS\XB_CONTEXTUAL MAP (SRCSD).DWG

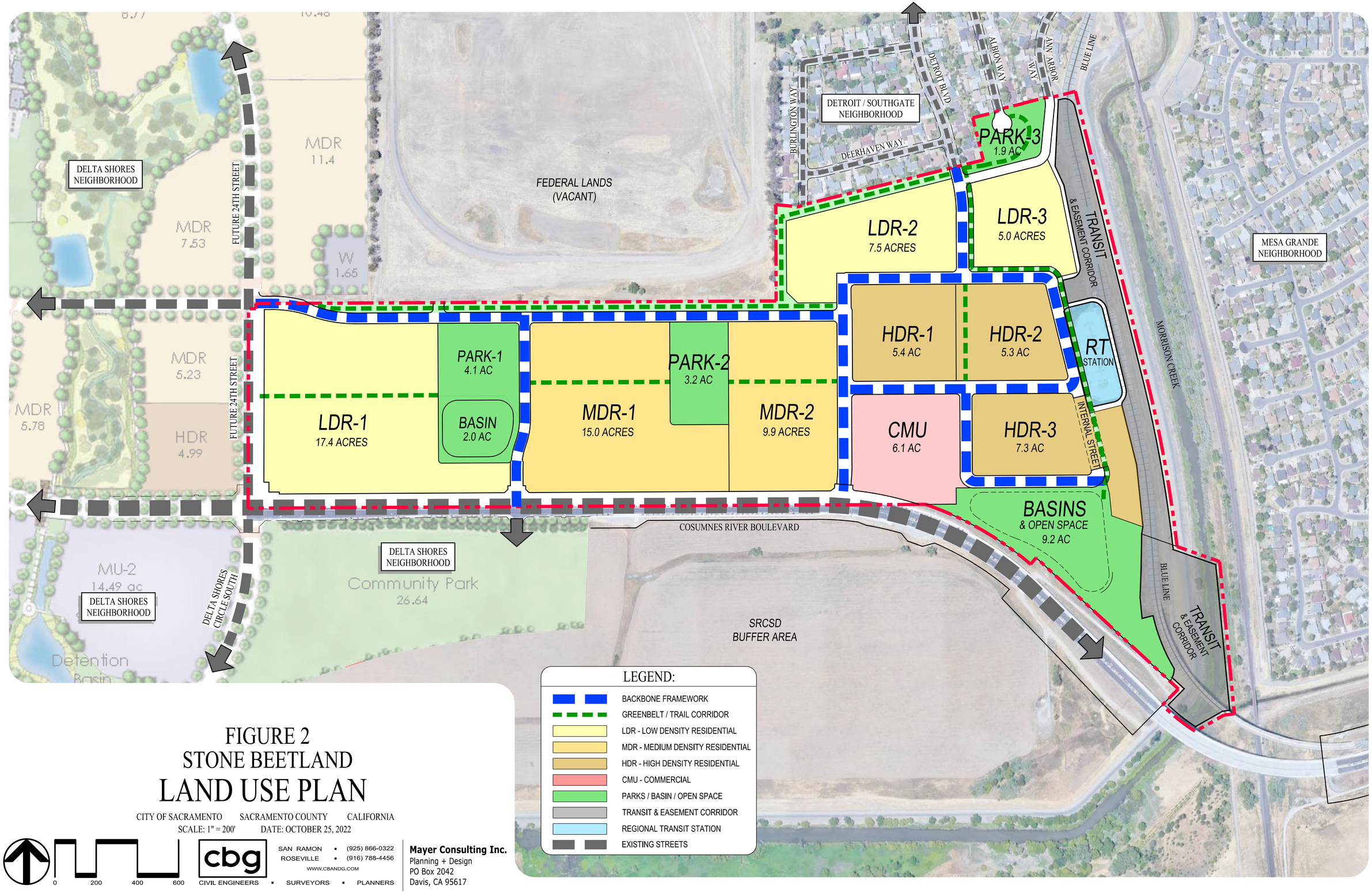


FIGURE 2
STONE BEETLAND
LAND USE PLAN

CITY OF SACRAMENTO SACRAMENTO COUNTY CALIFORNIA

SCALE: 1" = 200' DATE: OCTOBER 25, 2022

0 200 400 600

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Planning + Design
PO Box 2042
Davis, CA 95617

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FIGURE 3
SANITARY SEWER MASTER PLAN
STONE BEETLAND

CITY OF SACRAMENTO SACRAMENTO COUNTY CALIFORNIA

SCALE: 1" = 150' DATE: OCTOBER 25, 2022

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APPENDICES

APPENDIX A –
Stone Beetland Estimated Sanitary Sewer Flows

APPENDIX A
Stone Beetland Sewer Master Plan
Project Sewer Flows

October 2022

Node	LDR ac	LDR ESD's	MDR ac	MDR ESD's	HDR ac	HDR ESD's	School ac	School ESD's	Mixed ac	Mixed ESD's	Comm ac	Comm ESD's	Public ac	Public ESD's	Park ac	Park ESD's	OS ac	OS ESD's	Major Road ac	Major Road ESD's	Total Area ac	Total Total ESD's	Flow Calculations Flow Gen gpd/ESD	Qave mgd	Qinf mgd	Peaking Factor	Q Peak DWF mgd	Q Peak PWWF mgd	Q Peak PWWF cfs	Diam in	Slope ft/ft	Flow Depth in	d/D ratio	Velocity fps
LDR-1	17.40	100	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	17.40	100	310	0.031	0.017	1.80	0.056	0.073	0.11	-	-	-		-
LDR-2	7.50	55	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	7.50	55	310	0.017	0.008	1.80	0.031	0.038	0.06	-	-	-		-
LDR-3	4.80	31	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	4.80	31	310	0.010	0.005	1.80	0.017	0.022	0.03	-	-	-		-
MDR-1	0.00	0	15.00	151	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	15.00	151	232.5	0.035	0.015	1.80	0.063	0.078	0.12	-	-	-		-
MDR-2	0.00	0	9.90	111	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	9.90	111	232.5	0.026	0.010	1.80	0.046	0.056	0.09	-	-	-		-
HDR-1	0.00	0	0.00	0	5.40	241	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	5.40	241	232.5	0.056	0.005	1.80	0.101	0.106	0.16	-	-	-		-
HDR-2	0.00	0	0.00	0	5.30	198	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	5.30	198	232.5	0.046	0.005	1.80	0.083	0.088	0.14	-	-	-		-
HDR-3	0.00	0	0.00	0	7.30	272	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	7.30	272	232.5	0.063	0.007	1.80	0.114	0.121	0.19	-	-	-		-
CMU	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	6.10	37	0.00	0	0.00	0	0.00	0	0.00	0	6.10	37	310	0.011	0.006	1.80	0.021	0.027	0.04	-	-	-		-
PQP-RT	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	10.30	0	0.00	0	0.00	0	0.00	0	10.30	0	310	0.000	0.010	1.80	0.000	0.010	0.02	-	-	-		-
P	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	9.30	0	0.00	0	0.00	0	9.30	0	310	0.000	0.009	1.80	0.000	0.009	0.01	-	-	-		-
OS-G	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	12.70	0	0.00	0	12.70	0	310	0.000	0.013	1.80	0.000	0.013	0.02	-	-	-		-
OS-B	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	11.20	0	0.00	0	11.20	0	310	0.000	0.011	1.80	0.000	0.011	0.02	-	-	-		-
RW-EXT	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	4.70	0	4.70	0	310	0.000	0.005	1.80	0.000	0.005	0.01	-	-	-		-
RW-INT	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	13.80	0	13.80	0	310	0.000	0.014	1.80	0.000	0.014	0.02	-	-	-		-
Stone	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	**0.672**	**1.040**	-	-	-		-
Detroit	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	**0.127**	**0.197**	-	-	-		-
Corps	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	**0.685**	**1.060**	-	-	-		-
Total:	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	**1.484**	**2.297**	15"	0.0020	10.1"	0.67	2.61
Totals:	29.70	186	24.90	262	18.00	711	0.00	0	0.00	0	6.10	37	10.30	0	9.30	0	23.90	0	18.50	0	140.70	1196					Total:	1.484	2.297					

Commercial = 6 ESD's per Acre
RT Station, Parks & Roadways = No ESD's
I / I = 1,000 GPD / Acre
Peaking Factor = 1.80 Typical

APPENDIX B –
2014 Delta Shores Sewer Master Plan
(Assumed Flow from Stone Beetland Property)

APPENDIX B

EXHIBIT G
Delta Shores Sewer Master Plan
Phase 3 Sewer Flows (Ultimate Build Out)

May 29, 2014

Node	LDR ac	LDR ESD's	MDR ac	MDR ESD's	HDR ac	HDR ESD's	School ac	School ESD's	Mixed ac	Mixed ESD's	Comm ac	Comm ESD's	Public ac	Public ESD's	Park ac	Park ESD's	OS ac	OS ESD's	Major Road ac	Major Road ESD's	Total Area ac	Total ESD's	Cumulative Area ac	Cumulative ESD's	Qave mgd	Qinf mgd	Peak Factor	Q Peak DWF mgd	Q Peak PWWF mgd	Q Peak PWWF cfs	Diam in	Slope ft/ft	Flow Depth in	Velocity fps
W1	0.00	0	5.74	81	3.92	80	0.00	0	0.00	0	0.00	0	0.00	0	3.10	19	7.78	47	1.47	0	22.01	227	22.01	227	0.070	0.026	1.92	0.135	0.162	0.25	8	0.0035	3.3	1.88
W2	23.29	103	17.87	110	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.54	4	0.00	0	0.41	0	42.11	217	64.12	444	0.138	0.077	1.87	0.257	0.334	0.52	10	0.0025	4.9	1.99
W3	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	30.00	180	0.00	0	0.00	0	0.00	0	0.00	0	30.00	180	30.00	180	0.056	0.036	1.94	0.108	0.144	0.22	8	0.0035	3.1	1.82
W4	29.30	109	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	6.02	37	0.00	0	0.60	0	35.92	146	130.04	770	0.239	0.156	1.82	0.435	0.592	0.92	12	0.0020	6.6	2.11
W5	7.00	26	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	2.57	0	0.17	0	9.74	26	139.78	796	0.247	0.168	1.82	0.450	0.617	0.96	12	0.0020	6.7	2.12
S2	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	97.03	583	0.00	0	0.00	0	4.16	0	5.87	0	107.06	583	246.84	1379	0.427	0.296	1.77	0.759	1.055	1.63	15	0.0015	8.9	2.18
S3	0.00	0	0.00	0	20.28	412	0.00	0	0.00	0	2.71	17	0.00	0	0.00	0	0.00	0	5.98	0	28.97	429	275.81	1808	0.560	0.331	1.75	0.982	1.313	2.03	15	0.0015	10.3	2.27
S4	0.00	0	10.87	153	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	2.99	0	13.86	153	289.67	1961	0.608	0.348	1.74	1.060	1.408	2.18	15	0.0015	10.9	2.30
S5	0.00	0	29.17	410	3.99	81	9.92	60	0.00	0	0.00	0	0.00	0	3.49	21	19.66	0	14.15	0	80.38	572	370.05	2533	0.785	0.444	1.72	1.352	1.796	2.78	18	0.0012	11.8	2.27
S6	0.00	0	9.35	131	6.83	139	0.00	0	5.44	33	0.00	0	0.00	0	5.05	31	7.28	0	7.86	0	41.81	334	411.86	2867	0.889	0.494	1.71	1.520	2.015	3.12	18	0.0012	12.9	2.32
N2	0.00	0	13.57	190	8.46	119	0.00	0	0.00	0	24.27	146	0.54	4	1.32	8	5.87	36	6.62	0	60.65	503	60.65	503	0.156	0.073	1.86	0.290	0.363	0.56	10	0.0025	5.1	2.03
N3	12.04	73	5.57	78	0.00	0	0.00	0	0.00	0	3.15	20	0.00	0	0.00	0	0.76	5	3.63	0	25.15	176	85.80	679	0.210	0.103	1.83	0.386	0.489	0.76	10	0.0025	6.1	2.17
N4	26.71	112	3.77	26	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	5.30	32	1.20	8	2.97	0	39.95	178	39.95	178	0.055	0.048	1.94	0.107	0.155	0.24	8	0.0035	3.2	1.85
N5	38.55	212	0.00	0	0.00	0	9.98	60	0.00	0	0.00	0	2.60	16	0.00	0	0.48	3	5.33	0	56.94	291	96.89	469	0.145	0.116	1.87	0.271	0.387	0.60	8	0.0157	3.5	4.09
N6	0.00	0	4.45	62	10.01	204	0.00	0	0.00	0	0.00	0	2.00	12	1.76	11	0.52	4	6.57	0	25.31	293	208.00	1441	0.447	0.250	1.77	0.791	1.041	1.61	15	0.0015	8.8	2.17
N7	0.00	0	19.67	279	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	8.60	52	0.00	0	4.76	0	33.03	331	241.03	1772	0.549	0.289	1.75	0.963	1.252	1.94	15	0.0015	10.0	2.26
N8	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	30.89	0	1.74	0	32.63	0	273.66	1772	0.549	0.328	1.75	0.963	1.291	2.00	15	0.0157	10.2	2.27
N9	0.00	0	8.99	127	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	1.54	0	10.53	127	284.19	1899	0.589	0.341	1.75	1.028	1.370	2.12	15	0.0015	10.6	2.29
N10	0.00	0	23.27	326	5.88	120	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	1.50	9	2.71	0	33.36	455	33.36	455	0.141	0.040	1.87	0.263	0.304	0.47	8	0.0035	4.7	2.18
N11	0.00	0	10.46	147	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.67	0	11.13	147	44.49	602	0.187	0.053	1.84	0.344	0.398	0.62	10	0.0025	5.4	2.07
N12	0.00	0	15.17	213	0.00	0	0.00	0	0.00	0	0.00	0	1.65	10	0.00	0	0.00	0	2.57	0	19.39	223	63.88	825	0.256	0.077	1.82	0.465	0.542	0.84	10	0.0025	6.6	2.22
Detroit	32.00	146	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	32.00	146	32.00	146	0.045	0.038	1.96	0.089	0.127	0.20	8	0.0035	2.9	1.76
Stone	32.00	192	31.00	310	44.50	484	0.00	0	0.00	0	5.00	30	0.00	0	14.00	84	0.00	0	0.00	0	126.50	1100	126.50	1100	0.341	0.152	1.79	0.612	0.764	1.18	12	0.0020	7.7	2.22
Corps	150.00	900	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	150.00	900	150.00	900	0.279	0.180	1.81	0.505	0.685	1.06	12	0.0020	7.2	2.18
N13	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	308.50	2146	0.665	0.370	1.74	1.155	1.525	2.36	15	0.0015	11.7	2.38
N14	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	656.57	4870	1.510	0.788	1.66	2.510	3.298	5.10	24	0.0008	16.2	2.26
N15	0.00	0	0.00	0	4.99	102	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	1.26	0	6.25	102	662.82	4972	1.541	0.795	1.66	2.560	3.355	5.19	24	0.0008	16.4	2.27
N16	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	26.56	160	0.00	0	4.22	0	30.78	160	693.60	5132	1.591	0.832	1.66	2.637	3.470	5.37	24	0.0008	16.9	2.28
S7	0.00	0	0.00	0	0.00	0	0.00	0	14.49	87	0.00	0	0.00	0	0.00	0	0.00	0	2.36	0	16.85	87	1122.31	8086	2.507	1.347	1.62	4.049	5.396	8.35	27	0.0008	21.1	2.51
S8	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.08	0	0.00	0	0.00	0	0.00	0	0.08	0	1122.39	8086	2.507	1.347	1.62	4.049	5.396	8.35	27	0.0008	21.1	2.51
Totals	350.89	1873	208.92	2643	108.86	1741	19.90	120	19.93	120	162.16	976	6.87	42	75.74	459	82.67	112	86.45	0	1122.39	8086	1122.39	8086	2.507	1.347		4.049	5.396					

APPENDIX C –
Sanitary Sewer Pipeline Hydraulic Analysis

APPENDIX C
Stone Beetland Sewer Master Plan
Project Sewer Flows

October 2022

Node	LDR ac	LDR ESD's	MDR ac	MDR ESD's	HDR ac	HDR ESD's	School ac	School ESD's	Mixed ac	Mixed ESD's	Comm ac	Comm ESD's	Public ac	Public ESD's	Park ac	Park ESD's	OS ac	OS ESD's	Major Road ac	Major Road ESD's	Total Area ac	Total Total ESD's	Flow Calculations Flow Gen gpd/ESD	Qave mgd	Qave cfs	Qinf mgd	Peaking Factor	Q Peak DWF mgd	Q Peak PWWF mgd	Q Peak PWWF cfs	Diam in	Slope ft/ft	Flow Depth in	d/D ratio	Avg Velocity fps	Peak Velocity fps
Node 1																																				
HDR-2	0.00	0	0.00	0	1.76	66	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	1.76	66	232.5	0.015	0.02	0.002	1.80	0.028	0.029	0.05	-	-	-		-	-
PQP-RT	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	5.15	0	0.00	0	0.00	0	0.00	0	5.15	0	310	0.000	0.00	0.005	1.80	0.000	0.005	0.01	-	-	-		-	-
OS-G	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.30	0	0.00	0	0.30	0	310	0.000	0.00	0.000	1.80	0.000	0.000	0.00						
																												Node 1 Peak:		**0.05**	8	0.0050	1.3	0.16	-	1.32
																							Node 1 Average:		**0.02**						8	0.0050	0.8	0.11	1.01	-
Node 2																																				
Node 1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		-	-	-	-	0.05	-	-	-			-
LDR-3	0.70	5	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.70	5	310	0.002	0.002	0.001	1.80	0.003	0.003	0.01	-	-	-			-
P	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	1.90	0	0.00	0	0.00	0	1.90	0	310	0.000	0.00	0.002	1.80	0.000	0.002	0.00	-	-	-			-
																												Node 2 Peak:		**0.06**	8	0.0100	1.3	0.16	-	1.58
																							Node 2 Average:		**0.002**						8	0.0100	0.2	0.03	0.64	-
Node 3																																				
Node 2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.002	-	-	-	-	0.06	-	-	-		-	-
LDR-2	1.00	9	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	1.00	9	310	0.003	0.00	0.001	1.80	0.005	0.006	0.01	-	-	-		-	-
LDR-3	4.10	26	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	4.10	26	310	0.008	0.01	0.004	1.80	0.015	0.019	0.03	-	-	-		-	-
HDR-2	0.00	0	0.00	0	1.76	66	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	1.76	66	232.5	0.015	0.02	0.002	1.80	0.028	0.029	0.05	-	-	-		-	-
OS-G	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.50	0	0.00	0	0.50	0	232.5	0.000	0.00	0.001	1.80	0.000	0.001	0.00	-	-	-		-	-
																												Node 3 Peak:		**0.15**	8	0.0035	2.5	0.31	-	1.60
																							Node 3 Average:		**0.04**						8	0.0035	1.3	0.16	1.06	-
Node 4																																				
Node 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.04	-	-	-	-	0.15	-	-	-		-	-
LDR-2	6.50	46	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	6.50	46	310	0.014	0.02	0.007	1.80	0.026	0.032	0.05	-	-	-		-	-
HDR-1	0.00	0	0.00	0	2.70	121	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	2.70	121	232.5	0.028	0.04	0.003	1.80	0.051	0.053	0.08	-	-	-		-	-
OS-G	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	1.60	0	0.00	0	1.60	0	310	0.000	0.00	0.002	1.80	0.000	0.002	0.00	-	-	-		-	-
																												Node 4 Peak:		**0.28**	8	0.0035	3.5	0.44	-	1.90
																							Node 4 Average:		**0.11**						8	0.0035	2.2	0.28	1.44	-
Node 5																																				
HDR-3	0.00	0	0.00	0	1.83	68	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	1.83	68	232.5	0.016	0.02	0.002	1.80	0.028	0.030	0.05	-	-	-		-	-
OS-B	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	4.60	0	0.00	0	4.60	0	310	0.000	0.00	0.005	1.80	0.000	0.005	0.01	-	-	-		-	-
OS-G	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	6.60	0	0.00	0	6.60	0	310	0.000	0.00	0.007	1.80	0.000	0.007	0.01	-	-	-		-	-
																												Node 5 Peak:		**0.06**	8	0.0050	1.4	0.18		1.40
																							Node 5 Average:		**0.02**						8	0.0050	0.8	0.11	1.01	
Node 6																																				
Node 5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.024	-	-	-	-	0.06	-	-	-		-	-
HDR-3	0.00	0	0.00	0	1.83	68	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	1.83	68	232.5	0.016	0.02	0.002	1.80	0.028	0.030	0.05	-	-	-		-	-
PQP-RT	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	5.15	0	0.00	0	0.00	0	0.00	0	5.15	0	310	0.000	0.00	0.005	1.80	0.000	0.005	0.01	-	-	-		-	-
																												Node 6 Peak:		**0.12**	8	0.0035	2.3	0.29	-	1.45
																							Node 6 Average:		**0.05**						8	0.0035	1.4	0.18	1.16	-

Notes: These calculations utilize a roughness coefficient of n=0.013 per current city standards.
There is insufficient flow at Node 2 to achieve a minimum average velocity of 1 ft/s.

cbg

APPENDIX C
Stone Beetland Sewer Master Plan
Project Sewer Flows

October 2022

Node	LDR ac	LDR ESD's	MDR ac	MDR ESD's	HDR ac	HDR ESD's	School ac	School ESD's	Mixed ac	Mixed ESD's	Comm ac	Comm ESD's	Public ac	Public ESD's	Park ac	Park ESD's	OS ac	OS ESD's	Major Road ac	Major Road ESD's	Total Area ac	Total ESD's	Flow Gen gpd/ESD	Qave mgd	Qave cfs	Qinf mgd	Peaking Factor	Q Peak DWF mgd	Q Peak PWWF mgd	Q Peak PWWF cfs	Diam in	Slope ft/ft	Flow Depth in	d/D ratio	Avg Velocity fps	Peak Velocity fps
Node 7																																				
HDR-3	0.00	0	0.00	0	1.83	68	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	1.83	68	232.5	0.016	0.02	0.002	1.80	0.028	0.030	0.05	-	-	-		-	-
CMU	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	2.00	12	0.00	0	0.00	0	0.00	0	0.00	0	2.00	12	310	0.004	0.01	0.002	1.80	0.007	0.009	0.01	-	-	-		-	-
OS-B	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	4.60	0	0.00	0	4.60	0	310	0.000	0.00	0.005	1.80	0.000	0.005	0.01	-	-	-		-	-
																												Node 7 Peak:		**0.07**	8	0.0050	1.5	0.19	-	1.44
																							Node 7 Average:		**0.03**						8	0.0050	1.1	0.14	1.04	-
Node 8																																				
Node 6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.05	-	-	-	-	0.12	-	-	-		-	-
Node 7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.03	-	-	-	-	0.07	-	-	-		-	-
HDR-2	0.00	0	0.00	0	1.77	66	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	1.77	66	232.5	0.015	0.02	0.002	1.80	0.028	0.029	0.05	-	-	-		-	-
HDR-3	0.00	0	0.00	0	1.82	68	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	1.82	68	232.5	0.016	0.02	0.002	1.80	0.028	0.030	0.05	-	-	-		-	-
																												Node 8 Peak:		**0.28**	8	0.0035	3.5	0.44	-	1.90
																							Node 8 Average:		**0.13**						8	0.0035	2.4	0.30	1.46	-
Node 9																																				
CMU	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	2.00	12	0.00	0	0.00	0	0.00	0	0.00	0	2.00	12	310	0.004	0.01	0.002	1.80	0.007	0.009	0.01	-	-	-		-	-
																												Node 9 Peak:		**0.01**	8	0.0150	0.6	0.08	-	1.16
																							Node 9 Average:		**0.01**						8	0.0150	0.5	0.06	1.16	-
Node 10																																				
Node 8	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.13	-	-	-	-	0.28	-	-	-		-	-
Node 9	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.01	-	-	-	-	0.01	-	-	-		-	-
HDR-1	0.00	0	0.00	0	2.70	120	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	2.70	120	232.5	0.028	0.04	0.003	1.80	0.050	0.053	0.08	-	-	-		-	-
CMU	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	2.10	13	0.00	0	0.00	0	0.00	0	0.00	0	2.10	13	310	0.004	0.01	0.002	1.80	0.007	0.009	0.01	-	-	-		-	-
																												Node 10 Peak:		**0.39**	8	0.0035	4.2	0.53	-	2.08
																							Node 10 Average:		**0.18**						8	0.0035	2.8	0.35	1.67	-
Node 11																																				
Node 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.11	-	-	-	-	0.28	-	-	-		-	-
Node 10	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.18	-	-	-	-	0.39	-	-	-		-	-
																												Node 11 Peak:		**0.67**	10	0.0025	5.8	0.58	-	2.06
																							Node 11 Average:		**0.29**						10	0.0025	3.6	0.36	1.63	-
Node 12																																				
Node 11	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.29	-	-	-	-	0.67	-	-	-		-	-
Detroit	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.05	-	-	-	0.127	0.197	-	-	-		-	-
OS-G	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.25	0	0.00	0	0.25	0	310	0.000	0.00	0.000	1.80	0.000	0.000	0.00	-	-	-		-	-
																												Node 12 Peak:		**0.87**	10	0.0025	6.8	0.68	-	2.22
																							Node 12 Average:		**0.34**						10	0.0025	3.8	0.38	1.77	-
Node 13																																				
Node 12	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.34	-	-	-	-	0.87	-	-	-		-	-
MDR-2	0.00	0	9.90	111	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	9.90	111	232.5	0.026	0.04	0.010	1.80	0.046	0.056	0.09	-	-	-		-	-
OS-G	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.20	0	0.00	0	0.20	0	310	0.000	0.00	0.000	1.80	0.000	0.000	0.00	-	-	-		-	-
																												Node 13 Peak:		**0.95**	12	0.0020	6.7	0.56	-	2.09
																							Node 13 Average:		**0.38**						12	0.0020	4.1	0.34	1.60	-

cbg

APPENDIX C
Stone Beetland Sewer Master Plan
Project Sewer Flows

October 2022

Node	LDR ac	LDR ESD's	MDR ac	MDR ESD's	HDR ac	HDR ESD's	School ac	School ESD's	Mixed ac	Mixed ESD's	Comm ac	Comm ESD's	Public ac	Public ESD's	Park ac	Park ESD's	OS ac	OS ESD's	Major Road ac	Major Road ESD's	Total Area ac	Total Total ESD's	Flow Calculations Flow Gen gpd/ESD	Qave mgd	Qave cfs	Qinf mgd	Peaking Factor	Q Peak DWF mgd	Q Peak PWWF mgd	Q Peak PWWF cfs	Diam in	Slope ft/ft	Flow Depth in	d/D ratio	Avg Velocity fps	Peak Velocity fps
Node 14																																				
Node 13	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.38	-	-	-	-	0.95	-	-	-		-	-
MDR-1	0.00	0	3.10	26	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	3.10	26	232.5	0.006	0.01	0.003	1.80	0.011	0.014	0.02	-	-	-		-	-
P	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	3.20	0	0.00	0	0.00	0	3.20	0	310	0.000	0.00	0.003	1.80	0.000	0.003	0.00	-	-	-		-	-
OS-G	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.35	0	0.00	0	0.35	0	310	0.000	0.00	0.000	1.80	0.000	0.000	0.00	-	-	-		-	-
																												Node 14 Peak:		**0.98**	15	0.0020	6.1	0.41	-	2.07
																							Node 14 Average:		**0.39**						15	0.0020	3.7	0.25	1.63	-
Node 15																																				
Node 14	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.39	-	-	-	-	0.98	-	-	-		-	-
Corps	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.28	-	-	-	0.685	1.060					-	-
MDR-1	0.00	0	11.90	125	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	11.90	125	232.5	0.029	0.04	0.012	1.80	0.052	0.064	0.10	8	0.0035	2.0	0.25	-	1.41
OS-G	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.75	0	0.00	0	0.75	0	310	0.000	0.00	0.001	1.80	0.000	0.001	0.00	-	-	-		-	-
OS-B	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	2.00	0	0.00	0	2.00	0	310	0.000	0.00	0.002	1.80	0.000	0.002	0.00	-	-	-		-	-
																												Node 15 Peak:		**2.14**	15	0.0020	9.7	0.65	-	2.55
																							Node 15 Average:		**0.71**						15	0.0020	5.2	0.35	1.89	-
Node 16																																				
Node 15	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.71	-	-	-	-	2.14	-	-	-		-	-
LDR-1	6.50	34	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	6.50	34	310	0.011	0.02	0.007	1.80	0.019	0.025	0.04	-	-	-		-	-
P	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	4.10	0	0.00	0	0.00	0	4.10	0	310	0.000	0.00	0.004	1.80	0.000	0.004	0.01	-	-	-		-	-
OS-G	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.60	0	0.00	0	0.60	0	310	0.000	0.00	0.001	1.80	0.000	0.001	0.00	-	-	-		-	-
																												Node 16 Peak:		**2.19**	15	0.0020	9.8	0.65	-	2.56
																							Node 16 Average:		**0.73**						15	0.0020	5.2	0.35	1.95	-
Node 17																																				
Node 16	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.73	-	-	-	-	2.19	-	-	-		-	-
LDR-1	10.90	66	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	10.90	66	310	0.020	0.03	0.011	1.80	0.037	0.048	0.07	-	-	-		-	-
OS-G	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	1.65	0	0.00	0	1.65	0	310	0.000	0.00	0.002	1.80	0.000	0.002	0.00	-	-	-		-	-
RW-EXT	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	4.70	0	4.70	0	310	0.000	0.00	0.005	1.80	0.000	0.005	0.01	-	-	-		-	-
RW-INT	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	13.80	0	13.80	0	310	0.000	0.00	0.014	1.80	0.000	0.014	0.02	-	-	-		-	-
																												Node 17 Peak:		**2.296**	15	0.0020	10.2	0.68	-	2.58
																							Node 17 Average:		**0.76**						15	0.0020	5.3	0.35	1.95	-
Totals:	29.70	186	24.90	262	18.00	711	0.00	0	0.00	0	6.10	37	10.30	0	9.20	0	24.00	0	18.50	0	140.70	1,196														

cbg

APPENDIX C
Stone Beetland Sewer Master Plan
Project Sewer Flows

October 2022

Node	LDR ac	LDR ESD's	MDR ac	MDR ESD's	HDR ac	HDR ESD's	School ac	School ESD's	Mixed ac	Mixed ESD's	Comm ac	Comm ESD's	Public ac	Public ESD's	Park ac	Park ESD's	OS ac	OS ESD's	Major Road ac	Major Road ESD's	Total Area ac	Total ESD's	Flow Gen gpd/ESD	Qave mgd	Qave cfs	Qinf mgd	Peaking Factor	Q Peak DWF mgd	Q Peak PWWF mgd	Q Peak PWWF cfs	Diam in	Slope ft/ft	Flow Depth in	d/D ratio	Avg Velocity fps	Peak Velocity fps
LDR-1	17.40	100	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	17.40	100	310	0.031		0.017	1.80	0.056	0.073	0.11	-	-	-			-
LDR-2	7.50	54	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	7.50	54	310	0.017		0.008	1.80	0.030	0.038	0.06	-	-	-			-
LDR-3	4.80	31	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	4.80	31	310	0.010		0.005	1.80	0.017	0.022	0.03	-	-	-			-
MDR-1	0.00	0	15.00	151	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	15.00	151	232.5	0.035		0.015	1.80	0.063	0.078	0.12	-	-	-			-
MDR-2	0.00	0	9.90	111	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	9.90	111	232.5	0.026		0.010	1.80	0.046	0.056	0.09	-	-	-			-
HDR-1	0.00	0	0.00	0	5.40	241	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	5.40	241	232.5	0.056		0.005	1.80	0.101	0.106	0.16	-	-	-			-
HDR-2	0.00	0	0.00	0	5.30	198	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	5.30	198	232.5	0.046		0.005	1.80	0.083	0.088	0.14	-	-	-			-
HDR-3	0.00	0	0.00	0	7.30	272	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	7.30	272	232.5	0.063		0.007	1.80	0.114	0.121	0.19	-	-	-			-
CMU	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	6.10	37	0.00	0	0.00	0	0.00	0	0.00	0	6.10	37	310	0.011		0.006	1.80	0.021	0.027	0.04	-	-	-			-
PQP-RT	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	10.30	0	0.00	0	0.00	0	0.00	0	10.30	0	310	0.000		0.010	1.80	0.000	0.010	0.02	-	-	-			-
P	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	9.30	0	0.00	0	0.00	0	9.30	0	310	0.000		0.009	1.80	0.000	0.009	0.01	-	-	-			-
OS-G	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	12.70	0	0.00	0	12.70	0	310	0.000		0.013	1.80	0.000	0.013	0.02	-	-	-			-
OS-B	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	11.20	0	0.00	0	11.20	0	310	0.000		0.011	1.80	0.000	0.011	0.02	-	-	-			-
RW-EXT	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	4.70	0	4.70	0	310	0.000		0.005	1.80	0.000	0.005	0.01	-	-	-			-
RW-INT	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	13.80	0	13.80	0	310	0.000		0.014	1.80	0.000	0.014	0.02	-	-	-			-
Stone	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		-	-	-	**0.672**	**1.039**	-	-	-			-
Detroit	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		-	-	-	**0.127**	**0.197**	-	-	-			-
Corps	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		-	-	-	**0.685**	**1.060**	-	-	-			-
Total:	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		-	-	-	**1.484**	**2.296**	15"	0.0020	10.2"	0.68		2.58
Totals:	29.70	185	24.90	262	18.00	711	0.00	0	0.00	0	6.10	37	10.30	0	9.30	0	23.90	0	18.50	0	140.70	1,195						Total:	1.484	2.296						