



# Sky Canyon Sewer Main Extension Project

Draft Initial Study/  
Mitigated Negative Declaration

August 2019

*Prepared for:*

**Eastern Municipal Water District**

2270 Trumble Road

Perris, CA 92570

*Prepared by:*

**HELIX Environmental Planning, Inc.**

7578 El Cajon Boulevard

La Mesa, CA 91942

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# Sky Canyon Sewer Main Extension Project

Draft Initial Study/  
Mitigated Negative Declaration

*Prepared for:*

**Eastern Municipal Water District**  
P.O. Box 8300  
Perris, CA 92572-8300

*Prepared by:*

**HELIX Environmental Planning, Inc.**  
7578 El Cajon Boulevard  
La Mesa, CA 91942

August 2019 | EMW-17.21

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## DRAFT MITIGATED NEGATIVE DECLARATION

1. Project title: Sky Canyon Sewer Main Extension Project
2. Project description: The project involves the construction and operation of approximately 6,700 linear feet of new gravity-fed 36-inch-diameter sewer main. The proposed sewer main would connect to the existing 36-inch-diameter French Valley Phase II Sewer at the intersection of Winchester Road and Hunter Road, run south through private easement(s), continue south within Sky Canyon Drive, and connect to an existing 30-inch-diameter sewer located at the intersection of Murrieta Hot Springs Road and Sky Canyon Drive.
3. Project location: The project alignment is located in southwestern Riverside County, adjacent to the eastern boundary of the city of Murrieta. The project site is east of Interstate (I-) 15 and I-215 and just east of State Route (SR) 79 (Winchester Road). The alignment would cross or be adjacent to Assessor's Parcel Numbers (APNs) 908-180-004, 957-320-011, and 957-330-037.
4. Lead Agency: Eastern Municipal Water District  
P.O. Box 8300  
Perris, CA 92572-8300

The Lead Agency, having reviewed the Initial Study for this project, does hereby find and declare that the project will not have a significant effect on the environment. A brief statement of the reasons supporting the Lead Agency's findings are as follows:

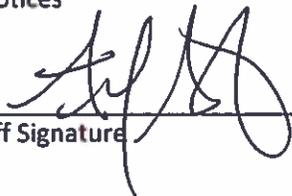
An Initial Study was conducted to evaluate the potential effects of this project upon the environment. Based upon the findings contained in the attached Initial Study, it has been determined that this project would have a less than significant impact on the environment. The Initial Study concluded that potentially significant construction-related impacts would occur with respect to biological resources (California horned lark, burrowing owl, other nesting birds and raptors, and a single unnamed drainage), and cultural resources, tribal cultural resources, and geology and soils (potential for subsurface cultural, tribal cultural, and paleontological resources to be encountered); however, impacts would be less than significant with mitigation. Potential impacts associated with biological resources would be mitigated by implementing a pre-construction nesting bird survey, installing construction fencing around the drainage, conducting pre-construction environmental training, and monitoring. Potential impacts to cultural, tribal cultural, and paleontological resources would be mitigated through monitoring during ground-disturbing activities, avoidance of resources, and proper treatment and disposition of discovered resources. The project would result in less than significant or no impacts to the following environmental issues areas: aesthetics, agriculture and forestry resources, air quality, energy, 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, utilities and service systems, and wildfire. Accordingly, a Draft Mitigated Negative Declaration has been prepared.

The Lead Agency hereby finds that the Mitigated Negative Declaration reflects its independent judgment. A copy of the Initial Study is attached.

The location and custodian of the documents and other materials which constitute the record of proceedings upon which the Lead Agency based its decision to adopt this Mitigated Negative Declaration are as follows:

Eastern Municipal Water District  
2270 Trumble Road  
Perris, California 92572  
<https://www.emwd.org/about-emwd/public-notice>

8/21/2019  
Date

  
Staff Signature AL JAW 162

# 1.0 INTRODUCTION

The following Initial Study addresses the environmental impacts associated with the construction and operation of Eastern Municipal Water District's (herein referred to as the "District") proposed Sky Canyon Sewer Main Extension Project (herein referred to as "proposed project" or "project"). The purpose of the proposed project is to provide additional sewer capacity for planned development. This Initial Study has been prepared in accordance with the *California Environmental Quality Act of 1970* (CEQA), as amended, the *State CEQA Guidelines*, and the District's Administrative Code Resolution 5111, as amended.

## 1.1 INITIAL STUDY INFORMATION SHEET

1. Project title: Sky Canyon Sewer Main Extension Project
2. Lead agency name and address: Eastern Municipal Water District  
P.O. Box 8300  
Perris, CA 92572-8300
3. Contact person and phone number: Joseph Broadhead  
(951) 928-3777 ext. 4545
4. Project location: The project is located in southwestern Riverside County, adjacent to the eastern boundary of the City of Murrieta. The project site is east of Interstate (I-) 15 and I-215 and just east of State Route (SR) 79 (Winchester Road). The sewer main extension would start at Hunter Road, just east of Winchester Road (SR 79), then run south through private easement(s), continue south on Sky Canyon Drive, and end at the intersection of Sky Canyon Drive and Murrieta Hot Springs Road, all within the unincorporated County of Riverside. The alignment would cross or be adjacent to Assessor's Parcel Numbers (APNs) 908-180-004, 957-320-011, and 957-330-037.
5. Project sponsor's name and address: Eastern Municipal Water District  
P.O. Box 8300 Perris, CA 92572-8300
6. General plan designation: Light Industrial, Commercial Office, Business Park, Commercial Retail
7. Zoning: Specific Plan: Southwest Area

## 8. Description of project:

### **Project Location**

The proposed project is located in southwestern Riverside County, adjacent to the eastern boundary of the City of Murrieta (Figure 1, *Regional Location*). The proposed project alignment runs east of State Route (SR) 79 (Winchester Road) from Hunter Road in the north to Murrieta Hot Springs Road in the south. The majority of the project alignment is within Township 7 South, Section 13, with small sections in Township 7 South, Range 3 West, Section 24, and Township 7 South, Range 2 West, Section 18, on the U.S. Geological Survey (USGS) 7.5-minute Murrieta Quadrangle (Figure 2, *USGS Topography*). The project alignment would cross or be adjacent to three parcels: Assessor's Parcel Numbers (APNs) 908-180-004, 957-320-011, and 957-330-037.

Specific staging areas have not yet been identified; staging areas would be within developed locations along Winchester Road or within a parcel that would be acquired by the District for the project and is within areas previously surveyed.

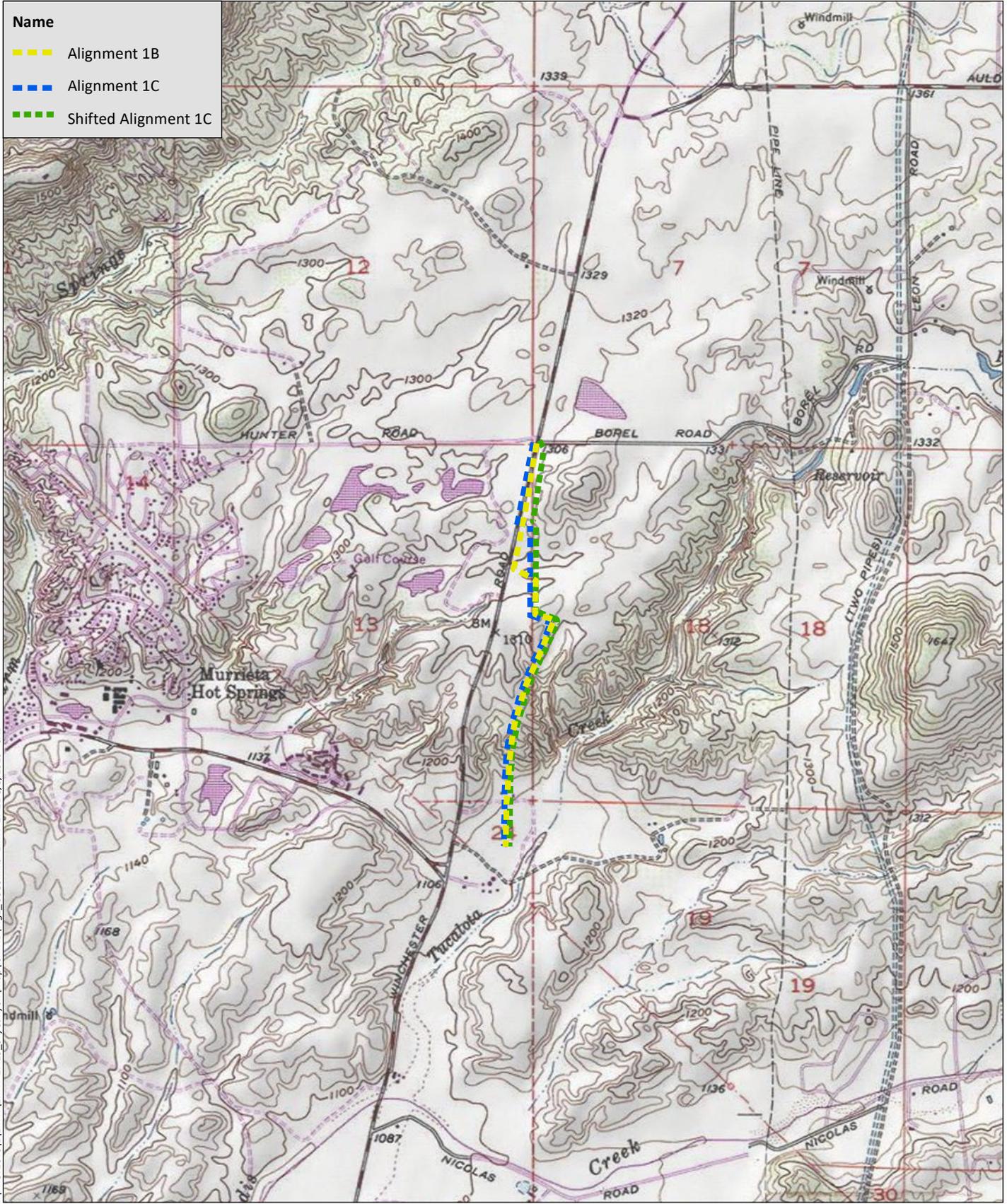
### **Pipeline**

The District proposes to construct the project in order to provide additional wastewater conveyance capacity for projected build-out flows from anticipated development in the French Valley area of southwest Riverside County. The project would involve the construction of approximately 6,700 linear feet of new gravity-fed 36-inch-diameter sewer main that would be constructed of either vitrified clay pipe (VCP) or polyvinyl chloride (PVC) pipe. The proposed 36-inch-diameter sewer main would connect to the existing 36-inch-diameter French Valley Phase II Sewer at the intersection of Winchester Road and Hunter Road, run south through private easement(s), continue south within Sky Canyon Drive, and connect to an existing 30-inch-diameter sewer located at the intersection of Murrieta Hot Springs Road and Sky Canyon Drive (see Figure 3, *Aerial Photograph*). The sewer main would parallel an existing 15-inch-diameter sewer in Winchester Road and an existing 12-inch-diameter sewer in Sky Canyon Road. Manholes would be located every 400 to 500 feet along the sewer main. Manholes would have a minimum diameter of 60 inches and in non-paved areas would be surrounded by a 10-foot by 10-foot paved area, per the District's standards.

### **Alignments**

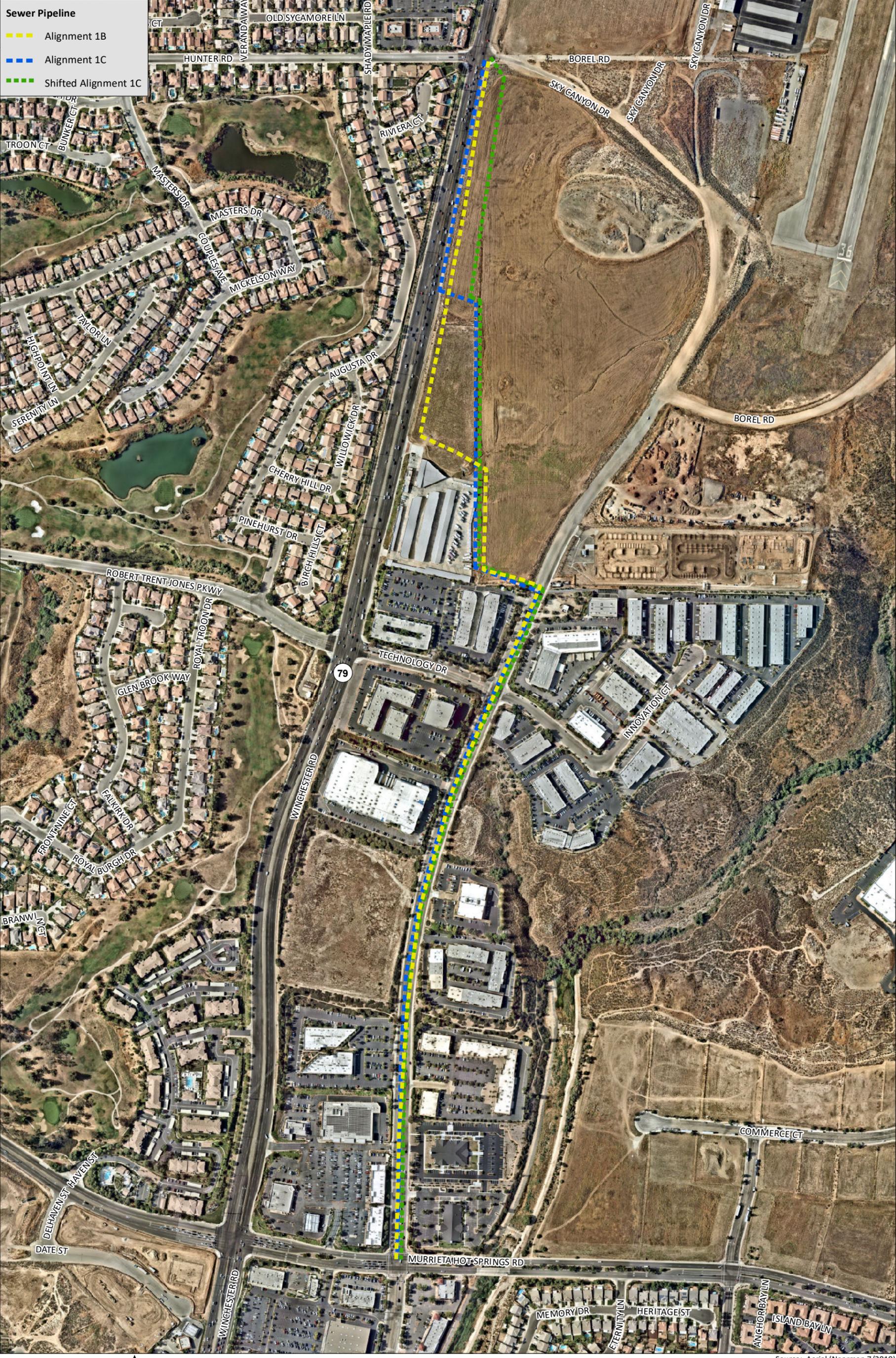
Three potential alignments (referenced in the engineering Preliminary Design Report and herein as alignments 1B, 1C, and Shifted 1C) are currently under consideration for the sewer main, with Alignment 1C preliminarily selected as the preferred alternative. The three alignments differ in location in the northern half of the project site but follow the same general route and have the same starting and ending points (see Figure 3). The Shifted 1C alignment is identical to the 1C alignment except for the northern portion that was shifted approximately 35 feet east to avoid a California Department of Transportation (Caltrans) slope easement and to provide additional room to protect an existing parallel 24-inch potable waterline. One of the three alignments would ultimately be selected and installed as the project (see Figure 4a, *Alignment 1B*; Figure 4b, *Alignment 1C*; and Figure 4c, *Shifted Alignment 1C*, for additional details on the three potential alignments).





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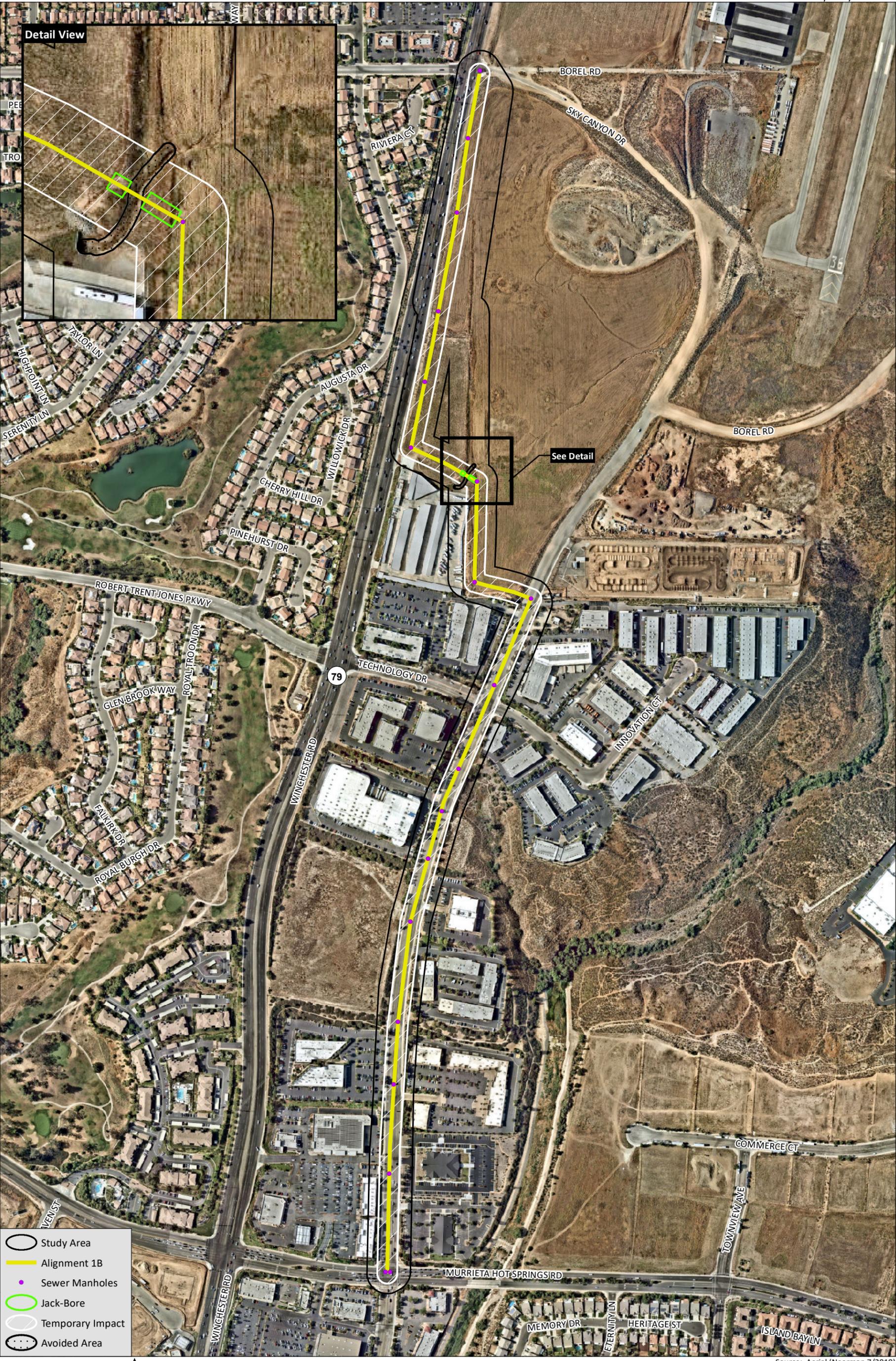
Source: Murrieta 7.5' Quad (USGS)



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Source: Aerial (Nearmap 7/2019)



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- Study Area
- Alignment 1B
- Sewer Manholes
- Jack-Bore
- Temporary Impact
- Avoided Area

0 425 Feet

Source: Aerial (Nearmap 7/2019)



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- Study Area
- Alignment 1C
- Sewer Manholes
- Jack-Bore
- Temporary Impact
- Avoided Area

0 425 Feet

Source: Aerial (Nearmap 7/2019)



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- Study Area
- Shifted Alignment 1C
- Sewer Manholes
- Jack-Bore
- Temporary Impact
- Avoided Area

0 425 Feet

Source: Aerial (Nearmap 7/2019)

## Construction

The proposed pipeline would be located with a maximum cover of 38 feet. Construction and installation of the gravity-fed sewer would utilize both an open-cut-trenching method and jack-and-bore method to avoid a single ephemeral drainage feature, in the form of an earthen ditch, that is located north of Technology Drive and east of Winchester Road. Jack-and-bore methods would involve digging a shaft on each side of the drainage (an entrance and exit shaft) and boring under the drainage from the entrance shaft to the exit shaft on the other side.

Open-cut trenches in paved areas would have a minimum width of 6.5 feet. Trenches in unpaved areas, generally located in the northern portion of the alignment, would be sloped back based on the underlying earth material (refer to Figure 5, *Open Cut Field Excavation – Typical Cross Section*). Trenching would involve approximately 50,000 cubic yards of earthwork. If the contractor determines that rock breaking activities are required during construction, the project would use non-explosive demolition methods (i.e., mechanical means via a hoe ram or chemical means) to fracture the bedrock with minimal disturbance. The project would be constructed in conformance with pertinent engineering standards, including current versions of the International Code Council (ICC) *International Building Code* (IBC, formerly the Uniform Building Code) and the California Building Standards Commission *California Building Code* (CBC).

The project's total construction period, including drawing submittals, procurement, and permitting, is anticipated to last 20 months, beginning in November 2020 and ending in June 2022. On-ground physical construction activity is anticipated to last approximately 17 months, beginning in January 2021 and ending in June 2022. Construction activities would generally be limited to daylight hours; however, construction associated with tie-in of the proposed pipeline to the existing sewer located in the intersection of Murrieta Hot Springs Road and Sky Canyon Drive may require nighttime work to avoid traffic impacts and conflicts with daytime commercial operations at adjacent businesses. In undeveloped/unpaved areas, construction-related equipment and materials would be stored within the District's 100-foot-wide temporary construction easement. For construction located in developed/paved areas, equipment and materials would be stored in private easements pending agreement with private property owners.

## Traffic Control Plan

A Traffic Control Plan (TCP) would be submitted to the County of Riverside for approval. Approval of the TCP by Caltrans may be required. While traffic diversion and lane closures would be necessary in Sky Canyon Drive, the project would maintain one open lane in each direction and one two-way left turn lane. Excavation areas within the ROW would be plated during non-working hours. Project-related trips would include daily construction worker trips and occasional material delivery and haul truck trips. Appropriate traffic control measures would be implemented as necessary in pertinent areas to maintain access and ensure safety. Such measures would likely include standard efforts such as the use of cones, barriers, signs, and flaggers, where applicable. Construction is not anticipated to impact sidewalk accessibility. There are three Riverside Transit Authority (RTA) bus stops within the alignment, but the District would coordinate with the RTA to maintain access or establish temporary bus stop locations.

9. Surrounding land uses and setting:

The project alignment is located within and adjacent to County land use designations that include Light Industrial, Commercial Office, Business Park, Commercial Retail, and Conservation. Land use designations across Winchester Road, within the City of Murrieta, include Single-Family Residential, Multiple-Family Residential, and Parks and Open Space.

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

- County of Riverside Transportation Department Encroachment and Excavation Permit
- California Department of Transportation Encroachment Permit<sup>1</sup>
- State Water Resource Control Board (SWRCB) Waiver
- SWRCB Construction General Permit
- Riverside County Flood Control and Water Conservation District Encroachment Permit
- California Occupational Safety and Health Administration (Cal-OHSA) Trenching/Shoring Permit
- Occupational Health and Safety (OSHA) Mining and Tunnel Classification
- San Diego Regional Water Quality Control Board (RWQCB) Dewatering Permit, if necessary, for the disposal of groundwater during construction

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.?

The District has consulted with applicable Native American tribal representatives through written correspondence, based on a contact list of tribes who indicated to the District that they are interested in receiving notification. Additionally, District staff has undertaken consultation with representatives from Pechanga Band of Luiseño Mission Indians, Soboba Band of Luiseño Indians, Morongo Band of Mission Indians, and the Rincon Band of Luiseño Indians to discuss the project and potential effects to significant cultural resources. The Agua Caliente Band of Cahuilla Indians deferred to other tribes closer to the project area, as the project is located outside their Traditional Use Area.

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<sup>1</sup> A California Department of Transportation Encroachment Permit would not be required if Shifted Alignment 1C is chosen for the project, as it would avoid the existing Caltrans slope easement located along Winchester Road.

## 1.2 ENVIRONMENTAL FACTORS POTENTIALLY AFFECTED

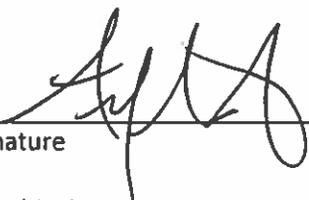
The environmental factors checked below would be potentially affected by this project, involving at least one impact that is a “Potentially Significant Impact” or “Less than Significant with Mitigation Incorporated” as indicated by the checklist on the following pages.

<input type="checkbox"/> Aesthetics	<input type="checkbox"/> Agriculture and Forestry Resources	<input type="checkbox"/> Air Quality
<input checked="" type="checkbox"/> Biological Resources	<input checked="" type="checkbox"/> Cultural Resources	<input type="checkbox"/> Energy
<input checked="" type="checkbox"/> Geology and Soils	<input type="checkbox"/> Greenhouse Gas Emissions	<input type="checkbox"/> Hazards and Hazardous Materials
<input type="checkbox"/> Hydrology and Water Quality	<input type="checkbox"/> Land Use and Planning	<input type="checkbox"/> Mineral Resources
<input type="checkbox"/> Noise	<input type="checkbox"/> Population and Housing	<input type="checkbox"/> Public Services
<input type="checkbox"/> Recreation	<input type="checkbox"/> Transportation	<input checked="" type="checkbox"/> Tribal Cultural Resources
<input type="checkbox"/> Utilities and Service Systems	<input type="checkbox"/> Wildfire	<input checked="" type="checkbox"/> Mandatory Findings of Significance

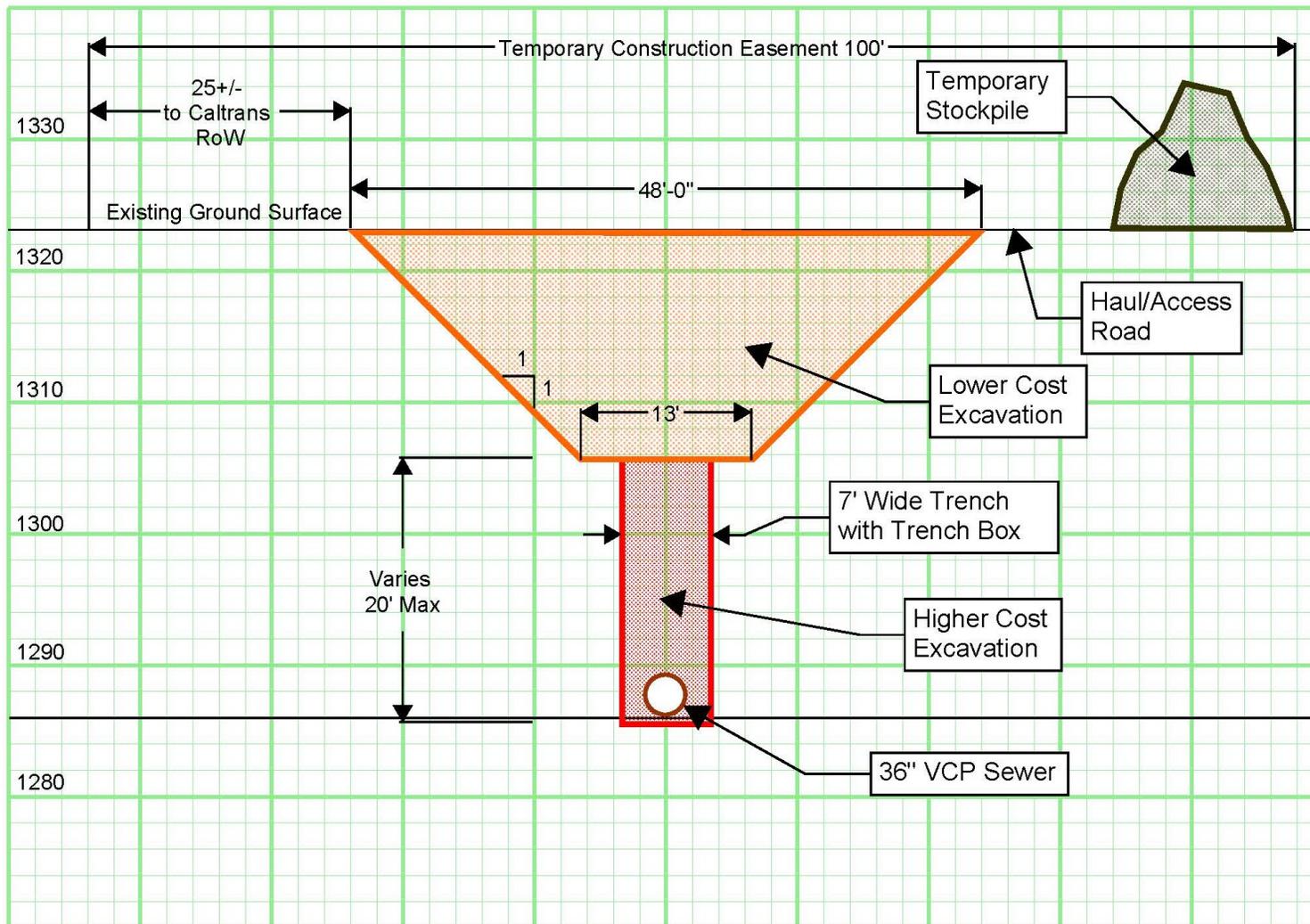
### 1.3 DETERMINATION

On the basis of this initial evaluation:

<input type="checkbox"/>	I find that the proposed project COULD NOT have a significant effect on the environment, and a NEGATIVE DECLARATION will be prepared.
<input checked="" type="checkbox"/>	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.
<input type="checkbox"/>	I find that the proposed project MAY have a significant effect on the environment, and an ENVIRONMENTAL IMPACT REPORT is required.
<input type="checkbox"/>	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.
<input type="checkbox"/>	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  
 Alfred Javier  
 \_\_\_\_\_  
 Printed Name

8/21/2019  
 \_\_\_\_\_  
 Date  
 Director of Environmental and Regulatory Compliance  
 For Eastern Municipal Water District



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## 2.0 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.

The three potential alignments proposed for the sewer main are not analyzed separately in this environmental checklist as the following discussions are based on the project’s construction and operational activities, the overall project site, and/or the general region, which do not differ between the alignments.

## 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?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
d) Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

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

**Less Than Significant Impact.** The most prominent scenic resources that can be viewed from the project area are the San Jacinto Mountains located to the east. Such views could be temporarily affected during construction of the pipeline by the presence of construction equipment. Once construction is completed, however, visual impacts related to construction activities would cease. The proposed pipeline would be located below ground and would not be visible or obstruct scenic vistas. Therefore, impacts would be less than significant.

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

**No Impact.** State scenic highways are designated by Caltrans. According to the Southwest Area Plan of the County's General Plan, the only identified state scenic highway in the project vicinity is I-15, which is located approximately 2.5 miles southwest of the project site at its closest point and is listed as an Eligible (i.e., not officially designated) State Scenic Highway (County 2019). The project site is not visible from I-15. Additionally, there are no rock outcroppings or historic buildings located within or adjacent to the project site, and tree removal is not anticipated. Based on the described conditions, no impact would occur to scenic vistas or scenic resources.

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.** The Riverside County General Plan is applicable to all unincorporated lands within Riverside County. Countywide policies that seek to preserve visual quality are located in the Land Use Element (LU), Open Space Element (OS), and Circulation Element (C) of the General Plan, and include:

- LU 13.1 “Preserve and protect outstanding scenic vistas and visual features for the enjoyment of the traveling public.”
- LU 25.5 Requires that “public facilities be designed to consider their surroundings and visually enhance, not degrade the character of the surrounding area.”
- OS 20.2 Seeks to “prevent unnecessary extension of public facilities, services, and utilities, for urban uses, into Open Space-Conservation designated areas.”
- C 25.2 “Locate new and relocated utilities underground when possible. All remaining utilities shall be located or screened in a manner that minimizes their visibility by the public.”

Construction activities associated with the project, including the presence of construction vehicles, excavated materials, and staging areas, would result in short-term visual effects to the project alignment and its surroundings. Operationally, the pipeline would not degrade the existing visual character or quality of the site and its surroundings because the pipeline would be located below ground and would not be visible. In addition, the project would not extend into Open Space-Conservation land. Therefore, the project would not conflict with applicable regulations governing scenic quality and 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.** Project construction would generally occur during daytime hours Monday through Friday; however, construction associated with tie-in of the proposed pipeline to the existing sewer located in the intersection of Murrieta Hot Springs Road and Sky Canyon Drive may occur at night to avoid conflict with daytime commercial operations at the adjacent businesses. If so, mobile construction lighting would be used. Such lighting would be used temporarily and would be localized around a relatively small area, as work would be focused around the 6.5-foot-wide trench in the roadway. In addition, the lighting would be located within an intersection that includes existing streetlights and traffic lights and that is surrounded by existing commercial developments that include lighting features. As such, construction lighting would not be a new source of substantial light that would adversely affect nighttime views where nighttime views are currently unaffected by lighting.

Construction equipment could be a minor source of glare, but its presence would be temporary. Operationally, the pipeline would be located below ground and would not result in a new source of light or glare. Therefore, 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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Conflict with existing zoning for agricultural use, or a Williamson Act contract?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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))?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) Result in the loss of forest land or conversion of forest land to non-forest use?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

- 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?

**No Impact.** According to the maps prepared pursuant to the Farmland Mapping and Monitoring Program, the project site is not designated or zoned as Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (California Department of Conservation 2016a). Therefore, no impact would occur.

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

**No Impact.** There are no areas zoned for agriculture or designated Williamson Act Contract lands located within the project site (California Department of Conservation 2016b). As a result, no associated impacts would result from implementation of the proposed project.

- 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))?

**No Impact.** The project site is not designated or zoned for forest land, timberland, or timberland zoned Timberland Production. Therefore, implementation of the project would not conflict with existing zoning for such lands, and no impact would occur.

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

**No Impact.** As previously stated, the project site is not located within or adjacent to areas designated or zoned as forest land. It also does not support forests. As a result, project implementation would not convert forest land to non-forest use, and 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 described above, there are no pertinent agricultural- or forestry-related uses or designations located within or adjacent to the project site. Accordingly, the proposed project would not involve changes that could result in conversion of Farmland to non-agricultural use or conversion of forest land to non-forest use, 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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c) Expose sensitive receptors to substantial pollutant concentrations?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
d) Result in other emissions (such as those leading to odors) adversely affecting a substantial number of people?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

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

**No Impact.** The project is located within the South Coast Air Basin (Basin) under the jurisdiction of the South Coast Air Quality Management District (SCAQMD). SCAQMD develops and administers local regulations for stationary air pollutant sources within the Basin and develops plans and programs to meet attainment requirements for both federal and State Ambient Air Quality Standards (AAQS). SCAQMD and the Southern California Association of Governments (SCAG) are responsible for formulating and implementing the Air Quality Management Plan (AQMP) for the Basin (SCAQMD 2013). The AQMP is a series of plans adopted for the purpose of reaching short- and long-term goals for those pollutants that the Basin is designated as a “nonattainment” area because it does not meet federal and/or state AAQS. To determine consistency between the project and the AQMP, the project must comply with applicable SCAQMD rules and regulations; comply with proposed or adopted control measures; and be consistent with the growth forecasts utilized in preparation of the AQMP, which are based on regional population, housing, and employment projections prepared by SCAG.

The project would not result in a significant air quality impact from construction activities, as described below. Moreover, as discussed under Item XIV, *Population and Housing*, the proposed project does not include growth-generating components, but rather would accommodate existing and planned growth. As such, the project would be consistent with growth projections contained in the County’s General Plan and SCAG and AQMP forecasts. Based on these considerations and pursuant to SCAQMD guidelines, project-related emissions are accounted for in the AQMP, and no impact would occur.

## 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 Basin is currently in nonattainment for 1-hour ozone, 8-hour ozone, and particulate matter (PM<sub>10</sub> and PM<sub>2.5</sub>; SCAQMD 2016). The SCAQMD establishes significance thresholds to assess the regional impact of project-related air pollutant emissions in the SCAQMD. Table 1, *SCAQMD Criteria Pollutant Significant Mass Emissions Significance Thresholds*, summarizes the SCAQMD’s mass emissions thresholds, which are presented for short-term construction emissions. A project with emissions rates below these thresholds would not result in a cumulatively considerable increase of any criteria pollutant and is considered to have a less than significant impact on air quality.

<b>Criteria Pollutant</b>	<b>Emission Threshold (pounds per day)</b>
	<b>Construction</b>
Volatile Organic Compounds (VOCs)	75
Oxides of Nitrogen (NO <sub>x</sub> )	100
Carbon Monoxide (CO)	550
Oxides of Sulfur (SO <sub>x</sub> )	150
Particulate Matter (PM <sub>10</sub> )	150
Particulate Matter (PM <sub>2.5</sub> )	55

Source: SCAQMD 2015

## Regional Construction Impacts

The proposed project would result in construction emissions during grubbing and land clearing, trenching, pipe installation and backfill, and repaving. These emissions would be limited and short term. The project's construction emissions would include those associated with off-road heavy equipment operation, worker vehicle commutes, and haul truck activity for import and export of construction materials, including pipe, pipe bedding, soil, aggregate base, and pavement. Criteria pollutant and ozone precursor emissions from project construction were assessed using the Sacramento Metropolitan Air Quality Management District's (SMAQMD) Roadway Construction Emissions Model (RCEM), Version 9.0.0 (SMAQMD 2018).

Maximum daily emissions during the peak workday for each phase are shown in Table 2, *Maximum Daily Construction Emissions*. Maximum emissions would occur during the project's trenching phase. As shown in Table 2, criteria pollutant emissions, including particulate matter and ozone precursors VOC and NO<sub>x</sub>, would not exceed the respective screening thresholds and would not be cumulatively considerable. In addition, actual emissions could be less than those forecasted due to the conservative nature of the assumptions incorporated into the RCEM regarding phasing. If construction is delayed or occurs over a longer time period, emissions could be reduced because of (1) a more modern and cleaner-burning construction equipment fleet mix and/or (2) a less intensive buildout schedule (i.e., fewer daily emissions occurring over a longer time interval). Therefore, construction-related air quality impacts would be less than significant.

Phase	Pollutant Emissions (pounds per day)					
	VOC	NO <sub>x</sub>	CO	SO <sub>x</sub>	PM <sub>10</sub>	PM <sub>2.5</sub>
Grubbing/Land Clearing	5	50	31	<0.5	7	3
Trenching	6	65	38	<0.5	8	4
Pipe Installation and Backfill	4	36	29	<0.5	7	2
Repaving	4	33	27	<0.5	1	1
<b>Maximum Daily Emissions</b>	<b>6</b>	<b>65</b>	<b>38</b>	<b>&lt;0.5</b>	<b>8</b>	<b>4</b>
SCAQMD Regional Thresholds	75	100	550	150	150	55
<b>Significant Impact?</b>	<i>No</i>	<i>No</i>	<i>No</i>	<i>No</i>	<i>No</i>	<i>No</i>

Source: SCAQMD 2015 (Thresholds)

RCEM outputs provided in Appendix A.

ROG = reactive organic gas; NO<sub>x</sub> = oxides of nitrogen; CO = carbon monoxide; SO<sub>x</sub> = oxides of sulfur;

PM<sub>10</sub> = particulate matter less than 10 microns in diameter; PM<sub>2.5</sub> = particulate matter less than 2.5 microns in diameter

## Localized Construction Impacts

The localized effects from the on-site portion of daily emissions were evaluated at sensitive receptor locations potentially impacted by the project according to the SCAQMD's localized significance threshold (LST) methodology, which utilizes on-site mass emissions rate look-up tables and project-specific modeling, where appropriate. LSTs are applicable to the following criteria pollutants: nitrogen oxides, carbon monoxide, and particulate matter. LSTs represent the maximum emissions from a project that are not expected to cause or contribute to an exceedance of the most stringent applicable federal or state ambient air quality standard and are developed based on the ambient concentrations of that pollutant for each source receptor area and distance to the nearest sensitive receptor. The nearest sensitive receptors in this case would be the single-family residences located as close as 150 feet west of

the northern portion of the project alignment. For particulate matter, LSTs were derived based on requirements in SCAQMD Rule 403, Fugitive Dust. The mass rate look-up tables were developed for each source receptor area and can be used to determine whether or not a project may generate significant adverse localized air quality impacts. The SCAQMD provides LST mass rate look-up tables for projects that are 1 acre, 2 acres, or 5 acres. For projects that exceed 5 acres, the 5-acre LST look-up values can be used as a screening tool to determine which pollutants require detailed analysis.

When quantifying mass emissions for localized analysis, only emissions that occur on site are considered. Consistent with the SCAQMD's LST methodology guidelines, emissions related to off-site delivery/haul truck activity and employee trips are not considered in the evaluation of localized impacts. The LSTs for a 5-acre site located in Source Receptor Area 26, Temecula Valley, with receptors at a distance of 50 meters were used. The results of the LST analysis are provided in Table 3, *Localized Construction Emissions*. As shown in Table 3, all localized criteria pollutants would be less than their respective SCAQMD LST significance thresholds. Thus, associated impacts would be less than significant.

Phase	Pollutant Emissions (pounds per day)			
	NO <sub>x</sub>	CO	PM <sub>10</sub>	PM <sub>2.5</sub>
Grubbing/Land Clearing	50	30	7	3
Trenching	60	37	8	3
Pipe Installation and Backfill	32	28	6	2
Repaving	28	26	1	1
<b>Maximum Daily Emissions</b>	<b>60</b>	<b>37</b>	<b>8</b>	<b>3</b>
SCAQMD LSTs	416	2,714	40	10
<b>Significant Impact?</b>	<i>No</i>	<i>No</i>	<i>No</i>	<i>No</i>

Source: SCAQMD 2009 (Thresholds)

RCEM output data provided in Appendix A.

NO<sub>x</sub> = oxides of nitrogen; CO = carbon monoxide; PM<sub>10</sub> = particulate matter less than 10 microns in diameter; PM<sub>2.5</sub> = particulate matter less than 2.5 microns in diameter

To reduce potential effects to sensitive receptors, the project would comply with SCAQMD Rule 403, which requires fugitive dust control measures, including the use of an on-site water truck to wet down active grading areas and roads at least twice daily.

### Operational Emissions

Operational emissions would be limited to those generated by occasional maintenance worker vehicles. Emissions would be minimal and would not exceed SCAQMD's established emissions thresholds.

c) Expose sensitive receptors to substantial pollutant concentrations?

**Less Than Significant Impact.** Sensitive populations (i.e., children, senior citizens, and acutely or chronically ill people) are more susceptible to the effects of air pollution than the general population. Land uses considered sensitive receptors typically include residences, schools, playgrounds, childcare centers, hospitals, convalescent homes, and retirement homes. The closest sensitive receptors would be single-family residences located west of Winchester Road in the City of Murrieta, approximately 150 feet from project construction activities. Pollutants that have the potential to affect sensitive receptors include criteria pollutants, diesel particulate matter, and carbon monoxide hotspots. Impacts to

sensitive receptors from criteria pollutants are discussed above in Item III.b, Localized Construction Impacts. Impacts from diesel particulate matter and carbon monoxide are discussed below.

### **Diesel Particulate Matter**

During the approximately 17-month project construction period, diesel exhaust particulate matter would be generated from construction equipment and vehicles. Diesel exhaust particulate matter is known by the State of California to include carcinogenic compounds, and long-term exposure to diesel exhaust emissions has the potential to result in adverse health effects. Long-term exposure is typically equated with a lifetime of chronic exposure, which is defined in the California Air Pollution Control Officers' Association Air Toxics "Hot Spots" Program Risk Assessment Guidelines as 24 hours per day, 7 days per week, 365 days per year, for 70 years. Because the project's generation of diesel particulate matter would be limited to a 17-month construction period, it would not result in long-term exposure of sensitive receptors to diesel particulate matter, and potential impacts related to exposure of sensitive receptors to substantial pollutant concentrations (including diesel exhaust emissions) would be less than significant.

### **Carbon Monoxide Hotspots**

Carbon monoxide hotspots are areas of localized increased carbon monoxide concentrations caused by severe vehicle congestion on major roadways, typically near intersections. The project would generate vehicle trips during construction in the form of haul trucks and worker commute vehicles; however, the number of vehicles generated would be limited and would not result in congestion on nearby roadways. Construction vehicle generation would also be temporary. Lane closures during construction may result in minor increases in vehicle congestion on affected roadways; however, through implementation of a TCP, vehicular flow would be maintained, congestion would not be substantial, and the project would not cause the generation of carbon monoxide hot spots. In addition, there are no sensitive receptors adjacent to the roadways that would be subject to project-generated traffic and lane closures. The project would not result in increased vehicle trips during operation, aside from the occasional maintenance worker vehicle trip. Therefore, the project would not result in the exposure of sensitive receptors to carbon monoxide hotspots, and 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.** During the construction period, emission-related odors from construction equipment/vehicles (particularly diesel exhaust) may occur temporarily in the immediately surrounding area. Specifically, construction equipment and vehicles could intermittently emit diesel exhaust perceptible by nearby receptors along roadways (i.e., from transport vehicles) and near the project site during construction. These odors would not affect a substantial number of people, as construction activities (including vehicle trips) would be minor in duration and extent. Diesel-powered construction equipment and vehicles would also be required to comply with the State Airborne Toxic Control Measure (ATCM) standards for diesel particulate matter emissions.

#### 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?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
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?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

The following discussion is based on the Biological Technical Report prepared by HELIX Environmental Planning, Inc. (HELIX 2019a), attached to this Initial Study as Appendix B. A general biological survey, rare plant survey, burrowing owl survey, and coastal California gnatcatcher (CAGN) survey, as well as reviews of U.S. Fish and Wildlife Service (USFWS) species records (USFWS 2018), the CDFW California Native Diversity Database (CDFW 2019), Calflora database (Calflora 2019), and California Native Plant Society (CNPS) inventory (CNPS 2019) were conducted to determine the potential presence of sensitive species within the project site and surrounding area.

- 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.

### Sensitive Plant Species

One special status plant species, paniculate tarplant (*Deinandra paniculata*), was observed on the project site during the general biological survey. Implementation of the project would result in direct impacts to this species during project construction.

Paniculate tarplant is a California Rare Plant Rank 4.2 species, meaning that it has been assigned to a watch list for plants of reported limited distribution and moderate degree of immediacy of threat by CNPS. However, there have been numerous recorded occurrences of paniculate tarplant within the project vicinity, indicating that the species' population is relatively stable in the region and the population within the project area does not represent a geographically significant population. Individuals that would be impacted from project implementation are not part of a population at the periphery of the species' range, located in an area where the taxon is especially uncommon, or occurring on unusual substrates. Furthermore, the species would be expected to repopulate the area following completion of construction activities, as impacts would be temporary and the species shows an affinity for disturbed areas. Therefore, impacts to paniculate tarplant would be less than significant, and no mitigation is required.

### Sensitive Animal Species

Three special status animal species, California horned lark (*Eremophila alpestris actia*), CAGN (*Polioptila californica californica*), and Cooper's hawk (*Accipiter cooperii*), were observed or detected on or directly adjacent to the study area, or observed flying over the project site, during biological surveys. The project study area also contains suitable habitat for burrowing owl (*Athene cunicularia*), although the species was confirmed to be absent during the 2019 protocol-level survey.

Potential impacts to California horned lark would consist of temporary loss of foraging habitat (disturbed habitat and Riversidian sage scrub) during project construction. Direct and/or indirect impacts to California horned larks nesting within the proposed project footprint during construction would be potentially significant. Implementation of mitigation measure BIO-1 would reduce impacts to a less than significant level.

Protocol-level surveys for CAGN were conducted in 2018 and 2019. The species was not detected within the study area during this time; however, CAGN were detected outside of the study area to the east of Sky Canyon Drive during two of the nine surveys (one pair was observed on December 4, 2018 and a single female was observed on December 18, 2018). Based on the lack of suitable habitat for CAGN within the project study area, this species is presumed to be absent from project impact areas. The CAGNs observed likely occupy habitat further east of Sky Canyon Drive where more-contiguous and higher-quality sage scrub is present along Tualota Creek. Direct impacts to CAGN are, therefore, not anticipated. Indirect impacts related to construction noise could occur if CAGN are present within potentially suitable habitat adjacent to project construction activities. However, these habitat areas are subject to relatively high noise levels from roadway traffic, and if CAGN were to nest within the adjacent habitat, they would be habituated to current traffic and noise levels and would not be significantly impacted by temporary construction activities.

The proposed project would not remove potential nesting habitat for Cooper's hawk but could temporary disturb potential foraging habitat located in the northern portion of the study area during

project construction. These impacts would not be significant as they would be temporary and would not reduce the amount of the suitable nesting habitat for the species.

Implementation of the proposed project would impact potential burrowing owl habitat consisting primarily of disturbed habitat which would not be significant given the absence of burrowing owl from the study area and the temporary nature of the impact. The project would not result in permanent loss of potential burrowing owl habitat, as the general conditions would be returned to pre-project conditions (i.e., disced uplands) upon completion of the project. If burrowing owl individuals were to move into the project impact areas prior to project construction, impacts to nesting owls would be significant. Potential impacts to burrowing owl that may move into the study area prior to project construction would be mitigated to a less than significant level through implementation of mitigation measure BIO-2.

The study area also contains shrubs and other vegetation that provide suitable nesting habitat for common birds, including raptors, protected under the Migratory Bird Treaty Act (MBTA) and California Fish and Game (CFG) Code. Significant impacts could occur to nesting birds and raptors if suitable nesting habitat is removed during the general bird breeding season (January 15 to August 31). Implementation of mitigation measure BIO-1 would reduce potential impacts to a less than significant level.

**BIO-1 Nesting Bird and Raptor Avoidance.** Trimming, grubbing, and clearing of vegetation shall be avoided during the general avian breeding season (January 15 to July 15 for raptors; February 15 to August 31 for other avian species) to the extent feasible. If trimming, grubbing, or clearing of vegetation is proposed to occur during the general avian breeding season, a pre-construction survey shall be conducted by a qualified biologist no more than 7 days prior to vegetation clearing to determine if active bird nests are present in the affected areas. If there are no nesting birds (includes nest building or other breeding/nesting behavior) within this area, trimming, grubbing, and clearing of vegetation shall be allowed to proceed. If active bird nests are confirmed to be present during the pre-construction survey, a buffer zone will be established by the biologist. Construction activities shall avoid any active nests until a qualified biologist has verified that the young have fledged, or the nest has otherwise become inactive.

**BIO-2 Burrowing Owl Pre-Construction Survey.** Prior to construction, the District shall retain a qualified biologist to conduct required pre-construction take avoidance surveys for the burrowing owl in accordance with the protocol described in the California Department of Fish and Wildlife (CDFW) Staff Report on Burrowing Owl Mitigation (CDFW 2012). The initial take avoidance survey shall occur no less than 14 days prior to initiating ground disturbing activities, with a final survey conducted within 24 hours prior to initiating ground disturbing activities. If, after the initial take avoidance survey, no suitable burrowing owl habitat including burrows is present, the second survey 24 hours prior to ground disturbance shall not be required.

The project shall avoid disturbing active burrowing owl burrows (nesting sites) and burrowing owl individuals. Buffers shall be established around occupied burrows in accordance with guidance provided in the CDFW's Staff Report on Burrowing Owl Mitigation (2012) based on the proposed level of disturbance. For low disturbance projects, initial setback distances for avoidance of active burrows shall be 200 meters from April 1 to October 15 and 50 meters from October 16 to March 31. Exceptions can be made to the avoidance distance for areas with natural (hills, trees) or artificial (buildings, walls) barriers in place. The final avoidance buffer

shall be at the discretion of the biologist. If, after consideration of a reduced buffer, an adequate avoidance buffer cannot be provided between an occupied burrow and required ground-disturbing activities, then passive relocation activities during the non-breeding season (September 1 through January 31) may be authorized in consultation with CDFW, which would include preparation, approval, and implementation of a Burrowing Owl Exclusion Plan in accordance with protocol described in the CDFW Staff Report on Burrowing Owl Mitigation. No impacts shall occur to active burrowing owl nests or individuals.

- 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 Impact.** The project study area supports three vegetation communities/land cover types, including Riverside sage scrub, disturbed habitat, and developed land. CDFW evaluates the rarity of natural communities using the NatureServe's Heritage Methodology (Faber-Langendoen et al. 2012) in which communities are given a G (global) and S (State) rank based on their degree of imperilment (as measured by rarity, trends, and threats). Communities are assigned an overall rank of 1 through 5, with 1 being considered very rare and threatened and 5 being considered demonstrably secure. Communities with a Rarity Ranking of S1 (critically imperiled), S2 (imperiled), or S3 (vulnerable) are considered sensitive by CDFW. Riverside sage scrub on site is dominated by buckwheat and has a ranking of S5; it is therefore not considered sensitive. Disturbed habitat and developed land are not considered sensitive. As such, impacts to these vegetation communities from implementation of the proposed project would be less than significant.

- 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 with Mitigation Incorporated.** A single, unnamed drainage feature occurs in the northern portion of the study area, north of Technology Drive and east of Winchester Road. The drainage qualifies as a non-wetland water of the U.S./water of the State subject to U.S. Army Corps of Engineers (USACE) and RWQCB jurisdiction and as streambed habitat subject to CDFW jurisdiction. The drainage lacks wetland-dependent vegetation. The project has been designed to avoid impacts to this feature through use of trenchless installation methods (jack and bore), to install the new pipeline under the existing drainage feature. The launching and receiving pits would be located within upland areas at least 5 feet on each side of the existing drainage. Jack-and-bore technologies are different from horizontal directional drilling in that they do not involve the use of a directional drill auger or fluid that could inadvertently release during operation and cause a potential frac-out event. The proposed jack-and-bore activities would have no potential to cause an inadvertent drill fluid release or frac-out and no associated impacts are anticipated. Therefore, no direct impacts on the avoided drainage feature would occur.

Potential indirect impacts to the drainage feature would be prevented during construction through implementation of standard Best Management Practices (BMPs) as part of the project's Storm Water Pollution Prevention Plan (SWPPP). Implementation of a SWPPP and associated BMPs are a regulatory requirement for the proposed project. Specific BMPs may include but would not necessarily be limited to: maintaining the project work areas free of trash and debris; employing appropriate standard spill prevention practices and clean-up materials; installing and maintaining sediment and erosion control

measures; maintaining effective control of fugitive dust; and properly storing, handling, and disposing of toxins and pollutants, including waste materials. If temporary construction fencing and other BMPs aren't properly implemented during construction, then equipment and personnel could inadvertently encroach into environmentally sensitive areas that are planned to be avoided, which could result in a significant impact. As such, mitigation measures BIO-3 and BIO-4 would be implemented to ensure impacts are less than significant.

**BIO-3 Construction Fencing.** Prior to construction, to help ensure inadvertent impacts to jurisdictional areas outside of the approved impact footprint are avoided during construction, temporary construction fencing, including silt fencing, as appropriate and where determined necessary by the SWPPP, shall be installed at the edges of the approved impact limits for the project. A qualified biologist shall be retained to monitor the installation of the temporary construction fencing wherever it would abut environmentally sensitive areas. Construction activities shall be restricted to areas within the approved impact limits at all times during construction.

**BIO-4 Biological Construction Monitoring.** A qualified biologist will conduct a pre-construction environmental training session for construction personnel to inform them of the sensitive biological resources on site and avoidance measures to remain in compliance with project approvals. The biologist will monitor initial vegetation clearing, grubbing, and grading activities to ensure that activities occur within the approved limits of work and avoid impacts to nesting birds. The biologist will periodically monitor the limits of construction where work activities occur outside public road rights-of-way to ensure that avoidance areas are delineated with temporary fencing and that fencing remains intact.

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.** The project is bound by residential and commercial development to the north, west, and south. Though undeveloped and conserved lands, mostly in association with Tualota Creek, occur to the east, they are generally bound by residential development. As such, the project site does not contribute to wildlife corridors or linkages, or native wildlife nursery sites. The project would not impede the movement of native, resident, or migratory fish or wildlife species; interfere with established native, resident, or migratory wildlife corridors, including regional corridors or linkages identified in the Western Riverside Multiple Species Habitat Conservation Plan (MSHCP); or impede the use of native wildlife nursery sites. No impacts would occur.

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

**No Impact.** The proposed project is located within the Southwest Area Plan of the County's General Plan. Implementation of the project does not conflict with policies or conservation measures for biological resources. The proposed project site does not support sensitive natural communities, oak woodlands, or riparian habitat. Impacts to the disturbed drainage ditch that flows through the northern portion of the study area would be avoided. Riversidian sage scrub within the project footprint consists of small, scattered patches of habitat adjacent to roadways with heavy traffic, and was found to not support CAGN. Impacts to Riversidean sage scrub would be less than 1.1 acres and would not result in detrimental effects to CAGN or dispersal of the species within the area. CAGN adjacent to the project

were found to be utilizing habitat off site along Tualota Creek, which provides higher quality habitat for the species and serves as a dispersal corridor to Lake Skinner and larger blocks of habitat to the northeast. The project does not occur within a wildlife movement corridor and does not contain habitat or other resources to facilitate movement of wildlife within the region. The project would primarily occur within the existing disturbed areas and public road rights-of-way that would be returned to pre-project conditions. As such, no impacts 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 Impact.** The project is located within the boundaries of the adopted Western Riverside MSHCP; however, the District is not a signatory to the MSHCP, and as such is not subject to the requirements of the MSHCP. Nevertheless, the project would not conflict with the conservation goals and objectives of the MSHCP for the local area. The site occurs within portions of Criteria Cell 6071, but is situated primarily within disturbed habitat and existing developed lands, with limited portions intersecting smaller remnant stands of Riversidean sage scrub. Conservation is generally targeted further to the northwest, northeast, and east amongst the more-rugged terrain and expansive hills connecting the Lake Mathews and Estelle Mountain areas to the southeast via Sedco Hills, Wildomar and into the Antelope Valley/French Valley area. As stated above, however, the project could result in potential significant impacts to special status species and nesting birds, including species covered under the MSHCP. Additionally, protocol-level surveys for burrowing owl were completed in accordance with Section 6.3.2 of the MSHCP. The species was confirmed to be absent from the study area, although suitable burrowing owl habitat remains present. Compliance with existing regulations, including the MBTA and CFG Code, and implementation of measures BIO-1 and BIO-2 would ensure avoidance of burrowing owl impacts and project consistency with the MSHCP. Furthermore, avoidance of the existing drainage feature with the implementation of required BMPs and mitigation measure BIO-3 would ensure that unauthorized impacts to riverine resources do not occur and the project would be consistent with Section 6.1.2 of the MSHCP.

The project is also located within the Stephens' kangaroo rat Habitat Conservation Plan (HCP), but not within any of the core reserves. Stephens' kangaroo rat biological surveys are not required under the HCP for activities occurring on lands outside of core reserves. The study area is disturbed and lacks sufficient shrub and herbaceous cover to support the species. Reported occurrences of the species within the project vicinity are from the 1980s and the species is believed extirpated from the area due to previous disturbances and development activities. More recent observations of the species occur 4 miles east of the project near Lake Skinner.

The project is exempt from the Stephen's kangaroo rat Mitigation Fee in accordance with Section 10(f) of County Ordinance No. 663. The proposed project would involve the construction of a public sewer main where ground disturbance is minimal, and the majority of the area would be restored to its original condition, excluding the proposed sewer manhole locations.

No other adopted HCP, Resource Management Plan, Special Area Management Plan, Watershed Plan, or other regional planning efforts are applicable to the project.

## 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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to §15064.5?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c) Disturb any human remains, including those interred outside of dedicated cemeteries?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

The following discussion is based on the Cultural Survey Report prepared by HELIX (HELIX 2019b), attached to this Initial Study as Appendix C. The results and conclusions of the cultural resources assessment are summarized herein.

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

**No Impact.** The cultural resources study conducted for the project’s Area of Potential Effect (APE) included a records search at the Eastern Information Center (EIC), a Sacred Lands File search, Native American outreach, a review of historic aerial photographs and maps, and a pedestrian survey. The records search indicated that 54 previous cultural resources studies have been conducted within one mile of the project APE, 10 of which were adjacent to or included portions of the project APE. The records search results also indicated that a total of 36 cultural resources have been previously recorded within one mile of the project, of which two sites are recorded partially within the project APE. Both of the previously recorded resources are historic roads; neither retains the integrity to qualify as a historic property under the National Historic Preservation Act (NHPA) or historical resources under CEQA. The field investigations included intensive pedestrian survey of the APE by HELIX. The survey did not result in the identification of cultural material within the project APE. As such, no impacts to historical resources are anticipated.

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

**Less Than Significant with Mitigation Incorporated.** The cultural resources study assessed the potential for the presence of archaeological resources in and around the project site as described in the preceding discussion. Despite the lack of recorded cultural resources within and immediately adjacent to the project site, the area is sensitive for cultural resources. The Pechanga, Soboba, and Rincon Bands of Luiseño Indians indicated that there is a potential for subsurface cultural resources to be encountered during trenching, excavation, and other ground-disturbing activities. Therefore, impacts are considered potentially significant. Based on this, the report concluded that an archaeological and Native American monitoring program must be implemented. The monitoring program is detailed below. With the inclusion of mitigation measures CR-1 through CR-5, impacts would be less than significant.

- CR-1 Cultural Resources Treatment and Monitoring Agreement.** At least 30 days prior to the start of any ground-disturbing activities, the District shall contact a traditionally culturally affiliated (TCA) tribe to develop a Cultural Resources Treatment and Monitoring Agreement (“Agreement”). The Agreement shall address the treatment and final disposition of any tribal cultural resources, sacred sites, human remains or archaeological resources inadvertently discovered on the project site; project grading; ground disturbance and development scheduling; the designation, responsibilities, and participation of tribal monitor(s) during grading, excavation, and ground disturbing activities; and compensation for the tribal monitors, including overtime, weekend rates, and mileage reimbursements.
- CR-2 Develop a Cultural Resources Monitoring Plan.** A qualified archaeologist and TCA tribal monitor shall attend a pre-grade meeting with District staff, the contractor, and appropriate subcontractors to discuss the monitoring program, including protocols to be followed in the event that cultural material is encountered.
- CR-3 Tribal Monitoring Agreements.** A qualified archaeological monitor and a TCA tribal monitor shall be present for ground-disturbing activities in areas with a potential for encountering cultural material; monitoring will not be required in areas that have been previously graded/cut to below cultural levels (e.g., formational material). At least seven business days prior to project grading, the District shall contact the tribal monitors to notify the Tribe of grading/excavation and the monitoring program/schedule, and to coordinate with the Tribe on the monitoring work schedule. Both the archaeologist and the tribal monitor shall have the authority to stop and redirect grading activities in order to evaluate the nature and significance of any archaeological resources discovered within the APE. Such evaluation shall include culturally appropriate temporary and permanent treatment pursuant to the Cultural Resources Treatment and Monitoring Agreement, which may include avoidance of cultural resources, in-place preservation, data recovery, and/or reburial so the resources are not subject to further disturbance in perpetuity. Any reburial shall occur at a location predetermined between the District and the TCA tribe, details of which shall be addressed in the Cultural Resources Treatment and Monitoring Agreement in MM CR-1. Treatment may also include curation of the cultural resources at a tribal curation facility, as determined in discussion among the District, the project archaeologist, and the tribal representatives and addressed in the Cultural Resources Treatment and Monitoring Agreement referenced in MM CR-1.
- CR-4 Evaluation of Discovered Artifacts.** All artifacts discovered at the development site shall be inventoried and analyzed by the project archaeologist and tribal monitor(s). A monitoring report will be prepared, detailing the methods and results of the monitoring program, as well as the disposition of any cultural material encountered. If no cultural material is encountered, a brief letter report will be sufficient to document monitoring activities.
- CR-5 Cultural Resources Ownership.** The District shall relinquish ownership of all cultural resources, including sacred items, burial goods, and all archaeological artifacts that are found within the project area for proper treatment and disposition pursuant to the Agreement required in MM CR-1.

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

**Less Than Significant with Mitigated Incorporated.** No cultural resources (including human remains) were observed within or immediately adjacent to the project site during the pedestrian survey. Although not anticipated, the potential exists to encounter human remains during project implementation. If human remains are discovered, impacts would be potentially significant. As such, mitigation measure CR-6 below is required, and would reduce impacts related to disturbance of human remains to a less than significant level.

**CR-6 Human Remains.** If human remains are encountered, California Health and Safety Code Section 7050.5 states that no further disturbance shall occur until the Riverside County Coroner has made the necessary findings as to origin. Further, pursuant to California Public Resources Code Section 5097.98(b), remains shall be left in place and free from disturbance until a final decision as to the treatment and disposition has been made. If the Riverside County Coroner determines the remains to be Native American, the coroner shall contact the NAHC within 24 hours. Subsequently, the NAHC shall identify the person or persons it believes to be the “most likely descendant.” The most likely descendant may then make recommendations and engage in consultations concerning the treatment of the remains as provided in Public Resources Code Section 5097.98.

## VI. ENERGY

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

- 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.** Energy used for construction would primarily consist of fuels in the form of diesel and gasoline. Heavy-duty construction equipment associated with construction activities, haul trucks involved in the delivery and removal of construction materials, and smaller support equipment (such as lighting, air compressors, and pumps) would consume petroleum-based fuel. Construction workers would travel to and from the project site throughout the duration of construction, presumably in gasoline-powered vehicles. While construction activities would consume petroleum-based fuels, project-related consumption of such resources would be temporary and would cease upon the completion of construction. In addition, mobile equipment energy usage during construction would be minimized as the project would comply with the California Air Resources Board’s (CARB’s) idling regulations, which restrict idling diesel vehicles and equipment to five minutes. The petroleum

consumed during project construction would also be typical of similar construction projects and would not require the use of new petroleum resources beyond what are typically consumed in California. Based on these considerations, construction of the project would not result in wasteful, inefficient, or unnecessary consumption of energy resources.

Operational energy usage would be minimal and would consist of occasional maintenance worker vehicle trips. The proposed pipeline would be gravity fed and would not require the use of energy for its operation. The project would therefore not use energy in a wasteful, inefficient, or unnecessary manner. Implementation of the project would not result in a substantial increase in demand of local or regional energy supplies compared to existing conditions, 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.** The project would be built and operated in accordance with existing, applicable regulations, which include, but are not limited to, the California Green Building Standards Code and CARB regulations (as mentioned in Item VI.a). Construction equipment would be maintained to allow for continuous energy-efficient operations. The gravity-fed sewer would not require the on-going or regular use of energy and the project would therefore not conflict with the goals of the County’s Climate Action Plan (County 2018a). Accordingly, no impacts 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.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
ii. Strong seismic ground shaking?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
iii. Seismic-related ground failure, including liquefaction?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
iv. Landslides?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b) Result in substantial soil erosion or the loss of topsoil?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
f) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

- 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 site is located in the highly seismic southern California region within the influence of several fault systems that are considered to be active or potentially active. According to the California Geological Survey (CGS), the site is not located within a State-designated Alquist-Priolo Earthquake Fault Zone (Kleinfelder, Inc. [Kleinfelder] 2018). However, the site is in close proximity to several active faults which could generate earthquakes. The active Elsinore fault zone is located approximately 3.5 miles southwest of the site and San Jacinto fault is located approximately 16.5 miles northeast of the site (Kleinfelder 2018). In addition, the Murrieta Hot Springs fault crosses the southern portion of the alignment on Sky Canyon Drive. The Murrieta Hot Springs fault is not included within a State-designated Alquist-Priolo Earthquake Fault Zone and is not listed within the Southern California Earthquake Data Center database. Although not listed as active by the State of California, the Murrieta Hot Springs fault is classified by Riverside County as active (Kleinfelder 2018). A large magnitude earthquake along local segments of these faults could potentially result in local ground rupture effects which could damage the proposed sewer main. While the probability of such an occurrence is considered low, the associated potential effects could be substantial due to the location of the proposed facilities and the active nature and seismicity potential of the Elsinore fault zone. The potential impacts related to the proximity of the proposed project to local and regional fault zones would be addressed through conformance with associated regulatory and industry standards, including applicable elements of the California Building Code (CBC), as indicated within the seismic design parameter recommendations of the Geotechnical Report prepared for the project (Kleinfelder 2018). Furthermore, installation of a pipeline in this location would not increase the likelihood or severity of fault rupture. Therefore, impacts would be less than significant.

ii. Strong seismic ground shaking?

**Less Than Significant Impact.** As noted above, the proposed project is located near the Elsinore fault zone, which is a seismically active region subject to ground shaking effects from earthquake events along associated faults. While the project site and proposed facilities could potentially be subject to moderate or severe ground shaking effects from earthquakes, they would be designed and constructed in conformance with applicable elements of the CBC, as indicated within the seismic design parameter recommendations of the Geotechnical Report prepared for the project (Kleinfelder 2018). Specifically, these standards typically involve incorporating seismic factors into facility design, through efforts such as remedial grading (e.g., removal and/or reconditioning unsuitable soils), appropriate slope design and drainage, and use of properly engineered fill. Compliance with the CBC would reduce the potential effects of seismic ground shaking on the proposed facilities to less than significant.

iii. Seismic-related ground failure, including liquefaction?

**Less Than Significant Impact.** Liquefaction and related effects such as dynamic settlement can be caused by seismic ground shaking. Loose (cohesionless), saturated, and granular (low clay/silt content) soils with relative densities of less than approximately 70 percent are the most susceptible to these effects. Liquefaction results in a rapid pore-water pressure increase and a corresponding loss of shear strength, with affected soils behaving as a viscous liquid. Surface and subsurface manifestations from these events can include loss of support for structures, excessive (dynamic) settlement, the occurrence of sand boils (i.e., sand and water ejected at the surface), and other effects such as lateral spreading (horizontal displacement on sloped surfaces as a result of underlying liquefaction).

Liquefaction potential along the proposed alignments is considered low (Kleinfelder 2018). Furthermore, the effects of liquefaction would be reduced through standard design and construction techniques similar to those described above under the discussion of seismic ground shaking. As previously noted, the proposed project would be designed and constructed in conformance with associated regulatory and industry standards, including applicable elements of the CBC, as indicated within the seismic design parameter recommendations of the Geotechnical Report prepared for the project (Kleinfelder 2018). Based on these considerations, potential impacts associated with liquefaction and related hazards from implementation of the proposed project would be less than significant.

iv. Landslides?

**Less Than Significant Impact.** The occurrence of landslides and other types of slope failures (e.g., rock falls and mudflows) is influenced by a number of factors, including slope grade, geologic and soil characteristics, moisture levels, and vegetation cover. Landslides can be triggered by a variety of potentially destabilizing conditions or events, such as gravity, fires, precipitation, grading, and seismic activity. The project site and surrounding areas are relatively flat; therefore, the occurrence of landslides is not likely. The proposed project would be designed and constructed in conformance with associated regulatory and industry standards as previously described, including applicable elements of the CBC, as indicated within the seismic design parameter recommendations of the Geotechnical Report prepared for the project (Kleinfelder 2018). Based on these considerations and general site conditions, potential impacts related to landslide hazards from implementation of the proposed project would be less than significant.

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

**Less Than Significant Impact.** Potential construction-related erosion/topsoil impacts would be avoided or reduced below a level of significance through conformance with the National Pollutant Discharge Elimination System (NPDES) Construction General Permit and related requirements. Specifically, this would entail implementing a SWPPP and related BMPs in conformance with applicable regulatory requirements. Stormwater BMPs would limit erosion and control stormwater runoff during construction activities. The project site would be returned to existing conditions upon completion of the project. During operation, the sewer main would not result in substantial soil erosion or the loss of topsoil as it would be located below ground. Therefore, impacts 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 Impact.** Refer to Item VII.a.iii-iv for discussion of impacts related to liquefaction and landslides. The potential for subsidence and collapse are related to groundwater withdrawal and the presence of less stable materials, such as alluvium and topsoil. Although shallow groundwater and potentially unstable materials may be encountered during project construction activities, conformance with applicable regulatory standards would result in less than significant impacts related to subsidence and collapse.

Geologic stability and the safety of construction workers during rock breaking and trenching activities is an area of potential concern. If the contractor determines that rock breaking activities are required during construction, the project would either use a hoe ram to mechanically fracture the bedrock or use Soundless Chemical Demolition Agents (SCDAs) to chemically fracture the bedrock. A hoe ram is generally mounted on an excavator and is used for precise rock breaking operations. SCDAs consist of powdery substances, generally quicklime, which create a cementitious slurry when mixed with water. This mixture is then poured into pre-drilled holes where the hydration reaction creates sufficient heat and expansive pressure to swell and fracture the surrounding rock mass. This method of rock demolition can easily split and fracture rock without producing noise, vibration, toxic gases, or flying debris. Whether by mechanical means or chemical means, rock breaking would be done in a controlled and relatively unimpactful manner, when compared to other potential rock breaking methods (e.g., drilling and blasting), and would not result in geologic instability.

Trench excavations typically involve vertical or near-vertical walls, and can exhibit instability and the potential for collapse as a result of loose or unstable soil and geologic materials. The project's trenches in paved areas, however, would have low potential for instability because of the securing pavement that would be located on either side of the trench. In unpaved areas, the upper portion of the trench would be sloped back at a 1:1 ratio to reduce verticality (see Figure 5). Potential trench instability hazards would further be addressed through required conformance with applicable U.S. Occupational Safety and Health Administration (OSHA) and California Occupational Safety and Health Administration (Cal-OSHA) requirements. These standards include criteria related to factors such as trench slope limitations and dimensions; use of appropriate shoring, shielding, and benching to provide trench stability; and restrictions on adjacent uses (e.g., heavy equipment use). Conformance with these regulatory standards, as well as the project's proposed construction methods, would avoid or reduce potential impacts related to trench stability below a level of significance.

- 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 Impact.** Expansive soils are attributable to the water holding capacity of clay materials. Such behavior can adversely affect structural integrity (including underground facilities) through shifting of support materials during the shrink-swell process. If expansive soils are present/encountered during project implementation, associated potential impacts would be addressed through conformance with regulatory/industry standards, including applicable elements of the CBC. Specifically, this may include efforts such as removal of expansive soils and replacement with engineered fill. Conformance with the described regulatory standards would reduce potential impacts related to expansive soils from project implementation to less than significant levels.

- 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 proposed project does not include the implementation of septic tanks or alternative wastewater disposal systems, and no associated impacts would occur.

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

**Less Than Significant with Mitigation Incorporated.** According to the Riverside County GIS website, the majority of the project site is within an area of high paleontological sensitivity (County 2018b). The project’s ground disturbing construction activities could affect a paleontological resource or geologic feature, in which case impacts would be potentially significant. As such, mitigation measure GEO-1 is required, and would reduce impacts to a less than significant level.

**GEO-1 Paleontological Discovery.** In the event that potentially significant paleontological materials (e.g., fossils) are encountered during construction of the project, work shall be halted in the vicinity of the paleontological discovery until a qualified paleontologist can visit the site of discovery, assess the significance of the paleontological resource, and provide proper management recommendations. If the discovery proves to be significant, additional work, such as data recovery excavation, may be warranted. The treatment and disposition of paleontological materials that might be discovered during excavation shall be in accordance with applicable laws and regulations.

## 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?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
b) Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

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

**Less Than Significant Impact.** Global climate change refers to changes in average climatic conditions, including temperature, wind patterns, precipitation, and storms. Global temperatures are moderated by naturally occurring atmospheric gases, including water vapor, carbon dioxide (CO<sub>2</sub>), methane (CH<sub>4</sub>), nitrous oxide (N<sub>2</sub>O), ozone, and certain hydro-fluorocarbons. These gases, known as greenhouse gases (GHGs), allow solar radiation (sunlight) into the Earth’s atmosphere, but prevent radiative heat from escaping, thus warming the Earth’s atmosphere. GHGs are emitted by both natural processes and human activities. The accumulation of GHGs in the atmosphere regulates the Earth’s temperature. Emissions of GHGs in excess of natural ambient concentrations are thought to be responsible for the enhancement of the greenhouse effect and contributing to what is termed “global warming,” the trend of warming of the Earth’s climate from anthropogenic activities. Global climate change impacts are by nature cumulative, as direct impacts cannot be evaluated due to the fact that the impacts themselves are global rather than localized impacts.

California Health and Safety Code Section 38505(g) defines GHGs to include the following compounds: CO<sub>2</sub>, CH<sub>4</sub>, N<sub>2</sub>O, ozone, chlorofluorocarbons (CFCs), hydrofluorocarbons (HFCs), perfluorocarbons (PFCs), and sulfur hexafluoride (SF<sub>6</sub>). As individual GHGs have varying heat-trapping properties and atmospheric lifetimes, GHG emissions are converted to carbon dioxide equivalent (CO<sub>2</sub>e) units for comparison. The CO<sub>2</sub>e is a consistent methodology for comparing GHG emissions because it normalizes various GHG emissions to a consistent measure.<sup>2</sup> The most common GHGs related to the project are those primarily related to energy usage: CO<sub>2</sub>, CH<sub>4</sub>, and N<sub>2</sub>O.

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. The CARB, 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) CO<sub>2</sub>e per year.

<sup>2</sup> The effect each GHG has on climate change is measured as a combination of the volume of its emissions, and its global warming potential. The global warming potential is the potential of a gas or aerosol to trap heat in the atmosphere, and is expressed as a function of how much warming would be caused by the same mass of CO<sub>2</sub>. For instance, CH<sub>4</sub> has a global warming potential of 21, meaning that 1 gram of CH<sub>4</sub> traps the same amount of heat as 21 grams of CO<sub>2</sub>. N<sub>2</sub>O has a global warming potential of 310.

GHG emissions associated with the project would result primarily from construction activities, and would involve emissions from construction equipment and vehicle trips associated with construction workers. Total GHG emissions from the project's 17-month construction period are presented in Table 4, *Total Estimated Construction GHG Emissions*. As shown in Table 4, the proposed construction activities would contribute a total of 1,528 MT of CO<sub>2</sub>e. Construction-related GHG emissions, however, are amortized over the life of the project (defined as 30 years by the SCAQMD), which would result in approximately 51 MT CO<sub>2</sub>e per year. This would be well below the 3,000 MT CO<sub>2</sub>e per year screening threshold.

<b>Phase</b>	<b>Emissions (MT CO<sub>2</sub>e)</b>
Grubbing/Land Clearing	29
Trenching	246
Pipe Installation and Backfill	1,154
Repaving	99
<b>Total Construction Emissions</b>	<b>1,528</b>
<b><i>Amortized Construction Emissions</i></b>	<b>51</b>

RCEM outputs provided in Appendix A.

MT = metric tons; CO<sub>2</sub>e = carbon dioxide equivalent

Operation of the project would result in emissions related to minor vehicle/equipment use associated with routine inspection and maintenance; however, these operational emissions would be negligible. Therefore, impacts from construction and operation of the project 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?

**No Impact.** As discussed in Item VIII.a, the proposed project would result in construction GHG emissions below the SCAQMD proposed Tier 3 screening threshold of 3,000 MT CO<sub>2</sub>e per year and negligible operational GHG emissions. The proposed project would not result in emissions that would adversely affect state-wide attainment of GHG emission reduction goals as described in Assembly Bill (AB) 32, Executive Order S-21-09, and Senate Bill 32. Project emissions would therefore have a less than cumulatively considerable contribution to global climate change impacts, and the project would not conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing GHG emissions. No impact would occur.

## 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?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
f) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
g) Expose people or structures, either directly or indirectly, to a significant risk of loss, injury or death involving wildland fires?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

- 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.** During the project construction period, hazardous substances used to maintain and operate construction equipment (such as fuel, lubricants, adhesives, solvents, etc.), as well as potential chemicals needed to break rock, would be present. The use or generation of such construction-related hazardous materials could potentially result in significant impacts through accidental discharge associated with use, storage, operation, and maintenance activities. The transport, use, and disposal of hazardous materials would be temporary and would be conducted in accordance with applicable federal and state laws. In addition, implementation of the proposed project would require conformance with the NPDES Construction General Permit. Such conformance would entail implementation of a SWPPP to address the discharge of contaminants (including construction-related

hazardous materials) through appropriate BMPs. While specific BMPs would be determined during the SWPPP process based on site-specific characteristics (equipment types, etc.), they would include standard industry measures and guidelines contained in the NPDES Construction General Permit text. Based on implementation of appropriate BMPs to provide conformance with the NPDES Construction General Permit, potential impacts associated with construction-related hazardous materials 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, project construction would require the use of hazardous materials, which could be at risk of release through upset and/or accident conditions. The potential for release would be minimized through implementation of a Cal-OSHA Construction Safety Plan and a hazard communication program during construction, as required under Section 5194 of the California Code of Regulations. The hazard communication program would include disclosure of the hazardous materials present on site, labels for hazardous materials containers, safety data sheets (with information on the health effects of hazardous materials), and employee training on hazardous materials handling. In the event of an accidental release of hazardous substances, the project would comply with Code of Federal Regulations Section 1910.120, which outlines protocol for hazardous waste clean-up operations and emergency response. Through compliance with these regulations and procedures, the project would not create a significant hazard to the public or the environment through reasonably foreseeable upset and/or accident conditions involving the release of hazardous materials, and 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.** The Heritage Classical Charter School is located within one-quarter mile of the project alignment. As discussed in Items IX.a, hazardous materials would be present during project construction. However, hazardous materials would be transported, used, stored, and disposed of in accordance with applicable federal and state laws. Additionally, the risk of exposure to potentially present hazardous materials in exposed soil would be minimized through the implementation of project design features. As a below-ground sewer main, the project would not present operational risks associated with hazardous materials. Therefore, impacts related to the handling of hazardous materials within one-quarter mile of a school 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?

**Less Than Significant Impact.** Pursuant to Government Code Section 65962.5 (Cortese List) requirements, the State Water Resources Control Board (SWRCB) GeoTracker database (2019) and the California Department of Toxic Substances Control (DTSC) EnviroStor database (2019) were searched for hazardous materials sites in the project alignment and vicinity. The results of these searches indicated that there is one listed hazardous material site approximately 0.25 mile southwest of the pipeline alignment. The site was a minor diesel spill at a local agency warehouse; it is a closed case, as cleanup activities have been completed. Therefore, impacts would be less than significant.

- 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?

**Less Than Significant Impact.** The project is located directly southwest of the French Valley Airport, which is a public-use airport owned by the County of Riverside. The French Valley Airport Land Use Compatibility Plan (ALUCP) includes restrictions on the uses, concentrations of population, and height of proposed development in within the Airport Influence Area (AIA), in order to protect the airport and maintain public safety the airport's vicinity. The proposed project is located within the Approach/Departure Zone (Zone B1) of the ALUCP (see Map FV-1 of Riverside County Airport Land Use Commission [RCALUC] 2010). To ensure compliance with the ALUCP, temporary construction equipment would not exceed 35 feet in height. Operation of the sewer main would not conflict with the ALUCP because it would be located underground. According to ALUCP, there would be minimal risk to the temporary construction and maintenance workers present at the project alignment because noise levels within Zone B1 are not to exceed a 60-decibel (dB) Community Noise Equivalent Level (CNEL). Therefore, impacts would be less than significant.

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

**Less Than Significant Impact.** Construction and installation of the proposed project would occur within various rights-of-way and would result in lane closures. Full road closures are not anticipated, and the rights-of-way would remain open to traffic in both directions during construction. However, traffic diversions and detours may result from temporary lane closures. Therefore, implementation of a TCP for the project would allow for maintained access to hospitals, emergency response centers, school locations, communication facilities, highways and bridges, or airports. As such, the proposed project would not impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan, 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?

**No Impact.** The proposed project is not located in a "Very High Fire Hazard Severity Zone" (VHFHSZ; see Figure 11 of the Southwest Area Plan of the County of Riverside General Plan; County 2019). In addition, as a below-ground pipeline, the project does not include habitable structures that could expose people to a significant risk of loss, injury, or death involving wildland fires. The presence of employees at the project alignment would be limited to temporary construction and periodic maintenance. Therefore, no impacts associated with the exposure of people or structures to significant risk of loss, injury, or death would occur.

## 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?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b) Substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
ii. Substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off- site?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
iv. Impede or redirect flood flows?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
d) In flood hazard, tsunami, or seiche zones, risk release of pollutants due to project inundation?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e) Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

- 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 from the proposed project would be limited primarily to construction-related concerns, including erosion/sedimentation and the use and storage of hazardous substances such as construction vehicle fuels and lubricants. Long-term project operations would generally be limited to routine inspection and maintenance, and would not involve activities or materials that could result in significant water quality impacts. Potential construction-related erosion/sedimentation impacts would be avoided or reduced below a level of significance through conformance with the NPDES Construction General Permit and related requirements. Specifically, this would entail implementing a SWPPP and related BMPs in conformance with applicable regulatory requirements. Stormwater BMPs would limit erosion, minimize sedimentation, and control

stormwater runoff water quality during construction activities. The SWPPP would also address project-related use and storage of construction-related hazardous materials, through the use of appropriate BMPs in accordance with applicable regulatory standards. During project operations, stormwater runoff would not change substantially from the existing condition as there would be negligible change to impervious surfaces. Therefore, potential impacts related to water quality from proposed project construction 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?

**Less Than Significant Impact.** The proposed project would not require the use of, or otherwise substantially interfere with, groundwater supplies. While dewatering would be required if groundwater is encountered during construction of the proposed project, the volume of extracted groundwater would be negligible. For construction-related dewatering, the project would be required to obtain a NPDES groundwater extraction and waste discharge permit and conform to requirements therein. Conformance with applicable requirements under the NPDES groundwater permit would ensure that associated regulatory standards are met.

As described in Item VII.d, if the contractor determines that bedrock breaking activities are required during construction, and mechanical means (i.e., use of a hoe ram) are not a viable option, the project would use SCDA's to fracture the bedrock. Standard excavation-related construction BMPs would be implemented during rock breaking activities to ensure groundwater supplies would not be impacted by the use of rock breaking chemicals. Therefore, the project would not substantially decrease groundwater supplies or interfere with groundwater recharge such that the project would impede sustainable groundwater management. Impacts would be less than significant.

- 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.** Potential construction-related erosion/siltation impacts would be avoided or reduced below a level of significance through conformance with the NPDES Construction General Permit and related requirements. Specifically, this would entail implementing a SWPPP and stormwater BMPs to limit erosion, minimize sedimentation, and control stormwater runoff water quality during construction activities. During project operations, stormwater runoff would not change substantially as there would be negligible change to impervious surfaces. Therefore, the project would not result in substantial erosion or siltation and impacts 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?

**Less Than Significant Impact.** As previously discussed in Item X.a, the project must implement a SWPPP and stormwater BMPs to control stormwater runoff during construction activities. During project operations, surface runoff would not change substantially as there would be negligible change to impervious surfaces. Therefore, impacts would be less than significant.

- 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.** Based on the discussions provided above in Items X.a, X.ci, and X.cii, the proposed project would not increase the rate or amount of surface runoff, with no associated effects to the capacity of existing or planned storm water drainage systems. Additionally, potential project-related water quality impacts would be avoided or reduced below a level of significance through required conformance with applicable NPDES and associated regulatory standards. As a result, potential impacts related to drainage system capacity and the generation of polluted runoff from project implementation would be less than significant.

- iv. Impede or redirect flood flows?

**Less Than Significant Impact.** The proposed pipeline would be located below ground and would not impede or redirect flood flows. During construction, compliance with the applicable NPDES and associated regulatory standards would reduce impacts associated with flood flows to less than significant.

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

**No Impact.** The project site is not located within a special flood hazard area (see Figure 10 of the Southwest Area Plan of the County of Riverside General Plan; County 2019). Based on the distance from Skinner Reservoir (approximately 4 miles) and the Pacific Ocean (approximately 27 miles), risk of inundation by seiche or tsunami is minimal. In addition, upon completion of construction, the proposed pipeline would be located below ground and would not release pollutants in the instance of a flood. Therefore, no impacts would occur.

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

**Less Than Significant Impact.** Refer to Items X.a through X.d. The project would comply with applicable storm water quality standards during construction and operation, and appropriate BMPs would be implemented to address potential water quality impacts. 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?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

a) Physically divide an established community?

**Less Than Significant Impact.** Construction of the pipeline within the existing right-of-way would involve temporary lane closures. Implementation of a Traffic Control Plan, however, which would require three lanes to stay open (one in each direction and one two-way left turn lane) would maintain access to the community. Operationally, the proposed pipeline would be located below ground and would not limit access. Therefore, the proposed project would not physically divide an established community, and impacts would be less than significant.

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?

**No Impact.** Based on the nature and location of the proposed project and on-site land use/zoning designations (refer to the Project Description), project implementation would not conflict with applicable land use plans, policies, or land use/zoning designation standards. As discussed in Item IV.f, the project would not conflict with the Western Riverside MSHCP. Therefore, no impact would occur.

**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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

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?

**No Impact.** No areas within or in the vicinity of the project area are designated for mineral resource extraction (see Figure 3 of the Southwest Area Plan of the County of Riverside General Plan; County 2019). The project site is not currently used for mineral extraction and is not planned to be used for mineral extraction in the future. As such, the proposed project would not result in the loss of availability of mineral resources, and no impact would occur.

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.** Refer to item XII.a above.

### 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?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b) Generation of excessive groundborne vibration or groundborne noise levels?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

- 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.** Noise can be defined as unwanted sound. Sound (and therefore noise) consists of energy waves that people receive and interpret, while noise consists of any sound that may produce physiological or psychological damage and/or interfere with communication, work, rest, recreation, or sleep. Sound intensity or acoustic energy is measured in dB that are A-weighted to correct for the relative frequency response of the human ear (dBA). Decibels are measured on a logarithmic scale, with a 3-dBA change in sound generally considered the minimum level that is “barely perceptible” to humans, and a 5-dBA change generally considered “readily perceptible.”

The predominant rating scales for human communities are the Noise Equivalent ( $L_{EQ}$ ), and the CNEL, both of which are based on dBA. The  $L_{EQ}$  is the total sound energy of time-varying noise over a sample period. The CNEL is the average equivalent A-weighted sound level during a 24-hour day, obtained after addition of 5 decibels to sound levels in the evening from 7:00 p.m. to 10:00 p.m. and after addition of 10 dBA to sound levels in the night from 10:00 p.m. to 7:00 a.m. CNEL is utilized for describing ambient noise levels because they account for all noise sources over an extended period of time and account for the heightened sensitivity of people to noise during the night.

The entirety of the project alignment is within the unincorporated County. The northern portion of the alignment along Winchester Road is also adjacent to the City of Murrieta. The project would result in elevated noise levels in both the County and City of Murrieta; therefore, the project is subject to the noise regulations of both jurisdictions.

County of Riverside Ordinance No. 847 establishes countywide standards for regulating noise, including general standards for exterior noise levels based on land use type. Section 2 of Ordinance No. 847 provides exemptions from the established exterior noise level standards. For projects located within one-quarter of a mile from an inhabited dwelling, construction noise is exempt as long as construction occurs outside the hours of 6:00 p.m. and 6:00 a.m. from June to September and 6:00 p.m. and 7:00 a.m. from October to May. Projects located one-quarter of a mile or more from an inhabited dwelling are exempt with no hour restrictions. In addition, capital improvement projects undertaken by a governmental agency<sup>3</sup> are exempt from the exterior noise level standards.

Chapter 16.30.130 of the City of Murrieta Municipal Code sets limits for construction noise generation. The operation of construction tools and equipment is not allowed between the hours of 7:00 p.m. and 7:00 a.m. on weekdays, or at any time on Sunday or holidays. In addition, construction noise levels are not allowed to exceed the limits shown in Table 5, *City of Murrieta Construction Noise Limits*.

<b>Table 5 CITY OF MURRIETA CONSTRUCTION NOISE LIMITS</b>			
	<b>Single-Family Residential</b>	<b>Multi-Family Residential</b>	<b>Commercial</b>
Maximum noise levels for nonscheduled, intermittent, short-term operation (less than 10 days) of mobile equipment:			
Daily, except Sundays and Legal Holidays, 7:00 a.m. to 8:00 p.m.	75 dBA	80 dBA	85 dBA
Daily, 8:00 p.m. to 7:00 a.m. and all day Sunday and Legal Holidays	60 dBA	64 dBA	70 dBA
Maximum noise levels for repetitively scheduled and relatively long-term operation (period of three days or more) of stationary equipment:			
Daily, except Sundays and Legal Holidays, 7:00 a.m. to 8:00 p.m.	60 dBA	65 dBA	70 dBA
Daily, 8:00 p.m. to 7:00 a.m. and all day Sunday and Legal Holidays	50 dBA	55 dBA	60 dBA

### **Operational Noise**

The proposed below ground gravity-fed sewer extension would not include operational components that would generate noise. Therefore, the project would not result in a permanent increase in ambient noise levels.

### **Construction Noise**

Construction of the pipeline would require the use of mobile equipment, the operation of which would generate noise. The type of equipment would vary based on location and construction method (trenching vs. jack-and-bore). Most portions of the pipeline construction would be considered short-term construction and would not occur at any one location for a period lasting 10 or more days.

<sup>3</sup> Per County of Riverside Ordinance No. 847, a governmental agency is defined as the United States, the State of California, Riverside County, any city within Riverside County, any special district within Riverside County or any combination of these agencies. The District is a special district within Riverside County.

Although the trench would be open along the alignment longer than 10 days, the actual work adjacent to an individual receptor would not exceed a consecutive 10-day period.

Trenching activities would involve the simultaneous use of an excavator, loader, and dump truck. In the northern portion of the project alignment, trenching would occur approximately 150 feet from the single-family residences located west of Winchester Road in the City of Murrieta. At 150 feet, an excavator, loader, and dump truck operating simultaneously for 40 percent of a given construction hour would generate a noise level of 72.9 dBA  $L_{EQ}$  (1-hour). This would be below the 75-dBA construction noise limit for single-family residences within the City of Murrieta.

Due to the presence of granite bedrock underlying the majority of the project site (Kleinfelder 2018), construction of the project may require the use of a hoe ram to break up the rock. The hoe ram may be used as close as 150 feet from the single-family residences located west of Winchester Road in the City of Murrieta. At 150 feet, a hoe ram operating for 10 percent of a given construction hour would generate a noise level of 70.5 dBA  $L_{EQ}$  (1-hour). This would be below the 75-dBA construction noise limit for single-family residences within the City of Murrieta.

Trenching along the southern portion of the alignment would also involve the simultaneous use of an excavator, loader, and dump truck and would occur within Sky Canyon Drive, adjacent to commercial land uses. At 50 feet, an excavator, loader, and dump truck operating simultaneously for 40 percent of a given construction hour would generate a noise level of 82.5 dBA  $L_{EQ}$  (1-hour). The majority of construction along this portion of the alignment would occur within one-quarter of a mile of an inhabited dwelling, and would occur between the hours of 6:00 a.m. to 6:00 p.m. from June to September and 7:00 a.m. to 6:00 p.m. from October to May, which would allow construction to be exempt from the County's exterior noise level standards.

Construction associated with tie-in of the proposed pipeline to the existing sewer located in the intersection of Murrieta Hot Springs Road and Sky Canyon Drive would also involve trenching activities and the use of an excavator, loader, and dump truck. This may occur during nighttime hours and thus outside of the exempt hours mentioned above; however, these activities would still be exempt from the County's exterior noise standards as the District is a governmental agency and is constructing a capital improvements project.

Jack-and-bore methods would be used to install the pipeline where the alignment crosses a jurisdictional drainage in the northern portion of the project alignment. The typical noise level of an engine used for the jack-and-bore power head is between 75 and 80 dBA at a distance of 50 feet. This unit would operate in a pit, which would attenuate noise by at least 5 dBA. Because the nearest residences (located across Winchester Road in the City of Murrieta) would be 500 feet from the jack-and-bore activities, noise levels at the residences would be below the applicable 75-dBA limit. Therefore, construction of the proposed project would not generate noise levels in excess of applicable standards, and impacts would be less than significant.

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

**Less Than Significant Impact.** The project would not include operational components that would generate vibration. An on-site source of vibration during project construction would be a vibratory roller, which would be used for soil compaction following backfill activities where trenching is to occur. A vibratory roller creates approximately 0.210 inch per second peak particle velocity (PPV) at a distance of 25 feet. At a distance of 150 feet (the distance to the nearest off-site residences), a vibratory roller

would create a PPV of 0.03 inch per second. This would be below the “strongly perceptible” vibration annoyance potential criteria for human receptors of 0.1 inch per second PPV, as specified by Caltrans (2013). Therefore, impacts associated with vibration 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?

**Less Than Significant Impact.** The northern portion of the project alignment is adjacent to French Valley Airport. The project proposes the installation of an underground pipeline, and no housing or permanent workers would result from the project. Temporary construction workers would not be exposed to substantial noise levels as the entire project alignment is outside of the airport’s 60 CNEL contour (Coffman Associates, Inc. 2010). Therefore, impacts associated with airport noise would be less than significant.

**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)?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b) Displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

- 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)?

**Less Than Significant Impact.** The proposed project involves the expansion of the existing sewer system to maintain local wastewater service. The project is designed to meet the local service needs of existing and planned residential developments in the County. Because the project would help accommodate existing and planned growth, it would not induce growth, and impacts would be less than significant.

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

**No Impact.** Implementation of the proposed project would not require the removal of existing people or housing or the associated construction of replacement housing, and no associated impacts would result.

## 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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Police protection?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Schools?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) Parks?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e) Other public facilities?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

### a) Fire protection?

**No Impact.** The construction and operation of the proposed project would not result in increases in the need for fire protection services. During construction, fire protection may be required, but these would be short-term demands and would not require permanent increases in the level of public service offered or affect response times associated with fire protection services. Because of the low probability and short-term nature of potential fire protection needs during construction, the proposed project would not impact fire protection services.

### b) Police protection?

**No Impact.** Similar to the low probability and short-term nature of police protection needs described above, there are no significant impacts related to police protection or service anticipated with implementation of the proposed project.

### c) Schools?

**No Impact.** The proposed project would not result in new housing or population growth that would generate increased demand for school services. Accordingly, project implementation would not result in the need for construction of additional school facilities and no associated impacts would occur.

### d) Parks?

**No Impact.** Implementation of the proposed project would not affect existing park facilities or increase the demand for additional recreational facilities. As a result, no impacts related to parks would result from the proposed project.

e) Other public facilities?

**No Impact.** No impacts to other public facilities are anticipated to occur with project implementation, for similar reasons as noted in the above public services responses.

## 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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

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 proposed project involves construction of a subsurface sewer main. Implementation of the proposed project would not generate an increase in demand for existing parks or other recreational facilities that would result in or increase physical deterioration of these facilities. As a result, no associated impacts would result from project implementation.

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.** Implementation of the proposed project would not include recreational facilities or require the construction or expansion of recreational facilities. No associated impacts would result.

## 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?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
b) Would the project conflict or be inconsistent with CEQA Guidelines section 15064.3, subdivision (b)?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) Result in inadequate emergency access?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

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

**Less Than Significant Impact.** Project construction activities would generate a temporary contribution of additional vehicle trips to the local circulation system. Specifically, project construction traffic would be associated with one-time ingress/egress for applicable construction equipment (e.g., backhoes/trenchers), daily trips for construction workers and support vehicles (pickups and water/haul trucks), and material/equipment deliveries. Additionally, minor congestion may occur due to the partial road closure; however, three lanes (one lane in each direction and one two-way left turn lane) would remain open during the duration of construction. Construction vehicles would likely use Winchester Road to access various points of the alignment. Winchester Road is an arterial that supports high levels of traffic. The addition of project construction trips to this roadway would not disrupt the circulation system. After exiting Winchester Road, not all construction trips would be concentrated in one area or along one of the smaller roadways in the project area, due to the linear layout of the project. In addition, most construction days would not involve the maximum number of vehicles. As such, the project’s construction traffic and partial road closure would not substantially impact the performance of the circulation system or associated plans, ordinances, or policies.

The proposed project would not result in long-term traffic generation, with operational traffic to be limited to minimal trips related to periodic sewer main inspection and maintenance. Based on the described considerations, traffic-related impacts during the construction and operation of the proposed project would be less than significant, and the project would not conflict with an applicable plan, ordinance, or policy establishing measures of effectiveness for the performance of the circulation system.

The proposed project would not substantially affect existing public transit, bicycle, or pedestrian facilities. Sidewalks are present along Winchester Road (SR 79) and Sky Canyon Road; the project alignment does not intersect the sidewalk, and construction would not impact the sidewalk or limit its accessibility. Trenched areas would be fenced off so as to allow for continued safety of the sidewalks. There are three bus stops located adjacent to the alignment. However, the contractor would coordinate with the RTA to maintain access to these bus stops, or establish a temporary bus stop with pre-coordination and approval by the RTA. Roadways would be restored to pre-existing conditions following completion of construction. As such, the project would not conflict with adopted policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities, or otherwise decrease the performance or safety of such facilities, and impacts would be less than significant.

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

**No Impact.** Refer to Item XVII.a, above. CEQA Guidelines Section 15064.3 subdivision (b) sets forth specific criteria for determining the significance of transportation impacts. Subdivision (b) pertains to land use projects and describes factors that may indicate whether the amount of a land use project’s vehicle miles traveled may be significant or not. Project-related traffic would be limited predominantly to a relatively small number of trips during the construction period and an occasional trip for maintenance purposes. Because the project is not a land use project and would not generate substantial vehicle miles traveled, the project would not conflict or be inconsistent with CEQA Guidelines Section 15064.3, subdivision (b) and no related impacts would result.

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

**No Impact.** The proposed project would not include the construction of hazards (e.g., sharp curves or dangerous intersections), and would not result in incompatible uses with the surrounding developed area. Implementation of a TCP would minimize potential traffic hazards during construction. Accordingly, no impacts regarding design features or incompatible uses would occur.

d) Result in inadequate emergency access?

**Less Than Significant Impact.** Construction of the proposed project would result in lane closures; however, three lanes would remain open (one lane in each direction and one two-way left turn lane) during the duration of the project (SB&O, Inc. 2018). Implementation of a TCP for the project would allow for maintained access to hospitals, emergency response centers, school locations, communication facilities, highways and bridges, or airports. As such, the proposed project would not impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan, and 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	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
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.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

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)?

**No Impact.** No properties or resources currently listed on the National Register of Historic Places or the California Register of Historic Resources are located within or immediately adjacent to the project alignment. As discussed in Item V.a, no potentially significant Tribal Cultural Resources (TCRs) were observed within or immediately adjacent the project alignment during the pedestrian survey conducted by HELIX, and no significant TCRs were identified by Tribes during consultation. Therefore, no substantial adverse changes to the significance of TCRs within the project vicinity are anticipated and no impact would occur.

- 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.** The records search at the EIC and pedestrian survey conducted as part of the cultural resources report prepared for the project indicated that no cultural resources are present on site. Despite the lack of recorded cultural resources within and immediately adjacent to the project site, the area is sensitive for cultural resources. The Pechanga, Soboba, and Rincon Bands of Luiseño Indians indicated that there is a potential for subsurface cultural resources to be encountered during trenching, excavation, and other ground-disturbing activities. As discussed in Item V.b, impacts are therefore considered potentially significant and an archaeological and Native American monitoring program must be implemented. Implementation of mitigation measures CR-1 to CR-5 would reduce potential impacts to less than significant.

## 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?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b) Have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry and multiple dry years?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
e) Comply with federal, state, and local management and reduction statutes and regulations related to solid waste?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

- 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.** The proposed project would consist predominantly of short-term construction activities, with no generation of additional population. Existing wastewater treatment plant capacity is adequate for the flows that would be conveyed by the proposed pipeline. The nature and scope of the proposed project would therefore not require or result in the relocation or construction of new utility facilities. As a result, 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?

**No Impact.** Water requirements associated with the proposed project would be limited to short-term (construction-related) uses such as dust suppression and employee consumption. Based on the minor nature of such uses, it is anticipated that project water requirements would be met through existing entitlements and no associated impacts would result.

- 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?

**No Impact.** The proposed project would consist predominantly of short-term construction activities with no generation of additional population. Accordingly, project-related wastewater generation would be limited to that associated with the small number of employees during the construction period, and would not exceed the District's wastewater treatment requirements. Existing wastewater treatment plant capacity is adequate for the flows that would be conveyed by the proposed pipeline. As a result, no associated impacts related to wastewater treatment requirement would occur.

- 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?

**Less Than Significant Impact.** Waste generation and disposal requirements associated with the proposed project would be limited to minor quantities derived from construction activities (e.g., material packaging) and employees (e.g., food-related trash). Solid waste from the project would likely be disposed of at either the Badlands Sanitary Landfill, located in Moreno Valley, or the El Sobrante Landfill, located in Corona. The Badlands Landfill has a remaining capacity of 15,748,799 cubic yards and a maximum permitted throughput of 4,800 tons per day and the El Sobrante Landfill has a remaining capacity of 143,977,170 cubic yards and a maximum permitted throughput of 16,054 tons per day (California Department of Resources Recycling and Recovery [CalRecycle] 2019). Both of these landfills have sufficient capacity to accommodate the minimal amount of project-related waste. Associated potential impacts from project implementation would be less than significant.

- e) Comply with federal, state, and local management and reduction statutes and regulations related to solid waste?

**No Impact.** Construction and operation of the proposed project would generate minimal solid waste and would not affect landfill capacity. During construction of the project, construction debris (e.g., excavated soil, asphalt) would be generated. Solid waste debris would be disposed of at a permitted landfill. Moreover, AB 939, also known as the Integrated Waste Management Act, mandates the reduction of solid waste disposal in landfills by requiring a minimum of 50 percent diversion rate. Accordingly, at least half of the potential construction waste would be diverted from a landfill. The remaining quantity is reasonably anticipated to be within the permitted capacity of the permitted landfills serving the project area. Therefore, no impacts related to solid waste would occur.

**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?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

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

**Less Than Significant Impact.** Construction and installation of the proposed project would occur within various rights-of-way and would result in lane closures. Full road closures are not anticipated, and the rights-of-way would remain open to traffic in both directions during construction. Implementation of a TCP for the project would allow for maintained access to hospitals, emergency response centers, school locations, communication facilities, highways and bridges, airports, and evacuation routes in the event of an emergency. As such, the proposed project would not impair an adopted emergency response plan or emergency evacuation plan, 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?

**No Impact.** Because the project involves a below-ground pipeline, it would not, in combination with environmental factors such as slope or prevailing winds, exacerbate fire risks. In addition, aside from temporary construction and maintenance workers, there would be no occupants on site. Therefore, no impact would occur.

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?

**No Impact.** Implementation of the proposed project would include construction activities to install a subsurface sewer main, which would not require infrastructure beyond what is already planned for the area. The proposed project would not require the installation or maintenance of infrastructure that could exacerbate fire risk or result in temporary or ongoing impacts to the environment; no impacts would occur.

- 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?

**No Impact.** After construction of the proposed project, the surface would be returned predominantly to existing conditions, except for the small concrete pads around each manhole. No significant impacts related to drainage alteration would result from the proposed project. The relatively small project area would be stabilized through efforts such as paving/repaving. In addition, the project area is generally flat, and there are no residences down slope of the project. Therefore, implementation of the proposed project would not expose people or structures to significant risks from runoff, post-fire slope instability, or drainage changes, and no impact would occur.

**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?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
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)?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c) Does the project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

- 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.** As described in Item IV.a, the project site supports one special status plant species and three sensitive animal species, and contains suitable habitat for burrowing owl. Impacts to paniculate tarplant would be less than significant based on the stability of the species' population in the area and the fact that project impacts would be temporary. Potential impacts to California horned lark, CAGN, Cooper's hawk, burrowing owl, and nesting birds would be reduced to a less than significant level through implementation of mitigation measures BIO-1 and BIO-2. The project would avoid direct impacts to the on-site ephemeral drainage through use of trenchless construction methods and would avoid indirect impacts through implementation of BMPs included as part of the SWPPP and through implementation of mitigation measure BIO-3.

As described in Item V.a, no substantial adverse change in the significance of historical resources is anticipated to occur as a result of project implementation; thus, it would not eliminate important examples of the major periods of California history. The project has the potential to encounter archaeological resources, paleontological resources, and human remains during excavation activities, which could result in significant impacts to important examples in California prehistory; implementation of mitigation measures CR-1 through CR-6 and GEO-1 would ensure that potential impacts would be reduced to less than significant levels.

- 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 Impact.** Cumulative impacts are defined as two or more individual project effects that, when considered together or in concert with other projects, combine to result in a significant impact (CEQA Guidelines Section 15355). The majority of impacts associated with the proposed project would be localized and short-term, and there are currently no planned projects along the proposed pipeline's alignment (SB&O 2018). In addition, as discussed in Item III.b, the project would not result in a cumulatively considerable increase of any criteria air pollutant for which the region is in non-attainment, which includes ozone and particulate matter. Based on a review of the anticipated impacts of the proposed project and lack of other current projects, implementation of the proposed project would not result in impacts that are individually limited, but cumulatively considerable. The project adheres to all other land use plans and policies with jurisdiction in the project area. Therefore, cumulative impacts would be less than significant.

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

**Less Than Significant Impact.** With adherence to regulatory codes, ordinances, regulations, standards, and guidelines, in conjunction with the discussed mitigation measures, construction and operation of the proposed project would not present a substantial adverse effect on human beings either directly or indirectly. In addition, all resource topics associated with the project have been analyzed in accordance with State CEQA Guidelines and found to pose no impact, less than significant impact, or less than significant impact with mitigation. Further environmental analysis is not required. Impacts would be less than significant.

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## **4.0 PREPARERS**

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# Appendix A

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## Air Quality Modeling Outputs

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Road Construction Emissions Model, Version 9.0.0

Daily Emission Estimates for -> Sky Canyon Sewer Main Extension															
Project Phases (Pounds)	ROG (lbs/day)	CO (lbs/day)	NOx (lbs/day)	Total PM10 (lbs/day)	Exhaust PM10 (lbs/day)	Fugitive Dust PM10 (lbs/day)	Total PM2.5 (lbs/day)	Exhaust PM2.5 (lbs/day)	Fugitive Dust PM2.5 (lbs/day)	SOx (lbs/day)	CO2 (lbs/day)	CH4 (lbs/day)	N2O (lbs/day)	CO2e (lbs/day)	
Grubbing/Land Clearing	5.42	30.68	50.46	7.02	2.02	5.00	2.88	1.84	1.04	0.10	9,685.94	3.06	0.09	9,790.26	
Grading/Excavation	6.13	38.09	64.71	7.79	2.79	5.00	3.56	2.52	1.04	0.10	9,693.53	2.67	0.29	9,847.14	
Drainage/Utilities/Sub-Grade	3.84	29.18	35.57	6.54	1.54	5.00	2.40	1.36	1.04	0.09	8,748.93	2.30	0.31	8,898.96	
Paving	3.59	26.86	32.60	1.29	1.29	0.00	1.12	1.12	0.00	0.10	9,730.62	2.49	0.38	9,905.45	
Maximum (pounds/day)	6.13	38.09	64.71	7.79	2.79	5.00	3.56	2.52	1.04	0.10	9,730.62	3.06	0.38	9,905.45	
Total (tons/construction project)	0.77	5.62	7.39	1.19	0.32	0.87	0.46	0.28	0.18	0.02	1,656.67	0.44	0.06	1,684.61	
Notes: Project Start Year -> 2021															
Project Length (months) -> 17															
Total Project Area (acres) -> 8															
Maximum Area Disturbed/Day (acres) -> 1															
Water Truck Used? -> Yes															
		Total Material Imported/Exported Volume (yd <sup>3</sup> /day)		Daily VMT (miles/day)											
Phase	Soil	Asphalt	Soil Hauling	Asphalt Hauling	Worker Commute	Water Truck									
Grubbing/Land Clearing	0	0	0	0	320	0									
Grading/Excavation	91	5	300	30	180	0									
Drainage/Utilities/Sub-Grade	61	25	210	90	220	80									
Paving	0	150	0	450	180	40									
PM10 and PM2.5 estimates assume 50% control of fugitive dust from watering and associated dust control measures if a minimum number of water trucks are specified.															
Total PM10 emissions shown in column F are the sum of exhaust and fugitive dust emissions shown in columns G and H. Total PM2.5 emissions shown in Column I are the sum of exhaust and fugitive dust emissions shown in columns J and K.															
CO2e emissions are estimated by multiplying mass emissions for each GHG by its global warming potential (GWP), 1, 25 and 298 for CO2, CH4 and N2O, respectively. Total CO2e is then estimated by summing CO2e estimates over all GHGs.															
Total Emission Estimates by Phase for -> Sky Canyon Sewer Main Extension															
Project Phases (Tons for all except CO2e. Metric tonnes for CO2e)	ROG (tons/phase)	CO (tons/phase)	NOx (tons/phase)	Total PM10 (tons/phase)	Exhaust PM10 (tons/phase)	Fugitive Dust PM10 (tons/phase)	Total PM2.5 (tons/phase)	Exhaust PM2.5 (tons/phase)	Fugitive Dust PM2.5 (tons/phase)	SOx (tons/phase)	CO2 (tons/phase)	CH4 (tons/phase)	N2O (tons/phase)	CO2e (MT/phase)	
Grubbing/Land Clearing	0.02	0.10	0.17	0.02	0.01	0.02	0.01	0.01	0.00	0.00	31.96	0.01	0.00	29.31	
Grading/Excavation	0.17	1.05	1.78	0.21	0.08	0.14	0.10	0.07	0.03	0.00	266.57	0.07	0.01	245.66	
Drainage/Utilities/Sub-Grade	0.55	4.17	5.09	0.94	0.22	0.72	0.34	0.19	0.15	0.01	1,251.10	0.33	0.04	1,154.45	
Paving	0.04	0.30	0.36	0.01	0.01	0.00	0.01	0.01	0.00	0.00	107.04	0.03	0.00	98.85	
Maximum (tons/phase)	0.55	4.17	5.09	0.94	0.22	0.72	0.34	0.19	0.15	0.01	1251.10	0.33	0.04	1,154.45	
Total (tons/construction project)	0.77	5.62	7.39	1.19	0.32	0.87	0.46	0.28	0.18	0.02	1656.67	0.44	0.06	1,528.27	
PM10 and PM2.5 estimates assume 50% control of fugitive dust from watering and associated dust control measures if a minimum number of water trucks are specified.															
Total PM10 emissions shown in column F are the sum of exhaust and fugitive dust emissions shown in columns G and H. Total PM2.5 emissions shown in Column I are the sum of exhaust and fugitive dust emissions shown in columns J and K.															
CO2e emissions are estimated by multiplying mass emissions for each GHG by its global warming potential (GWP), 1, 25 and 298 for CO2, CH4 and N2O, respectively. Total CO2e is then estimated by summing CO2e estimates over all GHGs.															
The CO2e emissions are reported as metric tons per phase.															

**Road Construction Emissions Model, Version 9.0.0**

Daily Emission Estimates for -> Sky Canyon Sewer Main Extension																																																							
Project Phases (Pounds)	ROG (lbs/day)	CO (lbs/day)	NOx (lbs/day)	Total PM10 (lbs/day)	Exhaust PM10 (lbs/day)	Fugitive Dust PM10 (lbs/day)	Total PM2.5 (lbs/day)	Exhaust PM2.5 (lbs/day)	Fugitive Dust PM2.5 (lbs/day)	SOx (lbs/day)	CO2 (lbs/day)	CH4 (lbs/day)	N2O (lbs/day)	CO2e (lbs/day)																																									
Grubbing/Land Clearing	5.32	29.69	50.37	6.99	1.99	5.00	2.87	1.83	1.04	0.10	9,441.08	3.05	0.09	9,542.77																																									
Grading/Excavation	5.77	36.71	59.85	7.62	2.62	5.00	3.45	2.41	1.04	0.08	8,202.76	2.65	0.07	8,291.14																																									
Drainage/Utilities/Sub-Grade	3.55	27.88	31.55	6.39	1.39	5.00	2.31	1.27	1.04	0.08	7,367.88	2.28	0.11	7,458.99																																									
Paving	3.36	25.69	27.75	1.13	1.13	0.00	1.04	1.04	0.00	0.08	7,817.82	2.48	0.09	7,907.73																																									
Maximum (pounds/day)	5.77	36.71	59.85	7.62	2.62	5.00	3.45	2.41	1.04	0.10	9,441.08	3.05	0.11	9,542.77																																									
Total (tons/construction project)	0.72	5.38	6.63	1.16	0.29	0.87	0.45	0.27	0.18	0.01	1,396.34	0.44	0.02	1,413.12																																									
Notes: Project Start Year -> 2021																																																							
Project Length (months) -> 17																																																							
Total Project Area (acres) -> 8																																																							
Maximum Area Disturbed/Day (acres) -> 1																																																							
Water Truck Used? -> Yes																																																							
<table border="1"> <thead> <tr> <th rowspan="2">Phase</th> <th colspan="2">Total Material Imported/Exported Volume (yd<sup>3</sup>/day)</th> <th colspan="4">Daily VMT (miles/day)</th> </tr> <tr> <th>Soil</th> <th>Asphalt</th> <th>Soil Hauling</th> <th>Asphalt Hauling</th> <th>Worker Commute</th> <th>Water Truck</th> </tr> </thead> <tbody> <tr> <td>Grubbing/Land Clearing</td> <td>0</td> <td>0</td> <td>0</td> <td>0</td> <td>0</td> <td>0</td> </tr> <tr> <td>Grading/Excavation</td> <td>0</td> <td>0</td> <td>0</td> <td>0</td> <td>0</td> <td>0</td> </tr> <tr> <td>Drainage/Utilities/Sub-Grade</td> <td>0</td> <td>0</td> <td>0</td> <td>0</td> <td>0</td> <td>80</td> </tr> <tr> <td>Paving</td> <td>0</td> <td>0</td> <td>0</td> <td>0</td> <td>0</td> <td>40</td> </tr> </tbody> </table>															Phase	Total Material Imported/Exported Volume (yd <sup>3</sup> /day)		Daily VMT (miles/day)				Soil	Asphalt	Soil Hauling	Asphalt Hauling	Worker Commute	Water Truck	Grubbing/Land Clearing	0	0	0	0	0	0	Grading/Excavation	0	0	0	0	0	0	Drainage/Utilities/Sub-Grade	0	0	0	0	0	80	Paving	0	0	0	0	0	40
Phase	Total Material Imported/Exported Volume (yd <sup>3</sup> /day)		Daily VMT (miles/day)																																																				
	Soil	Asphalt	Soil Hauling	Asphalt Hauling	Worker Commute	Water Truck																																																	
Grubbing/Land Clearing	0	0	0	0	0	0																																																	
Grading/Excavation	0	0	0	0	0	0																																																	
Drainage/Utilities/Sub-Grade	0	0	0	0	0	80																																																	
Paving	0	0	0	0	0	40																																																	
PM10 and PM2.5 estimates assume 50% control of fugitive dust from watering and associated dust control measures if a minimum number of water trucks are specified.																																																							
Total PM10 emissions shown in column F are the sum of exhaust and fugitive dust emissions shown in columns G and H. Total PM2.5 emissions shown in Column I are the sum of exhaust and fugitive dust emissions shown in columns J and K.																																																							
CO2e emissions are estimated by multiplying mass emissions for each GHG by its global warming potential (GWP), 1, 25 and 298 for CO2, CH4 and N2O, respectively. Total CO2e is then estimated by summing CO2e estimates over all GHGs.																																																							
Total Emission Estimates by Phase for -> Sky Canyon Sewer Main Extension																																																							
Project Phases (Tons for all except CO2e. Metric tonnes for CO2e)	ROG (tons/phase)	CO (tons/phase)	NOx (tons/phase)	Total PM10 (tons/phase)	Exhaust PM10 (tons/phase)	Fugitive Dust PM10 (tons/phase)	Total PM2.5 (tons/phase)	Exhaust PM2.5 (tons/phase)	Fugitive Dust PM2.5 (tons/phase)	SOx (tons/phase)	CO2 (tons/phase)	CH4 (tons/phase)	N2O (tons/phase)	CO2e (MT/phase)																																									
Grubbing/Land Clearing	0.02	0.10	0.17	0.02	0.01	0.02	0.01	0.01	0.00	0.00	31.16	0.01	0.00	28.57																																									
Grading/Excavation	0.16	1.01	1.65	0.21	0.07	0.14	0.09	0.07	0.03	0.00	225.58	0.07	0.00	206.85																																									
Drainage/Utilities/Sub-Grade	0.51	3.99	4.51	0.91	0.20	0.72	0.33	0.18	0.15	0.01	1,053.61	0.33	0.02	967.65																																									
Paving	0.04	0.28	0.31	0.01	0.01	0.00	0.01	0.01	0.00	0.00	86.00	0.03	0.00	78.91																																									
Maximum (tons/phase)	0.51	3.99	4.51	0.91	0.20	0.72	0.33	0.18	0.15	0.01	1053.61	0.33	0.02	967.65																																									
Total (tons/construction project)	0.72	5.38	6.63	1.16	0.29	0.87	0.45	0.27	0.18	0.01	1396.34	0.44	0.02	1,281.97																																									
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The CO2e emissions are reported as metric tons per phase.																																																							

# Appendix B

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Biological Technical Report

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# Sky Canyon Sewer Main Extension Project

Biological Technical Report

August 2019 | EMW-17.21

*Prepared for:*

**Eastern Municipal Water District**

P.O. Box 8330  
Perris, CA 92572

*Prepared by:*

**HELIX Environmental Planning, Inc.**

7578 El Cajon Boulevard  
La Mesa, CA 91942

# Sky Canyon Sewer Main Extension Project

## Biological Technical Report

*Prepared for:*

**Eastern Municipal Water District**

P.O. Box 8330

Perris, CA 92572

*Prepared by:*

**HELIX Environmental Planning, Inc.**

7578 El Cajon Boulevard

La Mesa, CA 91942

August 2019 | EMW-17.21

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## ACRONYMS AND ABBREVIATIONS

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AMSL	above mean sea level
BCC	Bird of Conservation Concern
BMPs	Best Management Practices
CDFW	California Department of Fish and Wildlife
CEQA	California Environmental Quality Act
CESA	California Endangered Species Act
CFG Code	California Fish and Game Code
CNDDDB	California Natural Diversity Database
CNPS	California Native Plant Society
County	Riverside County
CRPR	California Rare Plant Rank
CWA	Clean Water Act
District	Eastern Municipal Water District
FESA	Endangered Species Act
GIS	Geographic Information Systems
GPS	Global Positioning System
HCP	Habitat Conservation Plan
HELIX	HELIX Environmental Planning, Inc.
MBTA	Migratory Bird Treaty Act
MSCP	Multiple Species Conservation Program
MSHCP	Multiple Species Habitat Conservation Plan
NPPA	Native Plant Protection Act
NRCS	Natural Resources Conservation Service
NWI	National Wetlands Inventory
OHWM	Ordinary High Water Mark
Project	Sky Canyon Sewer Main Extension
PSE	Participating Special Entity
RCA	Western Riverside County Regional Conservation Authority
RCHCA	Riverside County Habitat Conservation Agency
RWQCB	Regional Water Quality Control Board

## ACRONYMS AND ABBREVIATIONS (cont.)

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SAA	Streambed Alteration Agreement
SSC	Species of Special Concern
SWPPP	Storm Water Pollution Prevention Plan
USACE	U.S. Army Corps of Engineers
USEPA	U.S. Environmental Protection Agency
USFWS	U.S. Fish and Wildlife Service
USGS	U.S. Geological Survey
WL	Watch List

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## EXECUTIVE SUMMARY

At the request of Eastern Municipal Water District (District; project proponent), HELIX Environmental Planning, Inc. (HELIX) has completed a biological technical report for the Sky Canyon Sewer Main Extension Project (project), which is proposed in southwestern Riverside County (County), adjacent to the eastern boundary of the city of Murrieta. The project would generally consist of the construction of a new, approximately 6,700-linear-foot, 36-inch-diameter sewer main that would extend the existing 36-inch-diameter French Valley Sewer at Winchester Road further downstream to Murrieta Hot Springs Road.

The purpose of this report is to document the existing biological conditions within the project's study area and provide an analysis of potential impacts on sensitive biological resources with respect to local, state, and federal policy. This report provides the biological resources technical documentation necessary for review under the California Environmental Quality Act (CEQA) by the District.

HELIX conducted a general biological survey, potential jurisdictional features assessment, and burrowing owl habitat assessment in July 2018. A formal jurisdictional delineation was conducted in August 2018. Focused surveys for coastal California gnatcatcher (*Polioptila californica californica*), burrowing owl (*Athene cunicularia*), and rare plants were conducted between November 2018 and June 2019.

The project site supports three vegetation communities, including Riversidian sage scrub (including disturbed), disturbed habitat, and developed land; none of which are considered sensitive. The project supports a single potentially jurisdictional drainage feature located in the northern portion of the study area.

One special status plant species paniculate tarplant (*Deinandra paniculata*), was observed in the northern portion of the study area. Three special status animal species were observed within, or directly adjacent to, the project: Cooper's hawk (*Accipiter cooperii*), California Horned Lark (*Eremophila alpestris actia*), and coastal California gnatcatcher (*Polioptila californica californica*).

The study area supports non-wetland waters of the U.S. subject to the regulatory jurisdiction of the U.S. Army Corps of Engineers (USACE) pursuant to Section 404 of the federal Clean Water Act (CWA); non-wetland waters of the State subject to the regulatory jurisdiction of the Regional Water Quality Control Board (RWQCB) pursuant to Section 401 of the CWA; unvegetated streambed subject to the regulatory jurisdiction of the California Department of Fish and Wildlife (CDFW) pursuant to Section 1600 et seq. of California Fish and Game Code.

Potential significant impacts were identified for burrowing owl (*Athene cunicularia*), if the species is found to be present within the project area during pre-construction surveys. Potential significant impacts were also identified for nesting bird species. Three different alignment alternatives were analyzed for the project: Alignment 1B, 1C, and Shifted 1C. Implementation of Alignment 1B would impact 15.1 acres consisting of 1.1 acres of Riversidian sage scrub, 5.4 acres of disturbed habitat, and 8.6 acres of developed areas, and would impact approximately 12,432 individuals of paniculate tarplant. Implementation of Alignment 1C would impact 15.0 acres consisting of 1.1 acres of Riversidian sage scrub, 4.4 acres of disturbed habitat, and 9.5 acres of developed areas, and would impact approximately 7,510 individuals of paniculate tarplant. Implementation of Shifted Alignment 1C would impact 14.7 acres consisting of 0.6 acre of Riversidian sage scrub, 5.4 acres of disturbed habitat, and 8.7 acres of developed areas, and would impact approximately 7,952 individuals of paniculate tarplant. No sensitive

vegetation communities would be impacted by the proposed project. Impacts to paniculate tarplant would be less than significant based on the species' relatively low sensitivity and numerous recorded occurrences within the project vicinity, indicating that the species' population is relatively stable in the region.

The project is located within the boundaries of the adopted Western Riverside County Multiple Species Habitat Conservation Plan (MSHCP), within Criteria Cell 6071, and within Rough Step Area 6. However, the District is not a signatory to the MSHCP and is not obtaining coverage for the project as a Participating Special Entity (PSE) through the Western Riverside County Regional Conservation Authority (RCA). Nevertheless, as demonstrated herein, the project would be consistent with the MSHCP. The project is also located within the boundaries of the adopted Habitat Conservation Plan for Stephens' kangaroo rat (*Dipodomys stephensi*), which requires payment of development fees; however, the proposed project is exempt from paying the fee in accordance with Section 10(f) of County Ordinance No. 663.

Measures related to burrowing owl, migratory nesting bird species, and avoidance and protection of jurisdictional features are proposed herein to fully mitigate potential impacts of the project. Successful implementation of these measures would mitigate potential impacts to below a level of significance.

# 1.0 INTRODUCTION

## 1.1 PURPOSE OF THE REPORT

This report presents the results of a biological resources study conducted by HELIX Environmental Planning, Inc. (HELIX) for the Eastern Municipal Water District's (District) proposed Sky Canyon Sewer Main Extension Project (project) located west of the City of Murrieta within an unincorporated portion of Riverside County (County), California (Figure 1, *Regional Location*). The study was conducted to provide the District, resource agencies, and the public with current biological data to satisfy review of the proposed project under the California Environmental Quality Act (CEQA), and to demonstrate compliance with federal, state, and local regulations. This report describes the project site's current biological conditions, vegetation communities, and plant and wildlife species observed or detected during surveys, and identifies those resources that are sensitive. It also identifies sensitive species with potential to occur within the project site. In addition, project impacts are assessed and mitigation is proposed to offset the proposed project's unavoidable significant impacts to sensitive biological resources.

## 1.2 PROJECT SITE LOCATION

The approximately 38.1-acre study area is located within the community of Murrieta Hot Springs in an unincorporated portion of the County to the east of the City of Murrieta and north of the City of Temecula (Figure 1). The majority of the project alignment is within Township 7 South, Section 13, with small sections in Township 7 South, Range 3 West, Section 24, and Township 7 South, Range 2 West, Section 18, on the U.S. Geological Survey (USGS) 7.5-minute Murrieta Quadrangle (Figure 2, *USGS Topography*). The study area is located south of Hunter Road, north of Murrieta Hot Springs Road, east of Winchester Road, and west of Borel Road (Figure 3, *Aerial Photograph*). The southern portion of proposed project alignment is located along Sky Canyon Drive. The project alignment would cross or be adjacent to three parcels: Assessor's Parcel Numbers (APNs) 908-180-004, 957-320-011, and 957-330-037.

The project is located within the boundaries of the adopted Western Riverside County Multiple Species Habitat Conservation Plan (MSHCP). It is within the Southwest Area Plan with the northern portion of the proposed project alignment located within Criteria Cell 6071 (Figure 4, *MSHCP Criteria Map*); however, the District is not a signatory to the MSHCP and is not obtaining coverage for the project as a Participating Special Entity (PSE) through the Western Riverside County Regional Conservation Authority (RCA).

## 1.3 PROJECT DESCRIPTION

The project proposes 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. The sewer main extension would start at Hunter Road, just east of Winchester Road, then run south through private easement(s), continue south on Sky Canyon Drive, and end at the intersection of Sky Canyon Drive and Murrieta Hot Springs Road. Although there are three alignment options being considered (referenced in the engineering Preliminary

Design Report and herein as Alignment 1B, 1C, and Shifted 1C), Alignment 1C has been preliminarily identified as the preferred option (Figure 3).

The proposed sewer would be located at a maximum depth of 35 feet. Construction and installation of the sewer would utilize both open cut trenching and jack-and-bore methods. If the contractor determines that rock breaking activities are required during construction, the project would use non-explosive demolition agents to fracture the bedrock with minimal disturbance.

Specific staging areas have not yet been identified; staging areas would be within developed locations along Winchester Road or within a parcel that would be acquired by the District for the project and is within areas surveyed as part of the current study.

## 2.0 METHODS

Project evaluation included a review of project plans, a literature review of biological resources occurring within the study area and surrounding vicinity, a general biological survey, vegetation mapping, jurisdictional delineation, and focused biological surveys. The methods used to evaluate the biological resources present on the project site are discussed in this section.

### 2.1 LITERATURE REVIEW

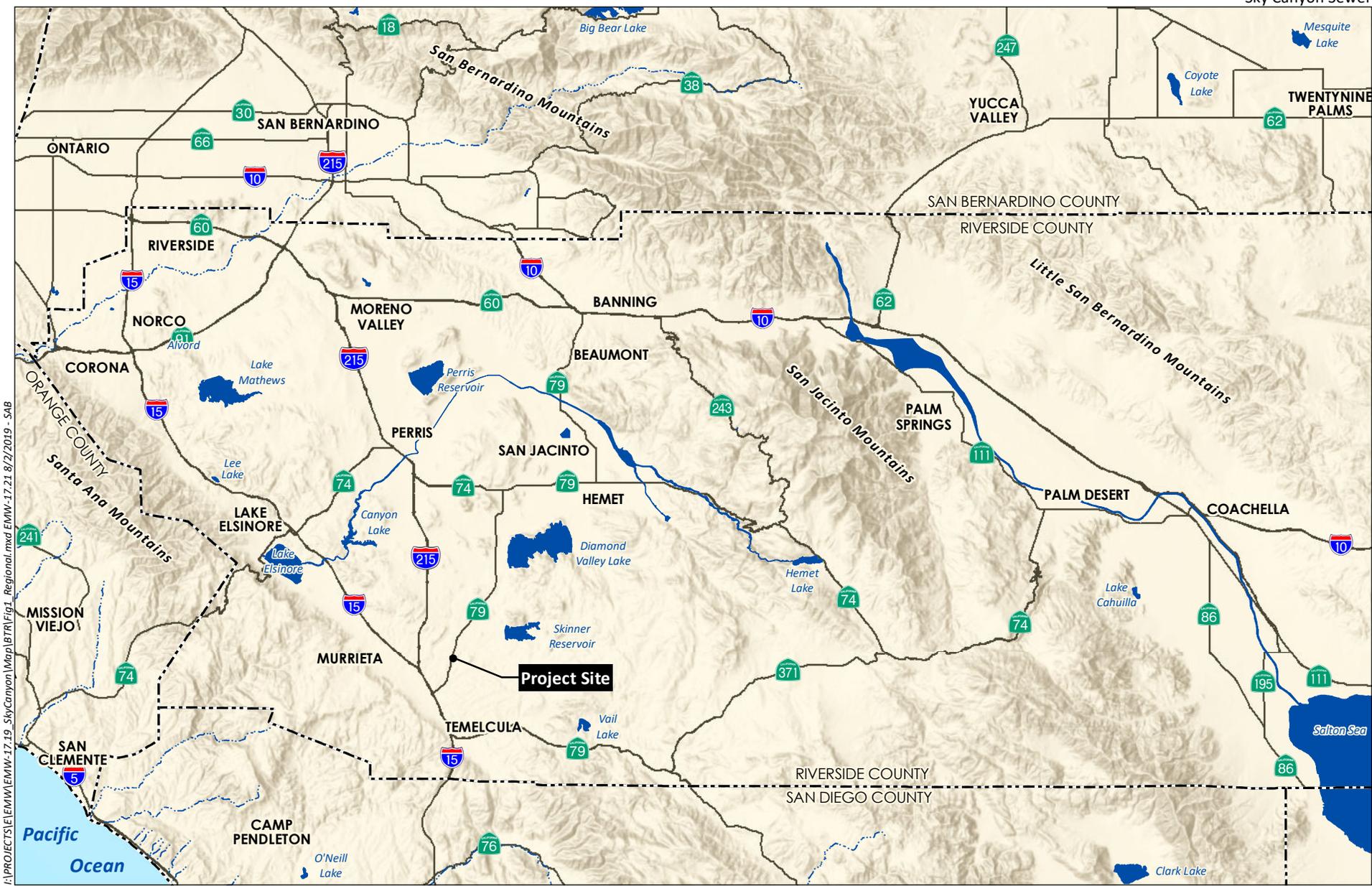
Prior to conducting biological field surveys, HELIX conducted a thorough review of relevant maps, databases, and literature pertaining to biological resources known to occur within the study area. Recent and historical aerial imagery, USGS topographic maps, soils maps (Natural Resource Conservation Service [NRCS] 2019), and other maps of the study area and vicinity were acquired and reviewed to obtain updated information on the natural environmental setting.

In addition, a query of special status species and habitats databases was conducted, including the USFWS species records (USFWS 2018a), California Department of Fish and Wildlife (CDFW) California Natural Diversity Database (CNDDDB; CDFW 2018a), Calflora database (Calflora 2019), SanBIOS and California Native Plant Society (CNPS) Inventory of Rare and Endangered Plants (CNPS 2019). The USFWS' National Wetlands Inventory (NWI) was also reviewed (USFWS 2018b). Any recorded locations of species, habitat types, wetlands, and other resources were mapped and overlain onto aerial imagery using Geographic Information Systems (GIS).

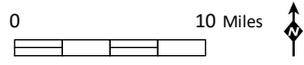
### 2.2 GENERAL BIOLOGICAL SURVEY

An initial general biological survey of the project site was conducted by HELIX biologist Erica Harris on July 27, 2018 (Table 1, *Survey Information*). Vegetation was mapped on a 1"=200' scale aerial of the site in accordance with vegetation community classification from Holland (1986) and Oberbauer (2008). A minimum mapping unit size of 0.10 acre was used when mapping upland habitat; 0.01 acre was used when mapping wetland and riparian habitat. The study area was surveyed on foot and with the aid of binoculars. Representative photographs of the site were taken, with select photographs included in this report as Appendix A, *Representative Site Photographs*.

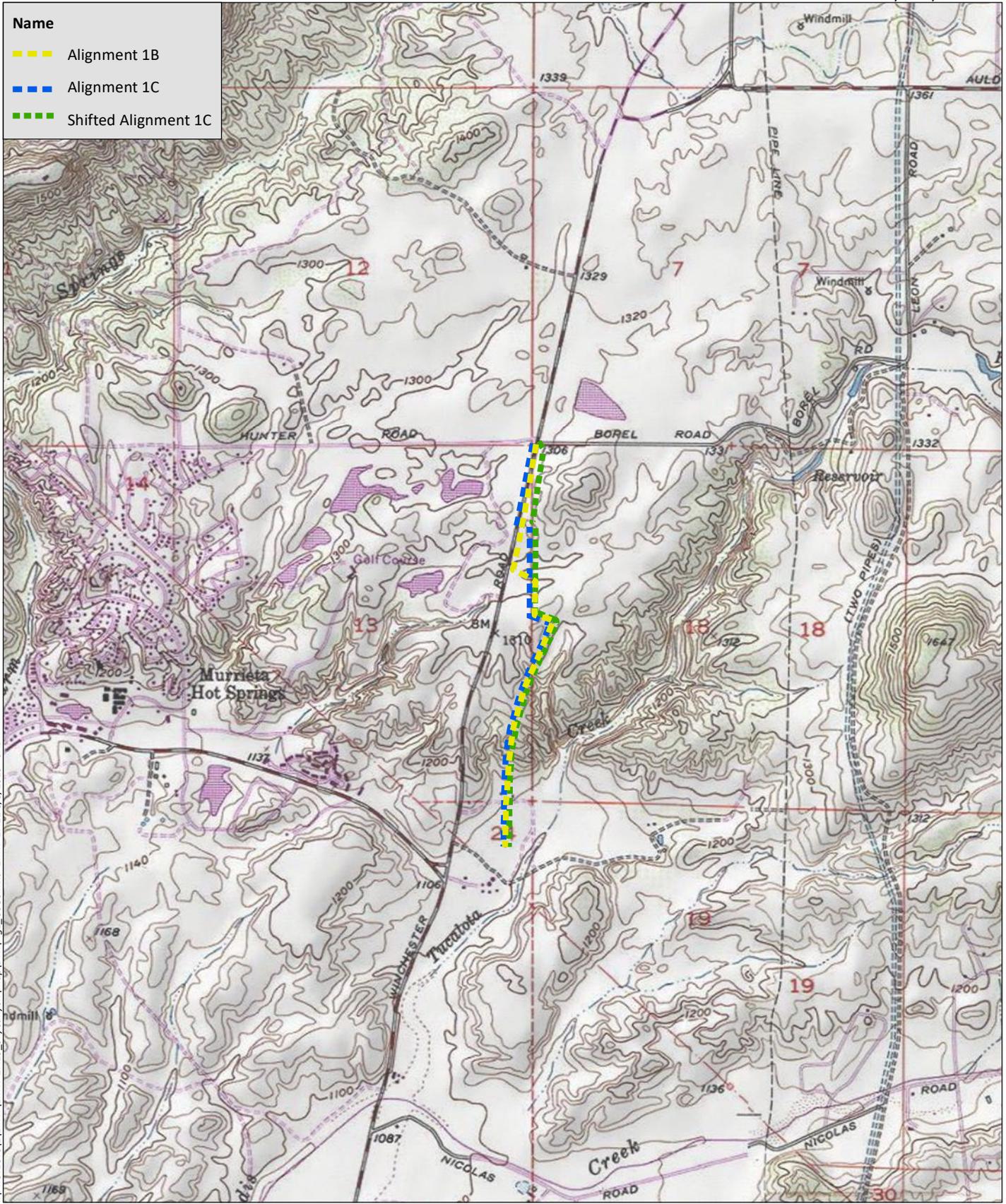
Plant and animal species observed or otherwise detected were recorded in field notebooks. Animal identifications were made in the field by direct, visual observation or indirectly by detection of calls,



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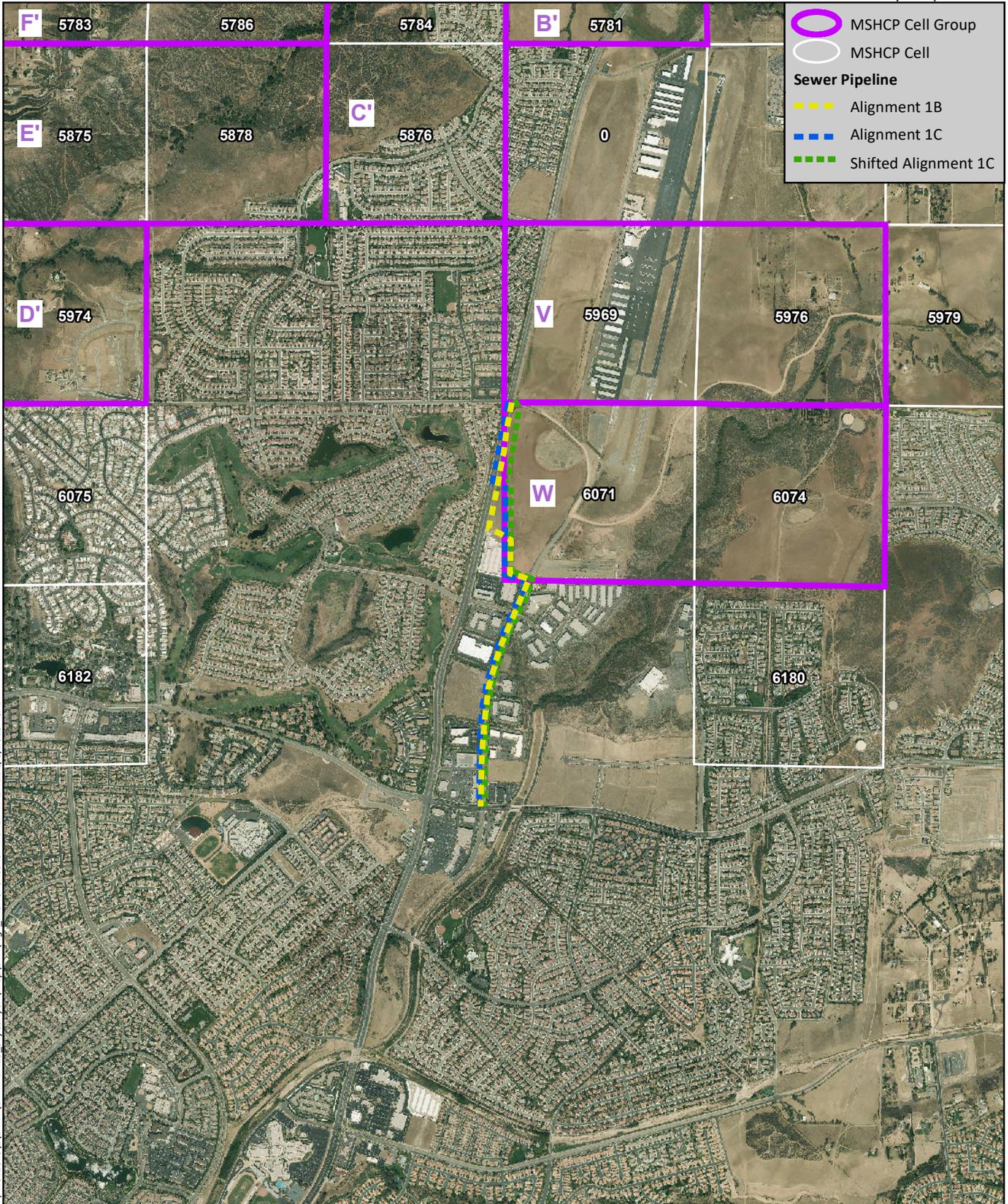
Source: Base Map Layers (ESRI, 2013)



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Source: Murrieta 7.5' Quad (USGS)





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Source: Base Map Layers (Eagle Aerial, 2014)

burrows, tracks, or scat. Plant identifications were made in the field or in the lab through comparison with voucher specimens or photographs. The locations of special status plant and animal species incidentally observed or otherwise detected were mapped. The project site was examined for evidence of potential jurisdictional waters and wetlands, including vernal pools.

In addition to the general biological surveys, HELIX conducted a formal jurisdictional delineation, rare plant surveys, habitat assessment for burrowing owl (*Athene cunicularia*), and protocol-level surveys for burrowing owl and coastal California gnatcatcher (*Polioptila californica californica*). Table 1 provides a summary of biological surveys conducted for the project.

**Table 1  
SURVEY INFORMATION**

Date	Personnel	Survey Type	Survey Details <sup>1</sup>
<b>2018</b>			
July 27	Erica Harris	General biological survey, vegetation community/habitat type mapping, basic wetland mapping	Not recorded
August 16	Robert Hogenauer	Formal jurisdictional delineation	Not recorded
November 20	Erica Harris <sup>2</sup>	Coastal California Gnatcatcher Survey #1	Start/End: 0730-0900; 49-57°F; wind 0-1 mph; 0% cloud cover
December 4	Katie Bellon <sup>2</sup>	Coastal California Gnatcatcher Survey #2	Start/End: 0900-1015; 53-61°F; wind 1-7 mph; 20-60% cloud cover
December 18	Katie Bellon <sup>2</sup>	Coastal California Gnatcatcher Survey #3	Start/End: 0915-1030; 54-58°F; wind 1-3 mph; 5-100% cloud cover
<b>2019</b>			
January 2	Katie Bellon <sup>2</sup>	Coastal California Gnatcatcher Survey #4	Start/End: 0900-1020; 41-50°F; wind 1-6 mph; 0% cloud cover
January 18	Tara Baxter <sup>3</sup>	Coastal California Gnatcatcher Survey #5	Start/End: 0900-1030; 55-58°F; wind 0-2 mph; 100% cloud cover
February 1	Katie Bellon <sup>2</sup>	Coastal California Gnatcatcher Survey #6	Start/End: 0845-0950; 53°F; wind 2-4 mph; 15-40% cloud cover
February 15	Katie Bellon <sup>2</sup>	Coastal California Gnatcatcher Survey #7	Start/End: 0845-1000; 52-54°F; wind 1-3 mph; 5-15% cloud cover
March 1	Katie Bellon <sup>2</sup>	Coastal California Gnatcatcher Survey #8	Start/End: 0900-1010; 59°F; wind 1-5 mph; 100% cloud cover
March 15	Erica Harris <sup>2</sup>	Coastal California Gnatcatcher Survey #9	Start/End: 0900-1015; 55-59°F; wind 1-5 mph; 100% cloud cover
April 8	Robert Hogenauer, Dane van Tamelen	Burrowing Owl Survey #1 Rare Plant Survey (Spring)	Start/End: 0610-0820; 54-64°F; wind 0-3 mph; 10-30% cloud cover
April 29	Dane van Tamelen	Burrowing Owl Survey #2	Start/End: 0610-0750; 55°F; wind 3-5 mph; 100% cloud cover
May 20	Dane van Tamelen	Burrowing Owl Survey #3	Start/End: 0700-0740; 51-52°F; wind 3-5 mph; 70-75% cloud cover
June 18	Dane van Tamelen	Burrowing Owl Survey #4 Rare Plant Survey (Summer)	Start/End: 0640-0740; 59-60°F; wind 3-5 mph; 100% cloud cover

<sup>1</sup> Weather conditions included for focused animal surveys.

<sup>2</sup> USFWS Permit TE-778195-13

<sup>3</sup> USFWS Permit TE-87004B-0

## 2.3 RARE PLANT SURVEY

HELIX biologists surveyed the study area for rare plant species during the spring on April 8, 2019. An additional survey for late-blooming species was conducted in the summer on June 18, 2019. The rare plant survey area included areas where proposed activities would occur outside of the existing road right-of-way. Special status plant species include species that are listed as threatened or endangered by the USFWS or the CDFW, and those with a California Rare Plant Rank (CRPR) 1 through 4 as designated by the CNPS. The surveys were conducted on foot and included 100 percent visual coverage of the study area. Special status plant species encountered were mapped using a hand-held Global Positioning System (GPS) unit and/or on an aerial photograph. HELIX also looked for special status plant species opportunistically during other surveys and recorded their numbers and locations when encountered.

## 2.4 BURROWING OWL SURVEY

A focused survey for burrowing owl was conducted between April 8 and June 18, 2019 (Table 1). The survey consisted of four breeding season (February 1 to August 31) surveys that were performed in accordance with the current CDFW's survey guidelines (formerly California Department of Fish and Game [CDFG] 2012). The surveys were spaced at least three weeks apart, with at least one survey conducted between February 15 and April 15 and one survey conducted between June 15 and July 15.

The biologists slowly walked meandering transects no greater than 20 meters apart through all areas of potential habitat on site (i.e., open Riversidian sage scrub and disturbed habitat) visually searching for potential burrows, burrowing owl sign, and burrowing owl individuals with the aid of binoculars. Fence posts, rocks, and other possible perching locations, as well as mammal burrows (especially those of California ground squirrel [*Otospermophilus beecheyi*]) potentially suitable for use by burrowing owls were inspected. Burrows were specifically searched for sign of recent burrowing owl occupation including pellets with regurgitated fur, bones, and insect parts; white wash (excrement); and feathers. In addition, structures such as concrete culverts/piles, wood debris piles, trash piles, and openings beneath cement or asphalt pavement that were present were checked for burrowing owl sign.

## 2.5 COASTAL CALIFORNIA GNATCATCHER SURVEYS

The District is not a participating agency in the Natural Community Conservation Planning program. For non-participating agencies, the USFWS requires that a minimum of nine surveys be conducted, at least two weeks apart, during the period between July 1 and March 14 (USFWS 1997). The surveys were initiated during the non-breeding season (July 1 to March 14) but extended into the breeding season (March 15 to June 30) since surveys were rescheduled due to inclement weather. The surveys were conducted by permitted HELIX biologists Erica Harris and Katie Bellon (TE-778195-13) and independent biologist Tara Baxter (TE-87004B-0; Table 1). The survey covered all potential coastal California gnatcatcher habitat, which was composed entirely of Riversidian sage scrub. The surveys were conducted by walking along the edges of, as well as within, suitable coastal California gnatcatcher habitat. All surveys were conducted with binoculars to aid in bird detection. Recorded coastal California gnatcatcher vocalizations were played sparingly and only if other means of detection had failed. If a gnatcatcher was detected before playing recorded vocalizations, the recordings were not played. Once coastal California gnatcatchers were initially detected in an area, use of playback was discontinued.

## 2.6 PRELIMINARY ASSESSMENT OF JURISDICTIONAL FEATURES

Prior to beginning fieldwork, aerial photographs (1 inch=100 feet scale), topographic maps (1 inch=100 feet scale), USGS quadrangle maps, and NWI maps (USFWS 2018b) were reviewed to assist in determining the presence or absence of potential jurisdictional waters and wetlands in the study area. A preliminary assessment of the potential jurisdictional waters was conducted during the July 27, 2018 site visit by HELIX biologist Erica Harris and a formal jurisdictional assessment was conducted by HELIX biologist Robert Hogenauer on August 16, 2018 (Table 1). The assessments were conducted to identify and map any water and wetland resources potentially subject to U.S. Army Corps of Engineers (USACE) jurisdiction pursuant to Section 404 of the Clean Water Act (CWA; 33 USC 1344), Regional Water Quality Control Board (RWQCB) jurisdiction pursuant to Section 401 of the CWA and State Porter-Cologne Water Quality Control Act, and streambed and riparian habitat potentially subject to 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.

### 2.6.1 Waters of the U.S.

Potential USACE-jurisdictional waters of the U.S. were delineated using three criteria (vegetation, hydrology, and soils) established for wetland delineations as described within the Wetlands Delineation Manual (Environmental Laboratory 1987) and Arid West Regional Supplement (USACE 2008a). Other references included the Clean Water Rule (USACE and U.S. Environmental Protection Agency [USEPA] 2015).

Areas were determined to be potential non-wetland waters of the U.S. if there was evidence of regular surface flow (e.g., bed and bank), but either the vegetation or soils criterion was not met. Jurisdictional limits for these areas were measured according to the presence of a discernible ordinary high water mark (OHWM), which is defined in 33 CFR Section 329.11 as “that line on the shore established by the fluctuations of water and indicated by physical characteristics such as a clear, natural line impressed on the bank; shelving; changes in the character of the soil; destruction of terrestrial vegetation; the presence of litter or debris; or other appropriate means that consider the characteristics of the surrounding areas.” The USACE has issued further guidance on the OHWM (Riley 2005; USACE 2008b), which also was considered in this jurisdictional assessment.

### 2.6.2 Waters of the State

Potential RWQCB-jurisdictional waters of the State were delineated in the same manner as potential waters of the U.S. All waters of the U.S. were considered waters of the State subject to RWQCB jurisdiction pursuant to CWA Section 401. Where features were determined to be geographically isolated, they were considered isolated waters of the State subject to RWQCB jurisdiction pursuant to Porter-Cologne.

### 2.6.3 Streambed and Riparian Habitat

Potential CDFW-jurisdictional streambed and riparian habitat were determined based on the presence of riparian vegetation or regular surface flow within a measurable bed and bank. Streambeds within CDFW jurisdiction were delineated based on the definition of streambed as “a body of water that flows at least periodically or intermittently through a bed or channel having banks and supporting fish or other

aquatic life. This includes watercourses having a surface or subsurface flow that supports riparian vegetation” (Title 14, Section 1.72). Potential CDFW-jurisdictional unvegetated streambed encompasses the top-of-slope to top-of-slope width for the features within the project site. Vegetated streambed includes all riparian shrub or tree canopy extending within or beyond the banks of features within the project site.

## 2.7 SURVEY LIMITATIONS

Noted animal species were identified by direct observation, vocalizations, or the observance of scat, tracks, or other signs. However, the lists of species identified are not necessarily comprehensive accounts of all species that utilize the project site, as species that are nocturnal, secretive, or seasonally restricted may not have been observed. Those species that are of special status and have potential to occur in the project site, however, are still addressed in this report.

## 2.8 NOMENCLATURE

Nomenclature used in this report generally comes from Holland (1986) and Oberbauer (2008) for vegetation; Jepson eFlora (2019) and Baldwin et al. (2012) for plants; North American Butterfly Association (2019) for butterflies; Society for the Study of Amphibians and Reptiles (2019) for reptiles and amphibians; American Ornithological Society (2019) for birds; and Bradley et al. (2014) for mammals. Plant species status is from the CNPS Rare Plant Inventory (2019) and CDFW (2019). Animal species status is from the CDFW (2018b).

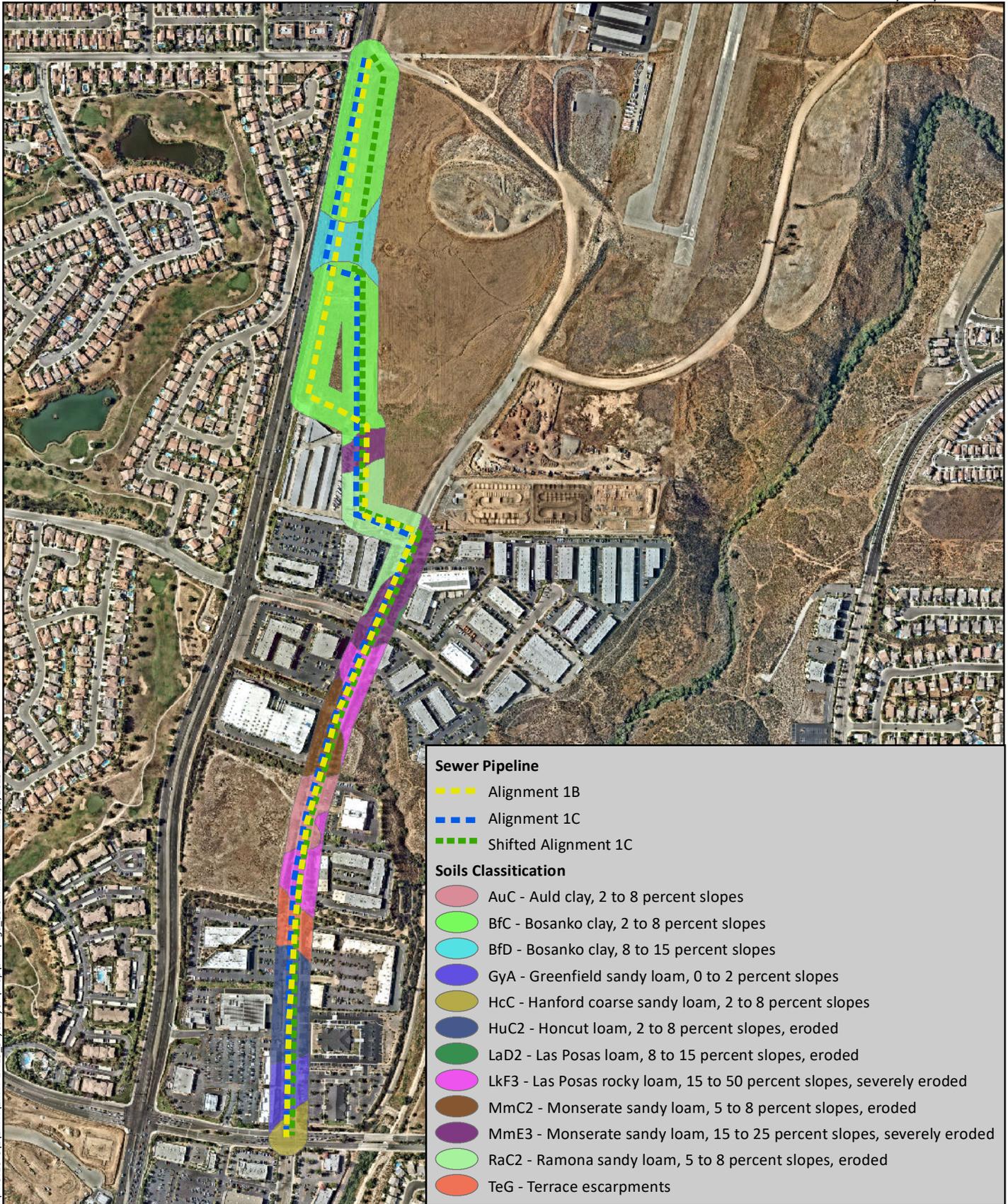
## 3.0 RESULTS

### 3.1 ENVIRONMENTAL SETTING

The project is located in the southwestern portion of Riverside County within French Valley of the Riverside Lowlands bioregion (Dudek 2003). The study area is characterized by remnant patches of Riversidian sage scrub, annual non-native herbaceous species, bare ground, and developed land. It has been subjected to past grading disturbances associated with development of the surrounding area. Surrounding land uses generally include residential and commercial development to the west and south; French Valley airport to the north; and undeveloped lands to the east. Western Riverside County RCA and Public Quasi-Public conserved lands also occur to the east.

The topography of the site is flat, gently sloping to the south, with elevations ranging from approximately 410 feet above mean sea level (AMSL) at the northern portion of the study area off Hunter Road to approximately 340 feet AMSL at the southern portion of the study area where Sky Canyon Drive meets Murrieta Hot Springs Road.

Eleven soil types have been mapped within the study area (Figure 5, *Soils*): Auld clay, 2 to 8 percent slopes; Bosanko clay, 2 to 8 percent slopes; Bosanko clay, 8 to 15 percent slopes; Greenfield sandy loam, 0 to 2 percent slopes; Hanford coarse sandy loam, 2 to 8 percent slopes; Honcut loam, 2 to 8 percent slopes, eroded; Las Posas rocky loam, 15 to 50 percent slopes, severely eroded; Monserate sandy loam, 5 to 8 percent slopes, eroded; Monserate sandy loam, 15 to 25 percent slopes, severely eroded; Ramona sandy loam, 5 to 8 percent slopes, eroded; and terrace escarpments. The soils are mostly disturbed due to previous grading and development within the study area.



**Sewer Pipeline**

- Alignment 1B
- Alignment 1C
- Shifted Alignment 1C

**Soils Classification**

- AuC - Auld clay, 2 to 8 percent slopes
- BfC - Bosanko clay, 2 to 8 percent slopes
- BfD - Bosanko clay, 8 to 15 percent slopes
- GyA - Greenfield sandy loam, 0 to 2 percent slopes
- HcC - Hanford coarse sandy loam, 2 to 8 percent slopes
- HuC2 - Honcut loam, 2 to 8 percent slopes, eroded
- LaD2 - Las Posas loam, 8 to 15 percent slopes, eroded
- LkF3 - Las Posas rocky loam, 15 to 50 percent slopes, severely eroded
- MmC2 - Monserate sandy loam, 5 to 8 percent slopes, eroded
- MmE3 - Monserate sandy loam, 15 to 25 percent slopes, severely eroded
- RaC2 - Ramona sandy loam, 5 to 8 percent slopes, eroded
- TeG - Terrace escarpments

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Source: Aerial (NearMap, 2019)

## 3.2 VEGETATION COMMUNITIES

Three vegetation communities or land uses were mapped within study area, including Riversidian sage scrub (including disturbed), disturbed habitat, and developed land (Figure 6, *Vegetation Communities and Sensitive Resources*; Table 2, *Existing Vegetation Communities/Land Use Types*). A brief description of each vegetation community is provided below.

**Table 2**  
**EXISTING VEGETATION COMMUNITIES/LAND USE TYPES**

Vegetation Community	Rarity Ranking <sup>1</sup>	Acres <sup>2</sup>
Riversidian sage scrub	S5	1.8
Riversidian sage scrub – disturbed	S5	0.1
Disturbed Habitat	--	15.3
Developed	--	20.9
<b>TOTAL</b>		<b>38.1</b>

<sup>1</sup> Rarity Ranking from CDFW’s Natural Communities List (2018c).

<sup>2</sup> Habitats are rounded to the nearest 0.1 acre; thus, total does not reflect rounding.

### 3.2.1 Riversidian Sage Scrub (including disturbed)

Riversidian 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 California sagebrush (*Artemisia californica*), California buckwheat (*Eriogonum fasciculatum* ssp. *fasciculatum*), and foxtail chess (*Bromus madritensis* ssp. *rubens*). Disturbed Riversidian sage scrub contains many of the same shrub species as undisturbed Riversidian sage scrub but is sparser and has a higher proportion of non-native, annual species.

Riversidian sage scrub within the study area is dominated by California buckwheat, wild oat (*Avena barbata*), and tocalote (*Centaurea melitensis*). A total of 1.9 acres of Riversidian sage scrub occurs within the study area.

### 3.2.2 Disturbed

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.

Within the study area, disturbed habitat consists of bare ground with scattered annual non-native species. These areas were previously cleared and graded during development of the surrounding area. The northern portion of the study area is still subject to regular disturbance, appearing to be regularly disced.

### 3.2.3 Developed

Developed land is where permanent structures and/or pavement have been placed, which prevents the growth of vegetation, or where landscaping is clearly tended and maintained. Developed land within the

study area consists of commercial buildings and public roadways including Winchester Road, Sky Canyon Drive, and Murrieta Hot Springs Road.

### **3.3 PLANTS**

A total of 66 plant species were observed within the study area during the general biological survey, of which 37 (56 percent) are non-native species (Appendix B, *Plant Species Observed*). The predominance of non-native species is indicative of the high degree of disturbance as a result of historical and current uses of the site.

### **3.4 ANIMALS**

A total of 41 animal species were identified within the study area during the general biological survey, including two invertebrates, one reptile, 33 bird species, and four mammal species (Appendix C, *Animal Species Observed or Detected*).

### **3.5 SENSITIVE BIOLOGICAL RESOURCES**

#### **3.5.1 Sensitive Vegetation Communities/Habitats**

Sensitive vegetation communities/habitat types are defined as land that supports unique vegetation communities or the habitats of rare or endangered species or subspecies of animals or plants as defined by Section 15380 of the State CEQA Guidelines.

CDFW evaluates the rarity of natural communities using the NatureServe's Heritage Methodology (Faber-Langendoen et. al 2012) in which communities are given a G (global) and S (State) rank based on their degree of imperilment (as measured by rarity, trends, and threats). Communities are assigned an overall rank of 1 through 5 with 1 being considered very rare and threatened and 5 being considered demonstrably secure. Communities with a Rarity Ranking of S1 (critically imperiled), S2 (imperiled), or S3 (vulnerable) are considered sensitive by the CDFW.

Vegetation types used by CDFW follow the National Vegetation Classification System (NVCS) using the Manual of California Vegetation (MCV), 2<sup>nd</sup> Edition (Sawyer et al. 2009). The MCV serves as the California extension of the NVCS. The MCV classifies vegetation based on floristic and structural details that are represented as alliances and associations. Vegetation mapped within the property followed Holland (1986). Direct translations between Holland and MCV do not exist for all vegetation types. Additionally, a single vegetation community under Holland may fit the definition of several different alliances or associations described within the MCV. Vegetation communities mapped within the study area were translated to the equivalent classification unit under MCV in order to determine sensitivity rankings. For communities that do not have direct translations within MCV, professional judgment was used to find the best corresponding association or alliance.

No sensitive vegetation communities occur within the study area. Riversidian sage scrub dominated by California buckwheat has a ranking of S5; therefore, it is not considered a sensitive vegetation community. Disturbed habitat and developed lands also do not meet the definition of sensitive habitat under CEQA. Impacts to these vegetation communities do not require mitigation.



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### 3.5.2 Special Status Plant Species

Special status plant species have been afforded special status and/or recognition by the USFWS and/or the CDFW and may also be included in the CNPS' Inventory of Rare and Endangered Plants. Their status is often based on one or more of three distributional attributes: geographic range, habitat specificity, and/or population size. A species that exhibits a small or restricted geographic range (such as those endemic to the region) is geographically rare. A species may be abundant but occur only in very specific habitats. Lastly, a species may be widespread but exist naturally in small populations.

#### Special Status Plant Species Observed

One special status plant species was observed on the project site, paniculate tarplant (*Deinandra paniculata*), as detailed below and shown on Figure 6.

##### **Paniculate tarplant (*Deinandra paniculata*)**

**Sensitivity Status:** --/--; CRPR 4.2

**Distribution:** Elevations below 3,100 feet in coastal southern California from San Luis Obispo to San Diego counties, and in the western portions of San Bernardino and Riverside counties.

**Habitat(s):** Occurs within open sage scrub, chaparral and woodlands along with grassland and disturbed areas. Often found on sandy soils.

**Status on site:** Observed in large patches within the northern portion of the study area to the north of Technology Drive and east of Winchester Road (Figure 6). Large patches of the species were recorded with a GPS unit, totaling 3.9 acres and 27,350 plants.

#### Special Status Plant Species with Potential to Occur

Additional special status plant species that were not observed but may have potential to occur within the study area are listed in Appendix C, *Special Status Plant Species Observed or with Potential to Occur*. In total, one (1) special status plant species were determined to have a high potential to occur on site: Palmer's grapplinghook (*Harpagonella palmeri*). However, the species was not detected during the 2019 rare plant surveys which were conducted during an optimal year for plants based on the above average rainfall year. No additional species have a high potential to occur based on geographic range, elevation range, and/or lack of suitable habitat in the study area.

### 3.5.3 Special Status Animal Species

Special status animal species include those that have been afforded special status and/or recognition by the USFWS and/or CDFW. In general, the principal reason an individual taxon (species or subspecies) is given such recognition is the documented or perceived decline or limitations of its population size or geographical extent and/or distribution, resulting in most cases from habitat loss.

#### Special Status Animal Species Observed or Otherwise Detected

Three special status animal species have been observed or detected on or directly adjacent to the study area, or observed flying over the project site, during biological surveys conducted for the project. Each species is listed below in alphabetical order by common name, described, and shown on Figure 6.

**California Horned Lark (*Eremophila alpestris actia*)****Status:** --/WL**Distribution:** Coastal ranges of California from San Joaquin Valley to northern Baja California.**Habitat(s):** Inhabits a wide variety of open habitats with low, sparse vegetation where trees and large shrubs are generally absent. Suitable habitats include grasslands along the coast, deserts within the inland regions, shrub habitat at higher elevations, and agricultural areas.**Presence on Site:** Multiple individuals were detected within the northern portion of the study area.**Coastal California Gnatcatcher (*Poliioptila californica californica*)****Status:** FT/SSC**Distribution:** Year-round resident of California occurring from Ventura County south to San Diego County, and east within the western portions of San Bernardino and Riverside counties.**Habitat(s):** Arid, open sage scrub habitats on gently sloping hillsides to relatively flat areas at elevations below 3,000 feet. The composition of sage scrub in which gnatcatchers are found varies; however, California sagebrush (*Artemisia californica*) is at least present as dominant or co-dominant species.**Presence on Site:** The species was not detected within the study area during protocol-level surveys conducted between 2018 and 2019, though a pair was detected to the east of Sky Canyon Drive outside of the study area in December 2018.**Cooper's hawk (*Accipiter cooperii*)****Status:** --/WL**Distribution:** In California, the species breeds from Siskiyou County south to San Diego County and east towards Owens Valley at elevations below 9,000 feet.**Habitat(s):** Forests, riparian areas, and more recently suburban and urban areas. Nests within dense woodlands and forests and isolated trees in open areas.**Presence on Site:** A single individual was observed flying to the west of the study area.**Special Status Animal Species with Potential to Occur**

Special status animal species present on site or with potential to occur on site are included in Appendix D, *Special Status Animal Species Observed or with Potential to Occur*. The species are grouped into invertebrates and vertebrates (amphibians, reptiles, birds, and mammals) and alphabetized by scientific name. An explanation of status codes is included as Appendix E, *Explanation of Status Codes for Plant and Animal Species*. One species have a high potential to occur, San Diego black-tailed jackrabbit (*Lepus californicus bennettii*). A single jackrabbit was observed to the northeast of the study area along Borel Road during biological surveys. However, the study area lacks suitable habitat for the species as it is highly disturbed and lacks sufficient vegetative cover to provide live-in habitat. The species could forage within the study area, but would not be anticipated to occupy the area. No other species have high potential to occur based on geographic range, elevation range, and/or lack of suitable habitat in the study area. Burrowing owl was not detected during the 2019 protocol-level surveys and is presumed to be absent from the study area. A total of 34 potential burrows were recorded within the study area but sign of burrowing owl presence or use was not observed at any of the burrows (Figure 7, *Potential Burrowing Owl Burrows*).

**3.5.4 Jurisdictional Waters and Wetlands**

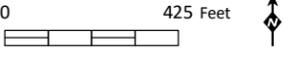
Potential waters of the U.S., waters of the State, and CDFW jurisdictional habitat are present within the study area. A single unnamed ephemeral drainage feature, in the form of an earthen ditch, is located in



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○ Study Area  
 ● Potential Burrows\*  
**Vegetation**  
 ■ Developed  
 ■ Disturbed Habitat  
 ■ Riversian Sage Scrub  
 ■ Riversian Sage Scrub-Disturbed

\*No Burrowing Owl were detected during the 2019 protocol-level survey effort



Source: Aerial (Nearmap 7/2019)

the northern portion of the study area, north of Technology Drive and east of Winchester Road (Figure 6). The ephemeral drainage ditch enters the project from the east, where it is conveyed under Sky Canyon Drive through a culvert, flowing in a southwesterly direction and terminating into an existing concrete culvert at the western boundary of the study area. Portions of the drainage ditch were partly obscured from previous discing activities.

Potential USACE- and RWQCB-jurisdictional resources within the study area totals 0.02 acre (277 linear feet) of non-wetland waters of the U.S./State. Potential CDFW-jurisdictional area within the study area totals 0.03 acre of unvegetated streambed.

### 3.5.5 Habitat and Wildlife Corridor Evaluation

Wildlife corridors connect otherwise isolated pieces of habitat and allow movement or dispersal of plants and animals. Corridors can be local or regional in scale and their functions may vary temporally and spatially based on conditions and species presence. Local wildlife corridors allow access to resources such as food, water, and shelter within the framework of their daily routine. Animals use these corridors, which are often hillsides or tributary drainages, to move between different 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 and 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 is not located within any linkages recognized by the South Coast Missing Linkages report (South Coast Wildlands 2008) or MSHCP, though it is partially within the MSHCP proposed extension of the existing Core 2 which serves to extend habitat associated with the Lake Mathews and Estelle Mountain regions. However, the study area does not function as a wildlife corridor or linkage, or a core resource area. It is bounded by residential and commercial development to the north, west, and south. Though undeveloped lands and conserved lands, mostly in association with Tualota Creek, occur to the east, they are also bounded by residential development. The northern portion of the study area is characterized by a highly disturbed, open area lacking sufficient shrub and tree cover to conceal and facilitate wildlife movements within the area. The southern portion of the study area consists of developed roadways and commercial development completely absent of native vegetation or other resources to support wildlife movement. The scattered patches of shrubs and herbaceous cover within the northern portion of the study area provides limited shelter and foraging habitat for wildlife. It also offers little value to wildlife in the area due to the periodic discing of the area.

Local wildlife corridors within the vicinity of the study area most likely occur further west along Tualota Creek and north of French Valley airport along Warm Springs Creek. Regional wildlife corridors likely occur within larger habitat blocks in the hills further east and northeast of the project in the hillsides surrounding Lake Skinner and Diamond Valley Lake.

## 4.0 REGIONAL AND REGULATORY CONTEXT

Biological resources in the project site are subject to regulatory review by federal, State, and local agencies. Under CEQA, impacts associated with a proposed project are assessed with regard to

significance criteria determined by the CEQA Lead Agency (in this case, the District) pursuant to CEQA Guidelines. Biological resources-related laws and regulations that apply to the project include the Federal Endangered Species Act (FESA), Migratory Bird Treaty Act (MBTA), CWA, CEQA, California Endangered Species Act (CESA), and California Fish and Game Code (CFG Code).

## **4.1 FEDERAL REGULATIONS**

### **4.1.1 Federal Endangered Species Act**

Administered by the USFWS, the Federal Endangered Species Act (FESA) provides the legal framework for the listing and protection of species (and their habitats) identified as being endangered or threatened with extinction. Actions that jeopardize endangered or threatened species and the habitats upon which they rely are considered a “take” under the FESA. Section 9(a) of the FESA defines take as “to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or attempt to engage in any such conduct.” “Harm” and “harass” are further defined in federal regulations and case law to include actions that adversely impair or disrupt a listed species’ behavioral patterns.

The USFWS designates critical habitat for endangered and threatened species. Critical habitat is a term defined and used in the FESA and refers to specific geographic areas that contain features considered necessary for endangered or threatened species to recover. Critical habitat designations can include areas that are not currently occupied by the species, as the ultimate goal is to restore healthy populations of listed species within their native habitats so they can be removed from the list of threatened or endangered species. Once an area is designated as critical habitat pursuant to the FESA, all federal agencies must consult with the USFWS to ensure that any action they authorize, fund, or carry out is not likely to result in destruction or adverse modification of the critical habitat. Only activities that involve a federal permit, license, or funding require consultation with the USFWS.

Sections 7 and 10(a) of the FESA regulate actions that could jeopardize endangered or threatened species. Section 7 describes a process of federal interagency consultation for use when federal actions may adversely affect listed species. In this case, take can be authorized via a letter of biological opinion issued by the USFWS for non-marine related listed species issues. A Section 7 consultation (formal or informal) is required when there is a nexus between endangered species’ use of a site and there is an associated federal action for a proposed impact (e.g., the USACE would initiate a Section 7 consultation with the USFWS for impacts proposed to USACE jurisdictional areas that may also affect listed species or their critical habitat). Section 10(a) allows issuance of permits for incidental take of endangered or threatened species with preparation of a Habitat Conservation Plan (HCP) when there is no federal nexus. The term “incidental” applies if the taking of a listed species is incidental to, and not the purpose of, an otherwise lawful activity. An HCP demonstrating how the taking would be minimized and how steps taken would ensure the species’ survival must be submitted for issuance of Section 10(a) permits. The Multiple Species Conservation Program (MSCP) is a regional HCP that was developed pursuant to Section 10(a) of the FESA.

### **4.1.2 Migratory Bird Treaty Act**

All migratory bird species that are native to the United States or its territories are protected under the federal MBTA, as amended under the Migratory Bird Treaty Reform Act of 2004 (FR Doc. 05-5127). The MBTA is generally protective of migratory birds but does not actually stipulate the type of protection required. In common practice, the MBTA is used to place restrictions on disturbance of active bird nests

during the nesting season (generally February 1 to August 31). In addition, the USFWS commonly places restrictions on disturbances allowed near active raptor nests.

### **4.1.3 Clean Water Act and Rivers and Harbors Act**

Federal wetland regulation (non-marine issues) is guided by the Rivers and Harbors Act of 1899 and the CWA. The Rivers and Harbors Act deals primarily with discharges into navigable waters, while the purpose of the CWA is to restore and maintain the chemical, physical, and biological integrity of all waters of the U.S. Permitting for projects filling waters of the U.S. is overseen by the USACE under Section 404 of the CWA. Most development projects are permitted using Individual Permit or Nationwide Permit instruments.

## **4.2 STATE REGULATIONS**

### **4.2.1 California Environmental Quality Act**

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

### **4.2.2 California Endangered Species Act**

The CESA established that it is state policy to conserve, protect, restore, and enhance state endangered species and their habitats. Under state law, plant and animal species may be formally designated rare, threatened, or endangered by official listing by the California Fish and Game Commission. The CESA authorizes that private entities may “take” plant or wildlife species listed as endangered or threatened under the FESA and CESA, pursuant to a federal Incidental Take Permit if the CDFW certifies that the incidental take is consistent with CESA (CFG Code Section 2080.1[a]). For state-only listed species, Section 2081 of CFG Code authorizes the CDFW to issue an Incidental Take Permit for state listed threatened and endangered species if specific criteria are met. The MSCP is a regional Natural Communities Conservation Plan that was granted take coverage under Section 2081 of the CESA.

### **4.2.3 Native Plant Protection Act**

Sections 1900–1913 of the CFG Code (Native Plant Protection Act; NPPA) direct the CDFW to carry out the state legislature’s intent to “...preserve, protect, and enhance endangered or rare native plants of this state.” The NPPA gives the California Fish and Game Commission the power to designate native plants as “endangered” or “rare” and protect endangered and rare plants from take.

### **4.2.4 California Fish and Game Code**

The CFG Code provides specific protection and listing for several types of biological resources. Section 1600 of CFG Code requires a Streambed Alteration Agreement (SAA) for any activity that would alter the flow, change, or use any material from the bed, channel, or bank of any perennial, intermittent, or ephemeral river, stream, and/or lake. Typical activities that require an SAA include excavation or fill placed within a channel, vegetation clearing, structures for diversion of water, installation of culverts

and bridge supports, cofferdams for construction dewatering, and bank reinforcement. Notification is required prior to any such activities.

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 this code or any regulation made pursuant thereto. Raptors 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. Section 3513 states that it is unlawful to take or possess any migratory non-game bird as designated in the MBTA. These regulations could require that construction activities (particularly vegetation removal or construction near nests) be reduced or eliminated during critical phases of the nesting cycle unless surveys by a qualified biologist demonstrate that nests, eggs, or nesting birds will not be disturbed, subject to approval by CDFW and/or USFWS.

## 4.3 LOCAL REGULATIONS

### 4.3.1 Southwest Area Plan

The proposed project site is located within the County of Riverside General Plan Southwest Area Plan (County 2019). The general plan includes policies for the conservation of biological resources. Those policies include the following:

- SWAP 21.1: Protect the Santa Margarita watershed and habitat, and provide recreational opportunities and flood protection through adherence to the applicable policies found within the Multiple Species Habitat Conservation Plans, Wetlands and Floodplain and Riparian Area Management sections of the General Plan Multipurpose Open Space Element, as well as use of Best Management Practice policies.
- SWAP 22.1: Protect viable oak woodlands through adherence to the Oak Tree Management Guidelines adopted by Riverside County.
- SWAP 23.1: Provide stepping-stone habitat linkages for the California gnatcatcher as well as other species through the preservation of land from the Santa Rosa Plateau to the Santa Margarita Reserve in San Diego County.
- SWAP 23.2: Conserve the Tenaja corridor, which promotes large mammal movement between the Cleveland National Forest and the Santa Rosa Plateau.
- SWAP 23.3: Maintain habitat connectivity within Murrieta Creek, Temecula Creek, Lower Tualota Creek, Lower Warm Springs Creek, and Pechanga Creek to facilitate wildlife movement and dispersal, (especially for the California gnatcatcher and Quino checkerspot butterfly) and conservation of wetland species.
- SWAP 23.4: Conserve habitat connections to the Agua Tibia Wilderness, Arroyo Seco, and Wilson Valley.
- SWAP 23.5: Conserve the large block of habitat containing clay soils east of Interstate 215 and south of Scott Road for the Quino checkerspot butterfly and other narrow endemic species such as Munz's onion, California Orcutt grass and spreading navarretia.

- SWAP 23.6: Incorporate a watershed management program into the preservation of wildlife movement and dispersal of wetland species within Pechanga Creek.
- SWAP 23.7: Consider the movement of larger mammals such as the mountain lion, bobcat, and mule deer between the Santa Ana and Mount Palomar Mountains.
- SWAP 23.8 Protect sensitive biological resources in SWAP through adherence to policies found in the Multiple Species Habitat Conservation Plans, Environmentally Sensitive Lands, Wetlands, and Floodplain and Riparian Area Management sections of the General Plan Multipurpose Open Space Element.

### 4.3.2 Multiples Species Habitat Conservation Plan Consistency

The MSHCP is a comprehensive multi-jurisdictional effort that includes multiple cities and unincorporated County lands in western Riverside County. Rather than addressing sensitive species on an individual basis, the MSHCP focuses on the conservation of 146 species, proposing a reserve system of approximately 500,000 acres and a mechanism to fund and implement the reserve system (Dudek 2003). Most importantly, the MSHCP allows participating entities to issue take permits for listed species so that individual applicants need not seek their own permits from the USFWS and/or CDFW. The MSHCP was adopted on June 17, 2003, by the Riverside County Board of Supervisors. The Incidental Take Permit was issued by both the USFWS and CDFW on June 22, 2004.

The District is not a signatory to the MSHCP, and as such is not subject to the requirements of the MSHCP. The District has the option to obtain a take authorization for activities by receiving coverage as a Participating Special Entity (PSE) and paying a fee in the amount of five percent of total capital costs of the project. However, since implementation of the proposed project does not require a take of any MSHCP covered species, the District will not be a PSE under MSHCP.

### 4.3.3 Stephens' Kangaroo Rat Habitat Conservation Plan

The Habitat Conservation Plan (HCP) for Stephens' kangaroo rat describes the conservation, mitigation, and monitoring measures that are implemented within core reserves. Within the HCP, there are seven core reserves totaling 41,221 acres for conservation of Stephens' kangaroo rat and associated habitat. The HCP provides a 30-year incidental take authorization for Stephens' kangaroo rat on lands within its boundaries, which includes 533,954 acres within County of Riverside and Cities of Corona, Hemet, Lake Elsinore, Moreno Valley, Murrieta, Perris, Riverside, and Temecula. Implementation of the HCP is governed by legal agreements executed among the Riverside County Habitat Conservation Agency (RCHCA), its member agencies, USFWS, CDFW, Bureau of Land Management, U.S. Department of Interior, and State of California Resources Agency.

The study area is within the Stephens' kangaroo rat HCP, but is not located within any of the core reserves. Development within the Stephens' kangaroo HCP requires payment of a Mitigation Fee. However, the proposed project is exempt from paying the fee in accordance with Section 10(f) of County Ordinance No. 663, which states that development projects such as the construction of public utility transmission facilities where ground surface disturbance is minimal or where substantially all of the disturbed ground surface can be restored to its original condition are not required to pay the Mitigation Fee. The proposed project includes the construction of a new sewer main (public utility) that is located within disturbed areas and public rights-of-way that would be returned to pre-project conditions

following completion of construction activities. Therefore, the project would not be required to pay the Stephens' kangaroo Mitigation Fee.

## 5.0 PROJECT EFFECTS

This section describes potential direct and indirect impacts associated with the proposed project. Direct impacts immediately alter the affected biological resources such that those resources are eliminated temporarily or permanently. Indirect impacts consist of secondary effects of a project, including noise, decreased water quality (e.g., through sedimentation, urban contaminants, or fuel release), fugitive dust, colonization of non-native plant species, animal behavioral changes, and night lighting. The magnitude of an indirect impact can be the same as a direct impact; however, the effect usually takes a longer time to become apparent.

### 5.1 CRITERIA FOR DETERMINING IMPACT SIGNIFICANCE

The significance of impacts to biological resources present or those with potential to occur was determined based upon the sensitivity of the resource and the extent of the anticipated impacts. For certain highly sensitive resources (e.g., a federally listed species), any impact would be significant. Conversely, other resources that are of low sensitivity (e.g., species with a large, locally stable population in the County but declining elsewhere) could sustain some impact with a less than significant effect.

According to Appendix G of the CEQA Guidelines, project impacts to biological resources would be considered significant if they would:

- (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 CDFW or USFWS.
- (b) Have a substantial adverse effect on any riparian habitat or sensitive natural community identified by local or regional plans, policies, regulations or by CDFW or USFWS.
- (c) Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the CWA (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 local policies or ordinances protecting biological resources, such a tree preservation policy or ordinance.
- (f) Conflict with provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan.

## 5.2 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 CDFW or USFWS?***

### 5.2.1 Impact Analysis

One special status plant species and three special status animal species were observed within or adjacent to the study area. The northern portion of the proposed project alignment contains remnant patches of Riversidian sage scrub and disturbed habitat that supports special status plant and animal species. The southern portion of the proposed project alignment is located within the existing road right-of-way along Sky Canyon Drive and does not support special status species. Potential project effects on special status plant and animal species are described below.

#### Special Status Plant Species

One special status plant species, paniculate tarplant, was observed within the northern portion of the proposed alignment, to the north of Technology Drive (Figure 6). Paniculate tarplant is a CRPR 4.2 species. Implementation of the proposed project would result in direct impacts to the species during project construction (Figures 8a through 8c; Table 3, *Paniculate Tarplant Impacts*). Alignment 1B would impact the most amount of area (1.86 acres) and number of individuals (approximately 12,432), while Alignment Shifted 1C would impact the least amount of area (0.74 acres) and individuals (approximately 7,510).

**Table 3  
PANICULATE TARPLANT IMPACTS**

Alignment	Impacts	
	Acreage	Individuals <sup>1</sup>
1B	1.86	12,432
1C	0.74	7,510
Shifted 1C	0.78	7,952

<sup>1</sup> Approximate number of individuals assuming an even distribution of plants within the mapped polygons of species occurrence.

Impacts on paniculate tarplant would be less than significant based on the species’ relatively low sensitivity and numerous recorded occurrences within the project vicinity, indicating that the species’ population is relatively stable in the region. As a CRPR 4.2 plant species, paniculate tarplant has been assigned to a watch list for plants of reported limited distribution and moderate degree and immediacy of threat by the CNPS. The impacted individuals are not part of a population at the periphery of the species’ range, located in an area where the taxon is especially uncommon, or occurring on unusual substrates. Furthermore, the species would be expected to repopulate the area following completion of construction activities as impacts would be temporary and the species shows an affinity to disturbed areas. Lastly, there are numerous documented occurrences of the species throughout the surrounding area indicating that the study area does not represent a geographically significant population. Therefore, impacts on this CRPR 4.2 plant species are less than significant and would not require mitigation.

## Special Status Animal Species

Three special status animal species were detected within or adjacent to the study area: California horned lark, coastal California gnatcatcher, and Cooper's hawk. Furthermore, the study area contains potential burrowing owl habitat, though the species was confirmed to be absent during the 2019 protocol-level survey effort. The potential effects of the project on these species are discussed below.

### *Burrowing Owl*

The northern portion of the study area supports suitable habitat for burrowing owl which is a USFWS Bird of Conservation Concern (BCC), CDFW Species of Special Concern (SSC), and species requiring additional survey, avoidance, and mitigation under the MSHCP for participating entities. Although potential burrows were recorded within the northern portion of the study area, no burrowing owl sign or burrowing owl were detected during the 2019 protocol-level surveys (Figure 7). Implementation of the proposed project would impact potential burrowing owl habitat consisting primarily of disturbed habitat which would not be significant given the absence of burrowing owl from the study area and the temporary nature of the impact. The project would not result in permanent loss of potential burrowing owl habitat, as the general conditions will be returned to pre-project conditions (i.e., disced uplands) upon completion of the project. If burrowing owl individuals were to move into the project impact areas in the future and prior to project construction, impacts to nesting owls would be significant.

### *California Horned Lark*

The California horned lark, a CDFW Watch List (WL) and MSHCP-covered species, was detected foraging within the northern portion of the study area during biological surveys (Figure 6). Potential impacts to California horned lark would consist of temporary loss of foraging habitat (disturbed habitat and Riversidean sage scrub) during project construction. Direct and/or indirect impacts to California horned larks nesting within the proposed project footprint during construction would be potentially significant.

### *Coastal California Gnatcatcher*

The coastal California gnatcatcher is a federally listed threatened species, CDFW SSC, and MSHCP-covered species. A gnatcatcher pair was observed foraging within Riversidean sage scrub outside of the study area approximately 50 feet east of Sky Canyon Drive on December 4, 2018 during protocol-level surveys for the species (Figure 6). A single female was observed in the same general area on December 18, 2018. No other gnatcatchers were detected during the protocol-level surveys and no gnatcatchers were detected within the boundaries of the study area itself. The gnatcatcher pair observed in December 2018 most likely occupies off-site habitat further east of Sky Canyon Drive where more-contiguous and higher-quality sage scrub is present along Tocalota Creek.

The northern portion of the study area consists of remnant patches of Riversidean sage scrub predominately composed of California buckwheat. These patches occur as thin strips of habitat along or adjacent to Winchester Road. Riversidean sage scrub in the study area is generally unsuitable for California gnatcatcher as it lacks one of the species' primary vegetation constituent elements, California sagebrush, as a dominant or codominant plant. In addition, the remnant patches in the northern portion of the study area are generally small and isolated from larger swaths of habitat that occur off site, further east. Therefore, the coastal California gnatcatcher is presumed to be absent from the study area and would not be impacted by the proposed project.





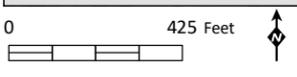
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Source: Aerial (Nearmap 7/2019)



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- Study Area
- Shifted Alignment 1C
- Sewer Manhole
- Jack-Bore
- Temporary Impact
- Avoided Area
- Jurisdictional Resources**
- Non-wetland Waters of the U.S./State; CDFW Streambed (widths in feet)
- Existing Culvert with Headwalls
- Vegetation**
- Developed
- Disturbed Habitat
- Riversidian Sage Scrub
- Riversidian Sage Scrub-Disturbed
- Special Status Species**
- California Horned Lark (*Eremophila alpestris actia*)
- Coastal California Gnatcatcher (*Poliptila californica californica*)
- Cooper's Hawk (*Accipiter cooperii*)
- San Diego Black-tailed Jackrabbit (*Lepus californicus bennettii*)
- Paniculate Tarplant (*Deinandra paniculata*)
- Paniculate Tarplant (*Deinandra paniculata*) Extent



Source: Aerial (Nearmap 7/2019)

Protocol surveys for coastal California gnatcatcher were initiated in the non-breeding season but extended into the gnatcatcher breeding season (February 15 through August 31). Gnatcatchers were only observed adjacent to the study area, east of Sky Canyon Drive, during the non-breeding season (December 2018) and were not detected during the later surveys that continued into the breeding season. Therefore, nesting gnatcatchers are presumed to be absent from potentially suitable sage scrub habitat adjacent to project impact areas. Furthermore, Sky Canyon Drive is a major arterial roadway with regular traffic that would be expected to produce noise levels above 60 decibels per hour. If gnatcatchers were to nest within the adjacent habitat, they would be habituated to current traffic and noise levels and would not be impacted by temporary construction activities. Therefore, the project would have no impact on the species.

### *Cooper's hawk*

Cooper's hawk is a CDFW WL and MSHCP-covered species. The species was observed flying overhead to the west of the study area during biological surveys (Figure 6). The proposed project would not remove potential nesting habitat for the species but could temporarily disturb potential foraging habitat located in the northern portion of the study area during project construction. These impacts would not be significant as they would be temporary and will not reduce the amount of suitable nesting habitat for the species.

## **Nesting Birds**

The study area contains shrubs and other vegetation that provide suitable nesting habitat for common birds, including raptors, protected under the MBT and CFG Code. Significant impacts could occur to nesting birds if suitable nesting habitat is removed during the general bird breeding season (January 15 to August 31).

### **5.2.2 Mitigation Measures**

Implementation of mitigation measure BIO-1, which proposes avoiding clearing of vegetation during the bird breeding season would reduce potential impacts to nesting birds, including special status species such as Cooper's hawk and California horned lark, below a level of significance. Potential impacts to burrowing owl that may move into the study area prior to project construction would be mitigated through implementation of the measure BIO-2.

**BIO-1 Nesting Bird and Raptor Avoidance:** Trimming, grubbing, and clearing of vegetation shall be avoided during the general avian breeding season (January 15 to July 15 for raptors; February 15 to August 31 for other avian species) to the extent feasible. If trimming, grubbing, or clearing of vegetation is proposed to occur during the general avian breeding season, a pre-construction survey shall be conducted by a qualified biologist no more than 7 days prior to vegetation clearing to determine if active bird nests are present in the affected areas. If there are no nesting birds (includes nest building or other breeding/nesting behavior) within this area, trimming, grubbing, and clearing of vegetation shall be allowed to proceed. If active bird nests are confirmed to be present during the pre-construction survey, a buffer zone will be established by the biologist. Construction activities shall avoid any active nests until a qualified biologist has verified that the young have fledged, or the nest has otherwise become inactive.

**BIO-2 Burrowing Owl Pre-Construction Survey:** Prior to construction, Eastern Municipal Water District shall retain a qualified biologist to conduct required pre-construction take avoidance surveys for

the burrowing owl in accordance with the protocol described in the CDFW Staff Report on Burrowing Owl Mitigation (CDFW 2012). The initial take avoidance survey shall occur no less than 14 days prior to initiating ground disturbing activities, with a final survey conducted within 24 hours prior to initiating ground disturbing activities. If, after the initial take avoidance survey, no suitable burrowing owl habitat including burrows is present, the second survey 24 hours prior to ground disturbance shall not be required.

The project shall avoid disturbing active burrowing owl burrows (nesting sites) and burrowing owl individuals. Buffers shall be established around occupied burrows in accordance with guidance provided in the CDFW Staff Report on Burrowing Owl Mitigation (CDFW 2012) based on the proposed level of disturbance. For low disturbance projects, initial setback distances for avoidance of active burrows shall be 200 meters from April 1 to October 15 and 50 meters from October 16 to March 31. Exceptions can be made to the avoidance distance for areas with natural (hills, trees) or artificial (buildings, walls) barriers in place. The final avoidance buffer shall be at the discretion of the biologist. If, after consideration of a reduced buffer, an adequate avoidance buffer cannot be provided between an occupied burrow and required ground-disturbing activities, then passive relocation activities during the non-breeding season (September 1 through January 31) may be authorized in consultation with CDFW, which would include preparation, approval, and implementation of a Burrowing Owl Exclusion Plan in accordance with protocol described in the CDFW Staff Report on Burrowing Owl Mitigation. No impacts shall occur to active burrowing owl nests or individuals.

### 5.2.3 Conclusions

Project implementation could result in significant impacts to nesting birds and raptors, including special status avian species (e.g., Cooper's hawk, California horned lark, and burrowing owl), with the potential to nest within or adjacent to the project area. Implementation of mitigation measures BIO-1 and BIO-2 would reduce impacts to less than significant.

## 5.3 RIPARIAN HABITAT AND SENSITIVE NATURAL COMMUNITIES

***Would the project have a substantial adverse effect on any riparian habitat or sensitive natural community identified by local or regional plans, policies, regulations or by CDFW or USFWS.***

### 5.3.1 Impact Analysis

The study area is predominately characterized by disturbed habitat and developed land and does not support sensitive vegetation communities. Each proposed alignment would result in impacts to Riverside sage scrub, disturbed habitat, and developed land, which are not considered sensitive natural communities (Figures 8a through 8c). Impacts to these vegetation communities are not considered significant and, therefore, do not require mitigation.

Project impacts for each proposed alignment area are depicted on Figures 8a through 8c and summarized below within Table 4, *Vegetation Community/Land Use Impacts*.

**Table 4**  
**VEGETATION COMMUNITY/LAND USE IMPACTS**

Vegetation Community	Rarity <sup>1</sup>	Impacts by Alignment (acres) <sup>2</sup>		
		1B	1C	Shifted 1C
Riversidian Sage Scrub (including disturbed)	S5	.1.1	1.1	0.6
Disturbed	--	5.4	4.4	5.4
Developed	--	8.6	9.5	8.7
<b>TOTAL</b>		<b>15.1</b>	<b>15.0</b>	<b>14.7</b>

<sup>1</sup> Rarity Ranking from CDFW’s Natural Communities List (2018c).

<sup>2</sup> Acreages rounded to the nearest 0.1 acre for uplands and 0.01 acre for wetlands; total reflects rounding.

### 5.3.2 Mitigation Measures

No mitigation required.

### 5.3.3 Conclusion

No sensitive natural communities occur within the study area. Therefore, the project would not result in impacts to sensitive natural communities.

## 5.4 JURISDICTIONAL WETLANDS AND WATERWAYS

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

### 5.4.1 Impact Analysis

A single, unnamed drainage feature occurs in the northern portion of the study area (Figure 6). The drainage qualifies as a non-wetland waters of the U.S./State subject to USACE and RWQCB jurisdiction and as streambed habitat subject to CDFW jurisdiction. The drainage lacks wetland-dependent vegetation. The project has been designed to avoid impacts to potential jurisdictional areas through use of the trenchless installation method, jack-and-bore, to install the new pipeline under the existing drainage feature. The launching and receiving pit locations will be off set within uplands located at least five feet on each side of the existing drainage (Figures 8a through 8c). Jack and bore technologies are different from horizontal directional drilling in that they do not involve the use of a directional drill auger or fluid that could inadvertently release during operation and cause a potential frac-out event. The proposed jack-and-bore activities would have no potential to cause an inadvertent drill fluid release or frac-out and no associated impacts are anticipated. Therefore, no direct impacts on the avoided drainage feature would occur.

Potential indirect impacts on the avoided drainage feature would be prevented during construction through successful implementation of standard Best Management Practices (BMPs) as part of the project’s Storm Water Pollution Prevention Plan (SWPPP). Implementation of a SWPPP and associated BMPs are a regulatory requirement for the proposed project. Specific BMPs may include but would not necessarily be limited to: maintaining the project work areas free of trash and debris; employing appropriate standard spill prevention practices and clean-up materials; installing and maintaining

sediment and erosion control measures; maintaining effective control of fugitive dust; and properly storing, handling, and disposing of toxins and pollutants, including waste materials. If temporary construction fencing and other BMPs aren't properly implemented during construction, then equipment and personnel could inadvertently encroach into environmentally sensitive areas that are planned to be avoided, which could result in a significant impact.

#### **5.4.2 Mitigation Measures**

Implementation of required BMPs in combination with measures BIO-3 and BIO-4, which requires installation of temporary construction fencing and biological monitoring, would ensure that construction activities are contained within the proposed work limits and that potentially significant direct and indirect impacts on jurisdictional resources are avoided.

**BIO-3** Prior to construction, to help ensure inadvertent impacts to jurisdictional areas outside of the approved impact footprint are avoided during construction, temporary construction fencing, including silt fencing, as appropriate and where determined necessary by the SWPPP, shall be installed at the edges of the approved impact limits for the project. A qualified biologist shall be retained to monitor the installation of the temporary construction fencing wherever it would abut environmentally sensitive areas. Construction activities shall be restricted to areas within the approved impact limits at all times during construction.

**BIO-4** A qualified biologist will conduct a pre-construction environmental training session for construction personnel to inform them of the sensitive biological resources on site and avoidance measures to remain in compliance with project approvals. The biologist will monitor initial vegetation clearing, grubbing, and grading activities to ensure that activities occur within the approved limits of work and avoid impacts to nesting birds. The biologist will periodically monitor the limits of construction where work activities occur outside public road rights-of-way to ensure that avoidance areas are delineated with temporary fencing and that fencing remains intact.

#### **5.4.3 Conclusion**

The proposed project would avoid direct impacts to jurisdictional resources present within the study area. Implementation of the measure BIO-3 would ensure that construction activities remain within the approved limits of work and avoid unauthorized direct and indirect impacts to jurisdictional resources.

### **5.5 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 wildlife corridors, or impede the use of native wildlife nursery sites?***

#### **5.5.1 Impact Analysis**

The study area is bordered by existing residential and commercial development, and as such, does not by itself function as and does not contribute to any wildlife corridors or linkages, or native wildlife nursery sites. The project would not impede the movement of any native, resident, or migratory fish or wildlife species; interfere with established native, resident, or migratory wildlife corridors, including

regional corridors or linkages identified in the MSHCP; and would not impede the use of native wildlife nursery sites. Therefore, no impact to wildlife movement and nursery sites would occur.

### **5.5.2 Mitigation Measures**

No mitigation is required.

### **5.5.3 Conclusion**

Project implementation would not result in significant impacts on wildlife movement and nursery sites. No impact would occur, and mitigation is not required.

## **5.6 LOCAL POLICIES AND ORDINANCES**

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

### **5.6.1 Impact Analysis**

The proposed project is located within the Southwest Area Plan of the County's General Plan. Implementation of the project does not conflict with policies or conservation measures for biological resources. The proposed project site does not support sensitive natural communities, oak woodlands, or riparian habitat. Impacts to the disturbed drainage ditch that flows through the northern portion of the study area would be avoided. Riverside sage scrub within the project footprint consists of small, scattered patches of habitat adjacent to roadways with heavy traffic, and was found to not support coastal California gnatcatcher. Impacts to Riverside sage scrub would be less than 1.1 acres and would not result in detrimental effects to gnatcatchers or dispersal of the species within the area. Gnatcatchers adjacent to the project were found to be utilizing habitat off site along Tocalota Creek which provides higher quality habitat for the species and serves as a dispersal corridor to Lake Skinner and larger blocks of habitat to the northeast. The project does not occur within a wildlife movement corridor and does not contain habitat or other resources to facilitate movement of wildlife within the region. The project would primarily occur within the existing disturbed areas and public road rights-of-way that would be returned to pre-project conditions. No significant impact would occur.

### **5.6.2 Mitigation Measures**

No mitigation required.

### **5.6.3 Conclusion**

The project would not conflict with local policies or ordinances protecting biology resources.

## **5.7 ADOPTED PLANS**

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

### 5.7.1 Impact Analysis

The project is located within the boundaries of the adopted Western Riverside MSHCP; however, the District is not a signatory to the MSHCP, and as such is not subject to the requirements of the MSHCP. Nevertheless, the project would not conflict with the conservation goals and objectives of the MSHCP for the local area. The site occurs within portions of Criteria Cell 6071, but is situated primarily within disturbed habitat and existing developed lands, with limited portions intersecting smaller remnant stands of Riversidean sage scrub. Conservation is generally targeted further to the northwest, northeast, and east amongst the more-rugged terrain and expansive hills connecting the Lake Mathews and Estelle Mountain areas to the southeast via Sedco Hills, Wildomar and into the Antelope Valley/French Valley area. However, as stated above, the project could result in potential significant impacts to special status species and nesting birds, including species covered under the MSHCP. Additional, protocol-level surveys for burrowing owl were completed in accordance with Section 6.3.2 of the MSHCP. The species was confirmed to be absent from the study area, although suitable owl habitat remains present. Compliance with existing regulations, including the MBTA and CFG Code, and implementation of measures BIO-1 and BIO-2 would ensure avoidance of burrowing owl impacts and project consistency with the MSHCP. Furthermore, avoidance of the existing drainage feature with the implementation of required BMPs and mitigation measure BIO-3 would ensure that unauthorized impacts to riverine resources do not occur and the project would be consistent with Section 6.1.2 of the MSHCP.

The project is also located within the Stephen's kangaroo rat HCP, but not within any of the core reserves (County 1996). Stephens' kangaroo rat biological surveys are not required under the HCP for activities occurring on lands outside of core reserves. The study area is disturbed and lacks sufficient shrub and herbaceous cover to support the species. Reported occurrences of the species within the project vicinity are from the 1980s and the species is believed extirpated from the area due to previous disturbances and development activities. More recent observations of the species occur four miles east of the project near Lake Skinner.

The project is exempt from the Stephen's kangaroo rat Mitigation Fee in accordance with Section 10(f) of County Ordinance No. 663. The proposed project would involve the construction of a public sewer main where ground disturbance is minimal, and the majority of the area would be restored to its original condition, excluding the proposed sewer manhole locations.

No other adopted HCP, Resource Management Plan, Special Area Management Plan, Watershed Plan, or other regional planning efforts are applicable to the project.

### 5.7.2 Mitigation Measures

Compliance with existing regulations and implementation of measures BIO-1 through BIO-3 would ensure project consistency with the MSHCP.

### 5.7.3 Conclusion

The project could result in potential significant impacts to sensitive biological resources addressed under the MSHCP, including covered species, burrowing owl, and riverine resources; however, compliance with the MBTA and CFG Code and implementation of measures BIO-1 through BIO-3 would reduce potential impacts to less than significant and achieve consistency with the MSHCP.

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# BTR Appendix A

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## Representative Site Photographs

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Photo 1. Northern portion of the study area to east of Winchester Road and south of Hunter Road. Facing south.



Photo 2. Riversidian sage scrub along Winchester Road. Facing south.

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Photo 3. Remnant patches of Riversidian sage scrub and disturbed habitat in the northern portion of the study area. Facing south.



Photo 4. Commercial development along Sky Canyon Drive. Facing south.

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Photo 5. Existing disturbed drainage in the northern portion of study area. Partially filled by mowing activities. Facing northeast (upstream).

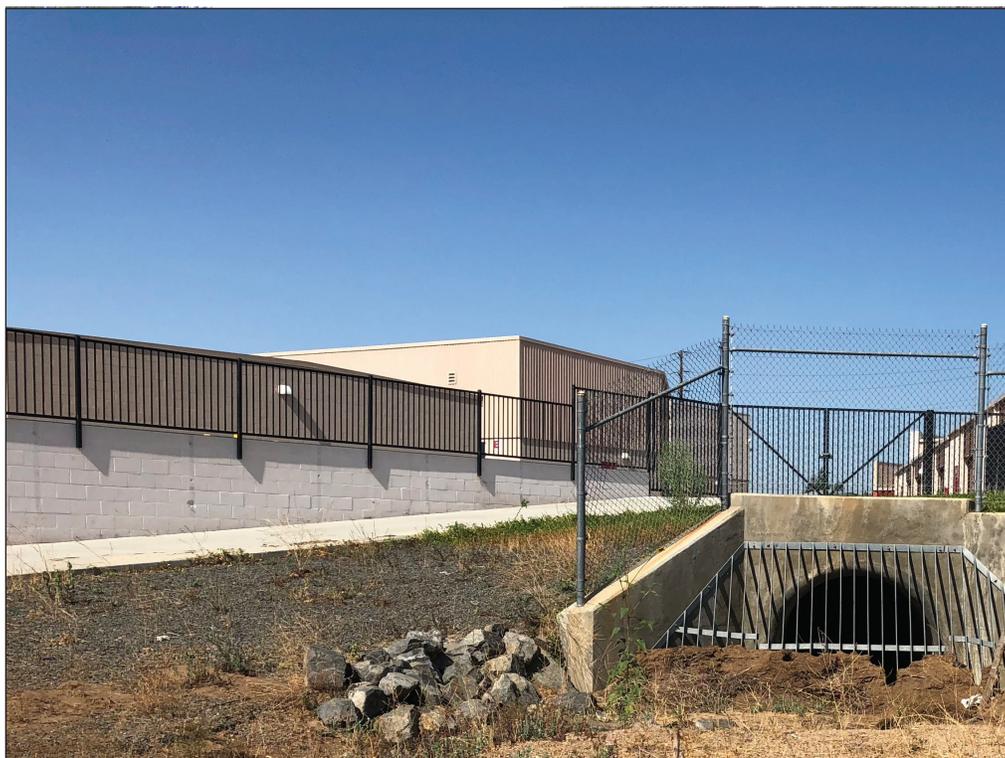


Photo 6. Culvert with headwall where drainage terminates. Facing southwest (downstream).

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Photo 7. Off-site upstream portion of disturbed drainage where it exits an existing culvert under Sky Canyon Drive and flows southwest towards the study area.



Photo 8. Patch of paniculate tarplant (*Deinandra paniculata*) within disturbed habitat in the northern portion of the study area. Facing north.

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# BTR Appendix B

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Plant Species Observed

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## Appendix B Plant Species Observed

Family	Scientific Name*†	Common Name
Aizoaceae	<i>Carpobrotus edulis</i> *	hottentot-fig
Apocynaceae	<i>Vinca major</i> *	greater periwinkle
Asteraceae	<i>Artemisia douglasiana</i>	Douglas' sagewort
	<i>Artemisia californica</i>	California sagebrush
	<i>Baccharis pilularis</i>	coyote brush
	<i>Centaurea melitensis</i> *	tocalote
	<i>Deinandra fasciculata</i>	fascicled tarplant
	<i>Deinandra paniculata</i> †	paniculate tarplant
	<i>Dimorphotheca sinuate</i> *	African daisy
	<i>Erigeron canadensis</i>	Canada horseweed
	<i>Eriophyllum lanosum</i>	white easter bonnets
	<i>Helianthus annuus</i>	western sunflower
	<i>Heterotheca grandiflora</i>	telegraph weed
	<i>Hypochaeris radicata</i> *	rough cat's ear
	<i>Isocoma menziesii</i>	goldenbush
	<i>Lactuca serriola</i> *	rickly lettuce
	<i>Oncosiphon piluliferum</i> *	stinknet
	<i>Pseudognaphalium biolettii</i>	bicolor cudweed
<i>Sonchus asper</i> *	prickly sow thistle	
	<i>Symphyotrichum subulatum</i>	slim aster
	<i>Uropappus lindleyi</i>	silver puffs
Boraginaceae	<i>Amsinckia intermedia</i>	rancher's fiddleneck
	<i>Heliotropium curassavicum</i>	salt heliotrope
	<i>Phacelia</i> sp.	phacelia
	<i>Plagiobothrys</i> sp.	popcorn flower
Brassicaceae	<i>Brassica nigra</i> *	black mustard
	<i>Capsella bursa-pastoris</i> *	shepherd's purse
	<i>Hirschfeldia incana</i> *	short-pod mustard
	<i>Raphanus sativus</i> *	wild radish
	<i>Sisymbrium irio</i> *	London rocket
Cactaceae	<i>Cylindropuntia californica</i>	California cholla
Chenopodiaceae	<i>Salsola tragus</i> *	Russian thistle
Convolvulaceae	<i>Cuscuta californica</i>	California dodder
Crassulaceae	<i>Crassula connata</i> *	pygmy-weed
Euphorbiaceae	<i>Croton setiger</i>	turkey-mullein
	<i>Ricinus communis</i> *	castor bean
Fabaceae	<i>Acacia redolens</i> *	bank catclaw
	<i>Acmispon glaber</i>	deerweed
	<i>Acmispon micranthus</i>	grab lotus
	<i>Astragalus</i> sp.	locoweed
	<i>Lupinus bicolor</i>	miniature lupine
	<i>Lupinus succulentus</i>	arroyo lupine

## Appendix B (cont.) Plant Species Observed

Family	Scientific Name*†	Common Name
Fabaceae	<i>Medicago polymorpha</i> *	burclover
	<i>Melilotus indicus</i> *	Indian sweet clover
	<i>Trifolium pretense</i> *	red clover
Geraniaceae	<i>Erodium cicutarium</i> *	redstem filaree
Malvaceae	<i>Malva parviflora</i> *	cheeseweed
Myrsinaceae	<i>Lysimachia arvensis</i> *	scarlet pimpernel
Myrtaceae	<i>Eucalyptus</i> sp.*	eucalyptus
Orobanchaceae	<i>Castilleja exserta</i>	purple owl's clover
Pinaceae	<i>Pinus</i> sp.*	Pine
Poaceae	<i>Avena barbata</i> *	slender oat
	<i>Bromus diandrus</i> *	common ripgut grass
	<i>Bromus hordeaceus</i> *	Soft chess
	<i>Bromus madritensis</i> *	foxtail chess
	<i>Cynodon dactylon</i> *	Bermuda grass
	<i>Elymus</i> sp.*	wheatgrass
	<i>Festuca myuros</i> *	fescue
	<i>Festuca perennis</i> *	Italian ryegrass
	<i>Polypogon monspeliensis</i> *	annual beard grass
	<i>Schismus barbatus</i> *	Mediterranean grass
	Polygonaceae	<i>Eriogonum fasciculatum</i>
<i>Rumex crispus</i> *		curly dock
Salicaceae	<i>Salix exigua</i>	narrow-leaved willow
Solanaceae	<i>Datura wrightii</i>	Jimsonweed
Tamaricaceae	<i>Tamarix ramosissima</i> *	saltcedar

\* Non-Native Species

† Special Status Species

# BTR Appendix C

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Animal Species Observed or  
Detected

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## Appendix C Animal Species Observed or Detected

Taxon		Scientific Name†	Common Name	
Order	Family			
<b>INVERTEBRATES</b>				
Coleoptera	Tenebrionidae	unidentified	darkling beetle	
Lepidoptera	Nymphalidae	<i>Vanessa cardui</i>	Painted Lady	
<b>VERTEBRATES</b>				
<b>Reptiles</b>				
Squamata	Phrynosomatidae	<i>Sceloporus occidentalis</i>	western fence lizard	
<b>Birds</b>				
Accipitriformes	Accipitridae	<i>Accipiter cooperii</i> †	Cooper's Hawk	
		<i>Buteo jamaicensis</i>	Red-tailed Hawk	
		<i>Buteo lineatus</i>	Red-shouldered Hawk	
	Cathartidae	<i>Cathartes aura</i>	Turkey Vulture	
Anseriformes	Anatidae	<i>Anas platyrhynchos</i>	Mallard	
		<i>Branta canadensis</i>	Canada Goose	
Apodiformes	Trochilidae	<i>Calypte anna</i>	Anna's Hummingbird	
		<i>Selasphorus</i> sp.	Allen's/Rufous Hummingbird	
Charadriiformes	Charadriidae	<i>Charadrius vociferus</i>	Killdeer	
Columbiformes	Columbidae	<i>Zenaida macroura</i>	Mourning Dove	
Falconiformes	Falconidae	<i>Falco sparverius</i>	American Kestrel	
Passeriformes	Aegithalidae	<i>Psaltriparus minimus</i>	Bushtit	
	Alaudidae	<i>Eremophila alpestris actia</i> †	California Horned Lark	
	Bombycillidae	<i>Bombycilla cedrorum</i>	Cedar Waxwing	
	Corvidae	<i>Corvus brachyrhynchos</i>	American Crow	
		<i>Corvus corax</i>	Common Raven	
	Fringillidae	<i>Haemorhous mexicanus</i>	House Finch	
		<i>Spinus psaltria</i>	Lesser Goldfinch	
		Hirundinidae	<i>Petrochelidon pyrrhonota</i>	Cliff Swallow
		Icteriidae	<i>Sturnella neglecta</i>	Western Meadowlark
		Mimidae	<i>Mimus polyglottos</i>	Northern Mockingbird
	Parulidae	<i>Setophaga coronata</i>	Yellow-rumped Warbler	
	Passerellidae	<i>Melospiza melodia</i>	Song Sparrow	
		<i>Melospiza crissalis</i>	California Towhee	
		<i>Passerculus sandwichensis</i>	Savannah Sparrow	
		<i>Zonotrichia leucophrys</i>	White-crowned Sparrow	
	Poliotilidae	<i>Poliotilta caerulea</i>	Blue-gray Gnatcatcher	
		<i>Poliotilta californica californica</i> †	Coastal California Gnatcatcher	
	Sturnidae	<i>Sturnus vulgaris</i>	European Starling	
	Troglodytidae	<i>Thryomanes bewickii</i>	Bewick's Wren	
	Tyrannidae	<i>Sayornis nigricans</i>	Black Phoebe	
Passeriformes		<i>Sayornis saya</i>	Say's Phoebe	
		<i>Tyrannus vociferans</i>	Cassin's Kingbird	
<b>Mammals</b>				
Carnivora	Canidae	<i>Canis latrans</i>	coyote	
Lagomorpha	Leporidae	<i>Sylvilagus audubonii</i>	desert cottontail	
Rodentia	Sciuridae	<i>Otospermophilus beecheyi</i>	California ground squirrel	

† Special Status Species

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## BTR Appendix D

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Special Status Plant Species  
Observed or with Potential to Occur

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## Appendix D

### Special Status Plant Species Observed or with Potential to Occur

Species	Status <sup>1</sup>	Habit, Ecology and Life History	Potential to Occur <sup>2</sup>
Chaparral sand-verbana ( <i>Abronia villosa</i> var. <i>aurita</i> )	--/-- CRPR 1B.1	Annual herb. Occurs in sandy places within coastal scrubs, chaparral, and desert dunes. Flowers: March to September. Elevation: 246 to 5,249 feet (75 to 1,600 meters).	<b>None.</b> Suitable sandy soils are absent from the study area and there are no recorded occurrences of the species within the project vicinity.
Munz's onion ( <i>Allium munzii</i> )	FE/ST CRPR 1B.1	Perennial bulbiferous herb. Occurs on mesic and clay soils within coastal scrubs, chaparral, cismontane woodland, pinyon and juniper woodlands, and grasslands. Flowering period: March to May. Elevation: 974 to 3,510 feet (297 to 1,070 meters).	<b>Low.</b> Clay soils are present within the study area; however, the closest reported location of the species is located over 1 mile east of the project site from the 1980's.
San Diego ambrosia ( <i>Ambrosia pumila</i> )	FE/-- CRPR 1B.1	Perennial herb. Occurs on sandy loam or clay, sometimes alkaline, soils. Found in native grassland, valley bottoms, dry drainages, stream floodplain terraces, and vernal pool margins. Also occurs on slopes, disturbed places, and in coastal sage scrub or chaparral. Flowering period: April to July. Elevation: 164 to 1,969 feet (50 to 600 meters).	<b>Low.</b> Suitable soils are mapped within the study area and the species has been reported over 1.5 miles east. However, the species is unlikely to occur in the study area based on the site's previous and on-going disturbances.
Douglas' fiddleneck ( <i>Amsinckia douglasiana</i> )	--/-- CRPR 4.2	Annual herb. Found on unstable shaly sedimentary slopes within cismontane woodland and grasslands. Flowering period: March to May. Elevation: below 6,397 feet (below 1,950 meters).	<b>None.</b> The study area lacks shaly slopes and suitable habitats. No reported occurrences of the species are present in the project vicinity.
Rainbow manzanita ( <i>Arctostaphylos rainbowensis</i> )	--/-- CRPR 1B.1	Perennial shrub. Occurs among granitic outcrops within chaparral. Flowering period: December to march. Elevation: 672 to 2,198 feet (205 to 670 meters).	<b>None.</b> Granitic outcrops and chaparral are absent from the study area. This conspicuous perennial shrub would most likely have been observed if present.
Orcutt's brodiaea ( <i>Brodiaea orcuttii</i> )	--/-- CRPR 1B.1	Perennial bulbiferous herb. Occurs on mesic or clay soils within vernal pools or grasslands near streams. Also found within chaparral, cismontane woodlands, coniferous forests, meadows, and seeps. Flowering period: May to July. Elevation: 98 to 5,550 feet (30 to 1,692 meters).	<b>Low.</b> Clay soils are present in the study area; however, there are no reported occurrences of the species within the project vicinity.
Plummer's mariposa lily ( <i>Calochortus plummerae</i> )	--/-- CRPR 4.2	Perennial bulbiferous herb. Found in granitic and rocky areas of chaparral, coastal sage scrub, cismontane woodland, lower montane coniferous forest, and grassland. Flowering period: May to July. Elevation: 328 to 5,577 feet (100 to 1,700 meters).	<b>None.</b> Suitable soils are absent from the study area and there are no reported occurrences in the project vicinity.

**Appendix D (cont.)**  
**Special Status Plant Species Observed or with Potential to Occur**

Species	Status <sup>1</sup>	Habit, Ecology and Life History	Potential to Occur <sup>2</sup>
Intermediate mariposa lily ( <i>Calochortus weedii</i> var. <i>intermedius</i> )	--/-- CRPR 1B.2	Perennial bulbiferous herb. Found on dry, rocky, and open slopes within chaparral, coastal sage scrub, and grasslands. Flowering period: May to July. Elevation: 344 to 2,805 feet (105 and 855 meters).	<b>Low.</b> Suitable dry, rocky slopes do not occur in the study area. The closest occurrence of the species is located over 1 mile east of the study area.
Payson's jewelflower ( <i>Caulanthus simulans</i> )	--/-- CRPR 4.2	Annual herb. Found in sandy and granitic soils within coastal scrubs, chaparral, and pinyon-juniper woodlands. Flowering period: March to June. Elevation: 295 to 7,217 feet (90 to 2,200 meters).	<b>Low.</b> The study area lacks suitable soils and contains limited sage scrub habitat. Furthermore, no records of the species occur within the project vicinity.
Smooth tarplant ( <i>Centromadia pungens</i> ssp. <i>laevis</i> )	--/-- CRPR 1B.1	Annual herb. Occurs on alkaline soils in chenopod scrub, meadows and seeps, playas, riparian woodland, and valley and foothill grassland. Blooms April to September. Elevation: below 2,100 feet (640 meters).	<b>Low.</b> Suitable alkaline soils are absent from the study area. No known occurrences of the species occur within the project vicinity.
Long-spined spineflower ( <i>Chorizanthe polygonoides</i> var. <i>longispina</i> )	--/-- CRPR 1B.2	Annual herb. Occurs in chaparral, coastal scrub, and native grassland, often in sandy soils. Flowering period: April to June. Elevation: 98 to 4,920 feet (30 to 1,500 meters).	<b>Low.</b> Sandy soils are absent from the study area and suitable habitat limited to remnant patches of sage scrub.
San Miguel savory ( <i>Clinopodium chandleri</i> )	--/-- CRPR 1B.2	Perennial shrub. Occurs within chaparral, cismontane woodland, coastal scrub, riparian woodland, and valley and foothill grassland on rocky, gabbroic, or metavolcanic soils. Blooms March to July. Elevation: 390 to 3,530 feet (120 to 1,075 meters).	<b>None.</b> Suitable soils are absent from the study area. This conspicuous perennial shrub would have most likely been observed during surveys if present.
Small-flowered morning-glory ( <i>Convolvulus simulans</i> )	--/-- CRPR 4.2	Annual herb. Occurs on clay soils and serpentinite seeps in openings within chaparral, coastal scrub, and native grassland. Flowering period: April to June. Elevation: 98 to 2,871 feet (30 to 875 meters).	<b>Low.</b> Suitable clay soils occur in the study area. However, there are no recent reports of the species in the project vicinity. The closest occurrence of the species is from the 1980s to the north of French Valley Airport.
Paniculate tarplant ( <i>Deinandra paniculata</i> )	--/-- CRPR 4.2	Annual herb. Occurs in vernal mesic areas, sometimes sandy soils, in coastal scrub, valley and foothill grassland, and vernal pools with sandy soil. Blooms March to December. Elevation: 80 to 3,100 feet (25 to 940 meters).	<b>Present.</b> Species occurs in the northern portion of the study, to the north of Technology Drive and east of Winchester Road, within disturbed Riversidian sage scrub and disturbed habitat.

**Appendix D (cont.)**  
**Special Status Plant Species Observed or with Potential to Occur**

Species	Status <sup>1</sup>	Habit, Ecology and Life History	Potential to Occur <sup>2</sup>
San Diego button celery ( <i>Eryngium aristulatum</i> var. <i>parishii</i> )	FE/SE CRPR 1B.1	Annual or perennial herb. Grows in vernal pools and other mesic areas, such as marshes. Flowering period: May to June. Elevation: below 2,313 feet (705 meters).	<b>None.</b> Vernal pools and other potentially suitable habitats are absent from the study area.
Palmer's grapplinghook ( <i>Harpagonella palmeri</i> )	--/-- CRPR 4.2	Annual herb. Found in clay soils in annual grasslands and coastal sage scrub. Blooms March to May. Elevation: 65 to 3,100 feet (20 to 955 meters).	<b>High.</b> Suitable clay soils occur within the study area and the species was observed along Sky Canyon Drive, north of Technology Drive, in the 1980s. The species was not observed during the 2019 rare plant survey; which was an optimal year for plants based on the above average rainfall.
Graceful tarplant ( <i>Holocarpha virgata</i> ssp. <i>elongata</i> )	--/-- CRPR 4.2	Annual herb. Occurs in grasslands, coastal scrub, chaparral, and cismontane woodland. Flowering period: May to November. Elevation: 195 to 3,600 feet (60 to 1,100 meters).	<b>Low.</b> Suitable habitat within the study area limited to remnant patches of coastal sage scrub. However, no records of the species occur in the project vicinity.
Vernal barley ( <i>Hordeum intercedens</i> )	--/-- CRPR 3.2	Annual herb. Occurs in vernal pools, alkaline flats, and dry, saline streambeds. Also found in saline flats and depressions within grasslands. Flowering period: March to June. Elevation: below 3,280 feet (1,000 meters).	<b>None.</b> No vernal pools or suitable alkaline and saline habitats occur within the study area, and there are no reported occurrences of the species are found in the project vicinity.
Mesa horkelia ( <i>Horkelia cuneata</i> var. <i>puberula</i> )	--/-- CRPR 1B.1	Perennial herb. Occurs in sandy or gravelly soils of maritime chaparral, coastal sage scrub, and woodlands. Elevation: 230 to 2,657 feet (70 and 810 meters). Blooms February to July.	<b>Low.</b> The study area lacks suitable soils and suitable habitat is limited to remnant patches of sage scrub occur in the northern portion of the study area. No reported occurrences of the site are found in the project vicinity.
Southwestern spiny rush ( <i>Juncus acutus</i> ssp. <i>leopoldii</i> )	--/-- CRPR 4.2	Perennial herb. Found in moist saline environments such as alkaline seeps and meadows, and coastal salt marshes and swamps. Flowering period: May to June. Elevation: below 984 feet (300 meters).	<b>Low.</b> Suitable saline and alkaline soils do not occur within the study area, and the species is not known to occur within the project vicinity.
Santa Lucia dwarf rush ( <i>Juncus luciensis</i> )	--/-- CRPR 1B.2	Annual herb. Found on wet, sandy soils of seeps, meadows, streams, and roadsides. Also found within vernal pools. Flower period: April to July. Elevation: 984 to 6,692 feet (300 to 2,040 meters).	<b>None.</b> No suitable habitats occur within the study area, and there are no reported occurrences of the species are found in the project vicinity.

**Appendix D (cont.)**  
**Special Status Plant Species Observed or with Potential to Occur**

Species	Status <sup>1</sup>	Habit, Ecology and Life History	Potential to Occur <sup>2</sup>
Coulter's goldfields ( <i>Lasthenia glabrata</i> ssp. <i>coulteri</i> )	--/-- CRPR 1B.1	Annual herb. Grows in vernal pools, playas, and saline habitats within alkali sinks, coastal salt marshes, and wetland communities. Flowering period: April to May. Elevation: below 3,281 feet (1,000 meters).	<b>None.</b> No vernal pools, or suitable saline and alkali habitats occur within the study area. Furthermore, no records of the species occur within the project vicinity.
Robinson's pepper-grass ( <i>Lepidium virginicum</i> var. <i>robinsonii</i> )	--/-- CRPR 4.3	Annual herb. Grows in openings in sage scrub and chaparral at the coastal and foothill elevations. Typically observed in relatively dry, exposed locales rather than beneath a shrub canopy. Also, found in disturbed areas Flowering period: March to June. Elevation: below 9,186 feet (2,800 meters).	<b>Low.</b> Suitable habitat limited to remnant patches of sage scrub in the northern portion of the study area. However, no reported occurrences of the species are located in the project vicinity. The closest occurrence is located over 5 miles northeast of the project near Lake Skinner.
Little mousetail ( <i>Myosurus minimus</i> ssp. <i>apus</i> )	--/-- CRPR 3.1	Annual herb. Occurs in alkaline vernal pools within native grassland. Flowering period: March to June. Elevation: 65 to 2,100 feet (20 to 640 meters).	<b>None.</b> Suitable vernal pool habitat does not occur within the study area.
Spreading navarretia ( <i>Navarretia fossalis</i> )	FT/-- CRPR 1B.1	Annual herb. Occurs in vernal pools, chenopod scrub, marshes, swamps, and playas. Flowering period: April to June. Elevation: 98 to 4,265 feet (30 to 1,300 meters).	<b>None.</b> Vernal pools and other potentially suitable habitat do not occur within the study area.
Prostrate vernal pool navarretia ( <i>Navarretia prostrata</i> )	--/-- CRPR 1B.1	Annual herb. Occurs in alkaline floodplains and vernal pools. Flowering period: April to July. Elevation: 9 to 3,970 feet (3 to 1,210 meters).	<b>None.</b> Vernal pools are not present within the study area.
California Orcutt grass ( <i>Orcuttia californica</i> )	FE/SE CRPR 1B.1	Annual herb. Found within vernal pools. Flowering period: April to August. Elevation: 49 to 2,165 feet (15 to 660 meters).	<b>None.</b> Vernal pools are not present within the study area.
Fish's milkwort ( <i>Polygala cornuta</i> var. <i>fishiae</i> )	--/-- CRPR 4.3	Annual shrub. Occurs within chaparral, riparian woodlands, and oak woodlands. Flowering period: May to August. Elevation: 328 to 3,280 feet (100 to 1,000 meters).	<b>None.</b> Suitable habitats do not occur in the study area.
White rabbit-tobacco ( <i>Pseudognaphalium leucocephalum</i> )	--/-- CRPR 2B.2	Perennial herb. Occurs on sandy or gravelly soils of benches, dry stream bottoms, and canyon bottoms within coastal scrub, chaparral, cismontane woodland, and riparian woodland. Flowering period: July to November. Elevation: below 6,890 feet (2,100 meters).	<b>Low.</b> Suitable soils are absent from the study area, and limited suitable sage scrub habitat occurs as remnant patches in the northern portion of the study area. No reported occurrences of the species are present in the project vicinity.

**Appendix D (cont.)  
Special Status Plant Species Observed or with Potential to Occur**

Species	Status <sup>1</sup>	Habit, Ecology and Life History	Potential to Occur <sup>2</sup>
Engelmann oak ( <i>Quercus engelmannii</i> )	--/-- CRPR 4.2	Perennial tree. Occurs on slopes and foothills within grasslands, chaparral, oak woodland, and riparian woodlands. Flowering period: March to June. Elevation: 160 to 4,300 feet (50 to 1,300 meters).	<b>Presumed Absent.</b> This conspicuous perennial tree would have been observed if present.
San Bernardino aster ( <i>Symphotrichum defoliatum</i> )	--/-- CRPR 1B.2	Perennial herb. Occurs near ditches, streams, and springs within grasslands, meadows, coastal scrubs, cismontane woodland, and lower montane coniferous forests. Also found in disturbed areas. Flowering period July to November. Elevation: 6 to 6,692 feet (2 to 2,040 meters).	<b>Low.</b> Limited suitable habitat occurs within the study area as remnant patches of sage scrub in the northern portion of the project. However, no reported occurrences of the species are present in the project vicinity.

<sup>1</sup> F = Federal; S = State of California; E = Endangered; T = Threatened; CE = Candidate Endangered; R = Rare

CRPR = 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.

County of San Diego Sensitivity Status: Plant species are divided into Groups A through D on the County Rare Plant List. **Groups A and B** Plants include those 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. **Groups C and D** Plants include those species 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.

MSCP Covered Species: Covered Species under County MSCP Subarea Plan; NE = Narrow Endemic Species under County MSCP Subarea Plan.

<sup>2</sup> Potential to Occur is assessed as follows. **None:** Species is either sessile (i.e. plants) or so limited to a particular habitat that it cannot disperse on its own, and habitat suitable for its establishment and survival does not occur in the project site; **Low:** Suitable habitat is present in the project site but no sign of the species was observed during surveys, however the species cannot be excluded with certainty; **High:** Suitable habitat occurs in the project site and the species has been recorded recently on or near the study area, but was not observed during project surveys; **Present:** The species was observed during biological surveys for the project and is assumed to occupy the project site; **Presumed Absent:** Species would be visible all year and would have been observed if present.

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## BTR Appendix E

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Special Status Animal Species  
Observed or with Potential to Occur

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## Appendix E Special Status Animal Species Observed or with Potential to Occur

Species	Status <sup>1</sup>	Habitat Associations	Potential to Occur <sup>2</sup>
<b>INVERTEBRATES</b>			
Quino checkerspot butterfly ( <i>Euphydryas editha quino</i> )	FE/--	Occurs in California from western Riverside County southwards to southern San Diego County. Inhabits open and sparsely vegetated areas that contain larval host plant species (principally dot-seed plantain [ <i>Plantago erecta</i> ], woolly plantain [ <i>Plantago patagonia</i> ] but also Coulter's snapdragon [ <i>Antirrhinum coulterianum</i> ], and rigid bird's beak [ <i>Cordylanthus rigidus</i> ]) and nectar sources. Often found on rounded hilltops, ridgelines, and occasionally rocky outcrops. Occurs within a wide range of open-canopied habitats including vernal pools, sage scrub, chaparral, grassland, and open oak and juniper woodland communities.	<b>Low.</b> The study area is predominantly characterized by disturbed habitat and developed land lacking suitable habitat for the species. Though previous observations of the species occur within the project vicinity, no host plants were observed within the study area.
Riverside fairy shrimp ( <i>Streptocephalus woottoni</i> )	FE/--	In California, occurs from Los Angeles County south to coastal San Diego County, and east to western Riverside County. Found in deep seasonal vernal pools, ephemeral ponds, stock ponds, and other human modified depressions at least 30 centimeters deep. Associated with grasslands, which may be interspersed through chaparral or coastal sage scrub vegetation.	<b>None.</b> No vernal pools or ephemeral ponds were documented within the study area.
<b>VERTEBRATES</b>			
<b>Amphibians</b>			
Western spadefoot toad ( <i>Spea hammondi</i> )	--/SSC	Occurs from northern California southward to San Diego County, and west of the Sierra Nevada at elevations below 4,500 feet. This terrestrial species requires temporary pools for breeding. Suitable upland habitats include coastal sage scrub, chaparral, and grasslands. Most common in grasslands with vernal pools or mixed grassland-coastal sage scrub areas. Breeds in temporary pools formed by heavy rains, but also found in riparian habitats with suitable water resources. Breeding pools must lack exotic predators such as fish, bullfrogs, and crayfish for the species to successfully reproduce. Estivates in burrows within upland habitats adjacent to potential breeding sites.	<b>None.</b> No vernal pools, ephemeral ponds, or other potentially suitable habitat occurs within the study area.

**Appendix E (cont.)  
Special Status Animal Species Observed or with Potential to Occur**

Species	Status <sup>1</sup>	Habitat Associations	Potential to Occur <sup>2</sup>
<b>Reptiles</b>			
Belding's orange-throated whiptail ( <i>Aspidoscelis hyperythra beldingi</i> )	--/WL	Found within the southwestern portion of California in southern San Bernardino, western Riverside, Orange, and San Diego Counties on the western slopes of the Peninsular ranges below 3,500 feet. Suitable habitat includes coastal sage scrub, chaparral, juniper woodland, oak woodland, and grasslands along with alluvial fan scrub and riparian areas. Occurrence of the species correlated with the presence perennial plants (such as California buckwheat, California sagebrush, black sage, or chaparral) to provide a food base for its major food source, termites.	<b>Low.</b> The study area is predominately characterized by disturbed habitat and developed land., though small, isolated patches of remnant Riversidean sage scrub occur within the study area.
<b>Birds</b>			
Cooper's Hawk ( <i>Accipiter cooperii</i> )	--/WL	In California, the species breeds from Siskiyou County south to San Diego County and east towards Owens Valley at elevations below 9,000 feet. Inhabits forests, riparian areas, and more recently suburban and urban areas. Nests within dense woodlands and forests and isolated trees in open areas.	<b>Present.</b> A single individual was observed flying to the west of the study area during biological surveys.
Southern California Rufous-crowned Sparrow ( <i>Aimophila ruficeps canescens</i> )	--/WL	Restricted to southwestern California occurring from Santa Barbara County southwards to San Diego County at elevations below 5,000 feet. Generally found on moderate to steep slopes vegetated with grassland, coastal sage scrub, and chaparral. Prefer areas with California sagebrush but are generally absent from areas with dense stands of coastal sage scrub or chaparral. May occur on steep grassy slopes without shrubs if rock outcrops are present.	<b>Low.</b> The study area is generally flat, lacking suitable sloped hillsides inhabited by the species. Though there are occurrences of the species within the project vicinity, Riversidean sage scrub within the study area consists of small, isolated patches bordered by disturbed habitat or developed land.
Bell's sparrow ( <i>Artemisiospiza belli</i> )	BCC/WL	Non-migratory resident on the coastal ranges of California and western slopes of the central Sierra Nevada mountains. Occurs year-round in southern California. Breeds in dry coastal sage scrub and chaparral, desert scrub, and similar other open, scrubby habitats. In foothill chaparral, they tend toward younger, less dense stands that are recovering from recent fires; less common in older, taller stands that have remained unburned.	<b>Low.</b> Small, isolated patches of remnant coastal sage scrub occur within the study area. However, there are no reported occurrences within the project vicinity.

**Appendix E (cont.)**  
**Special Status Animal Species Observed or with Potential to Occur**

Species	Status <sup>1</sup>	Habitat Associations	Potential to Occur <sup>2</sup>
<b>Birds (cont.)</b>			
Burrowing Owl ( <i>Athene cunicularia</i> )	BCC/SSC	Found from central California east to the Mojave Desert and south to coastal San Diego County. Primarily a grassland species that prefers areas with level to gentle topography and well-drained soils. Species can also occupy agricultural areas, vacant lots, and pastures. Requires underground burrows for nesting and roosting that are typically dug by other species such as California ground squirrel ( <i>Spermophilus beecheyi</i> ). Also utilizes natural rock cavities, debris piles, culverts, and pipes for nesting and roosting.	<b>Presumed Absent.</b> Protocol-level surveys for the species conducted in 2019 were negative. The closest reported occurrence of the species is located approximately 0.5-mile north of the study area where 2 adults were observed foraging in May 2003.
White-tailed Kite ( <i>Elanus leucurus</i> )	--/FP	Year-long resident of California residing along the coasts and valleys west of the Sierra Nevada foothills and southeast deserts, though the species has also been documented breeding in arid regions east of the Sierra Nevada and within Imperial County. Inhabits low elevation grasslands, wetlands, oak woodlands, open woodlands, and is associated with agricultural areas. Breeds in riparian areas adjacent to open spaces nesting in isolated or relatively large stands of trees.	<b>None.</b> The study area is characterized by upland habitats and lacks suitable woodlands or riparian habitat occupied by the species.
California Horned Lark ( <i>Eremophila alpestris actia</i> )	--/WL	One of 21 recognized subspecies occurring in the coastal ranges of California from San Joaquin Valley to northern Baja California. Inhabits a wide variety of open habitats with low, sparse vegetation where trees and large shrubs are generally absent. Suitable habitats include grasslands along the coast, deserts within the inland regions, shrub habitat at higher elevations, and agricultural areas.	<b>Present.</b> Multiple individuals were detected within the northern portion of the study area.
Coastal California Gnatcatcher ( <i>Polioptila californica californica</i> )	FT/SSC	Year-round resident of California occurring from Ventura County south to San Diego County, and east within the western portions of San Bernardino and Riverside Counties. Typically occurs in arid, open sage scrub habitats on gently sloping hillsides to relatively flat areas at elevations below 3,000 feet. The composition of sage scrub in which gnatcatchers are found varies; however, California sagebrush is at least present as dominant or co-dominant species. Mostly absent from areas dominated by black sage, white sage, or lemonadeberry, though may occur more regularly in inland regions dominated by black sage.	<b>Presumed Absent.</b> The species was not detected within the study area during protocol-level surveys conducted between 2018 and 2019, though a pair was detected to the east of Sky Canyon Drive outside of the study area in December 2018.

**Appendix E (cont.)**  
**Special Status Animal Species Observed or with Potential to Occur**

Species	Status <sup>1</sup>	Habitat Associations	Potential to Occur <sup>2</sup>
<b>Birds (cont.)</b>			
Least Bell's Vireo ( <i>Vireo bellii pusillus</i> )	FE/SE	In California, breeds along the coast and western edge of the Mojave Desert from Santa Barbara County south to San Diego County, and east to Inyo, San Bernardino, and Riverside Counties. Breeding habitat consists of early to mid-successional riparian habitat, often where flowing water is present, but also found in dry watercourses within the desert. A structurally diverse canopy and dense shrub cover is required for nesting and foraging. Dominant species within breeding habitat includes cottonwood and willows with mule fat, oaks, and sycamore, and mesquite ( <i>Prosopis glandulosa</i> ) and arrowweed ( <i>Pluchea sericea</i> ) within desert habitats. The species can be tolerant of the presence of non-native species such as tamarisk.	<b>None.</b> Suitable riparian habitat does not occur within the study area.
<b>Mammals</b>			
San Bernardino kangaroo rat ( <i>Dipodomys merriami parvus</i> )	FE/SSC	Occurs in southwestern San Bernardino and western Riverside Counties primarily within the San Bernardino, Menifee, and San Jacinto valleys. Inhabits alluvial fan sage scrub and coastal sage scrub habitats with gravelly and sandy soils. Occupies alluvial floodplains and adjacent upland habitats. Rarely found in dense vegetation or rocky washes.	<b>None</b> The study area is predominantly characterized by disturbed habitat and developed land. Though small, isolated patches of Riversidean sage scrub occur within the study area, no recent occurrences of the species are reported within the project vicinity.
Stephens' kangaroo rat ( <i>Dipodomys stephensi</i> )	FE/ST	Occurs in southern California within the San Jacinto Valley, western Riverside County, and southwestern San Bernardino County, and northwestern San Diego county at elevations between 4,100 feet. Inhabits native to open grasslands and sparse coastal sage scrub (less than 30 percent cover) on relatively flat or gently sloping ground. Dominant species include native and non-native herbaceous species such as filaree ( <i>Erodium</i> sp.), non-native grasses ( <i>Bromus</i> spp.), California sagebrush, and California buckwheat.	<b>Low.</b> Riversidean sage scrub within the study area consists of small, isolated patches surrounded by disturbed habitat or developed land. Reported occurrences of the species within the project vicinity are from the 1980's, recent observations are located further east of the project near Lake Skinner.
San Diego black-tailed jackrabbit ( <i>Lepus californicus bennettii</i> )	--/SSC	Occurs along the coastal regions of southern California south to northern Baja California. Found in arid regions preferring grasslands, agricultural fields, and sparse scrub. Typically absent from areas with high-grass or dense brush, such as closed-canopy chaparral, primarily occupying short-grass and open scrub habitats.	<b>High.</b> The species was observed northeast of the study area to the north of Borreal Road. However, the study area lacks suitable habitat for the species as it is highly disturbed and lacks sufficient vegetative cover to provide live in habitat. The species could forage within the study area but would not be anticipated to occupy the area.

**Appendix E (cont.)  
Special Status Animal Species Observed or with Potential to Occur**

Species	Status <sup>1</sup>	Habitat Associations	Potential to Occur <sup>2</sup>
<b>Mammals (cont.)</b>			
Los Angeles pocket mouse ( <i>Perognathus longimembris brevinasus</i> )	--/SSC	Occurs in the coastal basins of southern California from the San Fernando Valley of Los Angeles County, east to the City of San Bernardino in San Bernardino County, and south through San Jacinto and Temecula Valleys of Riverside County. Inhabits lower elevations grassland, alluvial sage scrub, and coastal sage scrub. Prefers sparsely vegetated habitats with fine, sandy soils.	<b>Low.</b> Riversidean sage scrub within the study area consists of small, isolated patches surrounded by disturbed habitat and developed land. There are no recent reported occurrences of the species in the project vicinity.

<sup>1</sup> F = Federal; S = State of California; E = Endangered; T = Threatened; CE = Candidate Endangered; R = Rare; BCC = Federal Bird of Conservation Concern; SSC = State Species of Special Concern; FP = State Fully Protected

<sup>2</sup> Potential to Occur is assessed as follows. **None:** Species is so limited to a particular habitat that it cannot disperse on its own, and habitat suitable for its establishment and survival does not occur in the project site; **Not Expected:** Species moves freely and might disperse through or across the project site, but suitable habitat for residence or breeding does not occur in the study area; **Low:** Suitable habitat is present in the project site but no sign of the species was observed during surveys, however the species cannot be excluded with certainty; **High:** Suitable habitat occurs in the study area and the species has been recorded recently on or near the study area, but was not observed during project surveys; **Present:** The species was observed during biological surveys for the project and is assumed to occupy the project site.

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# BTR Appendix F

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Explanation of Codes

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**Appendix F**  
**Explanation of Status Codes for Plant and Animal Species**

**FEDERAL, STATE, AND LOCAL CODES**

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**U.S. FISH AND WILDLIFE SERVICE (USFWS)**

FE      Federally listed endangered

FT      Federally listed threatened

FC      Federal candidate for listing

BCC    Birds of Conservation Concern (discussed in more detail, below)

BGEPA Bald and Golden Eagle Protection Act (discussed in more detail below)

**CALIFORNIA DEPARTMENT OF FISH AND WILDLIFE (CDFW)**

SE      State listed endangered

SR      State listed rare

ST      State listed threatened

SSC    State species of special concern

WL      Watch List

Fully Protected      Fully Protected species refer to all vertebrate and invertebrate taxa of concern to the Natural Diversity Data Base regardless of legal or protection status. These species may not be taken or possessed without a permit from the Fish and Game Commission and/or CDFW.

**Appendix F (cont.)**  
**Explanation of Status Codes for Plant and Animal Species**

## **OTHER CODES AND ABBREVIATIONS**

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### **USFWS BALD AND GOLDEN EAGLE PROTECTION ACT (BGEPA)**

In 1782, Continental Congress adopted the bald eagle as a national symbol. During the next one and a half centuries, the bald eagle was heavily hunted by sportsmen, taxidermists, fisherman, and farmers. To prevent the species from becoming extinct, Congress passed the Bald Eagle Protection Act in 1940. The Act was extremely comprehensive, prohibiting the take, possession, sale, purchase, barter, or offer to sell, purchase, or barter, export or import of the bald eagle “at any time or in any manner.”

In 1962, Congress amended the Eagle Act to cover golden eagles, a move that was partially an attempt to strengthen protection of bald eagles, since the latter were often killed by people mistaking them for golden eagles. The golden eagle, however, is accorded somewhat lighter protection under the Act than the bald eagle. Another 1962 amendment authorizes the Secretary of the Interior to grant permits to Native Americans for traditional religious use of eagles and eagle parts and feathers.

### **USFWS BIRDS OF CONSERVATION CONCERN (BCC)**

This report from 2002 aims to identify accurately the migratory and non-migratory bird species (beyond those already designated as federally threatened or endangered) that represent USFWS’ highest conservation priorities and draw attention to species in need of conservation action. USFWS hopes that by focusing attention on these highest priority species, the report will promote greater study and protection of the habitats and ecological communities upon which these species depend, thereby ensuring the future of healthy avian populations and communities. The report is available online at <http://migratorybirds.fws.gov/reports/bcc2002.pdf>.

**Appendix F (cont.)**  
**Explanation of Status Codes for Plant and Animal Species**

**CALIFORNIA NATIVE PLANT SOCIETY (CNPS) CALIFORNIA RARE PLANT RANKING (CRPR)**

**Lists**

- 1A = Presumed extinct.
- 1B = Rare, threatened, or endangered in California and elsewhere. Eligible for state listing.
- 2 = Rare, threatened, or endangered in California but more common elsewhere. Eligible for state listing.
- 3 = Distribution, endangerment, ecology, and/or taxonomic information needed. Some eligible for state listing.
- 4 = A watch list for species of limited distribution. Needs monitoring for changes in population status. Few (if any) eligible for state listing.

**List/Threat Code Extensions**

- .1 – Seriously endangered in California (over 80 percent of occurrences threatened/high degree and immediacy of threat)
- .2 – Fairly endangered in California (20 to 80 percent occurrences threatened)
- .3 – Not very endangered in California (less than 20 percent of occurrences threatened, or no current threats known)

A “CA Endemic” entry corresponds to those taxa that only occur in California.

All List 1A (presumed extinct in California) and some List 3 (need more information; a review list) plants lacking threat information receive no extension. Threat Code guidelines represent only a starting point in threat level assessment. Other factors, such as habitat vulnerability and specificity, distribution, and condition of occurrences, are considered in setting the Threat Code.

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# Appendix C

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Cultural Resources Survey Report

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# Sky Canyon Sewer Main Extension Project

## Cultural Resources Survey

August 2019 | EMW-17.21



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**Mary Robbins-Wade**  
Director of Cultural Resources

*Prepared for:*

**Eastern Municipal Water District**

P.O. Box 8300  
Perris, CA 92572-8300

*Prepared by:*

**HELIX Environmental Planning, Inc.**

7578 El Cajon Boulevard  
La Mesa, CA 91942

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# Sky Canyon Sewer Main Extension Project

## Cultural Resources Survey

*Prepared for:*

**Eastern Municipal Water District**

P.O. Box 8300  
Perris, CA 92572-8300

*Prepared by:*

**HELIX Environmental Planning, Inc.**

7578 El Cajon Boulevard  
La Mesa, CA 91942

August 2019 | EMW-17.21

## National Archaeological Database Information

Authors: Mary Robbins-Wade, M.A., RPA, and Julie Roy, B.A.

Firm: HELIX Environmental Planning, Inc.

Client/Project: Eastern Municipal Water District / Sky Canyon Sewer Main Extension Project

Report Date: August 2019

Report Title: Cultural Resources Survey for the Sky Canyon Sewer Main Extension Project, Riverside County, California

Submitted to: Eastern Municipal Water District, P.O. Box 8300  
Perris, CA 92572-8300

Type of Study: Cultural resources survey

New Sites: None

Previously recorded Sites: P-33-020561 (CA-RIV-10461), P-33-013871 (CA-RIV-11964)

USGS Quad: 7.5-minute Murrieta quadrangle

Acreage: Approximately 6,700 linear feet

Key Words: Riverside County, Murrieta, Murrieta Hot Springs; Eastern Municipal Water District; Luiseño; *Cherukanukna Hakiwuna*; negative archaeological survey, cultural resources study; no resources found; Township 7 South, Range 2 West and Range 3 West; APNs 908-180-004, 957-320-011, and 957-330-037.

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## ACRONYMS AND ABBREVIATIONS

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AB	Assembly Bill
AMSL	above mean sea level
APE	Area of Potential Effect
APN	Assessor's Parcel Number
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
District	Eastern Municipal Water District
EIC	Eastern Information Center
HELIX	HELIX Environmental Planning, Inc.
NAHC	Native American Heritage Commission
NHPA	National Historic Preservation Act
NRHP	National Register of Historic Places
OHP	Office of Historic Preservation
PRC	Public Resources Code
SLF	Sacred Lands File
TCP	Traditional Cultural Properties
TCR	Tribal Cultural Resources
USGS	U.S. Geological Survey

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## EXECUTIVE SUMMARY

HELIX Environmental Planning, Inc. (HELIX) was contracted by Eastern Municipal Water District (District) to provide cultural resources services for the Sky Canyon Sewer Main Extension Project (project) located in southwestern Riverside County, adjacent to the eastern boundary of the city of Murrieta. The project proposes approximately 6,700 linear feet of new gravity-fed 36-inch-diameter sewer main to provide additional sewer capacity for planned development. 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 of Potential Effect (APE). The project APE includes two alignment alternatives, only one of which would be developed. 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).

The records search conducted at the Eastern Information Center (EIC) on August 21, 2018 indicated that 54 previous cultural resources studies have been conducted within one mile of the project APE, 10 of which overlap with the APE. The records search results also indicated that a total of 36 cultural resources have been previously recorded within one mile of the project; of which two sites are recorded partially within the project APE. Both of the previously recorded resources are historic roads; neither of which retain the integrity to be considered a significant resource.

The field investigations included an intensive pedestrian survey of the APE by HELIX and a representative of the Pechanga Band of Luiseño Mission Indians on January 11, 2019. The survey did not result in the identification of any cultural material within the project APE. As such, no impacts to cultural resources are anticipated. Visibility of the survey area ranged from 60 to 80 percent. A good portion of the survey was along main roadways that have been graded and paved; the shoulders had good visibility. Within areas that had not been graded and paved, visibility was good, with sparse native vegetation. The project APE is in proximity to the Murrieta hot springs which was and still is an important area for the Luiseño people and was also historically important to the late nineteenth century and early twentieth century history of the town of Murrieta. In addition, the project vicinity has been noted as culturally sensitive to the Luiseño people.

Based on this, it is recommended that an archaeological and Native American monitoring program be implemented for ground-disturbing activities. 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 initial ground-disturbing activities within the APE. 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 archaeological Principal Investigator and tribal representatives would coordinate with District staff to develop and implement appropriate mitigation measures.

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# 1.0 INTRODUCTION

## 1.1 PROJECT LOCATION AND DESCRIPTION

The Sky Canyon Sewer Main Extension Project (project) is located in southwestern Riverside County, adjacent to the eastern boundary of the city boundary of Murrieta. The project site is east of Interstate (I-) 15 and I-215 and just east of State Route (SR) 79 (Winchester Road) (Figure 1, *Regional Location*). The project area runs from Hunter Road on the north to Murrieta Hot Springs Road on the south (Figures 2 and 3, *USGS Topography* and *Aerial Photograph*, respectively). The project area is mainly in Township 7 South, Section 13, with small sections in Township 7 South, Range 3 West, Section 24, and Township 7 South, Range 2 West, Section 18, on the U.S. Geological Survey (USGS) 7.5-minute Murrieta Quadrangle (Figure 2). The project Area of Potential Effect (APE) crosses or is adjacent to three parcels: Assessor's Parcel Numbers (APNs) 908-180-004, 957-320-011, and 957-330-037.

Eastern Municipal Water District (District) proposes to implement the Sky Canyon Sewer Main Extension Project (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.

The sewer main extension would start at Hunter Road, just east of Winchester Road, then run south through private easement(s), continue south on Sky Canyon Drive, and end at the intersection of Sky Canyon Drive and Murrieta Hot Springs Road. Although there are three alignment options being considered by the District (referenced in the engineering Preliminary Design Report as Alignment 1B, 1C, and Shifted 1C), one alignment has been selected as the preferred option: Alignment 1C (Figures 2 and 3).

The proposed sewer would be located at a maximum depth of 35 feet. Construction and installation of the sewer would utilize both an open cut trenching method and jack-and-bore method to avoid jurisdictional drainages.

## 1.2 REGULATORY FRAMEWORK

Cultural resources are defined as buildings, sites, structures, or objects, each of which may have historical, architectural, archaeological, cultural, and/or scientific importance. Significant resources are those resources that have been found eligible to the California Register of Historical Resources (CRHR) or the National Register of Historic Places (NRHP), as applicable.

### 1.2.1 National Historic Preservation Act

Federal regulations that would be applicable to the project if there is a federal nexus (e.g., permitting or funding from a federal agency) consist of the National Historic Preservation Act (NHPA) and its implementing regulations (16 United States Code 470 et seq., 36 CFR [Code of Federal Regulations] Part 800). Section 106 of the NHPA requires Federal agencies to take into account the effects of their undertakings on "historic properties", that is, properties (either historic or archaeological) that are eligible for the NRHP. To be eligible for the NRHP, a historic property must be significant at the local, state, or national level under one or more of the following four criteria:

- A. associated with events that have made a significant contribution to the broad patterns of our history;
- B. associated with the lives of persons significant in our past;
- C. embodies the distinctive characteristics of a type, period, or method of 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; and/or
- D. has yielded or may be likely to yield, information important in prehistory or history.

### **1.2.2 California Environmental Quality Act**

The California Environmental Quality Act (CEQA), Public Resources Code (PRC) 21084.1 and CEQA Guidelines, California Code of Regulations (CCR) Title 14 Section 15064.5 discuss significant cultural resources as “historical resources,” and define them as:

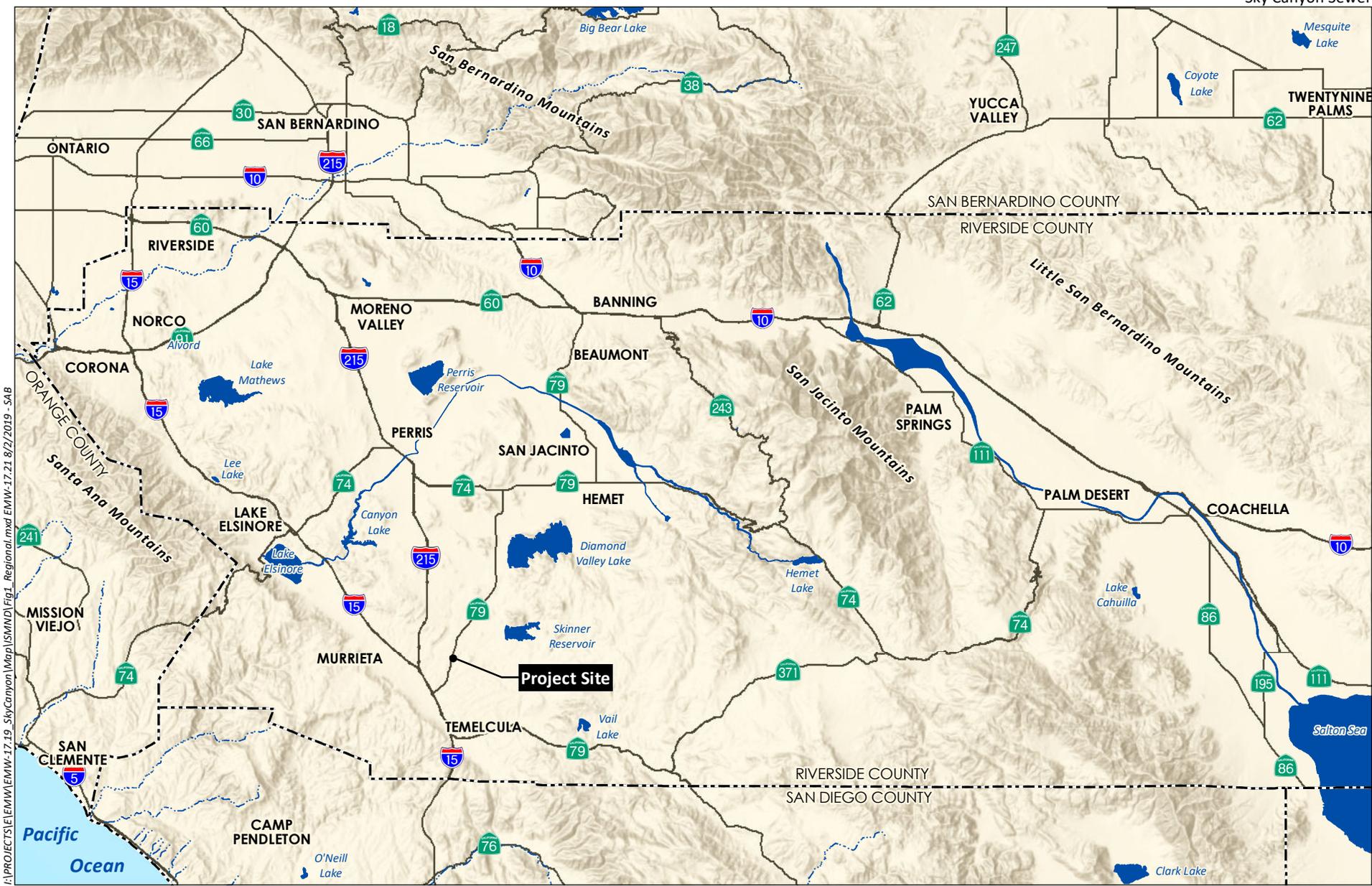
- resource(s) listed or determined eligible by the State Historical Resources Commission for listing in the CRHR (14 CCR Section 15064.5[a][1])
- resource(s) either listed in the National Register of Historic Places (NRHP) or in a “local register of historical resources” or identified as significant in a historical resource survey meeting the requirements of Section 5024.1(g) of the Public Resources Code, unless “the preponderance of evidence demonstrates that it is not historically or culturally significant” (14 CCR Section 15064.5[a][2])
- resources determined by the Lead Agency to meet the criteria for listing on the CRHR (14 CCR Section 15064.5[a][3])

For listing in the CRHR, a historical resource must be significant at the local, state, or national level under one or more of the following four criteria:

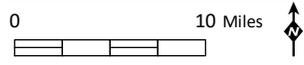
- A. It is associated with events that have made a significant contribution to the broad patterns of local or regional history, or the cultural heritage of California or the United States;
- B. It is associated with the lives of persons important to local, California, or national history;
- C. It embodies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

Under 14 CCR Section 15064.5(a)(4), a resource may also be considered a “historical resource” for the purposes of CEQA at the discretion of the lead agency.

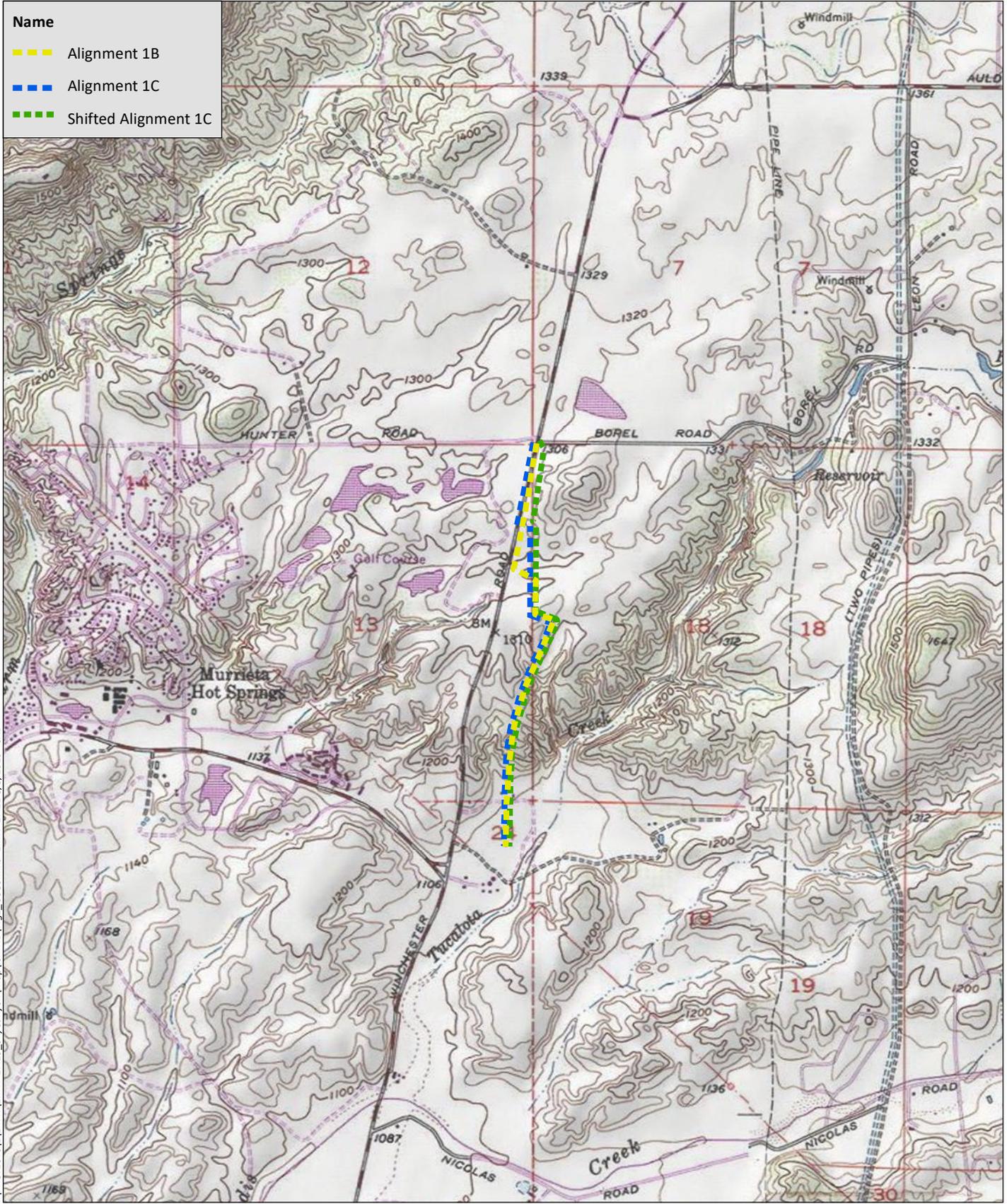
All resources that are eligible for listing in the NRHP or CRHR must have integrity, which is the authenticity of a historical resource’s physical identity evidenced by the survival of characteristics that existed during the resource’s period of significance. Resources, therefore, must retain enough of their



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Source: Base Map Layers (ESRI, 2013)



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Source: Aerial (Nearmap 7/2019)

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.

### 1.2.3 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 archaeological sites is the category termed Traditional Cultural Properties (TCP) in discussions of cultural resource management performed under federal auspices. According to Patricia L. Parker and Thomas F. King (1998), “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. 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.

In California, the Traditional Tribal Cultural Places Bill of 2004 requires local governments to consult with Native American Tribes 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. State Assembly Bill (AB) 52, effective July 1, 2015, introduced the Tribal Cultural Resource (TCR) as a class of cultural resource and additional considerations relating to Native American consultation into CEQA. 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. A TCR may be considered significant if included in a local or state register of historical resources; or determined by the lead agency to be significant pursuant to criteria set forth in PRC §5024.1; or is a geographically defined cultural landscape that meets one or more of these criteria; or is a historical resource described in PRC §21084.1, a unique archaeological resource described in PRC §21083.2; or is a non-unique archaeological resource if it conforms with the above criteria.

## 1.3 AREA OF POTENTIAL EFFECT

Pursuant to 36 CFR 800.4(a)(1), the project’s APE is the geographic area within which an undertaking may directly or indirectly alter the character or use of historic properties (i.e., significant cultural

resources). The APE for the Sky Canyon Sewer Main Extension Project includes the proposed alternative alignments: 1B, 1C, and Shifted 1C (Figures 2 and 3). Specific staging areas have not yet been identified; staging areas would be within developed locations along Winchester Road or within a parcel that will be acquired by the District for the project and is within areas surveyed for cultural resources as part of the current study.

## 1.4 PROJECT PERSONNEL

A cultural resources survey was conducted by HELIX Environmental Planning, Inc. (HELIX) in January 2019 to assess whether the project would have any effects on cultural resources. Mary Robbins-Wade, M.A., RPA, served as the principal investigator and primary report author. Archaeological field director Julie Roy, B.A., served as report co-author. HELIX archaeologist Mary Villalobos, B.A., conducted the field survey with Robert Cordova (Luiseño Native American monitor) from the Pechanga Band of Luiseño Mission Indians (Pechanga). Resumes for key project personnel are presented in Appendix A. This report addresses the methods and results of the cultural resources survey, which included a records search, Sacred Lands File search, Native American outreach, review of historic maps and aerial photographs, and an intensive pedestrian field survey.

## 2.0 PROJECT SETTING

### 2.1 NATURAL SETTING

The project area is located within the Peninsular Ranges geomorphic province of southern California, approximately two miles north of the Temecula Valley within southwestern Riverside County. The Santa Rosa Plateau and the Elsinore Mountains lie approximately 5 miles to the west of the project area, and French Valley and Auld Valley are situated to the north and northeast of the project area, respectively. The elevation of the project area ranges from approximately 1,120 to 1,320 feet above mean sea level (AMSL).

Geologically, the majority of the project APE is underlain by gabbro (Cretaceous), which is mainly hornblende gabbro, and typically brown-weathering, medium- to very coarse-grained (Kennedy and Morton 2003). Very old alluvial channel deposits (middle to early Pleistocene) occur in the central portion of the APE, with the sandstone member of the Pleistocene Pauba formation found near the south end of the APE and young alluvial channel deposits (Holocene and latest Pleistocene) in proximity to Tocalota Creek (Kennedy and Morton 2003). The gabbro provides outcrops suitable for bedrock milling, and areas of young alluvium hold the potential for deeply buried deposits.

Soil types mapped within the project APE include Auld clay, 2 to 8 percent slopes; Bosanko clay, 2 to 8 percent slopes; Bosanko clay, 8 to 15 percent slopes; Greenfield sandy loam, 0 to 2 percent slopes; Hanford coarse sandy loam, 2 to 8 percent slopes; Honcut loam, 2 to 8 percent slopes, eroded; Las Posas rocky loam, 15 to 50 percent slopes, severely eroded; Monserate sandy loam, 5 to 8 percent slopes, eroded; Monserate sandy loam, 15 to 25 percent slopes, severely eroded; Ramona sandy loam, 5 to 8 percent slopes, eroded; and Terrace escarpments (National Cooperative Soil Survey n.d.).

Due to the developed nature of the project APE, the only native vegetation community mapped as a result of biological surveys conducted by HELIX was Riversidean sage scrub. However, the soils in the project APE and immediate vicinity support annual grasses and forbs, coast live oak, and "chaparral-oak,

including chamise, sumac, ceanothus, California sagebrush, annual grasses, and, in mountainous areas, a few scattered oaks” (Bowman 1973). The native vegetation communities within the project vicinity would have included a number of plants used by the Luiseño people for food, medicine, shelter, and ritual uses (Hedges and Beresford 1986; Sparkman 1908; White 1963). The native vegetation communities also provide habitats for numerous small mammals, reptiles, birds, and deer, which were exploited by the aboriginal inhabitants of the area for food and other uses. Water would have been available to native populations from nearby Warm Springs Creek, Tucalota Creek, Santa Gertrudis Creek, and other tributary drainages.

## 2.2 CULTURAL SETTING

### 2.2.1 Prehistoric Period

Proposed dates for the earliest human occupation in California vary from around 20,000 years ago to 10,000 years ago. Several researchers have argued for the presence of Pleistocene humans in California (Carter 1957, 1978, 1980; Minshall 1976); however, these sites identified as “early man” are all controversial. The material from the sites is generally considered nonartifactual, and the investigative methodology is often questioned (Moratto 1984). The most widely recognized timeline for the prehistory of Southern California was proposed by Wallace (1955) and divides the region’s prehistory into four main periods, or “horizons”: Early, Millingstone (Archaic Period), Intermediate, and Late horizons.

The best example of Early Prehistoric Period archaeological evidence in Southern California is in the San Dieguito complex of San Diego County, dating to over 9,000 years ago (Warren 1967; Warren et al. 1998). The San Dieguito Tradition is thought by most researchers to have an emphasis on big game hunting and coastal resources (Warren 1967). The material culture of the San Dieguito complex consists primarily of scrapers, scraper planes, choppers, large blades, and large projectile points. In some areas of California, the Early Prehistoric Period is often referred to as the Paleo-Indian period and is associated with the last Ice Age occurring during the Terminal Pleistocene (pre-10,000 years ago) and the Early Holocene, beginning circa 10,000 years ago (Erlandson 1994, 1997).

The Millingstone Horizon, or Archaic Period, dates from 7,000-8,600 to 1,300-3,000 years ago and is generally consistent with the Oak Grove complex of Santa Barbara, the Topanga complex of Los Angeles and the La Jolla complex of San Diego (Warren et al. 1998). The Millingstone Horizon is also referred to as the Encinitas Tradition (Warren 1968). The Encinitas tradition is generally “recognized by millingstone assemblages in shell middens, often near sloughs and lagoons” (Moratto 1984:147). According to Wallace, “a changeover from hunting to the collection of seed foods is clearly reflected in the archaeological record for the period between 6000 and 3000 B.C. The importance of seeds in the diet of the prehistoric peoples can be seen in the numbers of food-grinding implements present at their settlements” (Wallace 1978:28). Basin metates, manos, discoidals, a small number of Pinto series and Elko series points, and flexed burials are also characteristic. Most of the archaeological evidence for Archaic Period occupation in southern California is derived from sites located in near-coastal valleys, and around estuaries that are present along the San Diego coast (Warren et al. 1998). In Riverside County, the Archaic Period occupation is represented by diagnostic artifacts and radiocarbon dates identified at sites situated within Perris and Domenigoni (Diamond) valleys (Bettinger 1974; Goldberg 2001; Robinson 2001). Archaeological excavations conducted for the Perris Reservoir Project in Perris Valley yielded radiocarbon dates of circa 2,200 before present BP (Bettinger 1974), and several sites identified during archaeological studies conducted for the Eastside Reservoir (Diamond Valley Lake) Project dated

to what the researchers termed the Middle Archaic (7,000 to 4,000 years ago) and Late Archaic (4,000 to 1,500 years ago) periods (Goldberg 2001).

Dates for the Intermediate Horizon vary by locale but can generally be dated to between 2,000 BC and AD 500 (Elsasser 1978). The Intermediate Horizon is consistent with the Hunting Culture of Santa Barbara County and is characterized by the presence of Pinto style points, named after the Pinto Basin in Riverside County, an increased use of the mortar and pestle, and the consumption of fleshier foods such as acorns as opposed to small, hard seeds (Stickel 1978). This change resulted in the adoption of a more sedentary lifestyle as seen in the presence of seasonal campsites (Van Horn 1980).

The Late Prehistoric period in southern California is characterized by the incursion of Uto-Aztecan - speaking people who occupied large portions of the Great Basin and an area stretching from southern Arizona and northwest and central Mexico into Nevada, Oregon, and Idaho (Miller 1986). The expansion of the Takic group into southern California is unrefined, but several scholars have hypothesized as to when and how the so-called “Uto-Aztecan wedge” occurred. Sutton (2009) argues that the Takic group expanded into southern California from the San Joaquin Valley about 3,500 years ago. Moratto (1984) also proposes that Takic expansion into the Southern Coast region correlates to the end of the Early Period (Late Archaic) ca. 3,200 to 3,500 years ago, while Golla (2007) suggests an expansion of Uto-Aztecan speakers into southern California at approximately 2,000 years ago. While the exact chronology of Takic-speaking groups’ immigration to southern California remains uncertain, the beginning of the Late Prehistoric Period is marked by evidence of a number of new tool technologies and subsistence shifts in the archaeological record and is characterized by higher population densities and intensification of social, political, and technological systems. The changes include the production of pottery and the use of the bow and arrow for hunting instead of atlatl and dart, a reduction of shellfish gathering in some areas, an increase in the storage of foodstuffs such as acorns, and new traits such as the cremation of the dead (Gallegos 2002; McDonald and Eighmey 2004).

Native American population figures in the region substantially increased toward the end of the Late Prehistoric Period. After AD 1600, a change occurred in settlement and subsistence patterns, and land use intensified in the region, which was reflected into the ethnohistoric period (Wilke 1974, 1978; Bean et al. 1991; Goldberg 2001).

The Late Prehistoric period is represented in western Riverside County and northern San Diego County by the San Luis Rey complex, which is the archaeological manifestation of the Takic-speaking predecessors of the ethnohistoric Luiseño people. The San Luis Rey complex (SLR) is divided into two phases: SLR I and SLR II. Elements of the SLR complex include small, triangular, pressure-flaked projectile points (generally Cottonwood series, but Desert side-notched series also occurs); milling implements: mortars and pestles, manos and metates, and bedrock milling features; bone awls; Olivella shell beads; other stone and shell ornaments; and cremations (Meighan 1954; Moratto 1984; True et al. 1974). The later SLR II complex also includes several elements not found in the SLR I complex: “pottery vessels, cremation urns, red and black pictographs, and such nonaboriginal items as metal knives and glass beads (Meighan 1954:223)” (Moratto 1984:154). True noted a greater number of quartz projectile points at SLR sites than at Cuyamaca complex sites, representing the forebears of the Kumeyaay people, which he interpreted as a cultural preference for quartz (True 1966). The general mortuary pattern at SLR sites is ungathered cremations.

SLR I was originally thought to date from AD 1400 to 1750, with SLR II dating between AD 1750 and 1850 (Meighan 1954). However, that division was based on the assumption that the Luiseño did not practice

pottery manufacture until just prior to the arrival of the Spanish. The chronology has since been revised due to evidence that pottery may have been introduced to the Luiseño circa AD 1200 to 1600. Ceramics were probably introduced from the Luiseños' southern neighbors, the Kumeyaay (True et al. 1974).

## 2.2.2 Ethnohistory

Based on ethnographic data, including the areas defined for the Takic-speaking peoples at the time of contact, it is now generally accepted that the SLR complex is associated with the Luiseño people. The term Luiseño is derived from the Mission San Luis Rey and since Spanish-Mexican colonial times has been used in reference to those Takic-speaking people associated with the mission. Although various researchers use slightly different ethnographic territory boundaries, the territory of the Luiseño people is generally described as extending along the coast from Agua Hedionda Creek on the southwest to Aliso Creek on the northwest. On the north, this boundary extended east beyond Santiago Peak to the eastern side of the Elsinore Fault Valley, continuing southeast to Palomar Mountain, then around the southern slope above the valley of San Jose. The southern boundary follows westerly to Agua Hedionda Creek (Bean and Shipek 1978; White 1963). Traditional stories and songs of the Native people also describe the extent of traditional use areas.

It must be noted that interpretations by archaeologists and linguistic anthropologists may differ from the traditional knowledge of the Luiseño people. The Luiseño creation story indicates that the Luiseño people have always been here, not migrating from elsewhere. The creation story of the Pechanga people tells that the world was created at Temecula. “The Káamalam [first people] moved to a place called Nachíivo Pomíisavo, but it was too small, so they moved to a place called ‘exva Teméeku,’ this place you now know as Temeku. Here they settled while everything was still in darkness (DuBois 1908)” (Masiel-Zamora 2013:2).

Ethnographic and ethnohistoric studies of the Luiseño include Bean and Shipek (1978), Boscana (1947 [1846]), Kroeber (1976 [1925]), Robinson (1947 [1846]), Shipek (1977), Sparkman (1908), Talley (1982), and White (1963).

## 2.2.3 Historical Background

### 2.2.3.1 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. The Spanish missions did not have as direct an effect on

the Indian people living in inland locations as they did on those 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. The Temecula Valley was part of the lands controlled by Mission San Luis Rey and used for grazing.

In the 1810s, the establishment of ranchos and mission outposts, called *asistencias*, increased the amount of Spanish contact in the region. An *asistencia* was established in Pala in 1818 and in San Bernardino in 1819. 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.

### **2.2.3.2 Mexican Period**

Although Mexico gained its independence from Spain in 1821, Spanish patterns of culture and influence remained for a time. The missions continued to operate as they had in the past, and laws governing the distribution of land were also retained in the 1820s. Following secularization of the missions in 1834, large ranchos were granted to prominent and well-connected individuals, ushering in the Rancho Era, with the society making 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 the numerous new ranchos in private hands, cattle ranching expanded and prevailed over agricultural activities.

In order to obtain a rancho, an applicant submitted a petition containing personal information and a land description and map (*diseño*). In 1844, Governor Manuel Micheltona granted the Rancho Temecula to Feliz Valdez, a Mexican army officer. The rancho covered 26,609 acres and encompassed the present-day Temecula, Murrieta, and Murrieta Hot Springs. Valdez sold the rancho to Frenchman Jean-Louis Vignes in 1846.

### **2.2.3.3 American Period**

American governance began in 1848, when Mexico signed the Treaty of Guadalupe Hidalgo, ceding California to the United States at the conclusion of the Mexican–American War. A great influx of settlers to California and the San Diego 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, 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.

While the American system required that the newly acquired land be surveyed prior to settlement, the Treaty of Guadalupe Hidalgo bound the United States to honor the land claims of Mexican citizens who were granted ownership of ranchos by the Mexican government. The Land Act of 1851 established a board of commissioners to review land grant claims, and land patents for the land grants were issued throughout the following years. Rancho Temecula was patented to Vignes in 1860.

Southern California was developed by Americans and other immigrants who migrated to the western frontier in pursuit of gold and other mining, agriculture, trade, and land speculation (Lech 2004). 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. Orange County divided from Los Angeles County in 1889, and Riverside County was established in 1893.

#### **2.2.3.4 Murrieta**

Spanish explorers first traveled through the Temecula Valley during the late eighteenth century. The valley became a major grain producer for Mission San Luis Rey. The Temecula Valley was granted to the Mission San Luis Rey in 1834, under the name Rancho Temecula. When the mission was surrendered to the Mexican government a year later, it was sold, along with Rancho Temecula, to Pio Pico and Pablo de Portilla; “the sale was later declared illegal” (Salpas 1983:13). In 1844, Rancho Temecula was granted to Feliz Valdez. Rancho Temecula was one of four land grants within the Temecula Valley. The others were Rancho Pauba, located directly to the east of Rancho Temecula, Rancho Santa Rosa to the west, and the Little Temecula land grant, located directly to the south of the Rancho Temecula.

During the early 1800s, Alamos (later Old Town Murrieta) was a stop on the Sonoran Trail. Los Alamos Road linked Alamos and the Los Alamos Valley (now Auld Valley) (City of Murrieta 1992). Both Rancho Temecula and Rancho Pauba were later owned by Jean Louis Vignes, a French vintner who is credited as the father of the wine industry in California (Salpas 1983).

It is assumed he bought this land with grape growing in view. However, his plans did not come to fruition and soon after he acquired ownership of the Ranchos, he sold them to Jacob R. Snyder. From Snyder, the Ranchos were sold to Francisco Zanjurjo, Domingo Pujol, Jose Gonzalez, and Juan Murrieta (although Murrieta's name does not show on County records) [Salpas 1983:14].

By 1861, Alamos became known as Willow Springs and was an established stage stop of the Butterfield Overland Stage. Native Americans of the area were forcibly relocated onto land south of the Temecula River in 1875, and the Pechanga Reservation was established about 10 years later (Keller 1995). In 1882, the California Southern Railroad reached the valley. The Murrieta brothers deeded a right-of-way to the California Southern Railway, and two years later sold 14,000 acres of Rancho Temecula for the development of the town later named for them. The town of Murrieta consisted of 160 acres divided into 537 lots laid out roughly along the railroad. By 1885, the town had a hotel, depot, blacksmith shop, two general stores, hardware and furniture stores, a restaurant, a meat market, and a newspaper called the Era. A year later the town boasted 130 families, with more coming due to the California Southern Railway using Murrieta as an “eating station.” This new status would make the Murrieta station a railroad hub for the northern part of then-San Diego County. In 1893, with the formation of Riverside County, Murrieta was one of 12 original judicial townships. Los Alamos Road became an important market road between Murrieta and the grain fields of Los Alamos (City of Murrieta 1992). Growth of the area did not last, however. Due to frequent washouts, the railroad line through Temecula Valley was ultimately abandoned. After the failure of the rail service, and exacerbated by water access issues, the land boom collapsed, and the area reverted to small scale farming (Keller 1995:23).

Three miles east of the original Murrieta town site (and east of today’s I-215), there were mineral-rich springs initially called the Temecula Hot Springs, as Temecula was the only named location nearby.

These springs had been known to the local Native Americans for centuries as *Cherukanukna Hakiwuna* and were believed to have healing powers. Dr. Henry Worthington and Alonzo Horton brought many people to the springs, making the area popular with visitors. When the town of Murrieta was established, its promoters seized upon its popularity and renamed the hot springs Murrieta Hot Springs. In 1887, a hotel and bathhouse were built at the springs. In 1902, Fritz Guenther purchased the area, transforming it into a world-class resort and health spa. The hotel at Murrieta Hot Springs was established in 1908, and the family owned and operated the resort for over 70 years (Boyce 1995). During the latter half of the twentieth century, the population of the Temecula/Murrieta area grew exponentially, as did residential and commercial development (Brigandi 2010). Nevertheless, the area is still “predominantly rural with dry farming as the principal industry until recently” (City of Murrieta 1992:3.15-3).

## **3.0 ARCHIVAL RESEARCH AND CONTACT PROGRAM**

### **3.1 RECORDS SEARCH**

HELIX staff conducted a record search of the California Historical Resources Information System (CHRIS) at the Eastern Information Center (EIC) on August 21, 2018. The records search covered a one-mile radius around the APE and included archaeological and historical resources, locations and citations for previous cultural resources studies, and a review of the State Office of Historic Preservation (OHP) historic properties directory. The records search summary and map are included as Appendix B (Confidential Appendices, bound separately).

#### **3.1.1 Previous Studies**

The records search results identified 54 previous cultural resource studies within the record search limits, 10 of which were adjacent to or included portions of the project APE (Table 1, *Previous Studies within One Mile of APE*). Twenty-six studies were noted as including “field study”, some of which included other descriptors, such as literature search or monitoring; although at least two reports that were not listed as “field study” were noted as including testing and/or monitoring. In all, the reports on file at EIC included literature search, surveys, testing, monitoring, “assessments,” and at least two reports that included both archaeology and paleontology. One report that appears in the records search is actually within Palm Springs, not within the search radius (RI-00183).

**Table 1**  
**PREVIOUS STUDIES WITHIN ONE MILE OF APE**

<b>Report No. (RI-00000)</b>	<b>Report Title</b>	<b>Author, Date</b>	<b>Report Type</b>
00036	Murrieta Hot Springs Development: Potential Impact on Archaeological Resources	Bettinger, 1972	Archaeological, Field study
00037	A Cultural Resources Assessment Murrieta Hot Springs Specific Plan, Near Murrieta Hot Springs, CA	Drover, 1988	Archaeological, Field study
00038	Archaeological Survey of a 43.5 Acre Property: Tract No. 24159-2,3, &F (Final) Near Winchester and Hunter Roads, Murrieta Hot Springs, CA	Koerper, 1997	Archaeological, Field study
00183	Environmental Impact Evaluation: Archaeology of the Tahquitz Regional Park "C", Palm Springs, CA	Weaver, 1975	Archaeological Impact
00186	Archaeological Impact Report: Eastern Municipal Water District, Riverside County, California: PL 984 Water Systems Addition	Wells, 1975	Archaeological Impact
01048	Cultural Resource Inventory and Impact Assessment for the KACOR/Rancho California Property	White, 1980	Archaeological, Field study, Literature search
01219	Historical/Archaeological Resources Survey Report, APN 956-270-015, -016, and -019, Near the Community of Murrieta Hot Springs, Riverside County, CA	Tang, Ballester, and Bouscaren, 2000	Archaeological, Field study, Literature search
01222	Archaeological Assessment Form (Roripaugh Estates)	Desautels, 1981	Archaeological Assessment
01744	An Archaeological and Historical Assessment of the Winchester Mesa Specific Plan Study Area, Riverside County, CA	Salpas, 1983	Archaeological, Field study, Literature search
01745	Letter Report: Cultural Resource Assessment for Pacific Bell Wireless Facility CM 677-14, County of Riverside, CA	Lapin, 2000	Archaeological, Field study
01865	An Archaeological Assessment of Several Alternative Sites for the New Rancho California Airport, Riverside County, CA	Wilmoth, 1984	Archaeological, Field study
02055	An Archaeological Assessment of Approximately 200 Acres of Land Located in the Murrieta Hot Springs Area of Riverside County, CA	McCarthy, 1986	Archaeological, Field study, Literature search
02056	Letter Report: Cultural Resource Assessment for Pacific Bell Mobile Services Facility CM 677-11, In the County of Riverside, CA	Duke, 1999	Cultural Resource Assessment

**Table 1 (cont.)**  
**PREVIOUS STUDIES WITHIN ONE MILE OF APE**

<b>Report No. (RI-00000)</b>	<b>Report Title</b>	<b>Author, Date</b>	<b>Report Type</b>
02080	An Archaeological Assessment of Tract 22058, Riverside County, CA	Keller, 1987	Archaeological, Field study, Literature search
02238	An Archaeological Assessment of The Willows Tract 23428, Riverside County, CA	Drover, 1988	Archaeological Assessment
02320	Archaeological Assessment Form: [Property Near Tualota Creek]	Whitney-Desautels, 1987	Archaeological Assessment
02361	Cultural and Paleontological Investigations of The Warm Springs Project Riverside County, CA	Carbone, Gilmore, and Peter, 1987	Cultural and Paleontological Investigations
02431	An Archaeological Assessment of The Rancho California Commerce Center, Riverside County, CA	Drover, 1988	Archaeological Assessment
02614	An Archaeological Assessment of the Westchester Meadows Zone Change Riverside County, CA	Drover, 1989	Archaeological, Field study, Literature search
02933	Archaeological Survey of Sunrise Tennis Ranch Tract 4302, Palm Springs, Riverside County, CA	Desautels, 1973	Archaeological Survey
03152	Letter Report: Archaeological Survey of the Winchester Road General Plan Amendment 114-Acre Property	Hector, 1988	Archaeological, Field study, Literature search
03235	An Archaeological Assessment of Comprehensive General Plan Amendment 282: 113.81 Acres of Land Near Murrieta, Riverside County, CA	Keller, 1991	Archaeological, Field study, Literature search
03370	A Cultural Resource Assessment: Airport Business Park, French Valley, Riverside County, CA	Drover, 1990	Cultural Resource Assessment
03611	A Cultural Resource Assessment, Winchester Properties Assessment District	Drover, 1987	Archaeological, Field study, Literature search
03665	Impact Assessment RIV-1012 Margarita Road at Murrieta Hot Springs Road	Drover, 1993	Archaeological, Field study, Literature search
04404	Final Cultural Resources Inventory Report for The Williams Communications, Inc., Fiber Optic Cable System Installation Project, Riverside to San Diego, California Vol I-IV	Jones and Stokes Associates, Inc., 2000	Cultural Resources Inventory
04697	A Phase I Archaeological Survey of Approx. 5.5-Acres (Parcel No. 957-330-002-05) Located East of Winchester Rd., West of Sky Canyon Dr and South of Technology Dr In Riverside County Just East of Murrieta, Riverside County, CA	Budinger, 2004	Archaeological, Field study

**Table 1 (cont.)**  
**PREVIOUS STUDIES WITHIN ONE MILE OF APE**

<b>Report No. (RI-00000)</b>	<b>Report Title</b>	<b>Author, Date</b>	<b>Report Type</b>
04739	Archaeological Inventory and Monitoring Report for The Silverhawk-Innovation Court Development, Murrieta, Riverside County, CA	Puchett, Spinney, and Nicol-Bark, 2004	Archaeological, Field study, Monitoring
04870	A Phase I Archaeological Resource Survey and A Paleontological Records Review of CUP#03323 (Tr#29954), The Winchester Square Commercial Center, a 16.6-Acre Project Located in The County of Riverside, CA	Dice, Lander, and Irish, 2001	Archaeological, Field study
04872	Final Phase IV Archaeological and Paleontological Monitoring Results at CUP#03323, a 16.60-Acre Commercial Project Located at Winchester Road and Murrieta Hot Springs Road, County of Riverside, CA	Dice, Irish, and Scott, 2002	Monitoring
05223	Archaeological Testing and Monitoring Program Murrieta Springs (Tract Map Number 29707) City of Murrieta Riverside County, CA	Goodwin, Lawson, and Reynolds, 2005	Archaeological Testing and Monitoring Program
05364	A Phase I Cultural Resource Assessment of Development Plan 30-106, ~10.17 Acres of Land in the City of Murrieta, Riverside County, CA	Keller, 2003	Archaeological, Field study, Literature search
05368	A Phase I Cultural Resource Assessment of Tentative Tract Map 31878	Keller, 2004	Archaeological, Field study, Literature search
05869	Historical/Archaeological Resources Survey Report, The Hilltop at Winchester Creek, Near the Community of Murrieta Hot Springs, Riverside County, CA	Tang, Sanchez Moreno, Hernandez, and Dahdul, 2000	Archaeological, Field study, Literature search
05889	Letter Report: Archaeological/Paleontological Monitoring of Earth-Moving Activities, Tract Nos. 29411 And 29412, Near the City of Temecula, Riverside County, CA	Love, 2002	Archaeological/Paleontological Monitoring
05973	Historical/Archaeological Resources Survey Report, Rancho Temecula Town Center, in the City of Temecula, Riverside County, CA	Tang, Hogan, Tibbet, and Ballester, 2003	Archaeological, Field study, Literature search
06370	Historical/Archaeological Resources Survey Report: Assessor's Parcel Numbers 958-270-010 And -011, Near the City of Murrieta, Riverside County, CA	Tang, Hogan, Tibbet, and Ballester, 2005	Historical/Archaeological Resources Survey
06674	Cultural and Paleontological Resources Assessment: Murrieta Springs Tract 29707, City of Murrieta Riverside County, CA	Goodwin and Reynolds, 2003	Cultural and Paleontological Resources Assessment

**Table 1 (cont.)**  
**PREVIOUS STUDIES WITHIN ONE MILE OF APE**

<b>Report No. (RI-00000)</b>	<b>Report Title</b>	<b>Author, Date</b>	<b>Report Type</b>
06851	Archaeological Survey for the French Valley Airport Center Project, Riverside County, CA	Brown and O'Neil, 2005	Archaeological Survey
06874	Archaeological Survey of 2.8 Acres for the Silverhawk-Innovation Court Development, Murrieta, Riverside County, CA	Budinger, 2006	Archaeological, Field study, Literature search
07229	Phase I Cultural Resources Investigation and Extended Phase I Testing for the French Valley Wal-Mart Supercenter Project, Unincorporated Riverside County, CA	Formica and Mirro, 2007	Cultural Resources Investigation and Extended Phase I Testing
07599	An Archaeological Survey for the Veralliance Project, County of Riverside, California, APN 957-330-037; PP 22493	Dorrlor and Smith, 2007	Archaeological
07954	Phase IV Archaeological Monitoring for the French Valley Airport Center Project, Parcel Number 33691; Case Number PP21163, Riverside County, CA	Brown and Dietler, 2008	Archaeological Monitoring
08110	Letter Report: Results of Cultural Resource Assessment for the Palomino 12 kV Transmission Line from Los Alamos Road South to Hunter Road, City of Murrieta, County of Riverside, California; WO: 6077-5389 5-5356, WO:6577-5341 6-5342 and JO: 6201	Powell and Rockman, 2007	Cultural Resource Assessment
08116	Letter Report: Cultural Resource Records Search and Site Visit Results for T-Mobile Communications Candidate IE25826A (Date Street Plaza), Date Street and Margarita Road (26672 Margarita Road), Murrieta, Riverside County, CA	Bonner and Aislin-Kay, 2008	Literature search
08219	Field Reconnaissance Phase for the Proposed Bechtel Wireless Telecommunications Site LA8102	Wlodarski, 2009	Archaeological, Field study
08387	Letter Report: Cultural Resources Assessment of the Distributed Antennae Communications System Project in the Cities of Temecula and Murrieta, Riverside County, CA (BCR Consulting Project No. SYN0903)	Brunzell, 2009	Archaeological, Field study, Literature search
08482	Archaeological Survey Report for Southern California Edison's Triton Substation Temecula and Murrieta Hot Springs Areas, Riverside County, CA	Doolittle and Hogan-Conrad, 2007	Archaeological Survey
08795	Historical/Archaeological Resource Survey Report: Tentative Parcel Map No. 36440 (Rancon MHS 20, LLC)	Tang, Hogan, Encarnacion, and Gallardo, 2012	Historical/ Archaeological Resource Survey
08914	A Phase I Cultural Resources Inventory for Tentative Tract Map 33869	Drover, 2005	Archaeological, Field study

**Table 1 (cont.)**  
**PREVIOUS STUDIES WITHIN ONE MILE OF APE**

<b>Report No. (RI-00000)</b>	<b>Report Title</b>	<b>Author, Date</b>	<b>Report Type</b>
09257	Cultural Resources Assessment of the NewPath Networks, LLC DAS Project in the Cities of Murrieta and Temecula, Riverside County, CA (BCR Consulting Project No. SYN0901)	Brunzell, 2011	Archaeological Assessment
09389	Phase I Archaeological Assessment for the Sky Canyon Project (PP25309), City of Murrieta, Riverside County, CA	Stropes and Smith, 2014	Archaeological Assessment
09808	A Phase I Cultural Resources Assessment for the Silverhawk Self-Storage Project, CUP03742, Riverside County, CA	Smith and Kraft, 2016	Cultural Resources Assessment
10066	Phase I Investigation for the Verizon Wireless Mondavi Tower Installation Project, Temecula, Riverside County, CA	Roland, 2015	Cultural Resources Assessment

### 3.1.2 Previously Recorded Resources

The EIC has a record of 36 previously recorded cultural resources within a one-mile radius of the project, two of which are partially within the project APE: P-33-020561 (CA-RIV-10462) and P-33-13871 (CA-RIV-11964) (Table 2, *Previously Recorded Resources within One Mile of APE*). Both of these resources are historic roadways, as discussed below. Only one other resource is mapped within a quarter-mile of the project APE: P-33-011395, an isolated mano. The resources recorded within the one-mile search radius include 17 prehistoric sites, 10 prehistoric isolates, three historic complexes, three historic roads, one historic isolate, one multicomponent site, and one voided site number, P-33-023915: this resource is the same as P-33-011602. The prehistoric resources are associated with food processing: bedrock milling features and ground stone artifacts (manos and metates), and lithic artifacts; pottery was noted at only one of these sites. One historic complex, P-33-007454, is the site of the Murrieta Hot Springs Resort and is discussed in more detail below.

**Table 2**  
**PREVIOUSLY RECORDED RESOURCES WITHIN ONE MILE OF APE**

Resource Number (P-33-#)	Resource Number (CA-RIV-#)	Description	Recorder, Date
000865	865	Prehistoric site. Originally recorded as a flake scatter, metate fragments, and cores; only two metates identified in update.	Wells and Rector, 1975; Wilmoth, 1984
001006	1006	Prehistoric site. Originally recorded as a milling feature with two elements (slicks). No longer exists due to development.	Bettinger, 1972; HDR-EOC, 2015
001007	1007	Prehistoric site. One milling feature with many elements (slicks).	Bettinger, 1972
001062	1062	Prehistoric site. Habitation debris, lithic scatter.	Eastvold, 1976; Lambert and Bell, 2001
002932	2932	Prehistoric site. One milling feature with many elements (mortars and slicks), a lithic and pottery scatter, and one bone or antler awl tip.	Drover, 1990
004640	4640	Prehistoric site. One milling feature with two elements (slicks) and a lithic scatter.	Drover and Smith, 1990
004641	4641	Prehistoric site. One milling feature with one element (slick) and a small density lithic scatter.	Drover and Smith, 1990
004642	4642	Prehistoric site. Two milling features with two elements (slicks).	Drover and Smith, 1990
004658	4658	Prehistoric site. Two milling features with two elements (slicks).	Drover and Smith, 1990
004659	4659	Prehistoric site. One milling feature with one element (slick) and one piece of debitage.	Drover and Smith, 1990
004660	4660	Prehistoric site. One milling feature with two elements (slicks).	Drover and Smith, 1990
004661	4661	Prehistoric site. One milling station with various elements (slicks), one slab metate, and one mano fragment.	Drover and Smith, 1990
004662	4662	Prehistoric site. Three milling features with one element (slick) each.	Drover and Smith, 1990; Formica, 2007; HDR EOC, 2007
005087	5087	Historic site. Surface trash dump scatter associated with a turn-of-the-century dwelling. EIC notes "Intersects P-33-011602".	McHenry and Phillips, 1993

**Table 2 (cont.)**  
**PREVIOUSLY RECORDED RESOURCES WITHIN ONE MILE OF APE**

Resource Number (P-33-#)	Resource Number (CA-RIV-#)	Description	Recorder, Date
007454	--	Historic complex. Murrieta Hot Springs. Complex consists of a number of structures dating from 1904 to the late 1930s with building improvements continuing through the 1960s. Buildings constructed in a variety of architectural styles: Vernacular Wood Frame, Vernacular (other), Mission Revival, Bungalow, Mediterranean/Spanish Revival, and Commercial.	Warner, 1983
011395	--	Prehistoric isolate. One small cobble mano.	Dice, 2001
011601	6912	Prehistoric isolate. One milling feature with one element (slick).	Goodwin, 2002
011602	--	Historic site. Remnant of historic complex, Old Judge's House/Judge Hilliard's House, including a stone foundation, a water tank, windmill, and two possible associated outbuildings. Site includes a 1950s frame house relocated on the historic stone foundation. EIC notes "Intersects P-33-005087".	Goodwin, 2002
012381	--	Prehistoric isolate. Two lithic flakes.	Sikes, 2003
012382	--	Prehistoric isolate. One unifacially flaked and utilized core.	Brown and Sikes, 2003
013242	7327	Historic site. Complex of four slabs, three building foundation footings, and associated structural debris and artifacts.	Goodwin, 2003
013282	7410	Prehistoric site. Originally recorded as a milling/habitation site, including a milling feature with three slicks, ground stone and flaked stone artifacts, and fire affected rock. Site not relocated within road right-of-way (ROW) during 2011 survey; area outside ROW not examine.	Goodwin, 2003; Kremkau, 2011
013327	--	Prehistoric isolate. Granite metate fragment.	Brian F. Smith & Assoc., 2003
013328	--	Prehistoric isolate. One chert core tool.	Brian F. Smith & Assoc., 2003
013329	--	Prehistoric isolate. One granite mano fragment.	Brian F. Smith & Assoc., 2003
013330	7428	Prehistoric site. One bedrock milling feature with an associated lithic scatter and one historic horseshoe.	Brian F. Smith & Assoc., 2003

**Table 2 (cont.)**  
**PREVIOUSLY RECORDED RESOURCES WITHIN ONE MILE OF APE**

Resource Number (P-33-#)	Resource Number (CA-RIV-#)	Description	Recorder, Date
013331	7429	Prehistoric site. Lithic scatter.	Brian F. Smith & Assoc., 2003
013774	--	Prehistoric isolate. One unifacial granitic mano.	Salpas, 1983
013871	11964	Historic site. Segment of Winchester Road/State Route 79, built circa 1949. Overlaps or intersects with P-33-020533, P-33-020534, P-33-020544, P-33-020554, P-33-020724, P-33-020545.	Goodwin, 2002; Goodwin, 2003; Cooley and Patterson, 2007; Bursan, 2008; AECOM, 2012; Roy, 2013
017362	--	Prehistoric isolate. One granite bifacial mano.	King and Dietler, 2008
017363	--	Historic isolate. One steel horseshoe.	King and Dietler, 2008
020560	10461	Historic site. Alba Road. Observed on the 1942 Murrieta 15-minutes USGS topo map.	Stanton, 2011
020561	10462	Historic site. Well-maintained, paved road that intersects Highway 79 at postmile 6 in Murrieta.	Stanton, 2011
023911	11743	Prehistoric site. Milling features with many elements and associated ground stone artifacts and lithic debitage.	Roy, Cooley, Spelts, Droessler, 2013
023914	--	Prehistoric isolate. One unifacial metate.	Roy, Cooley, Spelts, Droessler, 2013
023915	--	Number voided. Same as P-33-011602.	NA

P-33-020561 (CA-RIV-10461) is a historic road that intersects with Winchester Road at the north end of the project alignment. This road is bisected by Winchester Road, with Hunter Road to the west and Borel Road to the east. Improvements to Hunter Road include widening and a center turn lane; the roadway no longer has historic integrity.

P-33-013871 (CA-RIV-11964) is the historic Winchester Road. This road was developed in its current location in the 1940s and has served as a connection between the communities of Murrieta and Winchester in South Riverside County. The area of the road that is within the APE is in the northernmost portion of the project alignment, including the intersection with P-33-020561.

P-33-007454, representing the Murrieta Hot Springs Resort, is located approximately 0.8 mile west of the APE on the north side of Murrieta Hot Springs Road. A hotel and bathhouse had been constructed at the site in 1887 and was popular with visitors from San Diego, but by 1891, the hotel had fallen into disuse and was in use only as a ranch house and barn (site record, on file at EIC). Fritz Guenther bought the property in 1902 and developed the resort, which was operated by the family until the 1970s. The resort/health spa was well-known and popular with celebrities and tourists. Subsequent to the Guenther family ownership, the property had a string of owners, and in 1995 Calvary Chapel of Costa Mesa purchased the property and converted it to its current use as the Calvary Chapel College and Murrieta Hot Springs Christian Conference Center.

The hot springs were known to have been used by the Luiseño people for many generations and are important in traditional songs and stories. As addressed below in Chapter 3.3, Native American Contact Program, the area is of cultural significance to the Luiseño people.

## 3.2 OTHER ARCHIVAL RESEARCH

Various additional archival sources were also consulted, including historic topographic maps and aerial imagery. These include aerials from 1938, 1967, 1978, 1996, 2002, and 2005 (NETR Online 2019) and several historic USGS topographic maps, including the 1901 Elsinore (1:125,000), the 1942 Murrieta (1:62,500), and the 1953 Murrieta (1:24,000) topographic maps. The purpose of this research was to identify historic structures and land use in the area.

A few buildings are shown on the 1901 30-minute Elsinore quadrangle near what is labeled as “Hot Sulphur Springs”. Webster Avenue and a main north-south road are shown (not named), as are several other roads in the vicinity. The 1942 15-minute Murrieta topographic map shows numerous buildings in the area of the Murrieta Hot Springs Resort, and the area is labeled Murrieta Hot Springs; one building is shown in or just west of the project APE, east of Winchester Road. On the 1953 7.5-minute Murrieta map, the general area is still pretty much undeveloped, although a landing field near the resort is shown, and Temecula Hot Springs is labeled in addition to Murrieta Hot Springs. No buildings are shown in the immediate vicinity of the project APE on the 1953 USGS map.

The 1938 aerial photo shows no development in the vicinity of the project area, except the Murrieta Hot Springs Resort almost a mile to the west; a line of trees is shown in the southern portion of the APE, but no buildings are visible. The 1967 aerial photo shows what appears to be a residence, with associated outbuildings and trees in the same area as the line of trees noted in the earlier aerial; the surrounding area remains undeveloped. The 1978 aerial is quite similar, although residential development is beginning around the Murrieta Hot Springs resort. On the 1996 aerial, Sky Canyon Drive is visible, and the new airport is to the north. Grading for commercial and industrial development in the immediate vicinity of the APE is also apparent in this photo. Aerials from 1978, 1996, 2002, and 2005 show incrementally greater development.

## 3.3 NATIVE AMERICAN CONTACT PROGRAM

HELIX contacted the Native American Heritage Commission (NAHC) on December 18, 2019 for a Sacred Lands File (SLF) search and list of Native American contacts for the project area. The NAHC indicated in a response dated December 31, 2018 that the Sacred Lands File search was positive and stated, “Please contact the Pechanga Band of Mission Indians on the attached list for more information. Other sources of cultural resources should also be contacted for information regarding known and recorded sites.” Letters were sent on January 4, 2019 to Native American representatives and interested parties identified by the NAHC. Four responses have been received to date (Table 3, *Native American Contact Program Responses*). If additional responses are received, they will be forwarded to District staff. Native American correspondence is included as Appendix C (Confidential Appendices, bound separately).

**Table 3  
NATIVE AMERICAN CONTACT PROGRAM RESPONSES**

Contact/Tribe	Response
<p>Agua Caliente Band of Cahuilla Indians</p>	<p>Responded in an email dated January 9, 2019; a records check of the Tribal Historic preservation office’s cultural registry revealed that this project is not located within the Tribe’s Traditional Use Area. Therefore, the Tribe defers to the other tribes in the area. This letter shall conclude consultation efforts.</p>
<p>Rincon Band of Luiseño Indians (Rincon)</p>	<p>Responded in an email dated February 4, 2019; the identified location is within the Traditional Use Area of the Luiseño people and is also within Rincon’s specific area of Historic interest. “Embedded in the Luiseño Traditional Use Area are Rincon’s history, culture and identity. We have knowledge of several Luiseño Place Names, in close proximity to the proposed project area. We recommend that a cultural study be conducted for this project, to include an archaeological record search. An archaeological survey may be needed. In which case, we ask that the survey be conducted with Luiseño tribal monitors.”</p>
<p>Soboba Band of Luiseño Indians (Soboba)</p>	<p>Responded in a letter sent via email and dated February 23, 2019 (hard copy received on February 27, 2019); the project location is in proximity to known sites, is a shared use area that was used in ongoing trade between the tribes and is considered to be culturally sensitive by the people of Soboba. Soboba requested to initiate consultation with the District, to be provided updates regarding project progress, to continue to act as a consulting entity, and that a Native American Monitor from the Soboba Cultural Resource Department to be present during any ground-disturbing proceedings, including survey and testing.</p>
<p>Pechanga Band of Luiseño Mission Indians (Pechanga)</p>	<p>Responded in a letter dated February 25, 2019 and received on March 4, 2019; the Tribe is interested in participating in the project based on their cultural knowledge of the region. The project is located within a sensitive Luiseño cultural area and is surrounded by an extensive Luiseño artifact record. Although the project area has been disturbed, sites have been discovered nearby during development, and a trail between San Bernardino and Temecula is just northwest of the project. Given this, it is likely the project would impact subsurface cultural resources. Pechanga requested the following: notification once the entitlement process begins; copies of all applicable reports, site records, proposed grading plans, and environmental documents; and monitoring of all earthmoving activities by a Riverside County qualified archaeologist and a professional Pechanga Tribe monitor. In the event that subsurface cultural materials are identified, the Tribe requests consultation with the District regarding treatment and disposition of all artifacts. The Tribe reserves its rights to participate in the formal environmental review process, including appropriate government-to-government consultation.</p>

Project Principal Investigator, Mary Robbins-Wade, met with Pechanga Cultural Resources staff on January 28, 2019 to discuss the project and the cultural sensitivity of the area. Pechanga Cultural Resources staff indicated that there are two TCPs located near the project area, although the project APE is outside these TCPs. In addition, a traditional trail is known in proximity to the project APE. Murrieta Hot Springs, located a short distance west of the project site, is important in the Luiseño creation story and remains a significant place to the Luiseño people. *Totpa* is a Luiseño named place

located approximately a mile away from the project area; numerous cultural resources have been recorded in that area. In addition, Californio soldiers and Cahuilla tribal members camped there before the Temecula massacre in early 1847, in which an unknown number of Luiseño people were killed. Drainages in the vicinity of the project site are also known to contain cultural deposits. Based on all these factors, the project area and vicinity are sensitive for cultural resources.

## **4.0 SURVEY**

### **4.1 SURVEY METHODS**

An intensive pedestrian survey was undertaken by HELIX archaeologist Mary Villalobos and Pechanga tribal cultural monitor Robert Cordova on January 11, 2019. The survey consisted of walking the APE, which includes a 25-foot buffer around each alignment alternative (see Figure 3), in transects spaced approximately 5 meters (m) apart where possible. Where there was built environment, as along Winchester Road, Sky Canyon Drive, and Technology Drive, the survey was conducted from a vehicle, with pedestrian survey of non-built-environment areas along these stretches.

### **4.2 SURVEY RESULTS**

The project alignment and its surrounding area consist mainly of built environment, including paved roads, industrial and business centers, a golf course, and single-family dwellings, with some disturbed open space east of Sky Canyon Drive (Plates 1-4). Visibility in areas of open space ranged from 60 to 80 percent with sparse grass and native shrub. No cultural material was observed.

Most of the project APE shows signs of disturbance from past construction activities including the development of Winchester Road, Technology Drive, and Sky Canyon Drive. Furthermore, new industrial businesses have been constructed along Sky Canyon Drive with paved access and driveways into these businesses. Large areas of grading activities have occurred adjacent to the northern portion of Sky Canyon Drive. The soils appear to be sandy loam, reddish brown in color with gravel intermixed. No cultural resources were observed during the survey effort.



Plate 1. Overview of the APE along Winchester Road.  
View to the north.



Plate 2. Overview of the APE along Sky Canyon Drive.  
View to the south.



Plate 3. Overview of survey area for alternative alignment 1C, looking south along Winchester Road, in an agricultural field.



Plate 4. Alternative alignment, 1C with constructed drainage and building. View to the south.

## 5.0 SUMMARY AND MANAGEMENT RECOMMENDATIONS

A study was undertaken to identify cultural resources that are present in the Sky Canyon Sewer Main Extension Project APE and to determine the potential effects of the project on cultural resources. The two roadways previously recorded partially within the project APE (P-33-020561 and P-33-013871) do not retain the integrity to qualify as historic properties under the NHPA or historical resources under CEQA. The survey did not identify any additional cultural resources within the APE; therefore, no impacts to cultural resources are anticipated.

For the most part, the APE has been disturbed by nineteenth and twentieth century agricultural activities, irrigation systems, and transportation and utility installation. While the project area remained relatively undeveloped until the 1990s, it has since been highly disturbed by residential development, agricultural activities, utility installations, and road development. The APE is located along existing paved roads and disced fields.

### 5.1 MANAGEMENT RECOMMENDATIONS

Based on the results of the current study, no historical resources (per CEQA) or historic properties (per NHPA) will be affected by the Sky Canyon Main Sewer Extension Project. However, while no significant cultural resources have been identified within the APE, the area is sensitive for cultural resources, as noted by the NAHC, the Pechanga tribe, and the Soboba tribe. A response received from the Agua Caliente Band of Cahuilla Indians indicated that the project area is outside their Traditional Use Area but that tribes closer to the project area should be contacted. The Rincon Band of Luiseño Indians indicated knowledge of Luiseño place names in the vicinity and recommended a cultural resources study be conducted. Soboba responded that the project location is in proximity to known sites, is a shared use area that was used in ongoing trade between the tribes, and is considered to be culturally sensitive by the people of Soboba. Pechanga indicated that the APE is in proximity to two TCPs, and a traditional trail is located in the vicinity as well. Both Pechanga and Soboba tribes recommended monitoring during ground-disturbing activities and both tribes requested to consult with the District regarding the project and potential impacts to cultural resources. To date no other responses have been received.

Based on this, it is recommended that an archaeological and Native American monitoring program be implemented. 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 initial ground-disturbing activities on site. 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 archaeological Principal Investigator and tribal representatives will coordinate with District staff to develop and implement appropriate mitigation measures. The monitoring program is detailed below.

In the unlikely 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.

- MM CR-1** At least 30 days prior to the start of any ground-disturbing activities, the District shall contact a traditionally culturally affiliated (TCA) tribe to develop a Cultural Resources Treatment and Monitoring Agreement (“Agreement”). The Agreement shall address the treatment and final disposition of any tribal cultural resources, sacred sites, human remains or archaeological resources inadvertently discovered on the project site; project grading, ground disturbance and development scheduling; the designation, responsibilities, and participation of tribal monitor(s) during grading, excavation and ground disturbing activities; and, compensation for the tribal monitors, including overtime, weekend rates, and mileage reimbursements.
- MM CR-2** A qualified archaeologist and TCA tribal monitor shall attend a pre-grade meeting with District staff, the contractor, and appropriate subcontractors to discuss the monitoring program, including protocols to be followed in the event that cultural material is encountered.
- MM CR-3** A qualified archaeological monitor and a TCA tribal monitor shall be present for ground-disturbing activities in areas with a potential for encountering cultural material; monitoring will not be required in areas that have been previously graded/cut to below cultural levels (e.g., formational material). At least seven business days prior to project grading, the District shall contact the tribal monitors to notify the Tribe of grading/excavation and the monitoring program/schedule, and to coordinate with the Tribe on the monitoring work schedule. Both the archaeologist and the tribal monitor shall have the authority to stop and redirect grading activities in order to evaluate the nature and significance of any archaeological resources discovered within the APE. Such evaluation shall include culturally appropriate temporary and permanent treatment pursuant to the Cultural Resources Treatment and Monitoring Agreement, which may include avoidance of cultural resources, in-place preservation, data recovery, and/or reburial so the resources are not subject to further disturbance in perpetuity. Any reburial shall occur at a location predetermined between the District and the TCA tribe, details of which to be addressed in the Cultural Resources Treatment and Monitoring Agreement in MM CR-1. Treatment may also include curation of the cultural resources at a tribal curation facility, as determined in discussion among the District, the Project archaeologist, and the tribal representatives and addressed in the Cultural Resources Treatment and Monitoring Agreement referenced in MM CR-1.
- MM CR-4** All artifacts discovered at the development site shall be inventoried and analyzed by the Project archaeologist and tribal monitor(s). A monitoring report will be prepared, detailing the methods and results of the monitoring program, as well as the disposition of any cultural material encountered. If no cultural material is encountered, a brief letter report will be sufficient to document monitoring activities.
- MM CR-5** The District shall relinquish ownership of all cultural resources, including sacred items, burial goods, and all archaeological artifacts that are found within the project area for proper treatment and disposition pursuant to the Agreement required in MM CR-1.

## 6.0 REFERENCES

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City of Murrieta

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# CR Appendix A

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Resumes of Key Personnel

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### Summary of Qualifications

Ms. Robbins-Wade has 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 in conformance with the California Environmental Quality Act (CEQA), Section 106, and the National Environmental Policy Act (NEPA). She has an excellent relationship with the local Native American community and the Native American Heritage Commission (NAHC). Ms. Robbins-Wade has worked in Southern California archaeology for 35 years. She has conducted archaeological studies for numerous local agencies, water districts/water agencies, Caltrans, SANDAG, U.S. Navy, SDG&E, educational institutions, non-profits, and a variety of other entities. Work for public projects has ranged from constraints studies for pipeline alternatives to survey, testing, and monitoring programs for public projects, such as roadways, parks, and various utilities. Ms. Robbins-Wade has also managed a range of mitigation monitoring projects in the public sector.

### Selected Project Experience

**Campo Creek Bridge** (2016 - 2017). Project Manager/Principal Investigator for the cultural resources monitoring program for this emergency bridge replacement project on SR-94 in San Diego County. The project area is very sensitive in terms of Native American cultural resources, as well as historic resources. Responsible for development and implementation of the monitoring and discovery plan. The project requires effective communication and coordination with construction crews, Caltrans staff, and Native American monitors. Work performed as a subconsultant to the general contractor, with Caltrans as the lead agency.

**Lilac Hills Ranch** (2014 - 2016). 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 of northern unincorporated San Diego County. Oversaw background research, field survey, testing, recording archaeological sites and historic structures, and report preparation. Responsible for development of the research design and data recovery program, the preservation plan, and Native American outreach and coordination. Project coordination is still underway while the project finishes the environmental review process. The proposed Specific Plan includes residential and commercial use, Town Center, park and private recreation areas, senior center, school site, waste recycling facility, wastewater reclamation facility, active orchards, and other supporting infrastructure. 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

### Education

Master of Arts,  
Anthropology, San  
Diego State  
University, California,  
1990

Bachelor of Arts,  
Anthropology,  
University of  
California, Santa  
Barbara, 1981

### Registrations/ Certifications

Register of  
Professional  
Archaeologists  
#10294, 1991

County of San Diego,  
Approved CEQA  
Consultant for  
Archaeological  
Resources, 2014

NCTD, Roadway  
Worker ID #C02943

### Professional Affiliations

Society for American  
Archaeology

Archaeological  
Society

# Mary Robbins-Wade, RPA

## Senior Archaeologist

cultural resource. The project changed over time, so new survey areas were added, and a variety of off-site improvement alternatives were addressed. Work performed for Accretive Investments, Inc.

**Valiano Cultural Resources** (2012 - 2015). Project Manager/Principal Investigator of a cultural resources survey and testing program for a 239-acre residential planned community in the Escondido area of the County of San Diego, following a burn affecting much of the project area. Oversaw background research, field survey, testing, recording archaeological sites and assessment of historic structures, Native American outreach and coordination, and report preparation. Archaeological testing was conducted at several sites that could not be avoided through project design. The project site is in an area that is of cultural importance to both the Kumeyaay and Luiseño people; HELIX archaeologists worked with Native American representatives from both groups. Coordination was conducted to determine the feasibility of preserving bedrock milling features by moving them to open space areas within the project. Other archaeological sites were retained in open space through project design. Work performed for Integral Partners Funding, LLC.

**Mission Cove Data Recovery** (2014 - 2016). Project Manager/Principal Investigator for a cultural resources data recovery program at a significant archaeological site with cultural significance to the Luiseño people in the City of Oceanside. Prior to the data recovery program, worked with the client and the San Luis Rey Band of Mission Indians to redesign the project (an affordable housing/mixed-use development) to avoid impacts to cultural resources to the extent feasible. Oversaw background research, excavation and related fieldwork, cataloging and analysis, coordination of ancillary studies (e.g. radiocarbon analysis and shell analysis), Native American coordination, and report preparation. Analysis and report preparation are currently underway. The data recovery program was conducted to mitigate impacts that could not be avoided through project design. Work performed for National Community Renaissance.

**Mission Cove Monitoring** (2014 - 2016). Project Manager/Principal Investigator of an archaeological monitoring program for the 14.47-acre Mission Cove Affordable Housing mixed-use project area in the City of Oceanside. Oversaw field monitoring and documentation of finds. A significant archaeological and cultural resource is within the project, and there is a potential for unknown buried resources, given the alluvial setting. Work performed for National Community Renaissance.

**Village Park Recycled Water** (2014 - 2015). Project Manager/Principal Investigator of a cultural resources study for a proposed recycled water system consisting of approximately 6.6 miles of pipelines and a pump station mainly within existing roadways in the City of Encinitas. Oversaw background research, field checks, Native American coordination, and report preparation. Work performed for Olivenhain Municipal Water District.

# Mary Robbins-Wade, RPA

## Senior Archaeologist

**Espola Road Widening and Improvements** (2002 - 2010). Project Manager/ Principal Investigator for historic study, historic structures assessment, and archaeological survey for road widening and improvements under the City of Poway and Caltrans. Oversaw field survey, historic study, structures evaluation, and report preparation.

**Bear Valley/East Valley Parkways Road Widening, Realignment, and Improvements** (2000 - 2004). Project Manager/Principal Investigator for historic study, historic structures assessment, archaeological survey, and archaeological testing for road widening, realignment, and improvements under City of Escondido and Caltrans. Oversaw field survey, testing, historic study and structures assessment, and report preparation.

**Torrey Meadows Drive Overcrossing at SR-56** (2014). Project Manager/Principal Investigator on a cultural resources survey for a proposed bridge over SR 56, which would connect two existing termini of Torrey Meadows Drive in the Carmel Valley community of the City of San Diego. The project is being undertaken by the City, but includes some Caltrans right-of-way, necessitating Caltrans encroachment permits. Oversaw survey, report preparation, and coordination with Caltrans cultural resources staff. Work performed as subconsultant for an engineering prime, with City of San Diego as lead agency.

**SR-163/Friars Road Widening and Interchange Improvements** (2002 - 2007). Project Manager/Principal Investigator for historic study, historic structures assessment, and archaeological survey for road widening and interchange improvements under City of San Diego and Caltrans. Oversaw field survey, historic study and structures assessment, and report preparation. Reports included Archaeological Survey Report, Historic Resources Evaluation Report, and Historic Property Survey Report for Caltrans, as well as Archaeological Survey Report and Historic Evaluation for City of San Diego.

**SR-76 East Mitigation Monitoring** (2015 - 2017). Project Manager/Principal Investigator for a cultural resources monitoring project for roadway improvements at the SR-76/I-15 Interchange and on SR-76 along the San Luis Rey River in the Bonsall area of San Diego County. The area along the San Luis Rey River is quite sensitive in terms of cultural resources. Overseeing field monitoring, report preparation, and monitor coordination with Caltrans field staff. Responsible for Native American coordination and coordination with Caltrans cultural resources staff. Work is being conducted for Caltrans and SANDAG.

**Campo Bus Yard** (2015 - 2016). Cultural Resources Task Manager/Principal Investigator for a cultural resources survey for a proposed MTS bus yard in the Campo area of the County of San Diego. The project is immediately adjacent to a County-listed and National Register-eligible historic property (Camp Lockett), and features associated with that historic district extend into the project area. Oversaw background research, field survey, coordination, Native American outreach, and report preparation. Work was conducted under an as-needed contract with SANDAG.

# Mary Robbins-Wade, RPA

Senior Archaeologist

**Batiquitos Lagoon Double Track Project** (2015). Senior Archaeologist for the addition of a second main track along a 2.7-mile-long segment of the LOSSAN Rail Corridor in Encinitas and Carlsbad. Overseeing the Federal Aviation Administration (FAA) Section 106 process for addition of antenna sites. Work performed for HNTB Corporation, with SANDAG as the local lead agency and Federal Transit Administration as the federal lead agency for the overall project, and FAA as the federal lead agency for the antenna sites.

### 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

# Mary Villalobos

## Staff Archaeologist

**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.

### Summary of Qualifications

Ms. Roy has over 20 years of experience as an archaeologist, field lead, and supervisor on more than 130 projects throughout California, Nevada, Arizona, and Guam. Conducted archaeological studies for a wide variety of development and resource management projects including work on military installations, energy and transmission projects, commercial and residential developments, historic archaeology projects, and water projects. Competent in all areas of archaeology and efficient in report preparation for a range of cultural resource studies including monitoring projects and archaeological Phase I, II and III studies. Ms. Roy is proficient in laboratory activities including artifact preparation, cataloging, identification, and illustration. Accomplished in the initiation, coordination and completion of field assignments including survey, site testing, dry and wet screening, and data recovery projects. She is also knowledgeable in the preparation of proposals and report writing and research, client, contractor and subcontractor correspondence, laboratory, computer software including Microsoft, Adobe, Geographic Information System (GIS)/ArcView, Computer-Aided Design and Drafting (CADD), Global Positioning System (GPS) and total-station operations, as well as in the illustration of archaeological features, artifacts, and burials. Ms. Roy is established as a qualified archaeological monitor for the City and the County of San Diego. Her experience includes working closely with representatives of San Diego County Parks and Recreation for the past 10 years and she has received accolades from numerous county representatives for her work at park facilities. For the past 4 four years, she has served as the monitoring coordinator for the San Diego Gas & Electric Company (SDG&E) Fire Resource Mitigation Initiative (FiRM) project, where she regularly provided effective communication between field monitors, construction managers/foremen, and Principal Investigators for construction projects and assisted in scheduling and tracking of project progress.

### Selected Project Experience

**Blythe to Eagle Mountain TLRR Survey** (2017). Field Director on this Southern California Edison (SCE) Survey project, which included supervising two crews during a period of two weeks. Conducted survey, mapping, recording new cultural resources and updating previously recorded sites along the transmission line corridor. Other responsibilities included report writing and completion of site records for distribution to SCE and the South Coastal Information Center (SCIC).

**On-call Archaeological Services** (Present). Archaeologist and Field Lead for SDG&E infrastructure operations and transmission line maintenance activities for over 12 years. Projects include survey, testing, excavations, and data recovery of both historic and prehistoric resources including Native American burial sites. Approved to monitor for City projects throughout San Diego and Imperial counties. Other duties include records search, survey, archaeological documentation and investigations, and

### Education

Master of Arts,  
Archaeology,  
University of  
Leicester, England,  
In progress

Bachelor of Arts,  
Anthropological  
Archaeology,  
University of  
California San Diego,  
2002

Associate of Arts,  
Psychology, San  
Diego City College,  
2000

### Registrations/ Certifications

OSHA 30-hour  
Construction Safety  
Training Certification

Competent Person  
Certification

### Professional Affiliations

Society for California  
Archaeology

Society for American  
Archaeology

Association of  
Environmental  
Professionals

# Julie A. Roy

## Archaeologist

preparation of reports under California Environmental Quality Act (CEQA) and National Environmental Policy Act (NEPA) guidelines.

**Fire Resource Cultural Resources Mitigation (Present).** Monitoring Coordinator and Lead Archaeologist on this FIRM project for SDG&E. Monitoring Coordinator duties consist of close communication with SDG&E supervisors and staff, liaisons, and contractors in conjunction with the coordination of FIRM project activities associated with cultural and Native American archaeological and monitoring efforts throughout San Diego and Imperial Counties. Archaeological Supervisor duties consists of record search, survey, archaeological site documentation, testing, excavations, and data recovery projects, and preparing reports following CEQA and NEPA guidelines.

**Archaeological Monitoring, Bird Rock Avenue Utility Undergrounding Project (2005).**

Archaeological Monitor for the undergrounding of residential utilities in the Bird Rock community of La Jolla. The project was conducted under CEQA and the City of San Diego guidelines while working closely with San Diego Gas and Electric Company and the construction contractor. No cultural resources were identified during this project.

**Archaeological Monitoring and Data Recovery, Princess Street Utility Undergrounding Project (2005 - 2006).**

Archaeological Monitor/Crew Chief for utility undergrounding project, which included trenching through a major prehistoric and ethnohistoric Indian village site (the Spindrift Site/CA-SDI-39) in La Jolla. Crewmembers worked closely with Native American representatives during the recovery of human remains. A concurrent data recovery program incorporated all cultural material recovered from the trenching activities. This project was conducted pursuant to CEQA and City of San Diego guidelines while working closely with San Diego Gas & Electric Company and the construction contractor.

**Environmental Impact Statement, Southern Nevada Supplemental Airport (2007 - 2009).**

Archaeologist on this project that included survey and recordation of the northern portion of Ivanpah Valley from the California state line to Henderson, Clarke County, Nevada. Cultural sites located within the project area included a section of the pacific railroad, historic roads, camps, railroad and construction debris, transmission lines, trash scatters and prehistoric sites and features. The project was surveyed and recorded in compliance with the Nevada State Historic Preservation Office (SHPO) and Bureau of Land Management (BLM) guidelines.

**Monitoring, Genesis Solar Power Project (2011 - 2012).**

Supervisor-in-Charge of over 20 cultural monitors on this solar power project located in Blythe, California. Responsible for conducting safety meetings and coordinating cultural monitors to all areas of the project site, as well as leading test excavations of discovered resources during construction activities. Also responsible for representing firm during onsite meetings with Nextera officials, Bureau of Veritas, BLM, and safety liaisons for the project. Communicated directly with Native American supervisors and monitors on a daily basis. Recorded and collected artifacts located during construction activities with the use of Global Positioning Satellite technology. Completed daily field notes and collection logs for all collected artifacts, and reviewed all staff monitoring logs prior to daily submission to the California Energy Commission (CEC). Work performed for Nextera.

**Survey and Monitoring, Palen Solar Power Project (2009 - 2010).**

Archaeologist for survey and cultural monitoring in Desert Center, California. Monitored contract and personnel activities during traveling to and from proposed project sites, including trenching and testing within the proposed project areas. Work performed for Solar Millennium.

# Julie A. Roy

## Archaeologist

**Ridgecrest Solar Power Project** (2009 - 2010). Archaeologist for surveys of the project area undertaken to determine if cultural resources are present and if there would be any project effects on these resources. Monitored contractor activities during the testing phase of the project to ensure that sites were not impacted during work activities. The project was located in Ridgecrest and work was performed for Solar Millennium.

**On-Call Archaeological Services** (Present). Archaeologist and Field Lead for County Parks infrastructure and maintenance activities for San Diego County Department of Parks and Recreation. Responsible for communication with County supervisors and contractors, and the coordination of project activities with cultural and Native American monitors for projects throughout San Diego and Imperial Counties. Other duties include records search, field survey, archaeological documentation and investigations including testing, excavations and data recovery projects and preparation of reports following CEQA and NEPA guidelines.

**Pacifica Street Utility Undergrounding Project** (2006). Archaeological Monitor/Crew Chief for residential utility undergrounding project in the community of Pacific Beach in San Diego. Trenches and cultural materials were documented in conjunction with a concurrent data recovery program. The project included working with Native American representatives and the discovery of human remains. The project was conducted under CEQA and City of San Diego guidelines while working closely with the construction contractor.

**Archaeological Monitoring, 20A Julian Conversion Project** (2006). Archaeological Monitor for undergrounding of utilities in the City of Julian. The project was conducted under the County of San Diego guidelines while working closely with the construction contractor.

**Data Recovery, Hill Street Utility Undergrounding Project** (2006). Archaeological Monitor participated in the data recovery for this residential utility undergrounding project in the community of Point Loma in San Diego. The project was conducted under CEQA and City of San Diego guidelines while working closely with the construction contractor.

**Archaeological Monitoring, 30th Street Utility Undergrounding Project** (2006). Archaeological Monitor for residential utility undergrounding project in the community of South Park in San Diego. The project was conducted under CEQA and City of San Diego guidelines while working closely with the construction contractor.

# CR Confidential Appendices

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Bound Separately  
(Not for Public Review)