HELIX Environmental Planning

Avenues Septic to Sewer Project

Draft Initial Study/ Mitigated Negative Declaration

April 2023 | 01008.00007.001

Prepared for:

Elsinore Valley Municipal Water District
31315 Chaney Street
Lake Elsinore, CA 92530

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Acronyms and Abbreviations

AB	Assembly Bill
AQMP	Air Quality Management Plan
BMP	best management practice
CAGN	Coastal California gnatcatcher
CAL FIRE	California Department of Forestry and Fire Protection
CalEEMod	California Emissions Estimator Model
CALGreen	California Green Building Standards Code
CAP	Climate Action Plan
CAPCOA	California Air Pollution Control Officers Association
CARB	California Air Resources Board
CAS	Criteria Area Species
CDFW	California Department of Fish and Wildlife
CFG Code	California Fish and Game Code
City	City of Lake Elsinore
CO_2e	carbon dioxide equivalent
County	County of Riverside
CTMP	Construction Traffic Management Plan
DBESP	determination of equivalent or superior preservation
DOC	California Department of Conservation
DPM	diesel particulate matter
DTSC	Department of Toxic Substances Control
EIC	Eastern Information Center
EVMWD	Elsinore Valley Municipal Water District
GHG	greenhouse gas
GPD	gallons per day
GSP	Groundwater Sustainability Plan
I-	Interstate
LEMC	Lake Elsinore Municipal Code
LST	Localized Significance Threshold
MBTA	Migratory Bird Treaty Act
MGD	million gallons per day
MRZ	Mineral Resource Zone
MSHCP	Western Riverside Multiple Species Habitat Conservation Plan
MT	metric ton

Acronyms and Abbreviations (cont.)

NAHC	Native American Heritage Commission
NEPS	Narrow Endemic Plant Species
NPDES	National Pollutant Discharge Elimination System
NRHP	National Register of Historic Places
OEHHA	Office of Environmental Health Hazard Assessment
OPR	Office of Planning and Research
Pechanga	Pechanga Band of Indians
PRMP	paleontological resources management plan
Rincon	Rincon Band of Luiseño Indians
RTP/SCS	Regional Transportation Plan/Sustainable Communities Strategy
ROW	right-of-way
SCAB	South Coast Air Basin
SCAG	Southern California Association of Governments
SCAQMD	South Coast Air Quality Management District
Soboba	Soboba Band of Luiseño Indians
SRA	source receptor area
SWPPP	Stormwater Pollution Prevention Plan
SWRCB	State Water Resource Control Board
TAC	toxic air contaminant
TCP	Traditional Cultural Property
VHFHSZ	Very High Fire Hazard Severity Zone
WRCOG	Western Riverside Council of Governments
WRF	Water Reclamation Facility

1.0 Preface

This Draft Mitigated Negative Declaration was circulated previously in January 2023. However, the document is being re-circulated to follow the established procedure per Assembly Bill 52 Tribal Consultation requirements. Other than updates to document the most current Tribal coordination within Items 2.1, Project Information, Section 5, subsection V., Cultural Resources, and subsection XVIII, Tribal Cultural Resources, no substantive changes have been made to the Project or analysis within the Initial Study compared to the January 2023 version.

2.0 Introduction

2.1 Initial Study Information Sheet

1.	Project title:	Avenues Septic to Sewer
2.	Lead agency name and address:	Elsinore Valley Municipal Water District (EVMWD) 31315 Chaney Street, Lake Elsinore, CA 92530
3.	Contact person and phone number:	Jason Dafforn, P.E. (951) 674-3146
4.	Project location:	North of East Lakeshore Drive, generally between Country Club Boulevard, Mill Street, and Irwin Drive, Lake Elsinore, CA
5.	Project sponsor's name and address:	Elsinore Valley Municipal Water District 31315 Chaney Street, Lake Elsinore, CA 92530
6.	General plan designation:	Hillside Residential, Low-Medium Residential, Medium Density Residential, Neighborhood Commercial, Residential Mixed Use
7.	Zoning:	C1 – Neighborhood Commercial, RH – Hillside Single Family Residential, RMU – Residential Mixed Use, R1 – Single Family Residential, R2 – Medium Density Residential
8.	Description of project:	See Section 2
9.	Surrounding land uses and setting:	See Section 2

10. Other public agencies whose approval is required (e.g., permits, financing approval, or participation agreement:

    - City of Lake Elsinore (encroachment permits)
    - State Water Resource Control Board (SWRCB)
    - Santa Ana Regional Water Quality Control Board (SARWQCB)

11. Have California Native American tribes traditionally and culturally affiliated with the project area requested consultation pursuant to Public Resources Code Section 21080.3.1? If so, is there a plan for consultation that includes, for example, the determination of significance of impacts to tribal cultural resources, procedures regarding confidentiality, etc.?

On September 20, 2022, letters were sent to the to the 26 Native American representatives and interested parties identified by the Native American Heritage Commission (NAHC). To date, four responses have been received: both the Quechan Indian Tribe and the Agua Caliente Band of Cahuilla Indians indicated that they have no comments on the Project and defer to local tribes. The Rincon Band of Luiseño Indians (Rincon) indicated that the Project location is within their Area of Historic Interest and the City is considered a Traditional Cultural Place. The Pechanga Band of Indians (Pechanga) indicated the Project site is within the boundary of a Traditional Cultural Property (TCP). When additional responses are received, they will be forwarded to EVMWD and the SWRCB. The Agua Caliente Band of Cahuilla Indians indicated that the Project site is outside of their Traditional Use Area. EVMWD will undertake consultation with interested Tribes under Assembly Bill (AB) 52, and the SWRCB will undertake Section 106 consultation with interested Tribes.

3.0 Project Description

3.1 Project Location

The Project area is roughly 99 acres in size in the City of Lake Elsinore (City) in Riverside County (County), California. The Project site includes the area north of East Lakeshore Drive and generally follows the parcel boundaries west of Country Club Boulevard, north of Mill Street, and east of Irwin Drive. A small portion of the Project alignment would extend into East Lakeshore Drive, west of Country Club Boulevard. Refer to Figure 1, *Regional Vicinity,* and Figure 2, *Project Location*.

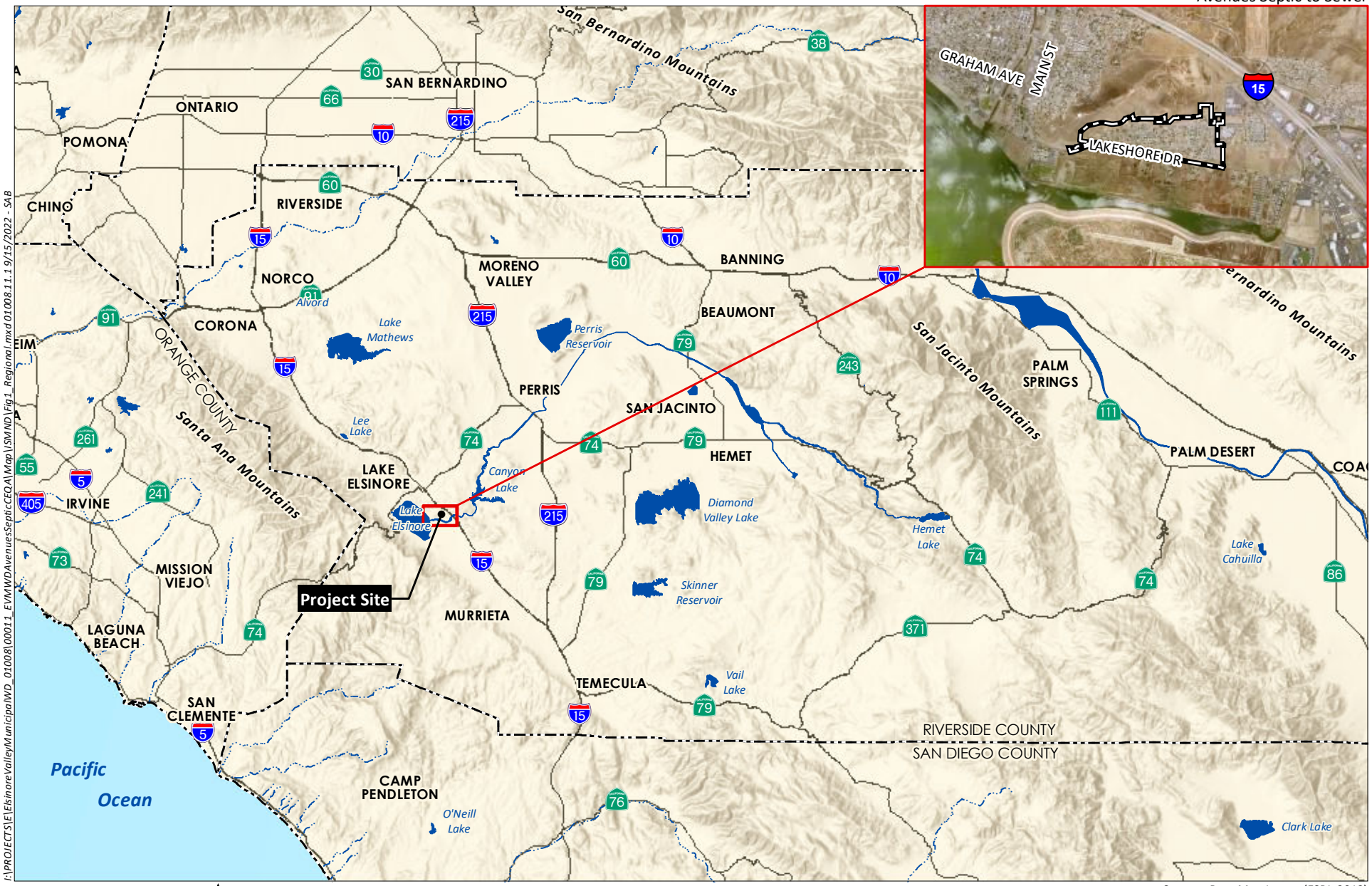
3.2 Project Background

EVMWD is a public non-profit agency, created on December 23, 1950, under the Municipal Water District Act of 1911. EVMWD provides public water service, water supply development and planning, wastewater treatment and disposal, and recycling. Currently, EVMWD has over 46,000 water, wastewater, and agricultural service connections over a 96-square-mile service area within the cities of Lake Elsinore, Wildomar, Canyon Lake, and Murrieta, and unincorporated portions of the County of Riverside. EVMWD is a sub agency of the Western Municipal Water District, a member agency of the Metropolitan Water District of Southern California.

The 2016 Sewer System Master Plan includes objectives for converting existing septic to sewer to prevent potential contamination of groundwater in the Project area.

3.3 Project Characteristics

The Project would convert 243 existing single-family residential septic customers to sewer. The proposed Project would involve the construction and operation of approximately 16,190 feet (3 miles) of 8-, 10-, and 12-inch-diameter underground sewer pipelines within existing roadway rights-of way (ROW) and private residences (for connections of laterals to sewer lines). The new sewer lines would connect to one of the two existing sewer mains underneath East Lakeshore Drive.



Source: Base Map Layers (ESRI, 2013)

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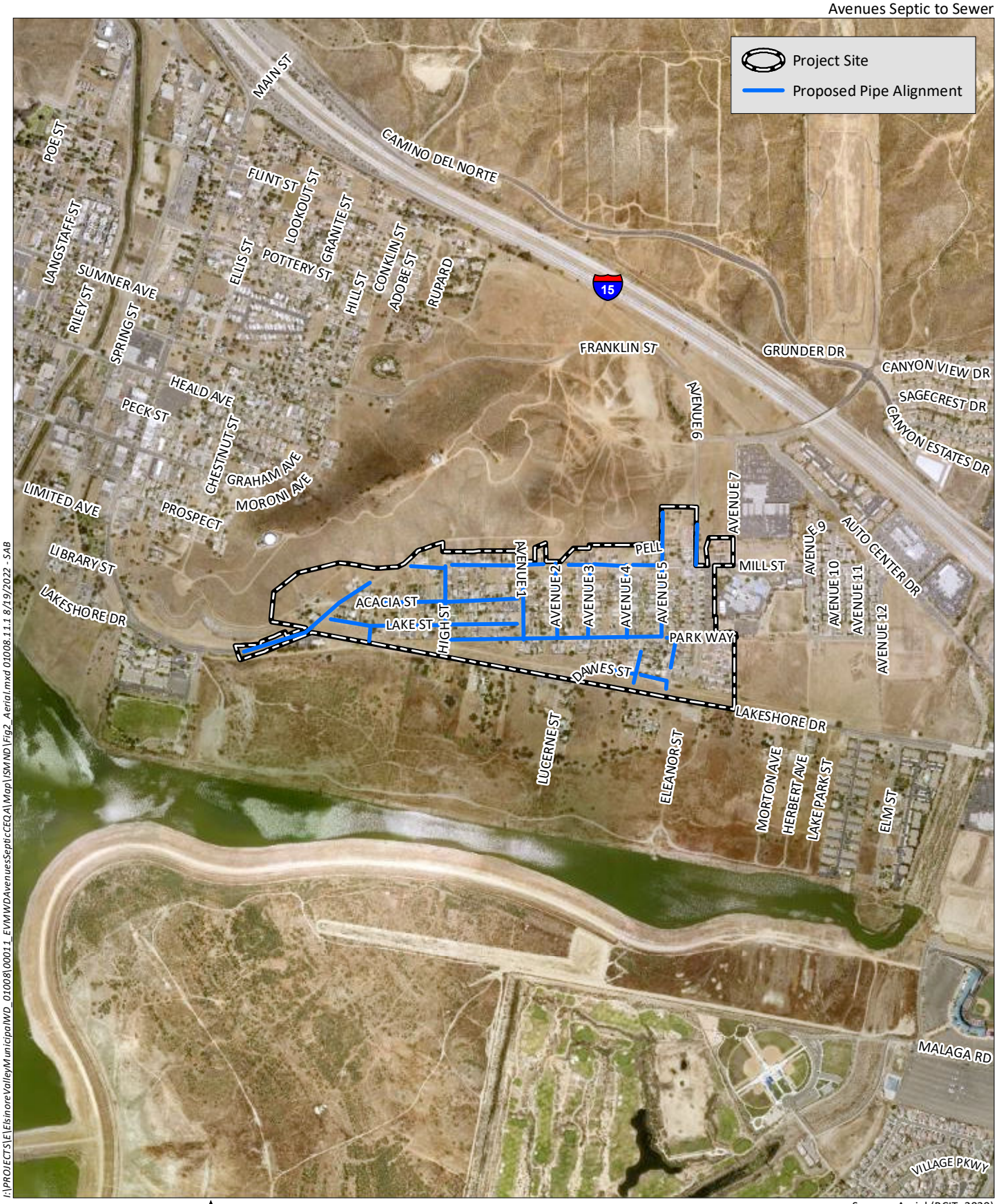
Regional Location

Figure 1



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0 1,200 Feet

Source: Aerial (RCIT, 2020)

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Aerial Photograph

Figure 2

Wastewater collected via the proposed sewer lines would be transported to the EVMWD Regional Water Reclamation Facility (WRF). The Project is anticipated to generate approximately 62,500 gallons per day (GPD) of wastewater. Existing septic tanks serving the residents would be abandoned per Riverside County Health Department requirements.

3.4 Construction Equipment and Sequencing

EVMWD anticipates that the proposed pipelines would be located within a 24- to 36-inch-wide trench. Pipeline trench depth is anticipated generally to be approximately seven to twelve feet. The duration of construction is estimated to be 12 to 18 months, starting as early as August 2023. Full installation of the sewer facilities is anticipated by December 2026.

EVMWD estimates that pipeline installation would generally occur at a rate of approximately 250 feet per day and would involve the following steps:

- Street pavement would be cut, and soil would be removed to create the pipeline trench.
- An excavator with a sling would be used to lower the pipe sections into the trench. The pipeline would rest on a bedding of compacted sand inside the trench per EVMWD standards.
- The pipe in the trench zone (the area above the pipe to the surface) would be backfilled per EVMWD standards.
- Street cuts would be repaved in accordance with the City of Lake Elsinore's requirements.

Activities proposed to occur outside the road ROW would include the abandonment of septic tanks currently located on private properties. Existing septic tanks would be emptied and then filled with sand. The tops would be removed, and bottoms perforated to allow for drainage. EVMWD anticipates that construction would likely be divided between four phases within the Avenues neighborhood, with as many as two phases constructed simultaneously. Construction crews of approximately four to six workers would typically be working on each phase. The types of construction equipment projected to be required by each construction crew for pipeline installation are presented in Table 1, *Anticipated Construction Equipment.*

Table 1
ANTICIPATED CONSTRUCTION EQUIPMENT

Phase	Equipment
Trenching	1 Excavator; 1 Tractor/Loader/Backhoe
Pipeline Installation	1 Crane; 1 Excavator; 1 Tractor/Loader/Backhoe; 1 Dump Truck
Resurfacing/Repaving	1 Roller; 1 Paver

When construction equipment is not in use, it would be stored at locations selected by the contractor and approved by EVMWD.

To minimize disruptions to the local community, construction and equipment maintenance are anticipated to be limited to weekdays (excluding holidays) from 7:00 a.m. through 7:00 p.m.

EVMWD will provide notice to residents, property owners, businesses, and schools adjacent to the proposed pipeline alignments at least one week prior to the start of construction. Notices would include an anticipated construction schedule and description of anticipated construction activities and their expected duration in addition to any other pertinent information.

3.5 Construction Best Management Practices

Air Quality

Construction would implement standard dust control measures as required by South Coast Air Quality Management District (SCAQMD) Rule 403, including watering two times daily during grading, ensuring that all exposed surfaces maintain a minimum soil moisture of 12 percent, and limiting vehicle speeds on unpaved roads to 15 miles per hour. All trucks hauling dirt, sand, soil, or other loose materials would be covered with a fabric cover and maintain a freeboard height of 12 inches.

Water Quality

Implementation of the proposed Project would require conformance with the National Pollution Discharge Elimination System (NPDES) General Construction Activity Permit. Such conformance would entail implementation of a Storm Water Pollution Prevention Plan (SWPPP) to address the discharge of contaminants (including construction-related hazardous materials) and minimize runoff through appropriate best management practices (BMPs).

As a standard construction practice and regulatory requirement, EVMWD would implement best BMPs from the required SWPPP for the Project, which may include:

- Covering stockpiled excavated and/or fill materials to reduce potential off-site sediment transport.
- Employing appropriate standard spill prevention practices and clean-up materials;
- Maintaining the Project area free of trash and debris;
- Properly storing, handling, and disposing of toxins and pollutants, including waste materials.
- Use of erosion control devices, such as straw wattles, mulch, mats, and/or geotextiles.
- Use of sediment catchment structures such as hay bales, gravel or sand bags, silt fencing, fiber rolls, matting, berms, or similar devices along grading boundaries and drainage courses to prevent off-site sediment transport.
- Daily backfill, compaction, and/or covering of excavated trenches to minimize erosion potential.
- Regular inspection and maintenance of all erosion control and sediment catchment facilities to ensure proper function and effectiveness.

Noise

The following measures would be implemented during construction to minimize noise impacts to surrounding neighborhoods:

- Construction equipment, including vehicles, generators, and compressors, would be maintained in proper operating condition and will be equipped with manufacturers' standard noise control devices or better (e.g., mufflers, acoustical lagging, and/or engine enclosures).
- Construction work, including on-site equipment maintenance and repair, would be limited to the hours specified in the Lake Elsinore noise ordinance.
- Staging areas for construction equipment would be located as far as practicable from residences.
- EVMWD would identify and provide a public liaison person before and during construction to respond to concerns of neighboring residents about noise and other construction disturbance. EVMWD would also establish a program for receiving questions or complaints during construction and develop procedures for responding to callers. Procedures for reaching the public liaison officer via telephone or in person would be included in notices distributed to the public in accordance with the information above.

Construction Traffic Management Plan

A Construction Traffic Management Plan (CTMP) would be implemented during construction of the proposed Project. During construction, access along some portions of affected roadways may be limited. The CTMP would be prepared in accordance with all applicable requirements of the City of Lake Elsinore, encroachment permit conditions, and applicable plans, ordinances, and policies. EVMWD would submit the CTMP to the City of Lake Elsinore for review, comment, and approval. The CTMP may include, but not be limited to, provisions for the following:

- Attempt to schedule the timing and duration of work to avoid the peak commuter hours of 7:00 to 9:00 a.m. and 4:00 to 6:00 p.m.;
- Implementing standard safety practices, including installing appropriate barriers between work zones and transportation facilities, placement of appropriate signage, and use of traffic control devices;
- Protecting traffic by using flaggers, warning signs, lights, and barricades to guide vehicles through or around construction zones;
- Restoring roadway capacity to the extent feasible during hours when construction activities are not occurring, which could include the use of road plates or temporary paving;
- Implementing construction schedules and techniques that minimize roadway closures, including the number of cross streets and side streets that may be blocked or otherwise impacted by construction activities;
- Providing detours for cyclists and pedestrians when bike lanes or sidewalks must be closed;
- Coordinating with local schools prior to construction within close proximity of school property to ensure entryways are not blocked during peak drop off and pick up times;
- Notifying emergency response providers of road closures at least one week prior to closures and include the location, date, time, and duration of the closure;

- Coordinating with the City of Lake Elsinore to maintain adequate emergency evacuation routes; and

- Abiding by encroachment permit conditions, which shall supersede conflicting provisions in the CTMP.

Fire Safety

To minimize the risk of losses resulting from wildfire, the following measures would be implemented during construction of the Project:

- Construction within areas of dense foliage during dry conditions will be avoided, when feasible.

- In cases where avoidance is not feasible, brush fire prevention and management practices will be incorporated. Specifics of the brush management program will be incorporated into project construction documents.

Notice to Residents, Businesses, and Schools

EVMWD will provide notice to property owners and residents of the proposed pipeline alignments at least one week prior to the start of construction. Notices would include an anticipated construction schedule and description of anticipated construction activities and their expected duration in addition to any other pertinent information.

3.6 Surrounding Land Uses

Land uses in the vicinity of the proposed Project include residential, commercial, schools, parks, and undeveloped land mainly within the Avenues neighborhood in the City of Lake Elsinore (see Figures 3a and 3b, *Representative Site Photos*). As noted above, the proposed sewer pipelines would be mainly located within existing roads, as well as disturbed areas surrounded by development.

Photo 1: Representative photo of residential development and paved roadway. Photo taken 8/5/22.

Photo 2: Lakeshore Drive, looking west. Photo taken 8/5/22.

Photo 3: Country Club Boulevard, looking southwest. Photo taken 8/29/22.

Photo 4: Park Way, looking east. Photo taken 8/29/22.

4.0 Environmental Factors Potentially Affected

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

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

4.1 Determination

On the basis of this initial evaluation:

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

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

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

☐ I find that the proposed project MAY have a "potentially significant impact" or "potentially significant unless mitigated" impact on the environment, but at least one effect (1) has been adequately analyzed in an earlier document pursuant to applicable legal standards, and (2) has been addressed by mitigation measures based on the earlier analysis as described on attached sheets. An ENVIRONMENTAL IMPACT REPORT is required, but it must analyze only the effects that remain to be addressed.

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

Signature	Date
Jason Dafforn, Director of Engineering and Water Resources	Elsinore Valley Municipal Water District
Printed name	For

5.0 Environmental Initial Study Checklist

The lead agency has defined the column headings in the environmental checklist as follows:

A. "Potentially Significant Impact" is appropriate if there is substantial evidence that an effect may be significant. If there are one or more "Potentially Significant Impact" entries when the determination is made, an EIR is required.

B. "Less Than Significant with Mitigation Incorporated" applies where the inclusion of mitigation measures has reduced an effect from "Potentially Significant Impact" to a "Less Than Significant Impact." All mitigation measures are described, including a brief explanation of how the measures reduce the effect to a less than significant level. Mitigation measures from earlier analyses may be cross-referenced.

C. "Less Than Significant Impact" applies where the project does not create an impact that exceeds a stated significance threshold.

D. "No Impact" applies where a project does not create an impact in that category. "No Impact" answers do not require an explanation if they are adequately supported by the information sources cited by the lead agency which show that the impact simply does not apply to projects like the one involved (e.g., the project falls outside a fault rupture zone). A "No Impact" answer should be explained where it is based on project-specific factors as well as general standards (e.g., the project would not expose sensitive receptors to pollutants, based on a project specific screening analysis).

The explanation of each issue identifies the significance criteria or threshold used to evaluate each question; and the mitigation measure identified, if any, to reduce the impact to less than significance. Earlier analyses may be used where, pursuant to the tiering, program EIR, or other CEQA process, an effect has been adequately analyzed in an earlier EIR or negative declaration [CEQA Guidelines Section 15063(c)(3)(D)]. Where appropriate, the discussion identifies the following:

a) Earlier Analyses Used. Identifies where earlier analyses are available for review.

b) Impacts Adequately Addressed. Identifies which effects from the checklist were within the scope of and adequately analyzed in an earlier document pursuant to applicable legal standards, and states whether such effects were addressed by mitigation measures based on the earlier analysis.

c) Mitigation Measures. For effects that are "Less Than Significant with Mitigation Incorporated," describes the mitigation measures which were incorporated or refined from the earlier document and the extent to which they address site-specific conditions for the project.

I. Aesthetics

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

a) Have a substantial adverse effect on a scenic vista?

No Impact. Scenic vistas in the Project vicinity include views of surrounding mountain ridgelines and Lake Elsinore; however, these views in the Project site are partially obstructed by existing development (City 2011a). During construction, equipment would be visible in the Project area but would be located there temporarily and removed upon completion of construction. The proposed Project would install sewer infrastructure, which would be located entirely underground after construction activities are complete. Therefore, no permanent changes to scenic vistas would occur due to the Project. No impact would occur.

b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?

No Impact. There are no designated state scenic highways with visibility to the Project site; however, Interstate- (I-)15 is an eligible state scenic highway and located approximately 0.25 miles from the Project site (Caltrans 2019). As discussed in item I.a, permanent Project components would be located underground and construction activities that would occur above ground would be temporary in nature. Thus, the Project would not result in damage to scenic resources in a state scenic highway and no impact would occur.

c) In non-urbanized areas, substantially degrade the existing visual character or quality of public views of the site and its surroundings? (Public views are those that are experienced from publicly

accessible vantage point). If the project is in an urbanized area, would the project conflict with applicable zoning and other regulations governing scenic quality?

Less Than Significant Impact. Public Resources Code 21071 defines the term "urbanized area" for the purpose of CEQA to mean an incorporated city that has a population of at least 100,000 persons or has a population of less than 100,000 persons if the population of that city and not more than two contiguous incorporated cities combined equals at least 100,000 persons. U.S. Census Bureau data from 2021 indicates that the City has a population of 71,563 and the adjacent City of Wildomar has a population of 37,189 (U.S. Census Bureau 2021). The Project site is within an urbanized area and therefore, is evaluated relative to applicable zoning and other regulations governing scenic quality.

No regulations govern the visual character of the Project, as it would exist underground upon the completion of construction. The Project would not conflict with zoning or scenic quality regulations. Construction equipment may be visible temporarily while the Project is constructed; however, once construction is complete, roadways would be repaved, and any disturbance to residences as a result of abandoning the septic tanks would be restored. Impacts would be less than significant.

d) Create a new source of substantial light or glare that would adversely affect day or nighttime views in the area?

Less Than Significant Impact. Construction of the proposed Project would occur between 7:00 a.m. and 7:00 p.m. in accordance with Lake Elsinore Municipal Code (LEMC) Section 17.176.080.F.1. Since construction would occur during daylight hours and no major light sources would be required for Project operation, no permanent new sources of light would be introduced by the Project. Once operational, Project components would be located underground and would not be a source of glare. Impacts would be less than significant.

II. Agriculture and Forestry Resources

		Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
Would the project:					
a)	Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?	☐	☐	☐	☒
b)	Conflict with existing zoning for agricultural use, or a Williamson Act contract?	☐	☐	☐	☒
c)	Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code Section 12220(g)), timberland (as defined by Public Resources Code Section 4526), or timberland zoned Timberland Production (as defined by Government Code Section 51104(g))?	☐	☐	☐	☒

		Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
d)	Result in the loss of forest land or conversion of forest land to non-forest use?	☐	☐	☐	☒
e)	Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use or conversion of forest land to non- forest use?	☐	☐	☐	☒

a) Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?

b) Conflict with existing zoning for agricultural use, or a Williamson Act contract?

No Impact. According to the California Important Farmland Finder, the majority of the Project site is designated as Urban and Built-up Land with small areas of Other Land (California Department of Conservation [DOC] 2018). The Project would occur primarily within existing roadway ROW and would not convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance to a non-agricultural use. No Williamson Act lands occur within the City and would therefore not be in conflict with the Project (City 2011b). No impact would occur.

c) Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code Section 12220(g)), timberland (as defined by Public Resources Code Section 4526), or timberland zoned Timberland Production (as defined by Government Code Section 51104(g))?

d) Result in the loss of forest land or conversion of forest land to non-forest use?

No Impact. The Project site consists of developed roadways and properties zoned for residential and commercial use. No forest land, timberland, or timberland zoned Timberland Production is present within the Project site. Therefore, the Project would not result in rezoning of these uses or the conversion of forest land to a non-forest use. No impact would occur.

e) Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use or conversion of forest land to non-forest use?

No Impact. As discussed in items II.a through d above, the Project site does not contain agricultural or forest land uses. The Project would not result in conversion of these uses and no impact would occur.

III. 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 district or air pollution control district may be relied upon to make the following determinations. Would the project:				
a) Conflict with or obstruct implementation of the applicable air quality plan?	☐	☐	☒	☐
b) Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard?	☐	☐	☒	☐
c) Expose sensitive receptors to substantial pollutant concentrations?	☐	☐	☒	☐
d) Result in other emissions (such as those leading to odors) adversely affecting a substantial number of people?	☐	☐	☒	☐

The discussion below is based on the Air Quality and Greenhouse Gas Emissions Assessment prepared by HELIX Environmental Planning, Inc. (HELIX 2022a), attached to this Initial Study as Appendix A.

a) Conflict with or obstruct implementation of the applicable air quality plan?

Less Than Significant Impact. The Project is located within the South Coast Air Basin (SCAB). The South Coast Air Quality Management District (SCAQMD) is responsible for implementing emissions standards and other requirements of federal and state laws in the SCAB. As required by the California Clean Air Act, the SCAQMD has responded to the requirement to decrease emissions by preparing a sequence of Air Quality Management Plans (AQMPs). On March 3, 2017, the SCAQMD adopted the 2016 AQMP, which represents a comprehensive analysis of emissions, meteorology, atmospheric chemistry, regional growth projections, and the impact of existing control measures. The plan seeks to achieve multiple goals in partnership with other entities promoting reductions in criteria pollutant, greenhouse gases (GHGs), and toxic risk, as well as efficiencies in energy use, transportation, and goods movement (SCAQMD 2017). The AQMP is incorporated into the State Implementation Plan, which is subsequently submitted to the U.S. Environmental Protection Agency.

The Southern California Association of Governments (SCAG) is the regional planning agency for Los Angeles, Orange, Ventura, Riverside, San Bernardino, and Imperial Counties, and addresses regional issues relating to transportation, economy, community development, and environment. With regard to air quality planning, SCAG has prepared the Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS), a long-range transportation plan that uses growth forecasts to Project trends out over a 20-year period to identify regional transportation strategies to address mobility needs. These growth forecasts form the basis for the land use and transportation control portions of the AQMP. These documents are utilized in the preparation of the air quality forecasts and consistency analysis included

in the AQMP. Both the RTP/SCS and AQMP are based, in part, on projections originating with County and City General Plans.[1]

The two principal criteria for determining conformance to the AQMP are:

1. Whether the project would result in an increase in the frequency or severity of existing air quality violations; cause or contribute to new violations; or delay timely attainment of air quality standards; and

2. Whether the project would exceed the assumptions in the AQMP.

With respect to the first criterion, as demonstrated in item III. B below, the Project would not generate short-term or long-term emissions that could potentially cause an increase in the frequency or severity of existing air quality violations; cause or contribute to new violations; or delay timely attainment of air quality standards.

With respect to the second criterion, the proposed Project is installing a sewer system and decommissioning a septic system. The Project would not result in population or employment increases and, therefore, would not exceed the growth projection assumptions in the AQMP. In addition, the construction workers that would construct the Project would be recruited from the local pool of labor and would not create employment growth exceeding growth estimates for the area. The proposed infrastructure improvements would serve existing residences and would not create conditions for the creation of new housing, which would thereby induce population growth.

Because the Project is consistent with the growth assumptions used in developing the AQMP, pursuant to SCAQMD guidelines, the proposed Project is considered consistent with the region's AQMP. As such, Project-related emissions are accounted for in the AQMP, which is crafted to bring the basin into attainment for all criteria pollutants. Accordingly, the proposed Project would be consistent with the emissions projections in the AQMP. Impacts would be less than significant.

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?

Less Than Significant Impact. The Project would generate criteria pollutants in the short-term during construction. Once construction activity is complete, the Project components would be sealed pipelines, which would be located underground and operate passively. Therefore, the Project would not result in the emission of air pollutants during Project operation. To determine whether a project would result in emissions that would violate an air quality standard or contribute substantially to an existing or projected air quality violation, a project's emissions are evaluated based on the quantitative emission thresholds established by the SCAQMD.

The Project's construction emissions were calculated using the California Emissions Estimator Model (CalEEMod), Version 2020.4.0 (California Air Pollution Control Officers Association [CAPCOA] 2021). CalEEMod is a computer model used to estimate air pollutant emissions resulting from construction and operation of land development projects throughout the state of California. CalEEMod was developed by CAPCOA with the input of several air quality management and pollution control districts.

[1] SCAG serves as the federally designated metropolitan planning organization for the southern California region.

To be conservative, construction emission calculations did not assume the implementation of standard dust control measures as required by SCAQMD Rule 403, including watering two times daily during grading, ensuring that all exposed surfaces maintain a minimum soil moisture of 12 percent, and limiting vehicle speeds on unpaved roads to 15 miles per hour. Implementation of these measures would further decrease emissions of PM_{10} and $PM_{2.5}$. Project-specific input was based on general Project information, assumptions provided by the Project engineers, and default model settings to estimate reasonably conservative conditions. Construction was assumed to occur over 18 months, commencing in January 2024, and include all equipment presented in Table 1 for two construction crews operating simultaneously. The results of the calculations for Project construction are shown in Table 2, *Maximum Daily Construction Emissions*. The data are presented as the maximum anticipated daily emissions for comparison with the SCAQMD thresholds.

Table 2
MAXIMUM DAILY CONSTRUCTION EMISSIONS

Phase	VOC (lbs/day)	NO_X (lbs/day)	CO (lbs/day)	SO_2 (lbs/day)	PM_{10} (lbs/day)	$PM_{2.5}$ (lbs/day)
Trenching	0.7	6.2	11.3	<0.1	0.4	0.3
Pipeline Installation	2.4	20.9	21.2	0.1	0.9	0.8
Paving	0.7	7.0	9.8	<0.1	0.5	0.4
Maximum Daily Emissions	**3.8**	**34.1**	**42.3**	**0.1**	**1.8**	**1.5**
SCAQMD Thresholds	*75*	*100*	*550*	*150*	*150*	*55*
Significant Impact?	***No***	***No***	***No***	***No***	***No***	***No***

Source: CalEEMod; HELIX 2022a; SCAQMD 2019
lbs/day = pounds per day; VOC = volatile organic compound; NO_X = nitrogen oxides; CO = carbon monoxide; SO_2 = sulfur dioxide; PM_{10} = respirable particulate matter with a diameter of 10 microns or less; $PM_{2.5}$ = fine particulate matter with a diameter of 2.5 microns or less; SCAQMD = South Coast Air Quality Management District

As shown in Table 2, the Project's construction emissions would not exceed SCAQMD thresholds and would not result in a cumulatively considerable net increase of any criteria pollutant. As described previously, the Project would consist of passive pipelines after construction and would not result in operational emissions of criteria pollutants. Impacts would be less than significant.

c) Expose sensitive receptors to substantial pollutant concentrations?

Less Than Significant Impact. Some land uses are considered more sensitive to air pollution than others due to the types of population groups or activities involved and are referred to as sensitive receptors. Examples of these sensitive receptors are residences, schools, hospitals, and daycare centers. The Project site is located in a residential area with sensitive receptors located throughout the Project site, directly adjacent to where construction activities would occur. Railroad Canyon Elementary School is also located adjacent to the eastern boundary of the Project area.

Criteria Pollutants

The localized effects from the on-site portion of daily construction emissions were evaluated at sensitive receptor locations potentially impacted by the Project according to the SCAQMD's Localized Significance Thresholds (LSTs) method (SCAQMD 2009). LSTs represent the maximum emissions from a project that will not cause or contribute to an exceedance of the most stringent applicable federal or state ambient air quality standard; they are developed based on the ambient concentrations of that pollutant for each source receptor area (SRA). The LST methodology is recommended to be limited to projects of five acres

or less and to avoid the need for complex dispersion modeling. For projects that exceed 5 acres, such as the proposed 99-acre Project, the 5-acre LST look-up values can be used as a screening tool to determine which pollutants require detailed analysis. This approach is conservative as it assumes that all on-site emissions would occur within a 5-acre area and over-predicts potential localized impacts (i.e., more pollutant emissions occurring within a smaller area and within closer proximity to potential sensitive receptors). If a project exceeds the LST look up values, then the SCAQMD recommends that project-specific localized air quality modeling be performed.

The Project is in SRA 25, Lake Elsinore, and sensitive receptors are located within 25 meters of the Project site. Therefore, the LSTs being applied to the Project are based on SRA 25, receptors located within 25 meters, and a disturbed area not to exceed 5 acres. Consistent with the LST guidelines, when quantifying mass emissions for localized analysis, only emissions that occur on-site are considered. Emissions related to off-site delivery/haul truck activity and construction worker trips are not considered in the evaluation of construction-related localized impacts, as these do not contribute to emissions generated on a project site. Table 3, *Maximum Localized Daily Construction Emissions*, presents the maximum anticipated daily on-site emissions for comparison with the applicable LSTs.

Table 3
MAXIMUM LOCALIZED DAILY CONSTRUCTION EMISSIONS

Phase	NO_X (lbs/day)	CO (lbs/day)	PM_{10} (lbs/day)	$PM_{2.5}$ (lbs/day)
Trenching	6.2	11.0	0.3	0.3
Pipeline Installation	20.9	21.2	0.9	0.8
Paving	7.0	9.5	0.4	0.3
Maximum Daily Emissions	**34.1**	**41.7**	**1.5**	**1.4**
SCAQMD LST	*371*	*1,965*	*13*	*8*
Significant Impact?	***No***	***No***	***No***	***No***

Source: CalEEMod; HELIX 2022a; SCAQMD 2009
lbs/day = pounds per day; NO_X = nitrogen oxides; CO = carbon monoxide; PM_{10} = respirable particulate matter with a diameter of 10 microns or less; $PM_{2.5}$ = fine particulate matter with a diameter of 2.5 microns or less; SCAQMD = South Coast Air Quality Management District; LST = Localized Significance Threshold

As shown in Table 3, localized emissions for all criteria pollutants would remain below their respective SCAQMD LSTs and impacts to sensitive receptors would be less than significant.

Toxic Air Contaminants

Toxic air contaminants (TACs) are a diverse group of air pollutants that may cause or contribute to an increase in deaths or in serious illness, or that may pose a present or potential hazard to human health. Diesel engines emit a complex mixture of air pollutants, including both gaseous and solid material. The solid material in diesel exhaust is known as diesel particulate matter (DPM). In 1998, the California Air Resource Board (CARB) identified DPM as a TAC based on published evidence of a relationship between diesel exhaust exposure and lung cancer and other adverse health effects (CARB 2022).

Construction of the Project would result in the use of heavy-duty construction equipment, haul trucks, and construction worker vehicles. These vehicles and equipment could generate DPM, which is a TAC. Generation of DPM from construction projects typically occurs in a localized area (e.g., near locations with multiple pieces of heavy construction equipment working in close proximity) for a short period of time. Because construction activities and subsequent emissions vary depending on the phase of

construction, the construction-related emissions to which nearby receptors are exposed to would also vary throughout the construction period. Concentrations of DPM emissions are typically reduced by 70 percent at approximately 500 feet (CARB 2005).

The dose of TACs to which receptors are exposed is the primary factor used to determine health risk. Dose is a function of the concentration of a substance in the environment and the extent of exposure a person has to the substance; a longer exposure period to a fixed amount of emissions would result in higher health risks. Current models and methodologies for conducting cancer health risk assessments are associated with longer-term exposure periods (typically 30 years for individual residents based on guidance from the Office of Environmental Health Hazard Assessment [OEHHA]) and are best suited for evaluation of long duration TAC emissions with predictable schedules and locations. These assessment models and methodologies do not correlate well with the temporary and highly variable nature of construction activities. Cancer potency factors are based on animal lifetime studies or worker studies where there is long-term exposure to the carcinogenic agent. There is considerable uncertainty in trying to evaluate the cancer risk from projects that will only last a small fraction of a lifetime (OEHHA 2015). Considering this information, the relatively short duration of construction activities, and the fact that any concentrated use of heavy construction equipment would occur at various locations throughout the Project site only for short durations, construction of the Project would not expose sensitive receptors to substantial DPM concentrations. Impacts would be less than significant.

d) Result in other emissions (such as those leading to odors) adversely affecting a substantial number of people?

Less Than Significant Impact. The Project could produce odors during proposed construction activities resulting from heavy diesel equipment exhaust and application of asphalt; however, standard construction practices would minimize the odor emissions and their associated impacts. The increase of construction odors would be minimal, as vehicle exhaust is already prevalent in the area due to its proximity to I-15. Furthermore, any odors emitted during construction would be temporary, short-term, and intermittent in nature, and would cease upon the completion of construction. Therefore, odor impacts from construction of the Project would be less than significant due to the duration of exposure.

The Project proposes the installation of sewer infrastructure and the decommissioning of septic tanks. While wastewater has the potential to generate odors, the proposed sewer pipelines would be sealed underground and would not result in the emission of odors related to the transport of wastewater. Therefore, long-term operation of the Project would not result in a change to existing odors in the Project vicinity, and there would be no impact.

IV. Biological Resources

		Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
Would the project:					
a)	Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?	☐	☒	☐	☐
b)	Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, 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 native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?	☐	☐	☐	☒
e)	Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?	☐	☐	☐	☒
f)	Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?	☐	☒	☐	☐

The discussion below is based on the Biological Resources Report prepared by HELIX Environmental Planning, Inc. (HELIX 2022b), attached to this Initial Study as Appendix B. The Biological Resources Report included a general biological survey, literature review, and preliminary jurisdictional delineation.

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?

Less Than Significant with Mitigation Incorporated. The Project site is currently developed, with residential homes dominating the built landscape. The undeveloped areas within the Project area are mostly disturbed by regular mowing and disking. Six land cover or habitat types occur within the Project area: brittlebush shrub (including disturbed), common and giant reed marshes (*Arundo donax* stand), cattail marsh (disturbed wetland), disturbed habitat, non-native vegetation, and developed land. Cattail

marsh comprises 0.02 acres of the site and is the only sensitive natural community that occurs within the Project area. No special-status plant species were identified at the Project site. Table 4, *Existing Vegetation Habitat and Land Uses in Study Area*, lists the type and size of each habitat found within the Project site.

Table 4
EXISTING VEGETATION HABITAT AND LAND USES IN STUDY AREA

MCV Habitat Name	Oberbauer Classification	Size (acres)[1]
Brittlebush scrub	Riversidian sage scrub	1.3
Brittlebush scrub -disturbed	Riversidian sage scrub-disturbed	0.2
Common and Giant Reed Marshes	Non-native Riparian	0.04
Cattail Marsh	Disturbed Wetland	0.02
Non-native Vegetation	Non Native Woodland	0.3
Disturbed Habitat	Disturbed Habitat	25.3
Developed Land	Developed Land	71.5
	Total	**98.67**

Source: HELIX 2022b; Holland 1986; Oberbauer 2008

[1] Upland habitats are rounded to the nearest 0.1 acre and wetland/riparian habitats to the nearest 0.01 acre; thus, totals reflect rounding.

MCV = Manual of California Vegetation

No special-status animal species were observed on the Project site during the general biological survey. A total of 57 species comprised of 8 invertebrates, 2 fish, 14 amphibians and reptiles, 20 birds, and 13 mammals were evaluated for the potential to occur in the study area. Fifteen of the species evaluated have low potential to occur in the study area. The remainder of the animal species do not have the potential to occur on-site due to a lack of suitable habitat and residential development on the site.

One state listed species, bald eagle, is known to forage at Lake Elsinore but is not known to nest in the vicinity. The Project site is approximately one-half mile from Lake Elsinore. The species may use trees within the Project area for temporary roosting but is unlikely to remain due to the high disturbance from human activities.

Portions of the Project site include marginal nesting habitat (e.g., trees, shrubs, structures) for several common bird species, including raptors, protected under the Migratory Bird Treaty Act (MBTA) and California Fish and Game Code (CFG Code). Construction of the proposed Project could result in the removal or trimming of trees and other vegetation during the general bird nesting season (January 15 through September 15) and, therefore, could result in impacts to nesting birds in violation of the MBTA and CFG Code. Direct impacts could occur as a result of the removal of vegetation supporting an active nest. Indirect effects could occur as a result of construction noise in the immediate vicinity of undeveloped areas supporting an active bird nest, such that the disturbance results in nest abandonment or nest failure. These impacts would be considered potentially significant. Mitigation measure Bio-1 would require the avoidance of nesting birds and raptors during the breeding season, either by constructing the Project outside of the breeding season or conducting nesting bird surveys to assess whether nesting birds are present and avoiding them. Implementation of this measure would reduce potentially significant impacts on nesting birds and raptors to a less than significant level.

Burrowing owls have low potential to occur in the disturbed habitat that occurs along East Lakeshore Drive, and in the disturbed habitat along the northern border of the study area. Ground disturbance within 500 feet (150 meters) of an active burrow during the breeding season (February 1 through

August 31) or within 165 feet (50 meters) of an active burrow outside the breeding season could result in impacts to burrowing owl in violation of the MBTA and CFG Code. Direct impacts could occur from ground disturbance at a burrow. Indirect impacts could occur as a result of construction noise in the immediate vicinity as described above, such that the disturbance results in nest/burrow abandonment or nest failure. These impacts would be considered potentially significant. Mitigation measure Bio-2 would require the avoidance of burrowing owls during the breeding season, either by constructing the Project outside of the breeding season or conducting surveys to assess whether burrowing owls are present and avoiding them. Implementation of this measure would reduce impacts to a less than significant level.

Coastal California gnatcatcher (CAGN) utilize sage scrub habitat with California sagebrush as a dominant or co-dominant species. The sage scrub (Brittlebush scrub) occurring on the eastern side of the study Area and on the slopes to the north are dominated by brittlebush and lacks a California sagebrush component. Since the Project does not propose direct impacts to brittlebush scrub and the brittlebush scrub is not likely to support CAGN, the Project would not directly or indirectly adversely affect CAGN.

Project construction has the potential to result in significant impacts to nesting birds protected under the MBTA and CFG Code. However, these impacts would be reduced to less than significant levels with implementation of mitigation measures Bio-1 and Bio-2. The Project would have no impact on any other special-status plant and animal species due to the lack of suitable habitat on the site and regular disturbance.

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

Less Than Significant with Mitigation Incorporated. Irrigation runoff from residential development in the Project area has resulted in the formation of small stands of riparian vegetation comprised of cattail marsh and common and giant reed marsh. The Project does not propose impacts on riparian habitat and sensitive natural communities, as the Project impacts are currently proposed to occur within the existing roadways and residential developments. However, there is potential for indirect impacts to occur to cattail marsh and/or common and giant reed marsh as these habitats occur adjacent to the road ROW. These habitats are small in size and could be avoided by a minor adjustment in staging areas, spoil piles, and similar Project adjustments. If construction activities are limited to existing disturbed habitats and developed land, no impacts to cattail marsh, common and giant reed marsh, and the small drainages would occur. However, if Project construction extends to these areas, impacts would be potentially significant. Mitigation measure Bio-3 would require the purchase of mitigation credits or the installation of on-site habitat restoration if direct impacts to riparian habitats or drainages occur. Implementation of this measure would reduce impacts to a less than significant level.

As described in Section 2.5, EVMWD would implement BMPs from the required SWPPP for the Project. If Project construction avoids direct impacts to sensitive resources, the required implementation of BMPs in the SWPPP would prevent indirect impacts to off-site sensitive resources and on-site riparian habitats. However, if direct impacts are proposed to occur to sensitive resources implementation of mitigation measure Bio-3 would be required and would result in less than significant impacts to riparian habitat.

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?

Less Than Significant Impact. The Project area includes several natural stream courses along the north side of the site that either dissipate naturally or flow into culverts under the residential development. Irrigation runoff from the development has resulted in the formation of small stands of riparian vegetation comprised of cattail marsh and common and giant reed marsh. Additionally, there is a drainage course in the southwestern portion of the Project area that originates west of High Street and flows into a culvert under Lakeshore Avenue. These features are supported by irrigation runoff from the residential areas and occur within disturbed areas; therefore, they are not considered federal wetlands. The Project would have no direct impact on federally protected wetlands given that none occur on the Project site. As described in item III.b, EVMWD will implement BMPs during construction, which would prevent any impacts to off-site federally protected wetlands (i.e., Project runoff will not impact Lake Elsinore). Impacts would be less than significant.

d) Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?

No Impact. Wildlife corridors connect isolated habitat and allow movement or dispersal of plant materials and animals. Local wildlife corridors allow access to resources such as food, water, and shelter within the framework of the wildlife's daily routine and life history. Many linkages occur as stepping-stone linkages that are made up of a fragmented archipelago arrangement of habitat over a linear distance. The Project site does not function as a wildlife corridor in its current condition, although birds may use trees on-site. The Project site is developed with residential land uses. Interference with wildlife movement or nursery sites would not occur, as wildlife using the area are subject to noise and other impacts related to residential development. The Project's above ground activities would be temporary in nature and limited to the time frame of construction. No impact would occur.

e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?

No Impact. Tree removal, if required, may occur within the ornamental vegetation on the residential lots within the Project site. The City tree ordinance does not apply to residential ornamental trees with the potential exception of mature palm trees. The Project will not result in the removal of native trees or mature palms. The Project would not conflict with any City policies or ordinances protecting biological resources, and no impact would occur.

f) Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?

Less Than Significant with Mitigation Incorporated. The Project site is within the Elsinore Area Plan of the Western Riverside Multiple Species Habitat Conservation Plan (MSHCP), and partially within Subunit 3: Elsinore and criteria cells 4740 and 4742 (Dudek and Associates 2003). The Project site has not been identified for conservation or preserve configuration in the MSHCP. Lands to the south, along the San Jacinto River inlet to Lake Elsinore, are targeted for conservation under the MSHCP but are outside of the Project site.

MSHCP Cell Conservation Criteria

The Project area includes approximately 1.6 acres, comprised of 0.9 acre of disturbed habitat and 0.7 acre of developed land that includes Lakeshore Drive and adjacent land to the north, in the northeast corner of Cell 4740. The targeted conservation for Cell 4740 includes 70 to 80 percent of the southeastern portion of the cell comprised of grassland habitat associated with the San Jacinto River. The targeted conservation area does not occur within the Project area.

The Project area includes approximately 26 acres, comprised of eight acres of disturbed habitat and 18 acres of developed land, in the northeast portion of Cell 4742. The land uses for this area include Lakeshore Drive and an adjacent area to the north. Targeted conservation for Cell 4742 is for 30 to 40 percent of the cell focusing on the southern portion of the cell, which is comprised of grassland habitat associated with the San Jacinto River. The Project site does not include grassland habitat that would be targeted for conservation.

MSHCP Plant Survey Requirements

The Project area is within the Narrow Endemic Plant Species (NEPS) Survey Area and within Criteria Area Species (CAS) Survey Area for sensitive plant species. The target NEPS plants are Munz's onion (*Allium munzii*), San Diego ambrosia (*Ambrosia pumilla*), Many-stemmed dudleya (*Dudleya multicaulis*), spreading navarretia (*Navarretia fossalis*), California orcutt grass (*Orcuttia californica*), Hammitt's clay-cress (*Sibaropsis hammittii*), and Wright's trichocoronis (*Trichocoronis wrightii* var. *wrightii*). The target CAS plant species are San Jacinto Valley crownscale (*Atriplex coronata* var. *notatior*), Parish's brittlescale (*Atriplex parishii*), Davidson's saltscale (*Atriplex serenana* var. *davidsonii*), Thread-leaved brodiaea (*Brodiaea filifolia*), Round-leaved filaree (*Filaree macrophylla*), Smooth tarplant (*Centromadia pungens laevis),* Coulter's goldfields (*Lasthenia glabrata* ssp. *Coulteri*), and Little mousetail (*Myosurus minimus*).

Potential habitat for the NEPS and CAS species occurs in the disturbed habitat, cattail marsh, and common and giant reed marsh habitats along the north side of Lakeshore Drive and in the disturbed habitat and brittlebush scrub located in the northern portion of the Project area. These areas with the potential to support sensitive plants are not within the Project's proposed impact area. Impacts to the vegetated area are proposed to be restricted to ornamental vegetation within the residential lots.

Additionally, the CAS survey area is limited to approximately 25 acres along Lakeshore Drive, and the NEPS survey area is limited to approximately five acres of disturbed habitat within the western end of the Project area. Impacts to NEPS and CAS plant species would not occur as habitat with the potential to support these species would not be impacted by the Project. The MSHCP provides that 90 percent of the population of NEPS or CAS plants (if present) that has long-term conservation value is to be avoided. The habitat along Lakeshore Drive that is within the NEPS and/or CAS survey areas does not represent habitat with long-term conservation value due to the high level of surrounding development and regular impact from human activities.

MSHCP Animal Survey Requirements

The Project area is within the survey area for burrowing owl (*Athene cunicularia*). The MSHCP requires that burrowing owl surveys be conducted and impact to burrowing owls be avoided. Implementation of mitigation measure Bio-2 would be consistent with the MSHCP requirements and would result in the Project avoiding impacts to burrowing owl. Thus, the Project would not conflict with the burrowing owl requirements of the MSHCP.

Additional MSHCP Requirements

The MSHCP requires a project with impacts to riparian or riverine resources to provide a determination of equivalent or superior preservation (DBESP) to document how the project will mitigate potential impacts to those resources. The Project is designed to avoid impacts to riparian and riverine resources and, therefore, would not conflict with the MSHCP. If the Project is unable to avoid impacts to riparian habitat, EVMWD would be required to prepare a DBESP for approval by the Regional Conservation Authority.

Implementation of mitigation measure Bio-2 would prevent impacts to burrowing owl, as required by the MSHCP. The Project site is not identified for conservation by the MSHCP and Project activities would not result in other impacts to biological resources protected by the MSHCP. With implementation of mitigation measure Bio-2, the Project would not conflict with the MSHCP and impacts would be less than significant.

Mitigation

Potential impacts associated with nesting birds, burrowing owls, and riparian habitat would be reduced to less than significant levels with implementation of mitigation measures Bio-1 through Bio-3, described below.

Bio-1 **Avoidance of Nesting Birds and Raptors.** To prevent direct impacts to nesting birds, including raptors, protected under the federal MBTA and CFG Code, the following measures shall be implemented:

Project activities requiring the removal and/or trimming of vegetation suitable for nesting birds shall occur outside of the general bird breeding season (January 15 to September 15) to the extent feasible. If the activities cannot avoid the general bird breeding season, a qualified biologist shall be retained to conduct a pre-activity nesting bird survey within seven days prior to the activities to confirm the presence or absence of active bird nests. If no active bird nests are found by the qualified biologist, then the activities shall proceed with the reassurance that no violation of the MBTA and CFG Code would occur. If an active bird nest is found by the qualified biologist, then vegetation removal and/or trimming activities at the nest location shall not be allowed to occur until the qualified biologist has determined that the nest is no longer active. Avoidance buffers should start at 300 feet for passerine birds and 500 feet for raptors. However, buffers could be reduced at the discretion of the qualified biologist depending on the bird species and Project activities required in the vicinity of the active nest.

Bio-2 **Avoidance of Burrowing Owl.** To prevent direct and indirect impacts to burrowing owl, the following measures shall be implemented:

Burrowing owl surveys shall be conducted in accordance with California Department of Fish and Wildlife (CDFW) staff report guidelines (CDFW 2012). This consists of a habitat assessment and burrow survey, along with a four-visit focused burrowing owl survey. The initial assessment indicates that burrowing owl habitat does occur in the study area, but burrows suitable for burrowing were not observed. If the focused burrow survey indicates that burrows suitable for burrowing owls are not present, then potential burrowing owl habitat does not occur, and focused burrowing owl surveys are not required. If suitable burrows are observed, then focused burrowing owl surveys will be conducted per CDFW protocol. If potential burrowing owl habitat

is determined to be present, pre-construction surveys will also be conducted. Per the CDFW protocol, two pre-construction surveys will occur, one within 14 days prior to the start of ground disturbance activities and a second within 24 hours of the start of ground disturbance.

If burrowing owls are observed, the CDFW will be notified. No work shall occur within 500 feet (150 meters) of the active burrow during the breeding season from February 1 to August 31 or within 165 feet (50 meters) during the non-breeding season without first consulting with CDFW. If work is required to be conducted within these limits a minimization, avoidance, and exclusion plan is to be submitted to CDFW. The plan should include measures such as sound and visual barriers, work timing, biological monitoring, and if needed, temporary exclusion methods.

Bio-3 **Riparian Habitat Avoidance and Mitigation.** If direct impacts are proposed for any riparian habitats or drainages, the Project will seek permits from the applicable regulatory agencies that may include one or all of the following: CDFW, SARWQCB, and U.S. Army Corps of Engineers. Mitigation for impacts is proposed to occur at a minimum replacement ratio of 1:1 for riparian habitat, with the final mitigation ratio being determined during the permitting process with the applicable agencies. Mitigation would be accomplished by purchase of credits from a mitigation bank or onsite habitat restoration. If impacts to riparian habitats and drainages are avoided, then no mitigation would be required.

V. Cultural Resources

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

The discussion below is based on the Cultural Resources Survey prepared by HELIX Environmental Planning, Inc. (HELIX 2022c), attached to this Initial Study as Appendix C. The Cultural Resources Survey included a records search, Sacred Lands File search, Native American outreach, a review of historic aerial photographs and maps, and a pedestrian survey.

a) Cause a substantial adverse change in the significance of a historical resource pursuant to §15064.5?

Less Than Significant with Mitigation Incorporated. HELIX staff requested a record search of the California Historical Resources Information System from the Eastern Information Center (EIC) on August 3, 2022, which was received on September 3, 2022. The records search covered a half-mile radius around the Project area and included the identification of previously recorded cultural resources and locations and citations for previous cultural resources studies. A review of the California Historical

Resources and the state Office of Historic Preservation historic properties directories was also conducted.

The EIC has a record of 123 previously recorded cultural resources within a half-mile radius of the Project, one of which is recorded within the Project area. Of the 123 recorded resources, 101 are historic built environment resources, most of which are elements of the Lake Elsinore Downtown Historic District, including homes, businesses, churches, community centers, a city park, and a train depot. Other historic era resources include the Brenneke Courts bungalow court; various other residential and commercial buildings ranging in date of construction between 1880 and 1930; three refuse scatters, one of which included foundations; and a bridge.

The single resource documented within the Project area, P-33-007195, is a vernacular wood frame house constructed in 1924 and located at 1036 Park Way. The site record notes, "This wood frame house is most notable for its original mullioned windows and front door. Its architectural integrity is intact" (Borchard 1982). The record lists the National Register of Historic Places (NRHP) code as 5, "recognized as historically significant by local government". A field visit completed as part of the Cultural Resources Survey determined the house has been stuccoed and the front door and matching mullioned windows have been replaced. The palm trees noted on the site record also are no longer present. The house no longer retains its architectural integrity and is no longer considered a historic resource per the National Historic Preservation Act or CEQA.

One milk glass cosmetic jar fragment was noted during the pedestrian survey; however, this single fragment is nondiagnostic and in a disturbed context. No other cultural material was observed.

The people of Pechanga and Soboba have indicated that they consider *Paayaxchi* (Lake Elsinore) to be a highly significant cultural area, drawing its significance from the creation account, not merely from the numerous archaeological resources around the lake. The lake and nearby *'Itengvu Wumowmu* (Lake Elsinore Hot Springs) are tied directly to events that occurred during the creation of the world. Although *Paayaxchi* has not been formally evaluated for NRHP eligibility as a TCP, it appears to meet the criteria for eligibility under Criteria A, B, C, and D. Therefore, the Project has the potential to affect a TCP.

No impacts to historic built environment historical resources/historic properties are anticipated from Project implementation; however, *Paayaxchi* appears to meet NRHP eligibility criteria and may be considered a historic resource. If it is determined that *Paayaxchi* is a historic resource, mitigation measures Cul-1 through Cul-9 would be required to address potentially significant impacts to this resource. With implementation of mitigation measures Cul-1 through Cul-9, impacts would be less than significant.

b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to §15064.5?

Less Than Significant with Mitigation Incorporated. The records search discussed in item V.a did not identify archaeological resources within the proposed alignment. Therefore, no impacts to historic archaeological resources are anticipated to result from Project implementation. While no archaeological resources area anticipated to be impacted, the Project area is sensitive for cultural resources.

HELIX contacted the NAHC on August 3, 2022 for a Sacred Lands File search and list of Native American contacts for the Project area. The NAHC indicated in a response dated September 12, 2022 that the result was positive and recommended contacting Pechanga for further information. On September 20,

2022, HELIX sent letters to the 26 Native American representatives and interested parties identified by the NAHC. To date, four responses have been received: both the Quechan Indian Tribe and the Agua Caliente Band of Cahuilla Indians indicated that they have no comments on the Project and defer to local tribes. Rincon indicated that, though they have no knowledge of specific cultural resources within the Project area, the Project location is within their Area of Historic Interest and the City is considered a TCP by Rincon. Pechanga also responded that the Project area is within "the heart of Our Ancestral Territory" and is within the boundary of a TCP. Further, there are Ancestral remains and reburial locations in proximity to the Project site. Pechanga believes the possibility for recovering sensitive subsurface resources during ground-disturbing activities is extremely high.

As more responses are received, they will be forwarded to EVMWD and the SWRCB. EVMWD sent letters to Pechanga, Soboba, and Rincon via email on March 9, 2023 (Rincon) and March 10, 2023 (Soboba and Pechanga) notifying them of the project and inviting them to participate in consultation under AB 52. To date, none of the Tribes have responded to this outreach and requested to initiate consultation. The SWRCB will undertake Section 106 consultation with interested Tribes as well. Based on the sensitivity of the Project area, an archaeological monitoring program was recommended and would be required by mitigation measures Cul-1 through Cul-9. With implementation of mitigation measures Cul-1 through Cul-9, impacts to archaeological resources would be less than significant.

c) Disturb any human remains, including those interred outside of dedicated cemeteries?

Less than Significant Impact. The Project site is not located within or near a formal cemetery and is not known to be located on a burial ground. Since the Project site is primarily developed, it is unlikely the Project would disturb any human remains during construction. However, Pechanga indicated that there are Ancestral remains and reburial locations in proximity to the Project site. Should human remains be uncovered during construction, the Project would comply with existing regulations, including California Health and Safety Code Section 7050.5, and the remains would be protected, analyzed, and preserved as required. In the event that the remains are determined to be of Native American origin, the Most Likely Descendant, as identified by the NAHC, would be contacted in order to determine proper treatment and disposition of the remains in accordance with California Public Resources Code section 5097.98. Therefore, impacts to human remains would be less than significant.

Mitigation

Implementation of mitigation measures Cul-1 through Cul-9 would reduce potential impacts to archaeological resources to a less-than-significant level.

Cul-1 **Monitor Ground-disturbing Activities.** At least 30 days prior to grading, excavation and/or other ground-disturbing activities on the Project site, EVMWD shall retain a qualified archaeologist meeting the Secretary of the Interior's Professional Qualifications Standards for archaeology and listed on the Register of Professional Archaeologists or the County of Riverside list of qualified archaeologists to monitor ground-disturbing activities.

Cul-2 **Tribal Monitoring Agreements.** At least 30 days prior to grading, excavation, and/or other ground-disturbing activities EVMWD shall contact both the Pechanga Band of Luiseño Indians and Soboba Band of Luiseño Indians to notify each Tribe of excavation activities and coordinate with the Tribes to develop Monitoring Agreements. The Agreements shall address the designation, responsibilities, and participation of Native American tribal monitors during excavation and other ground disturbing activities and construction scheduling.

Cul-3 **Develop a Cultural Resources Monitoring Plan.** The Project Archaeologist, in consultation with the Monitoring Tribe(s) and EVMWD, shall develop a Cultural Resources Monitoring Plan to address the details, timing and responsibility of archaeological and cultural activities that will occur on the Project site. Details in the Plan shall include:

a. Project grading and development scheduling;

b. The coordination of a monitoring schedule as agreed upon by the Monitoring Tribe(s), the Project archaeologist, and EVMWD; and

c. The protocols and stipulations that EVMWD, the Monitoring Tribe(s) and the Project archaeologist will follow in the event of inadvertent cultural resources discoveries, including newly discovered cultural resources.

Cul-4 **Cultural Resources Sensitivity Training.** Prior to grading, excavation and/or other ground-disturbing activities on the Project site, the Project archaeologist, and the Monitoring Tribe(s) shall conduct cultural resources sensitivity training for all construction personnel. Construction personnel shall be informed of the types of archaeological resources that may be encountered, and of the proper procedures to be enacted in the event of an inadvertent discovery of archaeological resources or human remains. EVMWD's construction manager shall ensure that construction personnel are made available for and attend the training and shall retain documentation demonstrating attendance.

Cul-5 **Authority to Stop and Redirect Excavation.** In accordance with the agreement required in Cul-2, the Project archaeologist and designated tribal monitor(s) assigned to the Project by the Luiseño Tribe(s) shall have the authority to stop and redirect excavation in order to evaluate the significance of archaeological resources discovered on the property.

Cul-6 **Evaluation of Discovered Artifacts.** All artifacts discovered at the development site shall be inventoried and analyzed by the Project archaeologist and Native American monitor(s). If artifacts of Native American origin are discovered, activities in the immediate vicinity of the find (within a 50-foot radius) shall stop. The Project archaeologist and Native American monitor(s) shall analyze the Native American artifacts for identification as everyday life and/or religious or sacred items, cultural affiliation, temporal placement, and function, as deemed possible. The significance of Native American resources shall be evaluated in accordance with the provisions of CEQA and shall consider the religious beliefs, customs, and practices of the Luiseño tribes. All items found in association with Native American human remains shall be considered grave goods or sacred in origin and subject to special handling.

Cul-7 **Inadvertent Discovery of Resources.** If inadvertent discoveries of subsurface archaeological/cultural resources are discovered during grading, EVMWD and the Project archaeologist with the Monitoring Tribes shall assess the significance of such resources and shall meet and confer regarding the mitigation for such resources. The determination as to the significance or the mitigation for such resources will be based on the provisions of CEQA and shall take into account the religious beliefs, customs, and practices of the Monitoring Tribes.

Cul-8 **Sacred Sites.** All sacred sites, should they be encountered within the Project area, shall be avoided and preserved as the preferred mitigation, if feasible.

Cul-9 **Final Archaeological Report.** The Project archaeologist shall prepare a final archaeological report within 60 days of completion of the Project. The report shall follow Archaeological Resource Management Report Guidelines (California Office of Historic Preservation 1990) and EVMWD requirements and shall include at a minimum: a discussion of monitoring methods and techniques used, the results of the monitoring program including artifacts recovered, an inventory of resources recovered, updated Department of Parks and Recreation forms, if any, and any other site(s) identified, final disposition of the resources, and any additional recommendations. A final copy shall be submitted to EVMWD, the Eastern Information Center, and the Monitoring Tribe(s).

VI. Energy

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

a) Result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation?

Less Than Significant Impact. Construction of the Project would consume energy, primarily in the form of the petroleum-based fuels (i.e., gasoline and diesel). Heavy-duty off-road construction equipment, haul trucks delivering and removing construction materials, and worker commute vehicles would consume these fuels. Project-related consumption of such energy resources for construction would be temporary, typical for this type of construction, and cease upon the completion of construction (estimated to last between 18 and 24 months). No inefficient or unnecessary construction methods are proposed such that excessive energy resources would be consumed during Project construction. During Project operation, no energy resources would be required since Project components would be passive infrastructure elements. Therefore, the Project would not result in wasteful, inefficient, or unnecessary consumption of energy resources and impacts would be less than significant.

b) Conflict with or obstruct a state or local plan for renewable energy or energy efficiency?

No Impact. During construction, the construction contractor would be required to use equipment that complies with applicable regulations related to energy-efficient operations. The Project would not require energy during operation. Therefore, no conflicts with state or local plans for renewable energy or energy efficiency would occur. No impact would occur.

VII. Geology and Soils

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
Would the project:				
a) Directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving:				
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 or 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 18-1-B of the Uniform Building Code (1994), creating substantial direct or indirect risks to life or property?	☐	☒	☐	☐
e) Have soils incapable of adequately supporting the use of septic tanks or alternative waste water disposal systems where sewers are not available for the disposal of waste water?	☐	☐	☐	☒
f) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?	☐	☒	☐	☐

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 or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42?

Less Than Significant Impact. The Project is not within an Alquist-Priolo Fault Zone (DOC 2022). However, the Glen Ivy North Fault, part of a County fault zone, is approximately 0.3 miles south of the

Project site (County 2022). Since no fault is located within the Project site, there is limited potential for ground rupture to occur. No people or structures would be adversely affected due to the Project in the event of ground rupture, as the Project would not create habitable structures. Impacts related to ground rupture would be less than significant.

ii. Strong seismic ground shaking?

Less Than Significant with Mitigation Incorporated. Based on the presence of the Glen Ivy North Fault and other regional faults, there is potential for strong ground shaking to occur at the Project. Since the Project would not result in habitable structures or a place of employment, there are no risks to people or structures related to ground shaking that would occur during Project operation. However, potential impacts to Project components may be significant. The Project components would be constructed in compliance with current codes and standards, which would reduce the potential for damage to Project component in the event of ground shaking. In addition, mitigation measure Geo-1 would require a geotechnical investigation be completed and Project-specific recommendations be incorporated in Project design and construction. With implementation of mitigation measure Geo-1, impacts would be less than significant.

iii. Seismic-related ground failure, including liquefaction?

Less Than Significant with Mitigation Incorporated. Seismic ground shaking of relatively loose, granular soils that are saturated or submerged can cause underlying soils to liquefy and temporarily behave as a dense fluid. For liquefaction to occur, intense seismic shaking, the presence of loose granular soils prone to liquefaction, and the saturation of soils due to shallow groundwater need to occur simultaneously. The Project site is primarily located within a moderate liquefaction potential zone with a small portion of the site having low liquefaction potential (City 2011b). Project components may be affected in the event of liquefaction within the Project site. Compliance with applicable building codes and regulations in addition to mitigation measure Geo-1 would prevent adverse effects in the event of seismic related ground failure and impacts would be less than significant.

iv. Landslides?

Less Than Significant Impact. The Project site is generally flat; however, hillsides are located north and west of the site. The Project would not create slopes or other features that would contribute to landslide potential. In addition, no habitable structures would be created by the Project. After Project construction, all Project components would be located underground. Therefore, no adverse effects to the Project are anticipated to occur in the event of a landslide. Impacts would be less than significant.

b) Result in substantial soil erosion or the loss of topsoil?

Less Than Significant Impact. Implementation of the proposed Project would increase the potential for erosion during construction due to the removal of stabilizing surfaces, excavation, and backfill. After completion of construction activities, these surfaces would be restabilized and there would be no change to erosion potential in the Project area.

Short-term erosion and sedimentation impacts would be addressed through conformance with applicable elements of the National Pollutant Discharge Elimination System (NPDES) Construction General Permit and related City requirements, including the City grading and water quality ordinances. Specifically, this would include implementing an approved SWPPP, which would include BMPs. Project-

specific BMPs, examples of which are provided in Section 2.5, would be determined during the SWPPP process based on site-specific characteristics (soils, slopes, etc.).Typical erosion and sediment control measures that may be required in the Project SWPPP include erosions control measures such as geotextiles, mats, fiber rolls, or soil binders; sediment controls such as silt fencing, fiber rolls, gravel bags, or other methods; compliance with dust control measures; and preparation and implementation of a Rain Event Action Plan. Other BMPs may be added during the SWPPP process to ensure the Project complies with applicable regulations.

Based on implementation of appropriate erosion and sediment control BMPs as part of, and in conformance with, the Project SWPPP and related City and NPDES requirements, associated potential erosion and sedimentation impacts from implementation of the proposed Project would be less than significant.

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?

Less Than Significant with Mitigation Incorporated. As discussed above, the Project is in a moderate liquefaction potential zone and has the potential to be impacted by landslides. The potential for lateral spreading and subsidence is related to a site's potential for liquefaction; therefore, there is potential for significant impacts related to lateral spreading and subsidence to occur at the Project site. Mitigation measure Geo-1 would require a Project-specific geotechnical investigation be conducted and any recommended measures be included in Project design and construction. Impacts related to soil instability would be less than significant with implementation of mitigation measure Geo-1.

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

Less Than Significant with Mitigation Incorporated. Expansive and corrosive soils are widely distributed throughout Riverside County and likely exist within the City (City 2011b). If expansive and corrosive soils are not addressed during Project construction, significant impacts to Project structures could occur. Implementation of mitigation measure Geo-1 would result in the identification of design and construction measures to avoid potential impacts related to expansive or corrosive soils. Adherence to mitigation measure Geo-1 would result in less than significant impacts.

e) Have soils incapable of adequately supporting the use of septic tanks or alternative waste water disposal systems where sewers are not available for the disposal of waste water?

No Impact. The Project would install sewer infrastructure where septic tanks are currently used for wastewater disposal. Existing septic tanks would be broken at the bottom and filled with sand to allow future drainage. Sewer installation would remove the need for septic tanks or alternative waste water disposal in the Project area. No impact would occur.

f) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?

Less Than Significant with Mitigation Incorporated. The Project site is primarily within an area of undetermined paleontological sensitivity with small areas at the edge of the site being area of low paleontological sensitivity (City 2011a). In accordance with City General Plan Policy 8.1, a certified

paleontologist was hired to review the Project site and determine the relevant treatment measures (Material Culture Consulting 2022; Appendix D).

The Project area is mapped as late Holocene-age very young lacustrine deposits, Holocene- and late Pleistocene-age young alluvial-fan deposits, and Mesozoic-age quartz-rich rocks. Artificial fill is not mapped in the Project area but may be encountered within previously disturbed areas of the Project site. The records search indicated one fossil has been found in the Project vicinity, approximately one mile outside of the Project site. The potential for encountering significant paleontological resources within the Project area is considered low where late Holocene-age very young lacustrine deposits or Holocene- and late Pleistocene-age young alluvial- fan deposits are present at the surface or in the subsurface. However, moderate potential for encountering paleontological resources occurs where these sediments may overlie older, more paleontologically sensitive sediments. Therefore, potentially significant impacts to paleontological resources may occur.

If Project construction extends to these depths, impacts to paleontological resources would be potentially significant. Mitigation measure Geo-2 requires the preparation of a paleontological resources management plan (PRMP) prior to the start of construction. Implementation of the PRMP outlined in this measure would reduce impacts to a less than significant level.

Mitigation

Implementation of mitigation measure Geo-1 would reduce potential seismic and geologic hazards to a less-than-significant level. Implementation of mitigation measure Geo-2 would reduce potential impacts to paleontological resources to a less-than-significant level.

Geo-1 **Geotechnical Investigation**. A geotechnical investigation shall be completed for the Project prior to final Project design and construction. The investigation shall identify site-specific criteria related to considerations such as grading, excavation, fill, and pipeline design. All applicable results and recommendations from the geotechnical investigation shall be incorporated into the final Project design and construction documents to address identified potential geologic and soil hazards, including but not necessarily limited to: (1) seismic hazards including ground rupture, ground acceleration (ground shaking), soil liquefaction (and related issues such as dynamic settlement and lateral spreading), and landslides/slope instability; and (2) non-seismic hazards including manufactured slope instability, subsidence/compressible soils, expansive or corrosive soils, and trench/excavation instability. The final Project design and construction documents shall also encompass applicable standard design and construction practices from established regulatory/ industry sources including the California Building Code, International Building Code, California Geological Survey, Greenbook and EVMWD standards, as well as the results/recommendations of geotechnical review and field observations/testing to be conducted during Project excavation, grading and construction activities (with all related requirements to be included in applicable engineering/design drawings and construction contract specifications).

Geo-2 **Paleontological Resources Management Plan.** Prior to the start of construction, EVMWD shall hire a certified paleontologist to prepare a PRMP. The Project's PRMP shall include the following procedures:

- Paleontological spot checks during ground-disturbing activities within late Holocene-age very young lacustrine deposits (Ql) and Holocene- and late Pleistocene-age young alluvial-fan deposits (Qyf), in order to identify if moderate sensitivity

Pleistocene-age sediments are being impacted. If sensitive sediments are observed, then paleontological monitoring will continue on a full-time basis in those areas.

- Development of an inadvertent discovery plan to expediently address treatment of paleontological resources should any be encountered during development associated with the Project. If these resources are inadvertently discovered during ground-disturbing activities, work must be halted within 50 feet of the find until it can be evaluated by a qualified paleontologist. Construction activities could continue in other areas. If the discovery proves to be significant, additional work, such as fossil collection and curation, may be warranted and would be discussed in consultation with the appropriate regulatory agency(ies).

- Any recovered fossil remains will be prepared and identified to the lowest taxonomic level possible by knowledgeable paleontologists. Significant remains then will be transferred to a fossil repository for curation.

- A qualified paleontologist shall prepare a report of findings made during all site grading activity with an appended itemized list of fossil specimens recovered during grading (if any).

VIII. Greenhouse Gas Emissions

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

The discussion below is based on the Air Quality and Greenhouse Gas Emissions Assessment prepared by HELIX Environmental Planning, Inc. (HELIX 2022a), attached to this Initial Study as Appendix A.

a) Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?

Less Than Significant Impact. There are no established federal, state, or local quantitative thresholds applicable to the Project to determine the quantity of GHG emissions that may have a significant effect on the environment. CARB, the SCAQMD, and various cities and agencies have proposed, or adopted on an interim basis, thresholds of significance that require the implementation of GHG emission reduction measures. For the proposed Project, the most appropriate screening threshold for determining GHG emissions is the SCAQMD proposed Tier 3 screening threshold (SCAQMD 2010). Therefore, a significant

impact would occur if the proposed Project would exceed the SCAQMD proposed Tier 3 screening threshold of 3,000 metric tons (MT) of carbon dioxide equivalent (CO_2e) per year.

Construction of the Project would result in GHG emissions generated by vehicle engine exhaust from construction equipment and worker commuting trips. Construction GHG emissions were calculated by using CalEEMod. As previously discussed, the Project would contain passive components that would not result in GHG emissions during operation. The estimated construction GHG emissions for the Project are shown in Table 5, *Construction GHG Emissions*. For construction emissions, SCAQMD recommends that the emissions be amortized (i.e., averaged) over the anticipated lifespan of a project (30 years) and added to operational emissions. However, no operational emissions would result from the proposed Project.

Table 5
CONSTRUCTION GHG EMISSIONS

Year	Emissions (MT CO_2e)
2023	423.0
2024	1,016.3
2025	89.2
Total Construction Emissions[1]	**1,528.5**
Amortized Construction Emissions	**51.0**
SCAQMD Threshold	*3,000*
Significant Impact?	***No***

Source: CalEEMod; HELIX 2022a; SCAQMD 2010
[1] Total may not sum due to rounding.
MT = metric tons; CO_2e = carbon dioxide equivalent

As shown in Table 5, proposed construction activities would contribute approximately 51 MT CO_2e emissions per year averaged over 30 years. The Project's construction emissions would not exceed the SCAQMD threshold of 3,000 MT CO_2e per year and would not generate GHG emissions, either directly or indirectly, that may have a significant impact on the environment. Impacts would be less than significant.

b) Conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of greenhouse gases?

Less Than Significant Impact. There are numerous State plans, policies, and regulations adopted for the purpose of reducing GHG emissions. The principal overall State plan and policy is AB 32, the California Global Warming Solutions Act of 2006. The initial quantitative goal of AB 32 was to reduce GHG emissions to 1990 levels by 2020. Senate Bill 32 would require further reductions of 40 percent below 1990 levels by 2030. Statewide plans and regulations such as GHG emissions standards for vehicles (AB 1493), the low carbon fuel standard, and regulations requiring an increasing fraction of electricity to be generated from renewable sources are being implemented at the statewide level; as such, compliance at the project level is not addressed.

The twelve cities of the Western Riverside Council of Governments (WRCOG), which includes the City of Lake Elsinore, adopted a Subregional Climate Action Plan (CAP) in September 2014. The WRCOG CAP provides a 2010 baseline inventory of GHG emissions for the subregion cities of 5,834,400 MT of CO_2e. Approximately 57 percent of the GHG inventory was from transportation sources, 21 percent from

commercial/industrial energy use, 20 percent from residential energy use, and the remaining from wastewater and solid waste sources. Less than one percent of emissions were attributed to the wastewater sector and no increases to this percentage were projected in a business-as-usual scenario. The WRCOG CAP established a target of reducing subregional GHG emissions 15 percent below 2010 levels by 2020 and 49 percent below 2010 levels by 2035. To achieve the 2020 reduction target, the WRCOG CAP identifies 14 State and regional measures, 3 local energy sector measures, 18 local transportation sector measures, and 2 solid waste sector measures. The WRCOG CAP does not identify GHG reduction measures for achieving goals beyond 2020 (WRCOG 2014). It also does not include thresholds for determining the significance of a project's GHG emissions, nor does it include a checklist or other methodology for determining consistency of a project with the goals and measures in the WRCOG CAP.

The City of Lake Elsinore adopted a CAP in December 2011 (City 2011). The CAP provides a 2008 baseline inventory of GHG emissions for the City of 506,727 MT of CO_2e. Approximately 61 percent of the GHG inventory was from transportation sources, 32 percent from energy use, 4 percent from solid waste sources, and the remaining 3 percent from recreation. The CAP identified a combination of state-level regulations and local strategies and measures in the focus areas of Transportation and Land Use, Energy, Solid Waste, and Public Education and Outreach, which would help the City to achieve statewide reduction goals. The CAP does not include thresholds for determining the significance of a project's GHG emissions, nor does it include a checklist or other methodology for determining consistency of a project with the goals and measures in the CAP.

The Project would involve the installation of sewer infrastructure and none of the WRCOG or City CAP measures would apply to Project operation. WRCOG CAP Measure SR-13, *Construction & Demolition Waste Diversion*, describes the waste diversion requirements enacted by California Green Building Standards Code (CALGreen; CCR Title 24, Part 11), which have evolved since approval of the CAP in 2014. City CAP Measure S-1.4, *Construction and Demolition Waste Diversion*, lead to the establishment of Lake Elsinore Municipal Code Chapter 14.12, *Construction and Demolition Waste Management*, which initially contained more stringent construction waste diversion requirements than CALGreen. However, neither CALGreen nor Lake Elsinore Municipal Code construction waste diversion requirements apply to the proposed Project type. In addition, the Project is not anticipated to result in construction waste since excavated material would be used to refill trenched areas. Therefore, no conflicts with the WRCOG or City CAP would result from Project implementation.

The Project would not conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of GHGs and impacts would be less than significant.

IX. Hazards and Hazardous Materials

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
Would the project:				
a) Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?	☐	☐	☒	☐

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
b) Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?	☐	☐	☒	☐
c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within 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 a significant risk of loss, injury or death involving wildland fires?	☐	☐	☒	☐

a) Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?

Less Than Significant Impact. Construction activities may involve the limited transport, storage, use, and/or disposal of hazardous materials, such as for the fueling and servicing of construction equipment onsite. These activities would be short-term or one-time in nature and would be subject to federal, state, and local health and safety regulations, which would minimize hazards related to the use of these materials. Long-term operation of the Project would involve little or no hazardous materials since pipelines would be sealed and do not emit hazardous materials. The Project would not result in a significant hazard related to the transport, use, or disposal of hazardous materials and impacts would be less than significant.

b) Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?

Less Than Significant Impact. As discussed above in item IX.a, limited amounts of hazardous materials would be used during construction; however, these materials would be used and stored in accordance with applicable regulations that would limit the potential for accidental release. During Project operation, hazardous materials would not be used or emitted, as the Project pipelines would be sealed

underground. Since the Project is intended to replace existing deteriorated septic systems, it is likely to have a positive impact by reducing potential contamination or other issues that may result in the release of hazardous materials contained in septic systems. Existing septic systems would be abandoned in accordance with County Health Department guidelines, which would reduce the potential for the release of sewage stored in existing septic tanks. The Project would not result in accident conditions or the release of hazardous materials that would create a significant hazard to the public or the environment. Impacts would be less than significant.

c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?

Less Than Significant Impact. Railroad Canyon Elementary School is located adjacent to the eastern border of the Project site. The hazardous materials that would be used during Project construction would be used and stored in accordance with applicable regulations and would not result in adverse impacts to individuals at the nearby school. To abandon the existing septic tanks, contents would be pumped and the tanks would be abandoned in accordance with County Health Department guidelines, which would prevent the discharge of hazardous waste. Project operation would not result in emissions or handling of acutely hazardous materials. Impacts would be less than significant.

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?

No Impact. The Department of Toxic Substances Control (DTSC) EnviroStor database and the SWRCB GeoTracker databases were consulted to identify if the Project site or surrounding nearby properties are on a list compiled pursuant to Government Code 65962.5. Within the Project site and a 1,000-foot radius of the site no sites were recorded in EnviroStor and one closed cased was recorded in GeoTracker (DTSC 2022; SWRCB 2022). The closed case was related to a gasoline tank located at 550 East Lakeshore Drive, south of the Project site. The tank was closed and the surrounding soils were remedied, resulting in the cleanup case closing in 1989 (SWRCB 1989). As the affected soils have been cleaned, the Project would not create a significant hazard to the public or the environment and no impact would occur.

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?

No Impact. The nearest airstrip to the Project site is Thompson Airstrip, located approximately 7.5 miles south of the site. This airstrip has no land use plan; however, it is over seven miles from the Project site and not active as a commercial airport. Therefore, the airstrip would not pose a safety hazard or result in excessive noise at the site based on the distance to the Project site. Other airports in the region are further than eight miles from the Project site and would not pose a safety risk or result in excessive noise at the Project site. Further, the Project would not have residents or permanent employees on-site. Therefore, no impacts would occur.

f) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?

Less Than Significant Impact. Construction activity would occur in the public ROW; however, implementation of a CTMP, as required for issuance of an Encroachment Permit, would ensure the

Project would not interfere with emergency response or evacuation. Section 2.5 provides potential provisions to be included in the CTMP. After construction, no Project components would be aboveground and there would be no interference with emergency operations. Implementation of the CTMP would reduce potential conflicts with emergency response or evacuation plans and impacts would be less than significant.

g) Expose people or structures, either directly or indirectly, to a significant risk of loss, injury or death involving wildland fires?

Less Than Significant Impact. The portion of the Project site north of Mill Street and Country Club Boulevard and northwest of the intersection at Acacia Street and High Street is designated by the California Department of Forestry and Fire Protection (CAL FIRE) as a Very High Fire Hazard Severity Zone (VHFHSZ; CAL FIRE 2009). The Project would not create habitable or aboveground structures that would be at risk in the event of a wildland fire. Construction activities would avoid areas of dense foliage during dry conditions when possible and, in the event avoidance is infeasible, fire prevention measures would be incorporated to ensure construction activities do not generate a risk related to wildland fires. Therefore, impacts would be less than significant.

X. Hydrology and Water Quality

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
Would the project:				
a) Violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or ground water quality?	☐	☐	☒	☐
b) Substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin?	☐	☐	☐	☒
c) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would:				
i. Result in substantial erosion or siltation on- or off-site?	☐	☐	☒	☐
ii. Substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off- site?	☐	☐	☐	☒
iii. Create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional resources of polluted runoff?	☐	☐	☒	☐
iv. Impede or redirect flood flows?	☐	☐	☐	☒

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
d) In flood hazard, tsunami, or seiche zones, risk release of pollutants due to project inundation?	☐	☐	☒	☐
e) Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?	☐	☐	☒	☐

a) Violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or ground water quality?

Less Than Significant Impact. Potential water quality impacts associated with the Project include short-term construction-related discharges. The Project would disturb more than one acre of land and would be subject to the NPDES Construction General Permit, which requires the implementation of a SWPPP. The Project's SWPPP would be submitted to the SARWQCB and would require implementation of BMPs to prevent polluted runoff. Upon completion of construction, Project components would be located underground and would not result in runoff that could degrade water quality. With implementation of construction BMPs required by the Project-specific SWPPP, discussed further in Section 2.5, impacts related to water quality would be less than significant.

b) Substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin?

No Impact. The Project would primarily be located within existing, paved roadways and would not increase the amount of impermeable surface at the Project site. The Project would not require the withdrawal of groundwater. Therefore, the Project would not decrease groundwater supplies or interfere with groundwater recharge and no impact would occur.

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?

Less Than Significant Impact. During construction, the removal of paved surfaces would expose soils, which may result in erosion or siltation on- or off-site. The Project's SWPPP would require BMPs, as described in Section 2.5, to reduce impacts related to erosion and siltation. Upon completion of construction, Project components would be underground and existing roadways would be repaved, which would minimize the potential for erosion. Where Project activities require work in unpaved areas, such as septic tank abandonment, surfaces would be returned to their pre-Project conditions upon the completion of construction. With implementation of the BMPs required by the Project's SWPPP, impacts related to erosion and siltation would be less than significant.

ii. Substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off- site?

No Impact. The Project site primarily consists of existing, paved streets. Existing septic tanks would have their tops removed, be perforated at the bottom, and be filled with sand to allow for future drainage. All improvements would be below ground once Project construction is completed the Project areas would be returned to their pre-Project conditions. As such, no changes to the volume or rate of runoff from the Project area are anticipated. No impact would occur.

iii. Create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional resources of polluted runoff?

Less Than Significant Impact. As discussed in item X.ii above, the Project would not result in changes to the amount of runoff from the Project area. Project operation would also not contribute pollutants to the Project area that would result in polluted runoff during Project operation. Existing septic tanks would have their tops removed, be perforated at the bottom, and be filled with sand to allow for future drainage. Abandonment of septic tanks in accordance with County Health Department guidelines would ensure polluted runoff does not occur as a result of the Project. During construction activities, BMPs required by the SWPPP would be implemented to prevent additional polluted runoff from entering the stormwater drainage system. Impacts would be less than significant.

iv. Impede or redirect flood flows?

No Impact. No portion of the Project site is designated by the Federal Emergency Management Agency (FEMA) as a 100-year floodplain (FEMA 2008). A small area at the southern border of the Project site is designated as a 500-year floodplain. All Project improvements would be installed underground and the surfaces would be returned to pre-Project conditions upon the completion of construction. Therefore, the Project would not impede or redirect flood flows and no impact would occur.

d) In flood hazard, tsunami, or seiche zones, risk release of pollutants due to project inundation?

Less Than Significant Impact. As noted in item X.c.iv above, the Project is not at a significant risk of flooding. The Project site is located over 23 miles from the Pacific Ocean and would not be subject to tsunamis. Lake Elsinore lacks significant potential for a damaging seiche because it is very shallow and flood control devices have been constructed by the U.S. Army Corps of Engineers (City 2011b). Since Project improvements would be located underground during operation, the Project would not be subject to inundation events that would risk the release of pollutants. Further, construction materials would be stored in accordance with applicable regulation that would minimize the potential for hazardous pollutants to be released in the event of Project inundation during construction. Impacts would be less than significant.

e) Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?

Less Than Significant Impact. The Project would comply with the Water Quality Control Plan for the Santa Ana River Basin and NPDES Stormwater Program by implementing a SWPPP listing BMPs to prevent construction pollutants and products from violating any water quality standards or waste discharge requirements (SARWQCB 1995). The Project site is also located within the plan area for the Elsinore Valley Subbasin Groundwater Sustainability Plan (GSP; EVMWD 2022a). Abandonment of

existing septic tanks and installation of sewer infrastructure would prevent future groundwater contamination associated with septic tank leaks. As part of the Project, existing septic tanks would be emptied and abandoned in accordance with County guidelines, which would prevent sewage leaks from existing septic tanks. The Project would not require groundwater supplies or interfere with groundwater recharge and would not otherwise conflict with the GSP. Impacts would be less than significant.

XI. Land Use and Planning

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

a) Physically divide an established community?

No Impact. The Project would install sewer infrastructure in an existing community that is currently served by septic. All Project components would be located underground upon completion of construction. As such, the Project would not physically divide an established community and no impact would occur.

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

Less Than Significant with Mitigation Incorporated. The Project would primarily occur in the public ROW. The improvements proposed on private property are the decommissioning of septic tanks and the connection of properties to the new sewer infrastructure. These activities would not result in changes to land use types in the Project area.

As described throughout this Initial Study, the Project has the potential to result in a conflict with policies and/or regulations adopted for the purpose of avoiding or mitigating environmental impacts. As evaluated above in Section 4.IV, the proposed Project could result in potential impacts to biological resources. Implementation of mitigation measures Bio-1 through Bio-3 would reduce or avoid construction-related impacts and would be consistent with the goals of the MSHCP and other policies protecting biological resources.

During excavation activities, the Project also has the potential to result in impacts to unidentified paleontological resources, as discussed in Section 4.VII. Implementation of mitigation measure Geo-2 would ensure the Project complies with General Plan policies intended to protect paleontological resources.

As evaluated in Sections 4.IX, 4.XVII, and 4.XX, the Project proposes work within the ROW, which has the potential to result in traffic hazards and impacts to circulation. Adherence to a CTMP, as required by the encroachment permits and detailed in Section 2.5, would reduce the potential for adverse impacts related to circulation and ensure consistency with local traffic policies. After construction is completed, surfaces would be returned to their pre-Project conditions and circulation elements would resume functioning as outlined in the General Plan Circulation Element.

As evaluated in Section 4.XIII, construction activities have the potential to generate noise adjacent to residences in excess of the limits provided by the LEMC. However, these activities would occur during the hours prescribed by the LEMC and BMPs, outlined in Section 2.5, would be incorporated to reduce noise levels due to construction to the extent feasible given the Project location. Impacts related to construction noise would be less than significant.

The proposed Project would not result in changes to land use and would not result in other land use policy conflicts. With implementation of the mitigation measures discussed above, impacts would be less than significant.

XII. Mineral Resources

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

a) Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?

b) Result in the loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan, or other land use plan?

No Impact. Mineral Resource Zone (MRZ) categories are used by the State Geologist to classify the lands according to their potential to contain mineral resources. The Project site is designated as MRZ-3, which indicates an area that contains known or inferred mineral deposits that may qualify as mineral resources (City 2011b). Further, the Project would occur within a developed area outside of the City's Extractive Overlay. Therefore, there is little to no potential for mineral resource recovery to occur within the Project site. The Project would not result in the loss of availability of mineral resources or a delineated mineral resource recovery site. No impact to mineral resources would occur.

XIII. Noise

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

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?

Less Than Significant Impact. The City's noise regulations are contained in LEMC Chapter 17.176, *Noise Control*. According to LEMC Section 17.176.080.F, construction activity is not allowed between the weekday hours of 7:00 p.m. and 7:00 a.m. or at any time on weekends or holidays if a noise disturbance would occur at a residential or commercial property line. The proposed Project would be constructed between the hours of 7:00 a.m. and 7:00 p.m. and would not conflict with the hours of permitted construction contained in the LEMC.

LEMC Section 17.176.080.F further requires that during these permitted hours, where technically and economically feasible, construction activities at a single-family residential property line shall not exceed 75 dBA for mobile equipment or 60 dBA for stationary equipment. The mobile equipment limit applies to nonscheduled, intermittent, and short-term operation (less than 10 days) of mobile equipment. The stationary equipment limit applies to repetitively scheduled and relatively long-term operation (period of 10 days or more) of stationary equipment. The noise levels generated by anticipated construction equipment at 20 feet, the shortest anticipated distance between construction activities and residences, are shown in Table 6, *Construction Equipment Noise Levels.*

Table 6
CONSTRUCTION EQUIPMENT NOISE LEVELS

Equipment	Percent Operating Time	dBA L_{MAX} at 20 feet	dBA L_{EQ} at 20 feet
Backhoe	40	85.5	81.5
Crane	16	88.5	80.6
Dump Truck	40	84.4	80.4
Excavator	40	88.7	84.7
Loader	40	87.1	83.1
Paver	50	85.2	82.2
Roller	20	88	81
Tractor	40	92	88

Source: Roadway Construction Noise Model (U.S. Department of Transportation 2008)
L_{MAX} = maximum noise level; dBA = A-weighted decibel; L_{EQ} = equivalent sound level

As noted in Table 6, construction of the proposed Project would generate noise levels exceeding the limits provided in the LEMC. Given that the proposed Project would provide infrastructure to single family residences, it would be infeasible to occur at a further distance or be fully shielded from these residences. Construction activities, however, would be temporary and limited to the daytime hours specified by the LEMC. Further, construction would occur in different locations within the Project site throughout the Project site such that no particular residence would be exposed to elevated noise levels for the entire construction period. Pipeline installation activities along the proposed alignments are expected to proceed at a rate of approximately 250 feet per day. Based on this rate of progression, the maximum amount of time that most residences would be exposed to adjacent, high-intensity construction activity would be one to two days. In addition, the following construction BMPs, described in Section 2.5, would be implemented to reduce noise levels to the extent possible at nearby residences:

- Construction equipment, including vehicles, generators, and compressors, would be maintained in proper operating condition and will be equipped with manufacturers' standard noise control devices or better (e.g., mufflers, acoustical lagging, and/or engine enclosures).

- Construction work, including on-site equipment maintenance and repair, would be limited to the hours specified in the Lake Elsinore noise ordinance.

- Staging areas for construction equipment would be located as far as practicable from residences.

- EVMWD would identify and provide a public liaison person before and during construction to respond to concerns of neighboring residents about noise and other construction disturbance. EVMWD would also establish a program for receiving questions or complaints during construction and develop procedures for responding to callers. Procedures for reaching the public liaison officer via telephone or in person would be included in notices distributed to the public in accordance with the information above.

Construction would be temporary and would not occur adjacent to any one property for the entire construction duration. Incorporation of construction BMPs would reduce impacts related to construction noise to the extent feasible, as required by the LEMC. After construction activity is

completed, no permanent noise sources would be created by the Project. Impacts would be less than significant.

b) Generation of excessive groundborne vibration or groundborne noise levels?

Less Than Significant Impact. The highest potential for vibration during construction would be associated with the roller used during the repaving/resurfacing phase. According to Caltrans, a vibratory roller typically produces peak particle velocity (PPV) of 0.210 inches per second at a distance of 25 feet (Caltrans 2020). The Caltrans threshold for damage to older residential structures, such as those located throughout the Project area, is a PPV of 0.3 inches per second. PPV of 0.3 inches per second could occur at a structure in the Project area if a roller is used within 18 feet of the structure.[2] As previously noted, construction activities, including repaving/resurfacing, are anticipated to occur a minimum of 20 feet from residences. Therefore, a roller would not be used within 18 feet of a residential structure and damage due to vibration would not occur.

At 20 feet, the roller could produce 0.268 PPV, which would exceed the Caltrans "strongly perceptible" annoyance threshold of 0.10 PPV. However, this level of vibration would be temporary and would not occur in one location for an extended duration. A vibratory roller moves at a speed of approximately two miles per hour, which equates to approximately 175 feet per minute. The maximum width of residences located adjacent to the roadways where a roller would be used is approximately 90 feet. Therefore, the vibratory roller would be in front of a single residence for approximately 30 seconds. No permanent sources of vibration would be created by the Project. While vibration generated during construction may be perceptible, it would be temporary and impacts would be less than significant.

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?

No Impact. The nearest airstrip to the Project site is Thompson Airstrip, located approximately 7.5 miles south of the site. This airstrip has no land use plan; however, it is over seven miles from the Project site and not active as a commercial airport. Therefore, the airstrip would not result in excessive noise based on the distance to the Project site. Other airports in the region are further than eight miles from the Project site and would also not result in excessive noise at the Project site. Further, the Project would not have residents or permanent employees on-site who would be exposed to aircraft noise. Therefore, no impacts would occur.

[2] Equipment PPV = Reference PPV * (25/D)^n (inches per second), where Reference PPV is PPV at 25 feet, D is distance from equipment to the receiver in feet, and n = 1.1 (the value related to the attenuation rate through the ground); formula from Caltrans 2020.

XIV. Population and Housing

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

a) Induce substantial unplanned population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?

No Impact. The proposed Project would install a sewer system to accommodate existing residential properties and their anticipated wastewater flows. The Project would not extend infrastructure such that the Project would indirectly provide the opportunity for population growth. No impact would occur.

b) Displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere?

No Impact. The Project site contains approximately 250 residences that would be converted to sewer infrastructure by the Project. No residences or occupants would be displaced by the sewer conversion process. Therefore, no impact would occur.

XV. 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?	☐	☐	☐	☒

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
c) Schools?	☐	☐	☐	☒
d) Parks?	☐	☐	☐	☒
e) Other public facilities?	☐	☐	☐	☒

a) Fire protection?

No Impact. The Project would not induce population growth or create new aboveground structures that would require fire protection services. The pipelines would be passive infrastructure components contained underground and would not be a potential fire source. No new or altered fire protection facilities would be required and no impact would occur.

b) Police protection?

No Impact. The Project would not result in population growth or the construction of features that would require police protection. Since the Project components would be contained underground, no police protection services would be required. No impact would occur.

c) Schools?

No Impact. The Project would not induce population growth, including that of school-aged children. Therefore, no new or altered school facilities would be required and no impact would occur.

d) Parks?

No Impact. The Project would not result in population growth and thereby would not result in an increased need for park facilities or the need for upgrades to existing park facilities. No impact would occur.

e) Other public facilities?

No Impact. No population growth would occur as a result of the Project. Therefore, no increased use of public facilities or need for new public facilities would occur and there would be no impact.

XVI. Recreation

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

a) 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?

No Impact. The Project would not result in population growth and would not increase the use of parks or recreational facilities. Thus, substantial physical deterioration of these facilities would not occur or be accelerated and no impact would occur.

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?

No Impact. The Project would install sewer infrastructure and does not propose any recreational facilities. Additionally, the Project would not induce population growth that would require the construction or expansion of park or recreational facilities. No impact would occur.

XVII. Transportation

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
Would the project:				
a) Conflict with a program plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle, and pedestrian facilities?	☐	☐	☒	☐
b) Would the project 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)?	☐	☐	☒	☐

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
d) Result in inadequate emergency access?	☐	☐	☒	☐

a) Conflict with a program plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle, and pedestrian facilities?

Less Than Significant Impact. During construction, the Project would temporarily alter existing circulation patterns and would require implementation of a CTMP as part of the Encroachment Permit. As described in Section 2.5, the Project would implement a CTMP that would outline procedures and traffic control measures necessary to ensure adequate access would be maintained during the altered traffic conditions. Potential provisions of the CTMP include:

- Scheduling the timing and duration of work to avoid the peak commuter hours of 7:00 to 9:00 a.m. and 4:00 to 6:00 p.m.;
- Implementing standard safety practices, including installing appropriate barriers between work zones and transportation facilities, placement of appropriate signage, and use of traffic control devices;
- Protecting traffic by using flaggers, warning signs, lights, and barricades to guide vehicles through or around construction zones;
- Restoring roadway capacity to the extent feasible during hours when construction activities are not occurring, which could include the use of road plates or temporary paving;
- Implementing construction schedules and techniques that minimize roadway closures, including the number of cross streets and side streets that may be blocked or otherwise impacted by construction activities;
- Providing detours for cyclists and pedestrians when bike lanes or sidewalks must be closed;
- Coordinating with local schools prior to construction within close proximity of school property to ensure entryways are not blocked during peak drop off and pick up times;
- Notifying emergency response providers of road closures at least one week prior to closures and include the location, date, time, and duration of the closure;
- Coordinating with the City of Lake Elsinore to maintain adequate emergency evacuation routes; and
- Abiding by encroachment permit conditions, which shall supersede conflicting provisions in the CTMP.

The existing circulation elements of the Project site would be returned to pre-Project conditions upon the completion of construction activities in compliance with circulation programs, plans and policies. Impacts would be less than significant.

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

Less Than Significant Impact. According to CEQA Guidelines Section 15064.3 subdivision (b), the generation of vehicle miles traveled exceeding an applicable threshold of significance may indicate a significant impact. The Office of Planning and Research (OPR) technical advisory regarding transportation impacts indicates that small projects generating fewer than 110 trips per day can be assumed to cause a less than significant transportation impact (OPR 2018). Trip generation associated with the Project would be limited to the construction period of the Project as the pipelines would be passive after construction. Therefore, the Project would not exceed the 110-trip threshold and no conflicts with CEQA Guidelines Section 15064.3 subdivision (b) would occur. Impacts would be less than significant.

c) Substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?

Less Than Significant Impact. During construction, the Project would require altered traffic patterns to allow work in ROW. Implementation of a CTMP (see Section 2.5) would ensure that the altered circulation would not result in substantial hazards to construction personnel or users of the circulation system. After construction, the existing roadways would be returned to pre-Project conditions and would not introduce hazardous design features or incompatible uses. Impacts would be less than significant.

d) Result in inadequate emergency access?

Less Than Significant Impact. During construction occurring in the public ROW, a CTMP would be implemented and would ensure that emergency access would remain adequate throughout construction of the Project. Potential provisions of the CTMP are provided in Section 2.5 above. After construction activities in the ROW are complete, roadways would be returned to pre-Project conditions, which would accommodate emergency vehicle access. Impacts would be less than significant.

XVIII. Tribal Cultural Resources

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
Would the project:				
a) Cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code 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:				
i. Listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code Section 5020.1(k), or	☐	☒	☐	☐
ii. 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 Public Resources Code Section 5024.1. In applying the criteria set forth in subdivision (c) of Public Resources Code Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe.	☐	☒	☐	☐

a) Cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code 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:

i. Listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code Section 5020.1(k)?

ii. 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 Public Resources Code Section 5024.1. In applying the criteria set forth in subdivision (c) of Public Resources Code Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe?

Less Than Significant with Mitigation Incorporated. As discussed in Section V, the Sacred Lands File search results were positive and the Project area has been identified as culturally sensitive. HELIX sent letters on September 20, 2022, to the tribal contacts provided by the NAHC. Four responses have been received to date. The Quechan Indian Tribe and the Agua Caliente Band of Cahuilla Indians indicated that they have no comments on the Project and defer to local tribes. Rincon indicated that, though they

have no knowledge of specific cultural resources within the Project area, the Project location is within their Area of Historic Interest and the City is considered a TCP by Rincon. Pechanga also responded that the Project area is within the boundary of a TCP. Further, there are Ancestral remains and reburial locations in proximity to the Project site. Pechanga believes the possibility for recovering sensitive subsurface resources during ground-disturbing activities is extremely high. Future responses will be forwarded to EVMWD and the SWRCB. EVMWD will undertake consultation with interested Tribes under AB 52, and the SWRCB will undertake Section 106 consultation with interested Tribes as well. A Native American monitoring program was recommended by the Project's Cultural Resources Survey and is detailed in mitigation measures Cul-1 through 9. Consultation in accordance with AB 52 and Section 106, along with implementation of mitigation measures Cul-1 through Cul-9, would reduce potential impacts to tribal cultural resources to a less than significant level.

XIX. Utilities and Service Systems

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

a) 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?

Less Than Significant Impact. No water, storm water, electric, natural gas, or telecommunications utilities would be required for operation of the proposed Project. The minimal water supplies needed during Project construction would be provided by existing infrastructure and any runoff would be

accommodated by existing storm drain infrastructure. The wastewater generated by the installation of the proposed sewer system is estimated at 62,500 GPD (0.063 million gallons per day [MGD]) based on a generation rate of 250 GPD per lot (EVMWD 2021). Existing 24-inch and 54-inch transmission mains are located in East Lakeshore Drive and have sufficient capacity to accommodate the additional wastewater flows that would be generated by the Project (EVMWD 2022b). Impacts would be less than significant.

b) Have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry, and multiple dry years?

Less Than Significant Impact. The Project does not involve activities that would require permanent water supplies. Water supplies required during the construction of the Project would be limited to water utilized for dust suppression on site. Sufficient water supplies from EVMWD are available to provide these limited water supplies to the Project during construction. As such, a less than significant impact would occur.

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?

Less Than Significant Impact. The 62,500 GPD (0.063 MGD) of wastewater flows associated with the Project can be accommodated at the Regional WRF in addition to existing commitments. At the time of the 2016 Sewer System Master Plan, the Avenues neighborhood was not identified for conversion to sewer use. However, the Regional WRF can accommodate the increase in flows, as it has a capacity of 8 MGD and receives an average of 6.5 MGD (EVMWD 2022c; EVMWD 2016). Further, in 2022 EVMWD constructed a bypass in the City of Wildomar, which resulted in a decrease of 125,000 GPD flowing to Regional WRF (EVMWD 2022d). As the Project would generate less wastewater than was diverted by this bypass, wastewater from the Project could be treated at the existing Regional WRF and would not require expansion or relocation of this facility. Therefore, the wastewater treatment provider (EVMWD) has sufficient capacity to serve the Project in addition to existing commitments and impacts would be less than significant.

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?

Less Than Significant Impact. The Project is not anticipated to generate solid waste since excavated material would be used to refill trenched areas. Operation of the pipelines would not generate solid waste and wastewater would be treated at the Regional WRF. If unanticipated solid waste is generated by construction activities, waste would be diverted from the landfill in accordance with WMC Section 8.104.420. CALGreen construction debris standards do not apply to this Project type. No conflicts with solid waste goals or regulations would occur and impacts would be less than significant.

XX. Wildfire

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

a) Substantially impair an adopted emergency response plan or emergency evacuation plan?

Less Than Significant Impact. See item IX.f and Section 2.5. Implementation of a CTMP would ensure the Project would not interfere with emergency response or evacuation plans. During Project operation, no Project components would interfere with emergency operations and impacts would be less than significant.

b) Due to slope, prevailing winds, and other factors, exacerbate wildfire risks, and thereby expose project occupants to, pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire?

Less Than Significant Impact. The portion of the Project site north of Mill Street and Country Club Boulevard and northwest of the intersection at Acacia Street and High Street is a designated VHFHSZ (CAL FIRE 2009). This area of the Project site contains slopes; however, the Project would not alter elevations or other features within the site that would exacerbate wildfire risks. Project components would be located underground and existing roadways would be returned to pre-Project conditions after construction, which would not result in an increased risk of wildfire. Construction activities would avoid dense foliage during dry conditions when feasible. If avoidance is not possible, as discussed in Section 2.5, fire prevention measures would be incorporated to ensure construction activities do not exacerbate wildfire risks. Further, the Project would not introduce residents or permanent employees to the Project area who could be exposed to wildfire pollutants. Therefore, impacts would be less than significant.

c) Require the installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines or other utilities) that may exacerbate fire risk or that may result in temporary or ongoing impacts to the environment?

Less Than Significant Impact. The Project proposes the installation of sewer infrastructure that would result in passive utilities located underground and would not exacerbate fire risks. Construction BMPs would include fire prevention measures if Project construction is required to occur in dense foliage during dry conditions (see Section 2.5). After construction activities are complete, existing roadways and surfaces would be returned to pre-Project conditions and the Project would not exacerbate fire risks. Temporary and ongoing impacts to the environment related to other issues are analyzed throughout this Initial Study. Impacts would be less than significant.

d) Expose people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes?

Less Than Significant Impact. The Project would not create habitable or aboveground structures that could be exposed to significant wildfire risks. Further, the Project would not alter drainage patterns or result in slope instability in the Project area. Impacts would be less than significant.

XXI. 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 significant when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of past, present, and probable future projects)?	☐	☒	☐	☐
c)	Does the project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?	☐	☐	☒	☐

a) Does the project have the potential to substantially degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, substantially

reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory?

Less Than Significant with Mitigation Incorporated. The Project has the potential to result in impacts to nesting birds, burrowing owls, and riparian vegetation; however, implementation of mitigation measures Bio-1 through Bio-3 would reduce these impacts to a less than significant level. The Project also has the potential to impact significant cultural and tribal cultural resources. Implementation of mitigation measures Cul-1 through Cul-9 would ensure these impacts are reduced to a less than significant level. Therefore, the Project would not substantially degrade the environment, decrease the number or habitat of special status plant or animal species, or eliminate major periods of California history. Impacts would be less than significant with mitigation incorporated.

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

Less Than Significant with Mitigation Incorporated. CEQA Guidelines Section 15130 requires a discussion of the cumulative impacts of a project when the project's incremental effect is "cumulatively considerable," meaning that the project's incremental effects are considerable when viewed in connection with the effects of past, current, and probable future projects.

The Sedco Hills Septic to Sewer Project (EVMWD 2023) was identified for inclusion in the cumulative analysis of the proposed Project. The Sedco Hills Septic to Sewer Project is a similar to the proposed Project—it would convert 750 customers from septic systems to sewer. It would occur one mile southeast of the Project site, between Malaga Road, I-15, Lemon Street, and Mission Trail. The estimated construction schedule for the Sedco Hills Septic to Sewer Project is currently planned to overlap (at least partially) with the proposed Project.

Based on the distance between the Project area, construction noise from the Project and Avenues Septic to Sewer Project would be too far apart to contribute to cumulative noise impacts to any singular location. Each project would require four to six workers per construction crew, with a maximum of five construction crews operating at any one time. The addition of vehicle trips associated with the 20 to 30 construction workers required at each of these projects would not contribute to significant, cumulative transportation impacts, as they would travel along different roadways and would not generate a significant number of vehicle trips.

As discussed under item III.b, the Project's construction emissions of criteria pollutants would not exceed the SCAQMD daily screening thresholds. Table 7, *Cumulative Construction Emissions*, shows the combined construction period emissions for the proposed Project and Avenues Septic to Sewer Project for comparison with the SCAQMD daily thresholds.

Table 7
CUMULATIVE CONSTRUCTION EMISSIONS

Project	VOC (lbs/day)	NO_X (lbs/day)	CO (lbs/day)	SO_X (lbs/day)	PM_{10} (lbs/day)	$PM_{2.5}$ (lbs/day)
Avenues Septic to Sewer	3.8	34.1	42.3	0.1	1.8	1.5
Sedco Hills Septic to Sewer	5.7	51.2	63.4	0.1	2.6	2.2
Maximum Combined Daily Emissions	**9.5**	**85.3**	**105.7**	**0.2**	**4.4**	**3.7**
SCAQMD Thresholds	*75*	*100*	*550*	*150*	*150*	*55*
Exceedance?	***No***	***No***	***No***	***No***	***No***	***No***

Source: CalEEMod; HELIX 2022a; SCAQMD 2019; EVMWD 2023
lbs/day = pounds per day; VOC = volatile organic compound; NO_X = nitrogen oxides; CO = carbon monoxide; SO_X = sulfur oxides; PM_{10} = particulate matter 10 microns or less in diameter; $PM_{2.5}$ = particulate matter 2.5 microns or less in diameter

As shown in Table 7, cumulative construction emissions for the two projects would not exceed the SCAQMD screening-level thresholds. Because emissions of these pollutants are below the screening-level thresholds, emissions would not be cumulatively considerable for the SCAB.

Similarly, the Project would have a less than significant impact in relation to GHG emissions, which are inherently discussed in terms of cumulative impacts. Combined, the two projects would contribute approximately 152.6 MT CO_2e emissions per year averaged over 30 years, which would be below the SCAQMD threshold of 3,000 MT CO_2e emissions per year.

Impacts to biological resources would be reduced through mitigation measures Bio-1 through Bio-3 and would not be considered significant impacts at the Project level or in combination with cumulative projects, as no net loss of habitat or special status species would occur. Impacts to paleontological resources would require mitigation measure Geo-2 be implemented and with this mitigation measure the Project would not contribute to the cumulative loss of paleontological resources.

All resource topics have been analyzed in accordance with the CEQA Guidelines and found to pose no impact, a less than significant impact, or a less than significant impact with mitigation. Potential cumulative projects that could be constructed in the vicinity of the Project would also be required to comply with existing applicable federal, state, and local regulations.

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

Less Than Significant Impact. The Project would not consist of any construction activities or operational components that would negatively affect any persons in the vicinity. In addition, all resource topics have been analyzed in accordance with the State CEQA Guidelines or associated thresholds and found to pose no impact, a less than significant impact, or a less than significant impact with mitigation incorporated. As discussed in Section 4.III, no violations of air quality thresholds would occur and no significant impacts to sensitive receptors related to pollutants would occur. As discussed in Section 4.IX of this Initial Study, there are no concerns from past activities at the Project site and no hazardous materials and/or wastes would be generated by the Project. As detailed in Section 4.XIII, the Project would generate noise during construction that would exceed local construction noise ordinance thresholds and may cause disturbances to local residents. However, these impacts would be reduced to the extent feasible by implementing BMPs described in Section 2.5 and would be temporary in nature. During construction, temporarily altered traffic conditions may occur; however, implementation of a CTMP

(see Section 2.5) would ensure emergency access and evacuation routes are maintained. As discussed in Section 4.XX, while portions of the Project are within a VHFHSZ, the Project would not increase risks related to wildfires and would incorporate fire prevention measures during construction when necessary. Consequently, the Project would not result in any environmental effects that would cause substantial adverse effects on human beings directly or indirectly.

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7.0 Preparers

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IS/MND Appendix A

Air Quality and Greenhouse Gas Emissions Assessment

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October 18, 2022 01008.00011.001

Matthew Bates, P.E.
Engineering Manager
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31315 Chaney Street
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Subject: **Air Quality and Greenhouse Gas Emissions Assessment for Avenues Septic to Sewer Project**

Dear Mr. Bates:

HELIX Environmental Planning, Inc. (HELIX) has assessed air quality and greenhouse gas (GHG) emission impacts associated with the construction of the proposed Avenues Septic to Sewer Project (project). In addition, the analysis also addresses impacts to sensitive receptors from exposure to toxic air contaminants (TACs) and the project's conformity with the Federal Clean Air Act (CAA). This letter summarizes the findings of the air quality and GHG emissions assessment.

PROJECT LOCATION

The project area is approximately 99 acres in size in the City of Lake Elsinore (City) in Riverside County, California. The project site includes the area north of East Lakeshore Drive and generally follows the parcel boundaries west of Country Club Boulevard, north of Mill Street, and east of Irwin Drive. A small portion of the project alignment would extend into East Lakeshore Drive, west of Country Club Boulevard. Refer to Figure 1, *Regional Vicinity,* and Figure 2, *Aerial Photograph*.

PROJECT DESCRIPTION

The project would convert about 250 existing septic customers to sewer, which involves installing approximately 14,000 linear feet of sewer main and lateral pipelines within roadway rights-of-way (ROW). The proposed project would involve the construction and operation of approximately 14,000 feet (2.7 miles) of 4-, 8-, and 12-inch-diameter underground sewer pipelines within existing ROW. The new sewer lines would connect to the existing sewer main underneath East Lakeshore Drive.

Wastewater collected via the proposed sewer lines would be transported to the EVMWD Regional Water Reclamation Facility. Additional capacity to treat the 62,500 gallons per day of wastewater that would result from the project is available at the Regional Water Reclamation Facility. Activities proposed

to occur outside the road ROW would include the abandonment of septic tanks currently located on private properties. Existing septic tanks serving the residents would be abandoned per Riverside County Health Department requirements. Completion of this project would prevent contamination of groundwater due to septic tank use in the project area.

PROJECT CONSTRUCTION METHODOLOGY AND ASSUMPTIONS

Construction would commence as early as August 2023 and require 12 to 18 months to complete. The pipelines would be installed in 24- to 36-inch-wide trenches with a depth of approximately 7 to 12 feet. EVMWD estimates that pipeline installation would occur at a rate of approximately 250 feet per day and would involve the following steps:

- Street pavement would be cut, and soil would be removed to create the pipeline trench.
- An excavator with a sling would be used to lower the pipe sections into the trench. The pipeline would rest on a bedding of sand inside the trench per EVMWD standards.
- The pipe in the trench zone (the area above the pipe to the surface) would be backfilled with material previously excavated from the trench.
- Street cuts would be repaved in accordance with the City's requirements.

The project's construction emissions were calculated using the California Emissions Estimator Model (CalEEMod), Version 2020.4.0 (California Air Pollution Control Officers Association [CAPCOA] 2021). CalEEMod is a computer model used to estimate air pollutant emissions resulting from construction and operation of land development projects throughout the state of California. CalEEMod was developed by CAPCOA with the input of several air quality management and pollution control districts.

CalEEMod has the capability to calculate reductions in construction emissions from the effects of dust control, diesel-engine classifications, and other selected emissions reduction measures. Construction emission calculations presented herein do not assume the implementation of standard dust control measures; however, these would be required by South Coast Air Quality Management District (SCAQMD) Rule 403 and include watering two times daily during grading, ensuring that all exposed surfaces maintain a minimum soil moisture of 12 percent, and limiting vehicle speeds on unpaved roads to 15 miles per hour. Project-specific input was based on general project information, assumptions provided by the project engineers, and default model settings to estimate reasonably conservative conditions.

Construction would require the use of off-road equipment and would include trenching, pipeline installation, and resurfacing/repaving. Table 1, *Construction Equipment Assumptions*, presents a summary of the equipment assumed by EVMWD to be involved in each phase of construction. EVMWD anticipates that construction would likely be divided between four phases within the Avenues neighborhood, with as many as two phases constructed simultaneously. The project would install 14,000 linear feet of pipeline, with approximately 250 feet installed per day. Modeling assumes that each day of construction would involve every phase (trenching, pipeline installation, and resurfacing), and would occur simultaneously at two locations within the project site at any one time. With the anticipated completion rate of 250 feet per day plus onsite improvements to abandon the private septic systems

and connect each property to the new public sewer system, the entire project would take approximately 12 months to complete. However, to be conservative and to provide EVMWD with the most flexibility, modeling assumes that project construction would take a full 18 months, with two construction teams using all listed equipment each day.

Table 1
CONSTRUCTION EQUIPMENT ASSUMPTIONS

Phase	Equipment	Number	Horsepower
Trenching	Excavator	1	158
	Tractor/Loader/Backhoe	1	97
Pipeline Installation	Crane	1	231
	Excavator	1	158
	Tractor/Loader/Backhoe	1	97
	Dump Truck	1	402
Resurfacing/Repaving	Roller	1	80
	Paver	1	130

Source: CalEEMod (output data is provided in Attachment A)

PROJECT OPERATION METHODOLOGY AND ASSUMPTIONS

Once construction activity is complete, the project components would be sealed pipelines, which would be located underground and operate passively. The project components would not require ongoing maintenance once installed and would not result in increased vehicle trips or other operational activities. Therefore, the project would not result in operational air pollutant or GHG emissions and no impacts related to such emissions would occur.

AIR QUALITY

Climate and Meteorology

The project site is within the South Coast Air Basin (SCAB), which consists of all or part of four counties: Los Angeles, San Bernardino, Riverside, and Orange. The distinctive climate of the SCAB is determined by its terrain and geographic location. The SCAB is a coastal plain with connecting broad valleys and low hills. It is bound by the Pacific Ocean to the southwest and high mountains around the rest of its perimeter. The general region lies in the semi-permanent high-pressure zone of the eastern Pacific, resulting in a mild climate tempered by cool sea breezes with light, average wind speeds.

The usually mild climatological pattern is interrupted occasionally by periods of extremely hot weather, winter storms, or Santa Ana winds. Winds in the project area are usually driven by the dominant land/sea breeze circulation system. Regional wind patterns are dominated by daytime onshore sea breezes. At night, the wind generally slows and reverses direction traveling toward the sea. Local canyons can also alter wind direction, with wind tending to flow parallel to the canyons. The vertical dispersion of air pollutants in the SCAB is hampered by the presence of persistent temperature inversions. High pressure systems, such as the semi-permanent high-pressure zone in which the SCAB is located, are characterized by an upper layer of dry air that warms as it descends, restricting the mobility of cooler marine-influenced air near the ground surface, and resulting in the formation of subsidence inversions. Such

inversions restrict the vertical dispersion of air pollutants released into the marine layer and, together with strong sunlight, can produce worst-case conditions for the formation of photochemical smog. The basin-wide occurrence of inversions at 3,500 feet above mean sea level or less averages 191 days per year (SCAQMD 1993).

Regulatory Framework

Criteria Pollutants

Ambient air quality is described in terms of compliance with state and national standards, and the levels of air pollutant concentrations considered safe, to protect the public health and welfare. These standards are designed to protect people most sensitive to respiratory distress, such as asthmatics, the elderly, very young children, people already weakened by other disease or illness, and persons engaged in strenuous work or exercise. The U.S. Environmental Protection Agency (USEPA), the federal agency that administrates the Federal CAA of 1970, as amended in 1990, has established national ambient air quality standards for several air pollution constituents known as criteria pollutants, including: ozone (O_3); carbon monoxide (CO); coarse particulate matter (PM_{10}; particles 10 microns or less) and fine particulate matter ($PM_{2.5}$; particle 2.5 microns or less); sulfur dioxide (SO_2); and lead (Pb). As permitted by the Federal CAA, California has adopted the more stringent California ambient air quality standards (CAAQS) and expanded the number of regulated air constituents. Ground-level ozone is not emitted directly into the environment but is generated from complex chemical and photochemical reactions between precursor pollutants, primarily reactive organic gases (ROGs; also known as volatile organic compounds [VOCs]), [1] and oxides of nitrogen (NO_X). PM_{10} and $PM_{2.5}$ are generated from a variety of sources, including road dust, diesel exhaust, fuel combustion, tire and brake wear, construction operations and windblown dust. In addition, PM_{10} and $PM_{2.5}$ can also be formed through chemical and photochemical reactions of precursor pollutants in the atmosphere.

The California Air Resources Board (CARB) is required to designate areas of the state as attainment, nonattainment, or unclassified for the ambient air quality standards. An “attainment” designation for an area signifies that pollutant concentrations do not violate the standard for that pollutant in that area. A “nonattainment” designation indicates that a pollutant concentration violated the standard at least once. The air quality attainment status of the SCAB is shown in Table 2, *South Coast Air Basin – Attainment Status*.

[1] CARB defines and uses the term ROGs while the USEPA defines and uses the term VOCs. The compounds included in the lists of ROGs and VOCs and the methods of calculation are slightly different. However, for the purposes of estimating criteria pollutant precursor emissions, the two terms are often used interchangeably.

Table 2
SOUTH COAST AIR BASIN – ATTAINMENT STATUS

Pollutant	Federal Attainment Status	State of California Attainment Status
1-hour Ozone (O_3)	(No federal standard)	Nonattainment
8-hour Ozone (O_3)	Extreme Nonattainment	Nonattainment
Carbon Monoxide (CO)	Attainment (Maintenance)	Attainment
Respirable Particulate Matter (PM_{10})	Attainment (Maintenance)	Nonattainment
Fine Particulate Matter ($PM_{2.5}$)	Serious Nonattainment	Nonattainment
Nitrogen Dioxide (NO_2)	Attainment (Maintenance)	Attainment
Sulfur Dioxide (SO_2)	Attainment	Attainment
Lead (Pb)	Attainment	Attainment
Sulfates	(No federal standard)	Attainment
Hydrogen Sulfide	(No federal standard)	Attainment
Visibility	(No federal standard)	Attainment

Source: SCAQMD 2016

The SCAB is currently in nonattainment for federal and/or state ozone (O_3), suspended particulate matter (PM_{10}) and fine particulate matter ($PM_{2.5}$) standards. Concentrations of all other pollutants meet applicable state and federal standards.

The SCAQMD is responsible for implementing emissions standards and other requirements of federal and state laws in the SCAB. As a regional agency, the SCAQMD works directly with the Southern California Association of Governments (SCAG), County transportation commissions, and local governments, and cooperates actively with all federal and state government agencies. The SCAQMD develops rules and regulations; establishes permitting requirements for stationary sources; inspects emissions sources; and enforces such measures through educational programs or fines, when necessary. The SCAQMD is directly responsible for reducing emissions from stationary (area and point), mobile, and indirect sources. As required by the California CAA, the SCAQMD has responded to this requirement by preparing a sequence of Air Quality Management Plans (AQMPs).

On March 3, 2017, the SCAQMD adopted the 2016 AQMP, which is a regional and multi-agency effort (SCAQMD, CARB, SCAG, and USEPA). The 2016 AQMP represents a comprehensive analysis of emissions, meteorology, atmospheric chemistry, regional growth projections, and the impact of existing control measures. The plan seeks to achieve multiple goals in partnership with other entities promoting reductions in criteria pollutant, greenhouse gases, and toxic risk, as well as efficiencies in energy use, transportation, and goods movement (SCAQMD 2017). The AQMP is incorporated into the State Implementation Plan, which is subsequently submitted to the USEPA.

Toxic Air Contaminants

TACs are a diverse group of air pollutants that may cause or contribute to an increase in deaths or in serious illness, or that may pose a present or potential hazard to human health. TACs can cause long-term health effects such as cancer, birth defects, neurological damage, asthma, bronchitis, or genetic damage, or short-term acute effects such as eye watering, respiratory irritation (a cough), runny nose, throat pain, and headaches. TACs are considered either carcinogenic or noncarcinogenic based on the

nature of the health effects associated with exposure to the pollutant. For carcinogenic TACs, there is no level of exposure that is considered safe and impacts are evaluated in terms of overall relative risk expressed as excess cancer cases per one million exposed individuals. Noncarcinogenic TACs differ in that there is generally assumed to be a safe level of exposure below which no negative health impact is believed to occur. These levels are determined on a pollutant-by-pollutant basis.

Diesel engines emit a complex mixture of air pollutants, including both gaseous and solid material. The solid material in diesel exhaust is known as diesel particulate matter (DPM). Almost all DPM is 10 microns or less in diameter, and 90 percent of DPM is less than 2.5 microns in diameter (CARB 2018). Because of their extremely small size, these particles can be inhaled and eventually trapped in the bronchial and alveolar regions of the lung. In 1998, CARB identified DPM as a TAC based on published evidence of a relationship between diesel exhaust exposure and lung cancer and other adverse health effects. DPM has a significant impact on California's population—it is estimated that about 70 percent of total known cancer risk related to air toxics in California is attributable to DPM (CARB 2018).

Sensitive Receptors

CARB and the Office of Environmental Health Hazard Assessment (OEHHA) have identified the following groups of individuals as the most likely to be affected by air pollution: the elderly over 65, children under 14, infants (including in utero in the third trimester of pregnancy), and persons with cardiovascular and chronic respiratory diseases such as asthma, emphysema, and bronchitis (CARB 2005; OEHHA 2015). Some land uses are considered more sensitive to air pollution than others due to the types of population groups or activities involved and are referred to as sensitive receptors. Examples of these sensitive receptors are residences, schools, hospitals, and daycare centers.

The project site is located in a residential area with sensitive receptors located throughout the project site, directly adjacent to where construction activities would occur. Railroad Canyon Elementary School is also located adjacent to the eastern boundary of the project area.

Significance Criteria

The following significance thresholds are based on Appendix G of the state CEQA Guidelines. A significant impact is identified if the project would result in any of the following:

(1) Conflict with or obstruct implementation of the applicable air quality plan;

(2) 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;

(3) Expose sensitive receptors to substantial pollutant concentrations; or

(4) Result in other emissions (such as those leading to odors) adversely affecting a substantial number of people.

Appendix G of the State CEQA Guidelines states that the significance criteria established by the applicable air quality management or air pollution control district may be relied upon to make the above determinations. The SCAQMD has established significance thresholds to assess the regional and

localized impacts of project-related air pollutant emissions. The significance thresholds are updated, as needed, to appropriately represent the most current technical information and attainment status in the SCAB. Table 3, *SCAQMD Air Quality Significance Thresholds*, presents the most current significance thresholds, including regional daily thresholds for short-term construction and long-term operational emissions; maximum incremental cancer risk and hazard indices for TACs; and maximum ambient concentrations for exposure of sensitive receptors to localized pollutants. A project with daily emission rates, risk values, or concentrations below these thresholds is generally considered to have a less than significant effect on air quality.

Table 3
SCAQMD AIR QUALITY SIGNIFICANCE THRESHOLDS

Pollutant	Construction	Operation
Mass Daily Thresholds (lbs/day)		
VOC	75	55
NO_X	100	55
CO	550	550
PM_{10}	150	150
$PM_{2.5}$	55	55
SO_X	150	150
Lead	3	3
Toxic Air Contaminants		
TACs	Maximum Incremental Cancer Risk ≥ 10 in 1 million Cancer Burden > 0.5 excess cancer cases (in areas ≥ 1 in 1 million) Chronic & Acute Hazard Index ≥ 1.0 (project increment)	
Ambient Air Quality for Criteria Pollutants		
NO_2	1-hour average ≥ 0.18 ppm Annual average ≥ 0.03 ppm	
CO	1-hour average ≥ 20.0 ppm (state) 8-hour average ≥ 9.0 ppm (state/federal)	
PM_{10}	24-hour average ≥ 10.4 µg/m^3 (construction) 24-hour average ≥ 2.5 µg/m^3 (operation) Annual average ≥ 1.0 µg/m^3	
$PM_{2.5}$	24-hour average ≥ 10.4 µg/m^3 (construction) 24-hour average ≥ 2.5 µg/m^3 (operation)	
SO_2	24-hour average ≥ 25 µg/m^3	

Source: SCAQMD 2019
SCAQMD = South Coast Air Quality Management District; lbs/day = pounds per day; VOC = volatile organic compound; NO_X = nitrogen oxides; CO = carbon monoxide; PM_{10} = respirable particulate matter with a diameter of 10 microns or less; $PM_{2.5}$ = fine particulate matter with a diameter of 2.5 microns or less; SO_X = sulfur oxides; TACs = toxic air contaminants; NO_2 = nitrogen dioxide; ppm = parts per million; SO_2 = sulfur dioxide; µg/m^3 = micrograms per cubic meter

Project Air Quality Analysis

(1) Conflict with or obstruct implementation of the applicable air quality plan?

Less than Significant Impact. SCAG is the regional planning agency for Los Angeles, Orange, Ventura, Riverside, San Bernardino, and Imperial Counties, and addresses regional issues relating to

transportation, economy, community development, and environment. With regard to air quality planning, SCAG has prepared the Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS), a long-range transportation plan that uses growth forecasts to project trends out over a 20-year period to identify regional transportation strategies to address mobility needs. These growth forecasts form the basis for the land use and transportation control portions of the AQMP. These documents are utilized in the preparation of the air quality forecasts and consistency analysis included in the AQMP. Both the RTP/SCS and AQMP are based, in part, on projections originating with County and City General Plans.[2]

The two principal criteria for determining conformance to the AQMP are:

1. Whether the project would result in an increase in the frequency or severity of existing air quality violations; cause or contribute to new violations; or delay timely attainment of air quality standards; and

2. Whether the project would exceed the assumptions in the AQMP.

With respect to the first criterion, the analyses presented below demonstrate that the project would not generate short-term or long-term emissions that could potentially cause an increase in the frequency or severity of existing air quality violations; cause or contribute to new violations; or delay timely attainment of air quality standards.

With respect to the second criterion, the proposed project is installing a sewer system and decommissioning a septic system. The project would not result in population or employment increases and, therefore, would not exceed the growth projection assumptions in the AQMP. In addition, the construction workers that would construct the project would be recruited from the local pool of labor and would not create employment growth exceeding growth estimates for the area. The proposed infrastructure improvements would serve existing residences and would not create conditions for the creation of new housing, which would thereby induce population growth.

Because the project is consistent with the growth assumptions used in developing the AQMP, pursuant to SCAQMD guidelines, the proposed project is considered consistent with the region's AQMP. As such, proposed project-related emissions are accounted for in the AQMP, which is crafted to bring the basin into attainment for all criteria pollutants. Accordingly, the proposed project would be consistent with the emissions projections in the AQMP, thus resulting in a less than significant impact.

(2) 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?

Less than Significant Impact. The project's construction emissions were estimated using the CalEEMod, as described above. The emissions generated from construction activities include:

- Dust (including PM_{10} and $PM_{2.5}$) primarily from fugitive sources such as soil disturbance and vehicle travel over unpaved surfaces; and

[2] SCAG serves as the federally designated metropolitan planning organization for the southern California region.

- Combustion emissions of air pollutants (including ROG, NO_X, PM_{10}, $PM_{2.5}$, CO, and sulfur oxides [SO_X]), primarily from operation of heavy off-road equipment.

The results of the calculations for project construction are shown in Table 4, *Maximum Daily Construction Emissions*. The data are presented as the maximum anticipated daily emissions for comparison with the SCAQMD thresholds. The model output is included as Attachment A to this letter. As shown in Table 4, the project's construction emissions would not exceed SCAQMD thresholds and would not result in a cumulatively considerable net increase of any criteria pollutant. As described previously, the project would consist of passive pipelines after construction and would not result in operational emissions of criteria pollutants. The impact would be less than significant.

Table 4
MAXIMUM DAILY CONSTRUCTION EMISSIONS

Phase	Pollutant Emissions (lbs/day)					
	VOC	**NO_X**	**CO**	**SO_2**	**PM_{10}**	**$PM_{2.5}$**
Trenching	0.7	6.2	11.3	<0.1	0.4	0.3
Pipeline Installation	2.4	20.9	21.2	0.1	0.9	0.8
Paving	0.7	7.0	9.8	<0.1	0.5	0.4
Maximum Daily Emissions	**3.8**	**34.1**	**42.3**	**0.1**	**1.8**	**1.5**
SCAQMD Thresholds	*75*	*100*	*550*	*150*	*150*	*55*
Significant Impact?	***No***	***No***	***No***	***No***	***No***	***No***

Source: CalEEMod (output data is provided in Attachment A); SCAQMD 2019
lbs/day = pounds per day; VOC = volatile organic compound; NO_X = nitrogen oxides; CO = carbon monoxide; SO_2 = sulfur dioxide; PM_{10} = respirable particulate matter with a diameter of 10 microns or less; $PM_{2.5}$ = fine particulate matter with a diameter of 2.5 microns or less; SCAQMD = South Coast Air Quality Management District

(3) Expose sensitive receptors to substantial pollutant concentrations?

Criteria Pollutants

Less than Significant Impact. The localized effects from the on-site portion of daily construction emissions were evaluated at sensitive receptor locations potentially impacted by the project according to the SCAQMD's Localized Significance Thresholds (LSTs) method (SCAQMD 2009). LSTs represent the maximum emissions from a project that will not cause or contribute to an exceedance of the most stringent applicable federal or state ambient air quality standard; they are developed based on the ambient concentrations of that pollutant for each source receptor area (SRA). The LST methodology is recommended to be limited to projects of five acres or less and to avoid the need for complex dispersion modeling. For projects that exceed 5 acres, such as the proposed 99-acre project, the 5-acre LST look-up values can be used as a screening tool to determine which pollutants require detailed analysis. This approach is conservative as it assumes that all on-site emissions would occur within a 5-acre area and over-predicts potential localized impacts (i.e., more pollutant emissions occurring within a smaller area and within closer proximity to potential sensitive receptors). If a project exceeds the LST look up values, then the SCAQMD recommends that project-specific localized air quality modeling be performed.

The project is in SRA 25, Lake Elsinore, and sensitive receptors are located within 25 meters of the project site. Therefore, the LSTs being applied to the project are based on SRA 25, receptors located

within 25 meters, and a disturbed area not to exceed 5 acres. Consistent with the LST guidelines, when quantifying mass emissions for localized analysis, only emissions that occur on-site are considered. Emissions related to off-site delivery/haul truck activity and construction worker trips are not considered in the evaluation of construction-related localized impacts, as these do not contribute to emissions generated on a project site. As shown in Table 5, *Maximum Localized Daily Construction Emissions*, localized emissions for all criteria pollutants would remain below their respective SCAQMD LSTs. Therefore, impacts would be less than significant.

Table 5
MAXIMUM LOCALIZED DAILY CONSTRUCTION EMISSIONS

Phase	Pollutant Emissions (lbs/day)			
	NO_X	CO	PM_{10}	$PM_{2.5}$
Trenching	6.2	11.0	0.3	0.3
Pipeline Installation	20.9	21.2	0.9	0.8
Paving	7.0	9.5	0.4	0.3
Maximum Daily Emissions	**34.1**	**41.7**	**1.5**	**1.4**
SCAQMD LST	*371*	*1,965*	*13*	*8*
Significant Impact?	***No***	***No***	***No***	***No***

Source: CalEEMod (output data is provided in Attachment A); SCAQMD 2009
lbs/day = pounds per day; NO_X = nitrogen oxides; CO = carbon monoxide; PM_{10} = respirable particulate matter with a diameter of 10 microns or less; $PM_{2.5}$ = fine particulate matter with a diameter of 2.5 microns or less; SCAQMD = South Coast Air Quality Management District; LST = Localized Significance Threshold

Toxic Air Contaminants

Less than Significant Impact. Construction of the project would result in the use of heavy-duty construction equipment, haul trucks, and construction worker vehicles. These vehicles and equipment could generate DPM, which is a TAC. Generation of DPM from construction projects typically occurs in a localized area (e.g., near locations with multiple pieces of heavy construction equipment working in close proximity) for a short period of time. Because construction activities and subsequent emissions vary depending on the phase of construction, the construction-related emissions to which nearby receptors are exposed to would also vary throughout the construction period. Concentrations of DPM emissions are typically reduced by 70 percent at approximately 500 feet (CARB 2005). As discussed above, sensitive receptors, including homes and schools, are located throughout and adjacent to the project site.

The dose of TACs to which receptors are exposed is the primary factor used to determine health risk. Dose is a function of the concentration of a substance in the environment and the extent of exposure a person has with the substance; a longer exposure period to a fixed amount of emissions would result in higher health risks. Current models and methodologies for conducting cancer health risk assessments are associated with longer-term exposure periods (typically 30 years for individual residents based on guidance from OEHHA) and are best suited for evaluation of long duration TAC emissions with predictable schedules and locations. These assessment models and methodologies do not correlate well with the temporary and highly variable nature of construction activities. Cancer potency factors are based on animal lifetime studies or worker studies where there is long-term exposure to the carcinogenic agent. There is considerable uncertainty in trying to evaluate the cancer risk from projects that will only last a small fraction of a lifetime (OEHHA 2015). Considering this information, the relatively

short duration of construction activities, and the fact that any concentrated use of heavy construction equipment would occur at various locations throughout the project site only for short durations, construction of the project would not expose sensitive receptors to substantial DPM concentrations, and the impact would be less than significant.

(4) Result in other emissions (such as those leading to odors) adversely affecting a substantial number of people?

Less than Significant Impact. The project could produce odors during proposed construction activities resulting from heavy diesel equipment exhaust and application of asphalt; however, standard construction practices would minimize the odor emissions and their associated impacts. The increase of construction odors would be minimal and any odors emitted during construction would be temporary, short-term, and intermittent in nature, and would cease upon the completion of construction. Therefore, odor impacts from construction of the project would be less than significant due to the duration of exposure.

The project proposes the installation of sewer infrastructure and the decommissioning of septic tanks. While wastewater has the potential to generate odors, the proposed sewer pipelines would be sealed underground and would not result in the emission of odors related to the transport of wastewater. Therefore, long-term operation of the project would not result in a change to existing odors in the project vicinity, and there would be no impact.

GREENHOUSE GAS EMISSIONS

Setting

Greenhouse gases, as defined under California's Assembly Bill (AB) 32, include carbon dioxide (CO_2), methane (CH_4), nitrous oxide (N_2O), hydrofluorocarbons (HFC), perfluorocarbons (PFC), and sulfur hexafluoride (SF_6). AB 32, the California Global Warming Solutions Act of 2006, recognizes that California is a source of substantial amounts of GHG emissions. The statute states that:

> *Global warming poses a serious threat to the economic wellbeing, public health, natural resources, and the environment of California. The potential adverse impacts of global warming include the exacerbation of air quality problems, a reduction in the quality and supply of water to the state from the Sierra snowpack, a rise in sea levels resulting in the displacement of thousands of coastal businesses and residences, damage to marine ecosystems and the natural environment, and an increase in the incidences of infectious diseases, asthma, and other human health-related problems.*

In order to help avert these potential consequences, AB 32 established a State goal of reducing GHG emissions to 1990 levels by the year 2020, which is a reduction of approximately 16 percent from forecasted emission levels, with further reductions to follow. In addition, AB 32 required CARB to develop a Scoping Plan to help the State achieve the targeted GHG emission reductions. In 2015, Executive Order (EO) B-30-15 established a California GHG emission reduction target of 40 percent below 1990 levels by 2030. The EO aligns California's GHG emission reduction targets with those of leading international governments, including the 28 nation European Union. California is on track to meet or exceed the target of reducing GHG emissions to 1990 levels by 2020, as established in AB 32.

As a follow-up to AB 32 and in response to EO-B-30-15, Senate Bill (SB) 32 was passed by the California legislature in 2016 to codify the EO's California GHG emission reduction target of 40 percent below 1990 levels by 2030. The most recent update to the Scoping Plan was adopted in December 2017 and establishes a proposed framework for California to meet the EO-B-30-15 reduction target (CARB 2017).

Significance Criteria

Given the relatively small levels of emissions generated by a typical development in relationship to the total amount of GHG emissions generated on a national or global basis, individual development projects are not expected to result in significant, direct impacts with respect to climate change. However, given the magnitude of the impact of GHG emissions on the global climate, GHG emissions from new development could result in significant, cumulative impacts with respect to climate change. Thus, the potential for a significant GHG emissions impact is limited to cumulative impacts.

According to Appendix G of the CEQA Guidelines, a project would have a significant environmental impact if it would:

(1) Generate GHG emissions, either directly or indirectly, that may have a significant impact on the environment; or

(2) Conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of GHGs.

There are no established federal, state, or local quantitative thresholds applicable to the project to determine the quantity of GHG emissions that may have a significant effect on the environment. CARB, the SCAQMD, and various cities and agencies have proposed, or adopted on an interim basis, thresholds of significance that require the implementation of GHG emission reduction measures. For the proposed project, the most appropriate screening threshold for determining GHG emissions is the SCAQMD proposed Tier 3 screening threshold (SCAQMD 2010). Therefore, a significant impact would occur if the proposed project would exceed the SCAQMD proposed Tier 3 screening threshold of 3,000 metric tons (MT) of carbon dioxide equivalent (CO_2e) per year.

Project Greenhouse Gas Emissions Analysis

(1) Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?

Less than Significant Impact. Construction would result in GHG emissions generated by vehicle engine exhaust from construction equipment and worker commuting trips. Construction GHG emissions were calculated by using CalEEMod, as described above. Input details and the model output are provided in Attachment A to this letter. As previously discussed, the project would contain passive components that would not result in GHG emissions during operation. The estimated construction GHG emissions for the project are shown in Table 6, *Construction GHG Emissions*. For construction emissions, SCAQMD recommends that the emissions be amortized (i.e., averaged) over the anticipated lifespan of the project (30 years) and added to operational emissions. However, no operational emissions would result from the proposed project. Averaged over 30 years, the proposed construction activities would contribute

approximately 51.0 MT CO_2e emissions per year. The construction emissions would not exceed the SCAQMD threshold of 3,000 MT CO_2e per year and impacts would be less than significant.

Table 6
CONSTRUCTION GHG EMISSIONS

Source	Emissions (MT CO_2e)
Trenching	305.2
Pipeline Installation	951.6
Paving	271.8
Total Construction Emissions[1]	**1,528.5**
Amortized Construction Emissions	**51.0**
SCAQMD Threshold	*3,000*
Significant Impact?	***No***

Source: CalEEMod (output data is provided in Attachment A); SCAQMD 2010
[1] Total may not sum due to rounding.
MT = metric tons; CO_2e = carbon dioxide equivalent

(2) Conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of greenhouse gases?

Less than Significant Impact. There are numerous State plans, policies, and regulations adopted for the purpose of reducing GHG emissions. The principal overall State plan and policy is AB 32, the California Global Warming Solutions Act of 2006. The initial quantitative goal of AB 32 was to reduce GHG emissions to 1990 levels by 2020. SB 32 would require further reductions of 40 percent below 1990 levels by 2030. Statewide plans and regulations such as GHG emissions standards for vehicles (AB 1493), the low carbon fuel standard, and regulations requiring an increasing fraction of electricity to be generated from renewable sources are being implemented at the statewide level; as such, compliance at the project level is not addressed.

The twelve cities of the Western Riverside Council of Governments (WRCOG), which includes the City of Lake Elsinore, adopted a Subregional Climate Action Plan (CAP) in September 2014. The WRCOG CAP provides a 2010 baseline inventory of GHG emissions for the subregion cities of 5,834,400 MT of CO_2e. Approximately 57 percent of the GHG inventory was from transportation sources, 21 percent from commercial/industrial energy use, 20 percent from residential energy use, and the remaining from wastewater and solid waste sources. Less than one percent of emissions were attributed to the wastewater sector and no increases to this percentage were projected in a business-as-usual scenario. The WRCOG CAP established a target of reducing subregional GHG emissions 15 percent below 2010 levels by 2020 and 49 percent below 2010 levels by 2035. To achieve the 2020 reduction target, the WRCOG CAP identifies 14 State and regional measures, 3 local energy sector measures, 18 local transportation sector measures, and 2 solid waste sector measures. The WRCOG CAP does not identify GHG reduction measures for achieving goals beyond 2020 (WRCOG 2014). It also does not include thresholds for determining the significance of a project's GHG emissions, nor does it include a checklist or other methodology for determining consistency of a project with the goals and measures in the WRCOG CAP.

The City of Lake Elsinore adopted a CAP in December 2011 (City 2011). The CAP provides a 2008 baseline inventory of GHG emissions for the City of 506,727 MT of CO_2e. Approximately 61 percent of the GHG inventory was from transportation sources, 32 percent from energy use, 4 percent from solid waste sources, and the remaining 3 percent from recreation. The CAP identified a combination of state-level regulations and local strategies and measures in the focus areas of Transportation and Land Use, Energy, Solid Waste, and Public Education and Outreach, which would help the City to achieve statewide reduction goals. The CAP does not include thresholds for determining the significance of a project's GHG emissions, nor does it include a checklist or other methodology for determining consistency of a project with the goals and measures in the CAP.

The project would involve the installation of sewer infrastructure and none of the WRCOG or City CAP measures would apply to project operation. WRCOG CAP Measure SR-13, *Construction & Demolition Waste Diversion*, describes the waste diversion requirements enacted by California Green Building Standards Code (CALGreen; CCR Title 24, Part 11), which have evolved since approval of the CAP in 2014. City CAP Measure S-1.4, *Construction and Demolition Waste Diversion*, lead to the establishment of Lake Elsinore Municipal Code Chapter 14.12, *Construction and Demolition Waste Management*, which initially contained more stringent construction waste diversion requirements than CALGreen. However, neither CALGreen nor Lake Elsinore Municipal Code construction waste diversion requirements apply to the proposed project type. In addition, the project is not anticipated to result in construction waste since excavated material would be used to refill trenched areas. Therefore, no conflicts with the WRCOG or City CAP would result from project implementation.

The project would not conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of GHGs and impacts would be less than significant.

GENERAL CONFORMITY ANALYSIS

Regulatory Framework

National Ambient Air Quality Standards

The CAA identified and established the National Ambient Air Quality Standards (NAAQS) for a number of criteria pollutants in order to protect the public health and welfare. The criteria pollutants include ozone, CO, PM, SO_2, NO_2, and lead. PM emissions are regulated in two size classes: PM_{10} and $PM_{2.5}$.

A region is given the status of "attainment" or "unclassified" if the NAAQS have not been exceeded. A status of "nonattainment" for particular criteria pollutants is assigned if the NAAQS have been exceeded. Once designated as nonattainment, attainment status may be achieved after three years of data showing non-exceedance of the standard. When an area is reclassified from nonattainment to attainment, it is designated as a "maintenance area," indicating the requirement to establish and enforce a plan to maintain attainment of the standard. The project is located within the SCAB, which is classified as being a serious nonattainment area for $PM_{2.5}$, and an extreme nonattainment area for ozone (see Table 2).

General Conformity Rule

Section 176(c) of the federal CAA states that a federal agency cannot issue a permit for, or support an activity within, a nonattainment or maintenance area unless the agency determines it will conform to the most recent U.S. Environmental Protection Agency-approved State Implementation Plan. Thus, a federal action must not:

- Cause or contribute to any new violation of a NAAQS.
- Increase the frequency or severity of any existing violation.
- Delay the timely attainment of any standard, interim emission reduction, or other milestone.

As part of the general conformity process, a conformity analysis is required if a federal action's direct and indirect emissions have the potential to emit one or more of the six criteria pollutants at or above emission rates shown in Table 7, *Emission Rates for Criteria Pollutants in Nonattainment Areas*.

Table 7
EMISSION RATES FOR CRITERIA POLLUTANTS IN NONATTAINMENT AREAS

Pollutant	Emission Rate (tons per year)[1]
Ozone (VOCs or NO_X)	
Serious Nonattainment Area	50
Severe Nonattainment Area	25
Extreme Nonattainment Area	10
Other ozone nonattainment area outside an ozone transport zone	100
Other ozone nonattainment area inside an ozone transport zone	
VOC	50
NO_X	100
Carbon Monoxide	
All maintenance areas	100
SO_2 or NO_2	
All nonattainment areas	100
PM_{10}	
Moderate Nonattainment Area	100
Serious Nonattainment Area	70
$PM_{2.5}$	
Moderate Nonattainment Area	100
Serious Nonattainment Area	70
Pb	
All nonattainment areas	25

Source: 40 CFR 93.153

[1] De minimis threshold levels for conformity applicability analysis.

VOC = volatile organic compound; NO_X = nitrogen oxides; SO_2 = sulfur dioxide; NO_2 = nitrogen dioxide; PM_{10} = respirable particulate matter with a diameter of 10 microns or less; $PM_{2.5}$ = fine particulate matter with a diameter of 2.5 microns or less; Pb = lead

If the total direct and indirect emissions associated with the project are below the de minimis levels indicated in Table 7, general conformity requirements do not apply and the project is considered in conformity and would not result in an adverse effect. The project would be located within the SCAB, which is classified as being a serious nonattainment area for $PM_{2.5}$, and an extreme nonattainment area for ozone. As the project region is in nonattainment for two of the criteria pollutants indicated in Table 7, ozone and $PM_{2.5}$, conformity for these pollutants must be completed.

Significance Criteria

A significant impact would be identified if the project would exceed the General Conformity Rule de minimis thresholds provided in Table 7 for the pollutants for which the SCAB is a nonattainment area (ozone and $PM_{2.5}$).

Conformity Analysis

Construction Emissions

The project's construction emissions were estimated using CalEEMod, as described above. The results of the calculations for project construction are shown in Table 8, *Construction Emissions Conformity Analysis*, and the model output is included as Attachment A to this letter. The data are presented as the maximum annual construction emissions in tons and compared with the applicable de minimis thresholds, which are provided in tons per year. As shown in Table 8, the project's total construction emissions would not exceed the annual de minimis thresholds. As previously described, operation of the proposed project would not result in the emission of criteria pollutants. Emissions of criteria pollutants associated with the project would be below the de minimis thresholds established to ensure compliance with the CAA. Thus, impacts to air quality would be less than significant and the project would conform with the federal CAA.

Table 8
CONSTRUCTION EMISSIONS CONFORMITY ANALYSIS

Criteria Pollutant (Attainment Status)	De Minimis Threshold (tons/year)	Construction Emissions (tons/year)	Adverse Effect?
VOC (Extreme Nonattainment Area)	10	0.5	No
NO_X (Extreme Nonattainment Area)	10	4.1	No
CO (Maintenance)	--	5.5	No
SO_2 (Maintenance)	--	<0.1	No
PM_{10} (Maintenance)	--	0.2	No
$PM_{2.5}$ (Serious Nonattainment Area)	70	0.2	No

Source: CalEEMod (output data is provided in Attachment A); 40 CFR 93.153
VOC = volatile organic compound; NO_X = nitrogen oxides; CO = carbon monoxide; SO_2 = sulfur dioxide; PM_{10} = respirable particulate matter with a diameter of 10 microns or less; $PM_{2.5}$ = fine particulate matter with a diameter of 2.5 microns or less

SUMMARY

As described above, emissions of criteria pollutants would be below SCAQMD thresholds and the project would be consistent with the AQMP. Sensitive receptors would not be exposed to substantial concentrations of TACs or odors. Thus, impacts to air quality would be less than significant and no mitigation measures would be required. GHG emissions resulting from construction activities would be below SCAQMD thresholds. The project would not conflict with the WRCOG Subregional CAP, City of Lake Elsinore CAP, or applicable State GHG reduction plans or policies. Therefore, GHG impacts would be less than significant no mitigation measures would be required. Criteria pollutant emissions would also be below General Conformity de minimis levels. Therefore, the project would not conflict with the federal CAA.

Sincerely,

Shelby Bocks
Air Quality Specialist

Victor Ortiz
Senior Air Quality Specialist

Attachments:

Figure 1: Regional Location
Figure 2: Aerial Photograph
Attachment A: CalEEMod Model Output

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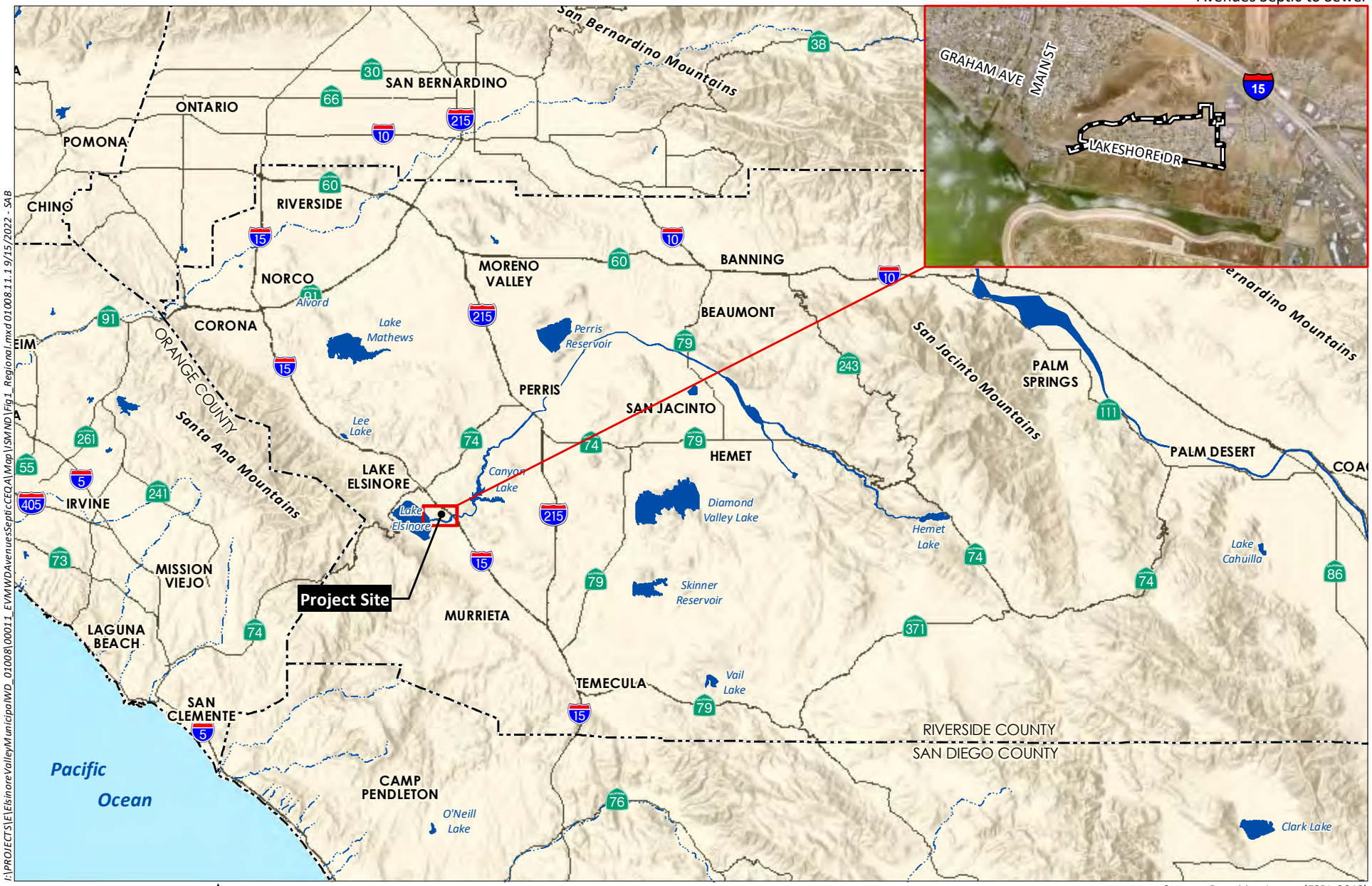

Source: Base Map Layers (ESRI, 2013)

I:\PROJECTS\E\ElsinoreValleyMunicipalWD_01008\00011_EVMWDAvenuesSeptictoCEQA\Map\SMND\Fig1_Regional.mxd 01008.11.1 9/15/2022 - SAB

HELIX Environmental Planning

Regional Location

Figure 1

I:\PROJECTS\E\ElsinoreValleyMunicipalWD_01008\00011_EVMWDAvenuesSepticCEQA\Map\SMND\Fig2_Aerial.mxd 01008.11.1 8/19/2022 - SAB

0 1,200 Feet

Source: Aerial (RCIT, 2020)

HELIX Environmental Planning

Aerial Photograph

Figure 2

Attachment A

CalEEMod Model Output

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

Avenues Septic to Sewer

Riverside-South Coast County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
User Defined Industrial	1.00	User Defined Unit	0.96	0.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.4	**Precipitation Freq (Days)**	28
Climate Zone	10			**Operational Year**	2027
Utility Company	Southern California Edison				
CO2 Intensity (lb/MWhr)	390.98	**CH4 Intensity (lb/MWhr)**	0.033	**N2O Intensity (lb/MWhr)**	0.004

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - 40000 linear feet by 3 foot trench

Construction Phase - Per EVMWD schedule

Off-road Equipment - EVMWD equipment assumptions

Off-road Equipment - EVMWD equipment assumptions

Off-road Equipment - EVMWD equipment assumptions

Construction Off-road Equipment Mitigation - Rule 403 requirements

Table Name	Column Name	Default Value	New Value
tblConstDustMitigation	WaterUnpavedRoadMoistureContent	0	12
tblConstDustMitigation	WaterUnpavedRoadVehicleSpeed	0	15
tblConstructionPhase	NumDays	100.00	394.00

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

tblConstructionPhase	NumDays	5.00	394.00
tblConstructionPhase	PhaseEndDate	12/18/2023	1/31/2025
tblConstructionPhase	PhaseEndDate	12/25/2023	1/31/2025
tblConstructionPhase	PhaseEndDate	7/31/2023	1/31/2025
tblConstructionPhase	PhaseStartDate	12/19/2023	8/1/2023
tblLandUse	LotAcreage	0.00	0.96
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	4.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	UsageHours	4.00	8.00
tblOffRoadEquipment	UsageHours	7.00	8.00
tblOffRoadEquipment	UsageHours	7.00	8.00

2.0 Emissions Summary

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not 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	0.2086	1.8605	2.3053	4.7700e-003	0.0120	0.0839	0.0958	3.1800e-003	0.0771	0.0803	0.0000	419.6140	419.6140	0.1330	2.4000e-004	423.0109
2024	0.4812	4.1453	5.5183	0.0115	0.0288	0.1832	0.2120	7.6500e-003	0.1686	0.1762	0.0000	1,008.1892	1,008.1892	0.3197	5.4000e-004	1,016.3428
2025	0.0397	0.3264	0.4811	1.0100e-003	2.5300e-003	0.0141	0.0166	6.7000e-004	0.0130	0.0136	0.0000	88.4382	88.4382	0.0281	4.0000e-005	89.1528
Maximum	**0.4812**	**4.1453**	**5.5183**	**0.0115**	**0.0288**	**0.1832**	**0.2120**	**7.6500e-003**	**0.1686**	**0.1762**	**0.0000**	**1,008.1892**	**1,008.1892**	**0.3197**	**5.4000e-004**	**1,016.3428**

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	0.2086	1.8605	2.3053	4.7700e-003	0.0120	0.0839	0.0958	3.1800e-003	0.0771	0.0803	0.0000	419.6135	419.6135	0.1330	2.4000e-004	423.0104
2024	0.4812	4.1453	5.5183	0.0115	0.0288	0.1832	0.2120	7.6500e-003	0.1686	0.1762	0.0000	1,008.1881	1,008.1881	0.3197	5.4000e-004	1,016.3416
2025	0.0397	0.3264	0.4811	1.0100e-003	2.5300e-003	0.0141	0.0166	6.7000e-004	0.0130	0.0136	0.0000	88.4381	88.4381	0.0281	4.0000e-005	89.1527
Maximum	**0.4812**	**4.1453**	**5.5183**	**0.0115**	**0.0288**	**0.1832**	**0.2120**	**7.6500e-003**	**0.1686**	**0.1762**	**0.0000**	**1,008.1881**	**1,008.1881**	**0.3197**	**5.4000e-004**	**1,016.3416**

Avenues Septic to Sewer - Riverside-South Coast County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not 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	**0.00**	**0.00**	**0.00**	**0.00**	**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	**8-1-2023**	**10-31-2023**	1.2476	1.2476
2	**11-1-2023**	**1-31-2024**	1.2182	1.2182
3	**2-1-2024**	**4-30-2024**	1.1353	1.1353
4	**5-1-2024**	**7-31-2024**	1.1606	1.1606
5	**8-1-2024**	**10-31-2024**	1.1606	1.1606
6	**11-1-2024**	**1-31-2025**	1.1220	1.1220
		Highest	1.2476	1.2476

Avenues Septic to Sewer - Riverside-South Coast County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not 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	tons/yr										MT/yr					
Area	0.0000	0.0000	1.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.0000e-005	2.0000e-005	0.0000	0.0000	3.0000e-005
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Waste						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Water						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**1.0000e-005**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**2.0000e-005**	**2.0000e-005**	**0.0000**	**0.0000**	**3.0000e-005**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not 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	0.0000	0.0000	1.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.0000e-005	2.0000e-005	0.0000	0.0000	3.0000e-005
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Waste						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Water						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**1.0000e-005**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**2.0000e-005**	**2.0000e-005**	**0.0000**	**0.0000**	**3.0000e-005**

	ROG	NOx	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**

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Trenching	Trenching	8/1/2023	1/31/2025	5	394	
2	Pipeline Installation	Building Construction	8/1/2023	1/31/2025	5	394	
3	Paving	Paving	8/1/2023	1/31/2025	5	394	

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 0

Acres of Paving: 0

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area: 0 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Trenching	Excavators	2	8.00	158	0.38
Trenching	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Pipeline Installation	Cranes	2	8.00	231	0.29
Pipeline Installation	Excavators	2	8.00	158	0.38
Pipeline Installation	Forklifts	0	6.00	89	0.20
Pipeline Installation	Off-Highway Trucks	2	8.00	402	0.38
Pipeline Installation	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Paving	Cement and Mortar Mixers	0	6.00	9	0.56
Paving	Pavers	2	8.00	130	0.42
Paving	Rollers	2	8.00	80	0.38
Paving	Tractors/Loaders/Backhoes	0	7.00	97	0.37

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
Trenching	4	10.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Pipeline Installation	8	0.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Paving	4	10.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

Water Exposed Area

Water Unpaved Roads

Reduce Vehicle Speed on Unpaved Roads

3.2 Trenching - 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	0.0371	0.3362	0.5983	9.0000e-004		0.0165	0.0165		0.0152	0.0152	0.0000	79.2728	79.2728	0.0256	0.0000	79.9138
Total	**0.0371**	**0.3362**	**0.5983**	**9.0000e-004**		**0.0165**	**0.0165**		**0.0152**	**0.0152**	**0.0000**	**79.2728**	**79.2728**	**0.0256**	**0.0000**	**79.9138**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.2 Trenching - 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	1.7700e-003	1.3100e-003	0.0171	5.0000e-005	5.9900e-003	3.0000e-005	6.0200e-003	1.5900e-003	3.0000e-005	1.6200e-003	0.0000	4.5554	4.5554	1.1000e-004	1.2000e-004	4.5943
Total	**1.7700e-003**	**1.3100e-003**	**0.0171**	**5.0000e-005**	**5.9900e-003**	**3.0000e-005**	**6.0200e-003**	**1.5900e-003**	**3.0000e-005**	**1.6200e-003**	**0.0000**	**4.5554**	**4.5554**	**1.1000e-004**	**1.2000e-004**	**4.5943**

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	0.0371	0.3362	0.5983	9.0000e-004		0.0165	0.0165		0.0152	0.0152	0.0000	79.2728	79.2728	0.0256	0.0000	79.9137
Total	**0.0371**	**0.3362**	**0.5983**	**9.0000e-004**		**0.0165**	**0.0165**		**0.0152**	**0.0152**	**0.0000**	**79.2728**	**79.2728**	**0.0256**	**0.0000**	**79.9137**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.2 Trenching - 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	1.7700e-003	1.3100e-003	0.0171	5.0000e-005	5.9900e-003	3.0000e-005	6.0200e-003	1.5900e-003	3.0000e-005	1.6200e-003	0.0000	4.5554	4.5554	1.1000e-004	1.2000e-004	4.5943
Total	**1.7700e-003**	**1.3100e-003**	**0.0171**	**5.0000e-005**	**5.9900e-003**	**3.0000e-005**	**6.0200e-003**	**1.5900e-003**	**3.0000e-005**	**1.6200e-003**	**0.0000**	**4.5554**	**4.5554**	**1.1000e-004**	**1.2000e-004**	**4.5943**

3.2 Trenching - 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	0.0849	0.7470	1.4412	2.1700e-003		0.0355	0.0355		0.0327	0.0327	0.0000	190.6289	190.6289	0.0617	0.0000	192.1703
Total	**0.0849**	**0.7470**	**1.4412**	**2.1700e-003**		**0.0355**	**0.0355**		**0.0327**	**0.0327**	**0.0000**	**190.6289**	**190.6289**	**0.0617**	**0.0000**	**192.1703**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.2 Trenching - 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	3.9700e-003	2.8000e-003	0.0384	1.2000e-004	0.0144	7.0000e-005	0.0145	3.8200e-003	6.0000e-005	3.8800e-003	0.0000	10.6030	10.6030	2.5000e-004	2.7000e-004	10.6896
Total	**3.9700e-003**	**2.8000e-003**	**0.0384**	**1.2000e-004**	**0.0144**	**7.0000e-005**	**0.0145**	**3.8200e-003**	**6.0000e-005**	**3.8800e-003**	**0.0000**	**10.6030**	**10.6030**	**2.5000e-004**	**2.7000e-004**	**10.6896**

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	0.0849	0.7470	1.4412	2.1700e-003		0.0355	0.0355		0.0327	0.0327	0.0000	190.6287	190.6287	0.0617	0.0000	192.1700
Total	**0.0849**	**0.7470**	**1.4412**	**2.1700e-003**		**0.0355**	**0.0355**		**0.0327**	**0.0327**	**0.0000**	**190.6287**	**190.6287**	**0.0617**	**0.0000**	**192.1700**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.2 Trenching - 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	3.9700e-003	2.8000e-003	0.0384	1.2000e-004	0.0144	7.0000e-005	0.0145	3.8200e-003	6.0000e-005	3.8800e-003	0.0000	10.6030	10.6030	2.5000e-004	2.7000e-004	10.6896
Total	**3.9700e-003**	**2.8000e-003**	**0.0384**	**1.2000e-004**	**0.0144**	**7.0000e-005**	**0.0145**	**3.8200e-003**	**6.0000e-005**	**3.8800e-003**	**0.0000**	**10.6030**	**10.6030**	**2.5000e-004**	**2.7000e-004**	**10.6896**

3.2 Trenching - 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	6.8800e-003	0.0588	0.1263	1.9000e-004		2.6200e-003	2.6200e-003		2.4100e-003	2.4100e-003	0.0000	16.7422	16.7422	5.4100e-003	0.0000	16.8775
Total	**6.8800e-003**	**0.0588**	**0.1263**	**1.9000e-004**		**2.6200e-003**	**2.6200e-003**		**2.4100e-003**	**2.4100e-003**	**0.0000**	**16.7422**	**16.7422**	**5.4100e-003**	**0.0000**	**16.8775**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.2 Trenching - 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	3.3000e-004	2.2000e-004	3.1300e-003	1.0000e-005	1.2600e-003	1.0000e-005	1.2700e-003	3.4000e-004	1.0000e-005	3.4000e-004	0.0000	0.8992	0.8992	2.0000e-005	2.0000e-005	0.9063
Total	**3.3000e-004**	**2.2000e-004**	**3.1300e-003**	**1.0000e-005**	**1.2600e-003**	**1.0000e-005**	**1.2700e-003**	**3.4000e-004**	**1.0000e-005**	**3.4000e-004**	**0.0000**	**0.8992**	**0.8992**	**2.0000e-005**	**2.0000e-005**	**0.9063**

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	6.8800e-003	0.0588	0.1263	1.9000e-004		2.6200e-003	2.6200e-003		2.4100e-003	2.4100e-003	0.0000	16.7421	16.7421	5.4100e-003	0.0000	16.8775
Total	**6.8800e-003**	**0.0588**	**0.1263**	**1.9000e-004**		**2.6200e-003**	**2.6200e-003**		**2.4100e-003**	**2.4100e-003**	**0.0000**	**16.7421**	**16.7421**	**5.4100e-003**	**0.0000**	**16.8775**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.2 Trenching - 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	3.3000e-004	2.2000e-004	3.1300e-003	1.0000e-005	1.2600e-003	1.0000e-005	1.2700e-003	3.4000e-004	1.0000e-005	3.4000e-004	0.0000	0.8992	0.8992	2.0000e-005	2.0000e-005	0.9063
Total	**3.3000e-004**	**2.2000e-004**	**3.1300e-003**	**1.0000e-005**	**1.2600e-003**	**1.0000e-005**	**1.2700e-003**	**3.4000e-004**	**1.0000e-005**	**3.4000e-004**	**0.0000**	**0.8992**	**0.8992**	**2.0000e-005**	**2.0000e-005**	**0.9063**

3.3 Pipeline Installation - 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	0.1303	1.1410	1.1567	2.9700e-003		0.0480	0.0480		0.0441	0.0441	0.0000	261.0900	261.0900	0.0844	0.0000	263.2011
Total	**0.1303**	**1.1410**	**1.1567**	**2.9700e-003**		**0.0480**	**0.0480**		**0.0441**	**0.0441**	**0.0000**	**261.0900**	**261.0900**	**0.0844**	**0.0000**	**263.2011**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.3 Pipeline Installation - 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	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

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	0.1303	1.1410	1.1567	2.9700e-003		0.0480	0.0480		0.0441	0.0441	0.0000	261.0897	261.0897	0.0844	0.0000	263.2008
Total	**0.1303**	**1.1410**	**1.1567**	**2.9700e-003**		**0.0480**	**0.0480**		**0.0441**	**0.0441**	**0.0000**	**261.0897**	**261.0897**	**0.0844**	**0.0000**	**263.2008**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.3 Pipeline Installation - 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	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.3 Pipeline Installation - 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	0.3021	2.5370	2.7577	7.1500e-003		0.1051	0.1051		0.0967	0.0967	0.0000	627.7644	627.7644	0.2030	0.0000	632.8402
Total	**0.3021**	**2.5370**	**2.7577**	**7.1500e-003**		**0.1051**	**0.1051**		**0.0967**	**0.0967**	**0.0000**	**627.7644**	**627.7644**	**0.2030**	**0.0000**	**632.8402**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.3 Pipeline Installation - 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	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

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	0.3021	2.5370	2.7577	7.1500e-003		0.1051	0.1051		0.0967	0.0967	0.0000	627.7636	627.7636	0.2030	0.0000	632.8394
Total	**0.3021**	**2.5370**	**2.7577**	**7.1500e-003**		**0.1051**	**0.1051**		**0.0967**	**0.0967**	**0.0000**	**627.7636**	**627.7636**	**0.2030**	**0.0000**	**632.8394**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.3 Pipeline Installation - 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	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.3 Pipeline Installation - 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	0.0251	0.1976	0.2395	6.3000e-004		8.0700e-003	8.0700e-003		7.4300e-003	7.4300e-003	0.0000	55.1029	55.1029	0.0178	0.0000	55.5485
Total	**0.0251**	**0.1976**	**0.2395**	**6.3000e-004**		**8.0700e-003**	**8.0700e-003**		**7.4300e-003**	**7.4300e-003**	**0.0000**	**55.1029**	**55.1029**	**0.0178**	**0.0000**	**55.5485**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.3 Pipeline Installation - 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	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

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	0.0251	0.1976	0.2395	6.3000e-004		8.0700e-003	8.0700e-003		7.4300e-003	7.4300e-003	0.0000	55.1029	55.1029	0.0178	0.0000	55.5484
Total	**0.0251**	**0.1976**	**0.2395**	**6.3000e-004**		**8.0700e-003**	**8.0700e-003**		**7.4300e-003**	**7.4300e-003**	**0.0000**	**55.1029**	**55.1029**	**0.0178**	**0.0000**	**55.5484**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.3 Pipeline Installation - 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	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

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	0.0377	0.3807	0.5162	8.0000e-004		0.0193	0.0193		0.0178	0.0178	0.0000	70.1403	70.1403	0.0227	0.0000	70.7074
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0377**	**0.3807**	**0.5162**	**8.0000e-004**		**0.0193**	**0.0193**		**0.0178**	**0.0178**	**0.0000**	**70.1403**	**70.1403**	**0.0227**	**0.0000**	**70.7074**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not 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	1.7700e-003	1.3100e-003	0.0171	5.0000e-005	5.9900e-003	3.0000e-005	6.0200e-003	1.5900e-003	3.0000e-005	1.6200e-003	0.0000	4.5554	4.5554	1.1000e-004	1.2000e-004	4.5943
Total	**1.7700e-003**	**1.3100e-003**	**0.0171**	**5.0000e-005**	**5.9900e-003**	**3.0000e-005**	**6.0200e-003**	**1.5900e-003**	**3.0000e-005**	**1.6200e-003**	**0.0000**	**4.5554**	**4.5554**	**1.1000e-004**	**1.2000e-004**	**4.5943**

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	0.0377	0.3807	0.5162	8.0000e-004		0.0193	0.0193		0.0178	0.0178	0.0000	70.1402	70.1402	0.0227	0.0000	70.7073
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0377**	**0.3807**	**0.5162**	**8.0000e-004**		**0.0193**	**0.0193**		**0.0178**	**0.0178**	**0.0000**	**70.1402**	**70.1402**	**0.0227**	**0.0000**	**70.7073**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not 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	1.7700e-003	1.3100e-003	0.0171	5.0000e-005	5.9900e-003	3.0000e-005	6.0200e-003	1.5900e-003	3.0000e-005	1.6200e-003	0.0000	4.5554	4.5554	1.1000e-004	1.2000e-004	4.5943
Total	**1.7700e-003**	**1.3100e-003**	**0.0171**	**5.0000e-005**	**5.9900e-003**	**3.0000e-005**	**6.0200e-003**	**1.5900e-003**	**3.0000e-005**	**1.6200e-003**	**0.0000**	**4.5554**	**4.5554**	**1.1000e-004**	**1.2000e-004**	**4.5943**

3.4 Paving - 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	0.0863	0.8557	1.2427	1.9200e-003		0.0425	0.0425		0.0391	0.0391	0.0000	168.5900	168.5900	0.0545	0.0000	169.9531
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0863**	**0.8557**	**1.2427**	**1.9200e-003**		**0.0425**	**0.0425**		**0.0391**	**0.0391**	**0.0000**	**168.5900**	**168.5900**	**0.0545**	**0.0000**	**169.9531**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.4 Paving - 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	3.9700e-003	2.8000e-003	0.0384	1.2000e-004	0.0144	7.0000e-005	0.0145	3.8200e-003	6.0000e-005	3.8800e-003	0.0000	10.6030	10.6030	2.5000e-004	2.7000e-004	10.6896
Total	**3.9700e-003**	**2.8000e-003**	**0.0384**	**1.2000e-004**	**0.0144**	**7.0000e-005**	**0.0145**	**3.8200e-003**	**6.0000e-005**	**3.8800e-003**	**0.0000**	**10.6030**	**10.6030**	**2.5000e-004**	**2.7000e-004**	**10.6896**

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	0.0863	0.8557	1.2427	1.9200e-003		0.0425	0.0425		0.0391	0.0391	0.0000	168.5898	168.5898	0.0545	0.0000	169.9529
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0863**	**0.8557**	**1.2427**	**1.9200e-003**		**0.0425**	**0.0425**		**0.0391**	**0.0391**	**0.0000**	**168.5898**	**168.5898**	**0.0545**	**0.0000**	**169.9529**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.4 Paving - 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	3.9700e-003	2.8000e-003	0.0384	1.2000e-004	0.0144	7.0000e-005	0.0145	3.8200e-003	6.0000e-005	3.8800e-003	0.0000	10.6030	10.6030	2.5000e-004	2.7000e-004	10.6896
Total	**3.9700e-003**	**2.8000e-003**	**0.0384**	**1.2000e-004**	**0.0144**	**7.0000e-005**	**0.0145**	**3.8200e-003**	**6.0000e-005**	**3.8800e-003**	**0.0000**	**10.6030**	**10.6030**	**2.5000e-004**	**2.7000e-004**	**10.6896**

3.4 Paving - 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	7.1500e-003	0.0696	0.1091	1.7000e-004		3.3700e-003	3.3700e-003		3.1000e-003	3.1000e-003	0.0000	14.7946	14.7946	4.7800e-003	0.0000	14.9142
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**7.1500e-003**	**0.0696**	**0.1091**	**1.7000e-004**		**3.3700e-003**	**3.3700e-003**		**3.1000e-003**	**3.1000e-003**	**0.0000**	**14.7946**	**14.7946**	**4.7800e-003**	**0.0000**	**14.9142**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.4 Paving - 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	3.3000e-004	2.2000e-004	3.1300e-003	1.0000e-005	1.2600e-003	1.0000e-005	1.2700e-003	3.4000e-004	1.0000e-005	3.4000e-004	0.0000	0.8992	0.8992	2.0000e-005	2.0000e-005	0.9063
Total	**3.3000e-004**	**2.2000e-004**	**3.1300e-003**	**1.0000e-005**	**1.2600e-003**	**1.0000e-005**	**1.2700e-003**	**3.4000e-004**	**1.0000e-005**	**3.4000e-004**	**0.0000**	**0.8992**	**0.8992**	**2.0000e-005**	**2.0000e-005**	**0.9063**

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	7.1500e-003	0.0696	0.1091	1.7000e-004		3.3700e-003	3.3700e-003		3.1000e-003	3.1000e-003	0.0000	14.7946	14.7946	4.7800e-003	0.0000	14.9142
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**7.1500e-003**	**0.0696**	**0.1091**	**1.7000e-004**		**3.3700e-003**	**3.3700e-003**		**3.1000e-003**	**3.1000e-003**	**0.0000**	**14.7946**	**14.7946**	**4.7800e-003**	**0.0000**	**14.9142**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.4 Paving - 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	3.3000e-004	2.2000e-004	3.1300e-003	1.0000e-005	1.2600e-003	1.0000e-005	1.2700e-003	3.4000e-004	1.0000e-005	3.4000e-004	0.0000	0.8992	0.8992	2.0000e-005	2.0000e-005	0.9063
Total	**3.3000e-004**	**2.2000e-004**	**3.1300e-003**	**1.0000e-005**	**1.2600e-003**	**1.0000e-005**	**1.2700e-003**	**3.4000e-004**	**1.0000e-005**	**3.4000e-004**	**0.0000**	**0.8992**	**0.8992**	**2.0000e-005**	**2.0000e-005**	**0.9063**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive 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	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Unmitigated	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
User Defined Industrial	0.00	0.00	0.00		
Total	0.00	0.00	0.00		

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
User Defined Industrial	16.60	8.40	6.90	0.00	0.00	0.00	0	0	0

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
User Defined Industrial	0.544951	0.056922	0.175129	0.132247	0.024165	0.006855	0.011655	0.018450	0.000608	0.000293	0.023172	0.001089	0.004464

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

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	0.0000	0.0000	0.0000	0.0000	0.0000
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
NaturalGas Mitigated	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
NaturalGas Unmitigated	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not 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					
User Defined Industrial	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
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

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					
User Defined Industrial	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
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
User Defined Industrial	0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
User Defined Industrial	0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

6.0 Area Detail

6.1 Mitigation Measures Area

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not 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	0.0000	0.0000	1.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.0000e-005	2.0000e-005	0.0000	0.0000	3.0000e-005
Unmitigated	0.0000	0.0000	1.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.0000e-005	2.0000e-005	0.0000	0.0000	3.0000e-005

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	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	0.0000	0.0000	1.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.0000e-005	2.0000e-005	0.0000	0.0000	3.0000e-005
Total	**0.0000**	**0.0000**	**1.0000e-005**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**2.0000e-005**	**2.0000e-005**	**0.0000**	**0.0000**	**3.0000e-005**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not 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	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	0.0000	0.0000	1.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.0000e-005	2.0000e-005	0.0000	0.0000	3.0000e-005
Total	**0.0000**	**0.0000**	**1.0000e-005**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**2.0000e-005**	**2.0000e-005**	**0.0000**	**0.0000**	**3.0000e-005**

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 Not Applied

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	0.0000	0.0000	0.0000	0.0000
Unmitigated	0.0000	0.0000	0.0000	0.0000

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
User Defined Industrial	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

7.2 Water by Land Use

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
User Defined Industrial	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	0.0000	0.0000	0.0000	0.0000
Unmitigated	0.0000	0.0000	0.0000	0.0000

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
User Defined Industrial	0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
User Defined Industrial	0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

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

Avenues Septic to Sewer - Riverside-South Coast County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

Avenues Septic to Sewer

Riverside-South Coast County, Winter

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
User Defined Industrial	1.00	User Defined Unit	0.96	0.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.4	**Precipitation Freq (Days)**	28
Climate Zone	10			**Operational Year**	2027
Utility Company	Southern California Edison				
CO2 Intensity (lb/MWhr)	390.98	**CH4 Intensity (lb/MWhr)**	0.033	**N2O Intensity (lb/MWhr)**	0.004

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - 40000 linear feet by 3 foot trench

Construction Phase - Per EVMWD schedule

Off-road Equipment - EVMWD equipment assumptions

Off-road Equipment - EVMWD equipment assumptions

Off-road Equipment - EVMWD equipment assumptions

Construction Off-road Equipment Mitigation - Rule 403 requirements

Table Name	Column Name	Default Value	New Value
tblConstDustMitigation	WaterUnpavedRoadMoistureContent	0	12
tblConstDustMitigation	WaterUnpavedRoadVehicleSpeed	0	15
tblConstructionPhase	NumDays	100.00	394.00

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

tblConstructionPhase	NumDays	5.00	394.00
tblLandUse	LotAcreage	0.00	0.96
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	4.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	UsageHours	4.00	8.00
tblOffRoadEquipment	UsageHours	7.00	8.00
tblOffRoadEquipment	UsageHours	7.00	8.00

2.0 Emissions Summary

Avenues Septic to Sewer - Riverside-South Coast County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not 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	3.8305	34.1367	42.2671	0.0875	0.2236	1.5385	1.7621	0.0593	1.4154	1.4747	0.0000	8,482.8787	8,482.8787	2.6899	4.8000e-003	8,551.5565
2024	3.6769	31.6427	42.0942	0.0875	0.2236	1.3985	1.6221	0.0593	1.2866	1.3459	0.0000	8,479.4451	8,479.4451	2.6902	4.4600e-003	8,548.0287
2025	3.4592	28.3846	41.8024	0.0875	0.2236	1.2245	1.4481	0.0593	1.1266	1.1858	0.0000	8,473.1720	8,473.1720	2.6897	4.1600e-003	8,541.6536
Maximum	**3.8305**	**34.1367**	**42.2671**	**0.0875**	**0.2236**	**1.5385**	**1.7621**	**0.0593**	**1.4154**	**1.4747**	**0.0000**	**8,482.8787**	**8,482.8787**	**2.6902**	**4.8000e-003**	**8,551.5565**

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	3.8305	34.1367	42.2671	0.0875	0.2236	1.5385	1.7621	0.0593	1.4154	1.4747	0.0000	8,482.8787	8,482.8787	2.6899	4.8000e-003	8,551.5565
2024	3.6769	31.6427	42.0942	0.0875	0.2236	1.3985	1.6221	0.0593	1.2866	1.3459	0.0000	8,479.4451	8,479.4451	2.6902	4.4600e-003	8,548.0287
2025	3.4592	28.3846	41.8024	0.0875	0.2236	1.2245	1.4481	0.0593	1.1266	1.1858	0.0000	8,473.1720	8,473.1720	2.6897	4.1600e-003	8,541.6536
Maximum	**3.8305**	**34.1367**	**42.2671**	**0.0875**	**0.2236**	**1.5385**	**1.7621**	**0.0593**	**1.4154**	**1.4747**	**0.0000**	**8,482.8787**	**8,482.8787**	**2.6902**	**4.8000e-003**	**8,551.5565**

Avenues Septic to Sewer - Riverside-South Coast County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not 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	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not 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	1.0000e-005	0.0000	1.0000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		2.2000e-004	2.2000e-004	0.0000		2.3000e-004
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total	**1.0000e-005**	**0.0000**	**1.0000e-004**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**2.2000e-004**	**2.2000e-004**	**0.0000**	**0.0000**	**2.3000e-004**

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	1.0000e-005	0.0000	1.0000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		2.2000e-004	2.2000e-004	0.0000		2.3000e-004
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total	**1.0000e-005**	**0.0000**	**1.0000e-004**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**2.2000e-004**	**2.2000e-004**	**0.0000**	**0.0000**	**2.3000e-004**

Avenues Septic to Sewer - Riverside-South Coast County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not 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	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Trenching	Trenching	8/1/2023	1/31/2025	5	394	
2	Pipeline Installation	Building Construction	8/1/2023	1/31/2025	5	394	
3	Paving	Paving	8/1/2023	1/31/2025	5	394	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 0

Acres of Paving: 0

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area: 0 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Trenching	Excavators	2	8.00	158	0.38
Trenching	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Pipeline Installation	Cranes	2	8.00	231	0.29
Pipeline Installation	Excavators	2	8.00	158	0.38
Pipeline Installation	Forklifts	0	6.00	89	0.20
Pipeline Installation	Off-Highway Trucks	2	8.00	402	0.38
Pipeline Installation	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Paving	Cement and Mortar Mixers	0	6.00	9	0.56

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

Paving	Pavers	2	8.00	130	0.42
Paving	Rollers	2	8.00	80	0.38
Paving	Tractors/Loaders/Backhoes	0	7.00	97	0.37

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
Trenching	4	10.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Pipeline Installation	8	0.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Paving	4	10.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Water Exposed Area

Water Unpaved Roads

Reduce Vehicle Speed on Unpaved Roads

3.2 Trenching - 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	0.6801	6.1686	10.9782	0.0166		0.3032	0.3032		0.2790	0.2790		1,603.3643	1,603.3643	0.5186		1,616.3283
Total	**0.6801**	**6.1686**	**10.9782**	**0.0166**		**0.3032**	**0.3032**		**0.2790**	**0.2790**		**1,603.3643**	**1,603.3643**	**0.5186**		**1,616.3283**

Avenues Septic to Sewer - Riverside-South Coast County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.2 Trenching - 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	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	0.0342	0.0234	0.2971	8.9000e-004	0.1118	5.2000e-004	0.1123	0.0296	4.8000e-004	0.0301		90.0423	90.0423	2.2900e-003	2.4000e-003	90.8151
Total	**0.0342**	**0.0234**	**0.2971**	**8.9000e-004**	**0.1118**	**5.2000e-004**	**0.1123**	**0.0296**	**4.8000e-004**	**0.0301**		**90.0423**	**90.0423**	**2.2900e-003**	**2.4000e-003**	**90.8151**

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	0.6801	6.1686	10.9782	0.0166		0.3032	0.3032		0.2790	0.2790	0.0000	1,603.3643	1,603.3643	0.5186		1,616.3283
Total	**0.6801**	**6.1686**	**10.9782**	**0.0166**		**0.3032**	**0.3032**		**0.2790**	**0.2790**	**0.0000**	**1,603.3643**	**1,603.3643**	**0.5186**		**1,616.3283**

Avenues Septic to Sewer - Riverside-South Coast County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.2 Trenching - 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	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	0.0342	0.0234	0.2971	8.9000e-004	0.1118	5.2000e-004	0.1123	0.0296	4.8000e-004	0.0301		90.0423	90.0423	2.2900e-003	2.4000e-003	90.8151
Total	**0.0342**	**0.0234**	**0.2971**	**8.9000e-004**	**0.1118**	**5.2000e-004**	**0.1123**	**0.0296**	**4.8000e-004**	**0.0301**		**90.0423**	**90.0423**	**2.2900e-003**	**2.4000e-003**	**90.8151**

3.2 Trenching - 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	0.6484	5.7022	11.0013	0.0166		0.2711	0.2711		0.2494	0.2494		1,604.0642	1,604.0642	0.5188		1,617.0339
Total	**0.6484**	**5.7022**	**11.0013**	**0.0166**		**0.2711**	**0.2711**		**0.2494**	**0.2494**		**1,604.0642**	**1,604.0642**	**0.5188**		**1,617.0339**

Avenues Septic to Sewer - Riverside-South Coast County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.2 Trenching - 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	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	0.0320	0.0208	0.2779	8.6000e-004	0.1118	5.0000e-004	0.1123	0.0296	4.6000e-004	0.0301		87.1927	87.1927	2.0800e-003	2.2300e-003	87.9092
Total	**0.0320**	**0.0208**	**0.2779**	**8.6000e-004**	**0.1118**	**5.0000e-004**	**0.1123**	**0.0296**	**4.6000e-004**	**0.0301**		**87.1927**	**87.1927**	**2.0800e-003**	**2.2300e-003**	**87.9092**

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	0.6484	5.7022	11.0013	0.0166		0.2711	0.2711		0.2494	0.2494	0.0000	1,604.0642	1,604.0642	0.5188		1,617.0339
Total	**0.6484**	**5.7022**	**11.0013**	**0.0166**		**0.2711**	**0.2711**		**0.2494**	**0.2494**	**0.0000**	**1,604.0642**	**1,604.0642**	**0.5188**		**1,617.0339**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.2 Trenching - 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	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	0.0320	0.0208	0.2779	8.6000e-004	0.1118	5.0000e-004	0.1123	0.0296	4.6000e-004	0.0301		87.1927	87.1927	2.0800e-003	2.2300e-003	87.9092
Total	**0.0320**	**0.0208**	**0.2779**	**8.6000e-004**	**0.1118**	**5.0000e-004**	**0.1123**	**0.0296**	**4.6000e-004**	**0.0301**		**87.1927**	**87.1927**	**2.0800e-003**	**2.2300e-003**	**87.9092**

3.2 Trenching - 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	0.5985	5.1135	10.9781	0.0166		0.2280	0.2280		0.2097	0.2097		1,604.7875	1,604.7875	0.5190		1,617.7630
Total	**0.5985**	**5.1135**	**10.9781**	**0.0166**		**0.2280**	**0.2280**		**0.2097**	**0.2097**		**1,604.7875**	**1,604.7875**	**0.5190**		**1,617.7630**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.2 Trenching - 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	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	0.0300	0.0187	0.2587	8.3000e-004	0.1118	4.7000e-004	0.1123	0.0296	4.4000e-004	0.0301		84.2417	84.2417	1.8800e-003	2.0800e-003	84.9087
Total	**0.0300**	**0.0187**	**0.2587**	**8.3000e-004**	**0.1118**	**4.7000e-004**	**0.1123**	**0.0296**	**4.4000e-004**	**0.0301**		**84.2417**	**84.2417**	**1.8800e-003**	**2.0800e-003**	**84.9087**

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	0.5985	5.1135	10.9781	0.0166		0.2280	0.2280		0.2097	0.2097	0.0000	1,604.7875	1,604.7875	0.5190		1,617.7630
Total	**0.5985**	**5.1135**	**10.9781**	**0.0166**		**0.2280**	**0.2280**		**0.2097**	**0.2097**	**0.0000**	**1,604.7875**	**1,604.7875**	**0.5190**		**1,617.7630**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.2 Trenching - 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	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	0.0300	0.0187	0.2587	8.3000e-004	0.1118	4.7000e-004	0.1123	0.0296	4.4000e-004	0.0301		84.2417	84.2417	1.8800e-003	2.0800e-003	84.9087
Total	**0.0300**	**0.0187**	**0.2587**	**8.3000e-004**	**0.1118**	**4.7000e-004**	**0.1123**	**0.0296**	**4.4000e-004**	**0.0301**		**84.2417**	**84.2417**	**1.8800e-003**	**2.0800e-003**	**84.9087**

3.3 Pipeline Installation - 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	2.3906	20.9354	21.2240	0.0546		0.8799	0.8799		0.8095	0.8095		5,280.7798	5,280.7798	1.7079		5,323.4775
Total	**2.3906**	**20.9354**	**21.2240**	**0.0546**		**0.8799**	**0.8799**		**0.8095**	**0.8095**		**5,280.7798**	**5,280.7798**	**1.7079**		**5,323.4775**

Avenues Septic to Sewer - Riverside-South Coast County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.3 Pipeline Installation - 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	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	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

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	2.3906	20.9354	21.2240	0.0546		0.8799	0.8799		0.8095	0.8095	0.0000	5,280.7798	5,280.7798	1.7079		5,323.4775
Total	**2.3906**	**20.9354**	**21.2240**	**0.0546**		**0.8799**	**0.8799**		**0.8095**	**0.8095**	**0.0000**	**5,280.7798**	**5,280.7798**	**1.7079**		**5,323.4775**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.3 Pipeline Installation - 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	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	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.3 Pipeline Installation - 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	2.3059	19.3665	21.0512	0.0546		0.8024	0.8024		0.7382	0.7382		5,282.3798	5,282.3798	1.7084		5,325.0905
Total	**2.3059**	**19.3665**	**21.0512**	**0.0546**		**0.8024**	**0.8024**		**0.7382**	**0.7382**		**5,282.3798**	**5,282.3798**	**1.7084**		**5,325.0905**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.3 Pipeline Installation - 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	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	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

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	2.3059	19.3665	21.0512	0.0546		0.8024	0.8024		0.7382	0.7382	0.0000	5,282.3798	5,282.3798	1.7084		5,325.0905
Total	**2.3059**	**19.3665**	**21.0512**	**0.0546**		**0.8024**	**0.8024**		**0.7382**	**0.7382**	**0.0000**	**5,282.3798**	**5,282.3798**	**1.7084**		**5,325.0905**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.3 Pipeline Installation - 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	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	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.3 Pipeline Installation - 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	2.1793	17.1815	20.8219	0.0546		0.7022	0.7022		0.6460	0.6460		5,281.7908	5,281.7908	1.7082		5,324.4968
Total	**2.1793**	**17.1815**	**20.8219**	**0.0546**		**0.7022**	**0.7022**		**0.6460**	**0.6460**		**5,281.7908**	**5,281.7908**	**1.7082**		**5,324.4968**

Avenues Septic to Sewer - Riverside-South Coast County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.3 Pipeline Installation - 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	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	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

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	2.1793	17.1815	20.8219	0.0546		0.7022	0.7022		0.6460	0.6460	0.0000	5,281.7908	5,281.7908	1.7082		5,324.4968
Total	**2.1793**	**17.1815**	**20.8219**	**0.0546**		**0.7022**	**0.7022**		**0.6460**	**0.6460**	**0.0000**	**5,281.7908**	**5,281.7908**	**1.7082**		**5,324.4968**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.3 Pipeline Installation - 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	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	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

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	0.6913	6.9858	9.4708	0.0147		0.3543	0.3543		0.3260	0.3260		1,418.6500	1,418.6500	0.4588		1,430.1205
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**0.6913**	**6.9858**	**9.4708**	**0.0147**		**0.3543**	**0.3543**		**0.3260**	**0.3260**		**1,418.6500**	**1,418.6500**	**0.4588**		**1,430.1205**

Avenues Septic to Sewer - Riverside-South Coast County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not 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	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	0.0342	0.0234	0.2971	8.9000e-004	0.1118	5.2000e-004	0.1123	0.0296	4.8000e-004	0.0301		90.0423	90.0423	2.2900e-003	2.4000e-003	90.8151
Total	**0.0342**	**0.0234**	**0.2971**	**8.9000e-004**	**0.1118**	**5.2000e-004**	**0.1123**	**0.0296**	**4.8000e-004**	**0.0301**		**90.0423**	**90.0423**	**2.2900e-003**	**2.4000e-003**	**90.8151**

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	0.6913	6.9858	9.4708	0.0147		0.3543	0.3543		0.3260	0.3260	0.0000	1,418.6500	1,418.6500	0.4588		1,430.1205
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**0.6913**	**6.9858**	**9.4708**	**0.0147**		**0.3543**	**0.3543**		**0.3260**	**0.3260**	**0.0000**	**1,418.6500**	**1,418.6500**	**0.4588**		**1,430.1205**

Avenues Septic to Sewer - Riverside-South Coast County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not 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	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	0.0342	0.0234	0.2971	8.9000e-004	0.1118	5.2000e-004	0.1123	0.0296	4.8000e-004	0.0301		90.0423	90.0423	2.2900e-003	2.4000e-003	90.8151
Total	**0.0342**	**0.0234**	**0.2971**	**8.9000e-004**	**0.1118**	**5.2000e-004**	**0.1123**	**0.0296**	**4.8000e-004**	**0.0301**		**90.0423**	**90.0423**	**2.2900e-003**	**2.4000e-003**	**90.8151**

3.4 Paving - 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	0.6586	6.5323	9.4861	0.0147		0.3240	0.3240		0.2981	0.2981		1,418.6158	1,418.6158	0.4588		1,430.0860
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**0.6586**	**6.5323**	**9.4861**	**0.0147**		**0.3240**	**0.3240**		**0.2981**	**0.2981**		**1,418.6158**	**1,418.6158**	**0.4588**		**1,430.0860**

Avenues Septic to Sewer - Riverside-South Coast County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.4 Paving - 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	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	0.0320	0.0208	0.2779	8.6000e-004	0.1118	5.0000e-004	0.1123	0.0296	4.6000e-004	0.0301		87.1927	87.1927	2.0800e-003	2.2300e-003	87.9092
Total	**0.0320**	**0.0208**	**0.2779**	**8.6000e-004**	**0.1118**	**5.0000e-004**	**0.1123**	**0.0296**	**4.6000e-004**	**0.0301**		**87.1927**	**87.1927**	**2.0800e-003**	**2.2300e-003**	**87.9092**

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	0.6586	6.5323	9.4861	0.0147		0.3240	0.3240		0.2981	0.2981	0.0000	1,418.6158	1,418.6158	0.4588		1,430.0860
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**0.6586**	**6.5323**	**9.4861**	**0.0147**		**0.3240**	**0.3240**		**0.2981**	**0.2981**	**0.0000**	**1,418.6158**	**1,418.6158**	**0.4588**		**1,430.0860**

Avenues Septic to Sewer - Riverside-South Coast County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.4 Paving - 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	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	0.0320	0.0208	0.2779	8.6000e-004	0.1118	5.0000e-004	0.1123	0.0296	4.6000e-004	0.0301		87.1927	87.1927	2.0800e-003	2.2300e-003	87.9092
Total	**0.0320**	**0.0208**	**0.2779**	**8.6000e-004**	**0.1118**	**5.0000e-004**	**0.1123**	**0.0296**	**4.6000e-004**	**0.0301**		**87.1927**	**87.1927**	**2.0800e-003**	**2.2300e-003**	**87.9092**

3.4 Paving - 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	0.6215	6.0522	9.4850	0.0147		0.2934	0.2934		0.2700	0.2700		1,418.1104	1,418.1104	0.4587		1,429.5765
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**0.6215**	**6.0522**	**9.4850**	**0.0147**		**0.2934**	**0.2934**		**0.2700**	**0.2700**		**1,418.1104**	**1,418.1104**	**0.4587**		**1,429.5765**

Avenues Septic to Sewer - Riverside-South Coast County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.4 Paving - 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	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	0.0300	0.0187	0.2587	8.3000e-004	0.1118	4.7000e-004	0.1123	0.0296	4.4000e-004	0.0301		84.2417	84.2417	1.8800e-003	2.0800e-003	84.9087
Total	**0.0300**	**0.0187**	**0.2587**	**8.3000e-004**	**0.1118**	**4.7000e-004**	**0.1123**	**0.0296**	**4.4000e-004**	**0.0301**		**84.2417**	**84.2417**	**1.8800e-003**	**2.0800e-003**	**84.9087**

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	0.6215	6.0522	9.4850	0.0147		0.2934	0.2934		0.2700	0.2700	0.0000	1,418.1104	1,418.1104	0.4587		1,429.5765
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**0.6215**	**6.0522**	**9.4850**	**0.0147**		**0.2934**	**0.2934**		**0.2700**	**0.2700**	**0.0000**	**1,418.1104**	**1,418.1104**	**0.4587**		**1,429.5765**

Avenues Septic to Sewer - Riverside-South Coast County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.4 Paving - 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	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	0.0300	0.0187	0.2587	8.3000e-004	0.1118	4.7000e-004	0.1123	0.0296	4.4000e-004	0.0301		84.2417	84.2417	1.8800e-003	2.0800e-003	84.9087
Total	**0.0300**	**0.0187**	**0.2587**	**8.3000e-004**	**0.1118**	**4.7000e-004**	**0.1123**	**0.0296**	**4.4000e-004**	**0.0301**		**84.2417**	**84.2417**	**1.8800e-003**	**2.0800e-003**	**84.9087**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive 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	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Unmitigated	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
User Defined Industrial	0.00	0.00	0.00		
Total	0.00	0.00	0.00		

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
User Defined Industrial	16.60	8.40	6.90	0.00	0.00	0.00	0	0	0

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
User Defined Industrial	0.544951	0.056922	0.175129	0.132247	0.024165	0.006855	0.011655	0.018450	0.000608	0.000293	0.023172	0.001089	0.004464

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

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	lb/day										lb/day					
NaturalGas Mitigated	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
NaturalGas Unmitigated	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000

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					
User Defined Industrial	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
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not 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					
User Defined Industrial	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
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive 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	1.0000e-005	0.0000	1.0000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		2.2000e-004	2.2000e-004	0.0000		2.3000e-004
Unmitigated	1.0000e-005	0.0000	1.0000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		2.2000e-004	2.2000e-004	0.0000		2.3000e-004

Avenues Septic to Sewer - Riverside-South Coast County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

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	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	1.0000e-005	0.0000	1.0000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		2.2000e-004	2.2000e-004	0.0000		2.3000e-004
Total	**1.0000e-005**	**0.0000**	**1.0000e-004**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**		**2.2000e-004**	**2.2000e-004**	**0.0000**		**2.3000e-004**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not 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	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	1.0000e-005	0.0000	1.0000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		2.2000e-004	2.2000e-004	0.0000		2.3000e-004
Total	**1.0000e-005**	**0.0000**	**1.0000e-004**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**		**2.2000e-004**	**2.2000e-004**	**0.0000**		**2.3000e-004**

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 Not 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

IS/MND Appendix B

Biological Resources Report

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October 13, 2022 01008.00011.001

Matthew Bates, P.E.
Engineering Manager
Elsinore Valley Municipal Water District
31315 Chaney Street
Lake Elsinore, CA 92530

Subject: Biological Resources Report for the Avenues Septic to Sewer Project

Dear Mr. Bates:

This report documents the results of a biological resources technical study completed by HELIX Environmental Planning, Inc. (HELIX) for the Avenues septic to sewer Project (Project) located within the City of Lake Elsinore, Riverside County, California (Figure 1, *Regional Location*). The Elsinore Valley Municipal Water District (EVMWD) plans to install sewer pipelines to convert the residential homes in the Avenues off their existing septic systems and onto the local sewer system.

This report intends to summarize the existing biological resources within the Project site and provide an analysis of the proposed impacts in accordance with the California Environmental Quality Act (CEQA) and applicable federal, state, and local policy.

PROJECT DESCRIPTION AND LOCATION

The Project site is generally located in the City of Lake Elsinore in southwest Riverside County (Figure 1). It is depicted on the Elsinore, California U.S. Geological Survey (USGS) 7.5-minute topographic quadrangle, within Section 8, Range 4 West and Township 6 South (Figure 2, *USGS Topography*). More specifically, the project is located west of state route (SR) 74, south of Interstate (I-) 15, west of San Jacinto River, and adjacent to Lakeshore Drive (Figure 3, *Aerial Photograph of Project Location*). The project includes a pipeline along Lakeshore Drive to connect to existing sewer lines. The Project is primarily to occur within the existing road right-of-ways (ROW) within an approximately 98.67-acre study area that encompasses 520 small Assessor's Parcel Numbers (APN) that are mostly comprised of existing residential homes (Attachment A, APN list).

The site is located outside of the Coastal Zone and outside of Critical Habitat designated by the U.S. Fish and Wildlife Service (USFWS).

EVMWD is a public, non-profit agency created on December 23, 1950, under the Municipal Water District Act of 1911. EVMWD provides public water service, water supply development and planning, wastewater treatment and disposal, and recycling. Currently, EVMWD has over 46,000 water, wastewater, and agricultural service connections over a 96-square-mile service area within the cities of Lake Elsinore, Wildomar, Canyon Lake, and Murrieta, and unincorporated portions of the County of Riverside. EVMWD is a sub-agency of the Western Municipal Water District, a member agency of the Metropolitan Water District of Southern California. The 2016 Sewer System Master Plan includes objectives for converting existing septic to sewer to prevent potential contamination of groundwater in the Project area.

The Project would convert about 250 existing single-family residential septic customers to sewer, which involves installing about 14,000 linear feet of sewer main and lateral pipelines within roadway ROW. The proposed Project would involve the construction and operation of approximately 14,000 feet (2.7 miles) of 4-, 8-, and 12-inch-diameter underground sewer pipelines within existing ROW (Figure 4, *Proposed Pipe Alignmen*t). The new sewer lines would connect to the existing sewer main underneath East Lakeshore Drive.

Wastewater collected via the proposed sewer lines would be transported to the EVMWD Regional Water Reclamation Facility. The Project is anticipated to generate approximately 62,500 gallons per day (GPD) of wastewater. Existing septic tanks serving the residents would be abandoned per Riverside County Health Department requirements.

EVMWD anticipates that the proposed pipelines would be located within a 24- to 36-inch-wide trench. Pipeline trench depth is anticipated generally to be approximately seven to twelve feet. The duration of construction is estimated to be 12 to 18 months, starting as early as August 2023. Full installation of the sewer facilities is anticipated by December 2026.

EVMWD estimates that pipeline installation would generally occur at a rate of approximately 250 feet per day and would involve the following steps

- Street pavement would be cut, and soil would be removed to create the pipeline trench.
- An excavator with a sling would be used to lower the pipe sections into the trench. The pipeline would rest on a bedding of compacted sand inside the trench per EVMWD standards.
- The pipe in the trench zone (the area above the pipe to the surface) would be backfilled with material previously excavated from the trench.
- Street cuts would be repaved in accordance with the City of Lake Elsinore's requirements.

Activities proposed to occur outside the road ROW would include the abandonment of septic tanks currently located on private properties. Existing septic tanks would be emptied and then filled with sand. The tops would be removed, and bottoms perforated to allow for drainage.

EVMWD anticipates that construction would likely be divided between four phases within the Avenues neighborhood, with as many as two phases constructed simultaneously. Construction crews of approximately four to six workers would typically be working on each phase. The types of construction

equipment projected to be required by each construction crew for pipeline installation are presented in Table 1, *Anticipated Construction Equipment.*

Table 1
ANTICIPATED CONSTRUCTION EQUIPMENT

Phase	Equipment
Trenching	1 Excavator; 1 Tractor/Loader/Backhoe
Pipeline Installation	1 Crane; 1 Excavator; 1 Tractor/Loader/Backhoe; 1 Dump Truck
Resurfacing/Repaving	1 Roller; 1 Paver

When construction equipment is not in use, it would be stored at locations selected by the contractor and approved by EVMWD.

Construction would implement standard dust control measures as required by South Coast Air Quality Management District (SCAQMD) Rule 403, including watering two times daily during grading, ensuring that all exposed surfaces maintain a minimum soil moisture of 12 percent, and limiting vehicle speeds on unpaved roads to 15 miles per hour. All trucks hauling dirt, sand, soil, or other loose materials would be covered with a fabric cover and maintain a freeboard height of 12 inches.

Implementation of the proposed project would require conformance with the National Pollution Discharge Elimination System (NPDES) General Construction Activity Permit. Such conformance would entail implementation of a Storm Water Pollution Prevention Plan (SWPPP) to address the discharge of contaminants (including construction-related hazardous materials) and minimize runoff through appropriate best management practices (BMPs).

As a standard construction practice and regulatory requirement, EVMWD would implement best BMPs from the required Stormwater Pollution Prevention Plan (SWPPP) for the Project, which may include:

- Covering stockpiled excavated and/or fill materials to reduce potential off-site sediment transport.
- Employing appropriate standard spill prevention practices and clean-up materials;
- Maintaining the Project area free of trash and debris;
- Properly storing, handling, and disposing of toxins and pollutants, including waste materials.
- Use of erosion control devices, such as straw wattles, mulch, mats, and/or geotextiles.
- Use of sediment catchment structures such as hay bales, gravel or sand bags, silt fencing, fiber rolls, matting, berms, or similar devices along grading boundaries and drainage courses to prevent off-site sediment transport.
- Daily backfill, compaction, and/or covering of excavated trenches to minimize erosion potential.

- Regular inspection and maintenance of all erosion control and sediment catchment facilities to ensure proper function and effectiveness.

METHODS

Literature Review

Prior to conducting the general biological survey, HELIX performed an updated search of the California Natural Diversity Database (CNDDB; California Department of Fish and Wildlife [CDFW] 2022a, b, and c), California Native Plant Society (CNPS) rare plant inventory (CNPS 2022a), USFWS Critical Habitat Portal (USFWS 2022a), USFWS National Wetlands Inventory (USFWS 2022b), and USFWS Information for Planning and Conservation (IPaC; USFWS 2022c), database applications to obtain information regarding sensitive biological resources known to occur within the vicinity of the study area.

General Biological Survey

A general biological survey of the study area, which encompassed the Project site and immediate vicinity, was completed by HELIX biologists Rob Hogenauer and Kacee Morrell on August 5, 2022. The survey focused on inventorying existing vegetation communities; qualifying habitat suitability and potential for the occurrence of sensitive species, including federally listed species protected under the federal Endangered Species Act (ESA); preliminarily identifying potential wetlands and other potential jurisdictional waters, including waters of the U.S. regulated under the Clean Water Act (CWA); and identifying other sensitive biological resources, such as potential nesting habitat for bird species protected under the Migratory Bird Treaty Act (MBTA). The study area was surveyed with the aid of binoculars, and observed or detected plant and animal species were recorded in field notes (Attachments B and C). Animal identifications were made in the field by visual observation or detection of calls, burrows, tracks, scat, and other animal sign. Plant identifications were made in the field. Representative photos were taken and are included as Attachment D.

Preliminary Jurisdictional Delineation

HELIX completed an informal, preliminary jurisdictional delineation concurrent with the general biological survey. The preliminary delineation focused on assessing ordinary high-water mark and other hydrology indicators, riparian and wetland vegetation, surface soils, topography, and other data to identify aquatic resources of potential jurisdiction. Excavation of soil pits and establishment of wetland sampling points were not performed.

Prior to beginning fieldwork, aerial photographs (1"= 150 scale), topographic maps and data (1"= 150' scale), and National Wetlands Inventory maps were reviewed to assist in determining the location of potential jurisdictional areas in the project site. The field delineations were conducted to identify and map potential water and wetland resources that could be subject to U.S. Army Corps of Engineers (USACE) jurisdiction pursuant to Section 404 of the CWA, RWQCB jurisdiction pursuant to CWA Section 401 and California Porter-Cologne Water Quality Control Act, and CDFW jurisdiction pursuant to Sections 1600 *et seq*. of the California Fish and Game Code (CFG Code). Areas generally characterized by depressions, drainage features, and riparian and wetland vegetation were evaluated.

Survey Limitations

The lists of species identified are not necessarily comprehensive accounts of all species that occur on the site, as species that are nocturnal, secretive, or seasonally restricted may not have been observed. Additional species may occur within the limits of private property in the study area.

Nomenclature

Nomenclature for this report follows Baldwin et al. (2012) for Latin names of plants, and Manual of California Vegetation (CNPS 2022b) and Oberbauer (2008) for vegetation communities. Animal nomenclature follows North American Butterfly Association (2017) for butterflies, Center for North American Herpetology (Taggart 2020) for reptiles and amphibians, American Ornithological Society (2022) for birds, and Bradley et al. (2017) for mammals. Sensitive plant and animal status are from the CDFW's CNDDB (2022a-c). Soils data is from the U.S. Department of Agriculture web soil survey (USDA 2022).

ENVIRONMENTAL SETTING

Existing Conditions

Regional Context

The Study Area is located within a residential development in the City (Figure 3). The Study Area has not been identified for conservation or preserve configuration in the region in the Western Riverside Multiple Species Habitat Conservation Plan (MSHCP). Lands to the south of the study area along the San Jacinto River inlet to Lake Elsinore are targeted for conservation under the MSHCP but are outside the study area. The biological resources located nearby the site that are of local importance include Lake Elsinore and the San Jacinto River that flows into Lake Elsinore and the habitats adjacent to those water bodies. Both features are outside the study area to the south. Surface streams or channels that connect to Lake Elsinore and/or San Jacinto River do not occur within the study area.

Disturbance

The Study Area is currently developed, with residential homes dominating the built landscape. The undeveloped areas within the study area are mostly disturbed by regular mowing and disking. The majority of the study area is developed and highly disturbed.

Topography and Soils

The project site is sloped with steeper slopes to the north and west, and gentle slopes throughout most of the project, with an elevation of approximately 1,400 feet above mean sea level (AMSL) in the northwest to 1,290 AMSL in the southeast. The study area is mapped as Wyman fine sandy loam 8 to 15 percent slopes, Honcut sandy loam 2 to 8 percent slopes, Honcut loam 2 to 8 percent slopes, Arbuckle gravelly loam 2 to 9 percent slopes, Arbuckle gravely loam 15 to 25 percent slopes, Garretson gravelly very fine sandy loam 2 to 8 percent slopes, and Las Posas rocky loam 15 to 50 percent slopes (USDA 2019). The Wyman and Honcut series of soils are well drained and derived from igneous rock. The Arbuckle series of soils is characterized by well-drained, very deep sandy loams and are formed from

igneous, metamorphic, and sedimentary rock (USDA 2020). The Garretson series of soils is well drained and derived from metasedimentary rock. The Las Posas series of soils is well drained and derived from weathered gabbro. The majority of the surface soils in the Study Area show sign of significant disturbance and alteration from their native state.

Vegetation Communities/Habitat Types

Six land cover or habitat types occur within the project study area: brittlebush shrub (including disturbed), common and giant reed marshes (*Arundo donax* stand), cattail marsh (disturbed wetland), disturbed habitat, non-native vegetation, and developed land (Figure 5, *Vegetation*; Table 2, *Existing Vegetation Habitat and Land Uses in Study Area*).

Brittlebush Scrub

Brittlebush scrub or Riversidean sage scrub is the most xeric expression of coastal sage scrub, typically found on xeric sites such as steep slopes, severely drained soils, or clays that release stored soil moisture slowly. Typical stands are fairly open and dominated by brittlebush (*Encelia farinosa*) and may also include California buckwheat (*Eriogonum fasciculatum),* California sagebrush (*Artemisia californica*), and foxtail chess (*Bromus madritensis* ssp. *Rubens*). Brittlebush scrub within the Study Area is dominated by brittlebush and also includes small amounts of California buckwheat, cane cholla (*Cylindropuntia bernardina),* foxtail chess, and short pod mustard (*Hirschfeldia incana*). Approximately 1.3 acres of brittlebush scrub and 0.2 acre brittlebush scrub-disturbed occurs in the study area.

Common and Giant Reed Marsh

Common and giant reed marshes are dominated by giant reed (*Arundo donax*) and/or common reed (*Phragmites australis*). This habitat typically occurs in riparian areas, along low-gradient streams and ditches, periodically flooded marshes and other areas that semi regularly flooded. In the study area this habitat is comprised of two small stands of giant reed supported by irrigation runoff from the residential development. Approximately 0.04 acre of common and giant reed marshes occurs in the study area (Figure 6, *Aquatic Resources*).

Cattail Marsh

Cattail marsh is typically dominated by one or more cattail species (*Typha* spp.) and can include a variety of other species, including salt grass (*Distichlis spicata*), barnyard grass (*Echinochloa crus-galli*), sedge (*Cyperus* spp.), spike rush (*Eleocharis macrostachya*), and willows (*Salix* spp.) may be present in small amounts. The cattail marsh in the study area occurs in two small patches where irrigation runoff from the residential development meets the adjacent disturbed habitat. One patch is dominated by cattail and the other is dominated by barnyard grass and includes one willow. The patch dominated by barnyard grass did not correctly other vegetation communities. It was included with cattail marsh as this was the community that fit best. This habitat is also known as disturbed wetland. Approximately 0.02 acre of cattail marsh occurs in the study area.

Non-native Vegetation

Non-native vegetation generally includes non-native trees or shrubs planted as windrows, invasive trees and shrubs, and other vegetation that has spread from landscaping. In the study area, this habitat occurs on or adjacent to development within disturbed habitat and is comprised of olive (*Olea europaea*), eucalyptus (*Eucalyptus* sp.), Peruvian pepper (*Schinus molle),* and Jerusalem thorn (*Parkinsonia aculeata*). Approximately 0.3 acre of non-native vegetation occurs in the study area.

Disturbed Habitat

Disturbed habitat includes land cleared of vegetation (e.g., dirt roads), land containing a preponderance of non-native plant species, such as ornamentals or ruderal exotic species that take advantage of disturbance (previously cleared or abandoned landscaping), or land showing signs of past or present animal usage that removes any capability of providing viable habitat. This habitat occurs primarily on the north and south sides of the study area, along with small undeveloped parcels within the residential area. Approximately 25.3 acres of disturbed habitat occur in the study area.

Developed Land

Developed or urban/developed includes land that has been constructed upon or otherwise physically altered to an extent that native vegetation is no longer supported. Developed land is characterized by permanent or semi-permanent structures, pavement or hardscape, and landscaped areas that often require irrigation. Areas where no natural land is evident due to a large amount of debris or other materials being placed upon it may also be considered developed. The developed land in the study area includes structures, paved and dirt roads, and ornamental vegetation. Approximately 71.5 acres of developed land characterized by these elements occur within the study area.

Table 2
EXISTING VEGETATION HABITAT AND LAND USES IN STUDY AREA[1]

MCV Habitat Name	Oberbauer Classification	Acres[2]
Brittlebush scrub	Riversidian sage scrub	1.3
Brittlebush scrub -disturbed	Riversidian sage scrub-disturbed	0.2
Common and Giant Reed Marshes	Non-native Riparian	0.04
Cattail Marsh	Disturbed Wetland	0.02
Non-native Vegetation	Non Native Woodland	0.3
Disturbed Habitat	Disturbed Habitat	25.3
Developed Land	Developed Land	71.5
	Total	**98.67**

[1] Vegetation categories and numerical codes are from Holland (1986) and Oberbauer (2008).
[2] Upland habitats are rounded to the nearest 0.1 acre and wetland/riparian habitats to the nearest 0.01 acre; thus, totals reflect rounding.

It should be noted that after the biological surveys were conducted, vegetation clearing apparently occurred on APN 373-176-019, bordered by High Street, Lakeshore Drive, and Center Street. This report documents the conditions observed during the biological surveys, before the property was cleared. At the time of this report, the entity that mowed the parcel is not known.

Flora

HELIX identified a total of 34 plant species in the project study area (Attachment B). Additional non-native ornamental landscaping occurs within the residential development. Ornamental landscaping within the residential areas potentially supports additional species that were not detected.

Fauna

A total of 12 animal species were observed or otherwise detected in the project site during the biological survey, consisting of one invertebrate, one reptile, nine birds, and one mammal species (Attachment C). The ornamental areas within the residential area within the study area potentially support additional species that were not detected.

Sensitive Biological Resources

Sensitive Natural Communities

Sensitive natural communities include land that supports unique vegetation communities or the habitats of rare, threatened, or endangered species or subspecies of animals or plants as defined by Section 15380 of the CEQA Guidelines. Plant communities, alliances, and associations with a statewide ranking of S-1, S-2, S-3, and S-4 are considered as sensitive communities.

Cattail marsh (S-4) is the only sensitive natural community that occurs within the study area.

Special-Status Plant and Animal Species

Special-Status Plant Species

Special-status plant species are those listed as federally threatened or endangered by the USFWS; State listed as threatened or endangered or considered sensitive by the CDFW; and/or are California Native Plant Society (CNPS) California Rare Plant Rank (CRPR) List 1A, 1B, or 2 species, as recognized in the CNPS Inventory of Rare and Endangered Vascular Plants of California and consistent with the CEQA Guidelines.

Special status plant species evaluated for their potential to occur in the study area are listed in Attachment E. A total of 70 plant species were evaluated for their potential to occur in the study area. The evaluated species include eight species listed on a state or federal level. There are nine special status plant species with low potential to occur on-site; none of the species are listed on a state or federal level. The remainder of the species do not have the potential to occur due to a lack of suitable habitat and development in the study area.

No special-status plant species were observed on-site.

Special-Status Animal Species

Special-status animal species are those listed as threatened or endangered, proposed for listing, or candidates for listing by the USFWS and NMFS under the ESA, and those animal species considered

sensitive by CDFW. No special-status animal species were observed in the Study Area during the general biological survey.

Special status animal species evaluated for their potential to occur in the study area are listed in Attachment F. A total of 57 species comprised of eight invertebrates, two fish, 14 amphibians and reptiles, 20 birds, and 13 mammals were evaluated for the potential to occur in the study area. Fifteen of the species evaluated have low potential to occur in the study area. These species include one species state listed as endangered, one fully protected species, eight state species of special concern, and three watch list species, along with two species with a low sensitivity but no official listing status. The remainder of the animal species do not have the potential to occur on-site due to a lack of suitable habitat and residential development on the site.

Bald eagle, a state-listed species, is known to forage at Lake Elsinore but is not known to nest in the vicinity. The Study area is approximately a half mile from Lake Elsinore. Bald eagle may use trees within the study area for temporary roosting but is unlikely to remain due to the high disturbance from human activities.

Nesting Birds and Raptors

Portions of the project site include marginal nesting habitat (e.g., trees, shrubs, structures) for several common bird species, including raptors, protected under the MBTA and CFG Code.

Jurisdictional Waters and Wetlands

The study area includes several natural stream courses along the north side of the study area that either dissipate naturally or flow into culverts under the residential development. Irrigation runoff from the development has resulted in the formation of small stands of riparian vegetation comprised of cattail marsh and common and giant reed marsh. Additionally, there is a drainage course in the southwestern portion of the study area that originates west of High Street and flows into a culvert under Lakeshore Avenue (Figure 6).

Wildlife Corridors and Linkages

Wildlife corridors connect isolated habitat and allow movement or dispersal of plant materials and animals. Local wildlife corridors allow access to resources such as food, water, and shelter within the framework of the wildlife's daily routine and life history. For example, animals can use these corridors to travel between their riparian breeding habitats and their upland burrowing habitats. Regional corridors provide these functions over a larger scale and link two or more large habitat areas, allowing the dispersal of organisms and the consequent mixing of genes between populations. A corridor is a specific route that is used for the movement and migration of species; it may be different from a linkage in that it represents a smaller or narrower avenue for movement. A linkage is an area of land that supports or contributes to the long-term movement of animals and genetic exchange by providing live-in habitat that connects to other habitat areas. Many linkages occur as stepping-stone linkages that are made up of a fragmented archipelago arrangement of habitat over a linear distance.

The project site does not, by itself, serve as or contribute to any known or potential corridors or linkages.

APPLICABLE REGULATIONS

Based on the findings of this report, activities affecting the biological resources determined to exist or have the potential to exist within the project site could be subject to the federal, state, and local regulations discussed below.

Federal

Federal Endangered Species Act

The ESA (16 USC 1531 et seq. [1973]) extends legal protection to plants and animals, listed as endangered or threatened by the USFWS and gives authorization to the USFWS to review proposed federal actions to assess potential impacts to species listed as endangered or threatened. The ESA prohibits the unauthorized "taking" of a federally listed species and adverse modification of designated critical habitat.

"Taking" of a threatened or endangered species is deemed to occur when an intentional or negligent act or omission results in any of the following actions: "to harass, harm, pursue, hunt, shoot, kill, trap, capture, or collect, or attempt to engage in any such conduct." Such acts may include significant habitat modification or degradation if it results in death or injury. Likewise, import, export, interstate, and foreign commerce of listed species are all prohibited. Sections 7 and 10 of the ESA permit "incidental take" of a listed species via a federal or private action, respectively, through formal consultation with the USFWS.

Migratory Bird Treaty Act

All migratory bird species that are native to the United States or its territories are protected under the federal MBTA, 16 U.S.C. 703 et seq. The Migratory Bird Treaty Act (MBTA) prohibits the take (including killing, capturing, selling, trading, and transporting) of protected migratory bird species without prior authorization from USFWS.

Clean Water Act

The USACE regulates the discharge of dredge or fill material to waters of the U.S. under Section 404 of the CWA (33 USC 1344). The purpose of the CWA is to restore and maintain the chemical, physical, and biological integrity of all waters of the U.S. A federal CWA Section 404 Permit would be required for a project to place fill in waters of the U.S. Projects impacting waters of the U.S. can be permitted on an individual basis or be covered under one of several approved nationwide permits. Individual permits are assessed individually based on the type of action, amount of fill, etc. Individual permits typically require substantial time (often longer than one year) to review and approve, while nationwide permits are pre-approved if a project meets applicable conditions. Utility line activities may be authorized under CWA Section 404 Nationwide Permit (NWP) 12, which does not place a limit on impacts to linear feet of waters of the U.S. A CWA Section 401 Water Quality Certification administered by the RWQCB must be issued prior to issuance of a Section 404 Permit.

State

California Environmental Quality Act

Primary environmental legislation in California is found in the CEQA and its implementing guidelines (State CEQA Guidelines), requiring that projects with potential adverse effects or impacts on the environment undergo environmental review. Adverse impacts to the environment are typically mitigated as a result of the environmental review process in accordance with laws and regulations.

Although threatened and endangered species are protected by specific federal and state statutes, CEQA Guidelines Section 15380(d) provides that a species not listed on the federal or state list of protected species may be considered rare or endangered if the species can be shown to meet certain specified criteria. These criteria have been modeled after the definition in ESA and the section of the CFG Code dealing with rare or endangered plants and animals. CEQA Guideline Section 15380(d) allows a public agency to undertake a review to determine whether a significant effect would occur on species that have not yet been listed by either the USFWS or CDFW (i.e., species of concern). Thus, if warranted under special circumstances, CEQA provides an agency with the ability to protect a species from a project's potential impacts until the respective government agencies have an opportunity to designate the species as formally protected.

Pursuant to the requirements of CEQA, an agency reviewing a proposed project within its jurisdiction must determine whether any state-listed endangered or threatened species may be present in the project area and determine whether the proposed project will have a potentially significant impact on such species.

California Fish and Game Code

The CFG Code regulates the taking or possession of birds, mammals, fish, amphibians, and reptiles, as well as natural resources such as lakes and streams. Sections 1600 et seq. of the CFG Code includes definitions and provisions for the protection of lake and streambed resources. The CDFW requires notification for any activity that could result in an alteration of lake or streambed resources. Pursuant to CFG Code Section 3503, it is unlawful to take, possess, or needlessly destroy the nest or eggs of any bird, except as otherwise provided by the code or any regulation made pursuant thereto. Raptors (birds of prey) and owls and their active nests are protected by CFG Code Section 3503.5, which states that it is unlawful to take, possess, or destroy any birds of prey or to take, possess, or destroy the nest or eggs of any such bird unless authorized by the CDFW. In common practice, CDFW places timing restrictions on the clearing of potential nesting habitat (e.g., vegetation), as well as restrictions on disturbances allowed near active raptor nests.

SIGNIFICANCE OF PROJECT IMPACTS AND PROPOSED MITIGATION

This section provides a project-level biological resources impact analysis for the proposed project in support of an environmental review. The issues addressed in this section are derived from Appendix G of the State CEQA Guidelines. Mitigation, monitoring, and reporting requirements to eliminate or reduce project impacts to a less than significant level are also provided in this section.

Issue 1: Special-Status Species

Would the project have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the CDFW or USFWS?

Issue 1 Impact Analysis

Less than Significant Impact with Mitigation. Project construction could result in potential significant impacts on nesting birds protected under the federal MBTA and CFG Code; however, the impacts would be reduced to less than significant levels with the implementation of proposed mitigation, as described in further detail below. The project occurs adjacent to sage scrub (Brittlebush scrub) comprised of open brittlebush scrub that is not typically habitat for coastal California gnatcatcher. The project would have no impact on any other special-status plant and animal species due to the lack of suitable habitat on the site and regular disturbance.

Nesting Birds

Trees, shrubs, and other vegetation that provide suitable nesting habitat for common birds, including raptors, protected under the MBTA and CFG Code, are present within and in the immediate vicinity of the potential direct disturbance area for the project, including staging areas. Construction of the proposed project could result in the removal or trimming of trees and other vegetation during the general bird nesting season (January 15 through September 15) and, therefore, could result in impacts to nesting birds in violation of the MBTA and CFG Code. Direct impacts could occur as a result of the removal of vegetation supporting an active nest. Indirect effects could occur as a result of construction noise in the immediate vicinity of undeveloped areas supporting an active bird nest, such that the disturbance results in nest abandonment or nest failure. Impacts would be considered significant. Implementation of mitigation measure Bio-1 would reduce potentially significant impacts on nesting birds, including raptors, to less than significant levels.

Burrowing Owl

Burrowing owl have low potential to occur in the disturbed habitat that occurs along Lakeshore Drive, and in the disturbed habitat along the northern border of the study area. Ground disturbance within 500 feet (150 meters) of an active burrow during the breeding season (February 1 through August 31) or within 165 feet (50 meters) of an active burrow outside the breeding season could result in impacts to burrowing owl in violation of the MBTA and CFG code. Direct impacts could occur from ground disturbance at a burrow. Indirect impacts could occur as a result of construction noise in the immediate vicinity as described above, such that the disturbance results in nest/burrow abandonment or nest failure. Impacts would be considered significant. Implementation of mitigation measure Bio-2 would reduce potentially significant impacts on burrowing owl to less than significant levels.

Coastal California gnatcatcher

Coastal California gnatcatcher (CAGN) utilize sage scrub habitat with California sagebrush as a dominant or co-dominate species. The sage scrub (Brittlebush scrub) occurring on the eastern side of the study Area and on the slopes to the north are dominated by brittlebush and lacks a California sagebrush

component. Since the project does not propose direct impacts to brittlebush scrub and the brittlebush scrub is not likely to support coastal California gnatcatchers the project would not directly or indirectly adversely affect CAGN.

Issue 1 Mitigation Measures

Mitigation

Bio-1 **Avoidance of Nesting Birds and Raptors.** To prevent direct impacts to nesting birds, including raptors, protected under the federal MBTA and CFG Code, the following measures shall be implemented:

Project activities requiring the removal and/or trimming of vegetation suitable for nesting birds shall occur outside of the general bird breeding season (January 15 to September 15) to the extent feasible. If the activities cannot avoid the general bird breeding season, a qualified biologist shall be retained to conduct a pre-activity nesting bird survey within seven days prior to the activities to confirm the presence or absence of active bird nests. If no active bird nests are found by the qualified biologist, then the activities shall proceed with the reassurance that no violation of the MBTA and CFG Code would occur. If an active bird nest is found by the qualified biologist, then vegetation removal and/or trimming activities at the nest location shall not be allowed to occur until the qualified biologist has determined that the nest is no longer active. Avoidance buffers should start at 300 feet for passerine birds and 500 feet for raptors. However, buffers could be reduced at the discretion of the qualified biologist depending on the bird species and project activities required in the vicinity of the active nest.

Bio-2 **Avoidance of Burrowing Owl.** To prevent direct and indirect impacts to burrowing owl, the following measures shall be implemented:

Burrowing owl surveys shall be conducted in accordance with CDFW staff report guidelines (CDFW 2012). This consists of a habitat assessment and burrow survey, along with a four-visit focused burrowing owl survey. The initial assessment indicates that burrowing owl habitat does occur in the study area, but burrows suitable for burrowing were not observed. If the focused burrow survey indicates that burrows suitable for burrowing owl are not present, then potential burrowing owl habitat does not occur, and focused burrowing owl surveys are not required. If suitable burrows are observed, then focused burrowing owl surveys will be conducted per CDFW protocol. If potential burrowing owl habitat is determined to be present, pre-construction surveys will also be conducted. Per the CDFW protocol, two pre-construction surveys will occur, one within 14 days prior to the start of ground disturbance activities and a second within 24 hours of the start of ground disturbance.

If burrowing owls are observed, the CDFW will be notified. No work shall occur within 500 feet (150 meters) of the active burrow during the breeding season from February 1 to August 31 or within 165 feet (50 meters) during the non-breeding season without first consulting with CDFW. If work is required to be conducted within these limits a minimization, avoidance, and exclusion plan is to be submitted to CDFW. The plan should include measures

such as sound and visual barriers, work timing, biological monitoring, and if needed, temporary exclusion methods.

Issue 2: Sensitive Natural Communities

Would the project 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 CDFW or USFWS?

Issue 2 Impact Analysis

Less than Significant Impact with Mitigation. The project does not propose impacts on riparian habitat and sensitive natural communities, as the project impacts are currently proposed to occur within the existing roadways and residential developments. However, there is potential for indirect impacts to occur to cattail marsh and/or common and giant reed marsh as these habitats occur adjacent to the road ROW. These habitats are small in size and potentially can be avoided by a minor adjustment in staging areas, spoil piles, and similar, if required. If construction activities are limited to existing disturbed habitats and developed land, no impacts to cattail marsh, common and giant reed marsh, and the small drainages would occur. However, if project construction extends to these areas, impacts would be potentially significant. As a standard construction practice and regulatory requirement, EVMWD will implement Best Management Practices (BMPs) from the required Stormwater Pollution Prevention Plan (SWPPP) for the project, which may include:

- Installing and maintaining sediment and erosion control measures;
- Employing appropriate standard spill prevention practices and clean-up materials;
- Maintaining the project area free of trash and debris;
- Maintaining effective control of fugitive dust; and
- Properly storing, handling, and disposing of toxins and pollutants, including waste materials.

If the project construction does avoid direct impacts to sensitive resources the required implementation of BMPs and the project's SWPPP, no indirect impacts to off-site sensitive resources would occur. These BMPs will also prevent indirect impacts to the on-site riparian habitats. However, if direct impacts are proposed to occur to sensitive resources implementation of mitigation measure Bio-3 would result in the impacts being less than significant.

Issue 2 Mitigation Measures

Mitigation

Bio-3 **Riparian Habitat Avoidance and Mitigation.** If direct impacts are proposed for any riparian habitats or drainages, the project will seek permits from the applicable regulatory agencies that may include one or all of the following; CDFW, RWQCB, and USACE. Mitigation for impacts is proposed to occur at a minimum replacement of riparian habitat at a 1:1 ratio, with the final mitigation ratio being determined during the permitting process with the

applicable agencies. Mitigation would be accomplished by purchase of credits from a mitigation bank or onsite habitat restoration. If impacts to riparian habitats and drainages are avoided, then no mitigation would be required.

Issue 3: Wetlands

Would the project have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the federal Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption or other means?

Issue 3 Impact Analysis

Less than Significant Impact. The project would have no impact on federally protected wetlands given that none occurs on the project site. As described in Issue 2, EVMWD will implement BMPs during construction, which would prevent any impacts to off-site federally protected wetlands (i.e., project runoff will not impact Lake Elsinore).

Issue 3 Mitigation Measures

No mitigation is required.

Issue 4: Wildlife Movement and Nursery Sites

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

Issue 4 Impact Analysis

No Impact. The project site does not function as a wildlife corridor in its current condition, although birds may use trees on-site. The project site is within a developed residential district. Impacts to wildlife movement and nursery sites would not occur, as wildlife using the area are subject to noise and other impacts related to residential development. The project's above ground impacts are temporary in nature and limited to the time frame of construction.

Issue 4 Mitigation Measures

No mitigation is required.

Issue 5: Local Policies and Ordinances

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

Issue 5 Impact Analysis

No Impact. The project would not conflict with any local policies or ordinances protecting biological resources. Tree removal, if required, may occur within the ornamental vegetation on the residential lots.

The City tree ordinance does not apply to residential ornamental trees with the potential exception of mature palm trees. The project will not result in the removal of native trees or mature palms. The project would not conflict with any City policies or ordinances, and no impact would occur.

Issue 5 Mitigation Measures

No mitigation is required.

Issue 6: Adopted Conservation Plans

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

Issue 6 Impact Analysis

Less than Significant Impact with Mitigation. The study area is within the Elsinore Area Plan of the MSHCP, and partially within Subunit 3: Elsinore and criteria cells 4740 and 4742. The study area does not include land targeted for conservation within the cell, as discussed below.

MSHCP CELL CONSERVATION CRITERIA

The study area includes approximately 1.6 acres, comprised of 0.9 acre of disturbed habitat and 0.7 acre of developed land that include Lakeshore Drive and adjacent land to the north in the northeast corner of Cell 4740 (Figure 7, *MSHCP Criteria Cells*). The targeted conservation for Cell 4740 includes 70 to 80 percent of the southeastern portion of the cell comprised of grassland habitat associated with the San Jacinto River. The targeted conservation area does not occur within the project study area.

The study area includes approximately 26 acres comprised of eight acres of disturbed habitat and 18 acres of developed land in the northeast portion of the cell. These land uses include Lakeshore Drive and an adjacent area to the north. Cell 4742 targeted conservation is for 30 to 40 percent of the cell focusing on the southern portion of the cell comprised of grassland habitat associated with the San Jacinto River.

MSHCP PLANT SURVEY REQUIREMENTS

The study area is within the Narrow Endemic Plant Species (NEPS) Survey Area and within Criteria Area Species (CAS) Survey Area for sensitive plant species. The target NEPS plants are Munz's onion (*Allium munzii*), San Diego ambrosia (*Ambrosia pumilla*), Many-stemmed dudleya (*Dudleya multicaulis*), spreading navarretia (*Navarretia fossalis*), California orcutt grass (*Orcuttia californica*), Hammitt's clay-cress (*Sibaropsis hammittii*), and Wright's trichocoronis (*Trichocoronis wrightii* var. *wrightii*). The target CAS plant species are San Jacinto Valley crownscale (*Atriplex coronata* var. *notatior*), Parish's brittlescale (*Atriplex parishii*), Davidson's saltscale (*Atriplex serenana* var. *davidsonii*), Thread-leaved brodiaea (*Brodiaea filifolia*), Round-leaved filaree (*Filaree macrophylla*), Smooth tarplant (*Centromadia pungens laevis),* Coulter's goldfields (*Lasthenia glabrata* ssp. *Coulteri*), and Little mousetail (*Myosurus minimus*). Potential habitat for the NEPS and CAS species occur in the disturbed habitat, cattail marsh, and common and giant reed marsh habitats along the north side of Lakeshore Drive and in the disturbed habitat and brittlebush scrub located in the northern portion of the study area. These areas with the potential to support sensitive plants are not within the proposed impact area. Impacts to the vegetated

area are proposed to be restricted to ornamental vegetation within the residential lots. Additionally, the CAS survey area is limited to approximately 25 acres along Lakeshore Drive, and the NEPS survey area is limited to approximately five acres of disturbed habitat within the western end of the study area. Impacts to NEPS and CAS plant species will not occur as habitat with the potential to support these species will not be impacted. The MSHCP provides that 90 percent of the population of NEPS or CAS plants (if present) that has long-term conservation value is to be avoided. The habitat along Lakeshore Drive that is in the NEPS, and CAS survey areas does not represent habitat with long-term conservation value due to the high level of surrounding development and regular impact from human activities.

MSHCP ANIMAL SURVEY REQUIREMENTS

The study area is within the survey area for burrowing owl (*Athene cunicularia*). The MSHCP requires that burrowing owl surveys be conducted and impact to burrowing owls be avoided. Implementation of mitigation measure BIO-2 would be consistent with the MSHCP requirements and result in the project avoiding impacts to burrowing owl. Thus, the project would not conflict with the burrowing owl requirements of the MSHCP. The study area is not within a survey area for animals other than burrowing owl.

ADDITIONAL MSHCP REQUIREMENTS

The MSHCP requires a project with impacts to riparian or riverine resources to provide documentation called determination of equivalent or superior preservation (DBESP) to document how the project will mitigate the impacts to those resources. The project is designed to avoid impacts to riparian and riverine resources and, therefore, will not conflict with the MSHCP. If the project is unable to avoid impacts to riparian habitat, EVMWD will be required to prepare a DBESP for approval by the RCA.

Issue 6 Mitigation Measures

Implementation of mitigation measure BIO-2 would result in the project not being in conflict with the MSCHP, with respect to burrowing owl.

FEDERAL CONFORMANCE ANALYSIS FOR BIOLOGICAL RESOURCES ISSUES

ISSUE 1: Federal Endangered Species Act, Section 7

Does the project involve any direct effects from construction activities, or indirect effects such as growth inducement that may affect federally listed threatened or endangered species or their critical habitat that are known, or have a potential, to occur on-site, in the surrounding area, or in the service area?

Federally Listed Animal Species

No adverse effect. The proposed disturbance area does not include critical habitat for federally listed species. The study area is dominated by developed habitat and disturbed lands. The study area does not include and is not adjacent to undeveloped areas characterized by native habitat that could support animal species listed under the federal ESA. No direct or indirect effects to federally listed animal species are expected. Further discussion is provided below regarding potential effects of the proposed action on federally listed species.

Federally Listed Plant Species

No adverse effect. No federally listed plant species were found during the project survey, and none have more than a low potential to occur. The project is proposed to limit activities to developed land and minor impacts to disturbed habitat that has been previously impacted by human activities. The project site lacks suitable habitat, soils, and/or hydrology for listed plant species. Therefore, no direct or indirect effects on federally listed plant species are anticipated to occur as a result of the proposed project.

The following federally listed endangered (FE) and federally listed threatened (FT) plant species were analyzed for their potential to occur:

- California Orcutt grass (*Orcuttia californica*); FE

  This species generally requires southern basaltic claypan vernal pools and alkaline vernal pools, which are absent from the study area.

- Munz onion (*Allium munzii*); FE

  This species requires clay soils that are absent from the study area.

- San Jacinto Valley crownscale (*Atriplex coronata* var. *notatior*); FE

  This species requires playas or vernal pools that do not occur in the study area.

- San Diego ambrosia (*Ambrosia pumila*); FE

  This species requires floodplain terraces or vernal pool margins that do not occur in the study area.

- spreading navarretia (*Navarretia fossalis*); FT

  This species occurs in vernal pools that are absent from the study area.

- thread-leaved brodiaea (*Brodiaea filifolia*); FT

  This species occurs in mud flats and vernal pools that do not occur in the study area.

Federally Listed Animal Species

No adverse effect. No federally listed plant species were observed during the project survey, and none have more than a low potential to occur. The following federally listed endangered (FE), federally listed threatened (FT), and federal candidate for listing (FC) animal species were analyzed for their potential to occur:

- Monarch butterfly (*Danaus plexippus*); FC

  This species requires milkweed for reproduction. Can use other flowering plant for nectar sources. Milkweed is absent from the study area; species has low potential to use ornamental species in development while migrating.

- Quino checkerspot butterfly (*Euphydryas editha quino*); FE

  This species requires specific host plants for reproduction that are absent from the study area.

- Riverside fairy shrimp (*Streptocephalus woottoni*); FE

  This species requires vernal pools that are absent from the study area.

- Vernal pool fairy shrimp (*Branchinecta lynchi*); FT

  This species requires vernal pools that are absent from the study area.

- Coastal California gnatcatcher (*Polioptila californica californica*); FT

  This species requires sage scrub with a California sage component that does not occur in the study area.

- Least Bell's vireo (*Vireo bellii pusillus*); FE

  Species requires dense riparian habitats such as southern willow scrub that are absent from the study area.

- southwestern willow flycatcher (*Empidonax traillii extimus*); FE

  This species requires dense riparian habitats that are absent from the study area.

- western snowy plover (*Charadrius alexandrinus nivosus*); FT

  This species occurs on coastal and sand dune beaches, river mouths, and estuaries that do not occur in the study area.

- San Bernardino Merriam's kangaroo rat (*Dipodomys merriami parvus*); FE

  This species occurs in sage scrub within alluvial fans, floodplains, and sandy soils. Soils in the study area are all loams, alluvial fan, and floodplains are absent from the study area.

- Stephens' kangaroo rat (*Dipodomys stephensi*); FT

  This species requires an open area with sparse perennial cover and loose soils. Open areas with sparse vegetation occur in the disturbed habitat on the slope to the north

The project study area, consisting primarily of developed habitat, lacks suitable habitat for these species; although, the adjacent slope to the north has sage scrub (Brittlebush scrub), it is dominated by brittlebush, and lacks California sagebrush. CAGN typically prefer sage scrub habitat with California sagebrush as a dominant or co-dominate species. Thus, the project would not directly or indirectly adversely affect federally listed species.

ISSUE 2: Magnuson-Stevens Fishery Conservation and Management Act, Essential Fish Habitat

Does the project involve any direct effects from construction activities, or indirect effects such as growth inducement that may adversely affect essential fish habitat?

No adverse effect. The proposed project would be constructed within developed upland areas that lack marine resources and Essential Fish Habitat regulated under the Magnuson-Stevens Fishery Conservation and Management Act. Therefore, the proposed project would not adversely affect Essential Fish Habitat and would be in conformance with the Magnuson-Stevens Fishery Conservation and Management Act.

ISSUE 3: Coastal Zone Management Act

Is any portion of the project site located within the coastal zone?

No adverse effect. No portion of the project site is located within the coastal zone. Therefore, the proposed project would have no effect on resources protected under the Coastal Zone Management Act.

ISSUE 4: Migratory Bird Treaty Act

Will the project affect protected migratory birds that are known, or have a potential, to occur on-site, in the surrounding area, or in the service area?

No adverse effect. Construction of the project may require the removal or trimming of trees and shrubs within developed areas during the general bird nesting season (January 15 through September 15) and/or raptor nesting season (January 15 through July 31), which could result in potential adverse effects on nesting birds and raptors in violation of the MBTA. Indirect effects could occur as a result of construction noise in the immediate vicinity of undeveloped areas supporting an active bird nest, such that the disturbance results in nest abandonment or nest failure.

With the implementation of mitigation measures Bio-1 and Bio-2, the proposed action is not likely to adversely affect nesting birds, and the project would be in conformance with the MBTA.

ISSUE 5: Protection of Wetlands

Does any portion of the project boundaries contain areas that should be evaluated for wetland delineation or require a permit from the USACE?

No adverse effect. No federally-protected wetlands occur within the project site. The project study area does include 0.02 acre of cattail marsh and 0.04 acre of common and giant reed marshes (arundo). These areas are supported by irrigation runoff from the residential areas, and occur within disturbed areas and are not federal wetlands. Potential runoff and increase in pollutants associated with construction activities near storm drains would be controlled and reduced through the implementation of BMPs and other protective measures incorporated into the project as mandatory requirements for regulatory compliance and SWPPP implementation. With the incorporation of the protective measures, the project would not result in any adverse effects on federally protected wetlands that may occur off-site and would result in conformance with the CWA. If the project proposes impacts to the riparian habitats or drainage (that are not federal wetlands) that occur in the study area, the implementation of mitigation measure Bio-3 would reduce the impacts to less than significant.

ISSUE 6: Wild and Scenic Rivers Act:

Is any portion of the project located within a wild and scenic river?

No adverse effect. None of the proposed project components are planned on or in the immediate vicinity of areas designated as Wild and Scenic River. Therefore, the proposed project would not adversely affect any areas designated as Wild and Scenic River and would be in conformance with the Wild and Scenic Rivers Act.

CLOSING

We appreciate the opportunity to provide you with this letter report. Please do not hesitate to contact me at (949) 244-3653 or SueM@helixepi.com or Rob Hogenauer at (562) 537-22426 or Roberth@helixepi.com if you have any questions or require further assistance.

Sincerely,

Sue Meyer
Biology Group Manager

Rob Hogenauer
Senior Scientist

Attachments:

Figure 1: Regional Location
Figure 2: USGS Topography
Figure 3: Aerial Photograph of Project Location
Figure 4: Proposed Pipe Alignment
Figure 5: Vegetation
Figure 6: Aquatic Resources
Figure 7: MSHCP Criteria Cells
Attachment A: APN List
Attachment B: Representative Site Photos
Attachment C: Plant Species Observed
Attachment D: Animal Species Observed or Detected
Attachment E: Special Status Plant Species with Potential to Occur
Attachment F: Special Status Animal Species with Potential to Occur
Attachment G: IPaC Report

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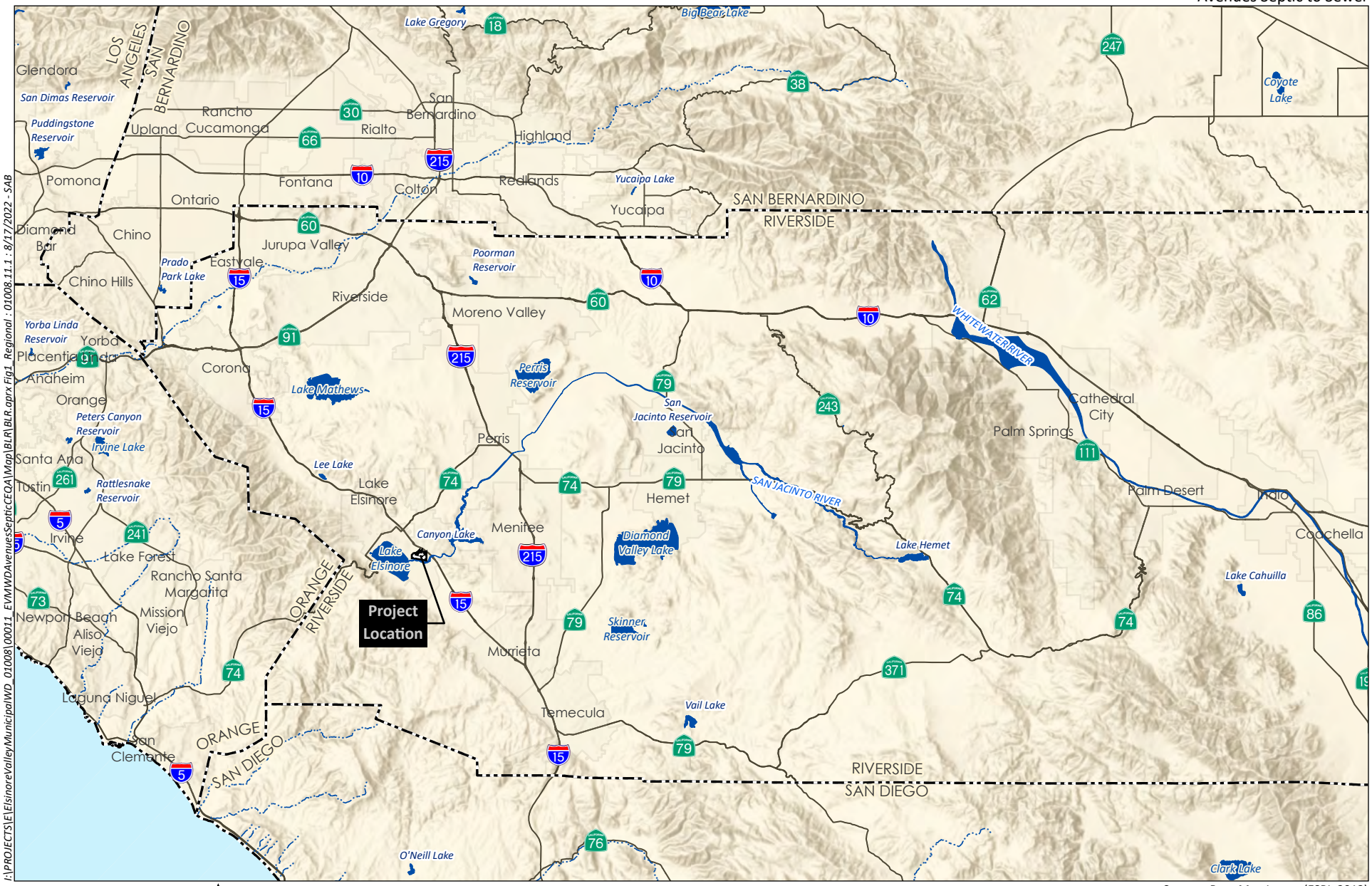
Figures



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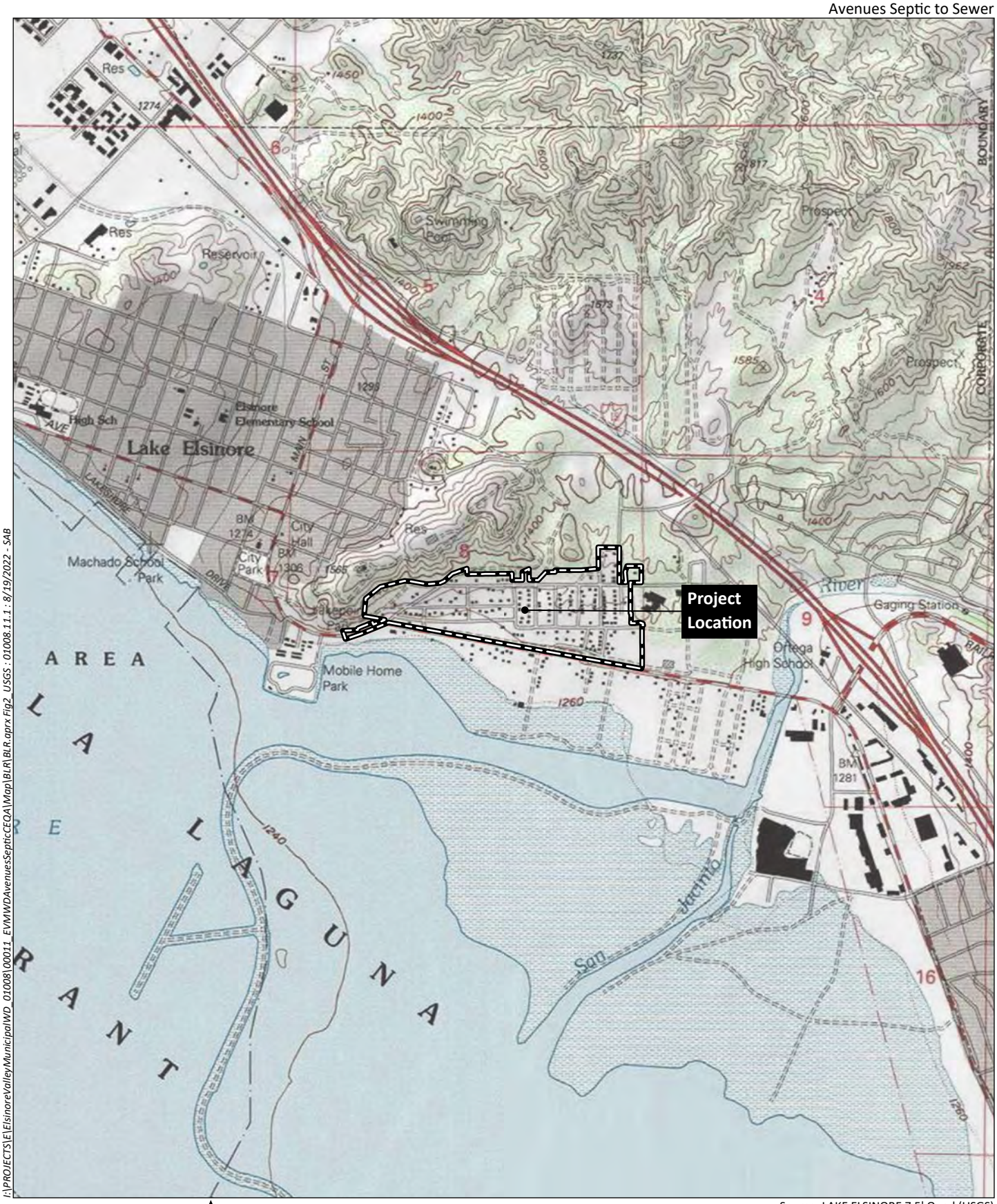
Source: Base Map Layers (ESRI, 2013)

HELIX
Environmental Planning

Regional Location

Figure 1



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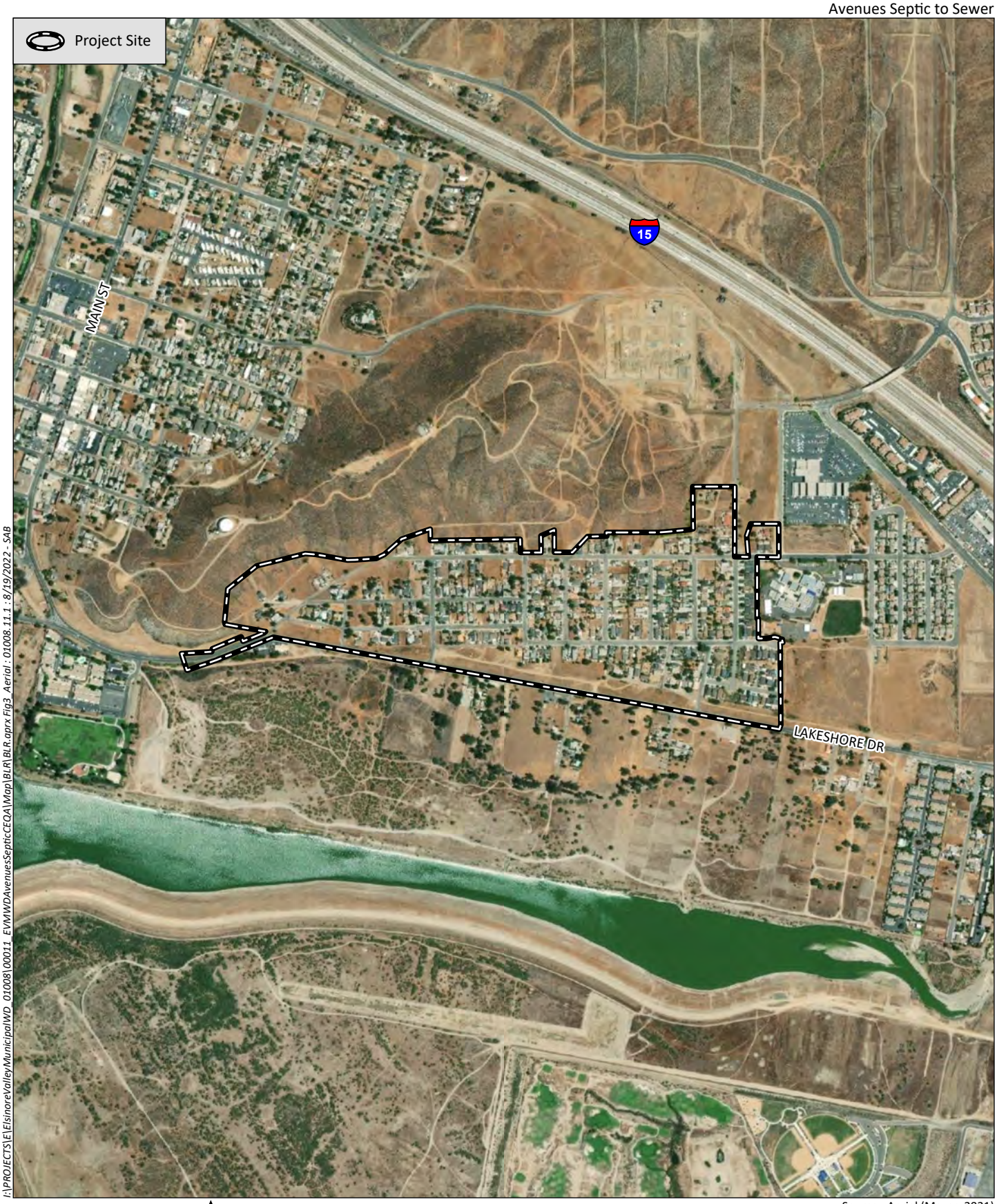
0 2,000 Feet

Source: LAKE ELSINORE 7.5' Quad (USGS)

HELIX Environmental Planning

USGS Topography

Figure 2



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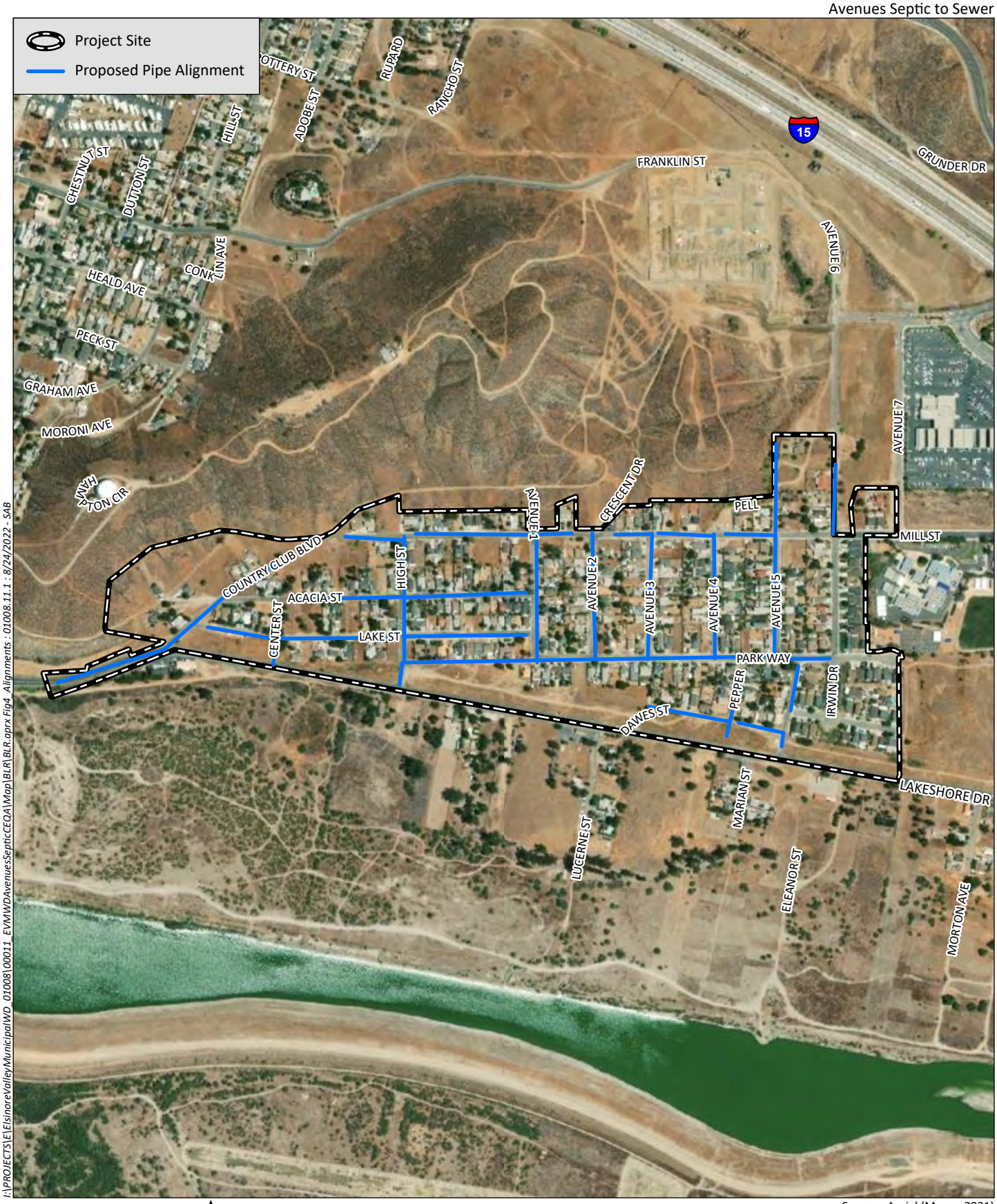
0 1,000 Feet

Source: Aerial (Maxar, 2021)

HELIX Environmental Planning

Aerial Photograph of Project Location

Figure 3



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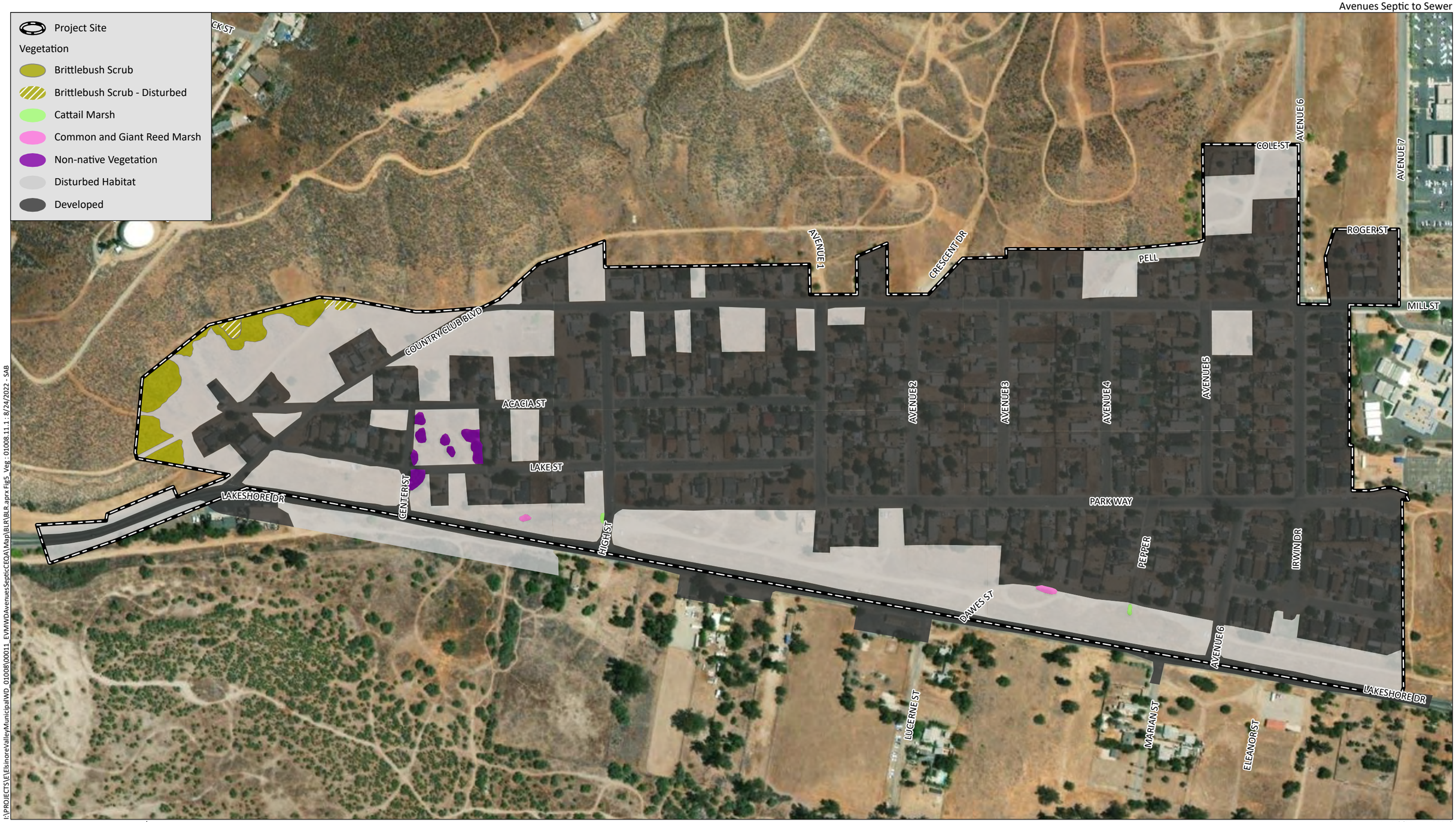
Source: Aerial (Maxar, 2021)

HELIX Environmental Planning

Proposed Pipe Alignment

Figure 4



0 300 Feet

Source: Aerial (Maxar, 2021)

HELIX Environmental Planning

Vegetation

Figure 5

Project Site

Potential Jurisdictional Features

- Drainage Line
- Swale
- Sheet Flow
- Cattail Marsh
- Common and Giant Reed Marsh
- Culvert

PECK ST
HAMPTON CIR
COUNTRY CLUB BLVD
AVENUE 1
CRESCENT DR
PELL
COLE ST
AVENUE 6
AVENUE 7
ROGER ST
MILL ST
ACACIA ST
LAKE ST
AVENUE 2
AVENUE 3
AVENUE 4
AVENUE 5
LAKESHORE DR
CENTER ST
HIGH ST
PARK WAY
PEPPER
IRVIN DR
DAWES ST
AVENUE 6
LUCERNE ST
MARIAN ST
ELEANOR ST

0 300 Feet

N

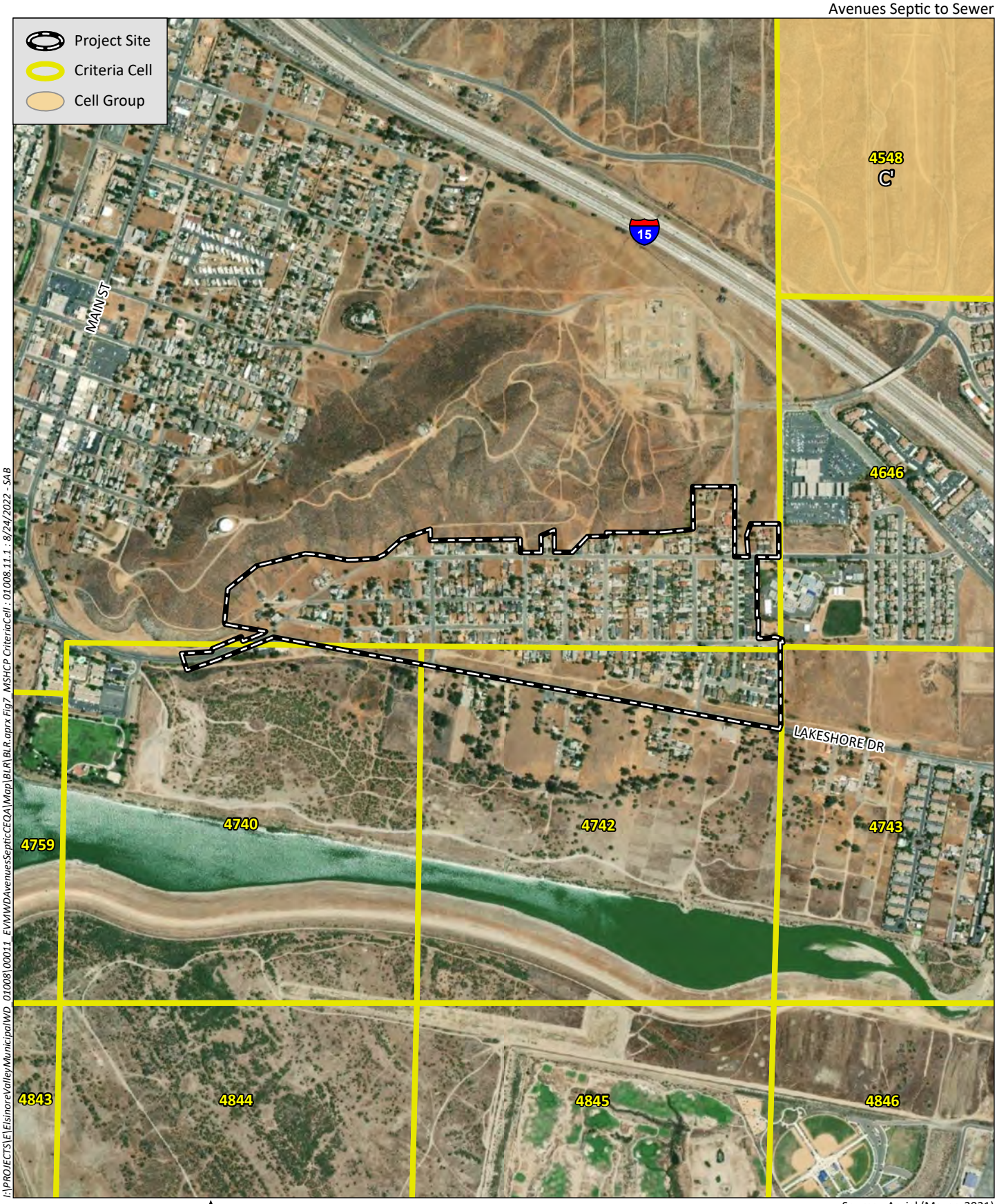
Source: Aerial (Maxar, 2021)

I:\PROJECTS\LE\ElsinoreValleyMunicipalWD_01008\00011_EVMWDAvenuesSepticCEQA\Map\BLR\BLR.aprx Fig6_AqRes : 01008.11.1 : 8/24/2022 - SAB

HELIX Environmental Planning

Aquatic Resources

Figure 6



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0 1,000 Feet

Source: Aerial (Maxar, 2021)

HELIX Environmental Planning

MSHCP Criteria Cells

Figure 7

Attachment A

APN List

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Attachment B

Representative Site Photos

Photo of residential developed and roadway that dominates the project study area. Photo taken 8/5/2022.

Photo looking west of disturbed habitat that occurs along the north side of Lakeshore Drive. Photo taken 8/5/2022.

Photo looking northeast at disturbed habitat in the northeast portion of the study area. Photo taken 8/5/2022.

Photo looking north at the non-native vegetation in the study area. Photo taken 8/5/2022.

Photo of a stand of Arundo in the disturbed habitat along Lakeshore Drive. Photo taken 8/5/2022.

Photo of a small patch of cattail marsh occurring in the disturbed habitat along Lakeshore Drive. Photo taken 8/5/2022.

Photo of marsh habitat that includes a willow that is supported by residential runoff. Photo taken 8/5/2022.

Photo of disturbed habitat along the north side of the project with brittlebush scrub visible in the background. Photo taken 8/5/2022.

Attachment C

Plant Species Observed

Family	Scientific Name*,†	Common Name	Habitat[1]
Dicots			
Anacardiaceae	*Schinus molle*	Peruvian pepper tree	DEV, BBS
Apocynaceae	*Nerium oleander*	oleander	DEV
Asteraceae	*Centaurea melitensis*	tocalote	DH
	Encelia farinosa	brittlebush	DH, BBS
	Ericameria pinifolia	pine bush	DH
	Helianthus annuus	hairy leaved sunflower	DH
	*Oncosiphon piluliferum**	stinknet	BBS
Brassicaceae	*Raphanus sativus*	wild radish	DH
Cactaceae	*Cylindropuntia californica*	Cane cholla	BBS
	Opuntia littoralis	Coastal prickly pear	BBS
Chenopodiaceae	*Salsola tragus*	Russian thistle	DH, BBS
Cucurbitaceae	*Cucurbita palmata*	Coyote melon	BBS
Euphorbiaceae	*Croton setiger*	turkey-mullein	DH
Fabaceae	*Parkinsonia aculeata*	Jerusalem thorn	DH
Lamiaceae	*Trichostema lanceolatum*	Vinegar weed	BBS
Meliaceae	Melia azedarach	China berry tree	NNV
Myrtaceae	*Eucalyptus* sp.	eucalyptus	DEV, NNV
Nyctaginaceae	*Bougainvillea* sp.	bougainvillea	DEV
Oleaceae	*Olea europaea*	olive	NNV
Polygonaceae	*Eriogonum fasciculatum*	California buckwheat	BBS
Salicaceae	*Salix lasiolepis*	arroyo willow	CM
Simaroubaceae	*Ailanthus altissima*	tree of heaven	DH
Solanaceae	*Datura wrightii*	jimsonweed	DH
Tamaricaceae	*Tamarix aphylla*	athel	DH
Monocots			
Arecaceae	*Phoenix dactylifera*	date palm	DEV
	*Washingtonia robusta **	Mexican fan palm	DEV
Brassicaceae	*Hirschfeldia incana*	short pod mustard	DH
Poaceae	*Arundo donax*	giant reed	CGRM
	Avena sp.	wild oat	DH, BBS
	Bromus madritensis	foxtail chess	DH
	Cynodon dactylon	bermuda grass	DH
	*Echinochloa crus-galli**	barnyard grass	CM
	Festuca myuros	rattail sixweeks grass	DH
	Pennisetum setaceum	fountaingrass	DH
Typhaceae	*Typha* sp.	cattail	CM

* Non-native

1 DH=Disturbed habitat; CM=Cattail Marsh; NNV=Non-native vegetation; DEV=Developed land, BBS=Brittlebush shrub, CGRM=Common and giant reed marsh.

Attachment D

Animal Species Observed or Detected

Taxon Order	Taxon Family	Scientific Name	Common Name
INVERTEBRATES			
Hymenoptera	Apidae	*Apis* sp.	honey bee
VERTEBRATES			
Amphibians and Reptiles			
Squamata	Phrynosomatidae	*Uta stansburiana*	side-blotched lizard
Birds			
Accipitriformes	Accipitridae	*Buteo jamaicensis*	red-tailed hawk
	Falconidae	*Falco sparverius*	American kestrel
Passeriformes	Aegithalidae	*Psaltriparus minimus*	bushtit
	Columbidae	*Zenaida macroura*	mourning dove
	Corvidae	*Corvus brachyrhynchos*	American crow
	Corvidae	*Corvus corax*	common raven
	Emberizidae	*Pipilo crissalis*	California towhee
	Fringillidae	*Carpodacus mexicanus*	house finch
	Mimidae	*Mimus polyglottos*	northern mockingbird
Mammals			
Lagomorpha	Leporidae	*Sylvilagus audubonii*	desert cottontail

Attachment E

Special Status Plant Species with Potential to Occur

Scientific Name	Common Name	Status	Habitat, Ecology and Life History	Potential to Occur
Abronia villosa aurita	chaparral sand verbena	--/-- CNPS Rank 1B.1	Sandy soils, requires bare ground; not tolerant of weeds.	**Not Likely to Occur.** Sandy soils and bare ground present, but site has significant disturbance and weed base present. Species readily identified, and was not observed.
Allium marvinii	Yucaipa onion	--/-- CNPS Rank 1B.1	Clay soils, open sage scrub or chaparral.	**Not Likely to Occur.** Soils not clay, minimal sage scrub at north side of study area.
Allium munzii	Munz's onion	FE/ST CNPS Rank 1B.1	Clay soils, opening in grassland, sage scrub.	**Not Likely to Occur.** No clay soils or sage scrub. Site highly disturbed.
Almutaster pauciflorus	Alkali marsh aster	--/-- CNPS Rank 2B.2	Alkaline meadows and seeps.	**Not Likely to Occur.** Alkaline meadows and seeps do not occur in study area.
Ambrosia pumila	San Diego ambrosia	FE/-- CNPS Rank 1B.1	Stream floodplain terraces and vernal pool margins. Loam or clay soils, typically slightly acidic, often in disturbed areas.	**Not Likely to Occur.** Pools, streams and alluvial habitat not present in study area.
Amsinckia douglasiana	Douglas fiddleneck	--/-- CNPS Rank 4.2	Monterey shale, dry, cismontane woodland, grassland.	**Not Likely to Occur.** Appropriate soils not present.
Arctostaphylos rainbowensis	Rainbow manzanita	--/-- CNPS Rank 1B.1	Chaparral.	**Not Likely to Occur.** Species conspicuous and was not observed. Suitable habitat does not occur in study area.
Asplenium verpertinum	Western spleenwort	--/-- CNPS Rank 4.2	Rocky soils in Chaparral, woodland or coastal scrub.	**Not Likely to Occur.** Soils highly disturbed, rocky areas occurs in hills to north, but not in study area. No chaparral or woodland habitat.
Atriplex coronata var. *notatior*	San Jacinto Valley crownscale	FE/-- CNPS Rank 1B.1	Occurs in playas, chenopod scrub, valley and foothill grassland, and vernal pools. From 1,250 to 1,805 feet in elevation.	**Not Likely to Occur.** Playa, Chenopod scrub and vernal pool habitats not present.

Scientific Name	Common Name	Status	Habitat, Ecology and Life History	Potential to Occur
Atriplex parishii	*Parish's brittlescale*	--/-- CNPS Rank 1B.1	Alkaline lowlands with saline soil.	**Not Likely to Occur.** Alkaline saline habitat does not occur in study area.
Atriplex serenana var. *davidsonii*	Davidson's saltscale	--/-- CNPS Rank 1B.2	Alkaline lowlands with saline soil.	**Not Likely to Occur.** Alkaline saline habitat does not occur in study area.
Ayenia compacta	California ayenia	--/-- CNPS Rank 2B.3	Washes associated with creosote bush scrub.	**Not Likely to Occur.** Washes and creosote habitat are not present in study area.
Brodiaea filifolia	thread-leaved brodiaea	FT/SE CNPS Rank 1B.1	Semi alkaline mud flats and vernal pools, in clay soils.	**Not Likely to Occur.** No vernal pools, mud flats or clay soils.
Brodiaea santarosae	Santa Rosa basalt brodiaea	--/-- CNPS Rank 1B.2	Valley and foothill grasslands on basaltic soils.	**Not Likely to Occur.** Grasslands with basaltic soils do not occur.
Calochortus catalinae	Catalina mariposa lily	--/-- CNPS Rank 4.2	Chaparral, woodland, coastal scrub and grassland habitats.	**Low Potential to Occur**. Small amount of sage scrub present on north side of study area.
Calochortus weedii var. *intermedius*	intermediate mariposa lily	--/-- CNPS Rank 1B.2	Rocky, chaparral, scrub, and grassland.	**Low Potential to Occur**. Small amount of sage scrub present on north side of study area.
Caulanthus simulans	Payson's jewel-flower	--/-- CNPS Rank 4.2	Pinyon-juniper woodland, chaparral and sage scrub. Typically, on slopes and ridgelines with sandy granitic soil.	**Not Likely to Occur.** Woodland and chaparral not present. Slopes limited to edge of study area.
Centromadia pungens ssp. *laevis*	smooth tarplant	--/-- CNPS Rank 1B.1	Riparian/watercourses, grassland, alkali scrub.	**Not Likely to Occur.** Riparian habitats not present. Species easy to detect when present and was not observed.
Chorizanthe leptotheca	Peninsular spineflower	--/-- CNPS Rank 4.2	Alluvial fans with granitic soils and chaparral, coastal scrub or coniferous forest habitats.	**Not Likely to Occur.** Alluvial fan habitat does not occur in study area.
Chorizanthe parryi parryi	Parry's spineflower	--/-- CNPS Rank 1B.1	Openings in chaparral and sage scrub, sandy or rocky soil.	**Low Potential to Occur.** Limited sage scrub habitat occurs on north edge of study area.
Chorizanthe polygonoides longispina	long-spined spineflower	--/-- CNPS Rank 1B.2	Chaparral, sage scrub, grassland, often in clay soils.	**Not Likely to Occur.** Clay soils not present, sage scrub limited to northern edge of study area.

Scientific Name	Common Name	Status	Habitat, Ecology and Life History	Potential to Occur
Clinopodium chandleri	San Miguel savory	--/-- CNPS Rank 1B.2	Chaparral, woodland, scrub, grassland, rocky areas.	**Not Likely to Occur.** Chaparral, woodland and rocky habitat not present.
Comarostaphylis diversifolia spp. diversifolia	Summer holly	--/-- CNPS Rank 1B.2	Chaparral and cismontane woodland.	**Not Likely to Occur.** Chaparral and woodland habitat not present in study area.
Convolvulus simulans	Small-flowering morning-glory	--/-- CNPS Rank 4.2	Clay soils, seeps, in chaparral, coastal scrub and grasslands.	**Not Likely to Occur.** Clay soils and seeps not present in study area.
Deinandra paniculata	paniculate tarplant	--/-- CNPS Rank 4.2	Usually found in vernally mesic areas and sometimes sandy areas within coastal scrub, grassland, near ephemeral streambeds and vernal pools.	**Not Likely to Occur.** Sandy soils and mesic habitat not present in study area.
Diplacus clevelandii	Cleveland's bush monkeyflower	--/-- CNPS Rank 4.2	Rocky openings in chaparral, cismontane woodland and forest.	**Not Likely to Occur.** Rocky opening do not occur in study area.
Dodecahema leptoceras	slender-horned spineflower	FE/SE CNPS Rank 1B.1	Chaparral, woodland, scrub, sandy soil.	**Not Likely to Occur.** Chaparral and sandy soils not present and sage scrub limited to northern edge.
Dudleya multicaulis	many-stemmed dudleya	--/-- CNPS Rank 1B.2	Clay soils in barren, rocky areas with limited vegetation.	**Not Likely to Occur.** No clay soils present, chaparral or barren rocky areas present.
Dudleya viscida	sticky dudleya	--/-- CNPS Rank 1B.2	Chaparral, scrub, coastal bluffs, rocky.	**Not Likely to Occur.** Rocky bluffs not present.
Eryngium aristulatum var. *parishii*	San Diego button-celery	FE/SE CNPS Rank 1B.1	Mesic area, sage scrub, grassland, vernal pools.	**Not Likely to Occur.** No vernal pools are present. Mesic areas limited to irrigation runoff.
Geothallus tuberosus	Campbell's liverwort	--/-- CNPS Rank 1B.1	Mesic soil, in wetlands, vernal pools, grassland, chaparral and coastal scrub.	**Not Likely to Occur.** No vernal pool habitat present. Mesic areas limited to irrigation runoff.
Harpagonella palmeri	Palmer's grapplinghook	--/-- CNPS Rank 4.2	Clay soil, chaparral, sage scrub, and grassland.	**Not Likely to Occur.** Chaparral and clay soils not present.

Scientific Name	Common Name	Status	Habitat, Ecology and Life History	Potential to Occur
Hesperocyparis forbesii	Tecate cypress	--/-- CNPS Rank 1B.1	Clay, gabbroic or metavolcanic soils in coniferous forest or chaparral.	**Not Likely to Occur.** Habitat not present. Species obvious when present.
Holocarpha virgata ssp. *elongata*	graceful tarplant	--/-- CNPS Rank 4.2	Woodland, sage scrub and grassland lacking a well-developed scrub cover. Only known in Riverside from Santa Rosa Plateau .	**Not Likely to Occur.** Woodland not present, grassland and sage scrub are limited and disturbed. Site not on or near Santa Rosa Plateau.
Hordeum intercedens	vernal barley	--/-- CNPS Rank 3.2	Mesic grasslands, vernal pools, and large saline flats or depressions.	**Not Likely to Occur.** No vernal pool, Mesic areas limited to irrigation run off.
Horkelia cuneata ssp. *puberula*	Mesa horkelia	--/-- CNPS Rank 1B.1	Chaparral, woodland, and scrub, sandy or gravelly.	**Not Likely to Occur.** Chaparral, woodland habitats not present.
Juglans californica	southern California black walnut	--/-- CNPS Rank 4.2	Chaparral, cismontane woodland, coastal scrub, riparian woodland, alluvial soils.	**Not Likely to Occur.** Alluvial soils, woodland and chaparral not present.
Juncus acutus ssp. *Leopoldii*	Southwestern spiny rush	--/-- CNPS Rank 4.2	Coastal dunes, seeps, meadows, salt marshes, often in coastal strands.	**Not Likely to Occur.** Dune, seeps, and meadows not present.
Juncus luciensis	Santa Lucia dwarf rush	--/-- CNPS Rank 1B.2	Meadows, seeps, vernal pool in chaparral, coniferous forest and great basin scrub.	**Not Likely to Occur.** Chaparral, coniferous forest and great basin scrub not present.
Lasthenia glabrata ssp. *coulteri*	Coulter's goldfields	--/-- CNPS Rank 1B.1	Sage scrub, oak woodland, grassland, usually in wetlands that are alkaline and associated with Travers or other clay soils.	**Not Likely to Occur.** No Travers or other clay soils. Mesic areas limited small irrigation runoff.
Lathyrus splendens	Pride-of-California	--/-- CNPS Rank 4.3	chaparral	**Not Likely to Occur.** Chaparral not present.
Lepechinia cardiophylla	Heart-leaved pitcher sage	--/-- CNPS Rank 1B.2	Perennial shrub found in coniferous forests, chaparral and cismontane woodland.	**Not Likely to Occur.** Forest, woodland and chaparral habitat not present.
Lepidium virginicum var. *robinsonii*	Robinson's pepper-grass	--/-- CNPS Rank 4.3	Openings in chaparral and sage scrub, typically dry sites.	**Low Potential to Occur.** Dry sage scrub occurs on north edge of study area.

Scientific Name	Common Name	Status	Habitat, Ecology and Life History	Potential to Occur
Lilium humboldtii ssp. *ocellatum*	Ocellated Humboldt lily	--/-- CNPS Rank 4.2	Openings in chaparral, cismontane woodland, coastal scrub, riparian woodland.	**Not Likely to Occur.** Riparian woodland, chaparral and other woodland not present. Limited sage scrub at northern edge of study area.
Lilium parryi	lemon lily	--/-- CNPS Rank 1B.2	Banks of mountain seeps and stream with year round moisture, occurs above 3,000 feet amsl.	**Not Likely to Occur.** Study area is at 1,400 feet amsl and lower. Well below species known range.
Limnanthes alba ssp. *parishii*	Parish's meadowfoam	--/SE CNPS Rank 1B.2	Vernal pools, often in coniferous forest, meadows and seeps.	**Not Likely to Occur.** Vernal pools, seeps and forest not present.
Microseris gouglasii sp. *platycarpha*	Small-flowering microseris	--/-- CNPS Rank 4.2	Clay soils in woodland, coastal scrub, grasslands and vernal pools.	**Not Likely to Occur.** Clay soils and vernal pools, not present.
Mimulus diffusus	Palomar monkeyflower	--/-- CNPS Rank 4.3	Sandy or gravelly soil in chaparral or coniferous forest.	**Not Likely to Occur.** Chaparral and forest not present.
Monardella hypoleuca ssp. *intermedia*	Intermediate monardella	--/-- CNPS Rank 1B.3	Chaparral, cismontane woodland and occasionally coniferous forest.	**Not Likely to Occur.** Chaparral, woodland and forest habitat not present.
Monardella macrantha ssp. *hallii*	Hall's monardella	--/-- CNPS Rank 1B.3	Broad leaf forest, coniferous forest, chaparral, cismontane woodland and grassland.	**Not Likely to Occur.** Forest, chaparral and woodland habitat not present.
Myosurus minimus ssp. *apus*	little mousetail	--/-- CNPS Rank 3.1	Alkaline vernal pools in grassland.	**Not Likely to Occur.** Vernal pools not present.
Navarretia fossalis	spreading navarretia	FT/-- CNPS Rank 1B.1	Vernal pools.	**Not Likely to Occur.** No vernal pool habitat present.
Navarretia prostrata	prostrate navarretia	--/-- CNPS Rank 1B.2	Mesic, alkaline, vernal pools, grassland, scrub. Nearly always occurs in wetlands.	**Not Likely to Occur.** No vernal pools present. Mesic habitat limited to minor irrigation runoff.
Nolina cismontana	chaparral nolina	--/-- CNPS Rank 1B.2	Chaparral and coastal scrub.	**Low Potential to Occur.** Chaparral not present, sage scrub limited to northern edge of study area.
Orcuttia californica	California Orcutt grass	FE/SE CNPS Rank 1B.1	Vernal pools.	**Not Likely to Occur.** Vernal pool habitat does not occur.

Scientific Name	Common Name	Status	Habitat, Ecology and Life History	Potential to Occur
Phacelia keckii	Santiago peak phacelia	--/-- CNPS Rank 1B.3	Closed cone coniferous forest, chaparral above 1,500 feet AMSL.	**Not Likely to Occur.** Site at or below 1,400 feet AMSL, forest and chaparral not present.
Polygala cornuta var. *fishiae*	Fish's milkwort	--/-- CNPS Rank 4.3	Shaded areas in woodland, also can occur is xeric and mesic chaparral.	**Not Likely to Occur.** Woodland and chaparral do not occur in study area.
Pseudognaphalium leucocephalum	white rabbit-tobacco	--/-- CNPS Rank 2.B2	Riparian areas, woodland, sandy or gravelly areas.	**Not Likely to Occur.** Species easily detected and was not observed. Woodland and riparian habitat not present.
Quercus engelmannii	Engelmann oak	--/-- CNPS Rank 4.2	Chaparral, cismontane woodland, riparian woodland, grasslands.	**Not Likely to Occur.** Riparian habitats present but species is conspicuous and no oaks were observed on site.
Romneya coulteri	Coulter's matilija poppy	--/-- CNPS Rank 4.2	Often in burns, chaparral, coastal scrub.	**Not Likely to Occur.** Chaparral and burn areas do not occur in study area.
Scutellaria bolanderi spp. *austromontana*	Southern mountains skullcap	--/-- CNPS Rank 1B.2	Woodland, chaparral, mesic	**Not Likely to Occur.** Woodland, chaparral does not occur. Mesic habitat limited to minor irrigation runoff.
Sibaropsis hammittii	Hammitt's clay cress	--/-- CNPS Rank 1B.2	Clay soils. In openings in chaparral or grassland.	**Not Likely to Occur.** Clay soils and chaparral not present.
Sphaerocarpos drewei	bottle liverwort	--/-- CNPS Rank 1B.1	Chaparral or coastal scrub below 2,000 feet amsl.	**Low Potential to Occur.** Chaparral not present. Small amount of sage scrub occurs along northern edge of study area.
Symphyotrichum defoliatum	San Bernardino aster	--/-- CNPS Rank 1B.2	Near ditches, streams, seeps, marshes in grassland, scrub, forest.	**Not Likely to Occur.** Stream and wetland habitat do not occur in study area.
Tetracoccus dioicus	Parry's tetracoccus	--/-- CNPS Rank 1B.2	Chaparral and coastal scrub.	**Low Potential to occur.** Chaparral not present. Sage scrub limited to northern edge of study area.

Scientific Name	Common Name	Status	Habitat, Ecology and Life History	Potential to Occur
Texosporium sancti-jacobi	woven spored lichen	--/-- CNPS Rank 3	Chaparral openings, usually on animal pellets, dead twigs or detritus rich soil.	**Not Likely to Occur.** Chaparral habitat not present.
Tortula californica	California screw moss	--/-- CNPS Rank 1B.2	Sandy soils in chenopod scrub or native grasslands.	**Not Likely to Occur.** No chenopod scrub or grassland present.
Trichocoronis wrightii var. *Wrightii*	Wright's trichocoronis	--/-- CNPS 2B.1	Vernal pools, marshes, meadows and other alkaline riparian habitats.	**Not Likely to Occur.** Pools, marshes, meadows not present.
Viguiera laciniata	San Diego County viguiera	--/-- CNPS Rank 4.2	Chaparral, coastal scrub.	**Low potential to Occur.** Chaparral not present. Sage scrub limited to northern edge of study area.
Viguiera purisimae	La Purisima viguiera	--/-- CNPS Rank 2B.3	Coastal scrub and chaparral.	**Low potential to Occur.** Chaparral not present. Sage scrub limited to northern edge of study area.

[1] Listing is as follows: F = Federal; S = State of California; E = Endangered; T = Threatened; R = Rare

[2] CNPS = California Native Plant Society Rare Plant Rank: 1A–presumed extirpated in California and either rare or extinct elsewhere; 1B–rare, threatened, or endangered in California and elsewhere; 2A–presumed extirpated in California, but more common elsewhere; 2B–rare, threatened, or endangered in California, but more common elsewhere; 3–more information needed; 4–watch list for species of limited distribution. Extension codes: .1–seriously endangered; .2–moderately endangered; .3–not very endangered.

[3] County of San Diego Sensitive Plant Lists: A–rare, threatened, or endangered in California and elsewhere; B–rare, threatened, or endangered in California but more common elsewhere; C–may be quite rare but need more information; D–limited distribution and may be uncommon, but not presently endangered.

Not Likely to Occur–There are no present or historical records of the species occurring on or in the immediate vicinity, (within 3 miles) of the Project Site and the diagnostic habitats strongly associated with the species do not occur on or in the immediate vicinity of the Site.
Low Potential to Occur–There is a historical record of the species in the vicinity of the Project Site and potentially suitable habitat on Site, but existing conditions, such as density of cover, prevalence of non-native species, evidence of disturbance, limited habitat area, isolation, substantially reduce the possibility that the species may occur. The Site is above or below the recognized elevation limits for this species.
Moderate Potential to Occur–The diagnostic habitats associated with the species occur on or in the immediate vicinity of the Project Site, but there is not a recorded occurrence of the species within the immediate vicinity (within 3 miles). Some species that contain extremely limited distributions may be considered moderate, even if there is a recorded occurrence in the immediate vicinity.
High Potential to Occur–There is both suitable habitat associated with the species and a historical record of the species on or in the immediate vicinity of the Project Site (within 3 miles).
Species Present–The species was observed on the Project Site at the time of the survey or during a previous biological survey

Attachment F

Special Status Animal Species with Potential to Occur

Scientific Name	Common Name	Status	Habitat Associations	Potential to Occur
INVERTEBRATES				
Insects				
Bombus crotchii	Crotch bumblebee	--/--	Scrub and grassland habitats. Uses sage, sunflowers, and similar species for nectar.	**Low Potential to Occur.** Disturbed habitat with similar species to non-native grassland is present along with small areas with sparse sage scrub species.
Branchinecta lynchi	vernal pool fairy shrimp	FT/--	Vernal pool and playa habitat, cool pools, preferable on clay soils.	**Not likely to occur.** No pools or similar habitat occurs.
Branchinecta sandiegonensis	San Diego fairy shrimp	FE/SSC	Vernal pools.	**Not likely to occur.** No pools or similar habitat occurs.
Cicindela senilis frosti	Senile tiger beetle	--/--	Occurs along marine shoreline, from central California coast south to salt marshes of San Diego, also found at Lake Elsinore.	**Low Potential to Occur.** Project alignment does not include marine or lake shore habitat. Salt creek crosses alignment but species not known to occur at this location.
Danaus plexippus	Monarch butterfly	FC/--	Requires milkweed for reproduction. Can nectar from a variety of flowering species. Overwinters in Mexico.	**Not Likely to Occur.** Milkweed absent from study area.
Euphydryas editha quino	Quino checkerspot butterfly	FE/--	Open areas, sparse vegetation, and flowers. Host plants are *Plantago* spp*., Antirrhinum coulterianum*, and *Cordylanthus rigidus.*	**Not likely to occur.** Habitat along alignment is mostly disturbed or developed. Host plants not observed.
Linderiella santarosae	Santa Rosa Plateau fairy shrimp	--/--	Occurs in the vernal pools on the Santa Rosa Plateau on southern basalt flow vernal pools.	**Not likely to occur.** No pools or similar habitat occurs.
Neolarra alba	White cuckoo bee	--/--	Requires flowers for nectar.	**Low potential to occur.** Development includes ornamental vegetation with flowering species.
Streptocephalus wootoni	Riverside fairy shrimp	FE/--	Endemic to Western Riverside, Orange, and San Diego Counties. Found in deep long lasting seasonal vernal pools, ephemeral ponds and similar habitats.	**Not likely to occur.** No pools or similar habitat occurs.

Scientific Name	Common Name	Status	Habitat Associations	Potential to Occur
VERTEBRATES				
Fish				
Gila orcuttii)	arroyo chub	--/SSC	Prefers slow moving streams or backwaters with sand or mud bottoms. Streams typically deeper than 40 centimeters (16 inches).	**Not Likely to Occur.** Flowing streams do not occur in the study area.
Oncorhynchus mykiss irideus	Steelhead	FE/--	Prefers streams and rivers with dissolved oxygen concentration of at least 7 parts per million. Deep low-velocity pools are important wintering habitats. Spawning habitat consists of gravel substrates free of excessive silt.	**Not Likely to Occur.** Flowing streams do not occur in the study area.
Amphibians and Reptiles				
Anaxyrus californicus	arroyo toad	FE/SSC	Low flow streams with sparse cover in foothills, valleys and mountains. Requires sandy terraces.	**Not Likely to Occur.** Flowing streams do not occur in the study area.
Anniella stebbinsi	Southern California legless lizard	--/SSC	Coastal dune, sandy washes, alluvial fans, oak woodlands, conifer forest, sandy soils.	**Not Likely to Occur.** Study area is mostly developed or disturbed, dunes, washes and other habitats for species do not occur.
Arizona elegans occidentalis	California glossy snake	--/SSC	Scrub and grassland habitats, usually with loose or sandy soils. A generalist.	**Low Potential to Occur.** The northern edge of the study area has scrub habitat.
Emys marmorata	western pond turtle	--/SSC	Slow moving stream, ponds, reservoirs, and other water bodies deeper than 6 feet with logs or other submerged cover.	**Not Likely to Occur.** Ponds or other waters for species do not occur in study area.
Cnemidophorus hyperthrus	orange-throated whiptail	--/SSC	Chaparral, sage scrub, grassland, woodland, riparian areas.	**Low Potential to Occur.** Northern edge of study area include scrub habitat.
Cnemidophorus tigris stenjnegeri	coastal western whiptail	--/SSC	Open rocky areas with sparse vegetation, usually scrub or grassland.	**Low Potential to Occur.** Northern edge of study area include scrub habitat.
Crotalus ruber	northern red-diamond rattlesnake	--/SSC	Heavy brush, boulders, can use a variety of habitats; prey density determining factor.	**Low Potential to Occur.** Northern edge of study area include scrub habitat.

Scientific Name	Common Name	Status	Habitat Associations	Potential to Occur
Diadophis punctatus modestus	San Bernardino ringneck snake	--/--	Mesic habitats. woodlands, farms, grassland, chaparral.	**Not Likely to Occur.** Study area lacks mesic habitats other than minor amounts of irrigation runoff.
Phrynosoma coronatum blainvillei	coast horned lizard	--/SSC	Grassland, scrub, chaparral, and woodland.	**Low Potential to Occur.** Northern edge of study area include scrub habitat.
Rana aurora draytonii	California red-legged frog	FT/SSC	Ponds, lowland stream, riparian woodland, wetlands. Requires humid habitats.	**Not Likely to Occur.** Ponds and streams do not occur in study area.
Salvadora hexalepis virgultea	coast patch-nosed snake	--/SSC	Coastal and desert scrub, chaparral, dry washes. A generalist.	**Low Potential to Occur.** Species uncommon, scrub habitat occurs along northern edge of study area
Scaphiopus hammondii	western spadefoot	--/SSC	Grassland, sage scrub, or occasionally chaparral; standing water, puddles, vernal pools needed for reproduction.	**Not Likely to Occur.** Species requires standing pools that are not present in study area.
Taricha torosa torosa	coast range newt	--/SSC	Grassland, woodland associated with ponds, slow-moving streams.	**Not Likely to Occur.** Ponds and streams with water do not occur in study area.
Thamnophis hammondii	two-striped garter snake	--/SSC	Stream course with adjacent dense vegetation.	**Not Likely to Occur.** Streams with flow do not occur in study area.
Birds				
Accipiter cooperi	Cooper's hawk	--/WL	This raptor species requires mature forest, open woodlands, and river groves habitat.	**Not Likely to Occur.** Forest and woodlands do not occur in study area.
Amphispiza belli belli	Bell's sage sparrow	--/WL	Evenly spaced sage scrub.	**Low Potential to Occur.** Sage scrub occurs along the northern edge of study area.
Asio otus	long-eared owl	--/SSC	Dense vegetation adjacent to open grassland or shrubland, and open forests.	**Not Likely to Occur.** Open grasslands with adjacent dense vegetation does not occur in study area.

Scientific Name	Common Name	Status	Habitat Associations	Potential to Occur
Aquila chrysaetos	golden eagle	--/FP	Open country, prefers mountains or hills.	**Not Likely to Occur.** Study area is mostly developed with residential housing. Species generally avoids populated areas.
Agelaius tricolor	tricolored blackbird	--/SSC	Wetland with dense cattails, tall grasses, or thickets of willows.	**Not Likely to Occur.** The small patch of cattails is too small to accommodate the species.
Aimophila ruficeps canescens	southern California rufous crowned sparrow	--/WL	Hillsides, with grassland, sage scrub, or chaparral.	**Low Potential to Occur.** Sage scrub occurs along the northern edge of study area.
Athene cunicularia	burrowing owl	--/SSC	Grassland, fallow agriculture, and areas of sparse cover, preferably with burrows of fossorial mammals.	**Low Potential to Occur.** Open land with available burrows limited to small patches of disturbed habitat within and immediately adjacent to the development.
Buteo regalis	Ferruginous Hawk	--/WL	Large areas of open grassland or shrub with elevated nest sites.	**Not Likely to Occur.** Large open grassland area not present in study area.
Buteo swainsoni	Swainson's Hawk	--/ST	Open desert, sparse scrub with large trees.	**Not Likely to Occur.** Open desert not present. Large trees limited to ornamental vegetation.
Charadrius alexandrinus nivosus	Western snowy plover	FT/SSC	Coastal beaches, sand dune beaches, river mouths, estuaries.	**Not Likely to Occur.** Coastal areas and river mouths not present in study area.
Coturnicops noveboracensis	Yellow rail	--/--	Shallow marshes and wet meadows. Generally an eastern U.S. species. Also known in northern California.	**Not Likely to Occur.** Marshes and meadows do not occur in study area.
Elanus leucurus	white-tailed kite	--/-- Fully protected	Grassland, agriculture with nearby woodland for nesting.	**Low Potential to Occur.** Patches of disturbed habitat similar to grassland occurs in study area with trees nearby outside of study area.

Scientific Name	Common Name	Status	Habitat Associations	Potential to Occur
Eremophila alpestris actia	California horned lark	--/WL	Grassland, agriculture fields, and disturbed fields.	**Low Potential to Occur.** Disturbed habitat occurs on edge of study area.
Haliaeetus leucocephalus	bald eagle	DL/SE	Large bodies of open water for foraging, Nearby trees for nesting and roosting.	**Low Potential to Occur.** Water bodies does not occur in study area but does occur nearby. Species known to forage in winter at Lake Elsinore.
Icteria virens	yellow breasted chat	--/SSC	Wide riparian woodland, dense willow thickets, with well-developed understory.	**Not Likely to Occur.** Riparian woodland and similar habitat does not occur in study area.
Lanius ludovicianus	loggerhead shrike	--/SSC	Open grassland or shrubland with trees, utility poles, fence post, or other perch sites.	**Low Potential to Occur.** Disturbed area present along with fence post and utility poles also present.
Pandion haliaetus	Osprey	--/--	Breeds in variety of habitats with shallow water and large fish, including boreal forest ponds, desert salt-flat lagoons, temperate lakes, and tropical coasts. Winters along large bodies of water containing fish.	**Not Likely to Occur.** Bodies of water do not occur in study area.
Plegadis chihi	white-faced ibis	--/SSC	Shallow marshes, spoils banks, meadows, marshes.	**Not Likely to Occur.** Marshes and meadows not present in study area.
Polioptila californica californica	coastal California gnatcatcher	FT/SSC	Coastal sage and other low scrub typically with California sage (*Artemisia californica*)	**Not Likely to Occur.** Sage scrub occurs on north edge of project but is dominated by brittle bush and lacks California sage.
Vireo bellii pusillus	least Bell's vireo	FE/SE	Riparian areas with dense ground cover and stratified canopy, prefers willows.	**Not Likely to Occur.** Riparian habitat for species does not occur in study area.

Scientific Name	Common Name	Status	Habitat Associations	Potential to Occur
Mammals				
Chaetodipus fallax fallax	San Diego pocket mouse	--/SC	Sage scrub and grassland, sandy soils.	**Not Likely to Occur.** Soils most loam and highly disturbed from development.
Dipodomys merriami parvus	San Bernardino kangaroo rat	FE/SSC	Sage scrub, sandy soils, alluvial fans, floodplains.	**Not Likely to Occur.** Soils most loam and highly disturbed from development.
Dipodomys stephensi	Stephen's kangaroo rat	FE/ST	Open areas with sparse perennial cover and loose soil.	**Not Likely to Occur.** Soils most loam and highly disturbed from development.
Eumops perotis californicus	western mastiff bat	--/SSC	Rocky areas, cliff faces, known to roost in buildings.	**Not Likely to Occur.** Rocky cliffs do not occur in study area. Building present area occupied.
Lasiurus xanthinus	western yellow bat	--/SSC	Desert grassland and scrub with an associated water feature.	**Not Likely to Occur.** Desert grassland and water features do not occur in study area.
Lepus califonrinicus bennettii	San Diego black-tailed jackrabbit	--/SSC	Primarily open scrub with short grasses.	**Low Potential to Occur.** Species locally common, may utilize scrub and disturbed habitat to north.
Myotis yumanensis	Yuma myotis	--/--	Juniper and riparian woodland, near open water. Roosts in caves, mines, bridges.	**Not Likely to Occur.** Juniper and riparian woodland do not occur.
Nyctinomops femorosaccus	pocketed free-tailed bat	--/SSC	Desert scrub, roosts in cliffs, rocky crevices in small colonies.	**Not Likely to Occur.** Cliffs and rocky crevices not present.
Neotoma lepida	San Diego desert woodrat	--/SSC	Scrub and desert, rock outcrops, or areas of dense cover.	**Not Likely to Occur.** Scrub with rock outcrops does not occur in study area.
Onychomys torridus ramona	southern grasshopper mouse	--/SSC	Grassland and sparse sage scrub.	**Low Potential to occur.** Scrub habitat occurs on north edge, and grassland occur on southern edge.

Scientific Name	Common Name	Status	Habitat Associations	Potential to Occur
Perognathus longimembris brevinasus	Los Angeles pocket mouse	--/SSC	Fine sandy soils with sparse vegetation.	**Not Likely to Occur.** Soils mostly loam and highly disturbed from development.
Taxidea taxus	American badger	--/SSC	Upland grasslands, meadows, field.	**Not Likely to Occur.** Open field limited to patches along and within development.
Chaetodipus californicus femoralis	Dulzura pocket mouse	--/SSC	Grassland and chaparral ecotone, sage scrub.	**Not Likely to Occur.** Grassland and chaparral/sage scrub ecotone not present.

[1] Listing codes are as follows: FE = Federally Endangered; FT = Federally Threatened; FC= Federal Candidate species; BCC = Birds of Conservation Concern; SE = State of California Endangered; FP = State of California Fully Protected; WL = State of California Wait-Listed; SSC = State of California Species of Special Concern.

[2] County of San Diego Sensitive Animal List: Group 1 = Animals that have a very high level of sensitivity, either because they are listed as threatened or endangered or because they have very specific natural history requirements that must be met; Group 2 = Animals that are becoming less common, but are not yet so rare that extirpation or extinction is imminent without immediate action; these species tend to be prolific within their suitable habitat types.

Not Likely to Occur - There are no present or historical records of the species occurring on or in the immediate vicinity, (within 3 miles) of the Project Site and the diagnostic habitats strongly associated with the species do not occur on or in the immediate vicinity of the Site.

Low Potential to Occur - There is a historical record of the species in the vicinity of the Project Site and potentially suitable habitat on Site, but existing conditions, such as density of cover, prevalence of non-native species, evidence of disturbance, limited habitat area, isolation, substantially reduce the possibility that the species may occur. The Site is above or below the recognized elevation limits for this species.

Moderate Potential to Occur - The diagnostic habitats associated with the species occur on or in the immediate vicinity of the Project Site, but there is not a recorded occurrence of the species within the immediate vicinity (within 3 miles). Some species that contain extremely limited distributions may be considered moderate, even if there is a recorded occurrence in the immediate vicinity.

High Potential to Occur - There is both suitable habitat associated with the species and a historical record of the species on or in the immediate vicinity of the Project Site (within 3 miles).

Species Present - The species was observed on the Project Site at the time of the survey or during a previous biological survey

Attachment G

IPaC Report

The following section contains content that was obtained from a third party and may not achieve the same level of Americans with Disabilities Act (ADA) and Section 508 accessibility as other parts of this document.

IPaC resource list

This report is an automatically generated list of species and other resources such as critical habitat (collectively referred to as *trust resources*) under the U.S. Fish and Wildlife Service's (USFWS) jurisdiction that are known or expected to be on or near the project area referenced below. The list may also include trust resources that occur outside of the project area, but that could potentially be directly or indirectly affected by activities in the project area. However, determining the likelihood and extent of effects a project may have on trust resources typically requires gathering additional site-specific (e.g., vegetation/species surveys) and project-specific (e.g., magnitude and timing of proposed activities) information.

Below is a summary of the project information you provided and contact information for the USFWS office(s) with jurisdiction in the defined project area. Please read the introduction to each section that follows (Endangered Species, Migratory Birds, USFWS Facilities, and NWI Wetlands) for additional information applicable to the trust resources addressed in that section.

Location

Riverside County, California

Local office

Carlsbad Fish And Wildlife Office

(760) 431-9440
(760) 431-5901

2177 Salk Avenue - Suite 250
Carlsbad, CA 92008-7385

Endangered species

This resource list is for informational purposes only and does not constitute an analysis of project level impacts.

The primary information used to generate this list is the known or expected range of each species. Additional areas of influence (AOI) for species are also considered. An AOI includes areas outside of the species range if the species could be indirectly affected by activities in that area (e.g., placing a dam upstream of a fish population even if that fish does not occur at the dam site, may indirectly impact the species by reducing or eliminating water flow downstream). Because species can move, and site conditions can change, the species on this list are not guaranteed to be found on or near the project area. To fully determine any potential effects to species, additional site-specific and project-specific information is often required.

Section 7 of the Endangered Species Act **requires** Federal agencies to "request of the Secretary information whether any species which is listed or proposed to be listed may be present in the area of such proposed action" for any project that is conducted, permitted, funded, or licensed by any Federal agency. A letter from the local office and a species list which fulfills this requirement can **only** be obtained by requesting an official species list from either the Regulatory Review section in IPaC (see directions below) or from the local field office directly.

For project evaluations that require USFWS concurrence/review, please return to the IPaC website and request an official species list by doing the following:

1. Draw the project location and click CONTINUE.
2. Click DEFINE PROJECT.
3. Log in (if directed to do so).
4. Provide a name and description for your project.
5. Click REQUEST SPECIES LIST.

Listed species[1] and their critical habitats are managed by the Ecological Services Program of the U.S. Fish and Wildlife Service (USFWS) and the fisheries division of the National Oceanic and Atmospheric Administration (NOAA Fisheries[2]).

Species and critical habitats under the sole responsibility of NOAA Fisheries are **not** shown on this list. Please contact NOAA Fisheries for species under their jurisdiction.

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1. Species listed under the Endangered Species Act are threatened or endangered; IPaC also shows species that are candidates, or proposed, for listing. See the listing status page for more information. IPaC only shows species that are regulated by USFWS (see FAQ).

2. NOAA Fisheries, also known as the National Marine Fisheries Service (NMFS), is an office of the National Oceanic and Atmospheric Administration within the Department of Commerce.

The following species are potentially affected by activities in this location:

Mammals

NAME	STATUS
San Bernardino Merriam's Kangaroo Rat Dipodomys merriami parvus Wherever found There is **final** critical habitat for this species. The location of the critical habitat is not available. https://ecos.fws.gov/ecp/species/2060	Endangered
Stephens' Kangaroo Rat Dipodomys stephensi (incl. D. cascus) Wherever found No critical habitat has been designated for this species. https://ecos.fws.gov/ecp/species/3495	Threatened

Birds

NAME	STATUS
Coastal California Gnatcatcher Polioptila californica californica Wherever found There is **final** critical habitat for this species. The location of the critical habitat is not available. https://ecos.fws.gov/ecp/species/8178	Threatened
Least Bell's Vireo Vireo bellii pusillus Wherever found There is **final** critical habitat for this species. The location of the critical habitat is not available. https://ecos.fws.gov/ecp/species/5945	Endangered
Southwestern Willow Flycatcher Empidonax traillii extimus Wherever found There is **final** critical habitat for this species. The location of the critical habitat is not available. https://ecos.fws.gov/ecp/species/6749	Endangered

Western Snowy Plover Charadrius nivosus nivosus — Threatened

There is **final** critical habitat for this species. The location of the critical habitat is not available.
https://ecos.fws.gov/ecp/species/8035

Insects

NAME	STATUS
Monarch Butterfly Danaus plexippus Wherever found No critical habitat has been designated for this species. https://ecos.fws.gov/ecp/species/9743	Candidate
Quino Checkerspot Butterfly Euphydryas editha quino (=E. e. wrighti) Wherever found There is **final** critical habitat for this species. The location of the critical habitat is not available. https://ecos.fws.gov/ecp/species/5900	Endangered

Crustaceans

NAME	STATUS
Riverside Fairy Shrimp Streptocephalus woottoni Wherever found There is **final** critical habitat for this species. The location of the critical habitat is not available. https://ecos.fws.gov/ecp/species/8148	Endangered
Vernal Pool Fairy Shrimp Branchinecta lynchi Wherever found There is **final** critical habitat for this species. The location of the critical habitat is not available. https://ecos.fws.gov/ecp/species/498	Threatened

Flowering Plants

NAME	STATUS
California Orcutt Grass Orcuttia californica Wherever found No critical habitat has been designated for this species. https://ecos.fws.gov/ecp/species/4923	Endangered

Munz's Onion Allium munzii — Endangered
Wherever found
There is **final** critical habitat for this species. The location of the critical habitat is not available.
https://ecos.fws.gov/ecp/species/2951

San Diego Ambrosia Ambrosia pumila — Endangered
Wherever found
There is **final** critical habitat for this species. The location of the critical habitat is not available.
https://ecos.fws.gov/ecp/species/8287

San Jacinto Valley Crownscale Atriplex coronata var. notatior — Endangered
Wherever found
There is **final** critical habitat for this species. However, no *actual* acres or miles were designated due to exemptions or exclusions. See Federal Register publication for details.
https://ecos.fws.gov/ecp/species/4353

Spreading Navarretia Navarretia fossalis — Threatened
Wherever found
There is **final** critical habitat for this species. The location of the critical habitat is not available.
https://ecos.fws.gov/ecp/species/1334

Thread-leaved Brodiaea Brodiaea filifolia — Threatened
Wherever found
There is **final** critical habitat for this species. The location of the critical habitat is not available.
https://ecos.fws.gov/ecp/species/6087

Critical habitats

Potential effects to critical habitat(s) in this location must be analyzed along with the endangered species themselves.

THERE ARE NO CRITICAL HABITATS AT THIS LOCATION.

Migratory birds

Certain birds are protected under the Migratory Bird Treaty Act[1] and the Bald and Golden Eagle Protection Act[2].

Any person or organization who plans or conducts activities that may result in impacts to migratory birds, eagles, and their habitats should follow appropriate regulations and consider implementing appropriate conservation measures, as described below.

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1. The Migratory Birds Treaty Act of 1918.
2. The Bald and Golden Eagle Protection Act of 1940.

Additional information can be found using the following links:

- Birds of Conservation Concern https://www.fws.gov/program/migratory-birds/species
- Measures for avoiding and minimizing impacts to birds https://www.fws.gov/library/collections/avoiding-and-minimizing-incidental-take-migratory-birds
- Nationwide conservation measures for birds https://www.fws.gov/sites/default/files/documents/nationwide-standard-conservation-measures.pdf

The birds listed below are birds of particular concern either because they occur on the USFWS Birds of Conservation Concern (BCC) list or warrant special attention in your project location. To learn more about the levels of concern for birds on your list and how this list is generated, see the FAQ below. This is not a list of every bird you may find in this location, nor a guarantee that every bird on this list will be found in your project area. To see exact locations of where birders and the general public have sighted birds in and around your project area, visit the E-bird data mapping tool (Tip: enter your location, desired date range and a species on your list). For projects that occur off the Atlantic Coast, additional maps and models detailing the relative occurrence and abundance of bird species on your list are available. Links to additional information about Atlantic Coast birds, and other important information about your migratory bird list, including how to properly interpret and use your migratory bird report, can be found below.

For guidance on when to schedule activities or implement avoidance and minimization measures to reduce impacts to migratory birds on your list, click on the PROBABILITY OF PRESENCE SUMMARY at the top of your list to see when these birds are most likely to be present and breeding in your project area.

NAME	BREEDING SEASON (IF A BREEDING SEASON IS INDICATED FOR A BIRD ON YOUR LIST, THE BIRD MAY BREED IN YOUR PROJECT AREA SOMETIME WITHIN THE TIMEFRAME SPECIFIED, WHICH

	IS A VERY LIBERAL ESTIMATE OF THE DATES INSIDE WHICH THE BIRD BREEDS ACROSS ITS ENTIRE RANGE. "BREEDS ELSEWHERE" INDICATES THAT THE BIRD DOES NOT LIKELY BREED IN YOUR PROJECT AREA.)
Allen's Hummingbird Selasphorus sasin This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/9637	Breeds Feb 1 to Jul 15
Bald Eagle Haliaeetus leucocephalus This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities. https://ecos.fws.gov/ecp/species/1626	Breeds Jan 1 to Aug 31
Belding's Savannah Sparrow Passerculus sandwichensis beldingi This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA https://ecos.fws.gov/ecp/species/8	Breeds Apr 1 to Aug 15
Black Skimmer Rynchops niger This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/5234	Breeds May 20 to Sep 15
Black Swift Cypseloides niger This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/8878	Breeds Jun 15 to Sep 10
Black Tern Chlidonias niger This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/3093	Breeds May 15 to Aug 20

Black-chinned Sparrow *Spizella atrogularis* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/9447	Breeds Apr 15 to Jul 31
Bullock's Oriole *Icterus bullockii* This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA	Breeds Mar 21 to Jul 25
California Thrasher *Toxostoma redivivum* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds Jan 1 to Jul 31
Clark's Grebe *Aechmophorus clarkii* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds Jun 1 to Aug 31
Common Yellowthroat *Geothlypis trichas sinuosa* This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA https://ecos.fws.gov/ecp/species/2084	Breeds May 20 to Jul 31
Golden Eagle *Aquila chrysaetos* This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities. https://ecos.fws.gov/ecp/species/1680	Breeds Jan 1 to Aug 31
Lawrence's Goldfinch *Carduelis lawrencei* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/9464	Breeds Mar 20 to Sep 20
Marbled Godwit *Limosa fedoa* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/9481	Breeds elsewhere

Nuttall's Woodpecker Picoides nuttallii This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA https://ecos.fws.gov/ecp/species/9410	Breeds Apr 1 to Jul 20
Oak Titmouse Baeolophus inornatus This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/9656	Breeds Mar 15 to Jul 15
Olive-sided Flycatcher Contopus cooperi This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/3914	Breeds May 20 to Aug 31
Short-billed Dowitcher Limnodromus griseus This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/9480	Breeds elsewhere
Tricolored Blackbird Agelaius tricolor This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/3910	Breeds Mar 15 to Aug 10
Western Grebe aechmophorus occidentalis This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/6743	Breeds Jun 1 to Aug 31
Willet Tringa semipalmata This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds elsewhere
Wrentit Chamaea fasciata This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds Mar 15 to Aug 10

Probability of Presence Summary

The graphs below provide our best understanding of when birds of concern are most likely to be present in your project area. This information can be used to tailor and schedule your project activities to avoid or minimize impacts to birds. Please make sure you read and

understand the FAQ "Proper Interpretation and Use of Your Migratory Bird Report" before using or attempting to interpret this report.

Probability of Presence (▪)

Each green bar represents the bird's relative probability of presence in the 10km grid cell(s) your project overlaps during a particular week of the year. (A year is represented as 12 4-week months.) A taller bar indicates a higher probability of species presence. The survey effort (see below) can be used to establish a level of confidence in the presence score. One can have higher confidence in the presence score if the corresponding survey effort is also high.

How is the probability of presence score calculated? The calculation is done in three steps:

1. The probability of presence for each week is calculated as the number of survey events in the week where the species was detected divided by the total number of survey events for that week. For example, if in week 12 there were 20 survey events and the Spotted Towhee was found in 5 of them, the probability of presence of the Spotted Towhee in week 12 is 0.25.
2. To properly present the pattern of presence across the year, the relative probability of presence is calculated. This is the probability of presence divided by the maximum probability of presence across all weeks. For example, imagine the probability of presence in week 20 for the Spotted Towhee is 0.05, and that the probability of presence at week 12 (0.25) is the maximum of any week of the year. The relative probability of presence on week 12 is 0.25/0.25 = 1; at week 20 it is 0.05/0.25 = 0.2.
3. The relative probability of presence calculated in the previous step undergoes a statistical conversion so that all possible values fall between 0 and 10, inclusive. This is the probability of presence score.

To see a bar's probability of presence score, simply hover your mouse cursor over the bar.

Breeding Season (▪)
Yellow bars denote a very liberal estimate of the time-frame inside which the bird breeds across its entire range. If there are no yellow bars shown for a bird, it does not breed in your project area.

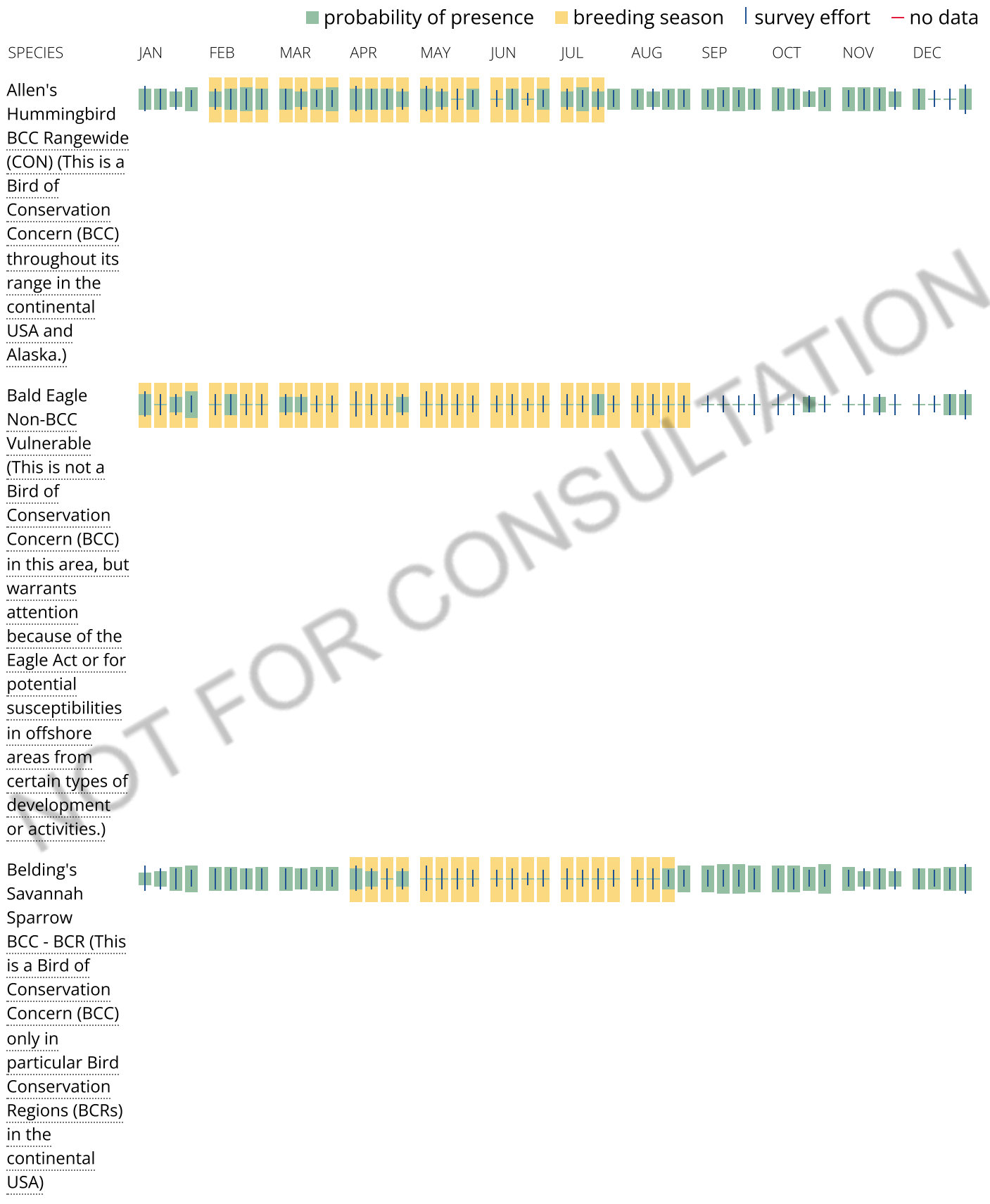
Survey Effort (|)
Vertical black lines superimposed on probability of presence bars indicate the number of surveys performed for that species in the 10km grid cell(s) your project area overlaps. The number of surveys is expressed as a range, for example, 33 to 64 surveys.

To see a bar's survey effort range, simply hover your mouse cursor over the bar.

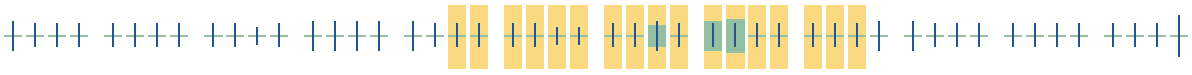
No Data (–)
A week is marked as having no data if there were no survey events for that week.

Survey Timeframe

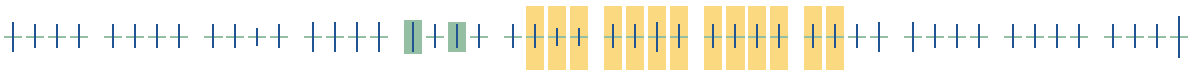
Surveys from only the last 10 years are used in order to ensure delivery of currently relevant information. The exception to this is areas off the Atlantic coast, where bird returns are based on all years of available data, since data in these areas is currently much more sparse.



Black Skimmer BCC Rangewide (CON) (This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.)

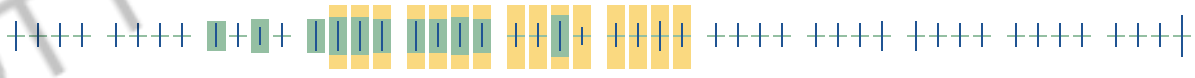


Black Swift BCC Rangewide (CON) (This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.)

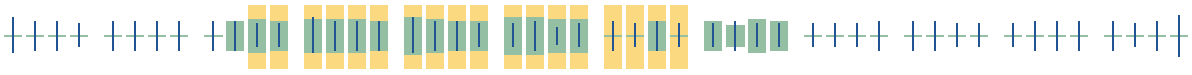


Black Tern BCC Rangewide (CON) (This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.)

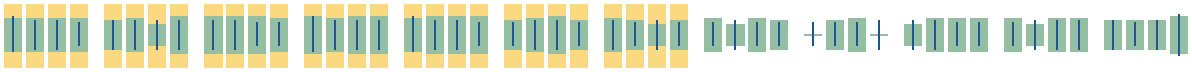
Black-chinned Sparrow BCC Rangewide (CON) (This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.)



Bullock's Oriole BCC - BCR (This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA)



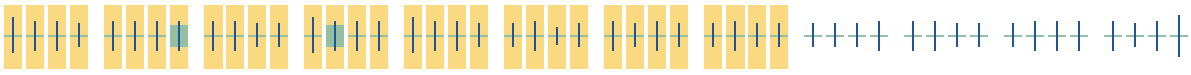
California Thrasher BCC Rangewide (CON) (This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.)



Clark's Grebe BCC Rangewide (CON) (This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.)

Common Yellowthroat BCC - BCR (This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA)

Golden Eagle Non-BCC Vulnerable (This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities.)



SPECIES	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
Lawrence's Goldfinch BCC Rangewide (CON) (This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.)												
Marbled Godwit BCC Rangewide (CON) (This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.)												

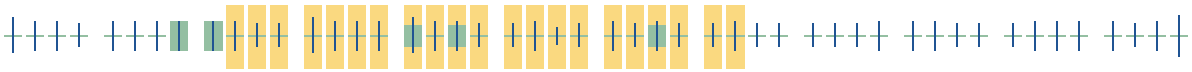
Nuttall's Woodpecker BCC - BCR (This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA)

Oak Titmouse BCC Rangewide (CON) (This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.)

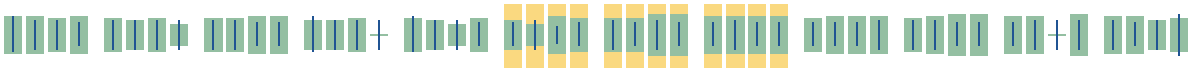
Olive-sided Flycatcher BCC Rangewide (CON) (This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.)

Short-billed Dowitcher BCC Rangewide (CON) (This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.)

Tricolored Blackbird BCC Rangewide (CON) (This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.)

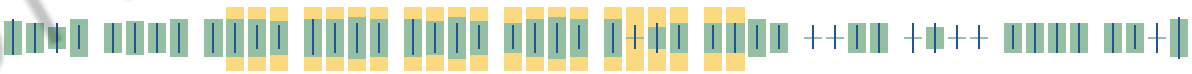


Western Grebe BCC Rangewide (CON) (This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.)



Willet BCC Rangewide (CON) (This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.)

Wrentit BCC Rangewide (CON) (This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.)



Tell me more about conservation measures I can implement to avoid or minimize impacts to migratory birds.

Nationwide Conservation Measures describes measures that can help avoid and minimize impacts to all birds at any location year round. Implementation of these measures is particularly important when birds are most likely to occur in the project area. When birds may be breeding in the area, identifying the locations of any active nests and avoiding their destruction is a very helpful impact minimization measure.

To see when birds are most likely to occur and be breeding in your project area, view the Probability of Presence Summary. Additional measures or permits may be advisable depending on the type of activity you are conducting and the type of infrastructure or bird species present on your project site.

What does IPaC use to generate the list of migratory birds that potentially occur in my specified location?

The Migratory Bird Resource List is comprised of USFWS Birds of Conservation Concern (BCC) and other species that may warrant special attention in your project location.

The migratory bird list generated for your project is derived from data provided by the Avian Knowledge Network (AKN). The AKN data is based on a growing collection of survey, banding, and citizen science datasets and is queried and filtered to return a list of those birds reported as occurring in the 10km grid cell(s) which your project intersects, and that have been identified as warranting special attention because they are a BCC species in that area, an eagle (Eagle Act requirements may apply), or a species that has a particular vulnerability to offshore activities or development.

Again, the Migratory Bird Resource list includes only a subset of birds that may occur in your project area. It is not representative of all birds that may occur in your project area. To get a list of all birds potentially present in your project area, please visit the Rapid Avian Information Locator (RAIL) Tool.

What does IPaC use to generate the probability of presence graphs for the migratory birds potentially occurring in my specified location?

The probability of presence graphs associated with your migratory bird list are based on data provided by the Avian Knowledge Network (AKN). This data is derived from a growing collection of survey, banding, and citizen science datasets.

Probability of presence data is continuously being updated as new and better information becomes available. To learn more about how the probability of presence graphs are produced and how to interpret them, go the Probability of Presence Summary and then click on the "Tell me about these graphs" link.

How do I know if a bird is breeding, wintering or migrating in my area?

To see what part of a particular bird's range your project area falls within (i.e. breeding, wintering, migrating or year-round), you may query your location using the RAIL Tool and look at the range maps provided for birds in your area at the bottom of the profiles provided for each bird in your results. If a bird on your migratory bird species list has a breeding season associated with it, if that bird does occur in your project area, there may be nests present at some point within the timeframe specified. If "Breeds elsewhere" is indicated, then the bird likely does not breed in your project area.

What are the levels of concern for migratory birds?

Migratory birds delivered through IPaC fall into the following distinct categories of concern:

1. "BCC Rangewide" birds are Birds of Conservation Concern (BCC) that are of concern throughout their range anywhere within the USA (including Hawaii, the Pacific Islands, Puerto Rico, and the Virgin Islands);
2. "BCC - BCR" birds are BCCs that are of concern only in particular Bird Conservation Regions (BCRs) in the continental USA; and

3. "Non-BCC - Vulnerable" birds are not BCC species in your project area, but appear on your list either because of the Eagle Act requirements (for eagles) or (for non-eagles) potential susceptibilities in offshore areas from certain types of development or activities (e.g. offshore energy development or longline fishing).

Although it is important to try to avoid and minimize impacts to all birds, efforts should be made, in particular, to avoid and minimize impacts to the birds on this list, especially eagles and BCC species of rangewide concern. For more information on conservation measures you can implement to help avoid and minimize migratory bird impacts and requirements for eagles, please see the FAQs for these topics.

Details about birds that are potentially affected by offshore projects

For additional details about the relative occurrence and abundance of both individual bird species and groups of bird species within your project area off the Atlantic Coast, please visit the Northeast Ocean Data Portal. The Portal also offers data and information about other taxa besides birds that may be helpful to you in your project review. Alternately, you may download the bird model results files underlying the portal maps through the NOAA NCCOS Integrative Statistical Modeling and Predictive Mapping of Marine Bird Distributions and Abundance on the Atlantic Outer Continental Shelf project webpage.

Bird tracking data can also provide additional details about occurrence and habitat use throughout the year, including migration. Models relying on survey data may not include this information. For additional information on marine bird tracking data, see the Diving Bird Study and the nanotag studies or contact Caleb Spiegel or Pam Loring.

What if I have eagles on my list?

If your project has the potential to disturb or kill eagles, you may need to obtain a permit to avoid violating the Eagle Act should such impacts occur.

Proper Interpretation and Use of Your Migratory Bird Report

The migratory bird list generated is not a list of all birds in your project area, only a subset of birds of priority concern. To learn more about how your list is generated, and see options for identifying what other birds may be in your project area, please see the FAQ "What does IPaC use to generate the migratory birds potentially occurring in my specified location". Please be aware this report provides the "probability of presence" of birds within the 10 km grid cell(s) that overlap your project; not your exact project footprint. On the graphs provided, please also look carefully at the survey effort (indicated by the black vertical bar) and for the existence of the "no data" indicator (a red horizontal bar). A high survey effort is the key component. If the survey effort is high, then the probability of presence score can be viewed as more dependable. In contrast, a low survey effort bar or no data bar means a lack of data and, therefore, a lack of certainty about presence of the species. This list is not perfect; it is simply a starting point for identifying what birds of concern have the potential to be in your project area, when they might be there, and if they might be breeding (which means nests might be present). The list helps you know what to look for to confirm presence, and helps guide you in knowing when to implement conservation measures to avoid or minimize potential impacts from your project activities, should presence be confirmed. To learn more about conservation measures, visit the FAQ "Tell me about conservation measures I can implement to avoid or minimize impacts to migratory birds" at the bottom of your migratory bird trust resources page.

Coastal Barrier Resources System

Projects within the John H. Chafee Coastal Barrier Resources System (CBRS) may be subject to the restrictions on federal expenditures and financial assistance and the consultation requirements of the Coastal Barrier Resources Act (CBRA) (16 U.S.C. 3501 et seq.). For more information, please contact the local Ecological Services Field Office or visit the CBRA Consultations website. The CBRA website provides tools such as a flow chart to help determine whether consultation is required and a template to facilitate the consultation process.

THERE ARE NO KNOWN COASTAL BARRIERS AT THIS LOCATION.

Data limitations

The CBRS boundaries used in IPaC are representations of the controlling boundaries, which are depicted on the official CBRS maps. The boundaries depicted in this layer are not to be considered authoritative for in/out determinations close to a CBRS boundary (i.e., within the "CBRS Buffer Zone" that appears as a hatched area on either side of the boundary). For projects that are very close to a CBRS boundary but do not clearly intersect a unit, you may contact the Service for an official determination by following the instructions here: https://www.fws.gov/service/coastal-barrier-resources-system-property-documentation

Data exclusions

CBRS units extend seaward out to either the 20- or 30-foot bathymetric contour (depending on the location of the unit). The true seaward extent of the units is not shown in the CBRS data, therefore projects in the offshore areas of units (e.g., dredging, breakwaters, offshore wind energy or oil and gas projects) may be subject to CBRA even if they do not intersect the CBRS data. For additional information, please contact CBRA@fws.gov.

Facilities

National Wildlife Refuge lands

Any activity proposed on lands managed by the National Wildlife Refuge system must undergo a 'Compatibility Determination' conducted by the Refuge. Please contact the individual Refuges to discuss any questions or concerns.

THERE ARE NO REFUGE LANDS AT THIS LOCATION.

Fish hatcheries

THERE ARE NO FISH HATCHERIES AT THIS LOCATION.

Wetlands in the National Wetlands Inventory

Impacts to NWI wetlands and other aquatic habitats may be subject to regulation under Section 404 of the Clean Water Act, or other State/Federal statutes.

For more information please contact the Regulatory Program of the local U.S. Army Corps of Engineers District.

WETLAND INFORMATION IS NOT AVAILABLE AT THIS TIME

This can happen when the National Wetlands Inventory (NWI) map service is unavailable, or for very large projects that intersect many wetland areas. Try again, or visit the NWI map to view wetlands at this location.

Data limitations

The Service's objective of mapping wetlands and deepwater habitats is to produce reconnaissance level information on the location, type and size of these resources. The maps are prepared from the analysis of high altitude imagery. Wetlands are identified based on vegetation, visible hydrology and geography. A margin of error is inherent in the use of imagery; thus, detailed on-the-ground inspection of any particular site may result in revision of the wetland boundaries or classification established through image analysis.

The accuracy of image interpretation depends on the quality of the imagery, the experience of the image analysts, the amount and quality of the collateral data and the amount of ground truth verification work conducted. Metadata should be consulted to determine the date of the source imagery used and any mapping problems.

Wetlands or other mapped features may have changed since the date of the imagery or field work. There may be occasional differences in polygon boundaries or classifications between the information depicted on the map and the actual conditions on site.

Data exclusions

Certain wetland habitats are excluded from the National mapping program because of the limitations of aerial imagery as the primary data source used to detect wetlands. These habitats include seagrasses or submerged aquatic vegetation that are found in the intertidal and subtidal zones of estuaries and nearshore coastal waters. Some deepwater reef communities (coral or tuberficid worm reefs) have also been excluded from the inventory. These habitats, because of their depth, go undetected by aerial imagery.

Data precautions

Federal, state, and local regulatory agencies with jurisdiction over wetlands may define and describe wetlands in a different manner than that used in this inventory. There is no attempt, in either the design or products of this inventory, to define the limits of proprietary jurisdiction of any Federal, state, or local government or to establish the geographical scope of the regulatory programs of government agencies. Persons intending to engage in activities involving modifications within or adjacent to wetland areas should seek the advice of appropriate federal, state, or local agencies concerning specified agency regulatory programs and proprietary jurisdictions that may affect such activities.

IS/MND Appendix C

Cultural Resources Survey

Avenues Septic to Sewer Project

Cultural Resources Survey

November 2022 | 01008.00011.001

Submitted to:

State Water Resources Control Board
Work Plan #

Prepared for:

Elsinore Valley Municipal Water District
31315 Chaney Street
Lake Elsinore, CA 92530

Mary Robbins-Wade
Cultural Resources Group Manager

Prepared by:

HELIX Environmental Planning, Inc.
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National Archaeological Database Information

Authors:	Mary Robbins-Wade, M.A., RPA and Theodore G. Cooley, M.A., RPA with contributions by James Turner, M.A., RPA
Firm:	HELIX Environmental Planning, Inc.
Client/Project:	Elsinore Valley Municipal Water District / Avenues Septic to Sewer Project
Report Date:	November 2022
Report Title:	Cultural Resources Survey for the Avenues Septic to Sewer Project, Lake Elsinore, California
Submitted to:	State Water Resources Control Board
Type of Study:	Cultural Resources Survey
New Sites:	None
Updated Sites:	P-33-007195
USGS Quad:	Lake Elsinore 7.5' Quadrangle
Acreage:	Approximately 99 acres
Key Words:	Riverside County; Township 6 South, Range 4 West; Lake Elsinore; negative archaeological survey; Traditional Cultural Property, *Paayaxchi.*

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ACRONYMS AND ABBREVIATIONS

AB	Assembly Bill
AMSL	above mean sea level
APE	Area of Potential Effects
BP	before present
CCR	California Code of Regulations
CEQA	California Environmental Quality Act
CFR	Code of Federal Regulations
CHRIS	California Historical Resources Information System
CRHR	California Register of Historical Resources
DPR	Department of Parks and Recreation
EVMWD	Elsinore Valley Municipal Water District
HELIX	HELIX Environmental Planning, Inc.
MGD	million gallons per day
NAHC	Native American Heritage Commission
NHPA	National Historic Preservation Act
NRHP	National Register of Historic Places
OHP	Office of Historic Preservation
Pechanga	Pechanga Band of Indians
PRC	Public Resources Code
ROW	right-of-way
SCIC	South Coastal Information Center
SHPO	State Historic Preservation Officer
SLF	Sacred Lands File
Soboba	Soboba Band of Luiseño Indians
SR	State Route
SWRCB	State Water Resources Control Board
TCP	Traditional Cultural Properties
TCR	Tribal Cultural Resources
THPO	Tribal Historic Preservation Officer
USGS	U.S. Geological Survey

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EXECUTIVE SUMMARY

HELIX Environmental Planning, Inc. (HELIX) was contracted by Elsinore Valley Municipal Water District (EVMWD) to provide cultural resources services for the Avenues Septic to Sewer Project (project) in the City of Lake Elsinore, Riverside County, California. The project is a proposed conversion of about 250 existing single-family residential septic customers to sewer, which includes the installation of new pipelines. A cultural resources study including a records search, Sacred Lands File search, Native American outreach, a review of historic aerial photographs and maps, and a pedestrian survey was conducted for the project area. This report details the methods and results of the cultural resources study. EVMWD is seeking funding from the Drinking Water State Revolving Fund. As such, the project is subject to review by the State Water Resources Control Board (SWRCB). Thus, this cultural resources study addresses the requirements of both the California Environmental Quality Act (CEQA) and Section 106 of the National Historic Preservation Act (NHPA) of 1966, as amended.

The records search obtained from the Eastern Information Center (EIC) in August 2022 indicated that 37 previous cultural resources studies have been conducted within a half mile of the project area, one of which was within the project area. The EIC has a record of 123 previously recorded cultural resources within a half-mile radius of the project; 101 of these are built environment resources, most of which are associated with the Lake Elsinore Downtown Historic District. Other historic resources include commercial and residential buildings from the early twentieth century, a 1920s bungalow court, refuse scatters, foundations, and a bridge. Native American resources include a bedrock milling site, artifact scatters, isolated artifacts (flakes, tools, a hammerstone, and ground stone implements), and the significant resource CA-RIV-4042, which is located approximately one-half mile from the project area. A 1920s vernacular wood frame house is the only resource recorded within the project area.

The Native American Heritage Commission (NAHC) was contacted in August 2022 for a Sacred Lands File search. The response, received on September 12, 2022 was positive. HELIX sent letters on September 20, 2022 to the tribal contacts provided by the NAHC. To date four responses have been received, two of them from Tribes deferring to other, more local Tribes. The Rincon Band of Luiseño Indians (Rincon; Band) indicated that the project location is within the Band's specific Area of Historic Interest and that the City of Lake Elsinore is considered a Traditional Cultural Place and Landscape by the Rincon Band, as it is associated with the Luiseño Creation and contains numerous recorded cultural places and other Tribal Cultural Resources. Rincon has no knowledge of specific cultural resources within the project area, however. The Pechanga Band of Luiseño Indians (Pechanga) responded that the project area is within "the heart of Our Ancestral Territory" and is within the boundary of a Traditional Cultural Property. The project is located in proximity to three Ancestral Placenames, two of which derive directly from the 'Ataaxum-Luiseño Creation account. Further, there are Ancestral remains and reburial locations in proximity to the project. Pechanga believes the possibility for recovering sensitive subsurface resources during ground-disturbing activities is extremely high.

A field survey was conducted by HELIX with tribal cultural monitors from the Soboba Band of Luiseño Indians (Soboba) and Pechanga in August 2022. The field survey was essentially negative; a single nondiagnostic milk glass jar fragment was observed. One 1920s home within the project area was noted in 1982 as National Register of Historic Places (NRHP) code 5, "recognized as historically significant by local government". The house was revisited as part of the current study and found to lack architectural integrity; the main features of a wooden front door and matching mullioned windows have been replaced, and the wooden exterior has been stuccoed. Based on this, the resource no longer qualifies as a historic property or historical resource.

Based on this survey, no effects to archaeological or built environment historical resources/historic properties are anticipated from project implementation. However, the Lake Elsinore area, with the placename *Paayaxchi*, has been identified by Rincon, Soboba, and Pechanga as a highly significant cultural area. The lake and nearby *'Itengvu Wumowmu* (Lake Elsinore Hot Springs) are tied directly to events that occurred during the creation of the world, per the Luiseño creation account.

Although *Paayaxchi* has not been formally evaluated for NRHP eligibility as a TCP, it appears to meet the criteria for eligibility under Criteria A, B, C, and D. Based on this, the project has the potential to affect a TCP. Discussions with Pechanga and Soboba to assess potential project effects are ongoing.

While no historic properties or historical resources (i.e., significant cultural resources) have been identified within the project area in terms of archaeology, as discussed throughout this report, the area is sensitive for cultural resources. Based on this, it is recommended that an archaeological and Native American monitoring program be implemented for ground-disturbing activities, including brushing/grubbing, grading, trenching, excavation, etc. The monitoring program would include attendance by the archaeologist and Native American monitor(s) at a preconstruction meeting with the grading contractor and the presence of archaeological and Native American monitors during ground-disturbing activities for the project. Both archaeological and Native American monitors would have the authority to temporarily halt or redirect grading and other ground-disturbing activity in the event that cultural resources are encountered. If significant cultural material is encountered, the project archaeologist will coordinate with representatives of the Monitoring Tribes and with EVMWD and SWRCB staff to develop and implement appropriate avoidance, mitigation, or treatment measures. Monitoring can be reduced in segments that are determined to have been cut or excavated into formation or otherwise to below potentially cultural strata.

1.0 INTRODUCTION

HELIX Environmental Planning, Inc. (HELIX) was contracted by the Elsinore Valley Municipal Water District (EVMWD) to provide cultural resources services for the Avenues Septic to Sewer Project (project) in the City of Lake Elsinore, Riverside County, California. The project is a proposed approximately 99-acre conversion of about 250 existing single-family residential septic customers to sewer, which includes the installation of new pipelines. A cultural resources study including a records search, Sacred Lands File search, Native American outreach, a review of historic aerial photographs and maps, and a pedestrian survey was conducted for the project area. This report details the methods and results of the cultural resources study and has been prepared to comply with the California Environmental Quality Act (CEQA) and Section 106 of the National Historic Preservation Act (NHPA) of 1966, as amended.

1.1 PROJECT LOCATION

The project is located in the City of Lake Elsinore (City) in northwestern Riverside County (Figure 1, *Regional Location*). The project is located west of Interstate (I-) 15 and east of Lake Elsinore, within Sections 8 and 9 of Township 6 South, Range 4 West, on the U.S. Geological Survey (USGS) 7.5' Lake Elsinore quadrangle (Figure 2, *USGS Topography*). The approximately 99-acre project site is bordered by Country Club Boulevard on the north and west, Avenue 6 to the east, and East Lakeshore Drive on the south (Figure 3, *Aerial Photograph*).

1.2 PROJECT DESCRIPTION

The project would convert about 250 existing single-family residential septic customers to sewer, which involves installing about 14,000 linear feet of sewer main and lateral pipelines within roadway rights-of-way (ROW). The proposed project would involve the construction and operation of approximately 14,000 feet (2.7 miles) of 4-, 8-, and 12-inch-diameter underground sewer pipelines within existing ROW. EVMWD anticipates that the proposed pipelines would be located within a 24- to 36-inch-wide trench. Pipeline trench depth is anticipated generally to be approximately seven to 12 feet. The new sewer lines would connect to the existing sewer mains underneath East Lakeshore Drive. The limits of disturbance would be limited to the affected road ROW.

Wastewater collected via the proposed sewer lines would be transported to the EVMWD Regional Water Reclamation Facility. The project is anticipated to generate approximately 62,500 gallons per day (GDP) of wastewater. Existing septic tanks serving the residents would be abandoned per Riverside County Health Department requirements.

EVMWD is seeking funding from the Drinking Water State Revolving Fund. As such, the project is subject to review by the State Water Resources Control Board (SWRCB). Thus, this cultural resources study addresses the requirements of both the NHPA and CEQA.

1.3 REGULATORY FRAMEWORK

1.3.1 National Historic Preservation Act

Section 106 of the National Historic Preservation Act of 1966 requires federal agencies to take into account the effects of their undertakings on historic properties and afford the Advisory Council on Historic Preservation (ACHP) a reasonable opportunity to comment. The historic preservation review process mandated by Section 106 is outlined in regulations issued by ACHP. Revised regulations, "Protection of Historic Properties" (36 Code of Federal Regulations [CFR] Part 800), became effective August 5, 2004. In the case of this project, the agency is the SWRCB, as the funding agency, which must abide by the requirements of Section 106 and consult with the State Historic Preservation Officer (SHPO).

Historic properties are properties that are included in the National Register of Historic Places (NRHP/National Register) or those that meet the criteria for inclusion in the NRHP, as outlined below. If the agency's undertaking could affect historic properties, the agency determines the scope of appropriate identification efforts and then proceeds to identify historic properties in the Area of Potential Effects (APE). The agency reviews background information, consults with the SHPO or Tribal Historic Preservation Officer (THPO) and others, seeks information from knowledgeable parties, and conducts additional studies, as necessary. Districts, sites, buildings, structures, and objects listed in the National Register are considered; unlisted properties are evaluated against the National Park Service's published criteria, in consultation with the SHPO/THPO and any Indian tribe or Native Hawaiian organization that may attach religious or cultural importance to them.

Section 106 review gives equal consideration to properties that have been included in the NRHP and those that have not been but meet NRHP criteria. Section 60.6 of 36 CFR Part 60 presents the criteria for the evaluation of cultural resources for nomination to the NRHP as follows:

The quality of significance in American history, architecture, archaeology, and culture is present in districts, sites, buildings, structures, and objects of state and local importance that possess integrity of location, design, setting, materials, workmanship, and association, and

a. That are associated with events that have made a significant contribution to the broad patterns of our history; or

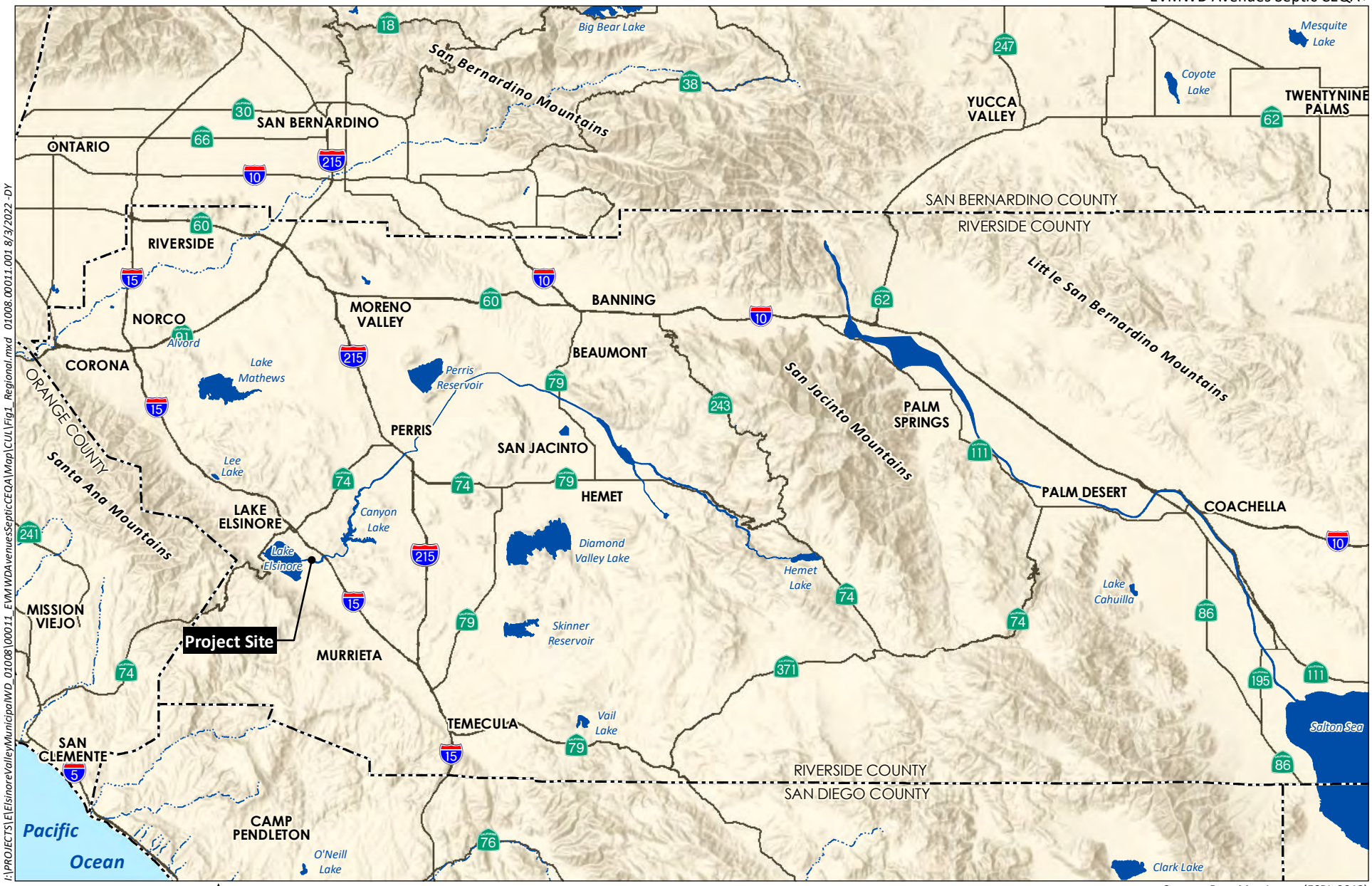
b. That are associated with the lives of persons significant in our past; or

c. That embody the distinctive characteristics of a type, period or method or construction, or that represent the work of a master, or that possess high artistic values, or that represent a significant and distinguishable entity whose components may lack individual distinction; or

d. That have yielded, or may be likely to yield, information important in prehistory or history [36 CFR Part 60].

1.3.2 California Environmental Quality Act

Under the CEQA, any object, building, structure, site, area, place, record, or manuscript that a lead agency determines to be historically significant or significant in the architectural, engineering, scientific,



Source: Base Map Layers (ESRI, 2013)

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HELIX Environmental Planning

Regional Location

Figure 1

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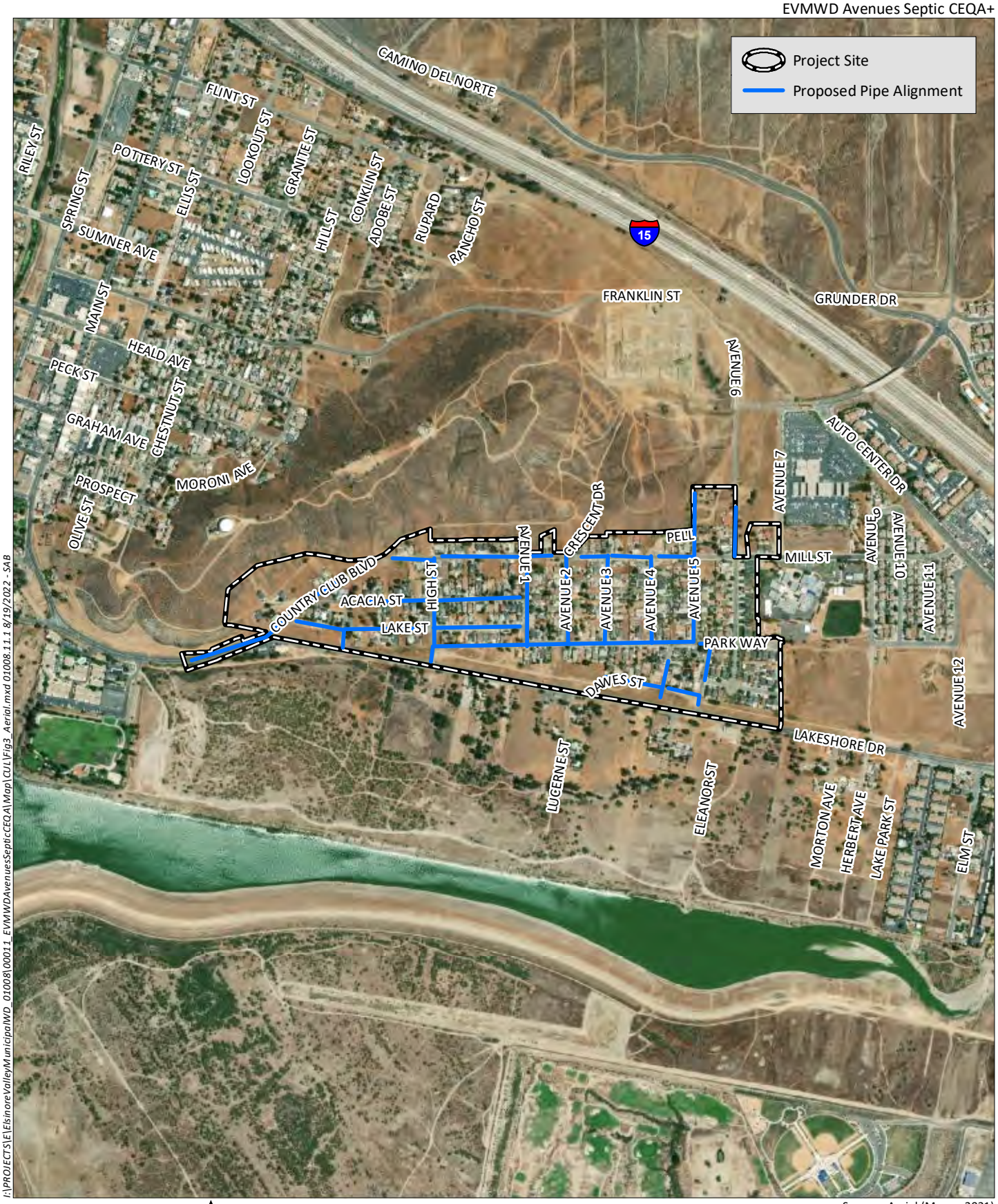
0 2,000 Feet

Source: LAKE ELSINORE 7.5' Quad (USGS)

HELIX Environmental Planning

USGS Topography

Figure 2



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0 1,000 Feet

Source: Aerial (Maxar, 2021)

HELIX Environmental Planning

Aerial Photograph

Figure 3

economic, agricultural, educational, social, political, military, or cultural annals of California may be considered to be a historical resource, provided the lead agency's determination is supported by substantial evidence in light of the whole record. Generally, a resource shall be considered by the lead agency to be "historically significant" if the resource meets the criteria for listing on the California Register of Historical Resources (CRHR) (Public Resources Code [PRC] §5024.1, Title 14 California Code of Regulations [CCR] Section 4852), including the following:

A (1): Is associated with events that have made a significant contribution to the broad patterns of California's history and cultural heritage;

B (2): Is associated with the lives of persons important in our past;

C (3): Embodies the distinctive characteristics of a type, period, region, or method of construction, or represents the work of an important creative individual, or possesses high artistic values, or:

D (4): Has yielded, or may be likely to yield, information important in prehistory or history.

Cultural resources eligible for the CRHR are considered significant resources, and impacts to them are significant environmental effects under CEQA.

1.3.3 Integrity

All resources that are eligible for listing in the NRHP or CRHR must have integrity, which is the authenticity of a historical resource's physical identity evidenced by the survival of characteristics that existed during the resource's period of significance. Resources, therefore, must retain enough of their historic character or appearance to be recognizable as historical resources and to convey the reasons for their significance. Integrity is evaluated with regard to the retention of location, design, setting, materials, workmanship, feeling, and association. In an archaeological deposit, integrity is assessed with reference to the preservation of material constituents and their culturally and historically meaningful spatial relationships. A resource must also be judged with reference to the particular criteria under which it is proposed for nomination. Under Section 106 of the NHPA, actions that alter any of the characteristics that qualify a property for eligibility for listing in the NRHP "in a manner that would diminish the integrity of the property's location, design, setting, materials, workmanship, feeling, or association" (36 CFR 800.5[a]) constitute an adverse effect to the historic property.

1.3.4 Native American Heritage Values

Federal and state laws mandate that consideration be given to the concerns of contemporary Native Americans with regard to potentially ancestral human remains, associated funerary objects, and items of cultural patrimony. Consequently, an important element in assessing the significance of the study site has been to evaluate the likelihood that these classes of items are present in areas that would be affected by the proposed project.

Potentially relevant to prehistoric/Native American archaeological sites is the category termed Traditional Cultural Properties (TCP) in discussions of cultural resource management performed under federal auspices. "Traditional" in this context refers to those beliefs, customs, and practices of a living community of people that have been passed down through the generations, usually orally or through practice. The traditional cultural significance of a historic property, then, is significance derived from the

role the property plays in a community's historically rooted beliefs, customs, and practices (Parker and King 1998).

Cultural resources can include TCPs, such as gathering areas, landmarks, and ethnographic locations in addition to archaeological districts. Generally, a TCP may consist of a single site, or group of associated archaeological sites (district or traditional cultural landscape), or an area of cultural/ethnographic importance. A TCP may be considered eligible for the National Register based on "its association with cultural practices or beliefs of a living community that (a) are rooted in that community's history; and (b) are important in maintaining the continuing cultural identity of the community" (Parker and King 1998:1). Strictly speaking, TCPs are both tangible and intangible; they are anchored in space by cultural values related to community-based physically defined "property referents" (Parker and King 1998:3). On the other hand, TCPs are largely ideological, a characteristic that may present substantial problems in the process of delineating specific boundaries. Such a property's extent is based on community conceptions of how the surrounding physical landscape interacts with existing cultural values. By its nature, a TCP need only be important to community members and not the general outside population as a whole. In this way, a TCP boundary may be defined based on viewscape, encompassing topographic features, the extent of an archaeological district or use area, or a community's sense of its own geographic limits. Regardless of why a TCP is of importance to a group of people, outsider acceptance or rejection of this understanding is made inherently irrelevant by the relativistic nature of this concept.

In California, the Traditional Tribal Cultural Places Bill of 2004 requires local governments to consult with Native American representatives during the project planning process, specifically before adopting or amending a General Plan or a Specific Plan, or when designating land as open space for the purpose of protecting Native American cultural places. The intent of this legislation is to encourage consultation and assist in the preservation of Native American places of prehistoric, archaeological, cultural, spiritual, and ceremonial importance. It further allows for tribal cultural places to be included in open space planning. California State Assembly Bill (AB) 52 revised PRC Section 21074 to include Tribal Cultural Resources (TCRs) as an area of CEQA environmental impact analysis. As a general concept, a TCR is similar to the federally defined TCP; however, it incorporates consideration of local and state significance and required mitigation under CEQA.

Per PRC Section 21080.3, a CEQA lead agency must consult with any California Native American tribe that requests consultation, and that is traditionally and culturally affiliated with the geographic area of a proposed project, to identify resources of cultural or spiritual value to the tribe, even if such resources are already eligible as historical resources as a result of cultural resources studies. A TCR may be considered significant if it is (i) included in a local or state register of historical resources; (ii) determined by the lead agency to be significant pursuant to criteria set forth in PRC Section 5024.1; (iii) a geographically defined cultural landscape that meets one or more of these criteria; (iv) a historical resource described in PRC Section 21084.1 or a unique archaeological resource described in PRC Section 21083.2; or (v) a non-unique archaeological resource if it conforms with the above criteria.

1.4 PROJECT PERSONNEL

Mary Robbins-Wade, M.A., RPA served as principal investigator and is the primary author of this technical report. Theodore Cooley, M.A., RPA served as co-author of this technical report, and James Turner, M.A., RPA was a report contributor as well. Ms. Robbins-Wade, Mr. Cooley, and Mr. Turner meet the qualifications of the Secretary of Interior's Standards and Guidelines for archaeology. Mary Villalobos, B.A. conducted the field survey; Brian Robben of the Soboba Band of Luiseño Indians

(Soboba) and Chris Yearyean of the Pechanga Band of Indians (Pechanga) participated in the pedestrian survey as tribal cultural monitors. Resumes for key HELIX personnel are presented in Appendix A.

2.0 PROJECT SETTING

2.1 NATURAL SETTING

The study area is situated in western Riverside County along what was once the southwestern shoreline of an earlier larger extent of Lake Elsinore, a natural lake formed in a basin created by faulting and water deriving, principally, from the San Jacinto River. This lake basin is situated at the eastern base of the Santa Ana and Elsinore mountains. The origin area of the Murrieta Creek drainage is present adjacent to the southeast of the study area. The climate of western Riverside County is characterized as a semi-arid environment with low humidity and rainfall. Almost all rainfall occurs in the winter, but the region can also experience rare, intense summer thunderstorms. Wind is also a strong feature of this climatic regime, with dry winds in excess of 25 miles per hour in the late winter and early spring (National Oceanic and Atmospheric Administration [NOAA] 2020). The project site is at the base of a small ridge, with gentle slopes throughout most of the project site and elevations ranging from, with an elevation of approximately 1,290 feet above mean sea level (AMSL) to 1,400 feet AMSL. Currently, the project vicinity is characterized predominantly by a mixture of open land, with adjacent urban development comprised mostly of residential development and associated infrastructure, as well as commercial development.

Geologically, the study area is underlain by young alluvial-fan deposits of early Holocene and late Pleistocene age comprised of unconsolidated alluvial fan sediments. These deposits consist of gravel, sand, and silt. Immediately adjacent to the study area to the south and west are young late Holocene age lacustrine sediments associated with prehistoric and early historic stands of Lake Elsinore, while immediately present in the uplands to the north are Mesozoic age metamorphic rocks consisting of quartzite and metasandstone, and Cretaceous age bedrock consisting of a wide variety of heterogeneous granitic rocks with tonalite the most abundant granitic rock type (Morton and Weber n.d.). The nearby foothills of the mountains to the east and northeast of the study area and the adjacent Santa Ana and Elsinore mountains to the west consist mostly of various granitic rocks dating to the Cretaceous Period, and metavolcanics and metasedimentary rocks of the Bedford Canyon Formation, dating to the Jurassic Period (Morton and Weber Jr. n.d.; Rogers 1965).

Five soil series are mapped for the study area: Wyman fine sandy loam, 8 to 15 percent slopes; Honcut sandy loam, 2 to 8 percent slopes and Honcut loam, 2 to 8 percent slopes; Arbuckle gravelly loam, 2 to 9 percent slopes and Arbuckle gravelly loam, 15 to 25 percent slopes; Garretson gravelly very fine sandy loam, 2 to 8 percent slopes; and Las Posas rocky loam, 15 to 50 percent slopes. The Wyman and Honcut series of soils are well drained and derived from igneous rock. The Arbuckle series is characterized by well-drained, very deep sandy loams and is formed from igneous, metamorphic, and sedimentary rock. The Garretson series of soils is well drained and derived from metasedimentary rock. The Las Posas series of soil is well drained and derived from weathered gabbro (Natural Resources Conservation Service 2022). The majority of the surface soils of the project site show signs of significant disturbance and alteration from their native state.

Biological surveys conducted by HELIX (2022) for the project identified six floral habitat types within the study area: brittle bush scrub (including disturbed), common and giant reed marshes (*Arundo donax*

stand), cattail marsh (also known as disturbed wetland) disturbed habitat, non-native vegetation, and developed land (HELIX 2022). Brittle bush scrub or Riversidean sage scrub habitat is the most xeric expression of coastal sage scrub. Within the study area, the brittle bush scrub is dominated by brittlebush (*Encelia farinosa*) and also includes small amounts of California buckwheat (*Eriogonum fasciculatum*), cane cholla (*Cylindropuntia bernardina*), and introduced foxtail chess (*Bromus madritensis* ssp. *Rubens*) and short pod mustard (*Hirschfeldia incana*). Common and giant reed marshes habitat is dominated by introduced giant reed (*Arundo donax*) and/or common reed (*Phragmites australis*). This habitat typically occurs in riparian areas, along low-gradient streams and ditches. In the study area this habitat is comprised of two small stands of giant reed supported by irrigation runoff from the residential development. Cattail marsh habitat is typically dominated by one or more cattail species (*Typha* spp.) and can include small quantities of other species including salt grass (*Distichlis spicata*), barnyard grass (*Echinochloa crus-galli*), sedge (*Cyperus* spp.), spike rush (*Eleocharis macrostachya*), and willows (*Salix* spp.). In the study area, cattail marsh occurs in two small patches where irrigation runoff from the residential development meets adjacent disturbed habitat. One patch is dominated by cattail and the other is dominated by barnyard grass and includes one willow. Non-native vegetation habitat includes trees or shrubs planted as windrows, invasive trees and shrub, and other vegetation that has spread from landscaping. In the study area this habitat includes olive (*Olea europaea*), eucalyptus (*Eucalyptus* sp.), Peruvian pepper (*Schinus molle),* and Jerusalem thorn (*Parkinsonia aculeata*). Disturbed habitat includes land cleared of vegetation (e.g., dirt roads), land containing a preponderance of non-native plant species, such as ornamentals or ruderal exotic species that take advantage of disturbance (previously cleared or abandoned landscaping), or land showing signs of past or present animal usage that removes any capability of providing viable habitat. Non-native vegetation and disturbed habitats occur primarily on the north and south sides of the study area along with small undeveloped parcels within the residential area and areas adjacent to development. Developed land is comprised of residential homes, commercial development, and associated roads (HELIX 2022).

Prehistorically, the natural vegetation in the project area and vicinity may have included elements of three of the plant habitats identified in the current HELIX biological survey: brittle bush scrub, common reed marshes, and cattail marsh. In addition, the study area and vicinity likely included native riparian and/or freshwater marsh vegetation along the Lake Elsinore shoreline and the San Jacinto River drainage, with mostly coastal sage scrub and native grassland in adjacent hill areas, and chaparral in the upper elevations of the adjacent mountains. Riparian vegetation includes plants such as western sycamore (*Platanus racemosa*), Fremont cottonwood (*Populus fremontii*), coast live oak (*Quercus agrifolia*), and willow (*Salix* sp.). Plants common to freshwater marsh include reed grass (*Phragmites australis*), marsh mallow (*Kosteletzkya virginic*), soft rush (*Juncus effusus*), spike rush (*Eleocharis macrostachya*) pickerelweed (*Pontederia cordata*), narrow-leaved cattail (*Typha angustifolia*), and button bush (*Cephalanthus occidental*). Native grassland plants include *Stipa, Elymus, Poa,* and *Muhlenbergia*. Plants of the coastal sage scrub community include California sagebrush (*Artemisia californica*), white sage *(Salvia apiana*), flat-top buckwheat (*Eriogonum fasciculatum*), broom baccharis (*Baccharis sarothroides*), wild onion (*Allium haematochiton*), laurel sumac (*Malosma laurina*), San Diego sunflower (*Bahiopsis laciniata*), golden-yarrow (*Eriophyllum confertiflorum*), sawtooth goldenbush (*Hazardia squarrosa*), yucca (*Yucca schidigera*, *Hesperoyucca whipplei*), prickly pear cactus (*Opuntia* sp.), and scrub oak (*Quercus dumosa*) (Hall 2007; Munz 1974). Major wildlife species found in this environment prehistorically were coyote (*Canis latrans*); mule deer (*Odocoileus hemionus*); grizzly bear (*Ursus arctos*); mountain lion (*Puma concolor*); desert cottontail (*Sylvilagus audubonii*); jackrabbit (*Lepus californicus*); and various rodents, the most notable of which are the valley pocket gopher (*Thomomys bottae*), California ground squirrel (*Ostospermophilus beecheyi*), and dusky footed woodrat (*Neotoma fuscipes*) (Head 1972). Desert cottontails, jackrabbits, and rodents were very important to the

prehistoric diet; deer were somewhat less significant for food, but were an important source of leather, bone, and antler. Many of the plant and animal species naturally occurring in the project vicinity are known to have been used by native populations for food, medicine, tools, ceremonial, and other uses (Bean and Saubel 1972; Bean and Shipek 1978; Christenson 1990; Hedges and Beresford 1986; Luomala 1978; Sparkman 1908). Lake Elsinore and the San Jacinto River would likely have made fresh water easily accessible to native populations living in the area.

2.2 CULTURAL SETTING

Groups of people now known as Luiseño Indians have inhabited the area in which the project lies for thousands of years. The people call themselves *Payómkawichum* (the People of the West) and comprise seven bands, including Pechanga and Soboba (Pechanga Band of Luiseño Indians 2022). The creation story of the Pechanga people explains that life was created at Temecula. "Life on earth began in this valley at '*Éxva Teméeku*, the birthplace of the *Káamalam* (First Children). *Teméeku* was the place where the world as we know it came to be events that took place here determined how some people became plants and animals, how people dealt with sickness and death, why some things could be eaten yet others could not, and all the other details of life in native California" (Pechanga Band of Luiseño Indians 2022). Although archaeologists discuss various archaeological complexes across temporal periods, the *Payómkawichum* recognize a continuum from the first people created and living in this area to the present day.

The cultural setting information provided in this chapter is based on archaeological evidence. As addressed above, it is important to note that these interpretations by archaeologists and linguistic anthropologists may differ from the traditional knowledge of the Luiseño people.

2.2.1 Prehistoric Period

Michael Moratto (1984) has previously defined eight archaeological regions and 16 subregions for California. The location of the project in western Riverside County places it within the boundary of the San Diego subregion of the Southern Coast Region, but it is also located adjacent to the boundary with the Colorado River subregion of the Desert Region (Moratto 1984: 148, Figure 4.13). The following culture history outlines and briefly describes the known prehistoric cultural Traditions and chronology of archaeological sites in the vicinity of the project. The approximately 11,000 years of documented prehistory of the region has often been divided into three periods: Early Prehistoric Period (San Dieguito Tradition/complex), Archaic Period (Milling Stone Horizon, Encinitas Tradition, La Jolla and Pauma complexes), and Late Prehistoric Period (San Luis Rey complex).

2.2.2 Early Prehistoric Period

The Early Prehistoric Period represents the time of the entrance of the first known human inhabitants into California. In some areas of California, it is referred to as the Paleo-Indian period and is associated with the Big-Game-Hunting activities of the peoples of the last Ice Age occurring during the Terminal Pleistocene and the Early Holocene, beginning circa 11,000 to 15,000 years ago (Erlandson et al. 2007). In the western United States, the most substantial evidence for the Paleo-Indian or Big-Game-Hunting peoples derives from finds of large, fluted spear and projectile points (Fluted Point Tradition) at sites in places such as Clovis and Folsom in the Great Basin and the Desert Southwest (Moratto 1984:79–88). In California, most of the evidence for the Fluted Point Tradition derives principally from areas along the western margins of the Great Basin, including the eastern Sierras and the Mojave Desert, and in the

southern Central Valley (Dillon 2002; Rondeau et al. 2007). Despite a few isolated occurrences of fluted points in the San Diego subregion (Dillion 2002; Fitzgerald and Rondeau 2012; Kline and Kline 2007; Rondeau et al. 2007) and Baja California (Des Lauriers 2008; Hyland and Gutierrez 1995), none have been found, to date, in the western Riverside or San Bernardino counties area of the subregion (Dillon 2002; Rondeau et al. 2007).

The earliest sites in the San Diego subregion, documented to be over 10,000 years old, belong not to the Fluted Point Tradition but to the San Dieguito Tradition (Warren et al. 2008; Warren and Ore 2011). The San Dieguito Tradition is defined by an artifact assemblage suggestive of a focus on hunting but lacking the distinctive fluted points associated with the Fluted Point Tradition. While the tradition has so far been documented principally in the coastal and near coastal areas in San Diego County (Carrico et al. 1993; Rogers 1966; True and Bouey 1990; Warren 1966; Warren and True 1961), as well as in the southeastern California deserts (Rogers 1939, 1966; Warren 1967), some evidence for it has been recently discovered in the eastern mountains of San Diego County (Pigniolo 2005) and at a site in a coastal area to the north in Los Angeles County (Sutton and Grenda 2012). The content of the earliest component of the C.W. Harris Site (CA-SDI-149), located along the San Dieguito River in San Diego County, approximately 43 miles to the south of the project area, formed the original basis upon which Warren and others (Rogers 1966; Warren 1966, 1967; Warren and True 1961) identified the "San Dieguito complex," which Warren later reclassified as the San Dieguito Tradition (1968). This Tradition is characterized by an artifact inventory consisting almost entirely of hunting-associated flaked stone bifaces and scraping tools including elongated bifacial knives; leaf-shaped projectile points; domed scrapers; crescentics; and, in the desert, Silver Lake and Lake Mojave projectile points (Knell and Becker 2017; Rogers 1939; Vaughan 1982; Warren 1967). The abundance of hunting-associated tools and the paucity of ground stone tools in the San Dieguito assemblage has led to a characterization of the Tradition/complex, by some researchers, as having a primarily, but perhaps not exclusively, hunting subsistence orientation, that was distinct from the more gathering-oriented complexes of traits that were to follow in the Archaic Period (Warren 1968; Warren et al. 2008). Other researchers see the San Dieguito subsistence system as a developmental stage for the predominantly gathering-oriented Encinitas Tradition, denoted in the San Diego area as the "La Jolla/Pauma complex" in the subsequent Archaic Period (cf. Bull 1983, 1987; Ezell 1987; Gallegos 1985, 1987, 1991; Koerper et al. 1991). As with the Fluted Point Tradition, however, despite occurrences in adjacent areas, no definite evidence of the San Dieguito Tradition has been documented, to date, in the western Riverside or San Bernardino counties area.

2.2.3 Archaic Period

In contrast to the traditions of the previous Early Prehistoric Period, during the subsequent Archaic Period, artifact assemblages of the Milling Stone Horizon/Encinitas Tradition occur at a range of coastal and adjacent inland sites and are relatively common in the study area region (Grenda 1997; Sutton and Gardner 2010). Warren has proposed that, during the Archaic Period in the south coastal region, the Encinitas Tradition began circa 8,500 years ago and extended essentially unchanged until circa 1,500 years ago, indicating that a relatively stable, sedentary, predominantly gathering complex, possibly associated with one people, was present in the coastal and immediately inland areas of southern California, extending from the beginning of the Archaic Period for more than 7,000 years (Warren 1968).

While Warren originally characterized the Encinitas Tradition spanning the time of the Archaic Period as being a relatively stable time of sedentary settlement with subsistence based predominantly on

gathering activities, and possibly associated with one people, it has also been noted by Warren and others that during the latter part of the Archaic Period, in the coastal region, beginning somewhere north of San Diego and extending to Santa Barbara, evidence of a cultural assemblage distinctive from this settlement and subsistence pattern could also be discerned (Warren 1968; Warren et al. 2008). This assemblage and time period have been variously designated as the Intermediate Horizon (Wallace 1955) or Campbell Tradition (Warren 1968) and has been delineated as following the Milling Stone Horizon/ Encinitas Tradition during the period in some southern California coastal areas. The assemblage is distinguished from earlier Archaic Period assemblages by the presence of large projectile points and milling tools such as the mortar and pestle, indicating the occurrence of new subsistence practices. The time period of this assemblage is viewed as beginning circa 4,800 years ago and continuing to as late as 1,300 years ago (Warren 1968). While still a matter of some debate, in the southernmost coastal region, Warren and others (2008) have subsequently termed this time period, encompassing the extent of the Intermediate/Campbell cultural assemblage, as the Final Archaic Period.

In the western Riverside County area, early archaeological investigations conducted at several archaeological sites in Perris Valley for the Perris Reservoir project produced only a single radiocarbon date of circa 2200 years before present (BP) and a few diagnostic artifacts as the only evidence for a late Archaic Period occupation in the western Riverside County region (Bettinger 1974:159-162). Investigations at another site, CA-RIV-1806, in the mountains northwest of Temecula, also produced a radiocarbon date for the late Archaic Period of circa 2775 BP (McCarthy 1986:73). More recently, approximately two miles from the project area, large-scale archaeological investigations were conducted at the Lake Elsinore site (Grenda 1997:3). Archaeological investigations conducted at CA-RIV-2798, located along the old lake shoreline, indicated occupation as early as 8,500 years ago (Grenda 1997). Another recent archaeological investigation conducted in the San Jacinto Valley at site CA-RIV-6069 has produced an early Archaic Period assemblage and occupation as early as 9,400 years ago (Horne and McDougall 2008:91). Another relatively recent archaeological investigation conducted in the general vicinity of the project area has also produced evidence for prehistoric occupation in the western Riverside County area during the earliest part of the Archaic Period. The Eastside Reservoir (Diamond Valley Lake) Project, located approximately 15 miles northeast of the study area, involved construction, within the adjacent Domenigoni and Diamond valleys, of the Diamond Valley Lake reservoir and the associated Eastside Reservoir Project (Goldberg 2001; Robinson 2001). Based on the results from this project, the researchers developed a local chronology specific to the Domenigoni and Diamond valleys based on projectile point style changes and associated radiocarbon dates (Robinson 2001). The terminology in this chronology resembles that already presented above, with the period from 9,500 to 7,000 years ago designated as the Early Archaic period, the period from 7,000 to 4,000 years ago as the Middle Archaic, and the period from 4,000 to 1,500 years ago as the Late Archaic. In the Eastside Reservoir Project, only two components could be firmly dated to the Early Archaic, but sparse evidence of Early Archaic activity was noted in six other localities. One site did, however, produce two radiocarbon dates of 9190±50 and 9310±60 BP (McDougall 2001). For the Middle Archaic, firm evidence was documented in 14 locations, with other traces at four other sites. During the Late Archaic, a profusion of activity and occupation was evident, with 23 firmly dated site components and sparse evidence at eight other localities (Goldberg 2001:524).

Thus, prehistoric occupation during the Archaic Period in the study area vicinity is documented to have occurred possibly as early as 9,400 years ago, and remained present to the end of the period, approximately 1,500 years ago. While this temporal extent correlates with Warren's original proposed extent of the Encinitas Tradition, refinement of his characterization of the Tradition as being a relatively stable, sedentary, predominantly gathering complex, possibly associated with one people, and with an

extent mostly restricted to the San Diego County area, may now, based on new information available, be subject to some revision (cf. Sutton and Gardner 2010).

2.2.4 Late Prehistoric Period

Some of the earliest archaeological investigations conducted in the western Riverside area produced considerable evidence of occupation in the area during the Late Prehistoric Period. One of the few early studies to occur in this area was conducted near Temecula in the early the 1950s at a site identified as the ethnohistoric village of *Temeku* (McCown 1955). The investigation produced a substantial, primarily Late Prehistoric Period, artifact assemblage. Another study consisted of investigations at several sites in the 1970s for the construction of the Perris Reservoir (O'Connell et al. 1974, eds). The results, which included several radiocarbon dates, indicated a predominance of occupation at the sites during the Late Prehistoric Period, after AD 1500 (Bettinger 1974:159-162).

The beginning of the Late Prehistoric Period in the southern coastal region, circa 1,500 years ago, is seen as marked by a number of rather abrupt changes. The magnitude of these changes and the short period of time within which they took place are reflected in significant alteration of previous subsistence practices and the adoption of significant new technologies. As discussed further below, some of this change may have been as a result of significant variations in the climatic conditions. Subsistence and technological changes that occurred include a shift from hunting using atlatl and dart to the bow and arrow; a de-emphasizing of shellfish gathering along some areas of the coast (possibly due to silting-in of the coastal lagoons); and an increase in the storage of crops, such as acorns and pinyon nuts. Other new traits introduced during the Late Prehistoric Period include the production of pottery and cremation of the dead, and, locally, in the western Riverside County area, a shift in settlement pattern is apparent (cf. Wilke 1974).

This shift in settlement is first noted during the early part of the period from 1,500 to 750 years ago and is evidenced, locally, in the results from the Eastside Reservoir Project by a rather sudden decline in occupation in the local area during the initial part of the period. This 750-year period was termed by the Eastside Reservoir researchers as the Saratoga Springs Period, following Warren's (1984) desert terminology. This period can also be seen to partially coincide with a warm and arid period known as the Medieval Warm Period, documented to have occurred between approximately 1,100 and 600 years ago (Jones et al. 1999; Kennett and Kennett 2000; Stine 1994). During this period, at least two episodes of severe drought have also been demonstrated, the first calibrated to between 1060 and 840 BP and the second between 740 and 650 BP (Goldberg 2001; Stine 1994). While sites dating to this period are not absent in western Riverside County (e.g., McCarthy 1987:34; Keller and McCarthy 1989), Goldberg (2001) hypothesized that the Medieval Warm Period could account for the decline in sites occurring in the Eastside Reservoir Project area during the Saratoga Springs Period (1500 to 750 BP), claiming that desert and inland areas of western Riverside County, such as where the Eastside Reservoir Project is located, would no longer be suitable to support residential bases. Goldberg (2001) further hypothesized that settlements would possibly be clustered at more suitable water sources during this time, such as at the coast, Lake Cahuilla, or Lake Elsinore (cf. Wilke 1974). While a decline was noted during the initial part of the Saratoga Springs Period, subsequently, during the latter part of the period, during the time of the Medieval Warm Period, a reoccupation began to occur (Goldberg 2001:578). According to Goldberg, "When components dating to the Medieval Warm segment of the Saratoga Springs Period are segregated and combined with Medieval Warm components from the Late Prehistoric Period, it shows that the frequency of refuse deposits and artifact and toolstone caches during the Medieval Warm is

slightly higher than during the Late Archaic and much higher than during the later portion of the Late Prehistoric Period" (2001:578).

In the Eastside Reservoir Project, the Late Prehistoric Period was defined as extending from the end of the Saratoga Springs Period (750 BP) to 410 BP. A subsequent Protohistoric Period was also defined as extending from 410 to 150 BP. The Late Prehistoric Period (750–410 BP) was characterized by the presence of Cottonwood points, although research indicated that Cottonwood points had actually begun to appear in the Eastside Reservoir Project study area as early as 950 BP. Ceramics and abundant obsidian began to appear around the time of the Cabrillo exploration in AD 1542, and so this date (i.e., circa 410 BP), until the establishment of the mission system in the late 1700s, was defined as the Protohistoric Period (Robinson 2001). It should also be noted that the end of the Saratoga Springs Period and the beginning of the Late Prehistoric Period, 750 BP, also coincides with the onset of the Little Ice Age, generally dated from 750 to 150 BP (Goldberg 2001; Sutton et al. 2007). During this period, the climate was cooler and moister, and the sites identified within the Eastside Reservoir Project study area reflected a substantial increase in number and diversity, longer occupation periods, and more sedentary land use. Similar intensification of land use also occurred during this time in neighboring San Gorgonio Pass (Bean et al. 1991), and Perris Valley (Wilke 1974).

2.2.5 Ethnohistory

The Lake Elsinore area is within the traditional territory of the Luiseño people and is important in their creation stories and other traditional ceremonies and songs. Another group, the Juaneño, were closely related to the Luiseño—so closely, in fact, that some researchers have seen little distinction between them (Bean and Shipek 1978; White 1963). However, Luiseño and Juaneño individuals consider themselves to be separate tribes, and Cameron (1987:319-321) has noted possible differences in the archaeological record between the two peoples. The names for these groups are based on their associations, post European contact, with either Mission San Juan Capistrano, Mission San Luis Rey, or Mission San Gabriel (Gabrielino). The Luiseño and Juaneño (*Acjachemen*), along with the Cahuilla, Gabrielino, and Cupeño, comprise the Cupan group of the Takic subfamily of the Uto-Aztecan linguistic stock (Bean and Vane 1979; Miller 1986; Shipley 1978).

The Luiseño followed a seasonal gathering cycle, with bands occupying a series of habitation areas within their territory (Bean and Shipek 1978; White 1963). The Luiseño lived in semi-sedentary villages usually located along major drainages, in valley bottoms, and also on the coastal strand, with each family controlling gathering areas (Bean and Shipek 1978; Sparkman 1908; White 1963). True (1990) indicated that the predominant determining factor for placement of villages and campsites was locations where water was readily available, preferably on a year-round basis. While most of the major Luiseño villages known ethnographically were located closer to the coast along the Santa Margarita River Valley and the San Luis Rey River Valley (Bean and Shipek 1978; Kroeber 1925; White 1963), Kroeber does indicate general locations for three Luiseño villages in more inland areas. He places the village of *Panache* in proximity to Lake Elsinore and the confluence of the San Jacinto River and Temescal Creek, approximately two miles to the north of the project area, and the villages of *Temeku* and *Meha* in the vicinity of the confluence of the upper Santa Margarita River, Murrieta Creek, and Temecula Creek, approximately 15 miles to the southeast of the project area (Kroeber 1925: Plate 57; McCown 1955:1). Lerch and Smith (1984:8), however, have indicated that both the Luiseño and Juaneño people have distinctive ties to Lake Elsinore:

The Juaneño name for Lake Elsinore was *Paayaxtci*, while the version in another Luiseño dialect (called Temescal by Harrington) was *Paahashnan*. The name for Elsinore Hot Springs was *'Atengvo*, a word which meant "hot springs" and which also applied to the locality of the city of Elsinore, especially the area along the outflow stream of the lake where a number of hot springs are located.

Elsinore Hot Springs has known religious significance to the Juaneños and all Luiseños, as it was the locality known as *Itengvu Wumowmu* in a song recounting the death of Wiyot, a legendary religious leader who the people followed in their migration from the north. When Wiyot was sick and dying, the people took him to a number of sacred hot springs in southern California in an effort to cure him. Elsinore Hot Springs was the last of these, and there Wiyot died (DuBois 1908:134; Harrington 1978:199).

2.2.6 *Paayaxchi*

The people of Pechanga and Soboba have indicated that they consider *Paayaxchi* (Lake Elsinore) to be a highly significant cultural area, drawing its significance from the creation account, not merely from the numerous archaeological resources around the lake. The lake and nearby *'Itengvu Wumowmu* (Lake Elsinore Hot Springs) are tied directly to events that occurred during the creation of the world. Although *Paayaxchi* has not been formally evaluated for NRHP eligibility as a TCP, it appears to meet the criteria for eligibility under Criteria A, B, C, and D. *Paayaxchi* is potentially eligible under Criterion A for its association with the "cultural practices or beliefs of a living community that (a) are rooted in that community's history, and (b) are important in maintaining the continuing cultural identity of the community" (Parker and King 1998: 1). *Paayaxchi* could be considered eligible under Criterion B for its association with the cultural figure *Wuyoot* and under Criterion C for the presence of rock art. The resource is also potentially eligible under Criterion D for its potential to address important research themes and contribute to an understanding of traditional Luiseño lifeways.

2.2.7 Historical Background

2.2.7.1 Spanish Period

The first documented Spanish contact in what is now Riverside County was by Spanish military captain Juan Bautista de Anza who led expeditions in 1774 and 1775 from Sonora to Monterey (Bolton 1930). Anza embarked on the initial expedition to explore a land route northward through California from Sonora, with the second expedition bringing settlers across the land route to strengthen the colonization of San Francisco (Rolle 1963). Anza's route led from the San Jacinto Mountains northwest through the San Jacinto Valley, which was named "San José" by Anza. Little documentation exists of Anza's route being used after the two expeditions, although it was likely used to bring Spanish supplies into the newly colonized Alta California (Lech 2004). In 1781, the Spanish government closed the route due to uprisings by the Yuman Indians. However, by that time, the missions were established and self-sufficient; thus, the need for Spanish supplies from Sonora had begun to diminish.

Although Riverside County proved to be too far inland to include any missions within its limits, Missions San Juan Capistrano and San Luis Rey de Francia, established in 1776 and 1798 respectively, claimed a large part of southwestern Riverside County. Due to the inland geographical location of this area, the Spanish missions did not have as direct and immediate an effect on the people as they did on the Luiseño who lived along the coast. On the coast, the Luiseño were moved into the Mission environment,

where living conditions and diseases promoted the decline of the Luiseño population (Bean and Shipek 1978). However, throughout the Spanish Period, the influence of the Spanish progressively spread further from the coast and into the inland areas of southern California as Missions San Luis Rey and San Gabriel extended their influence into the surrounding regions and used the lands for grazing cattle and other animals.

In the 1810s, ranchos and mission outposts called asistencias were established, increasing the amount of Spanish contact in the region. An asistencia was established in Pala in 1818 and in San Bernardino in 1819. Additionally, Rancho San Jacinto was established for cattle grazing in the San Jacinto Valley (Bean and Vane 1980; Brigandi 1999). In 1820, Father Payeras, a senior mission official, promoted the idea that the San Bernardino and Pala asistencias be developed into full missions in order to establish an inland mission system (Lech 2004). However, Mexico won its independence from Spain in 1821, bringing an end to the Spanish Period in California.

2.2.7.2 Mexican Period

Mexico, including Alta California, gained its independence from Spain in 1821, but Spanish culture and influence remained as the missions continued to operate as they had in the past, and laws governing the distribution of land were also retained for a period of time.

Following secularization of the missions in 1834, large ranchos were granted to prominent and well-connected individuals. The society made a transition from one dominated by the church and the military to a more civilian population, with people living on ranchos or in pueblos. With numerous new ranchos, cattle ranching expanded and prevailed over agricultural activities. These ranches put new pressures on California's native populations, as grants were made for inland areas still occupied by the Native people, forcing them to acculturate or relocate farther into the backcountry. In rare instances, former mission neophytes were able to organize pueblos and attempt to live within the new confines of Mexican governance and culture.

The area south and west of the project area was encompassed by Rancho La Laguna, an approximately 14,000-acre rancho that was granted to Julian Manriquez by Governor Manuel Micheltorena (Hoffman 1862). Little is known about Manriquez; in 1851, Manriquez sold the rancho to Abel Stearns (U.S. District Court 1851).

2.2.7.3 American Period

The Mexican period ended when Mexico ceded California to the United States after the Mexican-American War (1846–1848), which concluded with the Treaty of Guadalupe Hidalgo. A great influx of settlers to California and the San Diego and Riverside County region occurred during the American Period, resulting from several factors, including the discovery of gold in the state in 1848, the end of the Civil War, the availability of free land through passage of the Homestead Act in 1862, and later, the importance of the region as an agricultural area supported by roads, irrigation systems, and connecting railways. The increase in American and European populations quickly overwhelmed many of the Spanish and Mexican cultural traditions, and greatly increased the rate of population decline among Native American communities.

Initially southern California was divided into only two counties: Los Angeles and San Diego. In 1853, San Bernardino County was added, placing what is now Riverside County primarily within San Diego County

and partially within San Bernardino County. Riverside County was created from portions of San Bernardino and San Diego counties in 1893.

Abel Stearns, born in Massachusetts in 1798, moved to Mexico City in 1826 and later became a naturalized citizen (Brigandi 2011). In 1829, he moved to California and settled in Los Angeles, where he served as a middleman between trading ships and ranchos. In 1841, he married 14-year-old Arcadia Bandini, and the next year he purchased the Los Alamitos Rancho and shifted his focus to raising cattle. During this time, the area that would become Riverside County was dominated by cattle and orange groves (Brigandi 2011; Lech 2004). Stearns filed a claim for Rancho La Laguna to the Public Land Commission in 1851 and later patented the land in September 1872 (Willey 1886).

In 1858, Stearns sold Rancho La Laguna to Augustin Machado, who began construction of a seven-room adobe west of the lake (City of Lake Elsinore 2011). This adobe would later become the site of the Laguna Grande station of the Butterfield Overland Mail stage line, which operated from 1858 to 1861 (City of Lake Elsinore 2011; Helmich 2008). This mail route followed the so-called "oxbow route," which skirted the Rocky Mountains by travelling south through Texas, New Mexico Territory, Fort Yuma, and Southern California, bypassing San Diego (Helmich 2008).

Franklin Heald purchased Rancho La Laguna from Machado and founded the down of Elsinore in 1883 (City of Lake Elsinore n.d., 2011). Taking the name from the City of Helsingnor from Shakespeare's *Hamlet*, the town would become a full-fledged city in 1888. The Atchison, Topeka, and Santa Fe Railroad was completed in the early 1880s, which allowed Elsinore to flourish (City of Lake Elsinore 2011).

West of the project area is the census-designated place of Lakeland Village. Due to its topography and isolation from other areas within Lake Elsinore, Lakeland Village has remained mostly undeveloped (City of Lake Elsinore 2011). The area is named for Lakeland Ranch, one of the state's largest canning facilities, owned by C.H. Albers and used primarily to cultivate and can produce, such as olives, citrus, and almonds (City of Lake Elsinore 2011). Purchased in 1895, the 135 acres of land also was known as Alber's Folly, as many believed that it was foolish to raise olives as a cash crop (Johnson 2014).

The 1920s saw Lake Elsinore acting as a playground for the rich and famous (City of Lake Elsinore n.d.). During this time, the town saw a large amount of development; several religious structures were built in the first half of the decade, and several attempts were made to revitalize the tourist industry in the latter half of the decade (City of Lake Elsinore 2011).

In the 1950s, the area experienced an extreme drought; for the first time in recorded history, Lake Elsinore went completely dry (City of Lake Elsinore n.d.). In 1954, Forest and Florence Perkins purchased approximately 190 acres of land along the floodplain south of the lake and built the Skylark Field Airport (Bitetti and Bitetti 2013). Over the next two decades, the airport, and the lake, was home to several skydiving competitions and reality shows (Bitetti and Bitetti 2013; City of Lake Elsinore n.d.). The lake was filled with water from the Colorado River in 1964 and experienced the worst flooding in recorded history in 1981 and 1983 due to El Niño conditions (City of Lake Elsinore n.d.).

3.0 ARCHIVAL RESEARCH AND CONTACT PROGRAM

3.1 RECORDS SEARCH

HELIX staff requested a record search of the California Historical Resources Information System (CHRIS) from the Eastern Information Center (EIC) on August 3, 2022, which was received on September 3, 2022. The records search covered a half-mile radius around the project area and included the identification of previously recorded cultural resources and locations and citations for previous cultural resources studies. A review of the California Historical Resources and the state Office of Historic Preservation (OHP) historic properties directories was also conducted. The records search summary and map are included as Appendix B (confidential appendices, bound separately).

3.1.1 Previous Surveys

The records search results identified 37 previous cultural resource studies within the record search limits, one of which occurred within the project area. The single study within the project area was an assessment of cultural resources for a telecommunication facility near the corner of East Lakeshore Drive and Lucerne Street. Reports within the records search radius and within the project area are summarized in Appendix C. Studies within the records search radius generally include cultural resource surveys and test excavations/assessments, as well as historic studies, for a variety of project types, including specific plans, water projects, transmission lines, and telecom facilities.

3.1.2 Previously Recorded Resources

The EIC has a record of 123 previously recorded cultural resources within a half-mile radius of the project, one of which is recorded within the project area (Table 1, *Previously Recorded Resources within One Half-Mile of the Project Area*). The single resource documented within the project area, P-33-007195, is a vernacular wood frame house constructed in 1924 and located at 1036 Park Way. The site record notes, “This wood frame house is most notable for its original mullioned windows and front door. Its architectural integrity is intact” (Borchard 1982). The record lists the NRHP code as 5, “recognized as historically significant by local government”. The house is described as follows:

> Rectangular in plan with composition shingle hipped gable roof, the house at 1036 Park Way has an end brick chimney with corbeled cap, clapboard siding, a centered mullioned-window door with double matching pattern mullioned windows on each side, and a hipped gable portico with horizontal slat vent and square porch posts. Two simple pergolas flank the portico and a rock wall fence and iron gate enclose the front yard. Two large palm trees and other trees shade the house set relatively close to the street [Borchard 1982].

Table 1
PREVIOUSLY RECORDED RESOURCES WITHIN ONE HALF-MILE OF THE PROJECT AREA

Primary Number (P-33-#)	Trinomial (CA-RIV-#)	Age	Description	Recorder, Date
002765	2765	Prehistoric	Bedrock milling	Desautels and Johnson, 1984
002798	2798	Prehistoric	Lithic scatter	Lerch, 1984; McCarthy, 1992; Becker, 1994
004042	4042	Prehistoric	Lithic scatter	Hampson and Schmidt, 1990
004648	4648	Prehistoric	Lithic scatter	LeCount and Helvy, 1991; Hovland, 2007
006982		Historic	Building, structure, element of district	Mapel, 1982
006983		Historic	Building, element of district	Gonzales, 1982
006984		Historic	Building, element of district	Craig, 1982
006985		Historic	Building, element of district	Shaner, 1982
006986		Historic	Building, element of district	Kase, 1982
006987		Historic	Building, element of district	Gonzales, 1982
006988		Historic	Building, element of district	Meredith, 1982
006989		Historic	Building, element of district	Meredith, 1982
006990		Historic	Building, element of district	Meredith, 1982
006991		Historic	Building, element of district	Meredith, 1982
006992		Historic	Building, element of district	Meredith, 1982
006993		Historic	Building, element of district	Meredith, 1982
006994		Historic	Building, element of district	Borchard, 1982
006995		Historic	Building, element of district	Borchard, 1982
006996		Historic	Building, element of district	Borchard, 1982
006997		Historic	Building, element of district	Meredith, 1982
006998		Historic	Building, element of district	Warner, 1982
006999		Historic	Building, element of district	Warner, 1982
007000		Historic	Building, element of district	Warner, 1982

Primary Number (P-33-#)	Trinomial (CA-RIV-#)	Age	Description	Recorder, Date
007049		Historic	Building	Warner, 1982
007051		Historic	Lake Elsinore City Park	Borchard, 1982
007052		Historic	Building	Meredith, 1982
007053		Historic	Building	Borchard, 1982
007054		Historic	Building	Meredith, 1982
007055		Historic	Building	Borchard, 1982
007056		Historic	Building	Meredith, 1982
007057		Historic	Building	Meredith, 1982
007058		Historic	Building	Meredith, 1982
007059		Historic	Building	Borchard, 1982
007060		Historic	Building	Meredith, 1982
007061		Historic	Building	Meredith, 1982
007062		Historic	Building	Borchard, 1982
007063		Historic	Building	Borchard, 1982
007064		Historic	Building	Borchard, 1982
007065		Historic	Building	Meredith, 1982
007066		Historic	Building	Borchard, 1982
007067		Historic	Building	Craig, 1982
007068		Historic	Building	Meredith, 1982
007069		Historic	Building	Meredith, 1982
007070		Historic	Building	Craig, 1982
007071		Historic	Building	Meredith, 1982
007072		Historic	Building	Meredith, 1982
007073		Historic	Building	Warner, 1982
007074		Historic	Building	Warner, 1982
007075		Historic	Building	Meredith, 1982
007076		Historic	Building	Warner, 1982; URS, 2012
007077		Historic	Building	Warner, 1982
007078		Historic	Building	Warner, 1982
007079		Historic	Building	Meredith, 1982
007080		Historic	Building	Meredith, 1982
007089		Historic	Building	Meredith, 1982
007090		Historic	Building	Warner, 1982
007091		Historic	Building	Borchard, 1982
007092		Historic	Building	Craig, 1982
007093		Historic	Building	Meredith, 1982
007094		Historic	Building	Borchard, 1982
007095		Historic	Building	Craig, 1982
007096		Historic	Building	Meredith, 1982
007097		Historic	Building	Warner, 1982
007098		Historic	Building	Borchard, 1982
007099		Historic	Building	Meredith, 1982
007100		Historic	Building	Meredith, 1982
007101		Historic	Building	Meredith, 1982
007102		Historic	Building	Borchard, 1982; URS, 2012
007103		Historic	Building	Craig, 1982
007104		Historic	Building	Borchard, 1982

Primary Number (P-33-#)	Trinomial (CA-RIV-#)	Age	Description	Recorder, Date
007105		Historic	Building	Craig, 1982
007106		Historic	Building	Meredith, 1982
007107		Historic	Building	Warner, 1982
007108		Historic	Building	Gonzales, 1982
007109		Historic	Building	Gonzales, 1982
007110		Historic	Building	Hohenberger, 1982
007111		Historic	Building	Gonzales, 1982
007112		Historic	Building	Warner, 1982
007113		Historic	Building	Warner, 1982
007114		Historic	Building	Gonzales, 1982
007115		Historic	Building	Gonzales, 1982
007116		Historic	Building	Warner, 1982
007117		Historic	Building	Hohenberger, 1982
007118		Historic	Building	Meredith, 1982
007119		Historic	Building	Warner, 1982
007136		Historic	Building	Shaner, 1982
007137		Historic	Building	Warner, 1982
007138		Historic	Building	Borchard, 1982
007139		Historic	Building	Meredith, 1982
007140		Historic	Building	Meredith, 1982
007141		Historic	Building	Borchard, 1982
007142		Historic	Building	Meredith, 1982
007143		Historic	Lake Elsinore Downtown Historic District	Warner, 1982
007145		Historic	Building	Hohenberger, 1982
007146		Historic	Building	Gonzales, 1982
007147		Historic	Brenneke Courts Bungalow Court	Warner, 1982
007148		Historic	Building	Gonzalez, 1982
007149		Historic	Building	Meredith, 1982
007154		Historic	Building	Meredith, 1982
007178		Historic	Building	Gonzales, 1982
007181		Historic	Building	Becker, 1982
007187		Historic	Building	Warren, 1982
007188		Historic	Building	Hohenberger, 1982
007195*		Historic	Building	Borchard, 1982
007198		Historic	Building	Gonzales, 1982
007199		Historic	Building	Borchard, 1982
008918		Prehistoric	Isolated biface fragment	Becker, 1994
011009		Prehistoric, Historic	Lake Elsinore	Meredith, 1982
014711	7840	Historic	Refuse scatter	Ballester, 2005
014712		Prehistoric	Isolated mano	Ballester, 2005
014713		Prehistoric	Isolated metate fragment	Ballester, 2005
014714		Prehistoric	Isolated metate fragment	Ballester, 2005

Primary Number (P-33-#)	Trinomial (CA-RIV-#)	Age	Description	Recorder, Date
015068		Prehistoric	Isolated flake	Harris, 2006
015069		Prehistoric	Isolated flake	Harris, 2006
015070		Prehistoric	Isolated mano and basalt ground stone tool	Harris, 2006
015071	8021/H	Multi-component	Prehistoric artifacts and historic refuse scatter	Harris, 2006; Hovland, 2007
015072		Prehistoric	Isolated flake	Harris, 2006
015073		Prehistoric	Isolated flake	Harris, 2006
015074		Prehistoric	Isolated hammerstone	Harris, 2006
016821		Prehistoric	Isolated metate fragment	Tift, Piek, Hovland, Welsh, Huval, and Doose, 2007
016822		Prehistoric	Isolated metate fragment	Tift, Piek, Hovland, Welsh, Huval, and Doose, 2007
016823	8801	Historic	Refuse scatter	Noah and Doose, 2007
021126	11690	Historic	Bridge	Cotterman and Cunningham, 2012
024857	12320	Historic	Refuse scatter and foundations	Kraft, 2016

* Within project area

Of the 123 recorded resources, 101 are historic built environment resources, most of which are elements of the Lake Elsinore Downtown Historic District, including homes, businesses, churches, community centers, a city park, and a train depot. Other historic era resources include the Brenneke Courts bungalow court; various other residential and commercial buildings ranging in date of construction between 1880 and 1930; three refuse scatters, one of which included foundations; and a bridge.

Native American resources include a bedrock milling site, three sites described as lithic scatters, and 11 isolates (flakes, tools, hammerstone, mano fragments, metate fragments, and other ground stone fragments). One of the lithic scatter sites, CA-RIV-4042, is actually a significant resource for which the site record apparently was not updated following test excavations and monitoring. Cores, debitage, and a variety of flaked stone tools were recovered during testing, including projectile points, bifaces, scrapers, choppers, hammerstones, and other tool types. Faunal remains consisted of mostly small, fragmented pieces of mammal bone, with two pieces of bird bone and two fragments of turtle carapace also recovered (McKeehan 2010). The site is located approximately one-half mile from the project area. One site includes both historic era refuse and a prehistoric artifact scatter. Lake Elsinore itself is also recorded as a cultural resource.

3.2 OTHER ARCHIVAL RESEARCH

Various archival sources were also consulted, including historic topographic maps and aerial photos. The purpose of this research was to identify historic structures and land use in the area. Historic topographic maps and aerial imagery examined included historic aerial photographs from 1938, 1967, 1974, 1978,

and 1980 (NETR Online 2022) and several historic USGS topographic maps, including the 1901 Elsinore and 1901 and 1904 Southern California (1:125,000 scale) topographic maps, and the 1953 and 1973 Elsinore and 1982 Lake Elsinore (1:24,000 scale) topographic maps (USGS Online Historical Topographic Map Explorer 2022).

On the 1901, 1:125,000, Elsinore quadrangle only three buildings are depicted in the study area, along with the "Southern California R.R." and a roadway running parallel to the railroad that border the southern edge of the study area. The three buildings are in proximity to the railroad and may be associated with it. A dirt road is also shown extending from the railroad right-of-way, north across the study area. On the 1953 Elsinore, 1:24,000 map, a grid of streets with more than 50 associated buildings is present in the study area. A railroad line is still shown on this map, but it appears to terminate at the eastern edge of the study area. Highway State Route 71 that follows along the railroad route, and that now coincides with the street East Lakeshore Drive, is also shown along the southern edge of the study area on this map. The 1973 Elsinore and 1982 Lake Elsinore, 1:24,000 topographic maps, depict the same basic grid of streets shown on the 1953 map, but indicate an increasing number of buildings along the streets. The 1982 Lake Elsinore map labels the railroad segment along the southern edge of the study area as "Abandoned".

The 1938 aerial photograph indicates that the same grid of roads in the study area depicted on the 1953 topographic map are rural roads following along section and quarter section lines with the associated buildings appearing to be residences, some possibly farming-related. The 1967 aerial photograph shows the same grid of roads, with several additional buildings now present. The 1978 and 1980 aerials indicate a continued increased, but now apparently exclusively residential, in development along essentially the same grid of streets shown on the 1938 and 1967 aerial photographs and depicted on the 1953 topographic map.

Archival research including the review of these historic aerial photographs and topographic maps indicates mostly early twentieth century to mid-twentieth century rural residential development within the study area. It is possible, therefore, that some structures, or remnants of these structures may still be present within the study area, including the residence recorded as P-33-007195.

3.3 NATIVE AMERICAN CONTACT PROGRAM

HELIX contacted the Native American Heritage Commission (NAHC) on August 3, 2022 for a Sacred Lands File search and list of Native American contacts for the project area. The NAHC indicated in a response dated September 12, 2022 that the result was positive and recommended contacting Pechanga for information. HELIX sent letters on September 20, 2022 to the 26 Native American representatives and interested parties identified by the NAHC. To date, four responses have been received. Both the Quechan Indian Tribe and the Agua Caliente Band of Cahuilla Indians indicated that they have no comments on the project and defer to local tribes (Table 2, *Native American Contact Program Responses*).

The Rincon Band of Luiseño Indians (Rincon; Band) indicated in a letter sent via email on October 18, 2022 that the project location is within the territory of the Luiseño people and within the Band's specific Area of Historic Interest (AHI). As such, Rincon is traditionally and culturally affiliated to the project area. "Embedded in the Luiseño territory are Rincon's history, culture, and identity. The City of Lake Elsinore is considered a Traditional Cultural Place (TCP) and Landscape (TCL) by the Rincon Band, as it is associated with the Luiseño Creation and contains numerous recorded cultural places and other Tribal Cultural

Resources (TCR). The Rincon Band has no knowledge of cultural resources within the project area. However, that does not mean that none exist." Rincon asked that a copy of the records search and the cultural resources report be provided to the Rincon Band.

Pechanga responded in a letter sent via email on October 18, 2022 indicating that the project area is within "the heart of Our Ancestral Territory"; as such, the Tribe is interested in participating in the project "based upon Our 'Ayelkwish/Traditional Knowledge of the area and its placement entirely within the boundary of a Traditional Cultural Property". The project is located in proximity to three Ancestral Placenames, two of which derive directly from the 'Ataaxum-Luiseño Creation account. Further, at least three sets of Ancestral remains and their burial goods-reinternment, as well as at least one additional Ancestor's burial location, are located within 900 yards of the APE.

Additionally, 15 artifact GPS data-points are located from 94-153 yards away from the project. "Considering these known and nearby Ancestral remains, the close proximity of Placenames, in light of extensive amounts of previously recorded archaeological sites, and because of Pechanga's vast project-experience within this Project's vicinity, the Tribe therefore, is interested in participating in this Project. The Tribe believes the possibility for recovering sensitive subsurface resources, during ground-disturbing activities for the Project is extremely high."

When additional responses are received, they will be forwarded to EVMWD and SWRCB. Native American correspondence is included as Appendix D (confidential appendices, bound separately). Discussions with Pechanga and Soboba regarding the cultural significance and sensitivity of the project area are in progress. EVMWD will undertake consultation with interested Tribes under AB 52, and the SWRCB will undertake Section 106 consultation with interested Tribes as well.

Table 2
NATIVE AMERICAN CONTACT PROGRAM RESPONSES

Contact/Tribe	Response
Quechan Indian Tribe	Responded via email on September 28, 2022; "we have no comments on this project. We defer to the more local Tribes and support their decisions on the projects"
Agua Caliente Band of Cahuilla Indians	Responded via email on September 29, 2022; "this project is not located within the Tribe's Traditional Use Area. Therefore, we defer to the other tribes in the area. This letter shall conclude our consultation efforts."
Rincon Band of Luiseño Indians	Responded in a letter sent via email on October 18, 2022; the project is within the territory and Area of Historic Interest of the Rincon Band. The Band is not aware of cultural resources within the project area, but that does not mean there are none. The City of Lake Elsinore is considered a TCP and Traditional Cultural Landscape (TCL) by the Rincon Band, associated with the Luiseño Creation. Rincon requested a copy of the cultural resources report.

Contact/Tribe	Response
Pechanga Band of Luiseño Indians	Responded in a letter sent via email on October 18, 2022; the project is located entirely within the boundary of a Traditional Cultural Property and in proximity to three Ancestral Placenames, two of which derive directly from the 'Ataaxum-Luiseño Creation account. Further, at least three sets of Ancestral remains and their burial goods-reinternment, as well as at least one additional Ancestor's burial location, are located within 900 yards of the project. The Tribe believes the possibility for recovering sensitive subsurface resources during ground-disturbing activities for the project is extremely high, and they wish to participate in the project, including government-to-government consultation.

4.0 METHODS

4.1 SURVEY METHODOLOGY

A pedestrian survey of the proposed project pipeline alignments was conducted on August 29, 2022 by HELIX staff archaeologist Mary Villalobos and tribal cultural monitors Brian Robben (Soboba) and Chris Yearyean (Pechanga). The project area was walked in transects along one side of each alignment, including a 50-foot buffer. The plates below are a few representative photos of the project area.

Following completion of the field survey, the house at 1036 Park Way was revisited by Mary Robbins-Wade on September 20, 2022 to assess the current condition of the house, which was recorded in 1982 as a historic resource.

Plate 1. Avenue 6, looking north; photo #1

Plate 2. Country Club Boulevard, looking southwest; photo #6

Plate 3. East Lakeshore Drive, looking west; photo #8

Plate 4. Park Way, looking east; photo #11

4.2 SURVEY RESULTS

Much of the area was developed, and the residential houses along the alignment contained gates and fences. Some open fields were present, which had been graded and plowed. Vegetation included mustard grass, pepper trees, and other non-native shrubs and trees within the open fields, as well as in residential areas. Modern trash littered all areas. The soil consisted of light to medium brown sandy silt in open areas and light to medium brown sandy silt with gravel in the residential lots. Visibility ranged from zero (mostly in residential properties) to 90 percent in the open areas and along the roadways.

One milk glass cosmetic jar fragment was noted along Country Club Lane, near Acacia Street. This single fragment is nondiagnostic and in a disturbed context. Such cosmetics jars were in use for many decades and could be of historic or recent age; the height of their use was the 1920s through 1950s, but they are still in use today. No other cultural material was observed.

Plate 5. Milk glass jar fragment; photo #7b

As noted in section 3.1.2, *Previously Recorded Resources*, one residence within the project area has been recorded as a historic resource. P-33-007195, which was built in 1924, was recorded in 1982 and noted as a significant resource. Because the records search was not received until the field survey had been completed, this house was not examined during the field survey. However, Ms. Robbins-Wade visited the house to assess its current status; the house was examined from the street, and no photos were taken, as the view was obscured by a wall and trees. Elements of the house as described on the site record include clapboard siding and a centered mullioned-window door with double matching pattern mullioned windows on each side. As observed during the current field visit, the house has been stuccoed, and the front door and matching mullioned windows have been replaced; the windows appear to be modern vinyl windows. The palm trees noted on the site record also are no longer present. The house no longer retains its architectural integrity and is no longer considered a historic resource per the NHPA or a historical resource per CEQA.

5.0 SUMMARY AND MANAGEMENT RECOMMENDATIONS

A study was undertaken to identify cultural resources within the proposed Avenues Septic to Sewer Project area and to determine the effects of the project on historical resources per CEQA and historic properties per Section 106. The cultural resources survey did not identify any archaeological resources within the project area; one nondiagnostic milk glass cosmetic jar fragment was noted, but given its unknown age and provenience, it is not considered an archaeological resource on its own.

One 1920s home was noted in 1982 as NRHP code 5, “recognized as historically significant by local government”. The house was revisited as part of the current study and found to lack architectural integrity; the main features of a wooden front door and matching mullioned windows have been

replaced, and the wooden exterior has been stuccoed. Based on this, the resource no longer qualifies as a historic property or historical resource.

Based on this, no effects to archaeological or historic built environment historical resources/historic properties are anticipated from project implementation. However, as addressed in Section 2.2.6, *Paayaxchi*, the Lake Elsinore area, with the placename *Paayaxchi*, has been identified by Rincon, Soboba, and Pechanga as a highly significant cultural area. The lake and nearby *'Itengvu Wumowmu* (Lake Elsinore Hot Springs) are tied directly to events that occurred during the creation of the world, per the Luiseño creation account.

Although *Paayaxchi* has not been formally evaluated for NRHP eligibility as a TCP, it appears to meet the criteria for eligibility under Criteria A, B, C, and D. *Paayaxchi* is potentially eligible under Criterion A for its association with the "cultural practices or beliefs of a living community that (a) are rooted in that community's history; and (b) are important in maintaining the continuing cultural identity of the community" (Parker and King 1998: 1). *Paayaxchi* could be considered eligible under Criterion B for its association with the cultural figure *Wuyoot* and under Criterion C for the presence of rock art. The resource is also potentially eligible under Criterion D for its potential to address important research themes and contribute to an understanding of traditional Luiseño lifeways. Based on this, the project has the potential to affect a TCP. Discussions with Pechanga and Soboba to assess potential project effects are underway.

5.1 MANAGEMENT RECOMMENDATIONS

Based on the results of the current study, no archaeological or built environment historical resources/historic properties will be affected by the Avenues Septic to Sewer Project. Discussions with Pechanga and Soboba regarding potential effects to an undesignated TCP are underway.

While no historic properties have been identified within the project area, as discussed throughout this report, the area is sensitive for cultural resources, including a TCP. Based on this, it is recommended that an archaeological and Native American monitoring program be implemented for ground-disturbing activities, including brushing/grubbing, grading, trenching, excavation, etc. The monitoring program, described in the recommended mitigation measures below, would include attendance by the archaeologist and Native American monitor(s) at a preconstruction meeting with the grading contractor and the presence of archaeological and Native American monitors during ground-disturbing activities for the project. Both archaeological and Native American monitors would have the authority to temporarily halt or redirect grading and other ground-disturbing activity in the event that cultural resources are encountered. If significant cultural material is encountered, the project archaeologist will coordinate with representatives of the Monitoring Tribes and with EVMWD and SWRCB staff to develop and implement appropriate avoidance, mitigation, or treatment measures. Monitoring can be reduced in segments that are determined to have been cut or excavated into formational material or to below potentially cultural strata.

In the event that human remains are discovered, the County Coroner shall be contacted. If the remains are determined to be of Native American origin, the Most Likely Descendant, as identified by the NAHC, shall be contacted in order to determine proper treatment and disposition of the remains. All requirements of Health & Safety Code §7050.5 and PRC §5097.98 shall be followed.

Should the project limits change to incorporate new areas of proposed disturbance, archaeological survey of these areas will be required.

5.2 RECOMMENDED MITIGATION MEASURES

The following mitigation measures are recommended to reduce impacts to cultural resources to below a significant level.

CR-1, Monitor Ground-disturbing Activities. At least 30 days prior to grading, excavation and/or other ground-disturbing activities on the Project site, EVMWD shall retain a qualified archaeologist meeting the Secretary of the Interior's Professional Qualifications Standards for archaeology and listed on the Register of Professional Archaeologists (RPA) or the County of Riverside list of qualified archaeologists to monitor ground-disturbing activities.

CR-2, Tribal Monitoring Agreements. At least 30 days prior to grading, excavation, and/or other ground-disturbing activities EVMWD shall contact both the Pechanga Band of Luiseño Indians and Soboba Band of Luiseño Indians to notify each Tribe of excavation activities and coordinate with the Tribes to develop Monitoring Agreements. The Agreements shall address the designation, responsibilities, and participation of Native American tribal monitors during excavation and other ground disturbing activities and construction scheduling.

CR-3, Develop a Cultural Resources Monitoring Plan. The Project Archaeologist, in consultation with the Monitoring Tribe(s) and EVMWD, shall develop a Cultural Resources Monitoring Plan (CRMP) to address the details, timing and responsibility of archaeological and cultural activities that will occur on the project site. Details in the Plan shall include:

a. Project grading and development scheduling;

b. The coordination of a monitoring schedule as agreed upon by the Monitoring Tribe(s), the Project archaeologist, and EVMWD; and

c. The protocols and stipulations that EVMWD, the Monitoring Tribe(s) and the Project archaeologist will follow in the event of inadvertent cultural resources discoveries, including newly discovered cultural resources.

CR-4, Cultural Resources Sensitivity Training. Prior to grading, excavation and/or other ground-disturbing activities on the project site, the project archaeologist and the Monitoring Tribe(s) shall conduct cultural resources sensitivity training for all construction personnel. Construction personnel shall be informed of the types of archaeological resources that may be encountered, and of the proper procedures to be enacted in the event of an inadvertent discovery of archaeological resources or human remains. EVMWD's construction manager shall ensure that construction personnel are made available for and attend the training and shall retain documentation demonstrating attendance.

CR-5, Authority to Stop and Redirect Excavation. In accordance with the agreement required in CR-2, the Project archaeologist and designated tribal monitor(s) assigned to the project by the Luiseño Tribe(s) shall have the authority to stop and redirect excavation in order to evaluate the significance of archaeological resources discovered on the property.

CR-6, Evaluation of Discovered Artifacts. All artifacts discovered at the development site shall be inventoried and analyzed by the project archaeologist and Native American monitor(s). If artifacts of Native American origin are discovered, activities in the immediate vicinity of the find (within a 50-foot radius) shall stop. The project archaeologist and Native American monitor(s) shall analyze the Native American artifacts for identification as everyday life and/or religious or sacred items, cultural affiliation, temporal placement, and function, as deemed possible. The significance of Native American resources shall be evaluated in accordance with the provisions of CEQA and shall consider the religious beliefs, customs, and practices of the Luiseño tribes. All items found in association with Native American human remains shall be considered grave goods or sacred in origin and subject to special handling.

CR-7, Inadvertent Discovery of Resources. If inadvertent discoveries of subsurface archaeological/cultural resources are discovered during grading, EVMWD and the project archaeologist with the Monitoring Tribes shall assess the significance of such resources and shall meet and confer regarding the mitigation for such resources. The determination as to the significance or the mitigation for such resources will be based on the provisions of CEQA and shall take into account the religious beliefs, customs, and practices of the Monitoring Tribes.

CR-8, Sacred Sites. All sacred sites, should they be encountered within the project area, shall be avoided and preserved as the preferred mitigation, if feasible.

CR-9, Final Archaeological Report. The project archaeologist shall prepare a final archaeological report within 60 days of completion of the project. The report shall follow Archaeological Resource Management Report (ARMR) Guidelines (California Office of Historic Preservation 1990) and EVMWD requirements and shall include at a minimum: a discussion of monitoring methods and techniques used, the results of the monitoring program including artifacts recovered, an inventory of resources recovered, updated Department of Parks and Recreation (DPR) forms, if any, and any other site(s) identified, final disposition of the resources, and any additional recommendations. A final copy shall be submitted to EVMWD, the Eastern Information Center, and the Monitoring Tribe(s).

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Appendix A

Resumes of Key Personnel

Mary Robbins-Wade, RPA

Cultural Resources Group Manager

HELIX Environmental Planning

Summary of Qualifications

Ms. Robbins-Wade has 41 years of extensive experience in both archaeological research and general environmental studies. She oversees the management of all archaeological, historic, and interpretive projects; prepares and administers budgets and contracts; designs research programs; supervises personnel; and writes reports. Ms. Robbins-Wade has managed or participated in hundreds of projects under the California Environmental Quality Act (CEQA), as well as numerous archaeological studies under various federal jurisdictions, addressing Section 106 compliance and National Environmental Policy Act (NEPA) issues. She has excellent relationships with local Native American communities and the Native American Heritage Commission (NAHC), as well as has supported a number of local agency clients with Native American consultation under State Bill 18 and assistance with notification and Native American outreach for Assembly Bill 52 consultation. Ms. Robbins-Wade is a Registered Professional Archaeologist (RPA) and meets the U.S. Secretary of the Interior's Professional Qualifications for prehistoric and historic archaeology.

Selected Project Experience

12 Oaks Winery Resort. Project Manager/ Principal Investigator for a cultural resources survey of approximately 650 acres for a proposed project in the County of Riverside. Oversaw background research, field survey, site record updates, Native American coordination, and report preparation. Met with Pechanga Cultural Resources staff to discuss Native American concerns. Worked with applicant and Pechanga to design the project to avoid impacts to cultural resources. Work performed for Standard Portfolio Temecula, LLC.

28th Street between Island Avenue and Clay Avenue Utilities Undergrounding Archaeological Monitoring. Project Manager/Principal Investigator for a utilities undergrounding project in a historic neighborhood of East San Diego. Responsible for project management; coordination of archaeological and Native American monitors; coordination with forensic anthropologist, Native American representative/Most Likely Descendent, and City staff regarding treatment of possible human remains; oversaw identification of artifacts and cultural features, report preparation, and resource documentation. Work performed for the City of San Diego.

Archaeological Testing F11 Project. Project Manager for a cultural resources study for a proposed mixed-use commercial and residential tower in downtown San Diego. Initial work included an archaeological records search and a historic study, including assessment of the potential for historic archaeological resources. Subsequent work included development and implementation of an archaeological testing plan, as well as construction monitoring and the assessment of historic archaeological resources encountered. Work performed for the Richman Group of Companies.

Education

Master of Arts, Anthropology, San Diego State University, California, 1990

Bachelor of Arts, Anthropology, University of California, Santa Barbara, 1981

Registrations/ Certifications

Caltrans, Professionally Qualified Staff-Equivalent Principal Investigator for prehistoric archaeology, , Bureau of Land Management Statewide Cultural Resource Use Permit (California), permit #CA-18-35, , Register of Professional Archaeologists #10294, 1991

County of San Diego, Approved CEQA Consultant for Archaeological Resources, 2007 , Orange County Approved Archaeologist, 2016

Blended Reverse Osmosis (RO) Line Project. Project Manager/ Principal Investigator for cultural resources monitoring during construction of a 24-inch recycled water pipeline in the City of Escondido. Oversaw monitoring program, including Worker Environmental Awareness Training; responsible for Native American outreach/coordination, coordination with City staff and construction crews, and general project management. Work performed for the City of Escondido.

Buena Sanitation District Green Oak Sewer Replacement Project. Project Manager/Principal Investigator for a cultural resources testing program in conjunction with a proposed sewer replacement project for the City of Vista. Oversaw background research, fieldwork, site record update, Native American coordination, and report preparation. Work performed for Harris & Associates, Inc., with the City of Vista as the lead agency.

Cactus II Feeder Transmission Pipeline IS/MND. Cultural Resources Task Lead for this project in the City of Moreno Valley. Eastern Municipal Water District proposed to construct approximately five miles of new 30-inch to 42 inch-diameter pipeline; the project would address existing system deficiencies within the City and provide supply for developing areas. Oversaw background research, field survey, and report preparation. Responsible for Native American outreach for cultural resources survey. Assisted District with Native American outreach and consultation under AB 52. Work performed under an as-needed contract for Eastern Municipal Water District.

Dale 2199C Pressure Zone Looping Pipeline Project. Cultural Resources Task Lead for this project in Moreno Valley. Eastern Municipal Water District proposed construction of a new pipeline to connect two existing pipelines in the District's 2199C Pressure Zone. The pipeline would consist of an 18-inch-diameter pipeline between Kitching Street and Alta Vista Drive that would connect to an existing 12-inch-diameter pipeline in the northern end of Kitching Street and to an existing 18-inch-diameter pipeline at the eastern end of Alta Vista Drive. The project will improve reliability and boost the Dale Pressure Zone's baseline pressure and fire flow availabilities. Four potential alignments were under consideration; three of these bisect undeveloped land to varying degrees, while the other is entirely situated within developed roadways. Oversaw background research and field survey. Responsible for Native American outreach for cultural resources survey and co-authored technical report. Work performed under an as-needed contract for Eastern Municipal Water District.

Downtown Riverside Metrolink Station Track & Platform Project. Cultural Resources Task Lead for this project involving changes to and expansion of the Downtown Riverside Metrolink Station. Overseeing records search and background information, archaeological survey, and report preparation. Responsible for coordination with Native American Heritage Commission, Riverside County Transportation Commission (RCTC), and Federal Transportation Authority (FTA) on Native American outreach. Work performed for Riverside County Transportation Commission as a subconsultant to HNTB Corporation.

Emergency Storage Pond Project. Project Manager/Principal Investigator for a cultural resources testing program in conjunction with the Escondido Recycled Water Distribution System - Phase 1. Two cultural resources sites that could not be avoided through project design were evaluated to assess site significance and significance of project impacts. Work included documentation of bedrock milling

features, mapping of features and surface artifacts, excavation of a series of shovel test pits at each site, cataloging and analysis of cultural material recovered, and report preparation. The project is located in an area that is sensitive to both the Kumeyaay and Luiseño people, requiring close coordination with Native American monitors from both groups. Work performed for the City of Escondido.

Escondido Brine Line Project. Project Manager/Principal Investigator for cultural resources monitoring during construction of approximately 2.3 miles of a 15-inch brine return pipeline in the City of Escondido. The project, which is part of the City's Agricultural Recycled Water and Potable Reuse Program, enables discharge of brine recovered from a reverse osmosis facility that is treating recycled water; it is one part of the larger proposed expansion of Escondido's recycled water distribution to serve eastern and northern agricultural land. The project is located in an area that is sensitive to both the Kumeyaay and Luiseño people, requiring close coordination with Native American monitors from both groups. Oversaw monitoring program, including Worker Environmental Awareness Training; responsible for Native American outreach/coordination, coordination with City staff and construction crews, and general project management. Work performed for the City of Escondido.

Hacienda del Mar EIR. Senior Archaeologist for a proposed commercial development project for a senior care facility in Del Mar. Assisted in the preparation of associated permit applications and an EIR. Oversaw background research, updated records search and Sacred Lands File search, monitoring of geotechnical testing, coordination with City staff on cultural resources issues, and preparation of updated report. Prior to coming to HELIX, served as Cultural Resources Task Lead for the cultural resources survey for the project, conducted as a subcontractor to HELIX. Work performed for Milan Capital Management, with the City of San Diego as the lead agency.

Lilac Hills Ranch. Project Manager/Principal Investigator of a cultural resources survey and testing program for an approximately 608-acre mixed-use development in the Valley Center area. Oversaw background research, field survey, testing, recording of archaeological sites and historic structures, and report preparation. Responsible for development of the research design and data recovery program, preparation of the preservation plan, and Native American outreach and coordination. The project also included recording historic structures, development of a research design and data recovery program for a significant archaeological site, and coordination with the Native American community and the client to develop a preservation plan for a significant cultural resource. The project changed over time, so additional survey areas were included, and a variety of off-site improvement alternatives were addressed. Work performed for Accretive Investments, Inc. with County of San Diego as the lead agency.

Moulton Niguel Water District Regional Lift Force Main Replacement. Cultural Resources Task Lead/Principal Investigator for the replacement of a regional lift station force main operated by Moulton Niguel Water District (MNWD). The project comprises an approximately 9,200 linear foot alignment within Laguna Niguel Regional Park in Orange County, in an area that is quite sensitive in terms of cultural resources. HELIX is supporting Tetra Tech throughout the preliminary design, environmental review (CEQA), and final design, including permitting with applicable state and federal regulatory agencies. The cultural resources survey will inform project design, in order to avoid or minimize potential impacts to cultural resources. Oversaw background research and constraints analysis, Native American

coordination, cultural resources survey, coordination with MNWD and Tetra Tech, and report preparation. Work performed for MNWD, as a subconsultant to Tetra Tech.

Murrieta Hot Springs Road Improvements Project. Principal Investigator/Cultural Resources Task Lead for cultural resources survey in support of an Initial Study/Mitigated Negative Declaration (IS/MND) for the widening of Murrieta Hot Springs Road in the City of Murrieta. The project would widen or restripe Murrieta Hot Springs Road between Winchester Road and Margarita Road from a 4-lane roadway to a six-lane roadway to improve traffic flow, as well as provide bike lanes in both directions along this segment. A new raised median, light poles, signage, stormwater catch basins, retaining walls, and sidewalks would also be provided on both sides of the roadway, where appropriate. The project area is in a location that is culturally sensitive to the Native American community. The cultural resources study included tribal outreach and coordination to address this cultural sensitivity.

Park Circle - Cultural Resources. Project Manager/Principal Investigator of a cultural resources survey and testing program for a proposed 65-acre residential development in the Valley Center area of San Diego County. The project is located along Moosa Creek, in an area that is culturally sensitive to the Luiseño people. Oversaw background research, historic study, field survey, testing, recording archaeological sites and historic structures, and report preparation. Responsible for Native American outreach and coordination. The cultural resources study included survey of the project area, testing of several archaeological sites, and outreach and coordination with the Native American community, as well as a historic study that addressed a mid-20th century dairy barn and a late 19th century vernacular farmhouse. Work performed for Touchstone Communities.

Peacock Hill Cultural Resources. Project Manager/Principal Investigator of a cultural resources study update for a residential development in Lakeside. Oversaw updated research, fieldwork, lab work, analysis by forensic anthropologists, report preparation, and Native American coordination. In the course of outreach and coordination with the Native American (Kumeyaay) community, possible human remains were identified, prompting additional fieldwork, as well as coordination with the Native American community and forensic anthropologists. Work performed for Peacock Hill, Inc.

Sky Canyon Sewer Environmental Consulting. Cultural Resources Task Lead for this project adjacent to the City of Murrieta in southwestern Riverside County. Eastern Municipal Water District (District) proposed to implement the Sky Canyon Sewer Main Extension Project to construct approximately 6,700 linear feet of new gravity-fed 36-inch-diameter sewer main to provide additional sewer capacity for planned development. The proposed 36-inch-diameter sewer main would extend the existing 36-inch-diameter French Valley Sewer at Winchester Road further downstream to Murrieta Hot Springs Road. Oversaw background research and field survey. Responsible for Native American outreach for cultural resources survey and co-authored technical report. Assisted District with Native American outreach and consultation under AB 52. Work performed under an as-needed contract for Eastern Municipal Water District.

Theodore G. Cooley, RPA

Senior Archaeologist

HELIX Environmental Planning

Summary of Qualifications

Mr. Cooley has over 45 years of experience in archaeological resource management. He has directed test and data recovery investigations, monitoring programs, and archaeological site surveys of large and small tracts, and has prepared reports for various cultural resource management projects. He is well-versed in National Historic Preservation Act, National Environmental Policy Act (NEPA), and California Environmental Quality Act (CEQA) regulations and processes. Mr. Cooley's experience also includes Native American consultation for monitoring of archaeological field projects, including some with human remains and reburial-related compliance issues.

Selected Project Experience

8016 Broadway Self Storage Project (2019 - Present). Senior Archaeologist for a Phase I pedestrian survey and cultural resource inventory program of the Lemon Grove Self-Storage project located in the City of Lemon Grove, San Diego County. Involvement included participation in the analysis of the results from the survey program and co-authorship of the technical report. Work performed for the Summit Environmental Group, Inc.

Briggs Road Walton Development Project (Assessor's Parcel Number 461-170-001) (2019 - Present). Senior Archaeologist for a Phase I pedestrian survey and cultural resource inventory program of the Briggs Road Residential project located in Riverside County. Involvement included participation in the analysis of the results from the survey program and co-authorship of the technical report. Work performed for the Walton International Group, LLC.

Brown Field and Montgomery Field Airport Master Plans (2019 - Present). Senior Archaeologist for Phase I cultural resource inventory and pedestrian survey programs at the Brown Field Municipal Airport and the Montgomery-Gibbs Executive Airport, in the City of San Diego, in support of updating of the Airport Master Plan and its Programmatic Environmental Impact Report. Involvement included participation in the analysis of the results from the survey programs and co-authorship of the technical reports. Work performed as a subconsultant to C&S Companies, with the City of San Diego as the lead agency.

Cubic Redevelopment Environmental Consulting (2019 - Present). Senior Archaeologist for a Phase I pedestrian survey and cultural resource inventory and assessment program in support of a 20-acre redevelopment project, located in the community of Kearny Mesa, City of San Diego. Involvement included participation in the analysis of the results from the survey program and preparation of the technical report. Work performed for Cubic Redevelopment Environmental Consulting, with the City of San Diego as lead agency.

Education

Master of Arts, Anthropology, California State University, Los Angeles, 1982

Bachelor of Arts, Anthropology, California State College, Long Beach, 1970

Registrations/ Certifications

Register of Professional Archaeologists #10621, 2019

City of San Diego, Certified Principal Investigator for Monitoring Projects

County or Riverside, Certified Cultural Resources Consultant Principal Investigator

County of Orange, Certified Cultural Resources Consultant Principal Investigator

County of San Diego, Approved Consultant for Archaeological Resources

Los Angeles, Ventura, San Luis Obispo, and Santa Barbara Approved Consultant

Theodore G. Cooley, RPA

Senior Archaeologist

French Valley 303 Project (2019 - Present). Senior Archaeologist for an archaeological construction monitoring program for the French Valley 303 Site residential development project, located in the French Valley area of unincorporated Riverside County. Involvement included participation in the analysis of the results from the monitoring program and co-authorship of the technical report. Work performed for Pulte Home Co., LLC.

Hiser Property Project (2019 - Present). Senior Archaeologist for a due diligence study prepared to summarize potential cultural resources constraints to the 9.2-acre Hiser Property development project, located in the Mission Gorge area of the City of Santee, San Diego County. The study consisted of background research including a record search and limited archival study, a field survey, and a review of the Sacred Lands File from the Native American Heritage Commission (NAHC). Involvement included participation in the analysis of the results and preparation of a summary letter report of the potential cultural resources-related constraints to the planned development. Work performed for KB Home.

Ponto Hotel Technical Studies (2019 - Present). Senior Archaeologist for a cultural resources assessment study for the Ponto Hotel development project in the City of Carlsbad, San Diego County, California. Involvement included participation in the analysis of the results from the assessment program and preparation of the technical report. Work performed for Kam Sang Company, with the City of Carlsbad as the lead agency.

R.M. Levy Water Treatment Plant Sewer Replacement (2019 - Present). Senior Archaeologist for a Phase I pedestrian survey and cultural resource inventory and assessment program in support of a water treatment plant, sewer pipeline, replacement project, located in the community of Lakeside, San Diego County. Involvement included participation in the analysis of the results from the survey program and preparation of the technical report. Work performed for HELIX Water District.

Salt Bay District Specific Plan EIR (2019 - Present). Senior Archaeologist for a Phase I pedestrian survey and cultural resource inventory program in support of the 46.6-acre Salt Bay Design District Specific Plan mixed-use wholesale/retail shopping and light industrial development project, in the cities of San Diego and Chula Vista. Involvement included participation in the analysis of the results from the survey program and co-authorship of the technical report. Work performed for M. & A. Gabaee, with the City of San Diego as lead agency.

San Jacinto Property Project (2019 - Present). Senior Archaeologist for a Phase I pedestrian survey and cultural resource inventory program of the 214 residential project located in Riverside County. Involvement included participation in the analysis

of the results from the survey program and co-authorship of the technical report. Work performed for the Walton International Group, LLC.

San Elijo Joint Powers Authority Roadway and Trail Addendum and Permitting (2019 - Present). Senior Archaeologist for Phase I cultural resource inventory, pedestrian survey, and resource testing at the San Elijo Water Reclamation Facility adjacent to San Elijo lagoon, in San Diego County, in support of the preparation by the San Elijo Joint Powers Authority of a Roadway and Trail Addendum for upgrades to the facility requiring verification of Nationwide Permit authorization from the U.S. Army Corps of Engineers (USACE). Involvement included participation in the analysis of the results from the survey and testing program and co-authorship of the technical report. Work performed as a subconsultant to Kimley-Horn & Associates, with the San Elijo Joint Powers Authority as lead agency.

Sycamore & Watson Project (2019 - Present). Senior Archaeologist for an archaeological construction monitoring program for the Sycamore & Watson residential development project, located in City of Vista, San Diego County. Involvement included participation in the analysis of the results from the monitoring program and preparation of the technical report. Work performed for Meritage Homes.

Sycamore Canyon/Goodan Ranch Public Access Plan IS/MND (2019 - 2019). Senior Archaeologist for Phase I pedestrian survey and cultural resource inventory in support of the preparation by the County of San Diego County Parks Department of a Public Access Plan for the Sycamore Canyon/Goodan Ranch Preserve located in coastal foothills of unincorporated west-central San Diego County. Involvement included participation in the analysis of the results from the survey program and co-authorship of the technical report. Work performed for the County of San Diego.

Sycuan/Sloane Canyon Trail IS/MND (2019). Senior Archaeologist for Phase I pedestrian survey and cultural resource inventory in support of the preparation by the County of San Diego County Department of a Parks and Recreation for the Sycuan/Sloane Canyon Trail project located in the coastal foothills of unincorporated southwestern San Diego County. Involvement included participation in the analysis of the results from the survey program and co-authorship of the technical report. Work performed for the County of San Diego.

The Enclave at Delpy's Corner Project (2019 - Present). Senior Archaeologist for a cultural resources monitoring and data recovery program in support of a proposed 124-unit townhome development project, in the City of Vista, San Diego County. Involvement included participation in the analysis of the prehistoric lithic artifacts and preparation of technical report sections containing the results of these analyses. Work performed for CalAtlantic Homes.

Mary Villalobos

Staff Archaeologist

HELIX Environmental Planning

Summary of Qualifications

Ms. Villalobos serves as a field archaeologist on a number of cultural resource projects in southern California, including surveys, testing programs, and monitoring. She has also served as a laboratory assistant for major universities, museums, and archaeological centers. She has expertise in cultural resource surveying, cataloging site excavation data, and monitoring. Ms. Villalobos' experience includes international work for a key archaeological project in Peru focused on a temple excavation.

Selected Project Experience

1125 S. Cleveland Street -Cultural & Native American Monitoring (2016). Archaeological monitor for a housing project in the City of Oceanside, CA. Responsible for field monitoring, coordination with construction crew and Native American monitors, identification of artifacts and cultural features, and daily field notes. Work performed for Hallmark Communities. Lead agency was City of Oceanside.

12 Oaks Winery Resort (2015 - 2018). Field Archaeologist for survey of an approximately 600-acre project near Temecula in Riverside County, CA. Responsibilities included identification of cultural material during field survey. Work performed for Standard Portfolio Temecula, LLC, with County of Riverside as the lead agency.

28th Street between Island Avenue and Clay Avenue Archaeological Monitoring (2016 - 2018). Archaeological Monitor for a utilities undergrounding project in a historic neighborhood of East San Diego, CA. Responsible for field monitoring, coordination with construction crew and Native American monitors, identification of artifacts and cultural features, and daily field notes. Work performed for the City of San Diego.

4th & J Project (2017). Archaeological monitor for a residential project in a historic neighborhood in the City of San Diego, CA. Responsible for field monitoring, coordination with construction crew and Native American monitors, identification of artifacts and cultural features, and daily field notes. Work performed for Legacy Partners, lead agency is City of San Diego.

Oceanside As-Needed Environmental Consulting Services (2015 - 2016). Archaeological Monitor for construction of a new facility at the Mission Basin Desalting Facility near the San Luis Rey River, in the City of Oceanside, CA. Responsible for field monitoring, coordination with construction crew and Native American monitors, identification of artifacts and cultural features, and daily field notes. Work performed for the City of Oceanside.

Education

Bachelor of Arts, Anthropology, concentration in Archaeology, University of California San Diego, CA, 2013

Registrations/ Certifications

Technical Safety Institute, HAZWOPER 40 Hour, Issue No. F183292: Hazardous Waste Operations and Emergency Response, 2018

City of San Diego As-Needed Permitting Assistance for O & M Activities and Emergencies (2016 - 2016). Archaeological monitor for the removal of sediment at culvert outlets at Hotel Circle, in the City of San Diego, CA, to help alleviate flooding in the area. Responsible for field monitoring, coordination with construction crew and Native American monitors, identification of artifacts and cultural features, and daily field notes. Work performed for the City of San Diego

Storage Buildings Construction Monitoring, San Marcos Campus (2017). Archaeological monitor for the construction of storage facilities on the campus of Palomar College in the City of San Marcos, California. Cultural resources are located near the project area. Responsible for field monitoring, coordination with construction crew and Native American monitors, identification of artifacts and cultural features, and daily field notes. Work performed for Palomar College.

Cemetery Area Water Pipeline Replacement (2015 - 2016). Archaeological Monitor for a water pipeline replacement project in eastern Escondido, CA. Responsible for field monitoring, coordination with construction crew and Native American monitors, identification of artifacts and cultural features, and daily field notes. Work performed for the City of Escondido.

Da Vinci (2018). Archaeological monitor during potholing to find existing utilities for the construction of a telecommunication tower. Responsible for field monitoring, coordination with construction crew, identification of artifacts and cultural features, and daily monitoring notes. Work performed for Terracon. Lead agency is Verizon.

DePratti, Inc. Telespan Lake Wohlford (2017). Field archaeologist for a testing program to determine the northern extent of an important archaeological site near Lake Wohlford in the community of Bear Valley in the County of San Diego, California. Responsibilities included excavation of test units, identification of cultural material, and preparation of field notes. Work performed for DePratti, Inc. Lead agency is County of San Diego.

El Camino Real Road Widening-Archaeological Monitoring (2016). Archaeological Monitor for a road widening project in an area with archaeological and cultural sensitivity in the City of Carlsbad, CA. Responsible for field monitoring, coordination with construction crew and Native American monitors, identification of artifacts and cultural features, and daily field notes. Work performed for the City of Carlsbad.

Magnolia Trails (2016). Archaeological Monitor for a residential development in the City of El Cajon, CA. Responsible for field monitoring, coordination with construction crew and Native American monitors, identification of artifacts and cultural features, and daily field notes. Work performed for KB Home. Lead agency was City of El Cajon.

Appendix C

List of Reports within Records Search Radius

Report List

Report No.	Other IDs	Year	Author(s)	Title	Affiliation	Resources
RI-01792	NADB-R - 1082144; Voided - MF-1937	1987	LERCH, MICHAEL K. and ROBERT M. YOHE II	ARCHAEOLOGICAL STUDIES AT THE ELSINORE SITE: TEST EXCAVATIONS AT CA-RIV-2798, LAKE ELSINORE, RIVERSIDE COUNTY, CALIFORNIA	ARCHAEOLOGICAL RESEARCH UNIT, U.C. RIVERSIDE	33-002798
RI-01793	NADB-R - 1082145; Voided - MF-1937	1984	LERCH, MICHAEL K. and G.A. SMITH	CULTURAL RESOURCES ASSESSMENT OF THE PROPOSED LAKE ELSINORE MANAGEMENT PROJECT, RIVERSIDE COUNTY, CALIFORNIA	SAN BERNARDINO COUNTY MUSEUM ASSOCIATION	33-002798, 33-006998, 33-007132, 33-007133, 33-007134, 33-007135, 33-011009
RI-01794	NADB-R - 1085130; Other - DACW09-93-D-0004; Voided - MF-1937	1997	GRENDA, DONN R.	CONTINUITY AND CHANGE 8,500 YEARS OF ADAPTATION ON THE SHORES OF LAKE ELSINORE	STATISTICAL RESEARCH, INC.	33-002798
RI-01896	NADB-R - 1082271; Voided - MF-2056	1985	SCIENTIFIC RESOURCE SURVEYS, INC.	CANYON CREEK ARCHAEOLOGY: A REPORT ON ARCHAEOLOGICAL INVESTIGATIONS AT SITES RIV-2764 AND RIV-2765 ON THE CANYON CREEK PROPERTY, RAILROAD CANYON AREA, RIVERSIDE COUNTY, CALIFORNIA	AUTHOR(S)	33-002764, 33-002765
RI-01897	NADB-R - 1082272; Voided - MF-2056	1984	SCIENTIFIC RESOURCE SURVEYS, INC.	CULTURAL RESOURCES SURVEY OF THE CANYON CREEK PROPERTY, RAILROAD CANYON AREA, RIVERSIDE COUNTY	AUTHOR(S)	33-002764, 33-002765
RI-02502	NADB-R - 1084016; Submitter - R-1768A; Voided - MF-2729	1989	WADE, SUE A. and SUSAN M. HECTOR	AN ARCHIVAL AND LIMITED FIELD ARCHAEOLOGICAL SURVEY OF THE TEMESCAL WASH AND RICE CANYON PIPELINE ALTERNATIVES FOR THE REGIONAL WATER RECLAMATION FACILITY AT RANCHO CALIFORNIA	RECON	33-000050, 33-000116, 33-000270, 33-000365, 33-000523, 33-001003, 33-001004, 33-001071, 33-001086, 33-001382, 33-001384, 33-001727, 33-001860, 33-001861, 33-002134, 33-002765, 33-002798, 33-003330
RI-02682	NADB-R - 1083152; Voided - MF-2884	1989	WHITE, ROBERT S.	AN ARCHAEOLOGICAL ASSESSMENT OF THE 80 ACRE GRUNDER PROPERTY NEAR LAKE ELSINORE, RIVERSIDE COUNTY.	ARCHAEOLOGICAL ASSOCIATES, LTD.	
RI-02892	NADB-R - 1083497; Voided - MF-3093	1990	SCHMITZ, BLANCHE A.	CULTURAL RESOURCES RECONNAISSANCE OF LAKE SHORE DRIVE BRIDGE, LAKE ELSINORE, RIVERIDE COUNTY, CALIFORNIA.	PALEONTOLOGY ASSOCCIATION	
RI-02893	NADB-R - 1084222; Voided - MF-3093	1991	BISSELL, RONALD M.	LAKESHORE DRIVE BRIDGE, LAKE ELSINORE, NEGATIVE ARCHAEOLOGICAL SURVEY REPORT	CALTRANS DISTRICT 8	

Report List

Report No.	Other IDs	Year	Author(s)	Title	Affiliation	Resources
RI-02894	Caltrans - 08-RIV-0, P.M. ESN, EA 962053; Caltrans - 08-RIV-0, P.M. ESN, EA 962053; NADB-R - 1084514; Voided - MF-3093	1992	WEBER, CARMEN	NEGATIVE ARCHAEOLOGICAL SURVEY REPORT First Supplemental (08-RIV-0, P.M. ESN, EA 962053)	Chambers Group, Irvine, CA	
RI-03333	NADB-R - 1083949; Other - DACW09-90-D-0004; Voided - MF-3571	1991	HAMPSON, R. PAUL	CULTURAL RESOURCES SURVEY AND TEST EXCAVATION, LAKE ELSINORE, CALIFORNIA	GREENWOOD AND ASSOCIATES, AND INFOTEC RESEARCH, INC.	33-002798, 33-004042, 33-004043, 33-004044, 33-004045
RI-03376	NADB-R - 1084018; Submitter - R-1768A; Voided - MF-3617	1989	WADE, SUE A. and SUSAN M. HECTOR	A CULTURAL RESOURCE SURVEY OF THE PROPOSED RANCHO-TEMECULA EFFLUENT PIPELINE FROM TEMECULA TO WARM SPRINGS IN THE ELSINORE VALLEY WITH ADDITIONAL CONSIDERATION OF THE SURFACE WATER DISCHARGE INTO TEMESCAL WASH	RECON	33-000659, 33-001086, 33-002798, 33-006998, 33-007200
RI-03545	NADB-R - 1084241; Voided - MF-3809	1992	LECOUNT, LISA and CARMEN A. WEBER	CULTURAL RESOURCES SURVEY FOR THE EAST LAKE SPECIFIC PLAN	CHAMBERS GROUP, INC.	33-004646, 33-004647, 33-004648
RI-03958	NADB-R - 1084916; Voided - MF-4329	1996	WHITE, ROBERT S.	AN ARCHAEOLOGICAL ASSESSMENT OF SIX ALTERNATIVE DECHLORINATION AND ENERGY DISSIPATION SITES FOR THE EASTERN MUNICIPAL WATER DISTRICT REACH 4 PROJECT LOCATED IN THE LAKE ELSINORE AREA OF RIVERSIDE COUNTY	L & L ENVIRONMENTAL	
RI-04113	NADB-R - 1085301; Voided - MF-4588	1998	BRECHBIEL, BRANT A.	CULTURAL RESOURCES RECORDS SEARCH AND SURVEY REPORT FOR A PACIFIC BELL MOBILE SERVICES TELECOMMUNICATIONS FACILITY: CM 117-01, IN THE CITY OF LAKE ELSINORE, CALIFORNIA	CHAMBERS GROUP, INC.	
RI-05323	NADB-R - 1086686; Submitter - LUM531	2005	LANGE, FREDERICK W.	CULTURAL RESOURCE ASSESSMENT: APN 373-070-018 CITY OF LAKE ELSINORE, RIVERSIDE COUNTY, CALIFORNIA	LSA ASSOCIATES, INC	

Report List

Report No.	Other IDs	Year	Author(s)	Title	Affiliation	Resources
RI-06122	NADB-R - 1087485	2003	DICE, MICHAEL	LETTER REPORT: RECORDS SEARCH RESULTS AND SITE VISIT FOR SPRINT TELECOMMINCATIONS FACILITY RV40XC710H (WATER TANK), 208 RIDGE ROAD, CITY OF LAKE ELSINORE, RIVERSIDE COUNTY, CA	MICHAEL BRANDMAN ASSOCIATES	
RI-06504	NADB-R - 1087871; Submitter - CONTRACT #1765	2006	TANG, BAI, MICHAEL HOGAN, DEIDRE ENCARNACION, and MARIAM DAHDUL	HISTORICAL/ARCHAEOLOGICAL RESORUCES SURVEY REPORT: PORTO ROMANO (LAKE ELSINORE TOWN CENTER), IN THE CITY OF LAKE ELSINORE, RIVERSIDE COUNTY, CALIFORNIA	CRM TECH	33-014872
RI-07113	Other - 06788.06	2006	Jordan, Stacy C.	Archaeological Survey Report for the Southern California Edison, Company DSP-Flagstaff 12kV Circuit Project, Riverside County, California (WO#6077-5390, AI#5-5358).	Mooney Jones & Stokes	
RI-07158		2003	Nicole Pletka	Cultural Resource Assessment for AT&T Wireless Facility No. 08014R in Riverside County, California	LSA Associates, Inc.	
RI-07418	Other - SCE 2007 CWA 69, Contract No. 00915.07	2007	Tsunoda, Koji	Archaeological Survey Report for Southern California Edison Company Deteriorated Pole Replacement Program for Pole #1931027E (WO #6077-4800, AI#7-4821, Rockridge 12 kV) in the City of Lake Elsinore and Pole #2225832E (WO #6077-4800, AI #7-4833, Carancho 12 kV) near the City of Temecula, Riverside County, California	Jones and Stokes	
RI-07882	Submitter - SWCA Environmental Consultants #9288-109	2005	Maxon, Patrick O. and Jessica DeBusk	Letter Report: Cultural Resources Reconnaissance for Stage 1 of the Summerly Project, Lake Elsinore, Riverside County, California	SWCA Environmental Consultants	
RI-08029	Submitter - LA3411A	2009	Earth Touch Inc	Letter Report: Proposed Cellular Tower Proect(s) in Riverside County, California, Site Number(s)/Name(s): LA-3411A/EMWD Rancho Drive TCNS# 49589	Earth Touch Inc, Layton, Utah	
RI-08171		2008	Jennifer M. Sanka and Marnie Aislin-Kay	Cultural Resources Assessment Public Safety Enterprise Communication Project Riverside, Orange, San Bernadino, and San Diego Counties, FM 04174400010	Michael Brandman Associates	

Report List

Report No.	Other IDs	Year	Author(s)	Title	Affiliation	Resources
RI-08285		2009	Lorns Billat	Letter Report: Proposed Cellular Tower(s) in Santa Barbara County, California, Site Number(s)/ Name(s): LA-3412/ The Plaza at Lakeview TVNS# 56715	Earth Touch inc, Layton, UT	
RI-08466	Other - SCE Purchase Order Number: 4500032069; Other - WO 6088-4800/9-4875	2009	Kurt Heidelberg	Archaeological Survey Report for Southern California Edison's Service Pole Replacement in Lake Elsinore, Riverside County, California	AECOM, Inc.	
RI-08614	Other - IO 313643	2010	Antonina M. Delu	Cultural Resource Assessment of the Dexter 24kV Distribution Substation Planning Project (IO 313643), City of Lake Elsinore, Riverside County, California	Southern California Edision	
RI-08738	Submitter - CRM Tech Contract No. 2568	2011	Bai Tom Tang, Michael Hogan, and Deirdre Encarnacion	Historical/Archaeological Resources Survery Report Elsinore Cable Ski Park	CRM Tech	
RI-08883		2012	Joan George and Vanessa Mirro	Phase I Cultural Resources Assemssment for the Elm Street Improvements Project	Applied EarthWorks, Inc.	
RI-09021		2013	Robert Cunningham, Wendy Jones, Evelyn N. Chandler, and Roger Mason	Cultural Resources Investigation Results of the Marshalling Yard Survey, Access Road Survey, and Supplemental 115kV Transmission Line Survey in Support of the Alberhill Substation, Riverside County, California	ECORP CONSULTING, INC.	33-003308, 33-012067, 33-015743, 33-019925, 33-021068, 33-021069, 33-021162
RI-09800		2016	Jennifer R. Kraft and Brian F. Smith	A Phase I Cultural Resources Survey Report for the Sky Museum Project, City of Lake Elsinore, Riverside County, California	Brian F. Smith and Associates	33-024857
RI-10025		2017	Roderic McLean	Canyon Estates Drive/ Canyon View Drive Intersection Improvement Project	LSA	
RI-10279	Other - DUKE CRM PROJECT NUMBER: C-0211	2017	CURT DUKE, MATTHEW STEVER, and BENJAMIN SCHERZER	CULTURAL AND PALEONTOLOGICAL RESOURCES ASSESSMENT MISSION TRAIL APARTMENTS PROJECT LAKE ELSINORE, RIVERSIDE COUNTY, CALIFORNIA	DUKE CULTURAL RESOURCES MANAGEMENT, LLC	
RI-10282	Other - PDM-PJ-09-CA-2009-012	2012	MEREDITH PECORA	LAKE ELSINORE SEISMIC RETROFIT PROJECT	URS CORPORATION	33-007076, 33-007102, 33-007134

Report List

Report No.	Other IDs	Year	Author(s)	Title	Affiliation	Resources
RI-10365		2017	Curt Duke, Matthew Stever, and Benjamin Scherzer	Cultural and Paleontological Resources Assessment East Lake Specific Plan Amendment No. 11 Lake Elsinore, Riverside County, Californi	Duke CRM	
RI-10429		2017	Andrew Garrison and Brian F. Smith	A Class III Historic Resource Study for the 310 East Pottery Street Project for Section 106 Compliance, Lake Elsinore, California	Brian F. Smith and Associates, Inc.	33-006998, 33-007080
RI-10530		2009	Laura S. White and Robert S. White	Phase I Cultural Resources Assessment of the Elsinore Valley Municipal Water District Wildomar Recycled Water System Phase 1 - Off-Site Facilities Project, Riverside County	Arcaheological Associates	

IS/MND Appendix D

Paleontological Resources Assessment

PALEONTOLOGICAL RESOURCES ASSESSMENT:
AVENUES SEPTIC TO SEWER PROJECT
CITY OF LAKE ELSINORE, RIVERSIDE COUNTY, CALIFORNIA

Prepared for:
HELIX Environmental Planning

Principal Investigators/Authors:
Betsy Kruk, M.S., Principal Paleontologist
Marianne Litwin, B.S., Technical Editor

Material Culture Consulting, Inc.
2701-B North Towne Avenue
Pomona, CA 91767
626-205-8279

December 2022

Type of Study: Paleontological resources assessment
Paleontological Resources within Project Area: One fossil locality from Pleistocene-age deposits just outside the one-mile radius of the Project Area.
Geologic Units: late Holocene-age very young lacustrine deposits (Ql), Holocene- and late Pleistocene-age young alluvial-fan deposits (Qyf), and Mesozoic-age quartz-rich rocks (Mzq)
USGS 7.5-minute Quadrangle(s): Elsinore
Key Words: Paleontology, CEQA, Holocene, Pleistocene, Low to Moderate Paleontological Potential, Riverside County, City of Lake Elsinore

MANAGEMENT SUMMARY

The Elsinore Valley Municipal Water District (EVMWD) proposes to convert the Avenues area, located in the City of Lake Elsinore, from septic tanks to the EVMWD sewer system to help reduce potential surface and groundwater pollution from failing septic tanks and leach fields by collecting residential sewer flows and treating them at the EVMWD's sewer plant. Material Culture Consulting, Inc. (MCC) was retained by HELIX Environmental, Inc. (HELIX) to conduct a paleontological assessment of the Project Area. The assessment was conducted in accordance with the California Environmental Quality Act (CEQA) and local regulations and guidelines. This assessment included an examination of geologic maps and paleontological literature, and a locality search at the Western Science Center (WSC).

The Project Area is mapped as late Holocene-age very young lacustrine deposits (Ql), Holocene- and late Pleistocene-age young alluvial-fan deposits (Qyf), and Mesozoic-age quartz-rich rocks (Mzq). Late Holocene-age very young wash deposits (Qw), Cretaceous-age granodiorite, undifferentiated (Kgd), and Cretaceous-age heterogeneous granitic rocks (Khg) are also mapped within a half-mile buffer of the Project Area. Due to the Project Area's previous disturbance activities, it is likely that modern artificial fill directly underlies the Project Area. The locality search at WSC reported one fossil locality from Pleistocene-age deposits in close proximity to the Project Area, just outside of the one-mile radius.

The potential for encountering significant paleontological resources within the Project Area is considered low where late Holocene-age very young lacustrine deposits (Ql) or Holocene- and late Pleistocene-age young alluvial-fan deposits (Qyf) are present at the surface or in the subsurface. However, they may overlie older, more paleontologically sensitive sediments. Therefore, prior to the start of construction, a paleontological resources management plan (PRMP) should be prepared.

All notes, correspondence, and other materials related to this Project are located at MCC, in Pomona, California.

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INTRODUCTION

The Elsinore Valley Municipal Water District (EVMWD) proposes to convert the Avenues area, located in the City of Lake Elsinore, from septic tanks to the EVMWD sewer system to help reduce potential surface and groundwater pollution from failing septic tanks and leach fields by collecting residential sewer flows and treating them at the EVMWD's sewer plant. Material Culture Consulting, Inc. (MCC) was retained by HELIX Environmental, Inc. (HELIX) to conduct a paleontological assessment of the Project Area. The assessment was conducted in accordance with the California Environmental Quality Act (CEQA) and local regulations and guidelines. This assessment documents the potential for encountering paleontological resources during construction and operation of the Project and provides recommendations on how to mitigate impacts to paleontological resources. Elsinore Valley Municipal Water District (EVMWD) is the lead agency under CEQA.

PROJECT LOCATION AND DESCRIPTION

The Project Area is located within the City of Lake Elsinore and the County of Riverside, south of Interstate 15, and just north of Lake Elsinore (Figure 1). The Project Area is generally bounded by Mountainview Avenue to the west, Avenue 7 to the east, Lakeshore Drive to the south, and just north of Mill Street to the north (Figure 2).

The proposed Project involves converting the Avenues area from septic tanks to the EVMWD sewer system to help reduce potential surface and groundwater pollution from failing septic tanks and leach fields by collecting residential sewer flows and treating them at the EVMWD's sewer plant.

PROJECT PERSONNEL

Betsy Kruk, M.S., served as the Principal Paleontologist for the study and authored the report. Ms. Kruk has a M.S. in Biological Sciences (paleontology emphasis) from the University of Alberta and has over 13 years of paleontological experience. Ms. Kruk also provided GIS support.

Figure 1. Avenues Septic to Sewer Project Vicinity.

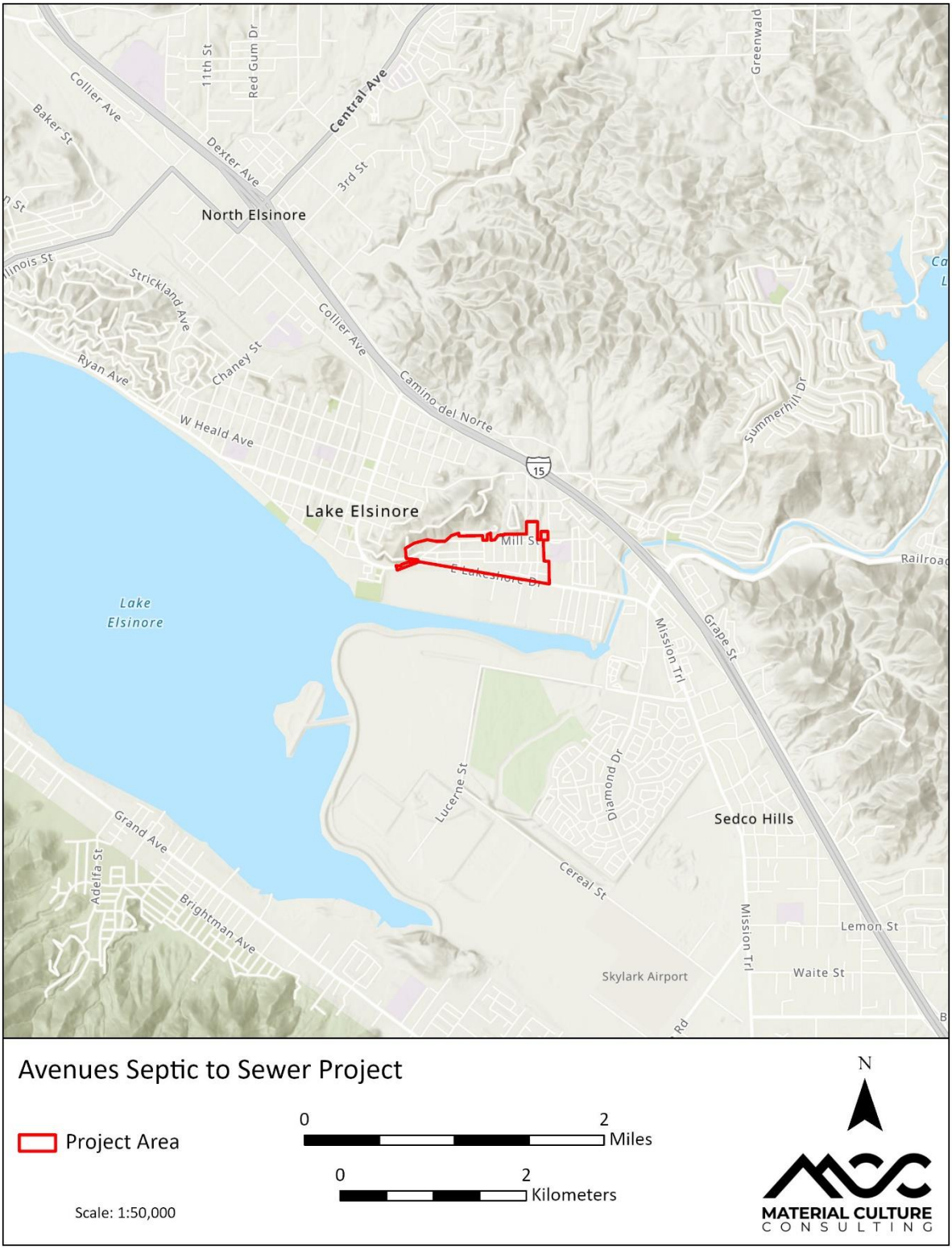

Figure 2. Avenues Septic to Sewer Project Area.

REGULATORY ENVIRONMENT

The Project is subject to local and state laws and regulations regarding paleontological resources. These regulations require the identification of paleontological resources during the planning stage of new projects; include application review for projects that would potentially involve land disturbance; provide project-level standard conditions of approval that address unanticipated discoveries; and provide requirements to develop specific mitigation measures if resources are encountered during any development activity. Specific governing legislation and regulations include the following:

STATE REGULATIONS

California Environmental Quality Act (CEQA)

CEQA declares that it is state policy to "take all action necessary to provide the people of this state with...historic environmental qualities." It further states that public or private projects financed or approved by the state are subject to environmental review by the state. All such projects, unless entitled to an exemption, may proceed only after this requirement has been satisfied. CEQA requires detailed studies that analyze the environmental effects of a proposed project. In the event that a project is determined to have a potential significant environmental effect, the act requires that alternative plans and mitigation measures be considered.

The CEQA Environmental Checklist includes one question regarding paleontological resources: “Would the project directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?” (CEQA Guidelines Appendix G, Section VII, Part F). If paleontological resources are identified as being within a proposed project area, the sponsoring agency must take those resources into consideration when evaluating project impacts. The level of consideration may vary with the importance of the resource.

CEQA does not provide a definition for unique paleontological resources. Therefore, many paleontologists and agencies utilize the Society of Vertebrate Paleontology (SVP) criteria, which define significant (i.e., unique) paleontological resources as:

> “Fossils and fossiliferous deposits…consisting of identifiable vertebrate fossils, large or small, uncommon invertebrate, plant, and trace fossils, and other data that provide taphonomic, taxonomic, phylogenetic, paleoecologic, stratigraphic, and/or biochronologic information” (SVP 2010).

California Public Resources Code

Public Resources Code (PRC) Division 5, Chapter 1.7, Section 5097.5 and Division 20, Chapter 3, Article 5, Section 30244 include additional state-level requirements for the assessment and management of paleontological resources. Section 5097.5 states that a person shall not knowingly and willfully excavate upon, or remove, destroy, injure or deface, any historic or prehistoric ruins, burial grounds, archaeological or vertebrate paleontological site, including fossilized footprints, inscriptions made by human agency, rock art, or any other archaeological, paleontological or historical feature, situated on public lands, except with the express permission of the public agency having jurisdiction over the lands. As defined in PRC Section 5097.5, public lands include any lands owned by, or under the jurisdiction of the state, county, district, authority, or public corporation, or any agency thereof. Section 30244 requires reasonable mitigation measures where development would adversely impact archaeological or paleontological resources as identified by the State Historic Preservation Officer.

LOCAL REGULATIONS

Riverside County General Plan

The Riverside County General Plan requires consideration of paleontological resources under the Multipurpose Open Space Element of the general plan (County of Riverside, 2020). The Riverside County General Plan recommendations are based on the SVP guidelines (2010) for the mitigation of paleontological resources. Additionally, the Riverside County General Plan Multipurpose Open Space Element contains a figure of paleontological sensitivity, Figure OS-8. The Multipurpose Open Space Element of the general plan (County of Riverside, 2020) provides the following requirements for paleontological sensitive areas within the county:

> **OS 19.6.** Whenever existing information indicates that a site proposed for development has high paleontological sensitivity as shown on Figure OS-8, a paleontological resource impact mitigation program (PRIMP) shall be filed with the County Geologist prior to site grading. The PRIMP shall specify the steps to be taken to mitigate impacts to paleontological resources.
>
> **OS 19.7.** Whenever existing information indicates that a site proposed for development has low paleontological sensitivity as shown on Figure OS-8, no direct mitigation is required unless a fossil is encountered during site development. Should a fossil be encountered, the County Geologist shall be notified and a paleontologist shall be retained by the project proponent. The paleontologist shall document the extent and potential significance of the paleontological resources on the site and establish appropriate mitigation measures for further site development.
>
> **OS 19.8.** Whenever existing information indicates that a site proposed for development has undetermined paleontological sensitivity as shown on Figure OS-8, a report shall be filed with the County Geologist documenting the extent and potential significance of the paleontological resources on site and identifying mitigation measures for the fossil and for impacts to significant paleontological resources prior to approval of that department.
>
> **OS 19.9.** Whenever paleontological resources are found, the County Geologist shall direct them to a facility within Riverside County for their curation, including the Western Science Center (WSC) in the City of Hemet.

City of Lake Elsinore General Plan

The City of Lake Elsinore General Plan Resource Protection and Preservation Chapter (2011) outlines goals and policies to promote and preserve Lake Elsinore's paleontological resources:

> **Goal 8:** Preserve paleontological resources occurring within the City.
>
> **Policy 8.1:** For development in areas delineated as "High" or "Undetermined" potential sensitivity for paleontological resources, require the project applicant to hire a certified paleontologist, who must perform a literature search and/or survey and apply the relevant treatment for the site as recommended by the Society for Vertebrate Paleontology.
>
> **Implementation Program:** The City shall use the development and environmental review processes to ensure that appropriate archaeological and paleontological surveying and documentation of findings is provided prior to project approval and require monitoring of new developments and reporting to the City on completion of mitigation and resource protection measures.

METHODS

PALEONTOLOGICAL RESEARCH

The literature review included an examination of geologic maps of the Project Area and a review of relevant published and unpublished geological and paleontological literature to determine which geologic units are present within the Project Area and whether fossils have been recovered from those geologic units elsewhere in the region. As geologic units may extend over large geographic areas and contain similar lithologies and fossils, the literature review includes areas well beyond the Project Area.

The purpose of a locality search is to establish the status and extent of previously recorded paleontological resources within and adjacent to the study area for a given project. On December 21, 2022, a locality search was conducted through the Western Science Center (WSC) for the Project Area. This search identified any fossil localities in the WSC records that exist near the Project Area in the same or similar deposits.

PALEONTOLOGICAL POTENTIAL ASSESSMENT

The federal PFYC system (BLM 2016) was used to assess the paleontological potential within the Project Area. The PFYC system provides baseline guidance for assigning the paleontological potential of geologic units, on a scale of 1 (very low potential) to 5 (very high potential), based on the abundance of significant paleontological resources and their sensitivity to impacts:

1 = Very Low Potential Geologic units are not likely to contain recognizable paleontological resources; units are igneous or metamorphic, excluding air-fall and reworked volcanic ash units; units are Precambrian in age; the management concern is usually negligible, and impact mitigation is unnecessary except in rare or isolated circumstances.

2 = Low Potential Geologic units are not likely to contain paleontological resources; field surveys have verified that significant paleontological resources are not present or very rare; units are generally younger than 10,000 years old; recent eolian deposits; sediments exhibit significant physical and chemical changes (i.e., diagenetic alteration) that make fossil preservation unlikely; management concern is generally low, and impact mitigation is usually unnecessary except in occasional or isolated circumstances.

3 = Moderate Potential Sedimentary geologic units where fossil content varies in significance, and abundance, and predictable occurrence; marine in origin with sporadic known occurrences of paleontological resources; paleontological resources may occur intermittently, but these occurrences are widely scattered; the potential for authorized land use to impact a significant paleontological resource is known to be low to moderate; management concerns are moderate. Management options could include record searches, pre-disturbance surveys, monitoring, mitigation, or avoidance. Opportunities may exist for hobby collecting. Surface-disturbing activities may require sufficient assessment to determine whether significant paleontological resources occur in the area of a proposed action and whether the action could affect the paleontological resources.

4 = High Potential Geologic units that are known to contain a high occurrence of paleontological resources; significant paleontological resources have been documented but may vary in occurrence and predictability; surface-disturbing activities may adversely affect paleontological resources; rare or uncommon fossils, including nonvertebrate (such as soft body preservation) or unusual plant fossils, may be present; illegal collecting activities may impact some areas;

management concern is moderate to high depending on the proposed action. A field survey by a qualified paleontologist is often needed to assess local conditions. On-site monitoring or spot-checking may be necessary during land disturbing activities. Avoidance of known paleontological resources maybe necessary.

5 = Very High Potential Highly fossiliferous geologic units that consistently and predictably produce significant paleontological resources; significant paleontological resources have been documented and occur consistently; paleontological resources are highly susceptible to adverse impacts from surface disturbing activities; unit is frequently the focus of illegal collecting activities; management concern is high to very high. A field survey by a qualified paleontologist is almost always needed and on-site monitoring may be necessary during land use activities. Avoidance or resource preservation through controlled access, designation of areas of avoidance, or special management designations should be considered.

U = Unknown Potential Geologic units that cannot receive an informed PFYC assignment; geologic units may exhibit features or preservation conditions that suggest significant paleontological resources could be present, but little information about the actual paleontological resources of the unit or area is known; geologic units represented on a map are based on lithologic character or basis of origin, but have not been studied in detail; scientific literature does not exist or does not reveal the nature of paleontological resources; reports of paleontological resources are anecdotal or have not been verified; area or geologic unit is poorly or under-studied; BLM staff has not yet been able to assess the nature of the geologic unit; until a provisional assignment is made, geologic units with unknown potential have medium to high management concerns. Field surveys are normally necessary, especially prior to authorizing a ground-disturbing activity.

BACKGROUND CONTEXT

PALEONTOLOGICAL SETTING

The Project Area is located within the Peninsular Ranges Geomorphic Province (California Geological Survey 2002). A geomorphic province is a geographical area of distinct landscape character with related geophysical features, including relief, landforms, orientations of valleys and mountains, type of vegetation, and other geomorphic attributes (Harden 2004). Attributes of the Peninsular Ranges Geomorphic Province consist of northwest-southeast-trending, fault-bounded discrete blocks, with mountain ranges, broad intervening valleys, and low-lying coast plains (Yerkes et al. 1965; Norris and Webb 1990). Within California, the Peninsular Ranges Geomorphic Province extends approximately 125 miles from the Transverse Ranges and the Los Angeles Basin south to the Mexican border, extending southward approximately 775 miles toward to the tip of Baja California, and it is bound on the east by the right-slip San Andreas Fault Zone, the Eastern Transverse Ranges, and the Colorado Desert (Norris and Webb 1990; Hall 2007).

The Project Area is mapped as late Holocene-age very young lacustrine deposits (Ql), Holocene- and late Pleistocene-age young alluvial-fan deposits (Qyf), and Mesozoic-age quartz-rich rocks (Mzq) (Morton and Weber 2003, Figure 3). Late Holocene-age very young wash deposits (Qw), Cretaceous-age granodiorite, undifferentiated (Kgd), and Cretaceous-age heterogeneous granitic rocks (Khg) are also mapped within a half-mile buffer of the Project Area. However, these geologic units are not anticipated to be encountered during Project construction and are, therefore, not discussed in detail in this report.

Artificial fill consists of previously disturbed sediments placed by construction operations and are variable in color. These sediments are not mapped within the Project area but may be encountered within previously disturbed areas of the Project. Fossils found within these sediments will have been removed from their original location and, therefore, lack scientific contextual data. Consequently, these sediments have a low potential (Class 2); however, they may overlie older, more paleontologically sensitive sediments.

Very young lacustrine deposits (Ql) consist of dominantly gray, clayey, silty, and fine-grained sandy lacustrine deposits (Morton and Weber 2003). This geologic unit is typically too young to produce significant paleontological resources and has a low sensitivity; however, it may overlie older, more paleontologically sensitive sediments.

Young alluvial-fan deposits (Qyf) consist predominantly of unconsolidated deposits of gravel, sand, and silt as alluvial fans and headwater drainages of fans (Morton and Weber 2003). This geologic unit is typically too young to produce significant paleontological resources and has a low potential (Class 2); however, they may overlie older, more paleontologically sensitive sediments.

Pleistocene-age sediments within Riverside County have produced fossil specimens including mammoth (*Mammuthus*), mastodon (*Mammut americanum, Mammut pacificus*), horse (*Equus* sp., *Equus conversidens*, *Equus occidentalis, Platygonus compressus*), camel (*Camelops* sp., *Camelops hesternus*, *Hemiauchenia*), bison (*Bison antiquus*, *Bison latifrons*, *Bison* sp.), deer (*Odocoileus*, Cervidae), pronghorn (*Antilocapra, Capromeryx*), ground sloth (*Paramylodon harlani*, *Megalonyx jeffersoni*, *Nothrotheriops shastensis*), bear (*Ursus americanus*, *Arctodus*), American lion (*Panthera atrox*), saber-toothed cat (*Smilodon*), lynx (*Lynx*), dire wolf (*Canis dirus*), coyote (*Canis latrans*), fox (*Urocyon cinereoagenteus*), weasel (*Mustela*), skunk (*Mephitis*), American badger (*Taxidea taxus*), rabbit, hare, or pika (Lagomorpha), rabbit (*Sylvilagus*, *Lepus californicus*), rodent (e.g., *Microtus*, *Neotoma*, *Thomomys bottae*, *Dipodomys*, *Eutamias*, *Perognathus*, *Peromyscus*, *Spermophilus*, *Ammospermophilus*, Microtinae, Sciuridae, Cricetidae, Rodentia), shrew (*Sorex*), mole (*Scapanus*), bat (*Myotis*), fish (Osteichthyes, *Gasterosteus aculeatus, Gila*), tortoise (*Gopherus*), turtle (*Clemmys,* Chelonia), toad (*Bufo*, *Scaphiopus*), frog (*Rana*, *Pseudacris*, *Hyla*, Anura), lizard (*Uta stansburiana*, *Phrynosoma*, *Cnemidophorus*, *Sceloporus*, *Gerrhonotus*,

Crotaphytus collaris, Iguanidae), snake (*Lampropeltis*, *Thamnophis*, *Tantilla*, *Crotalus*, *Pituophis melanoleucus*, *Masticophis*, Crotalidae), skink (*Eumeces*), bird (*Anas*, *Aquila chrysaetos*, *Accipiter*, *Falco*, *Callipepla*, *Asio*, *Colaptes auratus*, *Turdus migratorius*, *Sturnella neglecta*, *Hirundo*, *Colaptes auratus*, Corvidae, Accipitridae, Phasianidae, Scolopacidae, Hirundinidae, Aves), invertebrates, and plants (Dooley et al. 2019; Jefferson 1991a, 1991b; Reynolds and Reynolds 1991; Springer et al. 2009; UCMP 2022).

Quartz-rich rocks (Mzq) consists of quartzite and quartz-rich metasandstone, which is a sedimentary rock that has undergone intense heat and pressure as a result of geologic tectonic processes (Morton and Weber 2003). These units do not produce paleontological resources due to the processes these sediments undergo and have a very low paleontological sensitivity.

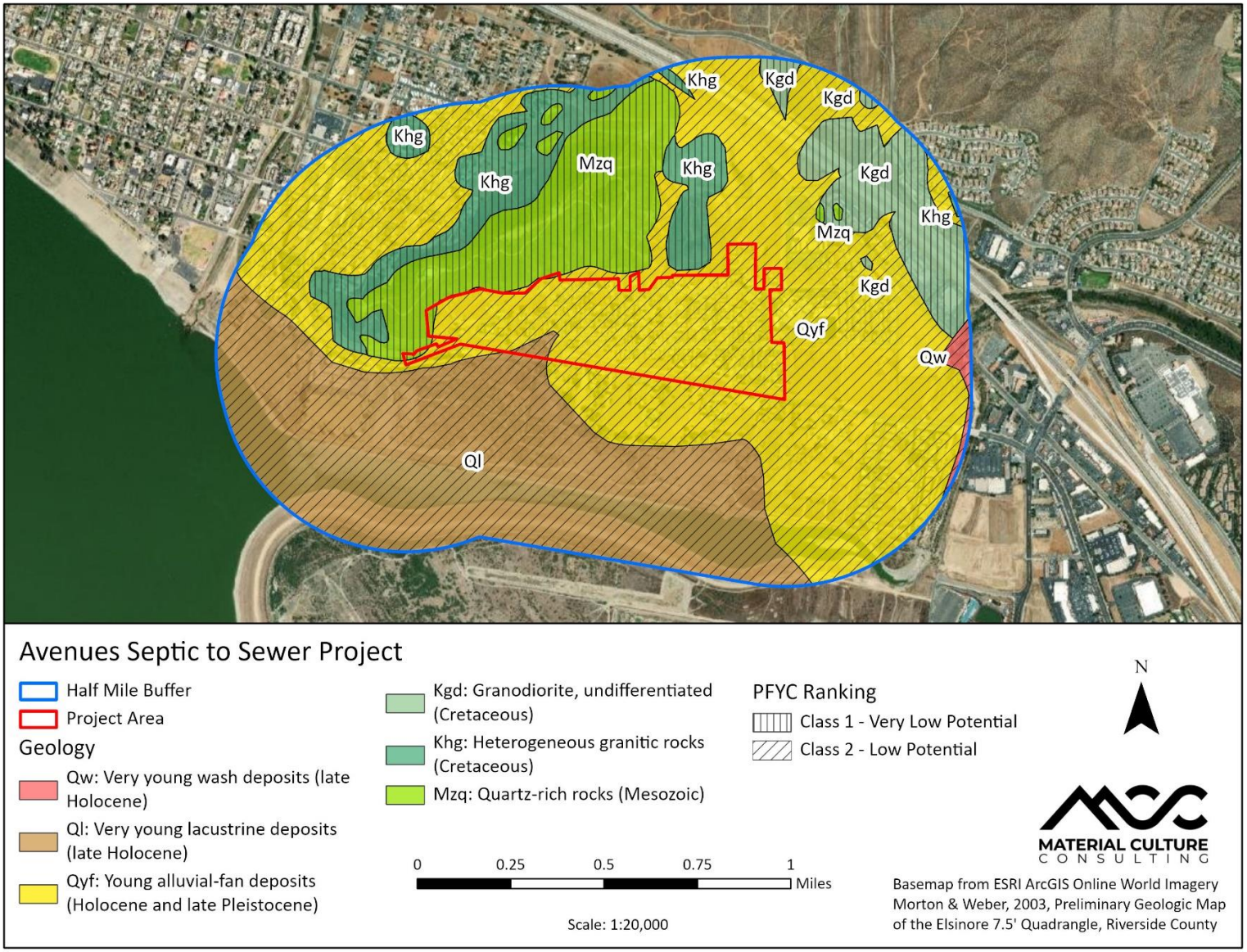

Figure 3. Avenues Septic to Sewer Project Geology.

RESULTS

PALEONTOLOGICAL RECORDS SEARCH

The records search did not identify any fossil localities in the WSC records that exist near the Project Area or immediate vicinity. The closest reported locality from Pleistocene-age deposits, called the "JDC Project," lies just outside the one-mile radius and yielded numerous Pleistocene-age vertebrates (Stoneberg 2022).

The locality search at WSC reported one fossil locality from Pleistocene-age deposits in close proximity to the Project Area, just outside of the one-mile radius.

CONCLUSIONS AND RECOMMENDATIONS

PALEONTOLOGICAL RESOURCES CONCLUSIONS

The paleontological resource assessment of the Project Area included a locality records search at WSC, geological maps, and literature reviews. One vertebrate fossil locality was identified just outside the one-mile radius of the Project Area during the locality search. Based on the results of the study, the late Holocene-age very young lacustrine deposits (Ql) and Holocene- and late Pleistocene-age young alluvial-fan deposits (Qyf) that underlies the Project Area surface has a low to moderate (increasing with depth) paleontological potential.

PALEONTOLOGICAL RESOURCES RECOMMENDATIONS

The potential for encountering significant paleontological resources within the Project Area is considered low where late Holocene-age very young lacustrine deposits (Ql) or Holocene- and late Pleistocene-age young alluvial-fan deposits (Qyf) are present at the surface or in the subsurface. However, they may overlie older, more paleontologically sensitive sediments. Therefore, prior to the start of construction, a paleontological resources management plan (PRMP) should be prepared. It is recommended the Project's PRMP include the following procedures:

- Paleontological spot checks during ground-disturbing activities within late Holocene-age very young lacustrine deposits (Ql) and Holocene- and late Pleistocene-age young alluvial-fan deposits (Qyf), in order to identify if moderate sensitivity Pleistocene-age sediments are being impacted. If sensitive sediments are observed, then paleontological monitoring will continue on a full-time basis in those areas.
- Development of an inadvertent discovery plan to expediently address treatment of paleontological resources should any be encountered during development associated with the Project. If these resources are inadvertently discovered during ground-disturbing activities, work must be halted within 50 feet of the find until it can be evaluated by a qualified paleontologist. Construction activities could continue in other areas. If the discovery proves to be significant, additional work, such as fossil collection and curation, may be warranted and would be discussed in consultation with the appropriate regulatory agency(ies).
- Any recovered fossil remains will be prepared and identified to the lowest taxonomic level possible by knowledgeable paleontologists. Significant remains then will be transferred to a fossil repository for curation.
- A qualified paleontologist shall prepare a report of findings made during all site grading activity with an appended itemized list of fossil specimens recovered during grading (if any).

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Appendix A:
Paleontological Resources Records Search Results

WESTERN SCIENCE CENTER

December 21st, 2022

Material Culture Consulting
Betsy Kruk
2701-B North Towne Avenue
Pomona, CA 91767

Dear Ms. Kruk,

This letter presents the results of a record search conducted for Avenues Septic to Sewer Project in the City of Lake Elsinore, Riverside County, CA. The project area is located east and south of Country Club Blvd, west of Avenue 7, and north of Lakeshore Drive on Section 8 of Township 6 South, Range 4 West on the *Elsinore, CA* USGS 7.5 minute quadrangle.

The geologic units underlying this project are mapped as alluvial fan deposits of sand, silt, and gravel from the Holocene and late Pleistocene, as well as tonalite and quartz-rich Cretaceous rocks (Morton and Weber 2003). Holocene alluvial units are considered to be of high preservation value, but material found is unlikely to be fossil material due to the relatively modern associated dates of the deposits. Pleistocene units are considered to be highly paleontologically sensitive. The Western Science Center does not have localities within the project area or within a 1 mile radius; however, the JDC project lies just outside of the project radius and includes numerous Pleistocene vertebrates.

Any fossil specimen from the Avenues Septic to Sewer Project be scientifically significant. Excavation activity associated with the development of the project area would impact the paleontologically sensitive Pleistocene alluvial units, and it is the recommendation of the Western Science Center that a paleontological resource mitigation program be put in place to monitor, salvage, and curate any recovered fossils associated with the study area.

If you have any questions, or would like further information, please feel free to contact me at bstoneburg@westerncentermuseum.org.

Sincerely,

Brittney Elizabeth Stoneburg, MSc
Collections Manager