APPENDIX B

BIOLOGICAL TECHNICAL REPORT AND MSHCP CONSISTENCY ANALYSIS

Biological Technical Report & MSHCP Consistency Analysis For LMC Murrieta Project

APN 910-410-011

Prepared for:
Lennar Multifamily Communities, LLC
95 Enterprise, Suite 200
Aliso Viejo, California 92656
Contact: Alec Chasman

Prepared by:

VCS Environmental
EXPERTS IN STRATEGIC SOLUTIONS

30900 Rancho Viejo Road, Suite 100
San Juan Capistrano, California 92675
Phone: 949.489.2700
Contact: Wade Caffrey

December 2022

This page intentionally left blank.

TABLE OF CONTENTS

TABLES

FIGURES

APPENDICES

1.0 INTRODUCTION

On behalf of Lennar Multifamily Communities, LLC, VCS Environmental (VCS) prepared this Biological Technical Report, which incorporates the findings from biological surveys conducted by VCS in March/April 2022. VCS prepared this report to support California Environmental Quality Act (CEQA) documentation for the LMC Murrieta Project (Project) with the City of Murrieta (City) as the lead agency.

1.1 Purpose and Approach

This report provides a summary of the conditions present during the March and April 2022 biological surveys, which included an assessment of the potential presence of sensitive biological resources, and an analysis of the potential impacts to those resources with implementation of the Project. This report identifies the current biological resources present within the Project site including habitat communities, and the potential for occurrence of special status plant and wildlife species. The potential biological impacts in view of federal, state, and local laws and regulations are also identified in this report. While general biological resources are discussed, the focus of this assessment is on those resources considered to be sensitive. The report also recommends, as appropriate, Best Management Practices (BMPs), avoidance, minimization, and mitigation measures to reduce or avoid potential impacts. This report was prepared based upon results of a literature review and field survey.

1.2 Terms

The following terms will be used throughout this document and are defined as follows:

- Project site: the approximately 18-acre property comprised of Assessor Parcel Number (APN) 910-410-011.
- Offsite roadway improvements area: the approximately 1.12-acre area outside of the Project site that will be subject to impacts for roadway improvements.
- Project Footprint: The approximately 14.42-acre area subject to impacts by Project activities that includes the western portion of the Project site and offsite roadway improvement areas along Murrieta Hot Springs Road and Jefferson Avenue. The Project Footprint excludes the riparian drainage feature and upland habitat within the eastern portion of the Project site.
- Burrowing Owl Study Area: includes the Project site and a 500-foot buffer around the Project site. This Study Area includes the entire Project Footprint.

1.3 Project Site Location

The Project is located in the City of Murrieta, Riverside County, California. The site is bordered by Murrieta Hot Springs Road to the northwest, Jefferson Avenue to the southwest, commercial development to the northeast, and open space to the southeast. Regional access to the site is provided by Murrieta Hot Springs Road from Interstate 15 (I-15) to the northeast (Figures 1 and 2; Regional Location and Aerial Maps). The Project site is located within Section 21, Township 7 South, and Range 3 West of the United States Geological Survey (USGS) Murrieta 7.5-minute quadrangle map (Figure 3).

1.4 Regional Environmental Setting

The Project site is located within the Temecula Valley, approximately 0.5 miles north of Murrieta Creek. This area of Riverside County is characterized by a mosaic of residential and commercial development and open space/agricultural uses.

2.0 PROJECT DESCRIPTION

Development of vacant land to accommodate 389 multi-family apartments up to 30 du/ac on +/- 13.0 Net Acres (18 Gross Acres). The site is located at the Southeast corner of Jefferson Avenue/Murrieta Hot Springs Road on Assessor Parcel Number (APN) 910-410-011. This market-rate apartment project includes 193 one-bedroom, 164 two-bedroom, and 32 three-bedroom units. There will be fifteen (15) residential buildings that are three-stories in height along with a 7,000 square foot, two-story amenity building that includes a leasing office, clubhouse, fitness center, co-working space, and mailroom. Additionally, the project will offer a pool, spa, dog park, carports, and garage parking. Refer to the site plan exhibit included as Figure 4.

2.1 Current Conditions and Past Site Use

The Project site is surrounded by commercial developments to the northeast, vacant land to the northwest and southeast, and both vacant land and commercial development to the southwest. The Project site supports two (2) vegetation community types, disturbed fiddleneck fields and red willow riparian woodland. Site photographs are attached as Appendix A.

The topography throughout the Project site is generally flat; elevations range from 1,072– 1,100 feet (~327 – 335 meters) above mean sea level (MSL) (Google Earth 2022).

3.0 REGULATORY CONTEXT

The following is a list of the relevant federal, state, and local laws and regulations that apply to protecting plant communities, plants, wildlife, and water quality from impacts within the Project Footprint.

Agency/ Organization	Laws/Regulations	Notes
Federal	Clean Water Act (CWA) Section 401	Jurisdictional Waters of the U.S. are present within the Project site, but will be avoided by Project activities and not included within the Project Footprint; therefore, a Section 401 permit from the Regional Water Quality Control Board (RWQCB) will not be required.
	CWA Section 404	Jurisdictional Waters of the U.S. are present within the Project site, but will be avoided by Project activities and not included within the Project Footprint; therefore, a Section 404 permit from the United States Army Corps of Engineers (USACE) will not be required.
	CWA Section 408	No facilities subject to Section 408 occur within the Project site or footprint.
	Migratory Bird Treaty Act (MBTA)	Compliance with the MBTA will be achieved with pre-construction surveys for nesting birds within three days prior to initiation of work.
	Endangered Species Act (ESA)	No federally listed species were observed within the Project site or offsite roadway improvements area during the 2022 surveys and are not considered to have moderate or high potential to occur.
State	Fish and Game Code (FGC) Section 1600	Jurisdictional Waters of the State are present within the Project site, but will be avoided by Project activities and not included within the Project Footprint; therefore, a section 1600 permit from the California Department of Fish and Wildlife (CDFW) will not be required.
	FGC Sections 3503, 3503.5, and 3513	These FGC sections offer protection of nesting birds, birds-of-prey, and migratory birds. Compliance will be maintained with a pre-construction survey for nesting birds (including birds-of-prey and migratory birds) within three days prior to initiation of work.
	FGC Section 4150	Prohibits incidental or deliberate “take” of non-game mammals, including bats. The Project Footprint does not provide suitable bat roosting habitat.
	California Endangered Species Act (CESA)	No state listed species were observed on the Project during the 2022 surveys.
	Porter-Cologne Water Quality Control Act and Waste Discharge Requirements (WDR)	Jurisdictional Waters of the State are present within the Project site, but will be avoided by Project activities and not included within the Project Footprint; therefore, authorization from the RWQCB will not be required.

County of Riverside	Western Riverside Multiple Species Habitat Conservation Plan (MSHCP)	The Project is located within the MSHCP and will therefore need to comply with provisions and regulations set forth by the MSHCP. Section 7.0 of this Biological Technical Report includes an MSHCP Consistency Analysis.

4.0 METHODS

4.1 Literature Review

4.1.1 Sensitive Plant Communities

Sensitive plant communities (sensitive habitats) as defined below, are of limited distribution statewide or within a county or region and are often vulnerable to environmental effects of projects. Sensitive habitats are often threatened with local extirpation and are therefore considered as valuable biological resources. Plant communities are considered "sensitive" by the California Native Plant Society (CNPS) and CDFW if they meet any of the following criteria listed below.

- The habitat is recognized and considered sensitive by CDFW, United States Fish and Wildlife Service (USFWS), and/or special interest groups such as CNPS.
- The habitat is under the jurisdiction of the USACE pursuant to Section 404 of the CWA.
- The habitat is under the jurisdiction of the CDFW pursuant to Sections 1600 through 1612 of the FGC.
- The habitat is known or believed to be of high priority for inventory in the California Natural Diversity Database (CNDDB).
- The habitat is considered regionally rare.
- The habitat has undergone a large-scale reduction due to increased encroachment and development.
- The habitat supports special status plant and/or wildlife species (defined below).
- The habitat functions as an important corridor for wildlife movement.

The most current version of CDFW's List of California Sensitive Natural Communities indicates which natural communities are sensitive given the current state of the California classification (CDFW 2022b).

4.1.2 Special Status Species

Species of plants and wildlife are afforded "special status" by federal agencies, state agencies, and/or non-governmental organizations (e.g., USFWS, CDFW, CNPS, and United States Forest Service [USFS]) because of their recognized rarity, potential vulnerability to extinction, and local importance. These species typically have a limited geographic range and/or limited habitat and

are referred to collectively as "special status" species. Plant and wildlife species are considered "special status" species if they meet any of the following criteria:

- Taxa with official status under ESA, CESA, and/or the Native Plant Protection Act (NPPA).
- Taxa proposed for listing under ESA and/or CESA.
- Taxa designated a species of special concern or a state fully protected species by CDFW.
- Taxa identified as sensitive, unique or rare, by the USFWS, CDFW, USFS, and/or the Bureau of Land Management (BLM).
- Plants that meet the definition of rare or endangered under the California Environmental Quality Act (CEQA) §15380(b) and (d). Species that may meet the definition of rare or endangered include the following:
  - Species considered by CNPS and CDFW to be "rare, threatened or endangered in California" (California Rare Plant Rank [CRPR] 1A, 1B and 2; CNPS 2022). A majority of the CRPR 3 and CRPR 4 plant species generally do not qualify for protection under CESA and NPPA.
  - Species that may warrant consideration on the basis of local significance or recent biological information.
  - Some species included on the CNDDB Special Vascular Plants, Bryophytes, and Lichens List (CDFW 2022c).
- Considered a locally significant species, that is, a species that is not rare from a statewide perspective but is rare or uncommon in a local context such as within a county or region (CEQA §15125 (c)) or is so designated in local or regional plans, policies, or ordinances. Examples include a species at the outer limits of its known range or a species occurring on an uncommon soil type.

Available literature and databases were reviewed regarding sensitive habitats and special status species. Special status species that have the potential to occur within the immediate region of the Project site were identified. Several agencies, including the USFWS, CDFW, and CNPS publish lists of particular taxa (species and subspecies) and the associated level of protection or concern associated with each. Reviewed and consulted literature and databases focused on the Project site and offsite roadway improvements area and included the following sources listed below:

- The CNDDB, a CDFW species account database that inventories status and locations of rare plants and wildlife in California, was used to identify any sensitive plant communities and

special status species that may exist within a two-mile radius of the Project site (CDFW 2022a) [Figure 5].

- Online CNPS Inventory of Rare and Endangered Plants of California (CNPS 2022). A search for the USGS 7.5-Minute Murrieta Quadrangle provided information regarding the distribution and habitats of special status vascular plants in the vicinity of the Project.

- A map of USFWS critical habitat to determine species with critical habitat mapped in the general vicinity of the Project (USFWS 2022a).

- Pertinent maps, scientific literature, websites, and regional flora and fauna field guides.

The literature review provided a baseline from which to inventory the biological resources potentially occurring within the Project site, as well as the surrounding area. Although the inventory list of special status wildlife species was not exhaustive of all species that might be of concern for the property, it provided a wide range of species that are representative of the wildland habitats in the area. Species occurrence and distribution information is often based on documented occurrences where opportunistic surveys have taken place; therefore, a lack of records does not necessarily indicate that a given species is absent from the Project site.

4.1.3 Jurisdictional Waters

The following sources were reviewed to determine the potential presence or absence of jurisdictional streams/drainages, wetlands, lakes, and their location within the watersheds associated with the Project site, and other features that might contribute to federal or state jurisdictional authority located within watersheds associated with the Project site:

- National Wetlands Inventory (NWI) maps (USFWS 2022b). The NWI database indicates potential wetland areas based on changes in vegetation patterns as observed from satellite imagery. This database is used as a preliminary indicator of wetland habitats because the satellite data is not precise;

- USGS National Hydrography Dataset (NHD). Provides the locations of “blue-line” streams as mapped on 7.5-Minute Topographic Map coverage;

- Aerial Imagery;

- USGS 7.5-Minute Topographic Maps; and

- Natural Resource Conservation Service (NRCS) Soil Survey.

4.2 Field Methodology

4.2.1 Vegetation Communities and Plants

General biological surveys were conducted within the Project site and offsite roadway improvements area on November 29, 2021, and March 15, 2022, by VCS biologists Wade Caffrey, Carla Marriner, and Molly Burdick-Whipp. The vegetation communities and habitat conditions were inspected to confirm presence and habitat quality of the vegetation found onsite. Where appropriate, descriptions of vegetation communities from the Manual of California Vegetation (MCV) second edition (Sawyer et al. 2009) were also utilized. Any deviations from standard vegetation classifications were made on best professional judgment when areas did not fit into a specific habitat description provided by the MCV. Vegetation communities were mapped using field observations and utilizing aerial imagery.

A rare plant focus survey was conducted within the Project site and offsite roadway improvements area on April 16 & May 13, 2022, by botanist CJ Fotheringham. During the survey, the botanist walked the entirety of the Project site, paying special attention to those areas that could host sensitive vegetation communities or had the potential to provide suitable habitat for special status plant species. Plant species were identified using plant field and taxonomical guides, such as The Jepson Manual: Vascular Plants of California, second edition (Baldwin et al. 2012). All plant species encountered during the field survey were identified and recorded in field notes.

4.2.2 Wildlife

During the March 15, 2022, general biological survey, biologists analyzed the Project site and offsite roadway improvements area for habitat areas that could be suitable for special status wildlife species. All wildlife species encountered visually or audibly during the field surveys were identified and recorded in field notes. Signs of wildlife species including wildlife tracks, burrows, nests, scat and remains, were also recorded. Binoculars were used to aid in the identification of observed wildlife and in areas not accessible on foot. Wildlife field guides and photographs were used to assist with identification of wildlife species during the field survey, as necessary. Assessments of presence/absence and potential for occurrence were made based on presence of suitable habitat to support the species, diagnostic signs (burrows, scat, tracks, vocalizations, and nests), known records or occurrence within the area, known distribution and elevation range, and habitat utilization from the relevant literature.

Burrowing Owl Survey Methods

Projects within the MSHCP Burrowing Owl Survey Area are subject to the MSHCP burrowing owl (*Athene cunicularia*) survey requirements. The entirety of the Project is within the MSHCP Burrowing Owl Survey Area; therefore, a burrowing owl habitat assessment was performed for the entire site. The burrowing owl assessment followed the guidelines identified in *Burrowing Owl*

Survey Instructions for the Western Riverside County Multiple Species Habitat Conservation Plan Area (County of Riverside 2006). The survey instructions note the following steps to the MSHCP burrowing owl assessment:

- Step 1: Habitat Assessment
- Step 2: Locating Burrows and Burrowing Owls
    - Part A: Focused Burrow Survey
    - Part B: Focused Burrowing Owl Surveys (4 separate surveys)

The habitat assessment (Step 1) was performed on March 3, 2022. The burrowing owl habitat assessment involved walking the Project site and surrounding 500-foot buffer (Study Area), which included the entirety of the offsite roadway improvements area, to determine if any areas hosted suitable habitat for burrowing owls. Soil conditions, topography, vegetative communities, and habitat quality were documented. A majority of the 500-foot buffer area surrounding the Project site was inaccessible due to legal access limitations; these areas were viewed through binoculars. During the habitat assessment it was immediately determined that the Study Area hosted suitable habitat for burrowing owls; therefore Step 2, locating Burrows and Burrowing Owl, was performed.

The focused burrow and focused burrowing owl surveys (Step 2, Parts A and B) involved walking through the Study Area depicted on Figure 6. The first survey, which included both the focused burrow survey and first of the focused burrowing owl surveys, included the entire Study Area. Commercial developed areas are located immediately northeast of the Project site and are considered unsuitable for burrowing owl; therefore, these areas were not assessed during the focused surveys.

The remaining three focused burrowing owl surveys were conducted within the areas where suitable habitat and burrows were identified during the first focused survey. The field methodology employed for the focused burrow and focused burrowing owl surveys was essentially the same. The pedestrian survey transects were spaced an appropriate distance apart to allow 100 percent visual coverage of the ground surface (approximately 10 to 15 meters [30 to 50 feet]; adjusted for specific field conditions including vegetation and topography). The biologists paid special attention to those habitat areas that appeared to provide suitable habitat for BUOW. Soil conditions, topography, vegetative communities, and habitat quality were documented.

All encountered burrows or structure entrances were checked for the presence of BUOWs, molted feathers, cast pellets, prey remains, eggshell fragments, tracks, or excrement at or near a burrow entrance. Natural or man-made structures and debris piles that could support BUOWs were also surveyed. All burrows were monitored at a short distance from the entrance, and at a location that would not interfere with owl behavior. All the burrow locations were recorded using GPS

technology. The surveys were not conducted during rain, high winds (> 20 miles per hour), dense fog, or temperatures above 90-degree Fahrenheit (°F).

The methods used to detect and identify BUOW included observation of key signs identified by the California Burrowing Owl Consortium (CBOC) such as sight, scat, tracks, burrows, nests, and calls. All wildlife species encountered visually or audibly during the field survey were identified and recorded in field notes. Binoculars were used to aid in the identification of observed wildlife. Photographs were taken to document existing conditions within the Study Area (Appendix A; Site Photographs).

Table 1. Survey Data for BUOW Focused Surveys

Survey No.	Survey Date	Time	Temperature High and Low (Fahrenheit)	Conditions	Personnel	Burrowing Owl Detected
1	March 3, 2022	06:30 – 09:15	42 – 59	Mostly sunny, 0-2 mph winds	MBW, DH	No
2	March 15, 2022	07:10 – 10:45	46 – 68	Sunny and clear, no wind	MBW, CM	No
3	April 5, 2022	07:15 – 10:30	51 – 70	Sunny and clear, 2-4 mph winds	MBW, CM	No
4	April 12, 2022	07:00 – 09:50	51 – 60	Partly cloudy (25% cover), 1-2 mph winds	MBW, DH	No

MBW: Molly Burdick-Whipp, CM: Carla Marriner, DH: Darcy Hardwick

4.2.3 Jurisdictional Waters

VCS biologists Wade Caffrey and Molly Burdick-Whipp assessed the presence or absence of potential jurisdictional streams/drainages within the Project site and offsite roadway improvements area on November 29, and December 13, 2021. During the December 2021 visit, the outer limits of Waters of the State and the Riparian and Riverine Areas were flagged and the project engineer then precisely surveyed the limits of the drainage (See photos 2, 7 and 8 of Appendix A). As can be seen on the exhibits the aerial imagery is not as precise as the engineer surveyed limits, however, the engineer surveyed limits are the precise location of the extent of jurisdictional waters. No soil pits for wetlands were taken because no potential wetlands occur within the development footprint and the project has made significant efforts to avoid the jurisdictional waters. Avoided areas were not analyzed to this extent because impacts are not proposed there.

During the field surveys, the site was assessed for jurisdictional wetland and non-wetland Waters of the United States (WOUS). To determine the presence of a wetland, three indicators are

required: (1) hydrophytic vegetation, (2) hydric soils, and (3) wetland hydrology. The RWQCB has exceptions to this methodology in situations where a site has soils and hydrology, but no vegetation is present; these areas may be considered wetlands by the RWQCB. The methodology published in the *United States Army Corps of Engineers 1987 Wetland Delineation Manual* and the *Arid West Supplement* sets the standards for meeting each of the three indicators, which normally require that 50 percent or more dominant plant species typical of a wetland, soils exhibiting characteristics of saturation, and hydrological indicators be present. Jurisdictional non-wetland Waters of the United States are typically determined through the observation of an Ordinary High Water Mark (OHWM), which is defined as the "line on the shore established by the fluctuation of water and indicated by physical characteristics such as a clear, natural line impressed on the bank, shelving, changes in the character of soil, destruction of terrestrial vegetation, the presence of litter and debris, or other appropriate means that consider the characteristics of the surrounding areas." Projects with impacts to Waters of the United States are regulated under Sections 401 and 404 of the Clean Water Act.

On June 22, 2020, a revised Navigable Waters Protection Rule regarding jurisdictional Waters of the United States went into effect. The revised rule stated that Waters of the United States do not include ephemeral features that flow only in direct response to precipitation, including ephemeral streams, swales, gullies, rills, and pools. Consistent with the U.S. District Court for the District of Arizona's August 30, 2021, order vacating and remanding the Navigable Waters Protection Rule, the regulatory agencies have halted implementation of the Navigable Waters Protection Rule and are interpreting Waters of the United States consistent with the pre-2015 regulatory regime until further notice.

The following guidance documents were utilized in making this determination:

- Field Guide to OHWM Determinations in the Arid West (August 2008);
- Updated OHWM Datasheet for the Field Guide to OHWM Determinations in the Arid West (July 2010); and
- Ordinary High Flows and the Stage-Discharge Relationship in the Arid West Region (2011).

The CDFW and the RWQCB take jurisdiction over Waters of the State (WOS) and Riparian/Riverine resources (California Fish and Game Code §§1600 et seq.; California Code of Regulations, Title 14, §720). Section 1602 of the California Fish and Game Code (FGC) applies to natural rivers, streams, and lakes:

> "An entity may not substantially divert or obstruct the natural flow of, or substantially change or use any material from the bed, channel, or bank of, any river, stream, or lake, or deposit or dispose of debris, waste, or other material containing crumbled, flaked, or ground pavement where it may pass into any river, stream, or lake."

The site was assessed for jurisdictional WOS during the field survey using guidance from Section 1600 of the FGC and Brady and Vyverberg (2013), which defines a stream as "a body of water that flows perennially or episodically and that is defined by the area in which water currently flows, or has flowed, over a given course during the historic hydrologic course regime, and where the width of its course can reasonably be identified by physical or biological indicators." CDFW regulates wetland areas only to the extent that those wetlands are part of a stream, river, or lake as defined by the CDFW.

5.0 RESULTS

5.1 Vegetation

5.1.1 Vegetation Communities/Land Cover

Vegetation/land cover mapping and acreages for each vegetation community and land type within the Project site and offsite roadway improvements area can be found in Table 2 and are depicted on Figure 7. The majority of the vegetation within the Project site is characterized by open fields comprised of herbaceous forbs and grasses vegetated with a variety of non-native and early successional weedy plant species. A drainage feature with riparian trees is present within the Project site.

Representative photographs of the Project site are included as Appendix A.

Table 2. Vegetation Communities/Land Cover Observed

Vegetation Community/Land Cover Type	Project Site (acres)	Offsite Roadway Improvements Area (acres)
Disturbed fiddleneck fields	16.49	1.12
Red willow riparian woodland	1.50	-
Total	**17.99**	**1.12**

5.1.1.1 Disturbed Fiddleneck Fields

Approximately 16.49 acres of disturbed fiddleneck fields (*Amsinckia* (*menziesii, tessellata*) Herbaceous Alliance) was mapped within a majority of the Project site, and 1.12 acres in within the offsite roadway. This area is subject to regular vegetation maintenance for fire abatement. Native plant species observed within this area include common fiddleneck (*Amsinckia intermedia*) and hairy leaved sunflower (*Helianthus annuus*). Non-native plant species observed include short-pod mustard (*Hirschfeldia incana*), red brome (*Bromus rubens*), and hairy vetch (*Vicia villosa*). A full list of plant species observed is included as Appendix B.

5.1.1.2 Red Willow Riparian Woodland

Approximately 1.50 acres of red willow riparian woodland (*Salix gooddingii - Salix laevigata* Forest & Woodland Alliance) was mapped within the drainage feature that flows through the site. This community includes native riparian scrub such as red willow (*Salix laevigata*), Fremont cottonwood (*Populus fremontii*), and mulefat (*Baccharis salicifolia*).

5.1.1.3 Special Status Vegetation Communities

Red willow riparian woodland represents a sensitive vegetation community (CDFW 2022b). No other sensitive vegetation communities occur onsite.

5.1.2 Plants

A total of 70 plant species were observed within the Project site during the March 15, 2022, general biological survey and April/May 2022 rare plant surveys. The species observed are listed in Appendix B.

5.1.2.1 Sensitive Plant Species with Potential to Occur

No sensitive plant species were observed within the Project site during the April 26 & May 13, 2022, rare plant surveys. Based on the habitat found onsite, special status plant species have been determined not likely to occur onsite, primarily based on the absence of suitable habitat and negative findings during spring botanical surveys.

San Diego (paniculate) tarplant (*Deinandra paniculata*) is believed to occur on the Project site, but as none were flowering at the time of the rare plant surveys, a definitive identification is not available. San Diego tarplant has a CRPR of 4.

An assessment of sensitive plant species and their potential to occur, as well as their federal/ state/local classifications, are listed in Appendix C.

5.1.3 Soils

The U.S. Department of Agriculture Natural Resources Conservation service (NRCS 2022) identifies five (5) soil types present within the Project site and offsite roadway improvements area (Figure 8; Soil Map). See below for a complete list of soil types identified within the site.

- Grangeville Series: This series consists of very deep, somewhat poorly drained soils that formed in moderate coarse textured alluvium dominantly from granitic rock sources. Grangeville soils are on alluvial fans and floodplains. Some areas are saline and saline-sodic affected.
    - GtA – Grangeville fine sandy loam, drained, 0 to 2 percent slopes
- Greenfield Series: The Greenfield series consists of deep, well drained soils that formed in moderately coarse and coarse textured alluvium derived from granitic and mixed rock sources. Greenfield soils are on alluvial fans and terraces and have slopes of 0 to 30 percent.
    - GyA – Greenfield sandy loam, 0 to 2 percent slopes

- Monserate Series: The Monserate series is a member of the fine-loamy, mixed, thermic family of Typic Durixeralfs. Typically, Monserate soils have brown and yellowish red, slightly acid, sandy loam A horizons, reddish brown, neutral, sandy clay loam B2t horizons underlain by silica-cemented duripans. The Monserate soils are on nearly level to moderately steep old, dissected terraces and fans at elevations of 700 to 2,500 feet.
    - MmC2 – Monserate sandy loam, 5 to 8 percent slopes, eroded
    - MnE3 – Monserate sandy loam, shallow, 15 to 25 percent slopes, severely eroded
- Ramona Series: The Ramona series is a member of the fine-loamy, mixed, thermic family of Typic Haploxeralfs. The Ramona soils are nearly level to moderately steep, on terraces and fans at elevations of 250 to 3,500 feet. They formed in alluvium derived mostly from granitic and related rock sources.
    - RaB2 – Ramona sandy loam, 2 to 5 percent slopes, eroded

5.2 Wildlife

A total of 23 wildlife species or signs thereof were observed during the March/April 2022 surveys. These species are listed in Appendix B.

Common birds observed include American crow (*Corvus brachyrhynchos*), black phoebe (*Sayornis nigricans*), mourning dove (*Zenaida macroura*), and Cassin's kingbird (*Tyrannus vociferans*). Raptors observed include red-tailed hawk (*Buteo jamaicensis*). Mammals observed include Audubon's cottontail (*Sylvilagus audubonii*) and California ground squirrel (*Otospermophilus beecheyi*).

5.2.1 Sensitive Wildlife Species with Potential to Occur

Sensitive wildlife species with high or moderate potential to occur within the Project site or offsite roadway improvements area, but not observed during the biological surveys, include:

- burrowing owl, a CDFW Species of Special Concern and USFWS Bird of Conservation Concern
- California glossy snake (*Arizona elegans occidentalis*), a CDFW Species of Special Concern
- California horned lark (*Eremophila alpestris actia*), a CDFW Watch List species
- coastal California gnatcatcher (*Polioptila californica californica*), a federally threatened species and CDFW Species of Special Concern
- grasshopper sparrow (*Ammodramus savannarum*), a CDFW Species of Special Concern
- least Bell's vireo (*Vireo bellii pusillus*), a federally and State endangered species
- San Diego black-tailed jackrabbit (*Lepus californicus bennettii*), a CDFW Species of Special Concern

- Southern California rufous-crowned sparrow (*Aimophila ruficeps canescens*), a CDFW Watch List species
- southwestern willow flycatcher (*Empidonax traillii extimus*), a federally and State endangered species

One sensitive species was observed outside of the Project site, within 500 feet of the site: Cooper's hawk (*Accipiter cooperii*), a CDFW Watch List species.

A complete list of sensitive wildlife species analyzed with potential to occur within the Project site and offsite improvements area are included in Appendix C. The sensitive species noted above with high or moderate potential to occur are described in further detail below.

Burrowing Owl

The burrowing owl is a small, tan, ground-dwelling owl that occupies and nests in underground burrows. The species is associated with grasslands and other arid open terrain throughout much of the western United States. Burrowing owls are opportunistic in their selection of burrows, typically utilizing the burrows of small mammals, drainpipes, culverts, and other suitable cavities at or below ground level. In California, the species often occurs in association with colonies of the California ground squirrel (*Otospermophilus beecheyi*), where it makes use of the squirrel's burrows. A burrow can be up to 10 feet in length with an enlarged terminal nesting chamber. The entrance of the burrow is often adorned with animal dung, feathers, debris, and other small objects. The species is active both at day and at night and may be seen perching conspicuously on fence posts or standing at the entrance of their burrows.

Due to the characteristic fossorial habits of burrowing owls, burrows are a critical component of their habitat. In southern California, burrowing owls are not only found in undisturbed natural areas, but also fallow agricultural fields, margins of active agricultural areas, berms to flood control and creek channels, livestock farms, airports, and vacant lots. Declines in burrowing owl populations are attributed to loss and degradation of habitat, to ongoing residential and commercial development, and to rodent control programs.

No burrowing owls or signs of burrowing owl were observed during the March/April 2022 focused surveys. There have been no previous burrowing owl observations recorded onsite. The site provides suitable habitat for the species, including suitably sized burrows (>4 inches in diameter) and foraging habitat, although the site generally lacks suitable perches for owls. Overall, suitable habitat for burrowing owl is present onsite and multiple recorded observations of the species occur within two miles of the Project site.

California Glossy Snake

This subspecies of Glossy Snake occurs from the eastern part of the San Francisco Bay Area south to northwestern Baja California. It is absent along the central coast. This species was not observed during the March/April 2022 surveys. This species has a moderate potential to occur within the drainage feature which contains sandy habitat, as well as a rock riprap area located southeast of the Project site.

California Horned Lark

Horned larks are widespread songbirds of fields, deserts, and tundra, where they forage for seeds and insects, and sing a high, tinkling song. They favor bare, dry ground and areas of short, sparse vegetation and avoid places where grasses grow more than a couple of inches high. The nest site is selected on bare ground. This species has a moderate to high potential to occur as the Project site provides suitable foraging and nesting habitat.

Coastal California Gnatcatcher

The coastal California gnatcatcher is an obligate, permanent resident of coastal sage scrub habitat in arid washes, on mesas, and on slopes in southern California. The Project site and offsite roadway improvements area do not contain suitable nesting habitat for the species, however, coastal sage scrub occurs on the opposite side of Jefferson Avenue to the southwest, within 100 feet of the site. There is a moderate potential for gnatcatcher to occur on the Project site for foraging due to nearby coastal sage scrub, but no breeding habitat is present. This species was not incidentally observed within the Project site or within adjacent habitats during the March/April 2022 biological surveys.

Cooper's Hawk

This hawk species occurs in forest and woodland habitats. These hawks are a regular sight in parks, quiet neighborhoods, over fields, at backyard feeders, and even along busy streets if there are trees around. A Cooper's hawk was observed outside of the Project site, within 500 feet of the site to the west during the March/April 2022 biological surveys.

Grasshopper Sparrow

The grasshopper sparrow is a stubby-tailed and bull-necked songbird found in grasslands, prairies, hayfields, and open pastures with little to no scrub cover and often with some bare ground. When not singing its quiet, insect like song from atop a stalk in a weedy pasture, it disappears into the grasses where it usually runs along the ground rather than flies. This species was not observed during the March/April 2022 biological surveys. The grasshopper sparrow has a low-moderate

potential to occur within the Project site for foraging, however the site lacks suitable nesting habitat for the species.

Least Bell's Vireo

The least Bell's vireo is a small, olive-gray, migratory songbird that primarily occupies riverine riparian habitats that typically feature dense cover within 1-2 meters of the ground and a dense, stratified canopy. Suitable riparian habitat for this species occurs within the drainage feature onsite. This species was not observed within the onsite or adjacent riparian habitat during protocol surveys conducted in 2005 (Klinefelter 2005). This species was not incidentally observed within the onsite or adjacent riparian habitat during the March/April 2022 biological surveys. The remainder of the Project site and offsite roadway improvements area lack suitable nesting and foraging habitat for this species.

San Diego Black-Tailed Jackrabbit

This jackrabbit species is found throughout southern California in forests, chaparral, and coastal sage scrub. The species was not observed during the March/April 2022 biological surveys, however, suitable habitat occurs within the Project site for the species.

Southern California Rufous-Crowned Sparrow

This bulky, long-tailed sparrow is found on moderate to steep dry, grass-covered hillsides, coastal sage scrub, and chaparral; preference is shown for tracts of California sagebrush. The Project site and offsite roadway improvements area do not contain suitable nesting habitat for the species, however, coastal sage scrub occurs on the opposite side of Jefferson Avenue to the southwest, within 100 feet of the site. There is a low-moderate potential for this species to occur on the Project site for foraging due to nearby coastal sage scrub, but no breeding habitat is present. This species was not observed within the Project site or within adjacent habitats during the March/April 2022 biological surveys.

Southwestern Willow Flycatcher

Willow flycatchers occupy areas with willows or other shrubs near standing or running water. The southwestern willow flycatcher is present in breeding territories by mid-May, including southern California. It breeds in relatively dense riparian tree and shrub communities associated with rivers, swamps, and other wetlands including lakes and reservoirs. Suitable riparian habitat for this species occurs within the drainage feature onsite. This species was not observed within the onsite or adjacent riparian habitat during protocol least Bell's vireo surveys conducted in 2005 (Klinefelter 2005). This species was not incidentally observed within the onsite or adjacent riparian habitat during the March/April 2022 biological surveys. The remainder of the Project site and offsite roadway improvements area lack suitable nesting and foraging habitat for this species.

5.2.2 Critical Habitat

The USFWS's online service for information regarding Threatened and Endangered Species Final Critical Habitat designation within California was reviewed to determine if the Project Footprint occurs within any species designated Critical Habitat. Non-Critical Habitat occur on or adjacent to the site; the nearest Critical Habitat area is thread-leaved brodiaea (*Brodiaea filifolia*) habitat located approximately 4 miles southwest of the Project site.

5.2.3 Wildlife Movement

Wildlife corridors link together areas of suitable habitat that are otherwise separated by rugged terrain, changes in vegetation, or human disturbance. The fragmentation of open space areas by urbanization creates isolated "islands" of wildlife habitat. Corridors effectively act as links between different populations of a species. An increase in a population's genetic variability is generally associated with an increase in a population's health.

Corridors mitigate the effects of habitat fragmentation by:

- Allowing wildlife to move between remaining habitats, which allows depleted populations to be replenished and promotes genetic diversity;
- Providing escape routes from fire, predators, and human disturbances, thus reducing the risk that catastrophic events (such as fires or disease) will result in population or local species extinction; and
- Serving as travel routes for individual wildlife species as they move within their home ranges in search of food, water, mates, and other needs (Fahrig and Merriam 1985, Simberloff and Cox 1987, Harris and Gallagher 1989).

Wildlife movement activities usually fall into one of three movement categories:

- Dispersal (e.g., juvenile animals from natal areas, individuals extending range distributions);
- Seasonal migration; and
- Movements related to home range activities (foraging for food or water, defending territories, searching for mates, breeding areas, or cover).

The Project site is bounded by roadways or development on three sides, while a majority of the site itself is comprised of fields dominated by grasses and forbs. The onsite riparian drainage feature provides local connectivity between upstream habitats and Murrieta Creek, an important regional resource located downstream of the Project site.

5.2.4 Avian Nesting and Bat Roosts

There is potential for avian nesting within the Project site. The open fields provide suitable habitat for ground-nesting avian species. The riparian trees within the drainage feature onsite provide suitable habitat for tree nesting avian species and potential suitable bat roosting habitat. The biologists did not observe signs of nests, nesting activity or bat roosting within the Project site during the March/April 2022 biological surveys.

5.3 Jurisdictional Waters

5.3.1 National Wetland Inventory

The USFWS's National Wetland Inventory (USFWS [2022b]) identifies a riverine feature that transects the Project site, as shown in Figure 9.

5.3.2 Hydrology and Jurisdictional Waters

The Project lies within the Santa Margarita River watershed. The riparian drainage feature that enters the northeastern portion of the Project site and continues to the southern corner of the site contains streambed and riparian habitat jurisdictional to USACE, RWQCB, CDFW, and MSHCP. This feature is an unnamed tributary to Murrieta Creek, which is located approximately 0.5 miles south of the Project site. Please refer to Figure 10.

An abandoned metal pipe is located in the western corner of the site. Based on a review of the hydrology reports prepared for the Project, historical aerial imagery, and a lack of drainage features associated with the pipe, it appears that this is an abandoned pipe that does not convey waters that are jurisdictional to the resource agencies noted above.

No other aquatic resources occur within the Project site or offsite roadway improvements area.

6.0 PROJECT IMPACTS

6.1 Vegetation

6.1.1 Potential Impacts to Vegetation Communities

Potential impacts to vegetation communities/land cover types due to implementation of the Project includes the entire Project Footprint, totaling approximately 14.42 acres, which includes the habitats shown below in Table 3.

Table 3. Potential Impacts to Vegetation Communities within the Project Footprint

Vegetation Community/Land Cover Type	Project Footprint (acres)
Disturbed fiddleneck fields	14.42
Total	**14.42**

Direct impacts to developed areas are considered less than significant due to the lack of natural habitat. Direct impacts to disturbed fiddleneck fields are considered less than significant because this habitat contains an abundance of non-native vegetation, is common in the surrounding vicinity, and does not represent a CNDDB or CDFW sensitive plant community.

A portion of the Project site contains red willow riparian woodland which represents a sensitive vegetation community (CDFW 2022b), however, this vegetation community will be avoided by Project activities and is located outside of the Project Footprint as verified by the precise survey points taken by the project engineer and previously described under the jurisdictional waters section. The Project Footprint does not support any sensitive vegetation communities. Thus, the Project will not directly impact sensitive vegetation communities. The Project will implement BMPs as described in Section 11.0 to avoid direct or indirect impacts to the riparian woodland habitat.

6.1.2 Potential Impacts to Special Status Plants

One plant species likely to occur within the Project site, San Diego tarplant (*Deinandra paniculata*), has a CRPR of 4, which does not clearly meet CEQA standards and thresholds for impact considerations.

Due to the lack of suitable habitat and/or lack of detection during the focused rare plant surveys conducted onsite, special status plant species are not anticipated to occur within the Project site or Project Footprint. Thus, no impacts will occur to special status plant species.

6.2 Wildlife

6.2.1 Potential Impacts to Special Status Wildlife

Burrowing owl has moderate potential to occur within the Project site as suitable burrows are present and multiple occurrences of this species have been documented within two miles of the site. No burrowing owl or sign of burrowing owl was observed during the March/April 2022 focused surveys. Construction activities within the Project Footprint would be implemented in accordance with mitigation requirements outlined in Section 9.0, including conducting a pre-construction burrowing owl presence/absence survey within 30 days prior to the start of work.

Some suitable habitat for California glossy snake is present within the drainage onsite, however, habitat associated with the drainage will be avoided by Project activities and is not included in the Project Footprint. No impacts to California glossy snake are anticipated with Project implementation.

The riparian woodland habitat within a portion of the Project site provides suitable habitat for least Bell's vireo and southwestern willow flycatcher. A Cooper's hawk was observed within the riparian habitat upstream of the site, to the west (within 500 feet). The riparian habitat will be avoided by Project activities and is not included within the Project Footprint. No direct impacts to these species will occur with implementation of the Project. The Project will implement BMPs as described in Section 11.0 and mitigation measures described in Section 9.0 to avoid direct or indirect impacts to the riparian woodland habitat and nesting birds, which includes a pre-construction nesting bird survey.

California horned lark, grasshopper sparrow, and San Diego black-tailed jackrabbit have potential to occur on the Project site for foraging. The site can provide nesting habitat for California horned lark. The Project Footprint includes only a portion of the Project site; the remainder of the site will continue to provide potential habitat for these species. The loss of approximately 14.42 acres of habitat for these species would not decrease populations below self-sustaining levels given the availability of habitat remaining in the region. Therefore, impacts would be less than significant per CEQA. Individuals are expected to move to adjacent habitat during construction activities; therefore, there would be no direct mortality on these species. To avoid impacts to avian species during the nesting season, construction activities within the Project Footprint would be implemented in accordance with mitigation requirements outlined in Section 9.0, which includes a pre-construction nesting bird survey.

Coastal sage scrub habitat occurs within 100 feet west of the Project site that provides suitable habitat for coastal California gnatcatcher and Southern California rufous-crowned sparrow. The Project site can provide suitable fly-over or foraging habitat for these species due to its proximity to coastal sage scrub, however, the Project site does not provide suitable breeding habitat. To

avoid impacts to avian species during the nesting season, construction activities within the Project Footprint would be implemented in accordance with mitigation requirements outlined in Section 9.0, which includes a pre-construction nesting bird survey.

The remaining species listed in Appendix C are not expected to occur on the Project site or Project Footprint due to the lack of suitable habitat or the Project site/Footprint is outside the known elevation range for the species. Therefore, there would be no impact on these species and no mitigation would be required.

With the inclusion of standard BMPs as noted in Section 11.0, *Best Management Practices*, and mitigation recommendations in Section 9.0, *Significance Determination and Proposed Mitigation*, potential impacts to these special status wildlife species would be considered less than significant.

6.2.2 Potential Impacts to Critical Habitat

The Project site/Project Footprint does not fall within any USFWS-designated Critical Habitat.

6.2.3 Potential Impacts to Wildlife Movement/Nesting/Bat Roosts

Wildlife Movement

The riparian drainage feature within the Project site provides local connectivity between upstream habitats and Murrieta Creek, an important regional resource located downstream of the Project site. This resource will be avoided by Project activities and will continue to provide local connectivity for wildlife. Those areas comprising the Project Footprint are bounded by roadways and do not play a significant role in wildlife movement. No long-term or significant effects to wildlife movement are anticipated due to Project implementation.

Nesting Birds

Due to the potential for onsite bird nesting, Project construction could result in impacts to nesting birds. Recommended measures include a pre-construction nesting bird survey as outlined in Section 9.0 of this report. These measures would ensure potential impacts to nesting birds are less than significant.

Bat Foraging and Roosting Habitat

Suitable bat roosting habitat occurs within the riparian willow habitat within the Project site, however, this resource will be avoided by Project activities. No bat roosting habitat will be directly impacted. The existing vegetation within the Project Footprint represents marginally suitable foraging habitat. Permanent impacts on foraging habitat would be less than significant given the habitat onsite is marginal and given the availability of other locations with suitable roosting and

foraging habitat remaining in the adjacent open space lands and in the region. Therefore, no mitigation would be required for permanent impacts within the Project Footprint.

6.3 Jurisdictional Waters

6.3.1 Potential Impacts to Jurisdictional Waters

A drainage feature containing riparian willow habitat occurs within the Project site, however, the drainage and riparian canopy will be avoided by Project activities as confirmed through precise survey data taken by the project engineer as described above; therefore, no direct impacts to these resources will occur with Project implementation. To minimize indirect impacts to the drainage feature and riparian habitat, standard BMPs will be implemented as described in Section 11.0.

7.0 MSHCP CONSISTENCY ANALYSIS

The purpose of this section is to provide an analysis of the proposed Project with respect to compliance with biological aspects of the Western Riverside County MSHCP. The following information is provided relating the Project site to geographic areas of the MHSCP that are relevant to reserve assembly and planning. This information will form the basis of a consistency determination for the Project.

Section 6 of the MSHCP states that all Projects must be reviewed for compliance with plan policies pertaining to Riparian/Riverine resources, Criteria resources, Narrow Endemic Plant Species, urban/wildlands interface, and additional survey needs as applicable.

7.1 Reserve Assembly Analysis

The Project is located within the Southwest Area Plan of the MSHCP within the Santa Ana Mountains Habitat Management Unit. The Project site/Project Footprint is not located within an MSHCP Criteria Cell or Cell Group. As such, the Project is not subject to the Joint Project Review (JPR) or Habitat Acquisition and Negotiation (HANS) processes.

7.2 Project Area in Relation to MSHCP

7.2.1 Public Quasi-Public Lands

The Project is not located on Public Quasi-Public (PQP) lands. The nearest PQP lands are located within the Santa Rosa Plateau Ecological Reserve, approximately 1.5 miles to the southwest. The Project will not directly or indirectly impact PQP lands.

7.2.2 Covered Roads

The Western Riverside County Regional Conservation Authority's MSHCP Information Map (MSHCP 2021) identifies the portions of Murrieta Hot Springs Road and Jefferson Avenue that bound the Project site to the north and west as Covered Roads. Murrieta Hot Springs Road is identified as a Collector Road and Jefferson Avenue is identified as an Arterial Road.

Portions of these roads will be subject to impacts as part of roadway improvement activities, the total which does not exceed the covered road acreages for these roads.

7.2.3 Urban/Wildlands Interface (Section 6.1.4)

The MSHCP recognizes that future development in proximity to existing or proposed MSHCP Conservation Areas might result in indirect edge effect conditions that will adversely affect biological resources within the MSHCP Conservation Area. For the purpose of this analysis, proximity to an MSHCP Conservation Area is generally considered to be within 1,000 feet. The

MSHCP provides guidelines to address the indirect effects of urban/wildlands interfaces, as outlined in Section 6.1.4, including conditions relating to drainage, toxics, lighting, noise, invasive plant species, barriers, and grading/land development.

The proposed Project is not located within or in proximity to a Conservation Area, which include PQP lands. Thus, guidelines to address the indirect effects of urban/wildlands interfaces as presented in Section 6.1.4 are not required of the Project, however, because suitable least Bell's vireo habitat is in close proximity to the Project, the Project has proactively decided to implement additional BMPs consistent with the Urban/Wildlands Interface Guidelines detailed in Section 11 below.

7.3 Protection of Species Associated with Riparian/Riverine Areas and Vernal Pools (Section 6.1.2)

The proposed Project Footprint was assessed for MSHCP Section 6.1.2 resources, including riparian/riverine resources, vernal pools, fairy shrimp, and riparian birds.

7.3.1 Riparian/Riverine

7.3.1.1 Methods

Section 6.1.2 of the MSHCP states that "riparian/riverine resources are lands which contain habitat dominated by trees, shrubs, persistent emergent [wetland plant species], or emergent mosses and lichens, which occur close to, or which depend upon moisture from a nearby freshwater source; or areas with freshwater after flow during all or a portion of the year." To determine the areas where "Riparian/Riverine Areas" are present, the delineators conducted site visits to walk the entire Project site and offsite roadway improvements area and reviewed historical aerial imagery.

VCS performed a jurisdictional delineation and vegetation mapping onsite in November and December 2021. All areas of the Project site and offsite roadway improvements were evaluated for the presence of riparian/riverine areas, including wetlands. All drainages encountered were also examined for connectivity or lack of connectivity to other hydrologic features. Dominant vegetation within the drainages or adjacent to the drainages were identified and recorded.

7.3.1.2 Existing Conditions and Results

A drainage feature containing riparian/riverine resources occurs within the Project site, however, the drainage and riparian canopy will be avoided by Project activities; therefore, no direct impacts to these resources will occur with Project implementation. To minimize indirect impacts to the drainage feature and riparian habitat, standard BMPs will be implemented as described in Section 11.0.

7.3.2 Vernal Pools and Fairy Shrimp

7.3.2.1 Methods

Section 6.1.2 of the MSHCP states that "Vernal pools are seasonal wetlands that occur in depression areas that have wetland indicators of all three parameters (soils, vegetation and hydrology) during the wetter portion of the growing season but normally lack wetland indicators of hydrology and/or vegetation during the drier portion of the growing season".

The entire Project site and offsite roadway improvements area was assessed for potential vernal pool habitat during the 2021 and 2022 biological surveys. In addition, the following sources were reviewed to aid in the site assessment for vernal pool habitat: National Wetlands Inventory (NWI), current and historic aerial imagery, and NRCS Soil Survey.

7.3.2.2 Existing Conditions and Results

During the surveys, no evidence of ponding water, such as visible surface water, cracked soils, or hydric soils were observed. Additionally, no vegetation typical of vernal pools or seasonal depressions was observed. Based on the lack of typical features that could collect water, lack of ponding water evidence, and the lack of vegetation typical of vernal pools or seasonal depressions, suitable conditions for vernal pools, fairy shrimp, and other sensitive species associated with vernal pools are not considered present on site.

7.3.3 Riparian Birds

The MSHCP lists five bird species for protection based off association with riparian/riverine and vernal pool habitats. These species include bald eagle (*Haliaeetus leucocephalus*), least Bell's vireo (*Vireo bellii pusillus*), peregrine falcon (*Falco peregrinus*), southwestern willow flycatcher (*Empidonax traillii extimus*), and western yellow-billed cuckoo (*Coccyzus americanus occidentalis*).

7.3.3.1 Methods

During the March 15, 2022, general biological survey, biologists analyzed the Project site and offsite roadway improvements area for habitat areas that could be suitable for special status wildlife species, including any riparian habitats that could provide suitable nesting or foraging habitat for Section 6.1.2 wildlife species. Prior to the surveys, a literature and database review were performed, as described in Section 4.1, to identify any special status wildlife species that have the potential to occur within the immediate region of the Project site.

7.3.3.2 Existing Conditions and Results

Riparian willow habitat occurs within portions of the Project site that could support least Bell's vireo and southwestern willow flycatcher, however, this habitat will be avoided by Project activities because no riparian habitat exists within the Project Footprint. Protocol surveys

conducted within the Project site in 2005 were negative for least Bell's vireo and southwestern willow flycatcher (Klinefelter 2005) and VCS biologists did not incidentally observe these species during the March/April 2022 biological surveys. In addition, the CNDDB database review identified the nearest historic occurrence of LBVI approximately 0.82 miles away from the site, and the most recent sighting in 2016. Western yellow-billed cuckoo has not been documented on CNDDB within 2 miles of the Project.

The avoided riparian willow habitat is not extensive enough to support western yellow-billed cuckoo (Laymon and Halterman 1989) and the tree canopy and prey base is unlikely to support bald eagle.

No suitable nesting habitat occurs on the Project site for peregrine falcon. While the Project site offers a small amount of open space grassland habitat for raptor foraging, no significant bodies of water occur within the Project site and the level of disturbance within and near the site would likely preclude peregrine falcon from utilizing the site for foraging. This species is not anticipated to occur within the Project site.

7.3.3.3 Impacts and Mitigation

Direct impacts to least Bell's vireo, southwestern willow flycatcher, western yellow-billed cuckoo, peregrine falcon, and bald eagle are not anticipated due to the lack of suitable nesting and foraging habitat for these species within the Project Footprint. Due to the presence of suitable riparian habitat located adjacent to the Project Footprint, indirect impacts to nesting least Bell's vireo and southwestern willow flycatcher could occur as a result of Project activities during the breeding season.

To avoid impacts to avian species during the nesting season, construction activities within the Project Footprint would be implemented in accordance with mitigation requirements outlined in Section 9.0, which includes a pre-construction nesting bird survey. Additionally, BMPs outlined in Section 11, including biological monitoring and implementation of the Urban/Wildlands Interface Guidelines as BMPs will further avoid impacts to sensitive and common bird species.

7.4 Protection of Narrow Endemic Plant Species (Section 6.1.3)

The Project does not fall within the mapped survey area for Narrow Endemic Plant Species.

7.5 Additional Survey Needs and Procedures (Section 6.3.2)

7.5.1 Criteria Area Plant Species

The Project does not fall within the mapped survey area for Criteria Area Plant Species.

7.5.2 Amphibians

The Project does not fall within the mapped survey area for amphibian species.

7.5.3 Burrowing Owl

Projects within the MSHCP Burrowing Owl Survey Area are subject to the MSHCP burrowing owl survey requirements. The entirety of the Project is within the MSHCP Burrowing Owl Survey Area (Figure 11).

7.5.3.1 Methods

The burrowing owl assessment followed the guidelines identified in *Burrowing Owl Survey Instructions for the Western Riverside County Multiple Species Habitat Conservation Plan Area* (County of Riverside 2006). The methods employed are described in further detail in Section 4.2.2 of this Biological Technical Report.

7.5.3.2 Existing Conditions and Results

As described in Section 5.2.1, no burrowing owl or active signs thereof (e.g., active burrows, whitewash, pellets, etc.) were observed during the four focused surveys within the Study Area. Suitable burrows were observed within the Study Area during the surveys. The burrows depicted on Figure 6 are considered potentially suitable (>4 inches in diameter) for burrowing owls.

7.5.3.3 Impacts and Mitigation

No burrowing owl, nor signs thereof, were observed within the burrowing owl Study Area, therefore, impacts to burrowing owl are not anticipated.

The Project Footprint does, however, contains habitat suitable for burrowing owl. A pre-construction survey will be conducted within 30 days prior to ground disturbance of the property including vegetation clearing, clearing and grubbing, tree removal, or site watering. If burrowing owl have colonized the Project Footprint prior to initiation of construction, the Project proponent will immediately inform the City and Wildlife Agencies and will need to prepare a Burrowing Owl Protection and Relocation Plan a well as a Determination of Biologically Equivalent or Superior Preservation (DBESP) for approval by the City and the Wildlife Agencies prior to initiating ground disturbance. Additionally, if ground-disturbing activities occur, but the site is left undisturbed for more than 30 days, a pre-construction survey will again be necessary to ensure burrowing owl have not colonized the site since it was last disturbed. If burrowing owl are found, the same coordination described above will be necessary.

7.5.4 Mammals

The proposed Project does not fall within a mapped survey area for mammals.

7.6 Information on Other Species

7.6.1 Delhi Sands Flower Loving Fly

Delhi soil types are not mapped within the proposed Project site or offsite roadway improvements area, and therefore, no surveys are required for the Delhi sands flower-loving fly.

7.6.2 Species Not Adequately Conserved

Species listed in Table 9-3 (*REQUIREMENTS TO BE MET FOR 28 SPECIES PRIOR TO INCLUDING THOSE SPECIES ON THE LIST OF COVERED SPECIES ADEQUATELY CONSERVED*) of the MSHCP were evaluated for potential to occur within the Project site and offsite roadway impacts area and are included in Appendix C.

Of the species listed in Table 9-3, two species exhibited at least a low-moderate potential to occur within the Project site. Grasshopper sparrow has a low-moderate potential to occur due to the presence of suitable foraging habitat, however, the site lacks suitable nesting habitat for the species. The riparian vegetation within the drainage can provide suitable habitat for Lincoln's sparrow (*Melospiza lincolnii*) during the non-breeding season, however, the site lacks suitable breeding habitat for the species. The Project Footprint includes only a portion of the Project site; the remainder of the site, including the riparian habitat, will continue to provide potential foraging habitat for these species. The loss of 14.42 acres of potential foraging habitat for grasshopper sparrow would not decrease populations below self-sustaining levels given the availability of habitat remaining in the region; therefore, no mitigation is proposed. Individuals are expected to move to adjacent habitat during construction activities; therefore, there would be no direct mortality on the species.

The remaining species listed in Table 9-3 are not expected to occur on the site due to the lack of suitable habitat or the site is outside the known elevation range for the species.

7.7 MSHCP Consistency Determination

The Project would be consistent with the MSHCP based on the analysis and determinations made in this Section 7.0. The Project is not located within or near an MSHCP Criteria Cell, Cell Group, or PQP land. The Project Footprint lacks MSHCP Section 6.1.2 riparian/riverine resources, evidence of ponding water and vernal pools, and presence of sensitive vegetation communities. Indirect impacts to nesting riparian birds will be addressed through pre-construction nesting bird surveys. The Project is not located within an MSHCP Amphibian, Mammal, Narrow Endemic Plant Species or Criteria Area Plant Species Survey Area; therefore, no surveys were required. The majority of the Project is within the MSHCP Burrowing Owl Survey Area, therefore, a Habitat Assessment and focused surveys for burrowing owl were conducted. No burrowing owl or active signs thereof were detected within or near the Study Area. A 30-day preconstruction survey for burrowing owl will be

conducted prior to the initiation of construction to ensure protection for this species and compliance with the conservation goals as outlined in the MSHCP. Based on the analysis above, the Project is consistent with Sections 6.1.2, 6.1.3, and 6.3.2 of the MSHCP. No Determination of Biologically Equivalent or Superior Preservation (DBESP) mitigation plan is required. The Project would be required to pay all applicable MSHCP development impact fees.

8.0 THRESHOLD OF SIGNIFICANCE

Appendix G of the CEQA Guidelines is used by public agencies in determining whether a project may have a significant impact on biological resources. Under Appendix G, a project may have a significant impact on biological resources if it would:

Threshold BIO-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 CDFW or USFWS.

Threshold BIO-B Have a substantial adverse effect on any riparian habitat or other sensitive plant community identified in local or regional plans, policies, regulations, or by the CDFW or USFWS.

Threshold BIO-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.

Threshold BIO-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 areas.

Threshold BIO-E Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance.

Threshold BIO-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.

For the purposes of this impact analysis the following definitions apply:

- "Substantial adverse effect" means loss or harm of a magnitude which, based on current scientific data and knowledge would: (1) substantially reduce population numbers of a listed, candidate, sensitive, rare, or otherwise special status species; (2) substantially reduce the distribution of a sensitive plant community/habitat type; or (3) eliminate or substantially impair the functions and values of a biological resource (e.g., streams, wetlands, or woodlands) in a geographical area defined by interrelated biological components and systems. In the case of this analysis, the prescribed geographical area is

considered to be the region that includes the USGS topographic quadrangle for the Project site, namely Murrieta.

- "Conflict" means contradiction of a magnitude, which based on foreseeable circumstances, would preclude or prevent substantial compliance.
- "Rare" means: (1) that the species exists in such small numbers throughout all, or a significant portion of, its range that it may become endangered if its environment worsens; or (2) the species is likely to become endangered within the foreseeable future throughout all or a significant portion of its range and may be considered "threatened" as that term is used in the ESA.

9.0 SIGNIFICANCE DETERMINATION AND PROPOSED MITIGATION

9.1 Regulatory Setting

As mentioned above in Section 4.1 of this report, sensitive species are provided protection by either Federal or State resource management agencies, or both, under provisions of the ESA and CESA.

There are a number of performance criteria and standard conditions that must be met as part of any review and approval of the proposed Project. These include compliance with all the terms, provisions, and requirements with applicable laws that relate to Federal, State, and local regulating agencies related to potential impacts to sensitive plant and wildlife species, wetlands, riparian habitats, and blue lined stream courses. Impacts are sometimes locally important but not significant because, although they would result in an adverse alteration of existing local conditions, they would not substantially diminish or result in the permanent loss of an important resource on a population-wide or region-wide basis.

9.2 Impacts Terminology

Potential impacts to biological resources that could result from implementation of the proposed Project are discussed in Section 6.0 of this report.

Biological resources may be either directly or indirectly impacted by a project. Furthermore, direct and indirect impacts may be either permanent or temporary in nature. These impact categories are defined below. These terms will be used throughout the document.

- Direct Impact: Any loss, alteration, disturbance, or destruction of biological resources that would result from project-related activities is a direct impact. Examples include vegetation clearing, encroaching into wetlands, diverting natural surface water flows, and the loss of individual species and/or their habitats. Direct impacts are long-term.

- Indirect Impact: As a result of project-related activities, biological resources may also be affected in a manner that is not direct. Examples of indirect impacts include elevated noise, light, and dust levels, increased human activity, decreased water quality, erosion created by the removal of vegetation, and the introduction of invasive plants and unnatural predators (e.g., domestic cats and dogs). These indirect impacts may be both short-term and long-term in their extent.

- Permanent Impacts: All impacts that result in the long-term or irreversible removal of biological resources are considered permanent. Examples include constructing a building or permanent road on an area containing biological resources.

- Temporary Impacts: Any impacts considered to have reversible effects on biological resources can be viewed as temporary. Examples include the generation of fugitive dust during construction, removing vegetation, and either allowing the natural vegetation to recolonize or actively revegetating the Project site.

The determination of impacts in this analysis is based on both the proposed Project development plan and the biological values of the habitat and/or sensitivity of plant and wildlife species to be affected. Any recommended mitigation measures to address impacts are discussed in Sections 9.3 – 9.8, below.

9.3 Threshold BIO-A

Would the Project have a substantial adverse effect, either directly or through habitat modifications, on any species identified as 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.

9.3.1 Sensitive Plant Species

Development of the Project Footprint would result in the direct removal of mostly herbaceous forbs and grasses, and common ruderal plant species. Common plant species present within the Project Footprint occur in large numbers throughout the region and their removal does not meet the significance threshold. Based on the low habitat quality and the lack of detection of any special-status plants during the April/May 2022 rare plant survey, the Project is not expected to impact any special-status plant species. Based on the habitat found onsite, no direct impacts are expected to occur as a result of Project implementation and no mitigation measures are recommended.

9.3.2 Sensitive Wildlife Species

Burrowing owl has a moderate potential to occur as suitable burrows are present and multiple occurrences of this species have been documented within two miles of the site. Construction activities within the Project Footprint would be implemented in accordance with mitigation requirements for the species as described in MM-BIO-1.

MM BIO-1 A pre-construction presence/absence survey for burrowing owl within the Project Footprint where suitable habitat is present shall be conducted by a qualified biologist within 30 days prior to the commencement of ground disturbing activities including vegetation clearing, grubbing, tree removal, or site watering. If burrowing owl have colonized the Project Footprint prior to initiation of construction, the

Project proponent shall immediately inform the City and Wildlife Agencies and will need to prepare a Burrowing Owl Protection and Relocation Plan a well as a Determination of Biologically Equivalent or Superior Preservation (DBESP) for approval by the City and Wildlife Agencies prior to initiating ground disturbance. Additionally, if ground-disturbing activities occur, but the site is left undisturbed for more than 30 days, a pre-construction survey shall again be necessary to confirm burrowing owl have not colonized the site since it was last disturbed. If burrowing owl are found, the same coordination described above shall be necessary.

The horned lark has a moderate potential to occur on the Project site for foraging and nesting. Adjacent habitats not impacted by the Project could provide nesting habitat for least Bell's vireo, southwestern willow flycatcher, coastal California gnatcatcher, Cooper's hawk, or Southern California rufous-crowned sparrow. Potential impacts to nests located on or near the Project Footprint are addressed through pre-construction nesting bird surveys as described in MM-BIO-2.

MM BIO-2 Vegetation removal activities shall be conducted outside the nesting season (September 1 to December 31) to avoid potential impacts to nesting birds.

Any construction activities that occur during the nesting season (January 1 to August 31) will require that all suitable habitats be thoroughly surveyed for the presence of nesting birds by a qualified biologist within three days before commencement of vegetation clearing/ground disturbance activities. If any active nests are detected, a buffer of 500 feet of an active listed species or raptor nest, 300 feet of other sensitive bird nests (non-listed), and 100 feet of most common songbird nests will be delineated, flagged, and avoided until the nesting cycle is complete. The buffer may be modified and/or other recommendations proposed as determined appropriate by the biological monitor to minimize impacts.

The loss of approximately 14.42 acres of low-quality foraging habitat for coastal California gnatcatcher would not decrease populations below self-sustaining levels given the disturbed nature of the Project site and availability of habitat remaining in the region. Therefore, impacts would be less than significant per CEQA, and no mitigation would be required.

9.3.3 Other Raptor Species Protected Under MBTA

Adjacent habitats not impacted by the Project have the potential to support various avian species and sensitive raptor species nests including Cooper's hawks due to the presence of tall trees adjacent to the Project footprint. Since Project activities could result in indirect impacts to raptor species, MM BIO-2 shall be implemented to reduce impacts to less than significant. Disturbing or destroying active nests is a violation of the MBTA (16 U.S.C. 703 et seq.). In addition, nests and eggs are protected under Fish and Game Code 3503.

9.3.4 Potential Impacts to Critical Habitat

The Project Footprint does not fall within or near any USFWS-designated Critical Habitat. Therefore, the Project will not impact any Critical Habitat.

9.4 Threshold BIO-B

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

Less than Significant with Mitigation Incorporated.

9.4.1 Potential Impacts to Vegetation Communities

Potential impacts to vegetation communities/land cover types due to implementation of the Project include the entire Project Footprint, as shown on Figure 7 and described in Table 3 below, totaling approximately 14.42 acres. The proposed Project will not impact any special status habitats.

Table 3. Potential Impacts to Vegetation Communities within the Project Footprint

Vegetation Community/Land Cover Type	Project Footprint (acres)
Disturbed fiddleneck fields	14.42
Total	**14.42**

Direct impacts to developed areas are considered less than significant due to the lack of natural habitat. Direct impacts to disturbed fiddleneck fields are considered less than significant because this habitat contains an abundance of non-native vegetation, is common in the surrounding vicinity, and does not represent a CNDDB or CDFW sensitive plant community.

The Project will avoid the red willow riparian woodland habitat located adjacent to the Project Footprint. Thus, no direct impacts will occur to riparian woodland or other sensitive habitats.

The Project will follow standard BMPs as noted in Section 11.0, *Best Management Practices*, which include clearly delineating the limits of disturbance, to minimize potential indirect impacts to sensitive habitat.

9.4.2 Sensitive Plant Communities

No plant communities considered sensitive by resource agencies were mapped within the Project Footprint; therefore, no impacts will occur.

9.4.3 Riparian Habitat

The Project Footprint does not support any riparian habitats identified or otherwise regulated under any local or regional plans, policies, regulations, or by the CDFW or USFWS; therefore, no impacts would occur. However, riparian habitat exists adjacent to the Project Footprint. With the inclusion of standard BMPs as noted in Section 11.0, which include clearly delineating the limits of disturbance, potential impacts to sensitive adjacent habitat would be considered less than significant.

9.5 Threshold BIO-C

Would the project have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (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.

No streambed or drainage features containing waters of the United States or waters of the State are present within the Project Footprint. A riparian drainage occurs adjacent to the Project Footprint. Due to the proximity of the Project to this drainage, indirect impacts (noise, runoff, etc.) could occur. With the inclusion of standard BMPs as noted in Section 11.0, *Best Management Practices*, which includes clearly delineating the limits of disturbance, potential impacts to jurisdictional resources would be considered less than significant.

9.6 Threshold BIO-D

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

No Impact.

The riparian drainage feature within the Project site provides local connectivity between upstream habitats and Murrieta Creek, an important regional resource located downstream of the Project site. This resource will be avoided by Project activities and will continue to provide local connectivity for wildlife. Those areas comprising the Project Footprint are bounded by roadways

and do not play a significant role in wildlife movement. No long-term or significant effects to wildlife movement are anticipated due to Project implementation.

9.7 Threshold BIO-E

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

Less than Significant with Mitigation Incorporated.

The City of Murrieta Municipal code Section 16.42.080 establishes protection of trees within the City. No trees occur within the Project Footprint.

Through the implementation of the MSHCP and with the implementation of MM BIO-1 and MM BIO-2, the Project would not conflict with any local policies or ordinances protecting biological resources.

9.8 Threshold BIO-F

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

Less than Significant.

The Project Footprint is located outside of an MSHCP Criteria Cell. The Project is not located within or in the vicinity of (1,000 feet or less) an existing or proposed MSHCP Core or Linkage. The Project is within the survey area for the western burrowing owl, pursuant to Section 6.3.2 Additional Survey Needs and Procedures (Species Survey Requirements) of the MSHCP (RCA 2003). The Project was also evaluated for Section 6.1.2 Riparian, Riverine, and Vernal Pool Areas of the MSHCP. A Consistency Analysis has been included as Section 7.0 of this report, pursuant to these sections of the MSHCP. Payment of mitigation fees would ensure compliance with the MSHCP and therefore impacts to covered species would be less than significant.

10.0 CUMULATIVE IMPACTS

Cumulative impacts are defined as the direct and indirect effects of a proposed project which, when considered alone, would not be deemed a substantial impact, but when considered in addition to the impacts of related projects in the area, would be considered significant. “Related projects” refers to past, present, and reasonably foreseeable probable future projects, which would have similar impacts to the proposed Project. CEQA deems a cumulative impact analysis to be adequate if a list of “related projects” is included in the EIR or the proposed project is consistent with an adopted general, specific, master, or comparable programmatic plan [Section 15130(b)(1)(B)]. CEQA also states that no further cumulative impact analysis is necessary for impacts of a proposed project consistent with an adopted general, specific, master, or comparable programmatic plan [Section 15130(d)].

Although the Project would result in the loss of approximately 14.42 acres of land comprised mostly of common forbs and grasses, the MSHCP was developed to address the comprehensive regional planning effort and anticipated growth in the County of Riverside. The proposed Project has been designed and mitigated to remain in compliance with all MSHCP conservation goals and guidelines and therefore will not result in an adverse cumulative impact.

11.0 BEST MANAGEMENT PRACTICES

The Western Riverside MSHCP Volume 1, Appendix C outlines standard BMPs which are intended in part to reduce impacts to plant communities, special status plant and wildlife species, and jurisdictional waters. As the Project Footprint is located within the MSHCP boundary, the Project will be required to comply with applicable standard BMPs found in Appendix C of the MSHCP, as appropriate. The following are recommended, which are based on the standard MSHCP BMPs:

1. A condition shall be placed on grading permits requiring a qualified biologist to conduct a training session for project personnel prior to grading. The training shall include a description of the species of concern and its habitats, the general provisions of the Endangered Species Act (Act) and the MSHCP, the need to adhere to the provisions of the Act and the MSHCP, the penalties associated with violating the provisions of the Act, the general measures that are being implemented to conserve the species of concern as they relate to the project, and the access routes to and Project Footprint boundaries within which the project activities must be accomplished.
2. Water pollution and erosion control plans shall be developed and implemented in accordance with RWQCB requirements.
3. The footprint of disturbance shall be minimized to the maximum extent feasible. Access to sites shall be via pre-existing access routes to the greatest extent possible.
4. The upstream and downstream limits of projects disturbance plus lateral limits of disturbance on either side of the stream shall be clearly defined and marked in the field and reviewed by the biologist prior to initiation of work.
5. Projects should be designed to avoid the placement of equipment and personnel within the stream channel or on sand and gravel bars, banks, and adjacent upland habitats used by target species of concern.
6. Projects that cannot be conducted without placing equipment or personnel in sensitive habitats should be timed to avoid the breeding season of riparian identified in MSHCP Global Species Objective No. 7.
7. When stream flows must be diverted, the diversions shall be conducted using sandbags or other methods requiring minimal instream impacts. Silt fencing of other sediment trapping materials shall be installed at the downstream end of construction activity to minimize the transport of sediments offsite. Settling ponds where sediment is collected shall be cleaned out in a manner that prevents the sediment from reentering the stream. Care shall be exercised when removing silt fences, as feasible, to prevent debris or sediment from returning to the stream.
8. Equipment storage, fueling, and staging areas shall be located on upland sites with minimal risks of direct drainage into riparian areas or other sensitive habitats. These

designated areas shall be located in such a manner as to prevent any runoff from entering sensitive habitat. Necessary precautions shall be taken to prevent the release of cement or other toxic substances into surface waters. Project related spills of hazardous materials shall be reported to appropriate entities including but not limited to applicable jurisdictional city, USFWS, CDFW, and RWQCB and shall be cleaned up immediately and contaminated soils removed to approved disposal areas.

9. Erodible fill material shall not be deposited into water courses. Brush, loose soils, or other similar debris material shall not be stockpiled within the stream channel or on its banks.
10. The removal of native vegetation shall be avoided and minimized to the maximum extent practicable. Temporary impacts shall be returned to pre-existing contours and revegetated with appropriate native species.
11. Exotic species that prey upon or displace target species of concern should be permanently removed from the site to the extent feasible.
12. To avoid attracting predators of the species of concern, the Project Footprint shall be kept as clean of debris as possible. All food related trash items shall be enclosed in sealed containers and regularly removed from the site(s).
13. Construction employees shall strictly limit their activities, vehicles, equipment, and construction materials to the proposed project footprint and designated staging areas and routes of travel. The construction area(s) shall be the minimal area necessary to complete the project and shall be specified in the construction plans. Construction limits will be fenced with orange snow screen. Exclusion fencing should be maintained until the completion of all construction activities. Employees shall be instructed that their activities are restricted to the construction areas.
14. The Permittee shall have the right to access and inspect any sites of approved projects including any restoration/enhancement area for compliance with project approval conditions including these BMPs.

Additionally, the Project will implement the appropriate Urban/Wildlands Interface Guidelines to further avoid impacts to sensitive resources. The Urban/Wildlands Interface Guidelines are detailed below:

Toxics

During construction, the implementation of standard BMPs such as the use of sandbags/straw wattles/gravel bags and staging outside of drainages will minimize the discharge of sediment, debris, and hazardous materials to on-site and downstream aquatic resources.

Lighting

Night lighting used during construction, and any lighting installed for post-construction purposes, shall be shielded and directed away from the unnamed drainage across Washington Avenue.

Noise

The Project is a standard construction project and is not expected to exceed typical noise standards. Additionally, MM BIO-2 will provide sufficient buffers during construction should nesting bird activity be observed.

Invasives

No invasive, non-native plants species listed in Table 6-2 of the MSHCP may be incorporated into the landscape plans or planted around the site.

Grading/Land Development

Manufactured slopes are not proposed within existing or planned MSHCP Conservation Areas.

Barriers

The Project will be avoiding an MSHCP Riparian Riverine Area and barriers will be implemented to preclude public access, domestic animal predation, illegal trespass or dumping in the area. The barrier may include native landscaping, rocks/boulders, fencing, walls, signage and/or other appropriate mechanisms.

12.0 REFERENCES

Baldwin, B. G., D. H. Goldman, D. J. Keil, R. Patterson, T. J. Rosatti, and D. H. Wilken, editors. 2012. The Jepson Manual: Vascular Plants of California, second edition. University California Press, Berkeley.

Brady, Roland H. III and Kris Vyverberg. 2013. Methods to Describe and Delineate Episodic Stream Processes on Arid Landscapes for Permitting Utility-Scale Solar Power Plants. California Energy Commission. Publication Number: CEC-500-2014-013.

CDFW (California Department of Fish and Wildlife). 2022a. RareFind, California Department of Fish and Wildlife, California Natural Diversity Database (CNDDB). Retrieved from <https://map.dfg.ca.gov/rarefind/view/ RareFind.aspx>.

2022b. Natural Communities. VegCAMP, Biogeographic Data Branch. Accessed August 2022 from <https://www.wildlife.ca.gov/Data/VegCAMP/Natural-Communities>.

2022c. Special Vascular Plants, Bryophytes, and Lichens List. Natural Diversity Database. Dated January 2022.

2022d. Fish and Game Code Section 1600-1616. Retrieved from <http://leginfo.legislature.ca.gov/faces/codes_displaySection.xhtml?lawCode=FGC&sectionNum=1602>.

2022e State and federally listed endangered, threatened, and rare plants of California. Natural Diversity Database. Dated January 2022.

2022f. Special Animals List. Natural Diversity Database. Dated January 2022.

CDFW Staff Report on Burrowing Owl. State of California Natural Resources Agency. March 2012.

CNPS (California Native Plant Society). 2022. Inventory of Rare and Endangered Plants of California (online edition, v8-03 0.39). Retrieved in February 2022 from <http://www.rareplants.cnps.org>.

Fahrig, L., and G. Merriam. 1985. Habitat patch connectivity and population survival. Ecology 66:1762-1768.

Google. 2022. Google Earth© website.

Harris, L.D. and P.B. Gallagher. 1989. New Initiatives for Wildlife Conservation: The Need for Movement Corridors (pp. 11–34). *Preserving Communities and Corridors* (G. Mackintosh, Ed.). Washington, D.C.: Defenders of Wildlife.

Historic Aerials. Accessed October 2021. https://www.historicaerials.com/viewer.

Kleinfelter (M.J. Klinefelter). 2005. Survey Report for Least Bell's Vireo APN 910-410-011. August 30.

Laymon, S.A. and M.D. Halterman. 1989. A Proposed Management Plan for Yellow-billed Cuckoos in California. *D. Abell, Tech. Coord., Proceedings of the California Riparian Systems Conference: Protection, Management, and Restoration for the 1990's*. Berkeley, CA: USDA Forest Service Gen. Tech. Rep. PSW-110.

MSHCP (Multiple Species Habitat Conservation Program). Accessed December 2021. https://wrcrca.maps.arcgis.com/apps/webappviewer/index.html?id=a73e69d2a64d41c29ebd3acd67467abd

NRCS (Natural Resource Conservation Service). 2022. Web Soil Survey. U.S. Department of Agriculture Natural Resources Conservation Service. Retrieved from: <http://websoilsurvey.sc.egov.usda.gov/App/WebSoilSurvey.aspx>.

Sawyer, John O., Todd Keeler-Wolf, and Julie M. Evens. 2008. A Manual of California Vegetation. 2nd ed. California Native Plant Society and California Department of Fish and Game. Sacramento, California.

Simberloff, D. and J. Cox. 1987. Consequences and Costs of Conservation Corridors. Conservation Biology 1(1): 63–71. Boston, MA: Blackwell Scientific Publications.

USACE (United States Army Corps of Engineers). 1987. Corps of Engineers Wetlands Delineation Manual. Wetland Research Program Technical Report Y-87-1. Vicksburg, MS: Environmental Laboratory.

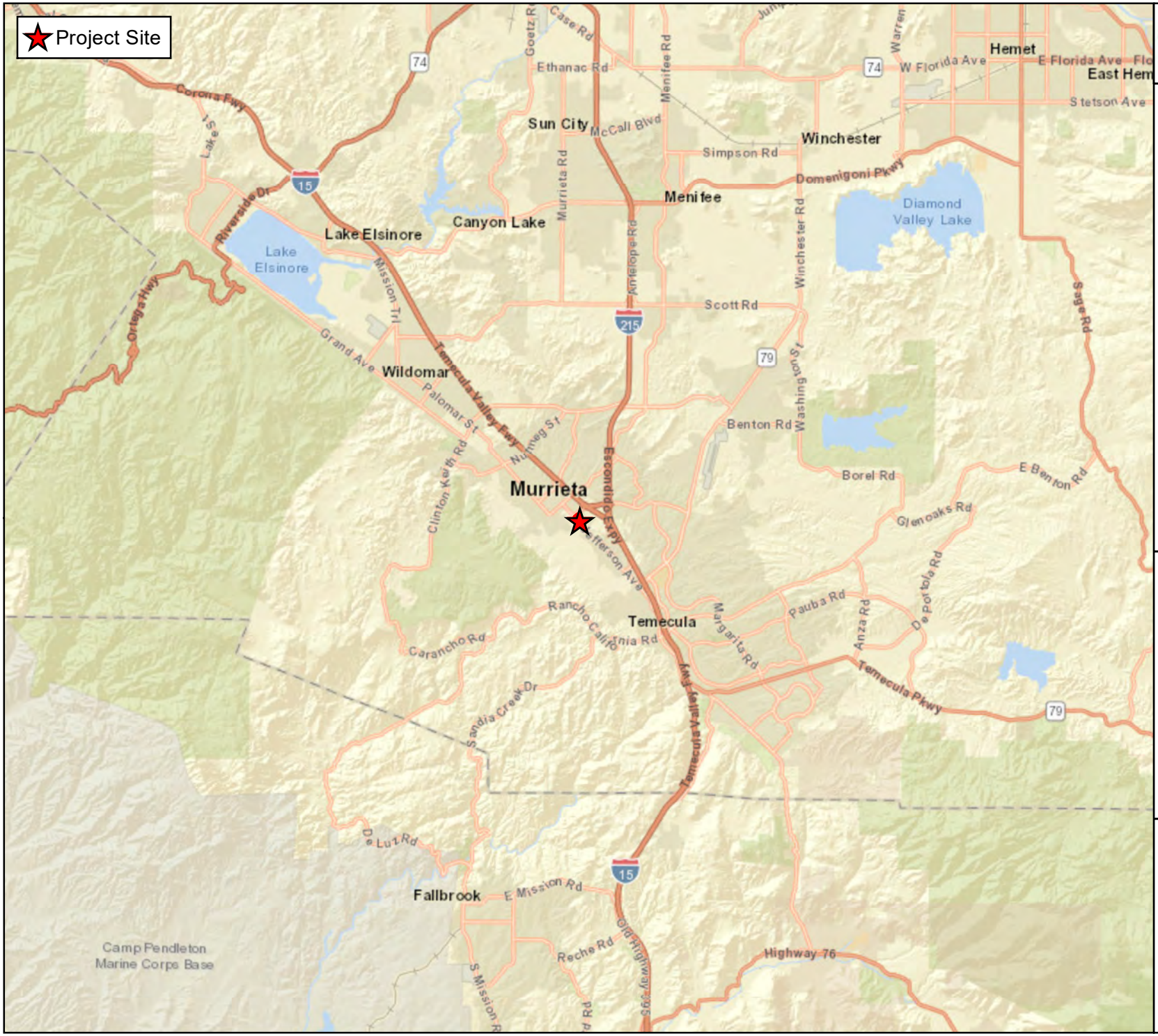
2008. Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region (Version 2.0), ed. J. S. Wakeley, R. W. Lichvar, and C. V. Noble. ERDC/EL TR-08-28. Vicksburg, MS: U.S. Army Engineer Research and Development Center.

USFWS (United States Fish and Wildlife Service). 2022a. Critical Habitat for Threatened and Endangered Species. Retrieved from <https://fws.maps.arcgis.com/home/webmap/viewer.html?webmap=9d8de5e265ad4fe09893cf75b8dbfb77>.

2022b. National Wetlands Inventory. Wetlands Mapper. Retrieved from: <http://www.fws.gov/wetlands/Data/mapper.html>.

Western Bat Working Group. 2007. Species description. Available online at: <http://wbwg.org/western-bat-species/>.

FIGURES



VCS Environmental
EXPERT SOLUTIONS · CEQA-NEPA · Biology · Regulatory

LMC Murrieta

Figure 1
Regional Map

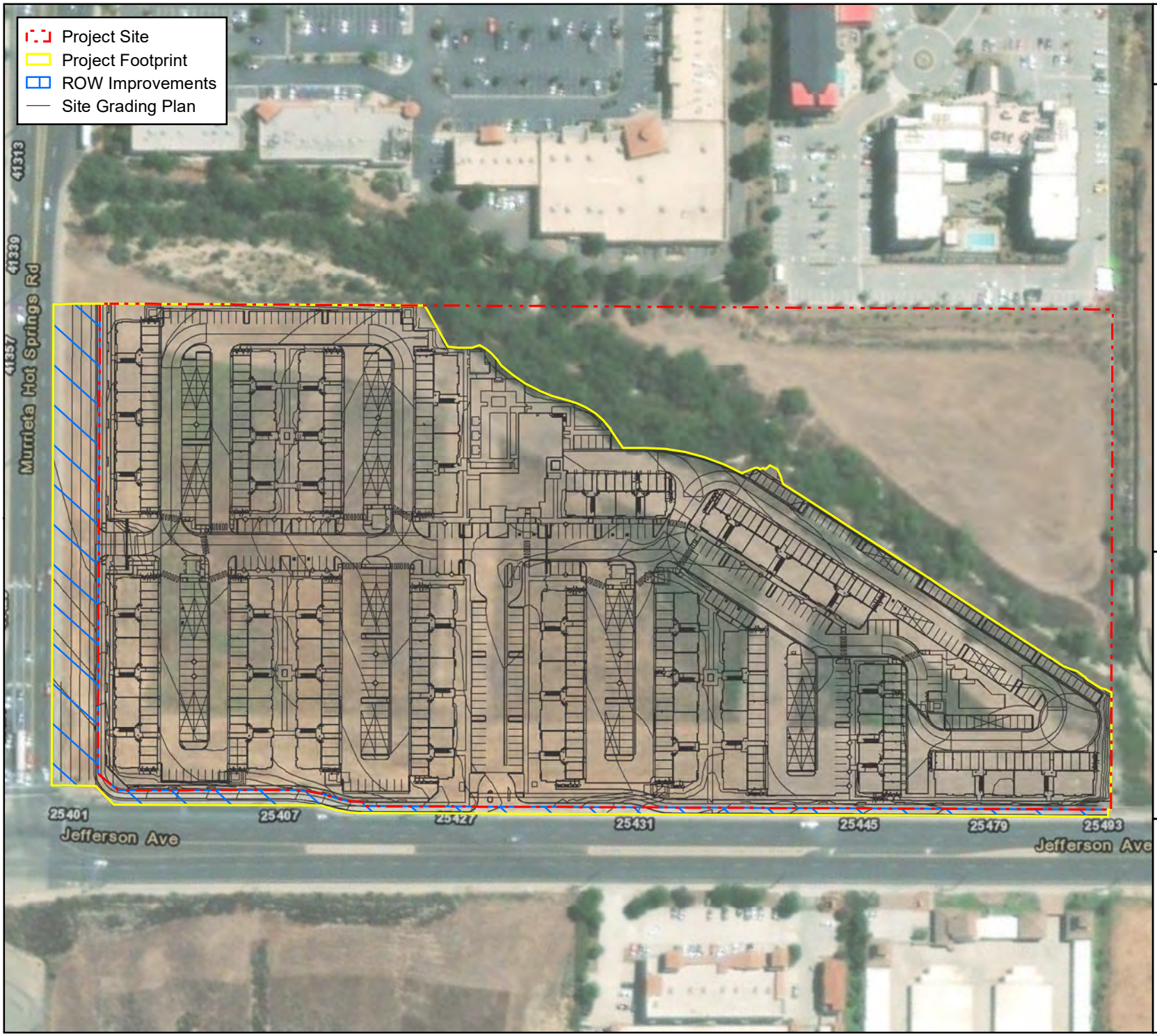
N
W E
S

0 10,000 20,000
Feet

1:250,000

Map Date: June 2022
Data Sources: ESRI, Kimley-Horn, Google Earth

Service Layer Credits: Sources: Esri, HERE, Garmin, USGS, Intermap, INCREMENT P, NRCan, Esri Japan, METI, Esri China (Hong Kong), Esri Korea, Esri (Thailand), NGCC, (c) OpenStreetMap contributors, and



VCS Environmental
EXPERT SOLUTIONS · CEQA-NEPA · Biology · Regulatory

LMC Murrieta

Figure 2
Aerial Map

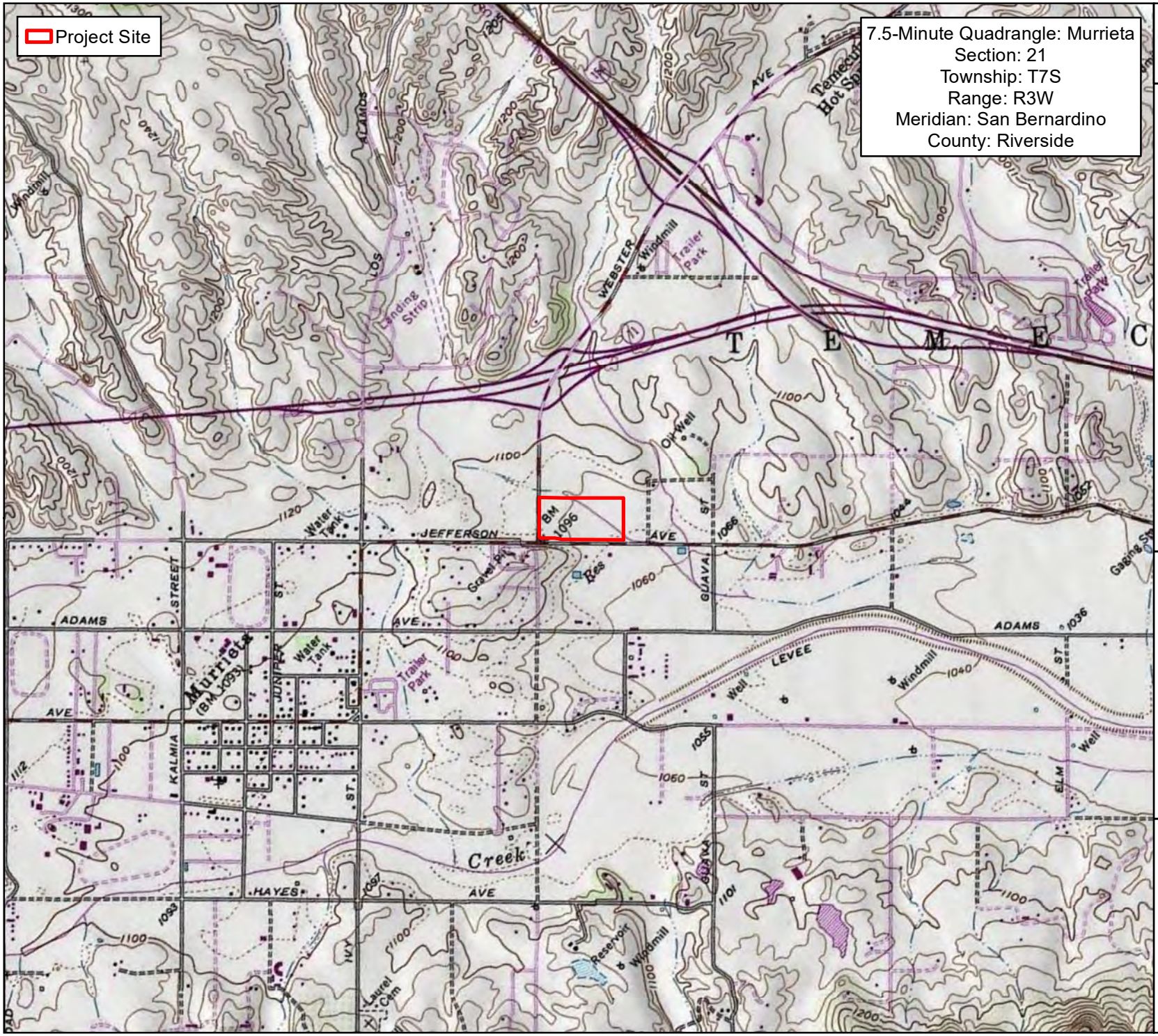
N E S W

0 100 200
Feet

1:2,000

Map Date: December 2022
Data Sources: ESRI, Kimley-Horn, Google Earth

Service Layer Credits: Esri, HERE, Garmin, (c) OpenStreetMap contributors Source: Esri, Maxar, Earthstar Geographics, and the GIS User Community



VCS Environmental
EXPERT SOLUTIONS · CEQA-NEPA · Biology · Regulatory

LMC Murrieta

Figure 3
USGS Topographic Map

N E S W

0 1,000 2,000
Feet

1:24,000

Map Date: June 2022
Data Sources: ESRI, Kimley-Horn, Google Earth

LEGEND:

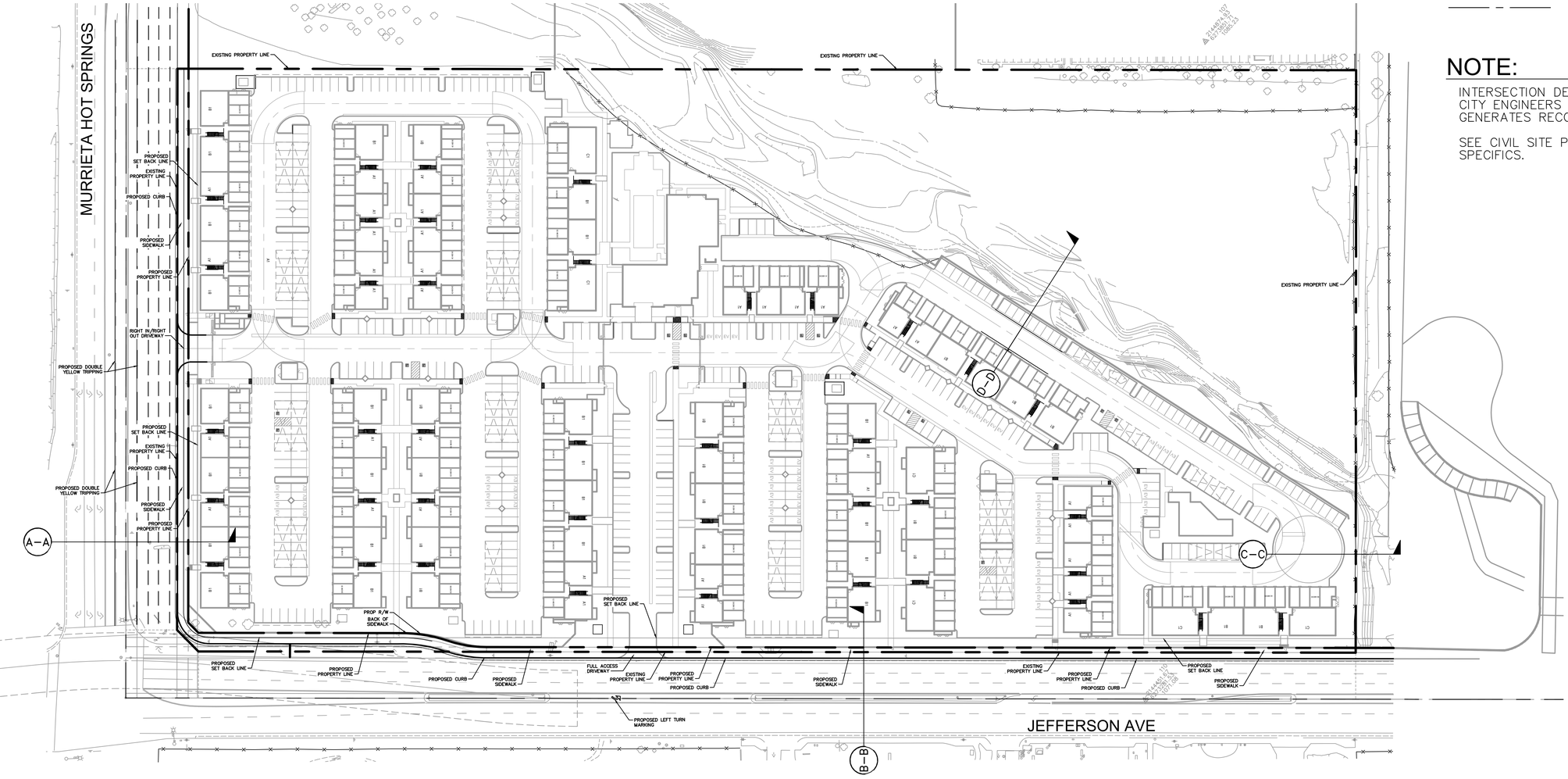
PROPERTY LINE

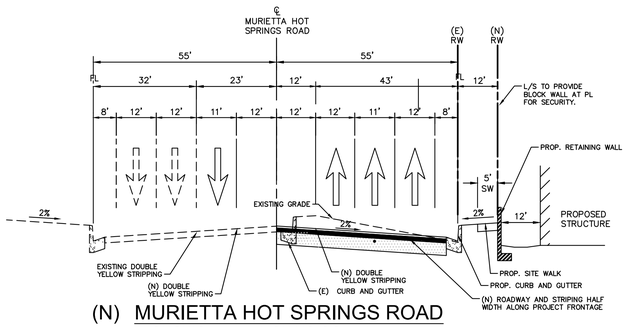
ROAD CENTERLINE

NOTE:

INTERSECTION DESIGN TO BE VERIFIED BY CITY ENGINEERS AFTER TRAFFIC ANALYSIS GENERATES RECOMMENDATIONS.

SEE CIVIL SITE PLAN FOR INTERNAL SPECIFICS.

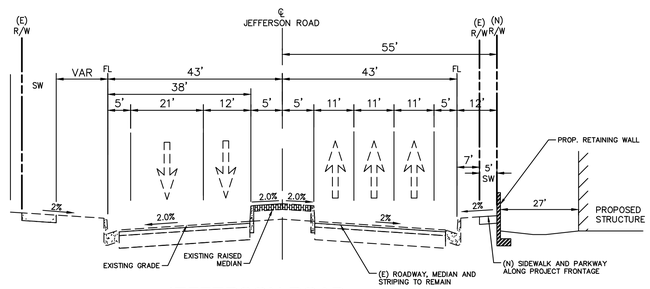




(N) MURIETTA HOT SPRINGS ROAD

SECTION A- A: NOT TO SCALE

(SECTION 102)

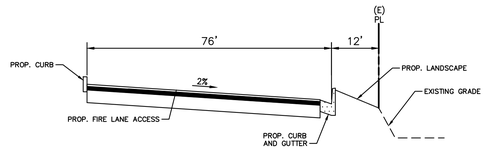


JEFFERSON ROAD

SECTION B-B: NOT TO SCALE

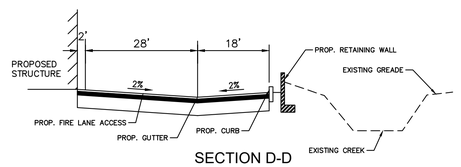
(SECTION 101)

MURRIETA, CA



SECTION C-C

NOT TO SCALE



SECTION D-D

NOT TO SCALE

NORTH

GRAPHIC SCALE IN FEET

0 30 60 120

PRELIMINARY OFF-SITE IMPROVEMENT PLAN

DATE: 06-14-22

JOB NO.: 194422001

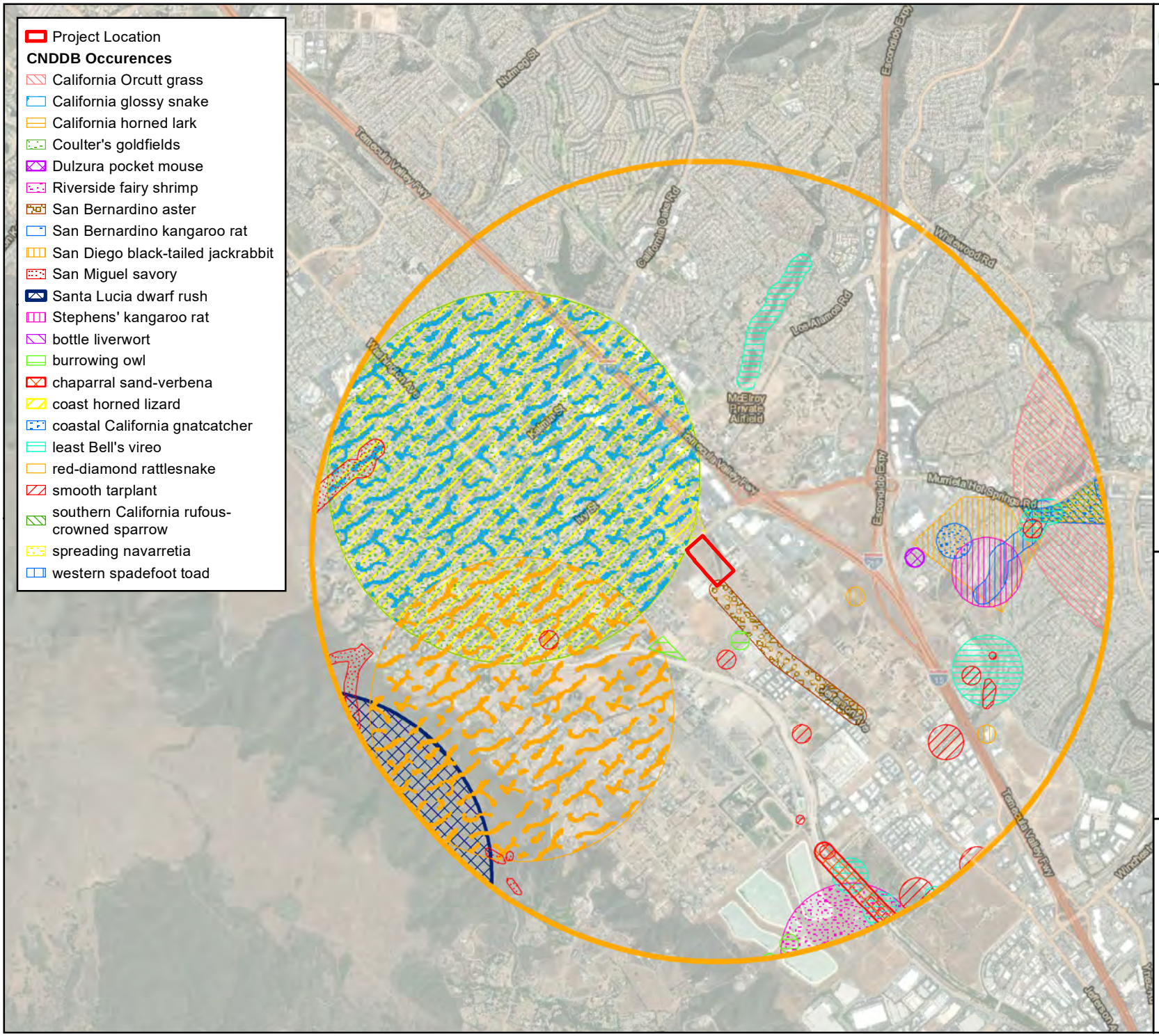
ST 1.0

LMC
95 ENTERPRISE, SUITE 200 ALISO VIEGO, CA 92656
949.606.5536

DEVELOPER INFORMATIONAL BLOCK, AS IS, SHALL ONLY BE USED FOR CLIENTS THAT DO NOT HAVE A SPECIFIC LOGO. THIS DEVELOPER INFORMATIONAL BLOCK MUST BE REPLACED WITH THE APPROPRIATE BLOCK WHICH ALSO HOUSES THE CLIENT LOGO. IF THE CLIENT LOGO BLOCK HAS NOT BEEN CREATED YET, CONTACT YOUR DEPARTMENT'S AUTOCAD SUPPORT TEAM.

1100 TOWN & COUNTRY RD, SUITE 700, ORANGE, CA 92868
PHONE: 714–939–1030 FAX: 714–938–9488
WWW.KIMLEY–HORN.COM

Architecture. Design. Relationships.



VCS Environmental
EXPERT SOLUTIONS · CEQA-NEPA · Biology · Regulatory

LMC Murrieta

Figure 5
Critical Habitat & CNDDB Occurences

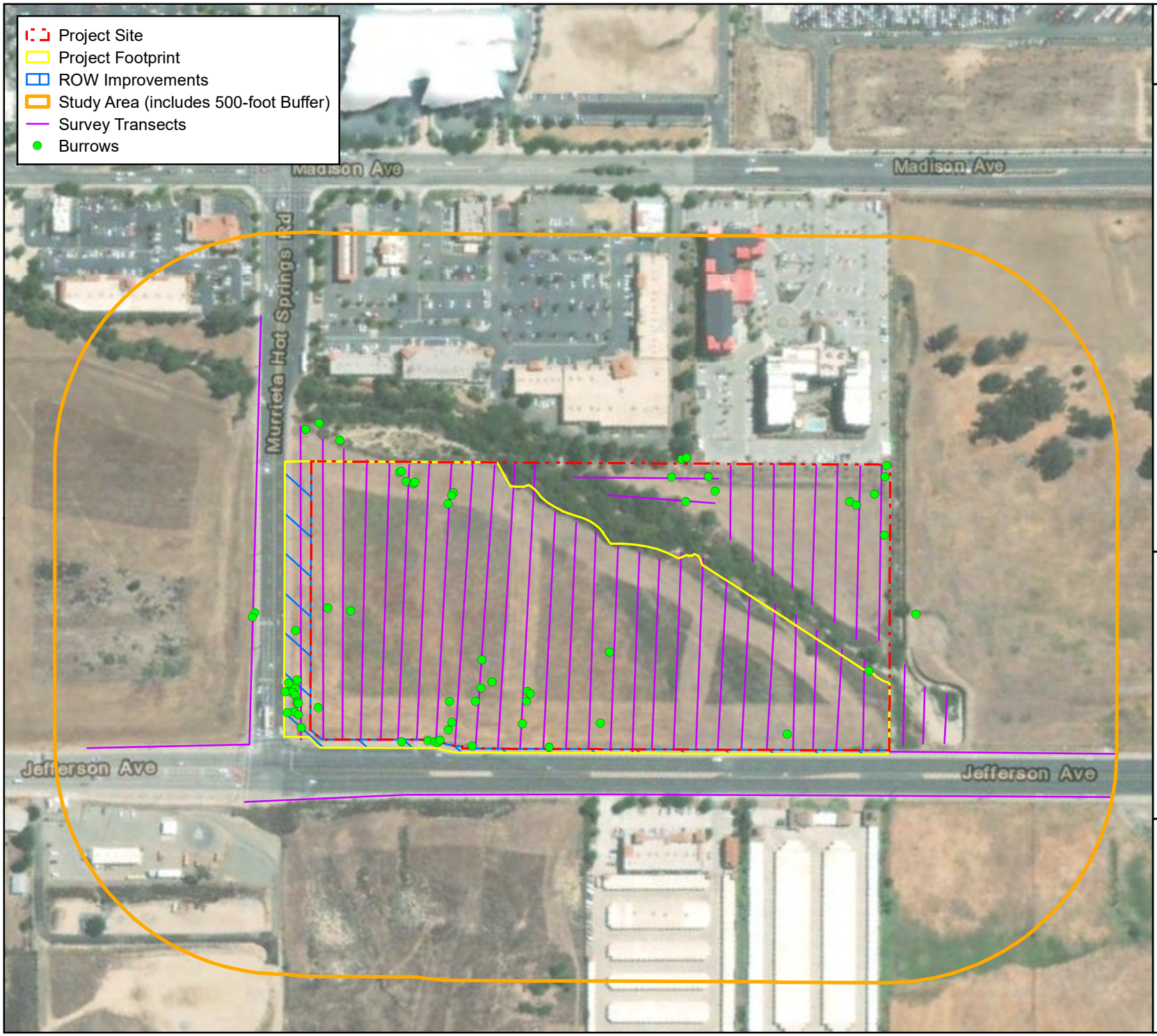
**No Critical Habitat present within 2 miles of Project.*

N
W E
S

0 2,200 4,400
Feet

1:45,000

Map Date: December 2022
Data Sources: ESRI, Kimley-Horn, Google Earth



VCS Environmental
EXPERT SOLUTIONS · CEQA-NEPA · Biology · Regulatory

LMC Murrieta

Figure 6

Burrowing Owl Study Area & Burrow Locations

N E S W

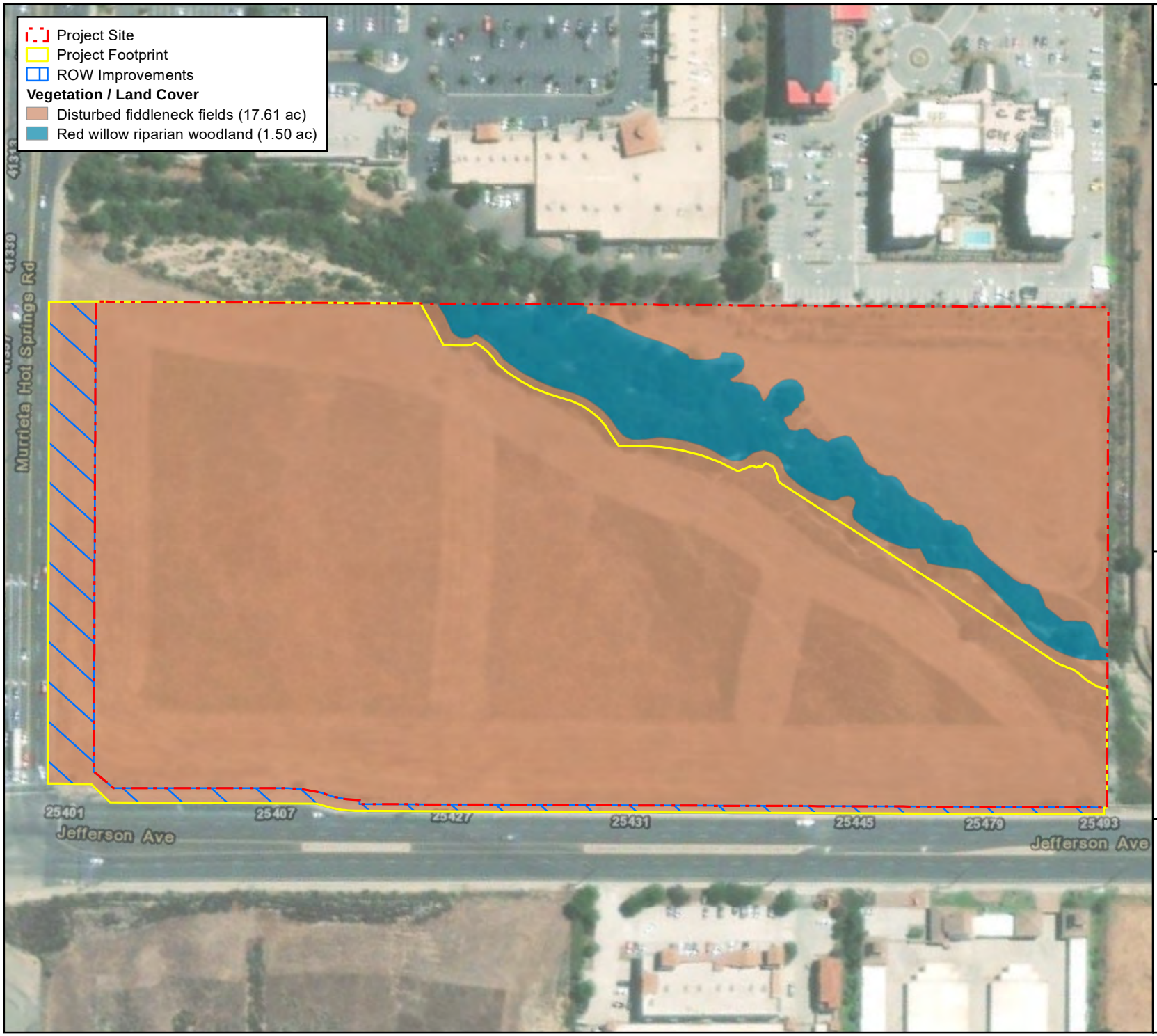
0 150 300

Feet

1:3,500

Map Date: December 2022
Data Sources: ESRI, Kimley-Horn, Google Earth

Service Layer Credits: Esri, HERE, Garmin, (c) OpenStreetMap contributors Source: Esri, Maxar, Earthstar Geographics, and the GIS User Community



VCS Environmental
EXPERT SOLUTIONS · CEQA-NEPA · Biology · Regulatory

LMC Murrieta

Figure 7

Vegetation / Land Cover Map

N E S W

0 100 200
Feet

1:2,000

Map Date: December 2022
Data Sources: ESRI, Kimley-Horn, Google Earth

Service Layer Credits: Esri, HERE, Garmin, (c) OpenStreetMap contributors Source: Esri, Maxar, Earthstar Geographics, and the GIS User Community

VCS Environmental
EXPERT SOLUTIONS · CEQA-NEPA · Biology · Regulatory

LMC Murrieta

Figure 8
Soils Map

N E S W

0 100 200
Feet

1:2,000

Map Date: December 2022
Data Sources: ESRI, Kimley-Horn, Google Earth

Service Layer Credits: Esri, HERE, Garmin, (c) OpenStreetMap contributors Source: Esri, Maxar, Earthstar Geographics, and the GIS User Community

VCS Environmental
EXPERT SOLUTIONS · CEQA-NEPA · Biology · Regulatory

LMC Murrieta

Figure 9

National Wetland Inventory* (NWI) Map

**NWI spatial data is an approximation and does not accurately reflect onsite conditions.*

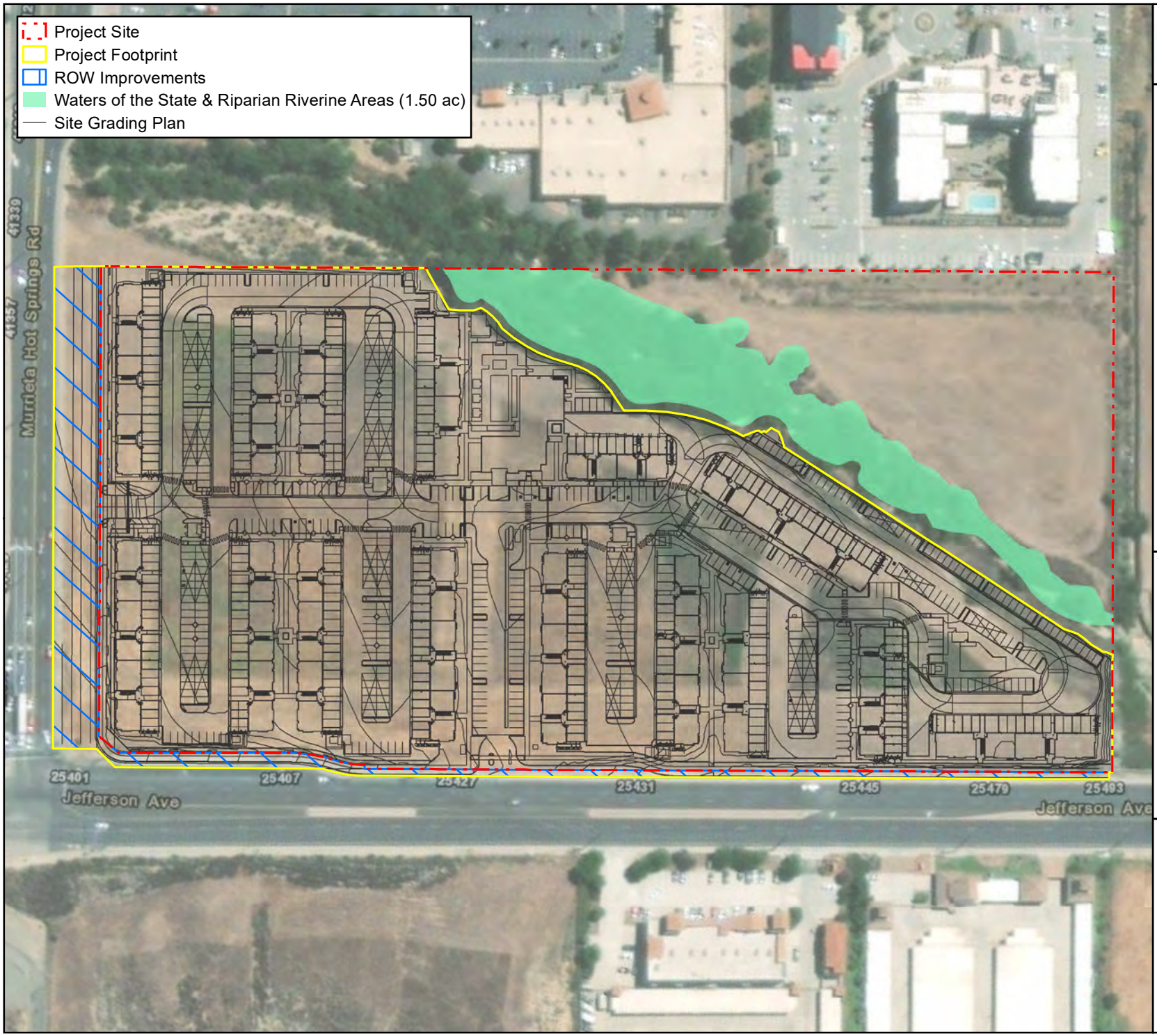
N E S W

0 100 200
Feet

1:2,000

Map Date: December 2022
Data Sources: ESRI, Kimley-Horn, Google Earth

Service Layer Credits: Esri, HERE, Garmin, (c) OpenStreetMap contributors Source: Esri, Maxar, Earthstar Geographics, and the GIS User Community



VCS Environmental
EXPERT SOLUTIONS · CEQA-NEPA · Biology · Regulatory

LMC Murrieta

Figure 10

Jurisdictional Delineation Map

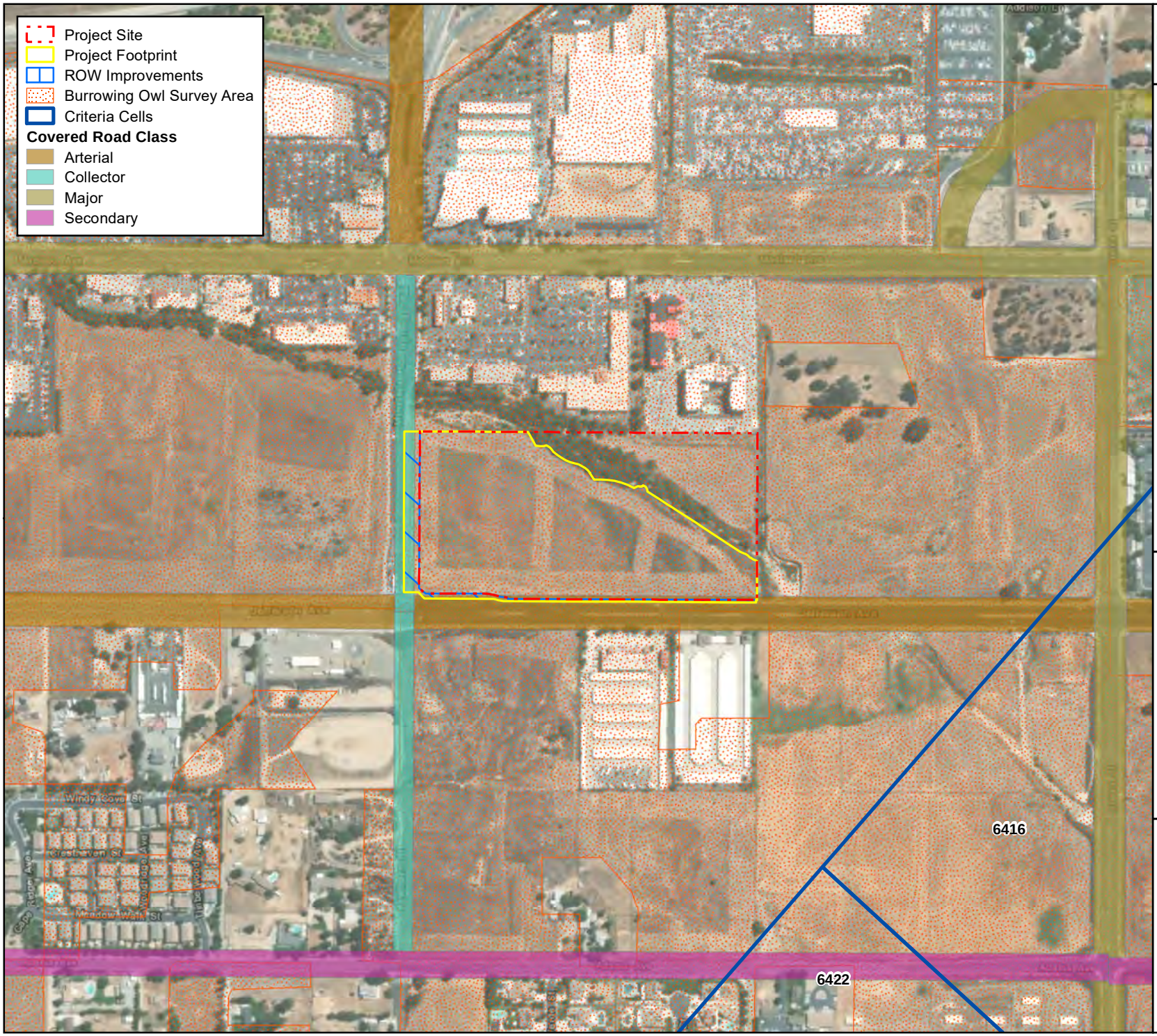
N E S W

0 100 200
Feet

1:2,000

Map Date: December 2022
Data Sources: ESRI, Kimley-Horn, Google Earth

Service Layer Credits: Esri, HERE, Garmin, (c) OpenStreetMap contributors Source: Esri, Maxar, Earthstar Geographics, and the GIS User Community



VCS Environmental
EXPERT SOLUTIONS CEQA-NEPA, Biology, Regulatory

LMC Murrieta

Figure 11

MSHCP Designation Map

N E S W

0 250 500
Feet

1:6,000

Map Date: December 2022
Data Sources: ESRI, Kimley-Horn, Google Earth

Service Layer Credits: Esri, HERE, Garmin, (c) OpenStreetMap contributors Source: Esri, Maxar, Earthstar Geographics, and the GIS User Community

APPENDIX A

Site Photographs

Photo 1. Typical view of the western portion of the Project site showing disturbed fiddleneck fields across a majority of the site, viewing northwest. Photo date: March 15, 2022.

Photo 2. View of riparian woodland habitat and drainage feature within the Project site, located outside of the Project Footprint; viewing north. Photo date: March 15, 2022.

Photo 3. Another view of the western portion of the Project site, within the Project Footprint; Jefferson Avenue and offsite coastal sage scrub habitat are visible in the background; viewing west. Photo date: March 3, 2022.

Photo 4. View of eastern portion of Project site located outside of the Project Footprint; adjacent commercial development is visible in the background; viewing north. Photo date: March 15, 2022.

Photo 5. Representative photo of a suitable burrow observed within the study area with no signs of burrowing owl occupation. Photo date: March 3, 2022.

Photo 6. View of adjacent offsite habitat located northwest of Murrieta Hot Springs Road, viewing northeast. Photo taken March 15, 2022.

Photo 7. Photo of flagged limit of riparian area, viewing northwest.
Photo date: November 29, 2021.

Photo 8. Photo of flagged limits of riparian area surveyed by project engineer, viewing Southeast
Photo date: November 29, 2021.

APPENDIX B

Plant and Wildlife Species Observed

Plant Species Observed within the Project Site

Scientific Name	Common Name
Adoxaceae	Moschatel family
Sambucus nigra ssp. Caerulea	Blue Elderberry
Amaranthaceae	Amaranth Family
*Amaranthus albus**	Tumbleweed
Anacardiaceae	Sumac Family
*Searsia lancea**	African sumac
Arecaceae	Palm Family
*Washingtonia robusta**	Mexican fan palm
Asteraceae	Aster, Daisy, or Compositae Family
*Ambrosia artemisiifolia**	Annual ragweed
Ambrosia psilostachya	Ragweed
Artemisia californica	Coastal sage brush
Artemisia douglasiana	California mugwort
Artemisia dracunculus	Tarragon
Baccharis pilularis	Coyote brush
Baccharis salicifolia ssp. salicifolia	Mule fat
*Carduus pycnocephalus**	Italian thistle
*Centaurea benedicta**	Blessed thistle
*Centaurea melitensis**	Tocalote
*Cirsium vulgare**	Bullthistle
*Cynara cardunculus**	Cardoon
Deinandra sp.	Tarweed
Ericameria palmeri var. pachylepis	Broad scaled palmer's goldenbush
Helianthus annuus	Hairy leaved sunflower
Heterotheca grandiflora	Telegraph weed
*Lactuca serriola**	Prickly lettuce
*Oncosiphon pilulifer**	Stinknet
Pseudognaphalium microcephalum	Wright's cudweed
*Sonchus asper**	Spiny sowthistle
Stephanomeria exigua	Small wirelettuce
Boraginaceae	Borage Family
Amsinkia intermedia	Common fiddleneck
Cyrptantha muricata var. muricata	Showy prickly-nut cryptantha

Scientific Name	Common Name
Eucrypta chrysanthemifolia	Spotted eucrypta
Heliotropium curassavicum	Chinese parsley
Pectocarya linearis	Sagebrush combseed
Plagiobothrys collinus	Cooper's popcornflower
Brassicaceae	Mustard Family
*Brassica nigra**	Black mustard
*Hirschfelidia incana**	Short-pod mustard
*Sisymbrium altissimum**	Tumble mustard
Chenopodiaceae	Goosefoot Family
Atriplex canescens	Fourwing saltbush
Cucurbitaceae	Gourd family
Cururbita foetidissima	Missouri gourd
Marah macrocarpa	Chilicothe
Euphorbiaceae	Spurge Family
Euphorbia albomarginata	Rattlesnake sandmat
Fabaceae	Pea Family
Acmispon strigosus	Strigose lotus
*Melilotus albus**	White sweetclover
*Vicia villosa**	Hairy vetch
Geraniaceae	Geranium family
*Erodium botrys**	Big heron bill
*Erodium cicutarium**	Coastal heron's bill
Juglandaceae	Walnut family
Juglans hindsii	Northern California black walnut
Lamiaceae	Mint family
*Marrubium vulgare**	White horehound
Salvia mellifera	Black sage
Myrsinaceae	Myrsine family
*Lysimachia arvernsis**	Scarlet pimpernel

Scientific Name	Common Name
Onagraceae	Evening Primrose family
Epilobium campestre	Smooth boisduvalia
Papaveraceae	Poppy family
Eschscholzia californica	California poppy
Poaceae	Grasses
*Avena fatua**	Wildoats
*Bromus diandrus**	Ripgut brome
*Bromus hordeaceus**	Soft chess
*Bromus rubens**	Red brome
*Cynodon dactylon**	Bermuda grass
*Hordeum murinum**	Foxtail barley
*Schismus barbatus**	Old han schismus
Polygonaceae	Buckwheat Family
Eriogonum fasciculatum	California buckwheat
Eriogonum gracile var. gracile	Slender buckwheat
*Rumex crispus**	Curly dock
*Rumex obtusifolius**	Broadleaf dock
Rosaceae	Rose family
Rosa californica	California wild rose
Salicaceae	Willow Family
Populus fremontii	Fremont's cottonwood
Salix exigua	Narrowleaf willow
Salix gooddingii	Goodding's black willow
Salix laevigata	Polished willow
Sauraceae	Lizard's Tail family
Anemopsis californica	Yerba mansa
Solanaceae	Sacred datura
Datura wrightii	Jimsonweed
*Nicotiana glauca**	Tree tobacco
Tamaricaceae	Tamarisk Family
*Tamarix ramosissima**	Tamarisk

Scientific Name	Common Name
Urticaceae	Caltrop Family
*Urtica urens**	Annual stinging nettle

* Non-native species.

Wildlife Species Observed/Detected within the Study Area

Scientific Name	Common Name
Aves - Birds	
Accipitridae	Hawks, Kites, Eagles, and Allies
Accipiter cooperii †**	Cooper's hawk
Buteo jamaicensis	Red-tailed hawk
Aegithalidae	Long-tailed Tits
Psaltriparus minimus	bushtit
Columbidae	Pigeons and Doves
Zenaida macroura	mourning dove
Corvidae	Jays, Magpies and Crows
Corvus brachyrhynchos	American crow
Falconidae	Falcons and Caracaras
Falco sparverius	American kestrel
Fringillidae	Finches
Haemorhous mexicanus	house finch
Spinus psaltria	lesser goldfinch
Hirundinidae	Swallows
Hirundo rustica	barn swallow
Icteridae	Troupials and Allies
Sturnella neglecta	Western meadowlark
Mimidae	Mockingbirds and Thrashers
Toxostoma redivivum	California thrasher
Parulidae	Wood Warblers and Relatives
Setophaga coronata	yellow-rumped warbler
Passerellidae	New World Sparrows
Melospiza melodia	song sparrow
Zonotrichia leucophrys	white-crowned sparrow

Scientific Name	Common Name
Regulidae	Kinglets
Corthylio calendula	ruby-crowned kinglet
Trochilidae	Hummingbirds
Calypte anna	Anna's hummingbird
Troglodytidae	Wrens
Thryomanes bewickii	Bewick's wren
Tyrannidae	Tyrant Flycatchers
Tyrannus vociferans	Cassin's kingbird
Sayornis nigricans	Black phoebe
Sayornis saya	Say's phoebe
Reptilia - Reptiles	
Phrynosomatidae	North American Spiny Lizards
Uta stansburiana elegans	Western side-blotched lizard
Mammalia - Mammals	
Leporidae	Rabbits and Hares
Sylvilagus audubonii	Audubon's cottontail
Sciuridae	Squirrels, Chipmunks, and Marmots
Otospermophilus beecheyi	California ground squirrel

† sensitive species
** observed off-site, within 500-foot buffer radius around Project site

APPENDIX C

Special Status Species
Potential Occurrence Determination

This page intentionally left blank.

APPENDIX C

Special Status Species Potential Occurrence Determination

This table summarizes conclusions from analysis and field surveys regarding the potential occurrence of special status species within the Project site and offsite roadway improvements area. During the field surveys, the potential for special status species to occur was assessed based on the following criteria:

- Present: observed on the site during the field surveys, or recorded on-site by other qualified biologists.

- High potential to occur: observed in similar habitat in the region by a qualified biologist, or habitat on the site is a type often utilized by the species and the site is within the known distribution and elevation range of the species.

- Moderate potential to occur: reported sightings in surrounding region, or the site is within the known distribution and elevation range of the species and habitat on the site is a type occasionally used by or typical of the species.

- Low potential to occur: the site is within the known distribution and elevation range of the species but habitat on the site is rarely used by the species or no suitable habitat is present, or there are no known recorded occurrences of the species within or adjacent to the site.

- Absent: a focused study failed to detect the species or the site is outside the known distribution and elevation range of the species.

- Unknown: the species' distributional/elevation range and habitat are poorly known.

Even with field surveys, biologists assess the *probability* of occurrence rather than make a definitive conclusion about species' presence or absence. Failure to detect the presence of the species is not definitive and may be due to variable effects associated with fire, rainfall patterns, and/or season.

Special Status Species: Potential to Occur within the Project Site/Offsite Area

Scientific Name	Common Name	Status	General Habitat Description	Potential for Occurrence within the Project Site/ Offsite Area
PLANTS				
Abronia villosa var. aurita	Chaparral sand-verbena (also foothill sand-verbena)	CRPR: 1B.1, BLMS, FSS	Exposed sites with sandy soils, especially washes and dunes, in chaparral, sage scrub, and alluvial scrub. Elevation: <1600 meters Blooming period: (Jan)March - September	Low. Habitat occurs within the avoided drainage area, primarily on northern end but sporadically along the length of the stream bed. However, species not found during rare plant surveys. Nearest collection 2.25 miles S.E in similar habitat.
Almutaster pauciflorus	alkali marsh aster	CRPR: 2B.2	Perennial herb that grows in wet alkaline and saline soils such as inland salt marshes and salt flats. Found in southern Sierra Nevada foothills, Mojave Desert (Inyo Co.). Western Riverside Co. observation is from 1937. Elevation: 200 - 700 meters Blooming Period: June - October	Low. No salt marshes or flats on site. Nearest collection is from 1932 in unknown habitat near Temecula.
Allium munzii	Munz's onion	FE, ST, CRPR: 1B.1 MSHCP: Group 3	It is endemic to western Riverside County where it grows in the coastal sage scrub, grassland or juniper woodland communities of the local hills and mountains. Occur on clay and cobbly clay soils which include the following series: Altamont, Auld, Bosanko, Claypit, and Porterville. Elevation: 300 - 900 meters Blooming period: March - May	Low. No habitat (clay soils) on site. Nearest collection is 4.75 miles to the east in very different habitat (Auld clays and Rocky).
Ambrosia pumila	San Diego ambrosia	FE, CRPR: 1B.1, MSHCP: Group 3	Range extends from Riverside County through San Diego County into Baja California. It generally occurs in chaparral, coastal scrub and valley and foothill grasslands, usually where exposed to seasonal flooding. This species inhabits sandy loam soils or clay soils and has been known to tolerate alkaline conditions. In valleys, it persists where disturbance has been superficial. Sometimes, this species can be found on margins or near vernal pools.	Low. Site lacks suitable habitat. Species was not found.

Scientific Name	Common Name	Status	General Habitat Description	Potential for Occurrence within the Project Site/ Offsite Area
			Elevation: 50-600 meters Blooming period: April - July	
Amsinckia douglasiana	Douglas' fiddleneck	CRPR: 4.2	Unstable shaly sedimentary slopes of cismontane woodland, valley and foothill grassland. Elevation: (100)150 – 1600 meters Blooming period: Mar – June	Low. Congeneric *Amsinckia intermedia* was abundant on site, however, *A. douglasiana* not observed.
Arctostaphylos rainbowensis	rainbow manzanita	CRPR: 1B.1, BLMS, FSS MSHCP: Group 2 and Table 9-3	It is endemic to California, where it is known only from northern San Diego and southern Riverside Counties in the Peninsular Ranges. It is most common in the chaparral of the lower elevation coastal Santa Ana Mountains, and the only manzanita species throughout most of its range. Elevation: 205 – 670 meters Blooming period: December - March	Low. No habitat (chaparral) on site. Nearest collections are on slopes at higher elevation. Species not found during surveys.
Brodiaea filifolia	thread-leaved brodiaea	FT, SE, CRPR: 1B.1, MSHCP: Group 3	Perennial bulbiferous herb. Found in floodplains in semi-alkaline mudflats, vernal pools, mesic southern needlegrass grassland, mixed native-nonnative grassland, alkali grassland, and alluvial fan sage scrub plant communities. Requires very heavy clay soils. The range of this species extends from the foothills of the San Gabriel Mountains at Glendora in Los Angeles County, east to Arrowhead Hot Springs in the western foothills of the San Bernardino Mountains in San Bernardino County, and south through eastern Orange and western Riverside Counties to the City of San Diego. Elevation: 25 – 860 meters Blooming period: March - June	Low. Soils on site are well drained sandy loams.
Brodiaea santarosae	Santa Rosa Basalt brodiaea	CRPR: 1B.2, FSS	Found only on basalt soils in areas currently or recently covered by the Santa Rosa Basalt of southwest Riverside County and a neighboring small part of San Diego County. It is the rarest of the southern California *Brodiaeas*. Elevation: 565 – 1,045 meters Blooming period: May - June	Low. No habitat on site. Species not found.
Calochortus catalinae	Catalina mariposa lily	CRPR: 4.2	The bulb is endemic to Southern California. It is native along the coastline in grasslands and open chaparral and woodlands habitats, especially on	Low. Nominal habitat on site but nearest

Scientific Name	Common Name	Status	General Habitat Description	Potential for Occurrence within the Project Site/ Offsite Area
			the Channel Islands and in the Santa Monica Mountains. Elevation: < 700 meters Blooming period: Mar – May	collection 25 N.N.E. in 1962. No *Calochortus sp.* were found on site.
Calochortus weedii var. intermedius	Intermediate mariposa-lily	CRPR: 1B.2, FSS MSHCP: Group 2	Dry, rocky, open slopes within chaparral, sage scrub, or grasslands. Elevation: < 680 meters Blooming period: June – July	Low. No Rocky habitat on site. No *Calochortus sp.* were found on site.
Centromadia pungens ssp. laevis	smooth tarplant	CRPR: 1B.1, MSHCP: Group 3	Suitable habitat for the smooth tarplant includes alkali scrub, alkali playas, and grasslands with alkaline affinities. Elevation: 0 – 640 meters Blooming period: April - September	Low. Appropriate habitat on site, however, species was not observed during surveys.
Chorizanthe leptotheca	peninsular spineflower	CRPR: 4.2 MSHCP: Group 2 and Table 9-3	Annual herb found in open habitats, typically on granitic-derived or alluvial surfaces. At higher elevations, this species appears to be associated with chaparral, sage scrub and coniferous forest openings and at lower elevations it is typically associated with old formation alluvial benches. Elevation: 300 - 1600 meters Blooming period: May - August	Low. Site is at low end of elevational range and appropriate habitat (open spaces in shrublands/forest). No *Chorizanthe sp.* were found on site.
Chorizanthe parryi var. parryi	Parry's spineflower	CRPR: 1B.1, BLMS, FSS, MSHCP: Group 2	Parry's spineflower occurs within the alluvial chaparral and scrub of the San Gabriel, San Bernardino and San Jacinto Mountains. Elevation: 90 – 800 meters Blooming period: April - June	Low. Marginal habitat on or adjacent to site (wash). 2008 Collection 2 miles N.E. of site. No *Chorizanthe sp.* were found on site.
Chorizanthe polygonoides var. longispina	long-spined spineflower	CRPR: 1B.2, BLMS MSHCP: Group 2	Long-spined spineflower is associated primarily with sand or heavy, often rocky, clay soils in southern needlegrass grassland, and openings in coastal sage scrub, and chaparral. Elevation: 30 - 1530 meters Blooming period: April – June	Low. Marginal habitat on site. 2006 Collection 2.75 miles N.E. of site. However, no *Chorizanthe sp.* were found on site.
*Clinopodium chandleri (*formerly	San Miguel savory	CRPR: 1B.2, BLMS, FSS	Perennial shrub native to California and Baja California. Habitat includes rocky, gabbroic or metavolcanic substrates, chaparral, cismontane	Low. While there are nearby collections,

Scientific Name	Common Name	Status	General Habitat Description	Potential for Occurrence within the Project Site/ Offsite Area
Satureja chandleri)		MSHCP: Group 3	woodland, coastal scrub, riparian woodland, and valley and foothill grassland. Tends to grow in rocky slopes. Elevation: < 1100 meters Blooming period: March - July	these are from more mesic sites in relatively undisturbed chaparral. Species was not identified on site.
Convolvulus simulans	small-flowered morning-glory	CRPR: 4.2 MSHCP: Group 2	Annual herb native to California and Baja California. Found in clay substrates (occasionally serpentine) in chaparral, coastal scrub, and valley and foothill grassland. Rare in southern California. Threatened by development and vehicles. Elevation: 30 – 875 meters Blooming period: April – June	Low. No habitat (clay or serpentine substrates). Nearest collection is 4.5 miles east from 2012 in very different habitat.
Deinandra mohavensis (formerly known as Hemizonia mohavensis)	Mojave tarplant	SE, CRPR: 1B.2, BLMS, FSS MSHCP: Group 2 and Table 9-3	Mojave tarplant can be found in low sand bars in riverbeds, along stream channels and in ephemeral grassy areas in riparian scrub and chaparral. Elevation: 460 - 1600 meters Blooming period: (May)June – Oct(Jan)	Low. Site is below the elevational range of the species and there are no nearby occurrences.
Deinandra paniculata	San Diego tarplant (paniculate tarplant)	CRPR: 4.2	Occurs as a dominant or co-dominant plant in the herbaceous layer of grasslands, forblands, openings of coastal sage scrub and oak woodland. Often in sandy soils. Elevation: < 1300 meters Blooming period: (Mar)April – November(Dec)	High. Recent occurrences nearby and a *Deinandra sp.* occurs on site but was not flowering and identifiable at cessation of rare plant surveys.
Dudleya viscida	sticky-leaved dudleya	CRPR 1B.2, FSS MSHCP: Group 2 and Table 9-3	Perennial herb endemic to California. Occurs on bluffs and rocky cliffs. Known from southern South Coast of Orange and San Diego Counties. Also within chaparral, sage scrub, and coastal bluff scrub within the Santa Ana Mountains of western Riverside County on mesic, mostly north-facing, and often steep, rocky canyon slopes. Elevation: 10 - 550 meters Blooming period: May -June	Low. No habitat on site. Species was not found.
Eryngium	San Diego	FE, SE	This species occurs within southwestern California and northwestern Baja	Low. No habitat on site.

Scientific Name	Common Name	Status	General Habitat Description	Potential for Occurrence within the Project Site/ Offsite Area
aristulatum var. parishii	button-celery	CRPR: 1B.1 MSHCP: Group 3	California, Mexico. San Diego button-celery occurs only in vernal pools with clay soils, or marshes. Elevation: < 705 meters Blooming period: May – June	Species was not found.
Galium californicum ssp. *primum*	California bedstraw (Alvin Meadow bedstraw)	CRPR: 1B.2, BLMS, FSS, MSHCP: Group 2 and Table 9-3	A perennial herb found in granitic and sandy soils with chaparral or lower montane coniferous forests. Elevation: 1350 – 1700 meters Blooming period: May - July	Low. Site is well below elevational range of the species and there was no habitat on site. Species was not found.
Harpagonella palmeri	Palmer's grapplinghook	CRPR: 4.2 MSHCP: Group 2	Palmer's grapplinghook is associated with clay and cobbly clay soils in chaparral, coastal sage scrub, valley and foothill grasslands, and scrub oak woodland. Elevation: < 1000 meters Blooming period: March – April	Low. No habitat on site. Species was not found.
Heuchera hirsutissima	shaggy-haired alumroot	CRPR: 1B.2, FSS MSHCP: Group 2 and Table 9-3	Shaggy-haired alumroot is known from rocky areas and granite crevices within upper-montane coniferous forest and subalpine coniferous forest. Elevation: 2,200 - 3,500 meters Blooming period: May (June) - July	Low. Site is well below elevational range of the species and there was no habitat on site. Species was not found.
Holocarpha virgata ssp. *elongata*	graceful tarplant (also curving tarplant)	CRPR: 4.2 MSHCP: Group 2 and Table 9-3	This plant is endemic to Orange County, Riverside County and San Diego County. It is known from heavy clay soils around vernal pools and wet meadows. Elevation: < 900 meters Blooming period: July - November	Low. No habitat (clay soils) on site. Nearest occurrences are on the Santa Rosa Plateau in very different habitat.
Hordeum intercedens	vernal barley	CRPR: 3.2 MSHCP: Group 2	Annual herb native to California and Baja California. Habitat includes vernal pools; mesic grasslands; dry, saline streambeds; and alkaline flats. Known from the San Joaquin Valley, the outer South Coast Ranges, the Couth Coast, the Channel Islands, the Peninsular Ranges, and northwest Baja California. In Riverside County, vernal barley is found in the Domino, Willows and Traver soils series and is associated with alkali flats and flood plains within the alkali vernal plains community. Within this community vernal barley is primarily associated with alkali annual grasslands and vernal pools and to a lesser extent alkali scrub and alkali playa.	Low. There is nominal habitat on site but it is xeric for this species. Species was not found. *Hordeum murinum* was the only species in the genus that occurred on site.

Scientific Name	Common Name	Status	General Habitat Description	Potential for Occurrence within the Project Site/ Offsite Area
			Elevation: < 500 meters Blooming period: March - June	
Hulsea vestita ssp. callicarpha	beautiful hulsea	CRPR: 4.2 MSHCP: Group 2 and Table 9-3	Typically grows within chaparral and lower montane coniferous forests. Prefers granitic soils, rock or gravelly soils in chaparral and in open areas of montane conifer forest. Elevation: 1300 – 2500 meters Blooming period: May - September	Low. Site is well below elevational range of the species and there was no habitat on site. Species was not found.
Juglans californica var *californica*	California black walnut / Southern California black walnut	CRPR: 4.2 MSHCP: Group 2	Perennial deciduous tree endemic to California. Habitat includes alluvial substrates, chaparral, cismontane woodland, coastal scrub, and riparian woodland. Threatened by urbanization, grazing, non-native plants, and possibly by lack of natural reproduction. Elevation: 30 - 900 meters Blooming period: Mar – May	Low. Appropriate habitat (riparian) on site. Species was not found but the congeneric, *J. hindsii*, was found in the riparian area.
Juncus acutus ssp. leopoldii	southwestern spiny rush	CRPR: 4.2	The species range extends from Arizona to Baja and the central California coast. It is typically found in moist, saline, or alkaline areas within coastal, foothill, and desert regions. Elevation: generally < 300 meters Blooming period: March (May) – June Fruiting time: Jun – Aug	Low. Site is at the upper elevational range of the species and there was no habitat on site. Species was not found.
Juncus luciensis	Santa Lucia dwarf rush	CRPR: 1B.2, FSS	Habitat includes chaparral, great basin scrub, lower montane coniferous forest, meadows and seeps, and vernal pools. Elevation: 300 – 1900 meters Blooming period: April - July	Low. Site is at the lower elevational range of the species and there was no habitat on site. Species was not found.
Lasthenia glabrata ssp. coulteri	Coulter's goldfields	CRPR: 1B.1, BLMS MSHCP: Group 3	Coulter's goldfields is associated with low-lying alkali habitats along the coast and in inland valleys. Most of the populations are associated with coastal salt marsh. In Riverside County, Coulter's goldfields occur primarily in highly alkaline, silty-clay soils in association with Traver, Domino and Willows soils. Most Riverside County populations are associated with the Willows soil series. Coulter's goldfields occur primarily in the alkali vernal plains community. Elevation: < 1000 meters	Low. No nearby locations or appropriate habitat on site. Species was not found.

Scientific Name	Common Name	Status	General Habitat Description	Potential for Occurrence within the Project Site/ Offsite Area
			Blooming period: April – May	
Lathyrus splendens	pride-of-California	CRPR: 4.3	Climbing perennial pea vine. Native to Baja California; its range extends into San Diego County. Elevation: < 1050 meters Blooming period: Apr – Jun	Low. No nearby occurrences and no habitat (chaparral) on site.
Lepidium virginicum var. robinsonii	Robinson's peppergrass	CRPR: 4.3	Annual herb occurring in dry sandy or thin soils in coastal sage scrub and chaparral. Elevation: < 2800 meters Blooming period: Mar – Jun	Low. One historical (1927) 2.5 miles ENE. Some marginal habitat on site, however, no *Lepidium sp.* found during surveys.
Lilium humboldtii ssp. ocellatum	ocellated Humboldt lily	CRPR: 4.2 MSHCP: Group 2 and Table 9-3	Ocellated Humboldt lily is associated with riparian corridors in lower montane coniferous forest and coastal chaparral. This species typically occurs on lower stream benches but can also occur on shaded, dry slopes, beneath a dense coniferous canopy and cismontane oak woodland. Elevation: < 1800 meters Blooming period: May – Aug	Low. There was no habitat (montane forest) on site. Species was not found.
Lilium parryi	lemon lily	CRPR: 1B.2, FSS MSHCP: Group 2 and Table 9-3	Typical habitat consists of forested, shady stream banks within narrow canyon bottoms. Lemon lily requires moisture year-round and the distribution of this species is limited to the banks of seeps, springs and permanent streams. Elevation: 1300 – 2600 meters Blooming period: Jun – Sept	Low. Site is well below elevational range of the species and there was no habitat on site. Species was not found.
Microseris douglasii var. platycarpha	small-flowered microseris	CRPR:4.2 MSHCP: Group 2	Clay soils in association with native grasslands or vernal pools. Elevation: 15 – 1070 meters Blooming period: March - May	Low. There is no habitat (clay soils/vernal pools) on site. Species was not found.
*Mimulus clevelandii (*also *Diplacus clevelandii)*	Cleveland's bush monkeyflower	MSHCP: Group 2 and Table 9-3	Habitat includes gabbroic, often disturbed areas, and rocky. Occurs in chaparral, cismontane woodland and lower montane coniferous forests. Elevation: 915 – 1465 meters Blooming period: April - June	Low. Site is well below elevational range of the species and there was no habitat on site. Species was not found.

Scientific Name	Common Name	Status	General Habitat Description	Potential for Occurrence within the Project Site/ Offsite Area
*Mimulus diffusus (*also *Erythranthe diffusa)*	Palomar monkeyflower	CRPR: 4.3 MSHCP: Group 2	Occurs in chaparral and montane coniferous forest. Elevation: 300 – 2100 meters Blooming period: April – June	Low. Site is at the lower elevational range of the species and there was no habitat on site. Species was not found.
Muhlenbergia californica	California muhly	CRPR: 4.2 MSHCP: Group 2 and Table 9-3	A perennial grass found in mesic, seeps and streambanks. Habitat includes chaparral, coastal scrub, lower montane coniferous forest, meadows and seeps. Elevation: 100 – 2000 meters Blooming period: June - September	Low. There is no habitat (meadows/seeps) on site. Species was not found.
Myosurus minimus ssp. apus	little mousetail	CRPR: 3.1 MSHCP: Group 3	Little mousetail occurs in association with vernal pools and within the alkali vernal pools and alkali annual grassland components of alkali vernal plains. Elevation: 20 – 640 meters Blooming period: March - June	Low. There is no habitat (vernal pools) on site. Species was not found.
Navarretia fossalis	spreading navarretia	FT, CRPR: 1B.1 MSHCP: Group 3	Annual herb native to California and Baja California. Habitat includes chenopod scrub, marshes and swamps (assorted shallow freshwater), playas, and vernal pools. Threatened by urbanization, agriculture, road construction, grazing, flood control, non-native plants, illegal dumping, foot traffic, and vehicles. Elevation: 30 - 1300 meters Blooming period: April - June	Low. There is no habitat (vernal pools) on site. Species was not found.
Navarretia prostrata	prostrate vernal pool navarretia	CRPR: 1B.2 MSHCP: Group 3	Found in alkaline floodplains, vernal pools, meadows and seeps. Known to occur in Los Angeles, Merced, Monterey, Orange, Riverside and San Diego counties and is thought to be extirpated from Alameda and San Bernardino counties. Elevation: < 700 m Blooming period: April - July	Low. There is no habitat (vernal pools) on site. Species was not found.
Orcuttia californica	California Orcutt grass	FE, SE, CRPR: 1B.1 MSHCP: Group 3	All known California Orcutt grass localities are associated with vernal pools. Elevation: < 700 meters Blooming period: April - August	Low. There is no habitat (vernal pools) on site. Species was not found.
Oxytheca	chickweed	MSHCP:	Habitat includes montane coniferous forest (yellow pine forest) on sandy	Low. Site is well below

Scientific Name	Common Name	Status	General Habitat Description	Potential for Occurrence within the Project Site/ Offsite Area
caryophylloides	oxytheca	Group 2 and Table 9-3	soils. Elevation: 1,300 - 2,600 meters Blooming period: June – September	elevational range of the species and there was no habitat on site. Species was not found.
Polygala cornuta var. fishiae	Fish's milkwort	CRPR: 4.3 MSHCP: Group 2 and Table 9-3	Perennial deciduous shrub native to California and Baja California. often associated with shaded areas within cismontane oak woodlands and riparian woodlands, although it also occurs in xeric and mesic chaparral habitat. Elevation: 90 - 1270 meters Blooming period: May - August	Low. Riparian habitat occurs within drainage, however, species was not found during plant surveys.
Potentilla rimicola	cliff cinquefoil	CRPR: 2B.2, FSS MSHCP: Group 2 and Table 9-3	Cliff cinquefoil is a perennial plant which grows in granitic crevices within upper montane and subalpine coniferous forest. Elevation: 2400 – 2800 meters Blooming period: July – September	Low. Site is well below elevational range of the species and there was no habitat on site. Species was not found.
Pseudognaphalium leucocephalum	white rabbit tobacco	CRPR: 2B.2	Sandy or gravelly benches, dry stream bottoms, and canyon bottoms. Elevation: < 500 meters Blooming period: (July) August – November (December)	Low. Suitable habitat within drainage and nearby occurrences, however, species was not found. One congeneric, *P. microcephalum* was found.
Quercus engelmannii	Engelmann oak	CRPR: 4.2, MSHCP: Group 2	Native to the foothills from eastern Los Angeles County south to eastern San Diego County. Found in pure stands and with coast live oak. Often found in chaparral, cismontane woodland, riparian woodland, and valley and foothill grassland. Elevation: < 1300 meters Blooming period: April – May	Low. Nominal habitat (riparian) on site, but no nearby occurrences and no *Quercus sp.* found during surveys.
Romneya coulteri	Coulter's matilija poppy	CRPR: 4.2 MSHCP: Group 1 and Table 9-3	This poppy is native to southern California and Baja California, where it grows in dry canyons in chaparral and coastal sage scrub plant communities, sometimes in areas recently burned. It is a popular ornamental plant, kept for its large, showy flowers.	Low. Nominal habitat on site but no nearby occurrences. Species was not found.

Scientific Name	Common Name	Status	General Habitat Description	Potential for Occurrence within the Project Site/ Offsite Area
			Elevation: < 1200 meters Blooming period: March – July (August)	
Scutellaria bolanderi ssp. austromontana	southern mountains skullcap	CRPR: 1B.2, FSS	This plant grows in mid- to late-successional forests dominated by oaks and pine trees. The soil is acidic, rocky, and shallow, sometimes as shallow as 3 centimeters. It is dry to somewhat moist in the habitat. Elevation: 600 – 2000 meters Blooming period: Jun – Jul	Low. Site is well below elevational range of the species and there was no habitat on site. Species was not found.
Sphaerocarpos drewiae (also *S. drewei*)	bottle liverwort	CRPR: 1B.1	This liverwort grows in shady spots in coastal sage scrub habitat. It is associated with another rare endemic liverwort, *Geothallus tuberosus*. Elevation: 90 – 600 meters Blooming period: N/A	Low. Site lacks suitable habitat.
Symphyotrichum defoliatum	San Bernardino aster	CRPR: 1B.2, BLMS, FSS	Endemic to Southern California, where it is known only from the San Bernardino and San Gabriel Mountains of the Transverse Ranges, and part of the Peninsular Ranges to the south. It grows in grassland and meadow habitat, often near springs, and in disturbed areas. Elevation: < 2,050 meters Blooming period: Jul – Nov	Low. Historical (1923) collection from nearby area, but the site lacks appropriate habitat (meadow).
INVERTEBRATES				
Branchinecta lynchi	vernal pool fairy shrimp	FT, IUCN: VU MSHCP: Group 3	This species is usually associated with vernal pools (79%) but can also be found in association with other ephemeral habitats including alkali pools, seasonal drainages, stock ponds, vernal swales and rock outcrops.	Low. No vernal pools or depressions occur.
Danaus plexippus pop. 1	monarch – CA overwintering population	FSS, FCE	Winter migrant along CA coast. Known to roost in eucalyptus trees. Usually encountered in lowland areas. Obligate milkweed host plant (primarily *Asclepias* spp.) during larval stage. Nectar and milkweed resources are often associated with riparian corridors. Overwinter in groves along the coast of California and Baja California, typically close to the coast, populated by a variety of tree species, including blue gum eucalyptus (*Eucalyptus globulus*), Monterey pine (*Pinus radiata*), and Monterey cypress (*Hesperocyparis macrocarpa*).	Low. Some eucalyptus trees occur nearby, but not suitable as overwintering habitat. Site lacks milkweed and sufficient nectar plants.
Euphydryas editha quino	quino checkerspot butterfly	FE MSHCP: Group 3	Each phase has distinct habitat requirements. Habitat associations seem to be tied to both host plant species and topography. Larvae feed immediately upon *Plantago erecta*, *Plantago patagonia, Antirrhinum coulterianum*, *Cordylanthus rigidus* and possibly other *Plantago* species	Low. Site lacks suitable habitat and host species.

Scientific Name	Common Name	Status	General Habitat Description	Potential for Occurrence within the Project Site/ Offsite Area
			and *Collinsia concolor*, and *Castilleja exserta*. After diapause, the larvae feed again on *Plantago erecta* before metamorphosing. After metamorphose, the adults nectar mostly on small annuals. The Quino checkerspot butterfly is found in association with topographically diverse open woody canopy landscapes that contain low to moderate levels of non-native vegetation compared to disturbed habitat. Vegetation types that support the Quino checkerspot are coastal sage scrub, open chaparral, juniper woodland, forblands, and native grassland. Soil and climatic conditions, as well as ecological and physical factors, affect the suitability of habitat within the species' range.	
Streptocephalus woottoni	Riverside fairy shrimp	FE, IUCN: EN MSHCP: Group 3	*S. wootoni* is restricted to deep (greater than 12" in depth) seasonal vernal pools, vernal pool like ephemeral ponds, and stock ponds and other human modified depressions.	Low. No depressions or vernal pools occur.
AMPHIBIANS				
*Spea hammondii (*also *Scaphiopus hammondii)*	western spadefoot toad	SSC, BLMS, MSHCP: Group 2	Prefers open areas with sandy or gravelly soils, in a variety of habitats including mixed woodlands, grasslands, coastal sage scrub, chaparral, sandy washes, lowlands, river floodplains, alluvial fans, playas, alkali flats, foothills, and mountains. Rainpools lasting a significant amount of time and which do not contain bullfrogs, fish, or crayfish are necessary for breeding. Typically found in areas with good native vegetative cover and low levels of disturbance.	Low. Site lacks suitable habitat.
REPTILES				
Arizona elegans occidentalis	California glossy snake	SSC	Inhabits arid scrub, rocky washes, grasslands, chaparral. Prefer open sandy areas with scattered brush, but also found in rocky areas.	Moderate. Portions of drainage contain suitable sandy soils and rock riprap present to the southeast of the Project site. Only one recorded occurrence (from 1946) of the species within 2 miles of the Project.

Scientific Name	Common Name	Status	General Habitat Description	Potential for Occurrence within the Project Site/ Offsite Area
Charina bottae umbratica	southern rubber boa	ST, FSS MSHCP: Group 2 and Table 9-3	The rubber boa is often found in fallen debris, rock piles, and steep, rocky montane areas within coniferous forests, woodlands, chaparral, and grasslands above 1,540 meters in elevation.	Absent. Site is outside of known elevation range for the species.
Crotalus ruber	red-diamond rattlesnake	FSS, SSC MSHCP: Group 2	Chaparral, woodland, grassland, and desert areas from coastal San Diego County to the eastern slopes of the mountains. Occurs in rocky areas and dense vegetation. Needs rodent burrows, cracks in rocks or surface cover objects.	Low. Site lacks suitable rocky habitat.
Lampropeltis zonata parvirubra	San Bernardino mountain kingsnake	MSHCP: Group 2 and Table 9-3	The San Bernardino mountain kingsnake is only known to occur within the San Bernardino Mountains and San Jacinto Mountains bioregions above 1,500 meters. They are restricted to rock outcrops, talus, and steep shady canyons within coniferous and mixed coniferous, hardwood, or riparian woodlands and other edge Habitats when associated with coniferous Habitat.	Absent. Site is outside of known elevation range for the species.
Lampropeltis zonata pulchra	San Diego mountain kingsnake	MSHCP: Group 2 and Table 9-3	The San Diego mountain kingsnake is only known to occur within the Santa Ana Mountains, Aqua-Tibia Mountains, and Desert Transition Bioregions above 500 meters in elevation. They are restricted to rock outcrops, talus, and steep shady canyons within coniferous and mixed coniferous, hardwood, or riparian woodlands.	Absent. Site is outside of known elevation range for the species.
Phrynosoma blainvillii	coast horned lizard	SSC, BLMS	Inhabits open areas of sandy soil and low vegetation in valleys, foothills and semiarid mountains. Found in grasslands, coniferous forests, woodlands, and chaparral, with open areas and patches of loose soil. Often found in lowlands along sandy washes with scattered shrubs and along dirt roads. Often found near ant hills feeding on ants. The species is common in most areas of the MSHCP Plan Area except where adjacent to urban situations.	Low. Adjacency to urban development and decades of disturbance onsite likely preclude this species.
Sceloporus graciousus vandenburgianus	southern sagebrush lizard	MSHCP: Group 2 and Table 9-3	The sagebrush lizard occurs primarily in open montane areas with good light and scattered low bushes. Habitats in which it is found includes montane chaparral, sage brush, hardwood and conifer forests and woodlands and juniper woodlands.	Low. Site lacks suitable habitat.
BIRDS				
Accipiter cooperii	Cooper's hawk	WL, MSHCP:	Forest and woodland birds. These lanky hawks are a regular sight in parks, quiet neighborhoods, over fields, at backyard feeders, and even along	Observed within offsite habitat within 500 feet

Scientific Name	Common Name	Status	General Habitat Description	Potential for Occurrence within the Project Site/ Offsite Area
		Group 2	busy streets if there are trees around.	of site. Not observed within Project site.
Aimophila ruficeps canescens	Southern California rufous-crowned sparrow	WL MSHCP: Group 2	Found on moderate to steep, dry, grass-covered hillsides, coastal sage scrub, and chaparral and often occur near the edges of the denser scrub and chaparral associations. Preference is shown for tracts of California sagebrush.	Low. Site lacks suitable nesting habitat. Low-moderate for foraging / fly over due to adjacent CSS habitat within 100 feet of the site to the west.
Ammodramus savannarum	Grasshopper Sparrow	SSC, MSHCP: Group 2 and Table 9-3	Breeds in open grasslands, prairies, hayfields, and pastures, typically with some bare ground. Grasshopper Sparrows usually avoid breeding in grasslands with extensive shrub cover but are a bit more tolerant of shrubs in migration and during the winter. Nests are domed with grasses, typically well concealed in depressions at the base of grass clumps. Sensitive to edge effects and requires relatively large blocks of contiguous habitat. Valley and foothill (native) grasslands are the preferred habitat although non-native grasslands are used by the species as well.	Low-moderate for foraging due to open grasslands. Species not expected to breed onsite.
Athene cunicularia	burrowing owl	SSC, BCC, BLMS, MSHCP: Group 3	Open, dry annual or perennial grasslands, deserts and scrublands characterized by low-growing vegetation. Subterranean nester, dependent upon burrowing mammals, most notably, the California ground squirrel.	Moderate. Suitable burrows occur within the site and CNDDB species occurrences documented nearby. The species was not observed during the breeding season focused surveys.
Empidonax traillii extimus	southwestern willow flycatcher	FE, SE, MSHCP: Group 3	The southwestern willow flycatcher is present in breeding territories by mid-May. It builds nests and lays eggs in late May and early June and fledges young in early to mid-July. Between August and September, the southwestern willow flycatcher migrates to wintering grounds in Mexico, Central America, and possibly northern South America. This species is an insectivore and forages within and above dense riparian vegetation. The breeding range of the species includes southern California. The	Moderate. Suitable riparian habitat in the avoided drainage. No SWFL individuals were observed during the focused surveys conducted in 2005.

Scientific Name	Common Name	Status	General Habitat Description	Potential for Occurrence within the Project Site/ Offsite Area
			southwestern willow flycatcher breeds in relatively dense riparian tree and shrub communities associated with rivers, swamps, and other wetlands including lakes and reservoirs. Habitat patches must be at least 0.25 ac in size and at least 30 feet wide. Following modern changes to riparian communities, this subspecies still nests in native vegetation, but also uses thickets dominated by non-native tamarisk and Russian olive, or in mixed native non-native stands.	
Eremophila alpestris actia	California horned lark	WL MSHCP: Group 2	The California horned lark is a common to abundant resident in a variety of open habitats, usually where trees and large shrubs are absent. In the Midwest, the species has been characterized as the most abundant species in row-crop fields. Range-wide, California horned larks breed in level or gently sloping shortgrass prairie, montane meadows, "bald" hills, open coastal plains, fallow grain fields, and alkali flats.	Moderate-high. Site provides suitable foraging and nesting habitat.
Melospiza lincolnii	Lincoln's sparrow	MSHCP: Group 1 and Table 9-3	Willow and alder thickets, muskeg, brushy bogs. In winter, thickets, weeds, bushes. Breeds in northern and mountainous areas in dense low vegetation near water, such as streamside willow groves, bushy edges of bogs, brushy clearings in wet coniferous forest. Winters in dense thickets, overgrown fields.	Moderate during the non-breeding season; suitable habitat occurs within the riparian red willow habitat. No suitable breeding habitat.
Polioptila californica californica	coastal California gnatcatcher	FT, SSC MSHCP: Group 2	Obligate, permanent resident of coastal sage scrub below 835 meters in Southern California. Low, coastal sage scrub in arid washes, on mesas & slopes. Not all areas classified as coastal sage scrub are occupied.	Low. Site lacks suitable habitat. Moderate for foraging / fly over due to adjacent CSS habitat within 100 feet from the site to the west.
Sphyrapicus thyroideus	Williamson's sapsucker	MSHCP: Group 2 and Table 9-3	Habitat for the Williamson's sapsucker includes montane coniferous forest dominated by lodgepole pines and firs, and oak woodlands and forests. Requires specific micro-habitat for nesting sites (snags).	Low. Site lacks suitable habitat.
Strix occidentalis occidentalis	California spotted owl	BLMS, SSC, FSS, BCC, MSHCP: Group 2 and	Lives in montane coniferous and oak-deciduous woodlands and forest habitats.	Low. Site lacks suitable habitat.

Scientific Name	Common Name	Status	General Habitat Description	Potential for Occurrence within the Project Site/ Offsite Area
		Table 9-3		
Vireo bellii pusillus	least Bell's vireo	FE, SE, MSHCP: Group 2	Summer resident of Southern California in low riparian, in vicinity of water or in dry river bottoms; below 2000 ft. Nests placed along margins of bushes or on twigs projecting into pathways, usually willow, baccharis, or mesquite.	Moderate. Suitable riparian habitat in the drainage onsite, however, the drainage and riparian habitat won't be impacted by the proposed project. No LBV individuals were observed during the focused surveys conducted in 2005. Species not incidentally observed during the March/April 2022 biological surveys.
MAMMALS				
Chaetodipus californicus femoralis	Dulzura pocket mouse	SSC	Occupies coastal sage scrub, mixed chaparral, oak woodland, chamise chaparral, and mixed conifer habitats. Attracted to grass-chaparral edges. 0 to over 3000ft.	Low. Site lacks chaparral scrub and has a high degree of edge with surrounding development.
Dipodomys merriami parvus	San Bernardino kangaroo rat	FE, SSC MSHCP: Group 3	This species is typically found in Riversidean alluvial fan sage scrub and sandy loam soils, alluvial fans and flood plains, and along washes with nearby sage scrub, chaparral and even disturbed areas that are associated with alluvial processes. Soil texture is a primary factor in this subspecies' occurrence. Sandy loam substrates allow for the digging of simple, shallow burrows. The species is found in open grassland habitats where the sparse vegetation is mainly composed of shrubs, sagebrush, grasses and forbs.	Low. Site lacks suitable RAFSS habitat and is not associated with alluvial processes.
Dipodomys stephensi	Stephens' kangaroo rat	FE, ST, MSHCP: Group 2	The species is found in open grassland habitats where the sparse vegetation is mainly composed of shrubs, sagebrush, grasses and forbs. Species avoids dense grasses (for example, non-native bromes) and are	Low. Site lacks suitable habitat and has a high degree of edge with

Scientific Name	Common Name	Status	General Habitat Description	Potential for Occurrence within the Project Site/ Offsite Area
			more likely to inhabit areas where the annual forbs disarticulate in the summer and leave more open areas. As a fossorial (burrowing) animal, the Stephens' kangaroo rat typically is found in sandy and sandy loam soils with a low clay to gravel content, although there are exceptions where they can utilize the burrows of Botta's pocket gopher (*Thomomys bottae*) and California ground squirrel (*Spermophilus beecheyi*).	surrounding development.
Glaucomys sabrinus californicus	San Bernardino flying squirrel	SSC, FSS MSHCP: Group 3 and Table 9-3	The San Bernardino flying squirrel lives in high-elevation, mixed-conifer forests dominated by Jeffrey pine, white fir and black oak between 4,600 and 7,550 feet.	Absent. Site is located outside of known elevation range and lacks suitable habitat.
Lepus californicus bennettii	San Diego black-tailed jackrabbit	SSC MSHCP: Group 1	This species is found in western Riverside County in suitable grassland, sage scrub and chaparral (openings) habitat. It is also found in substantial numbers in agricultural and rural residential settings.	Moderate. Suitable habitat onsite.

Legend
Federal Endangered Species Act (ESA) Listing Codes: federal listing is pursuant to the Federal Endangered Species Act of 1973, as amended (ESA). FE = federally listed as endangered: any species, subspecies, or variety of plant or animal that is in danger of extinction throughout all or a significant portion of their range. FT = federally listed as threatened: any species, subspecies, or variety of plant or animal that is considered likely to become endangered throughout all or a significant portion of its range within the foreseeable future. FCE = federal candidate endangered. FD = federally delisted species. *California Endangered Species Act (CESA) Listing Codes:* state listing is pursuant to § 1904 (Native Plant Protection Act of 1977) and §2074.2 and §2075.5 (California Endangered Species Act of 1984) of the Fish and Game Code, relating to listing of Endangered, Threatened and Rare species of plants and animals. SE = state listed as endangered: any species, subspecies, or variety of plant or animal that are in serious danger of becoming extinct throughout all, or a significant portion, of their range. ST = state listed as threatened: any species, subspecies, or variety of plant or animal that, although not presently threatened with extinction, is likely to become an endangered species in the foreseeable future. SCE = state listed as candidate endangered. SD = state delisted species *California Department of Fish and Wildlife (CDFW):* SSC = species of special concern: status applies to animals which 1) are declining at a rate that could result in listing, or 2) historically occurred in low numbers and known threats to their persistence currently exist. The CDFW has designated certain vertebrate species as "species of special concern" because declining population levels, limited ranges, and/or continuing threats have made them vulnerable to extinction. FP = Fully protected: animal species may not be taken or possessed at any time and no licenses or permits may be issued for their take except for collecting these species for necessary scientific research and relocation of the bird species for the protection of livestock. WL = watch list: these birds have been designated as "Taxa to Watch" in the *California Bird Species of Special Concern report* (Shuford and Gardali 2008). The report defines "Taxa to Watch" as those that are not on the current special concern list that (1) formerly were on the 1978 (Remsen 1978) or 1992 (CDFG 1992) special concern lists and are not currently listed as state threatened and endangered; (2) have been removed (delisted) from either the state or federal threatened and endangered lists (and remain on neither), or (3) are currently designated as "fully protected" in California. *United States Fish and Wildlife Service (USFWS):* BCC = USFWS bird of conservation concern: listed in the USFWS'S 2008 *Birds of Conservation Concern* report. The report identifies species, subspecies, and populations of all migratory non-game birds that, without additional conservation actions, are likely to become candidates for listing under the ESA. While all of the bird species included in the report are priorities for conservation action, the list makes no finding with regard to whether they warrant consideration for ESA listing. *United States Forest Service (USFS):* FSS = Forest Service sensitive: those plant and animal species identified by a Regional Forester that are not listed or proposed for listing under the ESA and for which population viability is a concern, as evidenced by: (a) significant current or predicted downward trends in population numbers or density or (b) significant current or

predicted downward trends in habitat capability that would reduce a species' existing distribution."

United States Bureau of Land Management (BLM):
BLMS = BLM sensitive: those plant and animal species on BLM administered lands and that are (1) under status review by the USFWS/NMFS; or (2) whose numbers are declining so rapidly that federal listing may become necessary, or (3) with typically small and widely dispersed populations; or (4) those inhabiting ecological refugia or other specialized or unique habitats. BLM policy is to provide the same level of protection as USFWS candidate species.

California Rare Plant Ranks (Formerly known as CNPS Lists): the CNPS is a statewide, non-profit organization that maintains, with CDFG, an Inventory of Rare and Endangered Plants of California. In the spring of 2011, CNPS and CDFG officially changed the name "CNPS List" or "CNPS Ranks" to "California Rare Plant Rank" (or CPRP). This was done to reduce confusion over the fact that CNPS and CDFG jointly manage the Rare Plant Status Review Groups and the rank assignments are the product of a collaborative effort and not solely a CNPS assignment.

CRPR: 1A - California Rare Plant Rank of 1A: Plants presumed extirpated in California and either rare or extinct elsewhere. Plants with a California Rare Plant Rank of 1A are presumed extirpated or extinct because they have not been seen or collected in the wild in California for many years. All of the plants constituting California Rare Plant Rank 1A meet the definitions of the California Endangered Species Act of the California Fish and Game Code, and are eligible for state listing. Should these taxa be rediscovered, and impacts proposed to individuals or their habitat, they must be analyzed during preparation of environmental documents relating to CEQA, or those considered to be functionally equivalent to CEQA, as they meet the definition of Rare or Endangered under CEQA Guidelines §15125 (c) and/or §15380.

CRPR: 1B - California Rare Plant Rank 1B: Plants Rare, Threatened, or Endangered in California and Elsewhere. All of the plants constituting California Rare Plant Rank 1B meet the definitions of Sec. 1901, Chapter 10 (Native Plant Protection Act) or Secs. 2062 and 2067 (California Endangered Species Act) of the California Department of Fish and Game Code, and are eligible for state listing. It is mandatory that they be fully considered during preparation of environmental documents relating to CEQA.

CRPR: 2A - California Rare Plant Rank 2A: Plants presumed extirpated in California but common elsewhere. Plants with a California Rare Plant Rank of 2A are presumed extirpated because they have not been observed or documented in California for many years. This list only includes plants that are presumed extirpated in California, but more common elsewhere in their range. All of the plants constituting California Rare Plant Rank 2A meet the definitions of the California Endangered Species Act of the California Fish and Game Code, and are eligible for state listing. Should these species be rediscovered, any impacts proposed to individuals or their habitat must be analyzed during preparation of environmental documents relating to CEQA, or those considered to be functionally equivalent to CEQA, as they meet the definition of Rare or Endangered under CEQA Guidelines §15125 (c) and/or §15380.

CRPR: 2B - California Rare Plant Rank 2B: Plants rare, threatened, or endangered in California but more common elsewhere. All of the plants constituting California Rare Plant Rank 2 meet the definitions of Sec. 1901, Chapter 10 (Native Plant Protection Act) or Secs. 2062 and 2067 (California Endangered Species Act) of the California Department of Fish and Game Code, and are eligible for state listing. It is mandatory that they be fully considered during preparation of environmental documents relating to CEQA.

CRPR: 3 – California Rare Plant Rank 3: Review List: Plants about which more information is needed. Plants with a California Rare Plant Rank of 3 are united by one common theme – there is a lack of necessary information to assign them to one of the other ranks or to reject them. Nearly all of the plants constituting California Rare Plant Rank 3 are taxonomically problematic. Many of the plants constituting California Rare Plant Rank 3 meet the definitions of the California Endangered Species Act of

the California Fish and Game Code, and are eligible for state listing. Impacts to these species or their habitat should be analyzed during preparation of environmental documents relating to CEQA, or those considered to be functionally equivalent to CEQA, as they may meet the definition of Rare or Endangered under CEQA Guidelines §15125 (c) and/or §15380.

CRPR: 4 - California Rare Plant Rank 4: Plants of Limited Distribution - A Watch List. Very few of the plants constituting California Rare Plant Rank 4 meet the definitions of Sec. 1901, Chapter 10 (Native Plant Protection Act) or Secs. 2062 and 2067 (California Endangered Species Act) of the California Department of Fish and Game Code, and few, if any, are eligible for state listing. Nevertheless, many of them are significant locally, and CNPS and CDFG strongly recommend that California Rare Plant Rank 4 plants be evaluated for consideration during preparation of environmental documents relating to CEQA.

California Native Plant Society (CNPS) Threat Ranks: The CNPS Threat Rank is an extension added onto the California Rare Plant Rank (CRPR) and designates the level of endangerment by a 1 to 3 ranking with 1 being the most endangered and 3 being the least endangered. A Threat Rank is present for all California Rare Plant Rank 1B's, 2's, 4's, and the majority of California Rare Plant Rank 3's. California Rare Plant Rank 4 plants are seldom assigned a Threat Rank of 0.1, as they generally have large enough populations to not have significant threats to their continued existence in California; however, certain conditions exist to make the plant a species of concern and hence be assigned a California Rare Plant Rank. In addition, all California Rare Plant Rank 1A (presumed extinct in California), and some California Rare Plant Rank 3 (need more information) plants, which lack threat information, do not have a Threat Rank extension.

0.1 = seriously endangered in California (over 80% of occurrences threatened / high degree and immediacy of threat)
0.2 = fairly endangered in California (20-80% occurrences threatened / moderate degree and immediacy of threat)
0.3 = not very threatened in California (less than 20% of occurrences threatened / low degree and immediacy of threat or no current threats known)

Western Riverside Multiple Species Habitat Conservation Plan (MSHCP): Planning species covered by the MSHCP. Additional surveys for Narrow Endemic Plant Species and Criteria Area Species to determine presence/absence may be required.
PS = planning species
NEPSSA # = Narrow Endemic Plant Species Survey Area (with survey area number noted).
CASSA # = Criteria Area Species Survey Area (with survey area number noted).

Group 1 = Species that have wide distribution throughout the Plan Area within suitable habitat. Take coverage is warranted based upon regional or landscape level considerations, such as healthy population levels, widespread distribution throughout the MSHCP Plan Area, and life history characteristics that respond to habitat-scale conservation and management actions.
Group 2 = Species that are relatively well-distributed throughout the MSCHP Plan Area. Take coverage is warranted based on regional or landscape level considerations with the addition of site-specific conservation and management requirements that are clearly identified in the MSHCP for species that are generally well-distributed, but that have Core Areas that require Conservation.
Group 3 = Species that have narrow habitat requirements and limited distribution within the Plan Area. Take coverage is warranted based upon site specific considerations and the identification of specific conservation and management conditions for species within a narrowly defined Habitat or limited geographic area within the MSHCP Plan Area.

Western Bat Working Group (WBWG): The WBWG is composed of agencies, organizations, and individuals interested in bat research, management, and conservation

from the 13 western states and provinces. The goals are (1) to facilitate communication among interested parties and reduce risks of species decline or extinction; (2) to provide a mechanism by which current information on bat ecology, distribution, and research techniques can be readily accessed; and (3) to develop a forum to discuss conservation strategies, provide technical assistance, and encourage education programs. Species are ranked as High, Medium, or Low Priority in each of 10 regions in western North America. Because California includes multiple regions where a species may have different WBWG Priority ranks, the CNNDB includes categories for Medium-High, and Low-Medium Priority.

WBWG-H= High Priority
WBWG-M= Medium Priority
WBWG-L= Low Priority

American Fisheries Society: Listing of imperiled freshwater and diadromous fishes of North America prepared by the American Fisheries Society's Endangered Species Committee.

AFS-E= Endangered
AFS-TH= Threatened
AFS-V= Vulnerable

The International Union for Conservation of Nature (IUCN): The IUCN assesses, on a global scale, the conservation status of species, subspecies, varieties and even selected subpopulations in order to highlight taxa threatened with extinction, and therefore promote their conservation. Detailed information on the IUCN and the Red List is available at: http://www.iucnredlist.org

IUCN-CR = Critically endangered
IUCN-EN = Endangered
IUCN-NT = Near threatened
IUCN-VU = Vulnerable
IUCN-LC = Least concern
IUCN-DD = Data deficient
IUCN-CD = Conservation dependent

NatureServe Element Ranking: This ranking system's units of conservation may include non-taxonomic biological entities such as populations or ecological communities, thus, NatureServe refers to the targets of biological conservation as "elements" rather than taxa. The three main categories that are taken into consideration when assigning an element rank are rarity, threats, and trends.

The global rank (G-rank) is a reflection of the overall status of an element throughout its global range:

GX: Presumed Extinct – Not located despite intensive searches and virtually no likelihood of rediscovery.
GH: Possibly Extinct – Known from only historical occurrences but still some hope of rediscovery. Examples of evidence include (1) that a species has not been documented in approximately 20-40 years despite some searching and/or some evidence of significant habitat loss or degradation; (2) that a species has been searched for unsuccessfully, but not thoroughly enough to presume that it is extinct throughout its range.
G1: Critically Imperiled – At very high risk of extinction due to very restricted range, very few populations or occurrences, very steep declines, very severe threats, or other factors.

G2: Imperiled – At high risk of extinction due to restricted range, few populations or occurrences, steep declines, severe threats, or other factors.
G3: Vulnerable – At moderate risk of extinction due to a fairly restricted range, relatively few populations or occurrences, recent and widespread declines, threats, or other factors.
G4: Apparently Secure – At fairly low risk of extinction due to an extensive range and/or many populations or occurrences, but with possible cause for some concern as a result of local recent declines, threats, or other factors.
G5: Secure – At very low risk of extinction due to a very extensive range, abundant populations or occurrences, and little to no concern from declines or threats.
GNR: Unranked – Global rank not yet assessed.

The state rank (S-rank) refers to the imperilment status only within California's state boundaries:
SX: Presumed Extirpated – Species is believed to be extirpated from the state. Not located despite intensive searches of historical sites and other appropriate habitat, and virtually no likelihood that it will be rediscovered
SH: Possibly Extirpated – Known from only historical records but still some hope of rediscovery. There is evidence that the species may no longer be present in the state, but not enough to state this with certainty. Examples of such evidence include (1) that a species has not been documented in approximately 20-40 years despite some searching and/or some evidence of significant habitat loss or degradation; (2) that a species has been searched for unsuccessfully, but not thoroughly enough to presume that it is no longer present in the jurisdiction.
S1: Critically Imperiled – At very high risk of extirpation in the state due to very restricted range, very few populations or occurrences, very steep declines, severe threats, or other factors.
S2: Imperiled – At high risk of extirpation in the state due to restricted range, few populations or occurrences, steep declines, severe threats, or other factors.
S3: Vulnerable – At moderate risk of extirpation in the state due to a fairly restricted range, relatively few populations or occurrences, recent and widespread declines, threats, or other factors.
S4: Apparently Secure – At a fairly low risk of extirpation in the state due to an extensive range and/or many populations or occurrences, but with possible cause for some concern as a result of local recent declines, threats, or other factors.

Sources:

- CNPS Inventory of Rare and Endangered Plants (CNPS 2022)
- The Jepson Manual: *Vascular Plants of California,* second edition (Baldwin *et al.* 2012).
- RareFind, CDFW, California Natural Diversity Database (CNDDB) (CDFW 2022).
- State and Federally Listed Endangered, Threatened, and Rare Plants of California (CDFW, July 2021).
- State and Federally Listed Endangered and Threatened Animals of California (CDFW, July 2021).
- Special Animals List (CDFW, July 2021).
- Life History Accounts (CDFW).
- Sensitive List (BLM)