BIOLOGICAL TECHNICAL REPORT

FOR

DISCOVERY VILLAGE PROPERTY PROJECT

LOCATED IN THE CITY OF MURRIETA, RIVERSIDE COUNTY, CALIFORNIA

Prepared For:

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July 2022
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INFORMATION SUMMARY

A. Report Date: July 2022 [Revised December 2022]

B. Report Title: Biological Technical Report for the Discovery Village Property Project

C. Project Site Location: City of Murrieta, Riverside County, California

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F. Report Summary:

A biological study was performed for the proposed Discovery Village Project (Project) located in the City of Murrieta, Riverside County, California.

The current Project involves a large lot Tentative Tract Map (TTM) No. 38228 (eight individual parcels), and associated grading and infrastructure installation. A portion of the Project site would be preserved as undeveloped open space and deed restricted. The deed restriction will be executed within one year of commencing work within the Project site and a copy provided to the RCA and the Wildlife Agencies, should it be requested. The large pads and infrastructure would facilitate future development of the Project site compliant with current General Plan and zoning designations. All staging areas will be located within the proposed development footprint and not in close proximity to the preserved riparian/riverine drainages on site. The Project encompasses 60.41 acres of land consisting of approximately 55.83 on site gross acres within Assessor Parcel Numbers [APN] 384-252-029, 392-290-003, 392-290-004, 392-290-049, 392-290-054, and 392-290-055. The Project also includes minor impact to 4.58 acres of off site lands in APNs 384-252-029, 392-290-049, 392-290-050, 392-300-016, and 392-310-017 for road improvements and remedial grading. The Project is generally bound by Baxter

Road to the north, Whitewood Road to the east, Running Rabbit Road and rural residential homes to the south, and Antelope Road and I-215 to the west.

The Project site is located entirely within the Southwest Area Plan of the MSHCP. The majority of the Project site is not located within a Criteria Cell; however, portions of the on and off site Project are located within Criteria Cells 5361 and 5366 and Cell Group Y along the northern and northeastern Project boundaries within the southernmost portion of Criteria Cell 5361 (0.81 acre on site and 1.42 acres off site [a total of 2.23 acres within Criteria Cell 5361, part of which has already been graded and paved as part of the construction of Baxter Road] and the southwestern portion of Criteria Cell 5366 (0.01 acre on site and 0.13 off site, all of which has been graded for the construction of Baxter Road and/or Whitewood Road) [a total of 0.14 acre within Criteria Cell 5366] [Exhibit 4]. Criteria Cells 5361 and 5366 are included within Subunit 5, French Valley/Lower Sedco Hills, and Cell Group Y of the Southwest Area Plan. Conservation within Cell Group Y will contribute to the assembly of Proposed Core 2 and Proposed Constrained Linkage 16. Conservation within this Cell Group will focus on chaparral, coastal sage scrub, grassland, riparian scrub, woodland/forest habitat, and agricultural land. Areas conserved within Cell Group Y will be connected to chaparral, coastal sage scrub, and grassland habitat proposed for conservation in Cell Group X to the east and will also be connected to chaparral habitat proposed for conservation in Cell Group C in the Sun City/Menifee Area Plan to the west. Conservation within Cell Group Y will range from 55% to 65% of the Cell Group focusing on the eastern and western central portions of the Cell Group.

For purposes of analysis, and based on existing General Plan and zoning designations, it is anticipated that future development at the Project site could include: business park uses and retail/manufacturing/medical uses on Lot 1 through Lot 3 (16.53 acres) consistent with the "Innovation" land use designation; and multifamily (low-rise) housing units (condo) and single family detached residential dwelling units on Lot 4 through Lot 8 (28.55 net acres), consistent with the existing zoning (MF-2, Multi-Family Residential).

The Project also includes off site improvements to proposed Warm Springs Road from the Project's northern boundary to Baxter Road. The roadway will be an approximate 100-foot wide right-of-way. The off site improvement will occur on land owned by the City of Murrieta and its existing Fire Station Number 4.

This document provides the results of a field study performed to evaluate the potential occurrence of biological resources and the requirements triggered by environmental laws and regulations. A site habitat assessment was performed which determined the presence of potential habitat for the burrowing owl (*Athene cunicularia*). The Project contains two drainage features in the northern portion of the project site. These drainage features are subject to U.S. Army Corps of Engineers (Corps), San Diego Regional Water Quality Control Board (Regional Board), and California Department of Fish and Wildlife (CDFW) jurisdiction, no part of which are wetland, but it does support 0.03 acre of riparian habitat that will be permanently avoided and considered deed restricted open

space. The deed restriction will be executed within one year of the commencement of construction on site. Less than 0.01 acre (approximately 0.002-acre) of drainage will be permanently impacted as part of the Project under the regulatory permitting process. The Project will result in temporary impact to 0.01 acre of MSHCP riparian habitat and permanent impact to 0.292 acre of permanent impact to MSHCP riparian/riverine jurisdiction consisting of 0.002 acre of streambed and 0.29 acre of saltbush scrub habitat which was seeded as part of erosion control for past authorized improvements to both Whitewood Road and Baxter Road by the City of Murrieta; thus, a Determination of Biologically Equivalent or Superior Preservation (DBESP) is required.

Please note that all streambed impacts are being considered permanent in this analysis. No temporary impacts are proposed.

Compensatory mitigation proposed for the project consists of 5:1 mitigation for impacts to jurisdictional streambeds, which will total 0.01 acre and consist of.

- The purchase of 0.01 acre of re-establishment and/or rehabilitation credits from the Riverpark Mitigation Bank; and/or

- The purchase of 0.01 acre of preservation credits from the Barry Jones/Skunk Hollow Mitigation Bank.

Compensatory mitigation for the permanent impact to 0.29 acre of saltbush scrub habitat will consist of the purchase of 0.29 acre of either rehabilitation and/or re-establishment credits [a 1:1 ratio] at the Riverpark Mitigation Bank. Temporary impact to 0.01 acre of MSHCP riparian/riverine habitat will be restored through the use of native hydroseed/seeding on site.

G. Individuals Conducting Fieldwork: Jillian Stephens, David Smith, Martin Rasnick, Trina Ming, April Nakagawa, Velvet Park

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1.0 INTRODUCTION

1.1 Background and Scope of Work

This document provides the results of general biological surveys and focused biological surveys for the approximate 60-acre Discovery Village Project Study Area [including off site impact areas] (the Project) located in the City of Murrieta, Riverside County, California. This report identifies and evaluates impacts to biological resources associated with the proposed Project in the context of the MSHCP, the CEQA, and State and Federal regulations such as the Endangered Species Act (ESA), Clean Water Act (CWA), California Water Code (CWC), and the California Fish and Game Code.

The scope of this report includes a discussion of existing conditions for the approximate 55.83-acre Project site and its 4.58-acre off site improvement areas, all methods employed regarding the general biological surveys and focused biological surveys, the documentation of botanical and wildlife resources identified (including special-status species), and an analysis of impacts to biological resources. Methods of the study include a review of relevant literature, field surveys, and a Geographical Information System (GIS)-based analysis of vegetation communities. As appropriate, this report is consistent with accepted scientific and technical standards and survey guideline requirements issued by the U.S. Fish and Wildlife Service (USFWS), the California Department of Fish and Wildlife (CDFW), the California Native Plant Society (CNPS), and other applicable agencies/organizations.

The field study focused on a number of primary objectives that would comply with CEQA and MSHCP requirements, including (1) general reconnaissance survey and vegetation mapping; (2) general biological surveys; (3) habitat assessments for special-status plant species (including species with applicable MSHCP survey requirements); (4) habitat assessments for special-status wildlife species (including species with applicable MSHCP survey requirements); (5) assessment for the presence of wildlife migration and colonial nursery sites; (6) assessments for MSHCP riparian/riverine areas and vernal pools; and (7) assessments for areas subject to the jurisdiction of the U.S. Army Corps of Engineers (Corps) jurisdiction pursuant to Section 404 of the CWA, State Water Quality Control Board pursuant to Section 401 of the CWA and Section 13260 of the CWC, and CDFW jurisdiction pursuant to Division 2, Chapter 6, Section 1600–1617 of the California Fish and Game Code. Observations of all plant and wildlife species were recorded during the biological studies and are included as Appendix A: Floral Compendium and Appendix B: Faunal Compendium.

1.2 Project Location

The Project site comprises approximately 55.83 acres as well as its 4.58-acre off site improvement area in the City of Murrieta, Riverside County, California [Exhibit 1 – Regional Map] and is located at Latitude 33.610997 and Longitude -117.166921 within Section 35 of Township 6 South and Range 3 West of the U.S. Geological Survey (USGS) 7.5" quadrangle map Murrieta, California (1953 and photorevised in 1979) [Exhibit 2 – Vicinity Map]. The Project site consists of APNs 384-252-029, 392-290-003, 392-290-004, 392-290-049, 392-290-054, and 392-290-055. The Project also includes minor impact to 4.58 acres of off site lands in

APNs 384-252-029, 392-290-049, 392-290-050, 392-300-016, and 392-310-017 for road improvements and remedial grading. The Project is generally bound by Baxter Road to the north, Whitewood Road to the east, Running Rabbit Road and rural residential homes to the south, and Antelope Road and I-215 to the west. Table 1-1 below outlines total acreage of each APN on site, off site, or within a specific on site or off site Criteria Cell. The acreages are as follows:

- 384-252-029: 0.40 acre, of which 01 acre is within a Criteria Cell (Cell 5361) on site and 0.39 acre within a Criteria Cell (Cell 5361) off site.
- 392-290-003: 0.03 acre, all of which is on site and outside of a Criteria Cell.
- 392-290-004: 0.03 acre, all of which is on site and outside of a Criteria Cell.
- 392-290-049: 53.74 acres of area, of which 53.14 acres is on site and outside of a Criteria Cell, 0.10 acre of which is off site and outside of a Criteria Cell, and 0.50 acre which is on site and within a Criteria Cell.
- 392-290-050; 1.62 acres, all of which is off site and outside of a Criteria Cell.
- 392-290-054: 0.04 acre, all of which is on site and outside of a Criteria Cell.
- 392-290-055: 0.0104 acre, of which 0.01 acre is on site and outside of a Criteria Cell and 0.0004 acre which is on site and within a Criteria Cell.
- 392-300-016: 0.85 acre, of which 0.83 acre is off site and outside of a Criteria Cell and 0.02 acre of which is off site and within a Criteria Cell.
- 392-310-017: 0.06 acre, all of which is off site and outside of a Criteria Cell; and
- Right-of-/Way: 3.65 acres, of which 2.09 acres is on site and outside of a Criteria Cell and 1.56 acres which is off site and outside of a Criteria Cell.

Table 1-1: Summary of Project Acreage by Assessor's Parcel Number

Assessor's Parcel Number	On Site Outside of Criteria Cell	Off Site Outside of Criteria Cell	On Site Within Criteria Cell	Off Site Within Criteria Cell	TOTAL
384-252-029	0	0	0.01	0.39	0.40
392-290-003	0.03	0	0	0	0.03
392-290-004	0.01	0	0	0	0.01
392-290-049	53.14	0.10	0.50	0	53.74
392-290-050	0	1.62	0	0	1.62
392-290-054	0.04	0	0	0	0.04
392-290-055	0.01	0	0.0004	0	0.01

392-300-016	0	0.83	0	0.02	0.85
392-310-017	0	0.06	0	0	0.06
Right-of-Way	2.09	1.56	0	0	3.65
TOTAL	55.31	4.17	0.53	0.41	60.41

1.3 Project Description

The current Project involves a large lot Tentative Tract Map (TTM) No. 38228 (eight individual parcels), and associated grading and infrastructure installation. A portion of the Project site would be preserved as open space. The large pads and infrastructure would facilitate future development of the Project site compliant with current General Plan and zoning designations. The Project site encompasses approximately 55.83 gross acres and is generally bound by Baxter Road to the north, Whitewood Road to the east, Running Rabbit Road and rural residential homes to the south, and Antelope Road and I-215 to the west.

For purposes of analysis, and based on existing General Plan and zoning designations, it is anticipated that future development at the Project site could include: business park uses and retail/manufacturing/medical uses on Lot 1 through Lot 3 (16.35 acres) consistent with the "Innovation" land use designation; and multifamily (low-rise) housing units (condo) and single family detached residential dwelling units on Lot 4 through Lot 8 (28.55 net acres), consistent with the existing zoning (MF-2, Multi-Family Residential). All staging areas will be located within the Project site, outside of Criteria Cells, and outside of the vicinity of the on site streambeds being avoided and deed restricted for the project.

The Project also includes off site improvements to 4.58 acres of land related to slope grading along the southern and western edges of the Project and to proposed Warm Springs Road from the Project's northern boundary to Baxter Road. The roadway will be an approximate 100-foot wide right-of-way. The off site improvement will occur on land owned by the City of Murrieta and its existing Fire Station Number 4.

For this report, the term *Project footprint* is defined as the 59.06 acres [54.48 acres on site and 4.58 acres off site] of land proposed for direct and permanent impact, plus 1.35 acres of land which will be undeveloped land (this includes 0.87 acre of land that will be deed restricted open space by the Project and an additional 0.48 acre of land that will be temporarily impacted during construction but will remain permanently undeveloped and reseeded after construction. The deed restriction will be executed within one year of commencing work within the Project site and a copy provided to the RCA and the Wildlife Agencies, should it be requested. For this document, we have assumed that all direct impacts would be permanent, other than the 0.48 acre temporary impact that will occur. The terms *Study Area* and *Project site* refer to the 60.41 acres [55.83 acres of land on site and 4.58 acres off site] which comprise the Discovery Village Property [Exhibit 3]. The term, Deed Restricted *Open Space* refers to the 1.35 acre of land not proposed for direct, permanent impact by the Project, thus occurring outside of the Project permanent impact footprint but within the Study Area.

1.4 Relationship of the Project Site to the MSHCP

1.4.1 MSHCP Background

The Western Riverside County MSHCP is a comprehensive habitat conservation/planning program for Western Riverside County. The intent of the MSHCP is to preserve native vegetation and meet the habitat needs of multiple species, rather than focusing preservation efforts on one species at a time. The MSHCP provides coverage (including take authorization for listed species) for special-status plant and animal species, as well as mitigation for impacts to special-status species and associated native habitats.

Through agreements with the USFWS and CDFW, the MSHCP designates 146 special-status animal and plant species as Covered Species, of which the majority have no project-specific survey/conservation requirements. The MSHCP provides mitigation for project-specific impacts to these species for Projects that are compliant/consistent with MSHCP requirements, such that the impacts are reduced to below a level of significance pursuant to CEQA.

The Covered Species that are not yet adequately conserved have additional requirements in order for these species to ultimately be considered "adequately conserved". A number of these species have survey requirements based on a project's occurrence within a designated MSHCP survey area and/or based on the presence of suitable habitat. These include Narrow Endemic Plant Species (MSHCP *Volume I, Section 6.1.3*), as identified by the Narrow Endemic Plant Species Survey Areas (NEPSSA); Criteria Area Plant Species (MSHCP *Volume I, Section 6.3.2*) identified by the Criteria Area Plant Species Survey Areas (CAPSSA); animals species (burrowing owl, mammals, amphibians) identified by survey areas (MSHCP *Volume I, Section 6.3.2*); and species associated with riparian/riverine areas and vernal pool habitats, i.e., least Bell's vireo, southwestern willow flycatcher, western yellow-billed cuckoo, and three species of listed fairy shrimp (MSHCP *Volume I, Section 6.1.2*). An additional 28 species (MSHCP *Volume I*, *Table 9.3*) not yet adequately conserved have species-specific objectives in order for the species to become adequately conserved. However, these species do not have project-specific survey requirements.

The goal of the MSHCP is to have a total Conservation Area in excess of 500,000 acres, including approximately 347,000 acres on existing Public/Quasi-Public (PQP) Lands, and approximately 153,000 acres of Additional Reserve Lands targeted within the MSHCP Criteria Area. The MSHCP is divided into 16 separate Area Plans, each with its own conservation goals and objectives. Within each Area Plan, the Criteria Area is divided into Subunits, and further divided into Criteria Cells and Cell Groups (a group of criteria cells). Each Cell Group and ungrouped, independent Cell has designated "criteria" for the purpose of targeting additional conservation lands for acquisition. Projects located within the Criteria Area are subject to the Habitat Evaluation and Acquisition Negotiation Strategy (HANS) process to determine if lands are targeted for inclusion in the MSHCP Reserve. In addition, all projects located within the Criteria Area are subject to the Joint Project Review (JPR) process, where the project is reviewed by the Regional Conservation Authority (RCA) to determine overall compliance/consistency with the biological requirements of the MSHCP.

1.4.2 Relationship of the Project Site to the MSHCP

The Project site is located entirely within the Southwest Area Plan in the French Valley/Lower Sedco Hills subunit of the MSHCP. The majority of the Project site is not located within a Criteria Cell; however, portions of the Project site are located along the northern boundary and within the southernmost portion of Criteria Cell 5361 (0.81 acre on site and 1.42 acres off site [a total of 2.23 acres within Criteria Cell 5361, part of which has already been graded and paved as part of the construction of Baxter Road] and the southwestern portion of Criteria Cell 5366 (0.01 acre on site and 0.13 off site, all of which has been graded for the construction of Baxter Road and/or Whitewood Road) [a total of 014 acre within Criteria Cell 5366] [Exhibit 4]. Criteria Cells 5361 and 5366 are included within Subunit 5 and Cell Group Y of the Southwest Area Plan. Conservation within Cell Group Y will contribute to the assembly of Proposed Core 2 and Proposed Constrained Linkage 16. Conservation within this Cell Group will focus on chaparral, coastal sage scrub, grassland, riparian scrub, woodland/forest habitat, and agricultural land. Areas conserved within Cell Group Y will be connected to chaparral, coastal sage scrub, and grassland habitat proposed for conservation in Cell Group X to the east and will also be connected to chaparral habitat proposed for conservation in Cell Group C in the Sun City/Menifee Area Plan to the west. Conservation within Cell Group Y will range from 55% to 65% of the Cell Group focusing on the eastern and western central portions of the Cell Group.

The Project site is not located within the MSHCP Mammal or Amphibian Survey Areas or within MSHCP suitable habitat areas for the Delhi Sands flower-loving fly (*Rhaphiomidas terminatus abdominalis*). However, the majority of the Project site, except for a small portion in the southeastern corner, is located within the MSHCP Burrowing Owl Survey Area. The Project site is also located entirely within the MSHCP Narrow Endemic Plant Species Survey Area (NEPSSA), and a portion of the property along the northern boundary is located within the MSHCP Criteria Area Plant Species Survey Area (CAPSSA) [Exhibit 4]. Specifically, the Project site occurs in NEPSSA designated survey area 4. Pursuant to the MSHCP, the following target species must be evaluated through habitat assessments and focused surveys (if suitable habitat is present): Munz's onion (*Allium munzii*), San Diego ambrosia (*Ambrosia pumila*), many-stemmed dudleya (*Dudleya multicaulis*), spreading navarretia (*Navarretia fossalis*), California Orcutt grass (*Orcuttia californica*), and Wright's trichocoronis (*Trichocoronis wrightii* var. *wrightii*). In addition, pertaining to the CAPSSA, the following species must be evaluated through habitat assessments and focused surveys (if suitable habitat is present): Parish's brittlescale (*Atriplex parishii*), Davidson's saltscale (*Atriplex serenana* var. *davidsonii*), thread-leaved brodiaea (*Brodiaea filifolia*), round-leaved filaree (*California macrophylla*), smooth tarplant (*Centromadia pungens* ssp. *laevis*), Coulter's goldfields (*Lasthenia glabrata* ssp. *coulteri*), little mousetail (*Myosurus minimus* ssp. *apus*), and mud nama (*Nama stenocarpum*).

Within the designated Survey Areas, the MSHCP requires habitat assessments, and focused surveys within areas of suitable habitat. For locations with positive survey results, the MSHCP requires that 90 percent of those portions of the property that provide for long-term conservation value for the identified species shall be avoided until it is demonstrated that conservation goals for the particular species have been met throughout the MSHCP. Findings of equivalency shall be made demonstrating that the 90-percent standard has been met, if applicable. If equivalency

findings cannot be demonstrated, then "biologically equivalent or superior preservation" must be provided.

2.0 METHODOLOGY

In order to adequately identify biological resources in accordance with the requirements of CEQA, Glenn Lukos Associates (GLA) assembled biological data consisting of following main components:

- Delineation of aquatic resources (including wetlands and riparian habitat) subject to the jurisdiction of the U.S. Army Corps of Engineers (Corps), Regional Water Quality Control Board (Regional Board), CDFW, and MSHCP riparian/riverine areas and vernal pools policy.
- Performance of vegetation mapping for the Project site.
- Performance of habitat assessments, and site-specific biological surveys, to evaluate the presence/absence of special-status species in accordance with the requirements of CEQA and the MSHCP.
- Performance of focused surveys for rare plants; and
- Performance of focused surveys for burrowing owl.

The focus of the biological surveys was determined through initial site reconnaissance, a review of the CNDDB [CDFW 2019 and 2021], CNPS 8th edition online inventory (CNPS 2019 and 2021), Natural Resource Conservation Service soil data (NRCS 2019 and 2021), MSHCP species and habitat maps and sensitive soil maps (Dudek 2003), other pertinent literature, and knowledge of the region. Site-specific general surveys within the Project site were conducted on foot in the proposed development areas for each target plant or animal species identified below as well as in the avoided open space. Table 2-1 provides a summary list of survey dates, survey types and personnel.

Table 2-1. Summary of Biological Surveys for the Project Site

Survey Type	Survey Dates	Biologists
General Biological Survey	3/13/2019	JS, DS
Evaluation of Riparian/Riverine Areas	10/19/2017, 10/27/2019, 8/16/2021	MR, VP
Evaluation of Vernal and/or Seasonal Pools	10/19/2017, 10/27/2019	MR
Federal and State Jurisdictional Waters	10/19/2017, 10/27/2019	MR
Rare Plant Surveys	3/13/19, 5/7/2019, 5/31/2019	TM, JS

Survey Type	Survey Dates	Biologists
Focused Burrowing Owl Surveys	3/21/2019, 3/28/2019, 4/14/2019, 5/31/2019	DS, JS, AN
Updated Focused Burrowing Owl Surveys	8/6/2021, 8/13/2021, 8/20/2021, 8/27/2021	DS
Updated Federal and State Jurisdictional Waters	8/16/2021	VP

JS = Jillian Stephens MR = Martin Rasnick DS = David Smith TM = Trina Ming

AN = April Nakagawa VP = Velvet Park

Individual plants and wildlife species were evaluated in this report based on their "special-status." For this report, plants were considered "special-status" based on one or more of the following criteria:

- Listing through the Federal and/or State Endangered Species Act (ESA); and/or
- CNPS Rare Plant Inventory Rank 1A, 1B, 2A, 2B, 3, or 4.

Wildlife species were considered "special-status" based on one or more of the following criteria:

- Listing through the Federal and/or State ESA; and
- Designation by the State as a Species of Special Concern (SSC) or California Fully Protected (CFP) species.

Vegetation communities and habitats were considered "special-status" based on one or more of the following criteria:

- Global (G) and/or State (S) ranking of category 3 or less based on CDFW (see Section 3.2.2 below for further explanation); and
- Riparian/riverine habitat.

2.1 Botanical Resources

A site-specific survey program was designed to accurately document the botanical resources within the Project site, and consisted of five components: (1) a literature search; (2) preparation of a list of target special-status plant species and sensitive vegetation communities that could occur within the Project site; (3) general field reconnaissance survey; (4) vegetation mapping according to Holland (1986); and (5) habitat assessments and focused surveys for special-status plants (including those with MSHCP requirements).

2.1.1 Literature Search

Prior to conducting fieldwork, pertinent literature on the flora of the region was examined. A thorough archival review was conducted using available literature and other historical records. These resources included the following:

- California Native Plant Society, Rare Plant Program. 2019 and 2021. Inventory of Rare and Endangered Plants of California (online edition, v8-03 0.39) (CNPS 2019/2021); and

- CNDDB for the USGS 7.5' quadrangle: Murrieta, California, and surrounding quadrangles (CDFW 2019 and 2021).

2.1.2 Vegetation Mapping

Vegetation communities within the Project site were mapped according to Holland (1986) when possible. Plant communities were mapped in the field directly onto a 200-scale (1"=200') aerial photograph

2.1.3 Special-Status Plant Species and Habitats Evaluated for the Project Site

A literature search was conducted to obtain a list of special-status plants with the potential to occur within the Project site. The CNDDB was initially consulted to determine well-known occurrences of plants and habitats of special concern in the region. Other sources used to develop a list of target species for the survey program included the CNPS online inventory (2019) and the MSHCP (Dudek 2003).

The Project is located within the MSHCP NEPSSA and CAPSSA. Pursuant to the MSHCP, the following target species must be evaluated through habitat assessments and focused surveys (if suitable habitat is present): Munz's onion (*Allium munzii*), San Diego ambrosia (*Ambrosia pumila*), many-stemmed dudleya (*Dudleya multicaulis*), spreading navarretia (*Navarretia fossalis*), California Orcutt grass (*Orcuttia californica*), Wright's trichocoronis (*Trichocoronis wrightii* var. *wrightii*), Parish's brittlescale (*Atriplex parishii*), Davidson's saltscale (*Atriplex serenana* var. *davidsonii*), thread-leaved brodiaea (*Brodiaea filifolia*), round-leaved filaree (*California macrophylla*), smooth tarplant (*Centromadia pungens* ssp. *laevis*), Coulter's goldfields (*Lasthenia glabrata* ssp. *coulteri*), little mousetail (*Myosurus minimus* ssp. *apus*), and mud nama (*Nama stenocarpum*).

Based on this information, vegetation profiles and a list of target sensitive plant species and habitats that could occur within the Project site were developed and incorporated into a mapping and survey program to achieve the following goals: (1) characterize the vegetation associations and land use; (2) prepare a detailed floristic compendium; (3) identify the potential for any special-status plants that may occur within the Project site; and (4) prepare a map showing the distribution of any sensitive botanical resources associated with the Project site, if applicable.

2.1.4 Botanical Surveys

GLA biologists Jillian Stephens and Trina Ming visited the site on March 13, May 7, and May 31, 2019, to conduct general and focused plant surveys. Surveys were conducted in accordance with accepted botanical survey guidelines (CDFG 2009, CNPS 2001, USFWS 2000). As applicable, surveys were conducted at appropriate times based on precipitation and flowering periods. An aerial photograph, a soil map, and/or a topographic map were used to determine the community types and other physical features that may support sensitive and uncommon taxa or

communities within the Project site. Surveys were conducted by following meandering transects within target areas of suitable habitat. All plant species encountered during the field surveys were identified and recorded following the above-referenced guidelines adopted by CNPS (2010) and CDFW by Nelson (1984). A complete list of the plant species observed is provided in Appendix A. Scientific nomenclature and common names used in this report follow Baldwin et al (2012), and Munz (1974).

2.2 Wildlife Resources

Wildlife species were evaluated and detected during the field survey(s) by sight, call, tracks, and scat. Site reconnaissance was conducted in such a manner as to allow inspection of the entire Project site by direct observation, including the use of binoculars. Observations of physical evidence and direct sightings of wildlife were recorded in field notes during the visit(s). A complete list of wildlife species observed within the Project site is provided in Appendix B. Scientific nomenclature and common names for vertebrate species referred to in this report follow the Complete List of Amphibian, Reptile, Bird, and Mammal Species in California (CDFG 2008), Standard Common and Scientific Names for North American Amphibians, Turtles, Reptiles, and Crocodilian's 6th Edition, Collins and Taggert (2009) for amphibians and reptiles, and the American Ornithologists' Union Checklist 7th Edition (2009) for birds. The methodology (including any applicable survey protocols) utilized to conduct general survey(s), habitat assessment(s), and/or focused surveys for special-status animals are included below.

2.2.1 General Surveys

Birds

During the general biological and reconnaissance survey within the Project site, birds were identified incidentally within each habitat type. Birds were detected by both direct observation and by vocalizations and were recorded in field notes.

Mammals

During general biological and reconnaissance survey within the Project site, mammals were identified incidentally within each habitat type. Mammals were detected both by direct observations and by the presence of diagnostic sign (i.e., tracks, burrows, scat, etc.).

Reptiles and Amphibians

During general biological and reconnaissance surveys within the Project site, reptiles and amphibians were identified incidentally during surveys within each habitat type. Habitats were examined for diagnostic reptile sign, which include shed skins, scat, tracks, snake prints, and lizard tail drag marks. All reptiles and amphibian species observed, as well as diagnostic sign, were recorded in field notes.

2.2.2 Special-Status Animal Species Evaluated for the Project Site

A literature search was conducted to obtain a list of special-status wildlife species with the potential to occur within the Project site. Species were evaluated based on three factors, including: 1) species identified by the CNDDB as occurring (either currently or historically) on or in vicinity of the Project site, (2) species survey areas as identified by the MSHCP for the Project site; and 3) any other special-status animals that are known to occur within the vicinity of the Project site, or for which potentially suitable habitat occurs on the Project site.

2.2.3 Habitat Assessment for Special-Status Animal Species

GLA biologists Jillian Stephens and David Smith conducted habitat assessments for special-status animal species on March 13, 2019. An aerial photograph, soil map, and topographic map were used to determine the community types and other physical features that may support special-status and uncommon taxa within the Project site.

2.2.4 Focused Surveys for Special-Status Animals Species

Burrowing Owl

Portions of the Project site are located within the MSHCP survey area for the burrowing owl (*Athene cunicularia*). GLA biologists David Smith, Jillian Stephens, and April Nakagawa conducted focused surveys for the burrowing owl for all suitable habitat areas within the Project site. Surveys were conducted in accordance with survey guidelines described in the 2006 MSHCP Burrowing Owl Survey Instructions. The guidelines stipulate that four focused survey visits be conducted on separate dates between March 1 and August 31. Within areas of suitable habitat, the MSHCP first requires a focused burrow survey to map all potentially suitable burrows. The focused burrow survey was conducted on March 13, 2019. Focused burrowing owl surveys were conducted on March 21, March 28, April 14, and May 31, 2019. Updated focused burrowing owl surveys were conducted on August 6, 13, 20, and 27, 2021. The burrowing owl survey visits need to be conducted from one hour prior to sunrise to two hours after sunrise or two hours before sunset to one hour after sunset.

Both the burrow and owl surveys were conducted during weather that was conducive to observing owls outside their burrows and detecting burrowing owl sign and not during rain, high winds (>20 mph), dense fog, or temperatures over 90 °F. Additionally, all work was performed more than 5 days after a rain event. Refer to Table 2-1 in Section 2.0 for survey condition details.

Surveys were conducted by walking meandering transects throughout areas of suitable habitat. Transects were spaced between 22 feet and 65 feet apart, adjusting for vegetation height and density, in order to provide adequate visual coverage of the survey areas. At the start of each transect, and at least every 320 feet along transects, the survey area was scanned for burrowing owls using binoculars. All suitable burrows were inspected for diagnostic owl sign (e.g., pellets, prey remains, whitewash, feathers, bones, and/or decoration) in order to identify potentially occupied burrows. Exhibit 6 provides locations of suitable burrows and/or burrow complexes

mapped during the transect surveys. Table 2-2 summarizes the burrowing owl survey visits. The results of the burrowing owl surveys are documented in Section 4.0 of this report.

Table 2-2. Summary of Burrowing Owl Surveys

Survey Date	Biologist(s)	Start/End Time	Start/End Temperature (°F)	Start/End Wind Speed (mph)	Cloud Cover (%)
2019 Surveys					
3/21/2019	DS	0700/0930	45/50	0/2	25-100
3/28/2019	JS, AN	0730/1000	50/55	0/3	20-50
4/14/2019	AN	0630/0930	49/54	0/4	100
5/31/2019	JS	0600/0830	53/65	1/4	0-100
2021 Surveys					
8/6/2021	DS	0600/0830	62/73	0/2	100
8/13/2021	DS	0615/0845	64/80	0/1	0
8/20/2021	DS	0610/840	64/67	0/1	100
8/27/2021	DS	0630/0900	62/84	0	0

JS = Jillian Stephens DS = David Smith AN = April Nakagawa

2.3 Jurisdictional Delineation

Prior to beginning the field delineation, a 200-scale color aerial photograph and the previously cited USGS topographic maps were examined to determine the locations of potential areas of Corps/CDFW jurisdiction. Suspected jurisdictional areas were field checked for the presence of definable channels and/or wetland vegetation, soils, and hydrology. Potential wetland habitats at the subject site were evaluated using the methodology set forth in the U.S. Army Corps of Engineers 1987 Wetland Delineation Manual[1] (Wetland Manual) and the 2008 Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Supplement (Arid West Supplement)[2]. The presence of an Ordinary High Water Mark (OHWM) was determined using the 2008 Field Guide to Identification of the Ordinary High Water Mark (OHWM) in the Arid West Region of the Western United States[3] in conjunction with the Updated Datasheet for the Identification of the Ordinary High Water Mark (OHWM) in the Arid West Region of the Western United States.[4] While in the field the limits of the OHWM,

[1] Environmental Laboratory. 1987. Corps of Engineers Wetlands Delineation Manual, Technical Report Y-87-1, U.S. Army Engineer Waterways Experimental Station, Vicksburg, Mississippi.

[2] U.S. Army Corps of Engineers. 2008. Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Supplement (Version 2.0). Ed. J.S. Wakeley, R.W. Lichvar, and C.V. Noble. ERDC/EL TR-06-16. Vicksburg, MS: U.S. Army Engineer Research and Development Center.

[3] Lichvar, R. W., and S. M. McColley. 2008. A Field Guide to the Identification of the Ordinary High Water Mark (OHWM) in the Arid West Region of the Western United States. ERDC/CRREL TR-08-12. Hanover, NH: U.S. Army Engineer Research and Development Center, Cold Regions Research and Engineering Laboratory. (http://www.crrel.usace.army.mil/library/technicalreports/ERDC-CRREL-TR-08-12.pdf).

[4] Curtis, Katherine E. and Robert Lichevar. 2010. Updated Datasheet for the Identification of the Ordinary High Water Mark (OHWM) in the Arid West Region of the Western United States. ERDC/CRREL TN-10-1. Hanover, NH: U.S. Army Engineer Research and Development Center, Cold Regions Research and Engineering Laboratory.

wetlands (if applicable), and CDFW jurisdiction were recorded using GPS technology and/or on copies of the aerial photography. Other data were recorded onto the appropriate datasheets.

In 2021, an updated jurisdictional delineation was also conducted.

2.4 MSHCP Riparian/Riverine Areas and Vernal Pools

GLA surveyed the Project site for riparian/riverine areas and vernal pool/seasonal pool habitat. *Volume I, Section 6.1.2* of the MSHCP describes the process through which protection of riparian/riverine areas and vernal pools would occur within the MSHCP Plan Area. The purpose is to ensure that the biological functions and values of these areas throughout the MSHCP Plan Area are maintained such that habitat values for species inside the MSHCP Conservation Area are maintained. The MSHCP requires that as projects are proposed within the overall Plan Area, the effect of those projects on riparian/riverine areas and vernal pools must be addressed.

The MSHCP defines riparian/riverine areas as *lands which contain Habitat dominated by trees, shrubs, persistent emergent mosses, and lichens, which occur close to or which depend upon soils moisture from a nearby fresh water source, or areas with freshwater flow during all or a portion of the year.*

The MSHCP defines vernal pools as *seasonal wetlands that occur in depression areas that have wetlands indicators of all three parameters (soils, vegetation, and hydrology) during the wetter portion of the growing season but normally lack wetland indictors of hydrology and/or vegetation during the drier portion of the growing season.*

With the exception of wetlands created for the purpose of providing wetlands habitat or resulting from human actions to create open waters or from the alteration of natural stream courses, areas demonstrating characteristics as described above which are artificially created are not included in these definitions.

GLA surveyed the Project site for riparian/riverine areas and vernal pool/seasonal pool habitat, including features with the potential to support fairy shrimp. To assess for vernal/seasonal pools (including fairy shrimp habitat), GLA biologists evaluated the topography of the site, including whether the site contained depressional features/topography with the potential to become inundated; whether the site contained soils associated with vernal/seasonal pools; and whether the site supported plants that suggested areas of localized ponding.

3.0 REGULATORY SETTING

The proposed Project is subject to state and federal laws and regulations associated with a number of regulatory programs. These programs often overlap and were developed to protect natural resources, including state- and federally-listed plants and animals; aquatic resources including rivers and creeks, ephemeral streambeds, wetlands, and areas of riparian habitat; special-status species which are not listed as threatened or endangered by the state or federal governments; and special-status vegetation communities.

3.1 Endangered Species Acts

A. California Endangered Species Act

California's Endangered Species Act (CESA) defines an endangered species as "a native species or subspecies of a bird, mammal, fish, amphibian, reptile, or plant which is in serious danger of becoming extinct throughout all, or a significant portion, of its range due to one or more causes, including loss of habitat, change in habitat, overexploitation, predation, competition, or disease." The State defines a threatened species as "a native species or subspecies of a bird, mammal, fish, amphibian, reptile, or plant that, although not presently threatened with extinction, is likely to become an endangered species in the foreseeable future in the absence of the special protection and management efforts required by this chapter. Any animal determined by the commission as rare on or before January 1, 1985, is a threatened species." Candidate species are defined as "a native species or subspecies of a bird, mammal, fish, amphibian, reptile, or plant that the commission has formally noticed as being under review by the department for addition to either the list of endangered species or the list of threatened species, or a species for which the commission has published a notice of proposed regulation to add the species to either list." Candidate species may be afforded temporary protection as though they were already listed as threatened or endangered at the discretion of the Fish and Game Commission. Unlike the Federal Endangered Species Act (FESA), CESA does not list invertebrate species.

Article 3, Sections 2080 through 2085 of the CESA addresses the taking of threatened, endangered, or candidate species by stating "No person shall import into this state, export out of this state, or take, possess, purchase, or sell within this state, any species, or any part or product thereof, that the commission determines to be an endangered species or a threatened species, or attempt any of those acts, except as otherwise provided." Under the CESA, "take" is defined as "hunt, pursue, catch, capture, or kill, or attempt to hunt, pursue, catch, capture, or kill." Exceptions authorized by the state to allow "take" require permits or memoranda of understanding and can be authorized for endangered species, threatened species, or candidate species for scientific, educational, or management purposes and for take incidental to otherwise lawful activities. Sections 1901 and 1913 of the California Fish and Game Code provide that notification is required prior to disturbance.

B. Federal Endangered Species Act

The FESA of 1973 defines an endangered species as "any species that is in danger of extinction throughout all or a significant portion of its range." A threatened species is defined as "any species that is likely to become an endangered species within the foreseeable future throughout all or a significant portion of its range." Under provisions of Section 9(a)(1)(B) of the FESA it is unlawful to "take" any listed species. "Take" is defined in Section 3(18) of FESA: "...harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such conduct." Further, the USFWS, through regulation, has interpreted the terms "harm" and "harass" to include certain types of habitat modification that result in injury to, or death of species as forms of "take." These interpretations, however, are generally considered and applied on a case-by-case basis and often vary from species to species. In a case where a property owner seeks permission from a federal agency for an action that could affect a federally listed plant and

animal species, the property owner and agency are required to consult with USFWS. Section 9(a)(2)(b) of the FESA addresses the protections afforded to listed plants.

C. State and Federal Take Authorizations

Federal or state authorizations of impacts to or incidental take of a listed species by a private individual or other private entity would be granted in one of the following ways:

- Section 7 of the FESA stipulates that any federal action that may affect a species listed as threatened or endangered requires a formal consultation with USFWS to ensure that the action is not likely to jeopardize the continued existence of the listed species or result in destruction or adverse modification of designated critical habitat. 16 U.S.C. 1536(a)(2).

- In 1982, the FESA was amended to give private landowners the ability to develop Habitat Conservation Plans (HCP) pursuant to Section 10(a) of the FESA. Upon development of an HCP, the USFWS can issue incidental take permits for listed species where the HCP specifies at minimum, the following: (1) the level of impact that will result from the taking, (2) steps that will minimize and mitigate the impacts, (3) funding necessary to implement the plan, (4) alternative actions to the taking considered by the applicant and the reasons why such alternatives were not chosen, and (5) such other measures that the Secretary of the Interior may require as being necessary or appropriate for the plan.

- Sections 2090-2097 of the CESA require that the state lead agency consult with CDFW on projects with potential impacts on state-listed species. These provisions also require CDFW to coordinate consultations with USFWS for actions involving federally listed as well as state-listed species. In certain circumstances, Section 2080.1 of the California Fish and Game Code allows CDFW to adopt the federal incidental take statement or the 10(a) permit as its own based on its findings that the federal permit adequately protects the species under state law.

D. Take Authorizations Pursuant to the MSHCP

The Western Riverside County MSHCP was adopted on June 17, 2003, and an Implementing Agreement (IA) was executed between the federal and state wildlife agencies and participating entities. The MSHCP is a comprehensive habitat conservation-planning program for western Riverside County. The intent of the MSHCP is to preserve native vegetation and meet the habitat needs of multiple species, rather than focusing preservation efforts on one species at a time. As such, the MSHCP is intended to streamline review of individual projects with respect to the species and habitats addressed in the MSHCP, and to provide for an overall Conservation Area that would be of greater benefit to biological resources than would result from a piecemeal regulatory approach. The MSHCP provides coverage (including take authorization for listed species) for special-status plant and animal species, as well as mitigation for impacts to sensitive species pursuant to Section 10(a) of the FESA.

Through agreements with the USFWS and the CDFW, the MSHCP designates 146 special-status animal and plant species that receive some level of coverage under the plan. Of the 146 "Covered

Species" designated under the MSHCP, the majority of these species have no additional survey/conservation requirements. In addition, through project participation with the MSHCP, the MSHCP provides mitigation for project-specific impacts to Covered Species so that the impacts would be reduced to below a level of significance pursuant to CEQA. As noted above, project-specific survey requirements exist for species designated as "Covered Species not yet adequately conserved". These include Narrow Endemic Plant Species, as identified by the Narrow Endemic Plant Species Survey Areas (NEPSSA); Criteria Area Plant Species identified by the Criteria Area Species Survey Areas (CAPSSA); animals' species as identified by survey area; and plant and animal species associated with riparian/riverine areas and vernal pool habitats (*Volume I, Section 6.1.2* of the MSHCP document).

For projects that have a federal nexus such as through federal CWA Section 404 permitting, take authorization for federally listed covered species would occur under Section 7 (not Section 10) of FESA and that USFWS would provide a MSHCP consistency review of the proposed project, resulting in a biological opinion. The biological opinion would require no more compensation than what is required to be consistent with the MSHCP.

3.2 California Environmental Quality Act

A. CEQA Guidelines Section 15380

CEQA requires evaluation of a project's impacts on biological resources and provides guidelines and thresholds for use by lead agencies for evaluating the significance of proposed impacts. Sections 5.1 and 5.2.2 below set forth these thresholds and guidelines. Furthermore, pursuant to the CEQA Guidelines Section 15380, CEQA provides protection for non-listed species that could potentially meet the criteria for state listing. For plants, CDFW recognizes that plants on Lists 1A, 1B, or 2 of the CNPS *Inventory of Rare and Endangered Plants in California* may meet the criteria for listing and should be considered under CEQA. CDFW also recommends protection of plants, which are regionally important, such as locally rare species, disjunct populations of more common plants, or plants CNPS Ranked 3 or 4.

B. Special-Status Plants, Wildlife and Vegetation Communities Evaluated Under CEQA

Federally Designated Special-Status Species

Within recent years, the USFWS instituted changes in the listing status of candidate species. Former C1 (candidate) species are now referred to simply as candidate species and represent the only candidates for listing. Former C2 species (for which the USFWS had insufficient evidence to warrant listing) and C3 species (either extinct, no longer a valid taxon or more abundant than was formerly believed) are no longer considered as candidate species. Therefore, these species are no longer maintained in list form by the USFWS, nor are they formally protected. This term is employed in this document but carries no official protections. All references to federally protected species in this report (whether listed, proposed for listing, or candidate) include the most current published status or candidate category to which each species has been assigned by USFWS.

For this report the following acronyms are used for federal special-status species:

- FE Federally listed as Endangered
- FT Federally listed as Threatened
- FPE Federally proposed for listing as Endangered
- FPT Federally proposed for listing as Threatened
- FC Federal Candidate Species (former C1 species)

State-Designated Special-Status Species

Some mammals and birds are protected by the state as Fully Protected (SFP) Mammals or Fully Protected Birds, as described in the California Fish and Game Code, Sections 4700 and 3511, respectively. California SSC are designated as vulnerable to extinction due to declining population levels, limited ranges, and/or continuing threats. This list is primarily a working document for the CDFW's CNDDB project. Informally listed taxa are not protected but warrant consideration in the preparation of biotic assessments. For some species, the CNDDB is only concerned with specific portions of the life history, such as roosts, rookeries, or nest sites.

For this report the following acronyms are used for State special-status species:

- SE State-listed as Endangered
- ST State-listed as Threatened
- SR State-listed as Rare
- SCE State Candidate for listing as Endangered
- SCT State Candidate for listing as Threatened
- SFP State Fully Protected
- SP State Protected
- SSC State Species of Special Concern

California Native Plant Society

The CNPS is a private plant conservation organization dedicated to the monitoring and protection of sensitive species in California. The CNPS's Eighth Edition of the *California Native Plant Society's Inventory of Rare and Endangered Plants of California* separates plants of interest into five ranks. CNPS has compiled an inventory comprised of the information focusing on geographic distribution and qualitative characterization of Rare, Threatened, or Endangered vascular plant species of California. The list serves as the candidate list for listing as threatened and endangered by CDFW. CNPS has developed five categories of rarity that are summarized in Table 3-1.

Table 3-1. CNPS Ranks 1, 2, 3, & 4, and Threat Code Extensions

CNPS Rank	Comments
Rank 1A – Plants Presumed Extirpated in California and Either Rare or Extinct Elsewhere	Thought to be extinct in California based on a lack of observation or detection for many years.
Rank 1B – Plants Rare, Threatened, or Endangered in California and Elsewhere	Species, which are generally rare throughout their range that are also judged to be vulnerable to other threats such as declining habitat.
Rank 2A – Plants presumed Extirpated in California, But Common Elsewhere	Species that are presumed extinct in California but more common outside of California
Rank 2B – Plants Rare, Threatened or Endangered in California, But More Common Elsewhere	Species that are rare in California but more common outside of California
Rank 3 – Plants About Which More Information Is Needed (A Review List)	Species that are thought to be rare or in decline, but CNPS lacks the information needed to assign to the appropriate list. In most instances, the extent of surveys for these species is not sufficient to allow CNPS to accurately assess whether these species should be assigned to a specific rank. In addition, many of the Rank 3 species have associated taxonomic problems such that the validity of their current taxonomy is unclear.
Rank 4 – Plants of Limited Distribution (A Watch List)	Species that are currently thought to be limited in distribution or range whose vulnerability or susceptibility to threat is currently low. In some cases, as noted above for Rank 3 species, CNPS lacks survey data to accurately determine status in California. Many species have been placed on Rank 4 in previous editions of the "Inventory" and have been removed as survey data has indicated that the species are more common than previously thought. CNPS recommends that species currently included on this list should be monitored to ensure that future substantial declines are minimized.
Extension	**Comments**
.1 – Seriously endangered in California	Species with over 80% of occurrences threatened and/or have a high degree and immediacy of threat.
.2 – Fairly endangered in California	Species with 20-80% of occurrences threatened.

CNPS Rank	Comments
.3 – Not very endangered in California	Species with <20% of occurrences threatened or with no current threats known.

3.3 Jurisdictional Waters

A. Army Corps of Engineers

Pursuant to Section 404 of the CWA, the Corps regulates the discharge of dredged and/or fill material into waters of the United States. The term "waters of the United States" is defined in Corps regulations at 33 CFR Part 328.3(a) as:

> *(1) All waters which are currently used, or were used in the past, or may be susceptible to use in interstate or foreign commerce, including all waters which are subject to the ebb and flow of the tide.*
> *(2) All interstate waters including interstate wetlands.*
> *(3) All other waters such as intrastate lakes, rivers, streams (including intermittent streams), mudflats, sandflats, wetlands, sloughs, prairie potholes, wet meadows, playa lakes, or natural ponds, the use, degradation, or destruction of which could affect foreign commerce including any such waters:*
> *(i) Which are or could be used by interstate or foreign travelers for recreational or other purposes; or*
> *(ii) From which fish or shellfish are or could be taken and sold in interstate or foreign commerce; or*
> *(iii) Which are used or could be used for industrial purpose by industries in interstate commerce...*
> *(4) All impoundments of waters otherwise defined as waters of the United States under the definition.*
> *(5) Tributaries of waters identified in paragraphs (a) (1)-(4) of this section.*
> *(6) The territorial seas.*
> *(7) Wetlands adjacent to waters (other than waters that are themselves wetlands) identified in paragraphs (a) (1)-(6) of this section.*
> (8) Waters of the United States do not include prior converted cropland.[5] Notwithstanding the determination of an area's status as prior converted cropland by any other federal agency, for the purposes of the Clean Water Act, the final authority regarding Clean Water Act jurisdiction remains with the EPA.

Waste treatment systems, including treatment ponds or lagoons designed to meet the requirements of CWA (other than cooling ponds as defined in 40 CFR 123.11(m) which also meet the criteria of this definition) are not waters of the United States.

[5] The term "prior converted cropland" is defined in the Corps' Regulatory Guidance Letter 90-7 (dated September 26, 1990) as "wetlands which were both manipulated (drained or otherwise physically altered to remove excess water from the land) and cropped before 23 December 1985, to the extent that they no longer exhibit important wetland values. Specifically, prior converted cropland is inundated for no more than 14 consecutive days during the growing season…." [Emphasis added.]

In the absence of wetlands, the limits of Corps jurisdiction in non-tidal waters, such as intermittent streams, extend to the OHWM which is defined at 33 CFR 328.3(e) as:

> *...that line on the shore established by the fluctuation of water and indicated by physical characteristics such as 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.*

1. Solid Waste Agency of Northern Cook County v. United States Army Corps of Engineers, et al.

Pursuant to Article I, Section 8 of the U.S. Constitution, federal regulatory authority extends only to activities that affect interstate commerce. In the early 1980s the Corps interpreted the interstate commerce requirement in a manner that restricted Corps jurisdiction on isolated (intrastate) waters. On September 12, 1985, the U.S. Environmental Protection Agency (EPA) asserted that Corps jurisdiction extended to isolated waters that are used or could be used by migratory birds or endangered species, and the definition of "waters of the United States" in Corps regulations was modified as quoted above from 33 CFR 328.3(a).

On January 9, 2001, the Supreme Court of the United States issued a ruling on *Solid Waste Agency of Northern Cook County v. United States Army Corps of Engineers, et al.* (SWANCC). In this case the Court was asked whether use of an isolated, intrastate pond by migratory birds is a sufficient interstate commerce connection to bring the pond into federal jurisdiction of Section 404 of the CWA.

The written opinion notes that the court's previous support of the Corps' expansion of jurisdiction beyond navigable waters (*United States v. Riverside Bayview Homes, Inc*.) was for a wetland that abutted a navigable water and that the court did not express any opinion on the question of the authority of the Corps to regulate wetlands that are not adjacent to bodies of open water. The current opinion goes on to state:

> *In order to rule for the respondents here, we would have to hold that the jurisdiction of the Corps extends to ponds that are not adjacent to open water. We conclude that the text of the statute will not allow this.*

Therefore, we believe that the court's opinion goes beyond the migratory bird issue and says that no isolated, intrastate water is subject to the provisions of Section 404(a) of the CWA (regardless of any interstate commerce connection). However, the Corps and EPA have issued a joint memorandum which states that they are interpreting the ruling to address only the migratory bird issue and leaving the other interstate commerce clause nexuses intact.

2. Rapanos v. United States and Carabell v. United States

On June 5, 2007, the EPA and Corps issued joint guidance that addresses the scope of jurisdiction pursuant to the CWA in light of the Supreme Court's decision in the consolidated

cases *Rapanos v. United States* and *Carabell v. United States* ("Rapanos"). The chart below was provided in the joint EPA/Corps guidance.

For project sites that include waters other than Traditional Navigable Waters (TNWs) and/or their adjacent wetlands or Relatively Permanent Waters (RPWs) tributary to TNWs and/or their adjacent wetlands as set forth in the chart below, the Corps must apply the significant nexus standard.

For "isolated" waters or wetlands, the joint guidance also requires an evaluation by the Corps and EPA to determine whether other interstate commerce clause nexuses, not addressed in the SWANCC decision are associated with isolated features on project sites for which a jurisdictional determination is being sought from the Corps.

The agencies will assert jurisdiction over the following waters:

- Traditional navigable waters
- Wetlands adjacent to traditional navigable waters
- Non-navigable tributaries of traditional navigable waters that are relatively permanent where the tributaries typically flow year-round or have continuous flow at least seasonally (e.g., typically three months)
- Wetlands that directly abut such tributaries

The agencies will decide jurisdiction over the following waters based on a fact-specific analysis to determine whether they have a significant nexus with a traditional navigable water:

- Non-navigable tributaries that are not relatively permanent
- Wetlands adjacent to non-navigable tributaries that are not relatively permanent
- Wetlands adjacent to but that do not directly abut a relatively permanent non-navigable tributary

The agencies generally will not assert jurisdiction over the following features:

- Swales or erosional features (e.g., gullies, small washes characterized by low volume, infrequent or short duration flow)
- Ditches (including roadside ditches) excavated wholly in and draining only uplands and that do not carry a relatively permanent flow of water

The agencies will apply the significant nexus standard as follows:

- A significant nexus analysis will assess the flow characteristics and functions of the tributary itself and the functions performed by all wetlands adjacent to the tributary to determine if they significantly affect the chemical, physical and biological integrity of downstream traditional navigable waters
- Significant nexus includes consideration of hydrologic and ecologic factors

3. Wetland Definition Pursuant to Section 404 of the Clean Water Act

The term "wetlands" (a subset of "waters of the United States") is defined at 33 CFR 328.3(b) as "those areas that are inundated or saturated by surface or ground water at a frequency and duration sufficient to support...a prevalence of vegetation typically adapted for life in saturated soil conditions." In 1987 the Corps published a manual to guide its field personnel in determining jurisdictional wetland boundaries. The methodology set forth in the 1987 Wetland Delineation Manual and the Arid West Supplement generally require that, in order to be considered a wetland, the vegetation, soils, and hydrology of an area exhibit at least minimal hydric characteristics. While the manual and Supplement provide great detail in methodology and allow for varying special conditions, a wetland should normally meet each of the following three criteria:

- more than 50 percent of the dominant plant species at the site must be typical of wetlands (i.e., rated as facultative or wetter in the Arid West 2016 Regional Wetland Plant List[6][7]);

- soils must exhibit physical and/or chemical characteristics indicative of permanent or periodic saturation (e.g., a gleyed color, or mottles with a matrix of low chroma indicating a relatively consistent fluctuation between aerobic and anaerobic conditions); and
- Whereas the 1987 Manual requires that hydrologic characteristics indicate that the ground is saturated to within 12 inches of the surface for at least five percent of the growing season during a normal rainfall year, the Arid West Supplement does not include a quantitative criteria with the exception for areas with "problematic hydrophytic vegetation", which require a minimum of 14 days of ponding to be considered a wetland.

B. Regional Water Quality Control Board

The State Water Resource Control Board and each of its nine Regional Boards regulate the discharge of waste (dredged or fill material) into waters of the United States[8] and waters of the State. Waters of the United States are defined above in Section II.A and waters of the State are

[6] Lichvar, R.W., D.L. Banks, W.N. Kirchner, and N.C. Melvin. 2016. Arid West 2016 Regional Wetland Plant List. Phytoneuron 2016-30: 1-17. Published 28 April 2016.

[7] Note the Corps also publishes a National List of Plant Species that Occur in Wetlands (Lichvar, R.W., D.L. Banks, W.N. Kirchner, and N.C. Melvin. 2016. The National Wetland Plant List: 2016 wetland ratings. Phytoneuron 2016-30: 1-17. Published 28 April 2016.); however, the Regional Wetland Plant List should be used for wetland delineations within the Arid West Region.

[8] Therefore, wetlands that meet the current definition, or any historic definition, of waters of the U.S. are waters of the state. In 2000, the State Water Resources Control Board determined that all waters of the U.S. are also waters of the state by regulation, prior to any regulatory or judicial limitations on the federal definition of waters of the U.S. (California Code or Regulations title 23, section 3831(w)). This regulation has remained in effect despite subsequent changes to the federal definition. Therefore, waters of the state includes features that have been determined by the U.S. Environmental Protection Agency (U.S. EPA) or the U.S. Army Corps of Engineers (Corps) to be "waters of the U.S." in an approved jurisdictional determination; "waters of the U.S." identified in an aquatic resource report verified by the Corps upon which a permitting decision was based; and features that are consistent with any current or historic final judicial interpretation of "waters of the U.S." or any current or historic federal regulation defining "waters of the U.S." under the federal Clean Water Act.

defined as "any surface water or groundwater, including saline waters, within the boundaries of the state" (California Water Code 13050[e]).

Section 401 of the CWA requires certification for any federal permit or license authorizing impacts to waters of the U.S. (i.e., waters that are within federal jurisdiction), such as Section 404 of the CWA and Section 10 of the Safe Rivers and Harbors Act, to ensure that the impacts do not violate state water quality standards. When a project could impact waters outside of federal jurisdiction, the Regional Board has the authority under the Porter-Cologne Water Quality Control Act to issue Waste Discharge Requirements (WDRs) to ensure that impacts do not violate state water quality standards. Clean Water Act Section 401 Water Quality Certifications, WDRs, and waivers of WDRs are also referred to as orders or permits.

1. State Wetland Definition

The State Board Wetland Definition and Procedures define an area as wetland as follows: *An area is wetland if, under normal circumstances, (1) the area has continuous or recurrent saturation of the upper substrate caused by groundwater, or shallow surface water, or both; (2) the duration of such saturation is sufficient to cause anaerobic conditions in the upper substrate; and (3) the area's vegetation is dominated by hydrophytes or the area lacks vegetation.*

The following wetlands are waters of the State:

1. *Natural wetlands;*
2. *Wetlands created by modification of a surface water of the state;*[9] *and*
3. *Artificial wetlands*[10] *that meet any of the following criteria:*

    a. Approved by an agency as compensatory mitigation for impacts to other waters of the state, except where the approving agency explicitly identifies the mitigation as being of limited duration;
    b. Specifically identified in a water quality control plan as a wetland or other water of the state;
    c. Resulted from historic human activity, is not subject to ongoing operation and maintenance, and has become a relatively permanent part of the natural landscape; or
    d. Greater than or equal to one acre in size, unless the artificial wetland was constructed, and is currently used and maintained, primarily for one or more of the following purposes (i.e., the following artificial wetlands are not waters of the state unless they also satisfy the criteria set forth in 2, 3a, or 3b):
        i. Industrial or municipal wastewater treatment or disposal,
        ii. Settling of sediment,

[9] "Created by modification of a surface water of the state" means that the wetland that is being evaluated was created by modifying an area that was a surface water of the state at the time of such modification. It does not include a wetland that is created in a location where a water of the state had existed historically but had already been completely eliminated at some time prior to the creation of the wetland. The wetland being evaluated does not become a water of the state due solely to a diversion of water from a different water of the state.
[10] Artificial wetlands are wetlands that result from human activity.

iii. Detention, retention, infiltration, or treatment of stormwater runoff and other pollutants or runoff subject to regulation under a municipal, construction, or industrial stormwater permitting program,
iv. Treatment of surface waters,
v. Agricultural crop irrigation or stock watering,
vi. Fire suppression,
vii. Industrial processing or cooling,
viii. Active surface mining – even if the site is managed for interim wetlands functions and values,
ix. Log storage,
x. Treatment, storage, or distribution of recycled water, or
xi. Maximizing groundwater recharge (this does not include wetlands that have incidental groundwater recharge benefits); or
xii. Fields flooded for rice growing.[11]

All artificial wetlands that are less than an acre in size and do not satisfy the criteria set forth in 2, 3.a, 3.b, or 3.c are not waters of the state. If an aquatic feature meets the wetland definition, the burden is on the applicant to demonstrate that the wetland is not a water of the state.

C. California Department of Fish and Wildlife

Pursuant to Division 2, Chapter 6, Sections 1600-1617 of the California Fish and Game Code, the CDFW regulates all diversions, obstructions, or changes to the natural flow or bed, channel, or bank of any river, stream, or lake, which supports fish or wildlife.

CDFW defines a stream (including creeks and rivers) as "a body of water that flows at least periodically or intermittently through a bed or channel having banks and supports fish or other aquatic life. This includes watercourses having surface or subsurface flow that supports or has supported riparian vegetation." CDFW's definition of "lake" includes "natural lakes or man-made reservoirs." CDFW also defines a stream as "a body of water that flows, or has flowed, over a given course during the historic hydrologic regime, and where the width of its course can reasonably be identified by physical or biological indicators."

It is important to note that the Fish and Game Code defines fish and wildlife to include: all wild animals, birds, plants, fish, amphibians, invertebrates, reptiles, and related ecological communities including the habitat upon which they depend for continued viability (FGC Division 5, Chapter 1, section 45 and Division 2, Chapter 1 section 711.2(a) respectively).

[11] Fields used for the cultivation of rice (including wild rice) that have not been abandoned due to five consecutive years of non-use for the cultivation of rice (including wild rice) that are determined to be a water of the state in accordance with these Procedures shall not have beneficial use designations applied to them through the Water Quality Control Plan for the Sacramento and San Joaquin River Basins, except as otherwise required by federal law for fields that are considered to be waters of the United States. Further, agricultural inputs legally applied to fields used for the cultivation of rice (including wild rice) shall not constitute a discharge of waste to a water of the state. Agricultural inputs that migrate to a surface water or groundwater may be considered a discharge of waste and are subject to waste discharge requirements or waivers of such requirements pursuant to the Water Board's authority to issue or waive waste discharge requirements or take other actions as applicable.

Furthermore, Division 2, Chapter 5, Article 6, Section 1600 et seq. of the California Fish and Game Code does not limit jurisdiction to areas defined by specific flow events, seasonal changes in water flow, or presence/absence of vegetation types or communities.

4.0 RESULTS

This section provides the results of general biological surveys, vegetation mapping, habitat assessments and focused surveys for special-status plants and animals, an assessment for MSHCP riparian/riverine areas and vernal pools, and a jurisdictional delineation for Waters of the United States (including wetlands) subject to the jurisdiction of the Corps and Regional Board, and streams (including riparian vegetation) and lakes subject to the jurisdiction of CDFW.

4.1 Existing Conditions

The approximately 60.41-acre Study Area is an isolated patch of land situated between Baxter Road to the north, Whitewood Road to the east, rural residential development to the south, and Antelope Road to the west. The site is comprised primarily of ruderal areas which have been subject to ongoing disturbance in the form of mowing and off-road vehicles for the past twenty years, as is evident from historical aerial imagery. Three borrow pits were created in the central portion of the property between 2007 and 2009 for adjacent development purposes. These areas have been re-vegetated with sage scrub species [Exhibit 10 – Site Photographs]. In addition, several islands of intact chaparral plant communities remain in the eastern portion of the property.

The Study Area consists of gently sloping topography with elevations ranging from 1,505 to 1,580 feet AMSL (above mean sea level). Two ephemeral drainages occur onsite which are tributaries to Warm Springs Creek, which is a tributary to Murrieta Creek within the Murrieta Creek Watershed.

The Natural Resource Conservation Service (NRCS) identifies the following soil types (series) as occurring (currently or historically) within the Project site [Exhibit 11]: Cajalco Fine Sandy Loam, 2 to 15 Percent Slopes; Cajalco Rocky Fine Sandy Loam, 5 to 15 Percent Slopes; Cieneba sandy loam, 5 to 15 percent slopes; Cieneba rocky sandy loam, 15 to 50 percent slopes; Fallbrook sandy loam, shallow, 5 to 8 percent slopes; Greenfield sandy loam, 2 to 8 percent slopes; Honcut loam, 2 to 8 percent slopes; Las Posas loam, 2 to 8 percent slopes; and Vista coarse sandy loam, 2 to 8 percent slopes.

4.2 Vegetation Mapping

The Project site supports the following vegetation/land use types: Ruderal, Disturbed Buckwheat Scrub, Chamise Chaparral, Saltbush Scrub, Mule Fat Scrub, Willow/Tamarisk Scrub, Ornamental, and Developed. Table 4-1 provides a summary of the vegetation/land use types and their corresponding acreage. Descriptions of each type follow the table. A Vegetation Map is attached as Exhibit 5. Photographs depicting the Project site are shown in Exhibit 10.

Table 4-1. Summary of Vegetation/Land Use Types for the Project Site

VEGETATION/LAND USE TYPE	PROJECT SITE (acres)	OFF SITE IMPROVEMENTS	TOTAL VEGETATION AND LAND USE
Ruderal	32.29	1.77	34.06
Disturbed Buckwheat Scrub	15.44	0	15.44
Chamise Chaparral	5.17	0.03	5.20
Saltbush Scrub	0.30	0	0.30
Mule Fat Scrub	0.03	0	0.03
Willow/Tamarisk Scrub	0.14	0	0.14
Ornamental	0.47	0	0.47
Developed	1.99	2.78	4.77
Total	55.83	4.58	60.41

Vegetation within Criteria Cells

A total of 2.37 acres of vegetation is located within either Criteria Cell 5361 or 5366. This vegetation consists of 1.98 acres of Developed area, 0.36 acre of Ruderal habitat, and 0.03 acre of Disturbed Buckwheat Scrub habitat.

A total of 1.55 acres of this acreage is located off site and consists of 1.55 acres of Developed area, of which 1.42 acres are within Criteria Cell 5361 and 0.13 acre is within Criteria Cell 5366.

A total of 0.82 acre of this acreage is located on site and consists of 0.43 acre of Developed area, 0.36 acre of Ruderal habitat, and 0.03 acre of Buckwheat Scrub habitat. Of this total, 0.81 acre is within Criteria Cell 5361 and consists of 0.42 acre of Developed area, 0.36 acre of Ruderal habitat, and 0.03 acre of Disturbed Buckwheat Scrub habitat. The remaining 0.01 acre is within Criteria Cell 5366 and consists of Developed area.

Table 4-2 below summarizes this information. Table 4-3 below describes vegetation and land use types outside of the Criteria Cells.

Table 4-2. Summary of Vegetation/Land Use Types within Criteria Cells

VEGETATION/ LAND USE TYPES	ONSITE CRITERIA CELL 5361	OFFSITE CRITERIA CELL 5361	ONSITE CRITERIA CELL 5366	OFFSITE CRITERIA CELL 5366	TOTAL VEGETATION AND LAND USE
Ruderal	0.36	0	0	0	0.36
Developed	0.42	1.42	0.01	0.13	1.98
Disturbed Buckwheat Scrub	0.03	0	0	0	0.03
Total	0.81	1.42	0.01	0.13	2.37

Table 4-3. Summary of Vegetation/Land Use Types Outside of the Criteria Cells

VEGETATION/LAND USE TYPE	ONSITE PROJECT SITE (acres)	OFF SITE IMPROVEMENTS	TOTAL VEGETATION AND LAND USE
Ruderal	31.93	1.77	33.70
Disturbed Buckwheat Scrub	15.41	0	15.41
Chamise Chaparral	5.17	0.03	5.20
Saltbush Scrub	0.30	0	0.30
Mule Fat Scrub	0.03	0	0.03
Willow/Tamarisk Scrub	0.14	0	0.14
Ornamental	0.47	0	0.47
Developed	1.56	1.23	2.79
Total	55.01	3.03	58.04

Ruderal
The Project supports 34.06 acres of ruderal land which covers the majority of the site. This includes 32.29 acres on site and 1.77 acre off site.

A total of 31.93 acres of Ruderal habitat is on site and outside of Criteria Cells and 1.77 acres of Ruderal habitat is off site outside of Criteria Cells. Additionally, 0.36 acre of Ruderal habitat is on site in Criteria Cell 5361.

This area is routinely mowed and/or disked for weed abatement, as is evident from historical aerial imagery. Dominant plant species observed in the ruderal areas include summer mustard (*Hirschfeldia incana*), ripgut brome (*Bromus diandrus*), red brome (*Bromus madritensis*), wild oat (*Avena fatua*), common fiddleneck (*Amsinckia intermedia*), red-stemmed filaree (*Erodium cicutarium*), cheeseweed (*Malva parviflora*), stinknet (*Oncosiphon piluliferum*), wild radish (*Raphanus sativus*), high cheeseweed (*Malva sylvestris*), and London rocket (*Sisymbrium irio*).

Disturbed Buckwheat Scrub
The Project site supports 15.44 acres of buckwheat scrub which appears to be part of a restoration effort following the creation of the borrow pits, as is evident from historical aerial imagery. Prior to the disturbance pertaining to the borrow pits, the site did not appear to have a buckwheat scrub vegetation component.

A total of 15.41 acres of Disturbed Buckwheat Scrub habitat is on site and outside of Criteria Cells. Additionally, 0.03 acre of Disturbed Buckwheat Scrub habitat is on site in Criteria Cell 5361.

At the time of the biological surveys, the disturbed buckwheat scrub areas are sparsely vegetated with dominant species including California buckwheat (*Eriogonum fasciculatum*), deerweed (*Acmispon glaber*), brittlebush (*Encelia farinosa*), common sandaster (*Corethrogyne filaginifolia*), and Spanish lotus (*Acmispon americanus*).

Chamise Chaparral
The Project site supports 5.20 acres of chaparral habitat which appear to have been subject to limited disturbance, as opposed to the majority of the Project site. This includes 5.17 acres on site and 0.03 acre off site.

A total of 5.17 acres of Chamise Chaparral habitat is on site and outside of Criteria Cells and 0.03 acre of Chamise Chaparral habitat is off site outside of Criteria Cells.

This area is dominated primarily with chamise (*Adenostoma fasciculatum*). Other commonly occurring species include California buckwheat, California suncup (*Camissoniopsis bistorta*), deerweed, wild cucumber (*Marah macrocarpa*), chaparral beard tongue (*Keckiella antirrhinoides*), and fragrant sumac (*Rhus aromatica*).

Saltbush Scrub
Approximately 0.30 acre of saltbush scrub occurs along the northeastern project boundary, adjacent to Baxter Road and Whitewood Road. All 0.30 acre of Saltbush Scrub habitat is on site and outside of Criteria Cells.

This area appears to be cultivated as it is vegetated solely with cattle saltbush (*Atriplex polycarpa*).

Mule Fat Scrub
Riparian habitat accounting for 0.03 acre occurs in the northeastern portion of the property. All 0.03 acre of Mule Fat Scrub habitat is on site and outside of Criteria Cells.

This area is dominated with mule fat (*Baccharis salicifolia*) and is associated with a drainage and a culvert which directs flow under Whitewood Road. Other commonly occurring species in this riparian area include black willow (*Salix gooddingii*), annual yellow sweetclover (*Melilotus indicus*), and mayweed (*Anthemis cotula*).

Willow/Tamarisk Scrub
Willow/tamarisk scrub accounts for 0.14 acre along the western edge of the northernmost borrow pit. All 0.14 acre of Willow/Tamarisk Scrub habitat is on site and outside of Criteria Cells.

This area consists of approximately two black willow individuals and several tamarisk (*Tamarix ramosissima*) individuals. Although this area contains riparian plant species, it does not function as riparian habitat as it occurs within the borrow pit and is not associated with a stream.

Ornamental
The Project site includes 0.47 acre of ornamental landscaping in the southwestern corner of the property. All 0.47 acre of Ornamental habitat is on site and outside of Criteria Cells.

This area is dominated with Peruvian pepper tree (*Schinus molle*) and is associated with the adjacent landowner's property.

Developed
The Project site includes 4.77 acres of developed areas which include 1.99 acres of developed areas within the property and 2.78 acres of developed areas off site, specifically associated with the Warm Springs Road off site alignment.

A total of 1.56 acres of Developed areas are on site and outside of Criteria Cells and 1.23 acres of Developed areas are off site outside of Criteria Cells. Additionally, 0.42 acre of Developed area is on site in Criteria Cell 5361 and 0.01 acre is on site in Criteria Cell 5366. A total of 1.42 acres of Developed area are off site within Criteria Cell 5361 and a total of 0.13 acre of Developed area is off site within Criteria Cell 5366.

Primarily, the developed areas consist of paved vehicular roads, including Baxter Road and Whitewood Road, as well as a portion of land owned by City of Murrieta Fire Station Number 4 which will be the location of off site extension/construction of Warm Springs Road between the northern property boundary and Baxter Road. In addition, two concrete structures occur at the eastern edges of both the southernmost and northernmost borrow pits.

4.3 Special-Status Vegetation Communities

The CNDDB identifies the following six special-status vegetation communities for the Murrieta, California, and surrounding quadrangle maps: Southern Coast Live Oak Riparian Forest, Southern Cottonwood Willow Riparian Forest, Southern Interior Basalt Flow Vernal Pool, Southern Sycamore Alder Riparian Woodland, Southern Willow Scrub, and Valley Needlegrass Grassland.

As noted above, the Project site contains 0.03 acre of riparian habitat consisting of mule fat scrub which is considered a special-status plant community under CEQA. The project site does not contain any other special-status vegetation types, including those identified by the CNDDB.

4.4 Special-Status Plants

The following special-status plant was detected at the Project site: paniculate tarplant (*Deinandra paniculata*). Table 4-4 provides a list of special-status plants evaluated for the Project site through general biological surveys, habitat assessments, and focused surveys. Species were evaluated based on the following factors: 1) species identified by the CNDDB and CNPS as occurring (either currently or historically) on or in the vicinity of the Project site, 2) applicable MSHCP survey areas, and 3) any other special-status plants that are known to occur within the vicinity of the Project site, or for which potentially suitable habitat occurs within the site.

Table 4-4. Special-Status Plants Evaluated for the Project Site

Species Name	Status	Habitat Requirements	Potential for Occurrence
Alkali marsh aster *Almutaster pauciflorus*	Federal: None State: None CNPS: Rank 2B.2 MSHCP: None	Meadows and seeps	Does not occur.
Bottle liverwort *Sphaerocarpos drewei*	Federal: None State: None CNPS: Rank 1B.1 MSHCP: None	Openings in chaparral and coastal scrub.	Does not occur.
Buxbaum's sedge *Carex buxbaumii*	Federal: None State: None CNPS: Rank 4.2 MSHCP: None	Bogs and fens, Meadows and seeps (mesic) and marshes and swamps.	Does not occur.
California ayenia *compacta*	Federal: None State: None CNPS: Rank 2B.3 MSHCP: None	Rocky soils in Mojavean desert scrub and Sonoran desert scrub.	Does not occur.
California beardtongue *Penstemon californicus*	Federal: None State: None CNPS: Rank 1B.2 MSHCP: MSHCP	Sandy soils in chaparral, lower montane coniferous forest, and pinyon and juniper woodland.	Does not occur.
California Orcutt grass *Orcuttia californica*	Federal: FE State: SE CNPS: Rank 1B.1 MSHCP: MSHCP(b)	Vernal pools	Does not occur.
California screw moss *Tortula californica*	Federal: None State: None CNPS: Rank 1B.2 MSHCP: None	Sandy soil in chenopod scrub, and valley and foothill grassland.	Does not occur.
Campbell's liverwort *Geothallus tuberosus*	Federal: None State: None CNPS: Rank 1B.1 MSHCP: None	Occurs on soil in coastal scrub (mesic) and vernal pools.	Does not occur.

Species Name	Status	Habitat Requirements	Potential for Occurrence
Catalina mariposa lily *Calochortus catalinae*	Federal: None State: None CNPS: Rank 4.2 MSHCP: None	Chaparral, cismontane woodland, coastal sage scrub, valley and foothill grassland.	Confirmed absent.
Chaparral nolina *cismontana*	Federal: None State: None CNPS: Rank 1B.2 MSHCP: None	Chaparral, coastal sage scrub. Occurring on sandstone or gabbro substrates.	Confirmed absent.
Chaparral ragwort *Senecio aphanactis*	Federal: None State: None CNPS: Rank 2B.2 MSHCP: None	Chaparral, cismontane woodland, coastal scrub. Sometimes associated with alkaline soils.	Does not occur.
Chaparral rein orchid *Piperia cooperi*	Federal: None State: None CNPS: Rank 4.2 MSHCP: None	Chaparral, cismontane woodland, valley and foothill grassland.	Does not occur.
Chaparral sand-verbena *Abronia villosa* var. *aurita*	Federal: None State: None CNPS: Rank 1B.1 MSHCP: None	Sandy soils in chaparral, coastal sage scrub.	Confirmed absent.
Coulter's goldfields *Lasthenia glabrata* ssp. *coulteri*	Federal: None State: None CNPS: Rank 1B.1 MSHCP: MSHCP(d)	Playas, vernal pools, marshes and swamps (coastal salt).	Does not occur.
Coulter's matilija poppy *Romneya coulteri*	Federal: None State: None CNPS: Rank 4.2 MSHCP: MSHCP	Often in burns in chaparral and coastal scrub.	Confirmed absent.
Davidson's saltscale *Atriplex serenana* var. *davidsonii*	Federal: None State: None CNPS: Rank 1B.2 MSHCP: MSHCP(d)	Alkaline soils in coastal sage scrub, coastal bluff scrub.	Does not occur.
Delicate clarkia *Clarkia delicata*	Federal: None State: None	Often in gabbroic soils in chaparral and cismontane woodland.	Does not occur.

Species Name	Status	Habitat Requirements	Potential for Occurrence
	CNPS: Rank 1B.2 MSHCP: None		
Douglas' fiddleneck *Amsinckia douglasiana*	Federal: None State: None CNPS: Rank 4.2 MSHCP: None	Dry Monterey shale. Cismontane woodland, valley and foothill grassland.	Does not occur.
Engelmann oak *Quercus engelmannii*	Federal: None State: None CNPS: Rank 4.2 MSHCP: MSHCP	Chaparral, cismontane woodland, riparian woodland, valley and foothill grassland.	Confirmed absent.
Felt-leaved monardella *Monardella hypoleuca* ssp. *lanata*	Federal: None State: None CNPS: Rank 1B.2 MSHCP: None	Chaparral and cismontane woodland	Does not occur.
Fish's milkwort *Polygala cornuta* var. *fishae*	Federal: None State: None CNPS: Rank 4.3 MSHCP: MSHCP	Chaparral, cismontane woodland, riparian woodland.	Does not occur.
Gander's ragwort *Packera ganderi*	Federal: None State: Rare CNPS: Rank 1B.2 MSHCP: None	Chaparral (burns, gabbroic outcrops)	Does not occur.
Graceful tarplant *Holocarpha virgata* ssp. *elongata*	Federal: None State: None CNPS: Rank 4.2 MSHCP: MSHCP	Chaparral, cismontane woodland, coastal scrub, valley and foothill grassland.	Confirmed absent.
Hall's monardella *Monardella macrantha* ssp. *hallii*	Federal: None State: None CNPS: Rank 1B.3 MSHCP: MSHCP	Occurs on dry slopes and ridges within openings in broadleaved upland forest, chaparral, lower montane coniferous forest, cismontane woodland, and valley and foothill grassland.	Does not occur.
Hammitt's clay-cress *Sibaropsis hammittii*	Federal: None State: None CNPS: Rank 1B.2	Clay soils in openings of chaparral, and in valley and foothill grasslands.	Does not occur.

Species Name	Status	Habitat Requirements	Potential for Occurrence
	MSHCP: MSHCP(b)		
Heart-leaved pitcher sage *Lepechinia cardiophylla*	Federal: None State: None CNPS: Rank 1B.2 MSHCP: MSHCP(d)	Closed-cone coniferous forest, chaparral, and cismontane woodland.	Does not occur.
Intermediate mariposa-lily *Calochortus weedii* var. *intermedius*	Federal: None State: None CNPS: Rank 1B.2 MSHCP: MSHCP	Rocky soils in chaparral, coastal sage scrub, valley and foothill grassland.	Confirmed absent.
Intermediate monardella *Monardella hypoleuca* ssp.*intermedia*	Federal: None State: None CNPS: Rank 1B.3 MSHCP: None	Usually in the understory of chaparral, cismontane woodland, and lower montane coniferous forest (sometimes)	Does not occur.
Jaeger's (bush) milk-vetch *Astragalus pachypus* var. *jaegeri*	Federal: None State: None CNPS: Rank 1B.1 MSHCP: MSHCP	Sandy or rocky soils in chaparral, cismontane woodland, coastal scrub, and valley and foothill grassland.	Does not occur.
Lakeside ceanothus *Ceanothus cyaneus*	Federal: None State: None CNPS: Rank 1B.2 MSHCP: Not covered	Closed-cone coniferous forest and chaparral.	Confirmed absent.
Latimer's woodland-gilia *Saltugilia latimeri*	Federal: None State: None CNPS: Rank 1B.2 MSHCP: None	Rocky or sandy, often granitic soils (sometimes washes) in chaparral, Mojavean desert scrub, and Pinyon and juniper woodland.	Does not occur.
Lemon lily *Lilium parryi*	Federal: None State: None CNPS: Rank 1B.2 MSHCP: MSHCP(f)	Mesic soils in lower montane coniferous forest, meadows and seeps, riparian forest, and upper montane coniferous forest.	Does not occur.

Species Name	Status	Habitat Requirements	Potential for Occurrence
Lewis' evening-primrose *Camissoniopsis lewisii*	Federal: None State: None CNPS: Rank 3 MSHCP: None	Sandy or clay soils in coastal bluff scrub, cismontane woodland, coastal dunes, coastal scrub, and valley and foothill grassland.	Does not occur.
Little mousetail *Myosurus minimus* ssp. *apus*	Federal: None State: None CNPS: Rank 3.1 MSHCP: MSHCP(d)	Valley and foothill grassland, vernal pools (alkaline soils).	Does not occur.
Long-spined spineflower *Chorizanthe polygonoides* var. *longispina*	Federal: None State: None CNPS: Rank 1B.2 MSHCP: MSHCP	Clay soils in chaparral, coastal sage scrub, meadows and seeps, and valley and foothill grasslands	Does not occur.
Many-stemmed dudleya *Dudleya multicaulis*	Federal: None State: None CNPS: Rank 1B.2 MSHCP: MSHCP(b)	Chaparral, coastal sage scrub, valley and foothill grassland. Often occurring in clay soils.	Does not occur.
Mesa horkelia *Horkelia cuneata* var. *puberula*	Federal: None State: None CNPS: Rank 1B.1 MSHCP: None	Sandy or gravelly soils in chaparral (maritime), cismontane woodland, and coastal scrub.	Does not occur.
Munz's onion *Allium munzii*	Federal: FE State: ST CNPS: Rank 1B.1 MSHCP: MSHCP(b)	Clay soils in chaparral, coastal sage scrub, and valley and foothill grasslands	Does not occur.
Mud nama *Nama stenocarpum*	Federal: None State: None CNPS: Rank 2B.2 MSHCP: MSHCP(d)	Marshes and swamps	Does not occur.
Nevin's barberry *Berberis nevinii*	Federal: FE State: SE CNPS: Rank 1B.1	Sandy or gravelly soils in chaparral, cismontane woodland, coastal scrub, and riparian scrub.	Confirmed absent.

Species Name	Status	Habitat Requirements	Potential for Occurrence
	MSHCP: MSHCP(d)		
Ocellated Humboldt lily *Lilium humboldtii* ssp. *ocellatum*	Federal: None State: None CNPS: Rank 4.2 MSHCP: MSHCP(f)	Chaparral, cismontane woodland, coastal sage scrub, lower montane coniferous forest, riparian woodland. Occurring in openings.	Does not occur.
Orcutt's brodiaea *Brodiaea orcuttii*	Federal: None State: None CNPS: Rank 1B.1 MSHCP: MSHCP	Mesic, clay soils (sometimes serpentinite) in chaparral, meadows and seeps, valley and foothill grassland, vernal pools, closed-cone coniferous forest, cismontane woodland.	Does not occur.
Orcutt's pincushion *Chaenactis glabriuscula var. orcuttiana*	Federal: None State: None CNPS: Rank 1B.1 MSHCP: None	Coastal bluff scrub (sandy soils) and coastal dunes.	Does not occur.
Palmer's grapplinghook *Harpagonella palmeri*	Federal: None State: None CNPS: Rank 4.2 MSHCP: MSHCP	Chaparral, coastal sage scrub, valley and foothill grassland. Occurring in clay soils.	Does not occur.
Palomar monkeyflower *Erythranthe (Mimulus) diffusa*	Federal: None State: None CNPS: Rank 4.3 MSHCP: MSHCP	Sandy or gravelly soils in chaparral, lower montane coniferous forest.	Does not occur.
Paniculate tarplant *Deinandra paniculata*	Federal: None State: None CNPS: Rank 4.2 MSHCP: None	Usually in vernally mesic, sometimes sandy soils in coastal scrub, valley and foothill grassland, and vernal pools.	Confirmed present.
Parish's brittlescale *Atriplex parishii*	Federal: None State: None CNPS: Rank 1B.1 MSHCP: MSHCP(d)	Chenopod scrub, playas, vernal pools.	Does not occur.

Species Name	Status	Habitat Requirements	Potential for Occurrence
Parish's meadowfoam *Limnanthes alba* ssp. *parishii*	Federal: None State: SE CNPS: Rank 1B.2 MSHCP: MSHCP	Vernally mesic soils in lower montane coniferous forests, meadows and seeps, and vernal pools.	Does not occur.
Parry's spineflower *Chorizanthe parryi* var. *parryi*	Federal: None State: None CNPS: Rank 1B.1 MSHCP: MSHCP	Sandy or rocky soils in open habitats of chaparral and coastal sage scrub.	Does not occur.
Parry's tetracoccus *Tetracoccus dioicus*	Federal: None State: None CNPS: Rank 1B.2 MSHCP: Not covered	Chaparral and coastal sage scrub.	Confirmed absent.
Payson's jewelflower *Caulanthus simulans*	Federal: None State: None CNPS: Rank 4.2 MSHCP: MSHCP	Sandy or granitic soils in chaparral and coastal scrub.	Does not occur.
Plummer's mariposa lily *Calochortus plummerae*	Federal: None State: None CNPS: Rank 4.2 MSHCP: MSHCP	Granitic, rock soils within chaparral, cismontane woodland, coastal sage scrub, lower montane coniferous forest, valley and foothill grassland.	Confirmed absent.
Prostrate vernal pool navarretia *Navarretia prostrata*	Federal: None State: None CNPS: Rank 1B.1 MSHCP: MSHCP(d)	Coastal sage scrub, valley and foothill grassland (alkaline), vernal pools. Occurring in mesic soils.	Does not occur.
Rainbow manzanita *Arctostaphylos rainbowensis*	Federal: None State: None CNPS: Rank 1B.1 MSHCP: MSHCP	Chaparral	Confirmed absent.

Species Name	Status	Habitat Requirements	Potential for Occurrence
Ramona horkelia *Horkelia truncata*	Federal: None State: None CNPS: Rank 1B.3 MSHCP: None	Clay, gabbroic soils in chaparral and cismontane woodland.	Does not occur.
Robinson's pepper grass *Lepidium virginicum* var. *robinsonii*	Federal: None State: None CNPS: Rank 4.3 MSHCP: Not covered	Chaparral, coastal sage scrub	Confirmed absent.
Round-leaved filaree *California macrophylla*	Federal: None State: None CNPS: Rank 1B.1 MSHCP: MSHCP (d)	Clay soils in cismontane woodland, valley and foothill grassland	Does not occur.
Salt Spring checkerbloom *Sidalcea neomexicana*	Federal: None State: None CNPS: Rank 2B.2 MSHCP: Not covered	Mesic, alkaline soils in chaparral, coastal sage scrub, lower montane coniferous forest, Mojavean desert scrub, and playas.	Does not occur.
San Bernardino aster *Symphyotrichum defoliatum*	Federal: None State: None CNPS: Rank 1B.2 MSHCP: None	Cismontane woodland, coastal scrub, lower montane coniferous forest, meadows and seeps, marshes and swamps, valley and foothill grassland (vernally mesic).	Does not occur.
San Diego ambrosia *Ambrosia pumila*	Federal: FE State: None CNPS: Rank 1B.1 MSHCP: MSHCP(b)	Chaparral, coastal sage scrub, valley and foothill grassland, vernal pools. Often in disturbed habitats.	Confirmed absent.
San Diego button-celery *Eryngium aristulatum* var. *parishii*	Federal: FE State: SE CNPS: Rank 1B.1 MSHCP: MSHCP	Mesic soils in vernal pools, valley and foothill grasslands, coastal sage scrub.	Does not occur.

Species Name	Status	Habitat Requirements	Potential for Occurrence
San Jacinto Valley crownscale *Atriplex coronata* var. *notatior*	Federal: FE State: None CNPS: Rank 1B.1 MSHCP: MSHCP(d)	Alkaline soils in chenopod scrub, valley and foothill grassland, vernal pools.	Does not occur.
San Miguel savory *Clinopodium chandleri*	Federal: None State: None CNPS: Rank 1B.2 MSHCP: MSHCP(b)	Rocky, gabbroic, or metavolcanic soils in chaparral, cismontane woodland, coastal sage scrub, riparian woodland, valley and foothill grassland.	Does not occur.
Santa Lucia dwarf rush *Juncus luciensis*	Federal: None State: None CNPS: Rank 1B.2 MSHCP: None	Chaparral, Great Basin scrub, lower montane coniferous forest, meadows and seeps, and vernal pools.	Does not occur.
Santa Rosa Basalt brodiaea *Brodiaea santarosae*	Federal: None State: None CNPS: Rank 1B.2 MSHCP: None	Basaltic soils in valley and foothill grassland.	Does not occur.
Shevock's copper moss *Mielichhoferia shevockii*	Federal: None State: None CNPS: Rank 1B.2 MSHCP: None	Cismontane woodland (metamorphic, rock, mesic)	Does not occur.
Slender-horned spineflower *Dodecahema leptoceras*	Federal: FE State: SE CNPS: Rank 1B.1 MSHCP: MSHCP(b)	Sandy soils in alluvial scrub, chaparral, cismontane woodland.	Does not occur.
Small-flowered microseris *Microseris douglasii* ssp. *platycarpha*	Federal: None State: None CNPS: Rank 4.2 MSHCP: MSHCP	Cismontane woodland, coastal sage scrub, valley and foothill grassland, vernal pools. Occurring on clay soils.	Does not occur.
Small-flowered morning-glory *Convolvulus simulans*	Federal: None State: None CNPS: Rank 4.2 MSHCP: MSHCP	Chaparral (openings), coastal sage scrub, valley and foothill grassland. Occurring on clay soils and serpentinite seeps.	Does not occur.

Species Name	Status	Habitat Requirements	Potential for Occurrence
Smooth tarplant *Centromadia pungens* ssp. *laevis*	Federal: None State: None CNPS: Rank 1B.1 MSHCP: MSHCP(d)	Alkaline soils in chenopod scrub, meadows and seeps, playas, riparian woodland, valley and foothill grasslands, disturbed habitats.	Confirmed absent.
South coast saltscale *Atriplex pacifica*	Federal: None State: None CNPS: Rank 1B.2 MSHCP: Not covered	Coastal bluff scrub, coastal dunes, coastal sage scrub, playas.	Does not occur.
Southern California black walnut *Juglans californica*	Federal: None State: None CNPS: Rank 4.2 MSHCP: MSHCP	Chaparral, cismontane woodland, coastal sage scrub, alluvial surfaces.	Confirmed absent.
Southern mountain misery *Chamaebatia australis*	Federal: None State: None CNPS: Rank 4.2 MSHCP: None	Chaparral (gabbroic or metavolcanic).	Does not occur.
Southern mountains skullcap *Scutellaria bolanderi* ssp. *austromontana*	Federal: None State: None CNPS: Rank 1B.2 MSHCP: Not covered	Mesic soils in chaparral, cismontane woodland, lower montane coniferous forest.	Does not occur.
Southwestern spiny rush *Juncus acutus* ssp. *leopoldii*	Federal: None State: None CNPS: Rank 4.2 MSHCP: None	Coastal dunes (mesic), meadows and seeps (alkaline seeps), and marshes and swamps (coastal salt).	Does not occur.
Spreading navarretia *Navarretia fossalis*	Federal: FT State: None CNPS: Rank 1B.1 MSHCP: MSHCP(b)	Vernal pools, playas, chenopod scrub, marshes and swamps (assorted shallow freshwater).	Does not occur.
Sticky dudleya *Dudleya viscida*	Federal: None State: None	Coastal bluff scrub, chaparral, coastal sage	Does not occur.

Species Name	Status	Habitat Requirements	Potential for Occurrence
	CNPS: Rank 1B.2 MSHCP: MSHCP(f)	scrub. Occurring on rocky soils.	
Summer holly *Comarostaphylis diversifolia* ssp. *diversifolia*	Federal: None State: None CNPS: Rank 1B.2 MSHCP: Not covered	Chaparral.	Does not occur.
Tecate cypress *Hesperocyparis forbesii*	Federal: None State: None CNPS: Rank 1B.1 MSHCP: None	Closed-cone coniferous forest, chaparral.	Confirmed absent.
Thread-leaved brodiaea *Brodiaea filifolia*	Federal: FT State: SE CNPS: Rank 1B.1 MSHCP: MSHCP(d)	Clay soils in chaparral (openings), cismontane woodland, coastal sage scrub, playas, valley and foothill grassland, vernal pools.	Does not occur.
Vail Lake ceanothus *Ceanothus ophiochilus*	Federal: FT State: SE CNPS: Rank 1B.1 MSHCP: MSHCP(d)	Chaparral (gabbroic or pyroxenite-rich outcrops)	Does not occur.
Vernal barley *Hordeum intercedens*	Federal: None State: None CNPS: Rank 3.2 MSHCP: MSHCP	Coastal dunes, coastal sage scrub, valley and foothill grassland (saline flats and depressions), vernal pools.	Does not occur.
White rabbit-tobacco *Pseudognaphalium leucocephalum*	Federal: None State: None CNPS: Rank 2B.2 MSHCP: None	Sandy or gravelly soils in chaparral, cismontane woodland, coastal scrub, and riparian woodland.	Confirmed absent.
Wiggins' cryptantha *Cryptantha wigginsii*	Federal: None State: None CNPS: Rank 1B.2 MSHCP: None	Often on clay soils in coastal scrub.	Does not occur.

Species Name	Status	Habitat Requirements	Potential for Occurrence
Woolly chaparral-pea *Pickeringia montana var tomentosa*	Federal: None State: None CNPS: Rank 4.3 MSHCP: None	Gabbroic, granitic, and clay soils in chaparral.	Does not occur.
Woven-spored lichen *Texosporium sancti-jacobi*	Federal: None State: None CNPS: Rank 3 MSHCP: None	On soil, small mammal pellets, dead twigs, and on *Selaginella* spp. Chaparral (openings).	Does not occur.
Wright's trichocoronis *Trichocoronis wrightii* var. *wrightii*	Federal: None State: None CNPS: Rank 2B.1 MSHCP: MSHCP (b)	Alkaline soils in meadows and seeps, marshes and swamps, riparian scrub, vernal pools.	Does not occur.

STATUS

Federal
FE – Federally Endangered
FT – Federally Threatened

State
SE – State Endangered
ST – State Threatened

CNPS
Rank 1A – Plants presumed extirpated in California and either rare or extinct elsewhere.
Rank 1B – Plants rare, threatened, or endangered in California and elsewhere.
Rank 2A – Plants presumed extirpated in California, but common elsewhere.
Rank 2B – Plants rare, threatened, or endangered in California, but more common elsewhere.
Rank 3 – Plants about which more information is needed (a review list).
Rank 4 – Plants of limited distribution (a watch list).

CNPS Threat Code extension
.1 – Seriously endangered in California (over 80% occurrences threatened)
.2 – Fairly endangered in California (20-80% occurrences threatened)
.3 – Not very endangered in California (<20% of occurrences threatened or no current threats known)

MSHCP
MSHCP = No additional action necessary
MSHCP(a) = Surveys may be required as part of wetlands mapping
MSHCP(b) = Surveys may be required within the Narrow Endemic Plant Species survey area
MSHCP(c) = Surveys may be required within locations shown on survey maps

Species Name	Status	Habitat Requirements	Potential for Occurrence
MSHCP(d) = Surveys may be required within Criteria Area MSHCP(e) = Conservation requirements identified in species-specific conservation objectives need to be met before classified as a Covered Species MSHCP(f) = Covered species when a Memorandum of Understanding is executed with the Forest Service Land Not Covered = Species not adequately conserved under MSHCP None = Species not considered for conservation coverage under MSHCP **OCCURRENCE** ▪ Does not occur – The site does not contain habitat for the species and/or the site does not occur within the geographic range of the species. ▪ Confirmed absent – The site contains suitable habitat for the species, but the species has been confirmed absent through focused surveys. ▪ Not expected to occur – The species is not expected to occur onsite due to low habitat quality, however absence cannot be ruled out. ▪ Potential to occur – The species has a potential to occur based on suitable habitat, however its presence/absence has not been confirmed. ▪ Confirmed present – The species was detected onsite incidentally or through focused surveys			

4.4.1 Special-Status Plant Results

Paniculate tarplant (*Deinandra paniculata*) – this species is a member of the sunflower family (Asteraceae) and is designated as a CNPS List 4.2, indicating the species is of limited distribution throughout a broader area of California. This annual herb occurs within coastal scrub and valley and foothill grasslands, and also commonly occurs within disturbed areas. Paniculate tarplant is somewhat widely distributed as it is known to occur from San Luis Obispo County down to San Diego County and extends slightly beyond California borders. An estimated 5,000 paniculate tarplant individuals were detected within the northeastern portion of the Project site within the following vegetation communities: ruderal, chamise chaparral, and disturbed buckwheat scrub [Exhibit 7].

In addition, the majority of the Study Area occurs within NEPSSA designated survey area 4, as well as CAPSSA; therefore, the following target species were evaluated: Munz's onion (*Allium munzii*), San Diego ambrosia (*Ambrosia pumila*), many-stemmed dudleya (*Dudleya multicaulis*), spreading navarretia (*Navarretia fossalis*), California Orcutt grass (*Orcuttia californica*), Wright's trichocoronis (*Trichocoronis wrightii* var. *wrightii*), Parish's brittlescale (*Atriplex parishii*), Davidson's saltscale (*Atriplex serenana* var. *davidsonii*), thread-leaved brodiaea (*Brodiaea filifolia*), round-leaved filaree (*California macrophylla*), smooth tarplant (*Centromadia pungens* ssp. *laevis*), Coulter's goldfields (*Lasthenia glabrata* ssp. *coulteri*), little mousetail (*Myosurus minimus* ssp. *apus*), and mud nama (*Nama stenocarpum*) along with other special-status plant species that could cause a potential constraint to the project.

Due to a combination of factors including unsuitable soils, lack of mesic conditions, and a history of ground disturbance activities including routine mowing and the creation of the borrow pits, the Project site was determined to not support suitable habitat for the majority of the NEPSSA 4 or CAPSSA target species listed above, as well as other special-status plant species as noted in Table 4-2. With the exception of paniculate tarplant, species with potential to occur were confirmed absent through focused rare plant surveys during the spring of 2019. It should be noted that the 2019 rainy season resulted in many, evenly spaced rain events and higher than average total rainfall. As such, the 2019 season was an optimal time to conduct rare plant surveys since the likelihood of observing such species was higher than in years following drought.

4.5 Special-Status Animals

The following special-status animals were detected at the Project site: California gnatcatcher (*Polioptila californica californica*) and San Diego black-tailed jackrabbit (*Lepus californicus bennettii*). Table 4-5 provides a list of special-status animals evaluated for the Project site through general biological surveys, habitat assessments, and focused surveys. Species were evaluated based on the following factors, including: 1) species identified by the CNDDB as occurring (either currently or historically) on or in the vicinity of the Project site, 2) applicable MSHCP survey areas, and 3) any other special-status animals that are known to occur within the vicinity of the Project site, for which potentially suitable habitat occurs on the site.

Table 4-5. Special-Status Animals Evaluated for the Project Site

Species Name	Status	Habitat Requirements	Potential for Occurrence
Invertebrates			
Quino checkerspot butterfly *Euphydryas editha quino*	Federal: FE State: None MSHCP: MSHCP	Larval and adult phases each have distinct habitat requirements tied to host plant species and topography. Larval host plants include *Plantago erecta* and *Castilleja exserta*. Adults occur on sparsely vegetated rounded hilltops and ridgelines and are known to disperse through disturbed habitats to reach suitable nectar plants.	Not expected to occur onsite.
Riverside fairy shrimp *Streptocephalus woottoni*	Federal: FE State: None MSHCP: MSHCP(a)	Restricted to deep seasonal vernal pools, vernal pool-like ephemeral ponds, and stock ponds.	Does not occur.
San Diego fairy shrimp *Branchinecta sandiegonensis*	Federal: FE State: None MSHCP: None	Seasonal vernal pools	Does not occur.
Vernal pool fairy shrimp *Branchinecta lynchi*	Federal: FT State: None MSHCP: MSHCP(a)	Seasonal vernal pools	Does not occur.
Fish			
Arroyo chub *Gila orcutti*	Federal: None State: SSC MSHCP: MSHCP	Slow-moving or backwater sections of warm to cool streams with substrates of sand or mud.	Does not occur.
Amphibians			

Arroyo toad *Anaxyrus californicus*	Federal: FE State: SSC MSHCP: MSHCP(c)	Breed, forage, and/or aestivate in aquatic habitats, riparian, coastal sage scrub, oak, and chaparral habitats. Breeding pools must be open and shallow with minimal current, and with a sand or pea gravel substrate overlain with sand or flocculent silt. Adjacent banks with sandy or gravely terraces and very little herbaceous cover for adult and juvenile foraging areas, within a moderate riparian canopy of cottonwood, willow, or oak.	Does not occur.
California red-legged frog *Rana draytonii*	Federal: FT State: SSC MSHCP: MSHCP(c)	Lowlands and foothills in or near permanent sources of deep water with dense, shrubby, or emergent riparian vegetation.	Does not occur.
Coast Range newt *Taricha torosa*	Federal: None State: SSC MSHCP: MSHCP	Found in wet forests, oak forests, chaparral, and rolling grasslands. In southern California, drier chaparral, oak woodland, and grasslands are used.	Does not occur.
Western spadefoot *Spea hammondii*	Federal: None State: SSC MSHCP: MSHCP	Seasonal pools in coastal sage scrub, chaparral, and grassland habitats.	Does not occur.
Reptiles			
California glossy snake *Arizona elegans occidentalis*	Federal: None State: SSC MSHCP: Not covered	Inhabits arid scrub, rocky washes, grasslands, chaparral.	Low to moderate potential to occur.
Coastal whiptail *Aspidoscelis tigris stejnegeri (multiscutatus)*	Federal: None State: SSC MSHCP: MSHCP	Open, often rocky areas with little vegetation, or sunny microhabitats within shrub or grassland associations.	Low potential to occur.

Coast horned lizard *Phrynosoma blainvillii*	Federal: None State: SSC MSHCP: MSHCP	Occurs in a variety of vegetation types including coastal sage scrub, chaparral, annual grassland, oak woodland, and riparian woodlands.	Low potential to occur.
Coast patch-nosed snake *Salvadora hexalepis virgultea*	Federal: None State: SSC MSHCP: Not covered	Occurs in coastal chaparral, desert scrub, washes, sandy flats, and rocky areas.	Very low potential to occur.
Red-diamond rattlesnake *Crotalus ruber*	Federal: None State: SSC MSHCP: MSHCP	Habitats with heavy brush and rock outcrops, including coastal sage scrub and chaparral.	Does not occur.
San Diego banded gecko *Coleonyx variegatus abbotti*	Federal: None State: SSC MSHCP: MSHCP	Primarily a desert species, but also occurs in cismontane chaparral, desert scrub, and open sand dunes.	Does not occur.
Southern California legless lizard *Anniella stebbinsi*	Federal: None State: SSC MSHCP: Not Covered	Broadleaved upland forest, chaparral, coastal dunes, coastal scrub; found in a broader range of habitats that any of the other species in the genus. Often locally abundant, specimens are found in coastal sand dunes and a variety of interior habitats, including sandy washes and alluvial fans	Does not occur.
Two-striped garter snake *Thamnophis hammondii*	Federal: None State: SSC MSHCP: Not Covered	Aquatic snake typically associated with wetland habitats such as streams, creeks, and pools.	Does not occur.

Western pond turtle *Emys marmorata*	Federal: None State: SSC MSHCP: MSHCP	Slow-moving permanent or intermittent streams, small ponds and lakes, reservoirs, abandoned gravel pits, permanent and ephemeral shallow wetlands, stock ponds, and treatment lagoons. Abundant basking sites and cover necessary, including logs, rocks, submerged vegetation, and undercut banks.	Does not occur.
Birds			
Bald eagle (nesting & wintering) *Haliaeetus leucocephalus*	Federal: Delisted State: SE, FP MSHCP: MSHCP	Primarily in or near seacoasts, rivers, swamps, and large lakes. Perching sites consist of large trees or snags with heavy limbs or broken tops.	Does not occur for nesting or wintering.
Burrowing owl *Athene cunicularia*	Federal: None State: SSC MSHCP: MSHCP(c)	Shortgrass prairies, grasslands, lowland scrub, agricultural lands (particularly rangelands), coastal dunes, desert floors, and some artificial, open areas as a year-long resident. Occupies abandoned ground squirrel burrows as well as artificial structures such as culverts and underpasses.	Confirmed absent.
Coastal cactus wren (San Diego & Orange County only) *Campylorhynchus brunneicapillus sandiegensis*	Federal: BCC State: SSC MSHCP: MSHCP	Occurs almost exclusively in cactus (cholla and prickly pear) dominated coastal sage scrub.	Does not occur.
Coastal California gnatcatcher *Polioptila californica*	Federal: FT State: SSC MSHCP: MSHCP	Low elevation coastal sage scrub and coastal bluff scrub.	Observed foraging onsite. Low potential to occur for nesting.

Golden eagle (nesting and wintering) *Aquila chrysaetos*	Federal: None State: CFP MSHCP: MSHCP	In southern California, occupies grasslands, brushlands, deserts, oak savannas, open coniferous forests, and montane valleys. Nests on rock outcrops and ledges.	Does not occur for nesting or wintering.
Least Bell's vireo *Vireo bellii pusillus*	Federal: FE State: SE MSHCP: MSHCP(a)	Dense riparian habitats with a stratified canopy, including southern willow scrub, mule fat scrub, and riparian forest.	Does not occur.
Loggerhead shrike (nesting) *Lanius ludovicianus*	Federal: BCC State: SSC MSHCP: MSHCP	Forages over open ground within areas of short vegetation, pastures with fence rows, old orchards, mowed roadsides, cemeteries, golf courses, riparian areas, open woodland, agricultural fields, desert washes, desert scrub, grassland, broken chaparral and beach with scattered shrubs.	Potential to occur.
Northern harrier (nesting) *Circus cyaneus*	Federal: None State: SSC MSHCP: MSHCP	A variety of habitats, including open wetlands, grasslands, wet pasture, old fields, dry uplands, and croplands.	Low potential to occur.
Swainson's hawk (nesting) *Buteo swainsoni*	Federal: None State: ST MSHCP: MSHCP	Occupies grasslands, brushlands, deserts, oak savannas, open coniferous forests, and montane valleys for hunting and uses perches.	Does not occur.
Tricolored blackbird (nesting colony) *Agelaius tricolor*	Federal: BCC State: CE, SSC MSHCP: MSHCP	Breeding colonies require nearby water, a suitable nesting substrate, and open-range foraging habitat of natural grassland, woodland, or agricultural cropland.	Does not occur.

Western snowy plover (nesting) *Charadrius alexandrinus nivosus*	Federal: FT, BCC State: SSC MSHCP: Not covered	Sandy or gravelly beaches along the coast, estuarine salt ponds, alkali lakes, and at the Salton Sea.	Does not occur.
Western yellow-billed cuckoo (nesting) *Coccyzus americanus occidentalis*	Federal: FT, BCC State: SE MSHCP: MSHCP(a)	Dense, wide riparian woodlands with well-developed understories.	Does not occur.
White-faced ibis (nesting colony) *Plegadis chihi*	Federal: None State: WL MSHCP: MSHCP	Winter foraging occurs in wet meadows, marshes, ponds, lakes, rivers, and agricultural fields. Requires extensive marshes for nesting.	Does not occur.
White-tailed kite (nesting) *Elanus leucurus*	Federal: None State: CFP MSHCP: MSHCP	Low elevation open grasslands, savannah-like habitats, agricultural areas, wetlands, and oak woodlands. Dense canopies used for nesting and cover.	Does not occur for nesting.
Yellow-breasted chat (nesting) *Icteria virens*	Federal: None State: SSC MSHCP: MSHCP	Dense, relatively wide riparian woodlands and thickets of willows, vine tangles, and dense brush with well-developed understories.	Does not occur.
Mammals			
Dulzura pocket mouse *Chaetodipus californicus femoralis*	Federal: None State: SSC MSHCP: Not covered	Coastal scrub, grassland, and chaparral, especially at grass-chaparral edges	Low potential to occur.
Jacumba pocket mouse *Perognathus longimembris internationalis*	Federal: None State: SSC MSHCP: None	Arid plains and desert-like country. Grassland, alluvial sage scrub, and coastal sage scrub.	Low potential to occur.
Los Angeles pocket mouse *Perognathus longimembris brevinasus*	Federal: None State: SSC MSHCP: MSHCP(c)	Fine, sandy soils in coastal sage scrub and grasslands.	Does not occur.

Northwestern San Diego pocket mouse *Chaetodipus fallax fallax*	Federal: None State: SSC MSHCP: MSHCP	Coastal sage scrub, sage scrub/grassland ecotones, and chaparral.	Low potential to occur.
Pallid bat *Antrozous pallidus*	Federal: None State: SSC WBWG: H MSHCP: Not covered	Deserts, grasslands, shrublands, woodlands, and forests. Most common in open, dry habitats with rocky areas for roosting.	Does not occur.
Pocketed free-tailed bat *Nyctinomops femorosaccus*	Federal: None State: SSC WBWG: M MSHCP: Not covered	Rocky areas with high cliffs in pine-juniper woodlands, desert scrub, palm oasis, desert wash, and desert riparian.	Does not occur.
San Bernardino kangaroo rat *Dipodomys merriami parvus*	Federal: FE State: SC MSHCP: MSHCP(c)	Typically found in Riversidean alluvial fan sage scrub and sandy loam soils, alluvial fans and floodplains, and along washes with nearby sage scrub.	Does not occur.
San Diego black-tailed jackrabbit *Lepus californicus bennettii*	Federal: None State: SSC MSHCP: MSHCP	Occupies a variety of habitats but is most common among shortgrass habitats. Also occurs in sage scrub but needs open habitats.	Confirmed present.
San Diego desert woodrat *Neotoma lepida intermedia*	Federal: None State: SSC MSHCP: MSHCP	Occurs in a variety of shrub and desert habitats, primarily associated with rock outcrops, boulders, cacti, or areas of dense undergrowth.	Does not occur.
Southern grasshopper mouse *Onychomys torridus ramona*	Federal: None State: SSC MSHCP: Not covered	Desert areas, especially scrub habitats with friable soils for digging. Prefers low to moderate shrub cover.	Low potential to occur.
Stephens' kangaroo rat *Dipodomys stephensi*	Federal: FE State: ST SKR HCP: Covered	Open grasslands or sparse shrublands with less than 50% vegetation cover during the summer.	Low potential to occur.

Western mastiff bat *Eumops perotis californicus*	Federal: None State: SSC WBWG: H MSHCP: Not Covered	Occurs in many open, semi-arid to arid habitats, including conifer and deciduous woodlands, coastal scrub, grasslands, and chaparral. Roosts in crevices in cliff faces, high buildings, trees, and tunnels.	Does not occur.
Western yellow bat *Lasiurus xanthinus*	Federal: None State: SSC WBWG: H MSHCP: Not Covered	Found in valley foothill riparian, desert riparian, desert wash, and palm oasis habitats. Roosts in trees, particularly palms. Forages over water and among trees.	Does not occur.
Yuma myotis *Myotis yumanensis*	Federal: None State: None WBWG: LM MSHCP: None	Optimal habitats are open forests and woodlands with sources of water over which to feed. Distribution is closely tied to bodies of water. Maternity colonies in caves, mines, buildings or crevices.	Does not occur.

STATUS

Federal
FE – Federally Endangered
FT – Federally Threatened
FPT – Federally Proposed Threatened
FC – Federal Candidate
BCC – Bird of Conservation Concern

State
SE – State Endangered
ST – State Threatened
CE – Candidate Endangered
SC – State Candidate
CFP – California Fully-Protected Species
SSC – Species of Special Concern

MSHCP
MSHCP = No additional action necessary
MSHCP(a) = Surveys may be required as part of wetlands mapping
MSHCP(b) = Surveys may be required within the Narrow Endemic Plant Species survey area
MSHCP(c) = Surveys may be required within locations shown on survey maps
MSHCP(d) = Surveys may be required within Criteria Area
MSHCP(e) = Conservation requirements identified in species-specific conservation objectives need to be met before classified as a Covered Species
MSHCP(f) = Covered species when a Memorandum of Understanding is executed with the Forest Service Land
Not Covered = Species not adequately conserved under MSHCP
None = Species not considered for conservation coverage under MSHCP

Western Bat Working Group (WBWG)
H – High Priority
LM – Low-Medium Priority
M – Medium Priority
MH – Medium-High Priority

OCCURRENCE

- Does not occur – The site does not contain habitat for the species and/or the site does not occur within the geographic range of the species.
- Confirmed absent – The site contains suitable habitat for the species, but the species has been confirmed absent through focused surveys.
- Not expected to occur – The species is not expected to occur onsite due to low habitat quality, however absence cannot be ruled out.
- Potential to occur (This could be very low, low, moderate, or high occurrence potential)– The species has a potential to occur based on suitable habitat, however its presence/absence has not been confirmed.
- Confirmed present – The species was detected onsite incidentally or through focused surveys

4.5.1 Special-Status Wildlife Species Observed within the Project Site

Birds

California Gnatcatcher (*Polioptila californica californica*) – The coastal California gnatcatcher (gnatcatcher) is designated as a federally threatened species and a CDFW Species of Special Concern. It is also a covered species under the MSHCP. This subspecies occurs on coastal slopes of Southern California, ranging from southern Ventura southward through Palos Verdes Peninsula in Los Angeles County through Orange, Riverside, San Bernardino and San Diego Counties into Baja California to El Rosario, Mexico. The gnatcatcher typically occurs in or near sage scrub habitat. Characteristic plants of this community include California sagebrush (*Artemisia californica*), various species of sage (*Salvia* sp.), California buckwheat, lemonade

berry (*Rhus integrifolia*), California encelia (*Encelia californica*), and *Opuntia* spp. The subspecies tends to occur most frequently within the California sagebrush-dominated stands on mesas, gently sloping areas, and along the lower slopes of the coast ranges. Gnatcatchers also use chaparral, grassland, and riparian or alluvial habitats where they occur adjacent to sage scrub. The use of these habitats appears to be most frequent during late summer, autumn, and winter, with smaller numbers of birds using such areas during the breeding season. These non-sage scrub habitats are used for dispersal.

Although observed declines in numbers and distribution of the gnatcatcher resulted from numerous factors, habitat destruction, fragmentation, and adverse modification are the principal reasons for the gnatcatcher's current threatened status. The amount of coastal sage scrub available to gnatcatchers has continued to decrease during the period after the listing of the species. It is estimated that up to 90 percent of coastal sage scrub vegetation has been lost as a result of development and land conversion, and coastal sage scrub is considered to be one of the most depleted habitat types in the United States. The fragmentation of habitat may artificially increase populations in adjacent preserved habitat; however, these population surpluses may be lost in subsequent years due to crowding and lack of resources. In addition, agricultural use, such as grazing and field crops, urbanization, air pollution, increases in fire frequency and the introduction of exotics have all had an adverse impact on extant sage scrub habitat.

An individual California gnatcatcher was detected and observed incidentally during the focused burrowing owl survey on March 28, 2019. The individual was observed within disturbed buckwheat scrub vegetation and was likely foraging throughout the site. Aside from this single occurrence, there were no further incidental detections or observations of California gnatcatchers onsite. Although the Study Area contains sage scrub species including California sagebrush and California buckwheat within the disturbed buckwheat scrub vegetation community, the density of subshrubs in this area is too low to provide suitable nesting habitat for the California gnatcatcher [Exhibit 10].

Mammals

San Diego Black-Tailed Jackrabbit (*Lepus californicus bennettii*) – This species is designated as a CDFW Species of Special Concern and is a covered species under the MSHCP without additional survey or conservation requirements. The San Diego black-tailed-jackrabbit occupies many diverse habitats, but primarily is found in arid regions supporting short-grass habitats. Jackrabbits typically are not found in high grass or dense brush where it is difficult for them to locomote, and the openness of open scrub habitat probably is preferred over dense chaparral. Black-tailed jackrabbits are found in most areas that support annual grassland, Riversidean sage scrub, alluvial fan sage scrub, Great Basin sagebrush, chaparral, disturbed habitat, and agriculture. Black-tailed-jackrabbits typically do not burrow but take shelter at the base of shrubs in shallow depressions called forms.

Several San Diego black-tailed jackrabbits were observed on multiple occasions during biological surveys throughout the Project site. The Project site supports suitable habitat for this species within the ruderal areas, chamise chaparral, and disturbed buckwheat scrub. As previously stated, this species is covered under the MSHCP.

4.5.2 Special-Status Wildlife Species Not Observed but with a Potential to Occur at the Project Site

Reptiles

California Glossy Snake (*Arizona elegans occidentalis*) – This species is designated as a CDFW Species of Special Concern. The California glossy snake occurs from the eastern part of the San Francisco Bay Area south to northwestern Baja California; however, it is absent along the central coast. It inhabits microhabitats of open areas within arid scrub, rocky washes, grasslands, and chaparral communities. It requires soil loose enough for burrowing. The California glossy snake is a nocturnal species and is active from late February until November, with activity peaking in May. The greatest threat to this species is habitat modification due to agricultural, commercial, and residential development.

The California glossy snake was not observed during the biological surveys; however, the species is nocturnal. Suitable habitat for this species occurs onsite within the chamise chaparral. Although soils in these areas did not appear to be loose enough for burrowing, the species has low to moderate potential to occur.

Coastal Whiptail (*Aspidoscelis tigris stejnegeri*) – This species is designated as a CDFW Species of Special Concern and is a covered species under the MSHCP without additional survey or conservation requirements. The western whiptail ranges through the semi-arid and arid desert lowlands of Southern California, southern Arizona, adjacent areas of Mexico and western Baja California, Mexico. The western whiptail can be found in open, often rocky areas with little vegetation or sunny microhabitats within shrub or grassland associations. Threats to the coastal western whiptail include habitat loss due to development, widespread use of insecticides, off-road vehicle use, and genetic isolation.

The coastal whiptail was not observed during the biological surveys. Suitable habitat for this species occurs onsite within the chamise chaparral and disturbed buckwheat scrub; however, these areas are isolated patches of habitat so the species has low potential to occur.

Coast Horned Lizard (*Phrynosoma blainvilli*) – This species is designated as a CDFW Species of Special Concern and is a covered species under the MSHCP without additional survey or conservation requirements. The coast horned lizard is found in a wide variety of vegetation types including coastal sage scrub, annual grassland, chaparral, oak woodland, riparian woodland and coniferous forest. Extensive habitat loss from agriculture and urbanization, have been the main reasons cited for the decline of this species.

The coast horned lizard was not observed during the biological surveys. Suitable habitat for this species occurs onsite within the chamise chaparral and disturbed buckwheat scrub; however, these areas are isolated patches of habitat so the species has low potential to occur.

Coast Patch-Nosed Snake (*Salvadora hexalepis virgultea*) – This species is designated as a CDFW Species of Special Concern. It is not a covered species under the MSHCP. The coast patch-nosed snake is thought to be associated with brushy or shrubby vegetation, such as

chaparral. Coast patch-nosed snakes are presumed to take refuge and perhaps overwinter in burrows or woodrat nests, so the presence of one or more burrow- or refuge-creating mammals may be necessary for this snake to be present. Threats to the coast patch-nosed snake include extensive conversion of chaparral to grassland, largely to create grazing land for livestock and for fire control, and the large foothill tracts of shrub-dominated vegetation associations on the coastal slope have been converted to urban development.

The coast patch-nosed snake was not observed during the biological surveys. Suitable habitat for this species occurs onsite within the chamise chaparral; however, these areas are isolated patches of habitat so the species has very low potential to occur.

Birds

Loggerhead Shrike (*Lanius ludovicianus*) – The loggerhead shrike is designated as a CDFW Species of Special Concern when nesting and a covered species under the MSHCP without additional survey or conservation requirements. The loggerhead shrike is known to forage over open ground within areas of short vegetation, pastures with fence rows, old orchards, mowed roadsides, cemeteries, golf courses, riparian areas, open woodland, agricultural fields, desert washes, desert scrub, grassland, broken chaparral and beach with scattered shrubs (Unitt 1984; Yosef 1996).

Although this species was not detected during the biological surveys, the Study Area provides suitable nesting habitat for the loggerhead shrike in the shrubs within the chamise chaparral. Suitable foraging habitat also occurs onsite within the ruderal areas and disturbed buckwheat scrub.

Northern Harrier (*Circus cyaneus*) – The northern harrier is designated as a CDFW Species of Special Concern for nesting and is a covered species under the MSHCP without additional survey or conservation requirements. The northern harrier frequents open wetlands, wet and lightly grazed pastures, old fields, dry uplands, upland prairies, mesic grasslands, drained marshlands, croplands, shrub-steppe, meadows, grasslands, open rangelands, desert sinks, fresh and saltwater emergent wetlands and is seldom found in wooded areas (Bent 1937; MacWhirter and Bildstein 1996). It uses tall grasses and forbs in wetlands, or at wetland/field borders for cover; it roosts on the ground (Bent 1937). It is mostly found in flat, or hummocky, open areas of tall, dense grasses, moist or dry shrubs, and edges for nesting, cover, and feeding (Bent 1937). While it seems to prefer to nest in the vicinity of marshes, rivers, or ponds, it may be found nesting in grassy valleys or on grass and sagebrush flats many miles from the nearest water (Call 1978). In general, it prefers saltwater marshes, wet meadows, sloughs, and bogs for its nesting and foraging habitat and if these are absent, it hunts open fields and is frequently observed hunting over agricultural areas (Call 1978). The California population has decreased in recent decades (Grinnell and Miller 1944, Remsen 1978), but can be locally abundant where suitable habitat remains free of disturbance, especially from intensive agriculture. In both wetland and upland areas, the densest populations typically are associated with large tracts of undisturbed habitats dominated by thick vegetative growth (MacWhirter and Bildstein 1996).

Although this species was not detected during the biological surveys, the Study Area provides low potential suitable nesting habitat for the northern harrier within the ruderal areas.

Mammals

Dulzura Pocket Mouse (*Chaetodipus californicus femoralis*) – This species is designated as a CDFW Species of Special Concern and is not a covered species under the MSHCP The Dulzura pocket mouse ranges from southwestern California south to north-central Baja California, Mexico. The Dulzura pocket mouse is found primarily on slopes with chaparral growth and nests are in underground burrows.

The Study Area provides low quality suitable habitat for the Dulzura pocket mouse within the chamise chaparral vegetation community. Due to the site isolation from adjacent habitat and ongoing disturbance throughout the site, this species has low potential to occur onsite.

Jacumba Pocket Mouse (*Perognathus longimembris internationalis*) – This species is designated as a CDFW Species of Special Concern and was not considered for coverage under the MSHCP. The Jacumba pocket mouse is restricted to Riverside and San Diego County. This species is found in sandy soils in valleys and in firm sandy soil on slopes with widely spaced shrubs composed of desert riparian, desert scrub, desert wash, and sagebrush habitats. It is most common in creosote bush dominated desert scrub. Young are born in nests in underground burrows.

The Study Area provides low quality suitable habitat for the Jacumba pocket mouse within the disturbed buckwheat scrub and chamise chaparral. Due to the isolation of the site and history of disturbance, this species has low potential to occur onsite.

Southern Grasshopper Mouse (*Onychomys torridus ramona*) – This species is designated as a CDFW Species of Special Concern and is not covered under the MSHCP. The southern grasshopper mouse ranges from central California, southern Nevada, and extreme southwestern Utah south to northern Baja California, western Sonora, and northernmost Sinaloa, Mexico. The southern grasshopper mouse is found in hot, arid valleys and scrub deserts with sparse and scattered vegetation. Young are born in nests in underground burrow systems that may have been abandoned by another small mammal.

The Study Area provides low quality suitable habitat for the southern grasshopper mouse within the disturbed buckwheat scrub and chamise chaparral. Due to the isolation of the site and history of disturbance, this species has low potential to occur onsite.

Northwestern San Diego Pocket Mouse (*Chaetodipus fallax fallax*) – This species is designated as a CDFW Species of Special Concern and is a covered species under the MSHCP without additional survey or conservation requirements. The northwestern San Diego pocket mouse occurs throughout western Riverside County and has been collected at elevations from 452 feet AMSL at Palm Springs to 6,018 feet AMSL on the northern slopes of the San Bernardino Mountains in San Bernardino County. The northwestern San Diego pocket mouse inhabits open, sandy areas within coastal sage scrub, sage scrub/grassland ecotones, and

chaparral communities. The San Diego pocket mouse generally exhibits a strong microhabitat affinity for moderately gravelly and rocky substrates.

The Study Area provides low quality suitable habitat for the northwestern San Diego pocket mouse within the disturbed buckwheat scrub and chamise chaparral. Due to the isolation of the site and history of disturbance, this species has low potential to occur onsite.

Stephens' Kangaroo Rat (*Dipodomys stephensi*) – Stephens' kangaroo rat (SKR) is a federally Endangered species and a state Threatened species. The SKR has a relatively small geographic range (about 1,108 sq. miles) for a mammal species and is restricted to Riverside County and adjacent northern-central San Diego County, California (Bleich 1977; USFWS 1997). The SKR is found almost exclusively in open grasslands or sparse shrublands with cover of less than 50 percent during the summer (*e.g.*, Bleich 1973; Bleich and Schwartz 1974; Grinnell 1933; Lackey 1967; O'Farrell 1990; Thomas 1973). O'Farrell (1990) further clarified this association and argues that the proportion of annual forbs and grasses is important because SKR avoid dense grasses (for example, non-native bromes [*Bromus* spp.]) and are more likely to inhabit areas where the annual forbs disarticulate in the summer and leave more open areas.

Although the Study Area has been previously subject to disturbance and no burrows or evidence of occupation was detected, the Study Area contains a low potential habitat for the SKR within the ruderal areas, chamise chaparral, and disturbed buckwheat scrub. The Study Area is located within the Fee Assessment Area of the SKR HCP. Within the Fee Area, suitable habitat is assumed to be occupied and focused surveys are not required. Take authorization for SKR is covered through the HCP with the payment of the SKR Fee.

4.5.3 Special-Status Wildlife Species Confirmed Absent Through Focused Surveys at the Project Site

Burrowing Owl (*Athene cunicularia*) – The burrowing owl is designated as a CDFW Species of Special Concern. The burrowing owl is a covered species not adequately conserved under the MSHCP, which means that projects located within the burrowing owl survey area may have to evaluate avoidance measures if burrowing owls are present.

The burrowing owl occurs in shortgrass prairies, grasslands, lowland scrub, agricultural lands (particularly rangelands), prairies, coastal dunes, desert floors, and some artificial, open areas as a year-long resident (Haug, *et al.* 1993). They require large open expanses of sparsely vegetated areas on gently rolling or level terrain with an abundance of active small mammal burrows. As a critical habitat feature need, they require the use of rodent or other burrows for roosting and nesting cover.

The majority of the Study Area occurs within the MSHCP survey area for the burrowing owl; therefore, focused surveys were conducted during March, April, and May of 2019 pursuant to the MSHCP. GLA biologists did not observe burrowing owls, or evidence of burrowing owls (e.g., cast pellets, preened feathers, or whitewash clustered at a burrow) during the focused surveys throughout the entire Study Area; however, the Study Area does contain potentially suitable

habitat for burrowing owls including several California ground squirrel (*Otospermophilus beecheyi*) burrows [Exhibit 6 – Burrowing Owl Survey Area Map].

Additional focused surveys were conducted during August 2021. No burrowing owls or diagnostic sign thereof (as mentioned above) were detected during the focused surveys.

4.6 Raptor Use

The Study Area provides suitable foraging and breeding habitat for a number of raptor species, including special-status raptors.

Southern California holds a diversity of birds of prey (raptors), and many of these species are in decline. For most of the declining species, foraging requirements include extensive open, undisturbed, or lightly disturbed areas, especially grasslands. This type of habitat has declined severely in the region, affecting many species, but especially raptors. A few species, such as red-tailed hawk (*Buteo jamaicensis*) and American kestrel (*Falco sparverius*), are somewhat adaptable to low-level human disturbance and can be readily observed adjacent to neighborhoods and other types of development. These species still require appropriate foraging habitat and low levels of disturbance in vicinity of nesting sites.

Many of the raptors that would be expected to forage and nest within western Riverside are fully covered species under the MSHCP with the MSHCP providing the necessary conservation of both foraging and nesting habitats. Some common raptor species (e.g., American kestrel and Red-tailed hawk) are not covered by the MSHCP but are expected to be conserved with implementation of the Plan due to the parallel habitat needs with those raptors covered under the Plan.

It is important to understand that the MSHCP does not provide MBTA and Fish and Game Code take for raptors covered under the Plan; however, the MSHCP does provide coverage for habitat loss for those special-status raptors that are covered under the Plan.

Appendix B (faunal compendium) provides a list of the hawks and falcons detected over the course of the field studies. Although only red-tailed hawk (*Buteo jamaicensis*) and American kestrel (*Falco sparverius*) were observed foraging within the Study Area, Cooper's hawk (*Accipiter cooperii*) may also be present. The Study Area provides potential nesting habitat (e.g., mature trees, shrubs) for all of these species, as well as special-status raptor species as mentioned in Section 4.5. The Study Area also provides suitable foraging habitat for the above-mentioned raptor species in the form of insects, spiders, lizards, snakes, small mammals, and other birds.

4.7 Nesting Birds

The Project site contains trees, shrubs, and ground cover that provide suitable habitat for nesting native birds. Mortality of native birds (including eggs) is prohibited under the California Fish and Game Code.[12]

[12] Sections 3505, 3503.5, and 3800 of the California Department of Fish and Game Code prohibit the take, possession, or destruction of birds, their nests or eggs.

Common bird species observed in the Study Area included red-tailed hawk (*Buteo jamaicensis*), horned lark (*Eremophila alpestris*), mourning dove (*Zenaida macroura*), California scrub-jay (*Aphelocoma californica*), white-crowned sparrow (*Zonotrichia leucophrys*), American kestrel (*Falco sparverius*), Anna's hummingbird (*Calypte anna*), American crow (*Corvus brachyrhynchos*), house finch (*Carpodacus mexicanus*), lesser goldfinch (*Carduelis psaltria*), northern rough-winged swallow (S*elgidopteryx serripennis*), red-winged blackbird (*Agelaius phoeniceus*), hooded oriole (*Icterus cucullatus*), western meadowlark (*Sturnella neglecta*), dark-eyed junco (*Junco hyemalis*), spotted towhee (*Pipilo maculatus*), California towhee (*Melozone crissalis*), savannah sparrow (*Passerculus sandwichensis*), European starling (*Sturnus vulgaris*), wrentit (*Chamaea fasciata*), Bewick's wren (*Thryomanes bewickii*), black phoebe (*Sayornis nigricans*), Say's phoebe (*Sayornis saya*), western kingbird (*Tyrranis verticalis*), Cassin's kingbird (T*yrranis vociferans*), Bell's sparrow (*Artemisiospiza belli*), and barn owl (*Tyto alba*).

4.8 Wildlife Linkages/ Corridors and Nursery Sites

Habitat linkages are areas which provide a connection between two or more other habitat areas which are often larger or superior in quality to the linkage. Such linkage sites can be quite small or constricted, but may can be vital to the long-term health of connected habitats. Linkage values are often addressed in terms of "gene flow" between populations, with movement taking potentially many generations.

Corridors are similar to linkages but provide specific opportunities for individual animals to disperse or migrate between areas, generally extensive but otherwise partially or wholly separated regions. Adequate cover and tolerably low levels of disturbance are common requirements for corridors. Habitat in corridors may be quite different than that in the connected areas, but if used by the wildlife species of interest, the corridor will still function as desired.

The Study Area does not represent or contribute to wildlife linkages or corridors as it does not contain the structural topography or vegetative cover that facilitate regional wildlife movement. In addition, it is surrounded by development to the south, east, and north, and it is also subject to a high level of ongoing human disturbance.

Wildlife nurseries are sites where wildlife concentrate for hatching and/or raising young, such as rookeries, spawning areas, and bat colonies. Nurseries can be important to both special-status species as well as commonly occurring species.

The Study Area is not expected to support wildlife nursery sites for birds, aquatic species, or mammals, including bats.

4.9 Critical Habitat

There is no federally designated Critical Habitat mapped within the Study Area.

4.10 Jurisdictional Delineation

Two drainage features, Drainages A and Tributary A-1 have been evaluated within the Project area. These drainage features are both on site and outside of Criteria Cells. Drainage A and Tributary A-1 are Waters of the United States (WoUS) exhibiting an OHWM with several characteristics of stream flow including destruction of terrestrial vegetation, terracing, change in soil characteristics, debris wracking, and/or water marks. The boundaries of Corps, Regional Board, and CDFW jurisdictional waters are depicted on Exhibits 8A, 8B, and 8C respectively.

Drainage A is an ephemeral drainage that does not exhibit flowing water except during storm events. This drainage is not depicted as a blue-line stream on the USGS Murrieta, California quadrangle [dated 1953 and photorevised in 1979]. Drainage A begins within the site near the northcentral portion of the Study Area and extends easterly for approximately 1,376 linear feet across the northern portion of the site until it leaves the site via a culvert directed under Whitewood Road. Drainage A contains an OHWM ranging in width from one to ten feet.

Tributary A-1 is an ephemeral drainage that does not contain flowing water except during storm events. This drainage is not depicted as a blue-line stream on the USGS Murrieta, California quadrangle [dated 1953 and photorevised in 1979]. Tributary A-1 begins on site along the northern Project boundary and extends southeast for approximately 230 linear feet until converging with Drainage A. Tributary A-1 contains an OHWM ranging in width from three to nine feet.

Corps and Regional Board jurisdictional waters within the Project area total approximately 0.14 acre, none of which consist of jurisdictional wetlands, and 1,606 linear feet of streambed is present. CDFW jurisdiction associated within the Project area totals approximately 0.17 acre, of which 0.03 acre consists of riparian habitat and 0.14 acre consists of non-riparian streambed. A total of 1,606 linear feet of streambed is present.

The Project also includes off site improvements to proposed Warm Springs Road from the Project's northern boundary to Baxter Road. The roadway will be an approximate 100 foot-wide right-of-way. The off site improvement will occur on land owned by the City of Murrieta and its existing Fire Station Number 4.

4.11 MSHCP Riparian/Riverine Areas and Vernal Pools

Vegetation communities associated with riparian systems and vernal pools are depleted natural vegetation communities because, similar to coastal sage scrub, they have declined throughout Southern California during past decades. In addition, they support a large variety of special-status wildlife species. Most species associated with riparian/riverine are covered species under the MSHCP (under Section 6.1.2 of the Plan). The MSHCP has specific policies and procedures regarding the evaluation and conservation of riparian/riverine resources (including riparian vegetation) and vernal pools because it supports MSHCP covered species. Thus, the MSHCP classification of riparian/riverine includes both riparian (depleted natural vegetation communities) as well as ephemeral drainages that are natural in origin but may lack riparian vegetation.

The riparian/riverine jurisdiction in the Study Area totals 0.47 acre. It consists of 0..30 acre of saltbush scrub along a slope which was planted for erosion control adjacent to authorized improvements to both Baxter Road and Whitewood Road and approximately 0.17 acre, of which 0.03 acre consists of riparian habitat and 0.14 acre consists of riverine areas and includes 1,606 linear feet of ephemeral streambed. All of this riparian/riverine jurisdiction is on site and none of this riparian/riverine habitat is off site, nor is it within either Criteria Cell 5361 or 5366.

The Project also includes off site improvements to proposed Warm Springs Road from the Project's northern boundary to Baxter Road. The roadway will be an approximate 100 foot-wide right-of-way. The off site improvement will occur on land owned by the City of Murrieta and its existing Fire Station Number 4.

The Study Area does not contain any depressions (natural or artificial) that would inundate long enough to support resources associated with vernal pools, including fairy shrimp. The soils within this area are categorized as sandy loam soils, which are generally not associated with vernal pools, and observations of the soils onsite showed a lack of clay soil components. In addition, no plants were observed at the site that are associated with vernal pools and similar habitats that experience prolonged inundation.

5.0 IMPACT ANALYSIS

The following discussion examines the potential impacts to plant and wildlife resources that would occur as a result of the proposed project. Impacts (or effects) can occur in two forms, direct and indirect. Direct impacts are considered to be those that involve the loss, modification or disturbance of plant communities, which in turn, directly affect the flora and fauna of those habitats. Direct impacts also include the destruction of individual plants or animals, which may also directly affect regional population numbers of a species or result in the physical isolation of populations thereby reducing genetic diversity and population stability.

Indirect impacts pertain to those impacts that result in a change to the physical environment, but which is not immediately related to a project. Indirect (or secondary) impacts are those that are reasonably foreseeable and caused by a project but occur at a different time or place. Indirect impacts can occur at the urban/wildland interface of projects, to biological resources located downstream from projects, and other offsite areas where the effects of the project may be experienced by plants and wildlife. Examples of indirect impacts include the effects of increases in ambient levels of noise or light; predation by domestic pets; competition with exotic plants and animals; introduction of toxics, including pesticides; and other human disturbances such as hiking, off-road vehicle use, unauthorized dumping, etc. Indirect impacts are often attributed to the subsequent day-to-day activities associated with project build-out, such as increased noise, the use of artificial light sources, and invasive ornamental plantings that may encroach into native areas. Indirect effects may be both short-term and long-term in their duration. These impacts are commonly referred to as "edge effects" and may result in a slow replacement of native plants by non-native invasive species, as well as changes in the behavioral patterns of wildlife and reduced wildlife diversity and abundance in habitats adjacent to project sites.

Cumulative impacts refer to two or more individual effects which, when considered together, are considerable or which compound or increase other environmental impacts. A cumulative impact can occur from multiple individual effects from the same project, or from several projects. The cumulative impact from several projects is the change in the environment resulting from the incremental impact of the project when added to other closely related past, present, and reasonably foreseeable probable future projects. Cumulative impacts can result from individually minor but collectively significant projects taking place over a period of time.

5.1 California Environmental Quality Act (CEQA)

A. Thresholds of Significance

Environmental impacts to biological resources are assessed using impact significance threshold criteria, which reflect the policy statement contained in CEQA, Section 21001(c) of the California Public Resources Code. Accordingly, the State Legislature has established it to be the policy of the State of California:

> *"Prevent the elimination of fish or wildlife species due to man's activities, ensure that fish and wildlife populations do not drop below self-perpetuating levels, and preserve for future generations representations of all plant and animal communities..."*

Determining whether a project may have a significant effect, or impact, plays a critical role in the CEQA process. According to CEQA, Section 15064.7 (Thresholds of Significance), each public agency is encouraged to develop and adopt (by ordinance, resolution, rule, or regulation) thresholds of significance that the agency uses in the determination of the significance of environmental effects. A threshold of significance is an identifiable quantitative, qualitative or performance level of a particular environmental effect, non-compliance with which means the effect will normally be determined to be significant by the agency and compliance with which means the effect normally will be determined to be less than significant. In the development of thresholds of significance for impacts to biological resources CEQA provides guidance primarily in Section 15065, Mandatory Findings of Significance, and the CEQA Guidelines, Appendix G, Environmental Checklist Form. Section 15065(a) states that a project may have a significant effect where:

> *"The project has the potential to substantially degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or wildlife community, reduce the number or restrict the range of an endangered, rare, or threatened species, ..."*

Therefore, for the purpose of this analysis, impacts to biological resources are considered potentially significant (before considering offsetting mitigation measures) if one or more of the following criteria discussed below would result from implementation of the proposed project.

B. Criteria for Determining Significance Pursuant to CEQA

Appendix G of the State CEQA guidelines indicate that a project may be deemed to have a significant effect on the environment if the project is likely to:

> *a) Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service.*
>
> *b) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish and Game or U.S. Fish and Wildlife Service.*
>
> *c) Have a substantial adverse effect on state or federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means.*
>
> *d) Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors or impede the use of native wildlife nursery sites.*
>
> *e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance.*
>
> *f) Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan.*

Appendix G(a) of the CEQA guidelines asks if a project is likely to "have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game (now CA Department of Fish and Wildlife) or U.S. Fish and Wildlife Service."

5.2 Impacts to Special-Status Species

Appendix G(a) of the CEQA guidelines asks if a project is likely to "have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service."

5.2.1 Impacts to Special-Status Plants

The proposed Project will impact one special-status plant species: paniculate tarplant. Approximately 5,000 individuals were detected within the northeastern portion of the Project site. Paniculate tarplant is a CNPS Rank 4 species, which is considered a watch list. Rank 4 species are not considered as threatened or endangered plant species pursuant to CESA. In addition, paniculate tarplant is a widely distributed species throughout southern California and is regionally common in Western Riverside County. The species commonly occurs within ruderal vegetation and thrives in disturbed conditions. As such, the proposed impacts to paniculate tarplant are less than significant and would not require mitigation.

Although the Study Area is located within MSHCP NEPSSA designated survey area 4, as well as CAPSSA; the target species were either confirmed absent through focused plant surveys or were determined to not have potential to occur onsite due to a lack of suitable habitat. Therefore, impacts to MSHCP NEPSSA or CAPSSA species would not occur as a result of the proposed Project.

5.2.2 Impacts to Special-Status Animals

The proposed Project will result in the loss of habitat that supports special-status species, including California gnatcatcher and black-tailed jackrabbit. The proposed Project will also result in the loss of habitat for special-status species with a potential to occur due to the presence of suitable habitat, but that could not be confirmed absent, either because survey protocols do not exist to confirm absence, or because focused surveys are not required for the species. Species with a potential to occur include the following: California glossy snake, coastal whiptail, coast horned lizard, coast patch-nosed snake, loggerhead shrike, northern harrier, Dulzura pocket mouse, Jacumba pocket mouse, southern grasshopper mouse, northwestern San Diego pocket mouse, and SKR.

Listed Species

The proposed Project will result in the loss of potential foraging habitat for the California gnatcatcher. Development of the proposed Project would remove potential foraging habitat for the California gnatcatcher. Since this species is covered under the MSHCP, any take of California gnatcatcher habitat would be covered, and any potentially significant impacts would be reduced below a level of significance through compliance with the MSHCP, including the payment of MSHCP development fees.

The proposed Project may also result in the loss of habitat that supports SKR. Although SKR was not detected in the Study Area, potential habitat for SKR occurs within the ruderal areas, chamise chaparral, and disturbed buckwheat scrub; therefore, there is low potential for SKR to occur. Impacts to SKR occupied habitat could be a potentially significant impact under CEQA; however, the proposed Project site occurs within the Fee Assessment Area of the SKR HCP. All projects located within Fee Assessment Area are required to pay the SKR fee, which mitigates any impacts to SKR. With coverage afforded by the SKR HCP, any potentially significant impacts to SKR would be redudced to a less than significant level.

Non-Listed Species, MSHCP Covered

In addition to the listed species discussed above, the proposed Project will also result in the loss of habitat that supports black-tailed jackrabbit, a non-listed special status species that is covered by the MSHCP. The proposed Project would also potentially impact habitat for the following non-listed special status species that have potential to occur within the Study Area but that are covered by the MSHCP: coastal whiptail, coast horned lizard, loggerhead shrike, northern harrier, and northwestern San Diego pocket mouse.

Proposed impacts to black-tailed jackrabbit, coastal whiptail, coast horned lizard, loggerhead shrike, northern harrier, and northwestern San Diego pocket mouse would be less than significant under CEQA. This is based on the limited amount and relatively low quality of the habitat that would be affected, the species' potential role in the isolated Study Area, and/or whether the species remains "common" to the region. Regardless, these species are designated as covered species under the MSHCP; therefore, the loss of habitat for these species would be covered through the MSHCP and payment of development fees.

Non-Listed Species, Non-MSHCP Covered

The proposed Project would also potentially impact habitat for the following non-listed special status species that have potential to occur within the Study Area: California glossy snake, coast patch-nosed snake, Dulzura pocket mouse, Jacumba pocket mouse, and southern grasshopper mouse. None of these species are covered under the MSHCP.

Proposed impacts to these species would be less than significant under CEQA due to the limited amount and relatively low quality of the habitat affected, the low number of individuals that would be potentially affected, the species' low level of sensitivity, the species' potential role in the isolated Study Area, and/or whether the species remains "common" to the region.

5.3 Impacts to Sensitive Vegetation Communities

Appendix G(a) of the CEQA guidelines asks if a project is likely to "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 Game or U.S. Fish and Wildlife Service."

The proposed Project would temporarily impact 0.24 acre of chamise chaparral habitat and permanently impact approximately 4.43 acres of chamise chaparral. This vegetation type occurs in several patches within the eastern portion of the property and provides low quality suitable habitat for species that rely on chaparral communities. Given the disjointed nature and limited amount of area present, the removal of chamise chaparral by the proposed Project would not be a significant impact under CEQA. The Project would also temporarily remove 0.22 acre of ruderal habitat, 0.01 acre of saltbush scrub habitat, and 0.01 acre of disturbed buckwheat scrub habitat. The Project would permanently remove 33.54 acres of ruderal vegetation, 15.42 acres of disturbed buckwheat scrub, 0.29 acre of saltbush scrub, 0.47 acre of ornamental areas, and 0.14 acre of artificially created

willow/tamarisk scrub, none of which would be considered significant under CEQA. As noted in Section 4.2, the willow/tamarisk scrub occurs within the borrow pit and is not associated with a stream; therefore, it is not considered riparian habitat.

Table 5-1.1 provides a summary of proposed impacts to vegetation on the 60.41-acre Project site. A vegetation impact map is attached as Exhibit 12.

Table 5-1.1 Summary of Permanent Vegetation/Land Use Impacts

VEGETATION/LAND USE TYPE	On Site Permanent Impacts (acres)	Off Site Permanent Impacts (acres)	Total Permanent Impacts (acres)
Ruderal	31.77	1.77	33.54
Disturbed Buckwheat Scrub	15.42	0	15.42
Chamise Chaparral	4.40	0.03	4.43
Saltbush Scrub	0.29	0	0.29
Willow/Tamarisk Scrub	0.14	0	0.14
Ornamental	0.47	0	0.47
Developed	1.99	2.78	4.77
Mulefat Scrub	0	0	0
Total	**54.48[Rounded]**	**4.58**	**59.06 [Rounded]**

Table 5-1.2 provides a summary of proposed temporary impact to vegetation on the 60.41-acre Project site. A vegetation impact map is attached as Exhibit 12.

Table 5-1.2 Summary of Temporary Vegetation/Land Use Impacts

VEGETATION/LAND USE TYPE	On Site Temporary Impacts (acres)	Off Site Temporary Impacts (acres)	Total Temporary Impacts (acres)
Ruderal	0.22	0	0.22
Disturbed Buckwheat Scrub	0.01	0	0.01
Chamise Chaparral	0.24	0	0.24
Saltbush Scrub	0.01	0	0.01
Willow/Tamarisk Scrub	0	0	0
Ornamental	0	0	0
Developed	0	0	0
Mulefat Scrub	0	0	0
Total	**0.48[Rounded]**	**0**	**0.48 [Rounded]**

Permanent Vegetation Impacts, On and Off Site Project Outside of Criteria Cells

The on site portion of the Project will result in permanent impact to 53.65 acres of land outside of the Criteria Cells consisting of the following permanent impacts:

- 31.40 acres of Ruderal habitat.
- 15.39 acres of Disturbed Buckwheat Scrub habitat.
- 4.40 acres of Chamise Chaparral habitat.

- 0.29 acre of Saltbush Scrub habitat.
- 0.14 acre of Willow/Tamarisk Scrub habitat.
- 0.47 acre of Ornamental Habitat; and
- 1.56 acres of Developed area.

The off site portion of the Project will result in permanent impact to 3.03 acres of land outside of the Criteria Cells consisting of the following permanent impacts:

- 1.77 acres of Ruderal habitat.
- 0.03 acre of Chamise Chaparral habitat; and
- 1.23 acres of Developed area.

Temporary Vegetation Impacts, On and Off Site Project Outside of Criteria Cells

The on site portion of the Project will result in temporary impact to 0.48 acre of land outside of the Criteria Cells consisting of the following temporary impacts:

- 0.22 acre of Ruderal habitat.
- 0.01 acre of Disturbed Buckwheat Scrub habitat.
- 0.24 acre of Chamise Chaparral habitat. and
- 0.01 acre of Saltbush Scrub habitat.

Table 5-2.1 provides a summary of proposed permanent impacts to vegetation within the on and off site Project outside of Criteria Cells. A vegetation impact map is attached as Exhibit 12.

Table 5-2.1 Summary of Permanent Vegetation/Land Use Impacts Outside of the Criteria Cells

VEGETATION/LAND USE TYPE	On Site Permanent Impacts(acres)	Off Site Permanent Impacts (acres)	Total Permanent Impacts (acres)
Ruderal	31.40	1.77	33.17
Disturbed Buckwheat Scrub	15.39	0	15.39
Chamise Chaparral	4.40	0.03	4.43
Saltbush Scrub	0.29	0	0.29
Willow/Tamarisk Scrub	0.14	0	0.14
Ornamental	0.47	0	0.47
Developed	1.56	1.23	2.79
Total	**53.65**	**3.03**	**56.68**

Table 5-2.2 provides a summary of proposed temporary impacts to vegetation within the on and off site Project outside of Criteria Cells. A vegetation impact map is attached as Exhibit 12.

Table 5-2.2 Summary of Temporary Vegetation/Land Use Impacts Outside of the Criteria Cells

VEGETATION/LAND USE TYPE	On Site Temporary Impacts(acres)	Off Site Temporary Impacts (acres)	Total Temporary Impacts (acres)
Ruderal	0.22	0	0.22
Disturbed Buckwheat Scrub	0.01	0	0.01
Chamise Chaparral	0.24	0	0.24
Saltbush Scrub	0.01	0	0.01
Willow/Tamarisk Scrub	0	0	0
Ornamental	0	0	0
Developed	0	0	0
Total	**0.48**	**0**	**0.48**

Vegetation Impacts, On and Off Site Project within Criteria Cells

The on site portion of the Project within Criteria Cells will result in permanent impact to 0.82 acre of land within the Criteria Cells consisting of the following permanent impacts:

- 0.36 acre of Ruderal habitat in Criteria Cell 5361.
- 0.03 acre of Disturbed Buckwheat Scrub habitat within Criteria Cell 5361.
- 0.42 acre of Developed area within Criteria Cell 5361; and
- 0.01 acre of Developed area within Criteria Cell 5366.

The off site portion of the Project within Criteria Cells will result in permanent impact to 1.55 acres of land within the Criteria Cells consisting of the following permanent impacts:

- 1.42 acre of Developed area within Criteria Cell 5361; and
- 0.13 acre of Developed area within Criteria Cell 5366.

Table 5-3 provides a summary of proposed impacts to vegetation within the on and off site Project within Criteria Cells. A vegetation impact map is attached as Exhibit 12.

Table 5-3. Summary of Vegetation/Land Use Impacts within Criteria Cells

VEGETATION/ LAND USE TYPE	On Site Permanent Impacts; Criteria Cell 5361 (acres)	Off Site Permanent Impacts; Criteria Cell 5361 (acres)	On Site Permanent Impacts; Criteria Cell 5366 (acres)	Off Site Permanent Impacts; Criteria Cell 5366 (acres)	Total Permanent Impacts (acres)
Ruderal	0.36	0	0	0	0.36
Developed	0.42	1.42	0.01	0.13	1.98
Disturbed Buckwheat Scrub	0.03	0	0	0	0.03
Total	0.81	1.42	0.01	0.13	2.37

In addition to the above direct impacts, future development at the Project site may cause potential indirect impacts to the natural vegetation communities adjacent to the proposed development. Indirect effects associated with development include water quality impacts associated with drainage into adjacent open space/downstream aquatic resources; lighting effects; noise effects; invasive plant species from landscaping; and effects from human access into adjacent open space, such as recreational activities (including off-road vehicles and hiking), pets, dumping, etc. Temporary, indirect effects may also occur as a result of construction-related activities.

Implementation of the proposed Project would impact federal, and state jurisdictional waters as identified in Section 4.9. The proposed Project has been designed around the ephemeral features onsite, Drainage A and Tributary A-1, though a small, de minimus, area at the western end of Drainage A would be impacted, as indicated on Exhibits 9A and 9B. The proposed Warm Springs Road will include a concrete pipe or other comparable pipe which will intrude upon the limits of Drainage A. As impacts to jurisdictional waters would occur as a result of the Project, permits/authorizations would be required.

5.4 Wetlands

Appendix G(c) of the State CEQA guidelines asks if a project is likely to "have a substantial adverse effect on state or federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means."

The Project site does not contain any state or federally protected wetlands. The Project will approximately 0.002 acre of non-wetland waters of the United States subject to the jurisdiction of the Corps, CDFW, and the Regional Board. These impact areas are all on site and outside of the Criteria Cells.

5.5 Wildlife Movement and Native Wildlife Nursery Sites

Appendix G(d) of the State CEQA guidelines asks if a project is likely to "interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors or impede the use of native wildlife nursery sites."

The Study Area lacks migratory wildlife corridors and wildlife nursery sites and does not occur within MSHCP Cores or Linkages. The proposed Project would not interfere or impact (1) the movement of native resident or migratory fish or wildlife species, (2) established native resident or migratory wildlife corridors, or (3) impede the use of native wildlife nursery sites. Therefore, no impact would occur.

The project has the potential to impact active bird nests if vegetation is removed during the nesting season (February 1 to August 31). Impacts to nesting birds are prohibited by the MBTA and California Fish and Game Code. A project-specific mitigation measure is identified in Section 6.0 of this report to avoid impacts to nesting birds.

Although impacts to native birds are prohibited by MBTA and similar provisions of California Fish and Game Code, impacts to native birds by the proposed Project would not be a significant impact under CEQA. The native birds with potential to nest on the Project site would be those that are common to the region and adapted to human landscapes (e.g., house finch). The number of individuals potentially affected by the Project would not significantly affect regional or local populations of such species. A measure is identified in Section 6.0 of this report to avoid impacts to nesting birds.

5.6 Local Policies or Ordinances

Appendix G(e) of the State CEQA guidelines asks if a project is likely to "conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance." The Project will not conflict with any local policies or ordinances protecting biological resources as those policies are a part of the MSHCP.

5.7 Habitat Conservation Plans

Appendix G(f) of the State CEQA guidelines asks if a project is likely to "conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan." As discussed throughout this report, the Project is within the Western Riverside County MSHCP. Section 7.0 of this report analyzes compliance of the Project with the Reserve Assembly and species/habitat requirements of the MSHCP. Through compliance with the applicable requirements, the Project will not conflict with the provisions of the MSHCP.

5.8 Jurisdictional Waters

The Project will fill approximately 0.002-acre of waters subject to Corps, 0.002-acre of waters subject to Regional Board, and 0.002-acre of waters subject to CDFW jurisdiction, none of which consists of riparian habitat and/or wetlands. The Project shall permanently impact approximately 97 linear feet of streambed [Exhibits 9A and 9B]. All impacts are considered permanent and are located outside of any Criteria Cells. No temporary impact is proposed. Offsite areas upstream of Drainage A and Tributary A-1 have been previously impacted due to offsite development associated with other projects. Due to the nature of the impacted areas surrounding the Project and the small scope of jurisdictional areas to be impacted, the areas to be impacted will therefore cause little to no loss of hydrological functions on the site. The impact to these features would not be a biologically significant impact under CEQA, but given it is regulated by the Corps, Regional Board, and CDFW, authorizations must be acquired. Impacts to jurisdictional waters area listed in Table 5-4 below.

Table 5-4: Summary of Jurisdictional Impacts

Drainage Name	Corps Jurisdictional Impacts (acre)	RWCQB Jurisdictional Impacts (acre)	CDFW Jurisdictional Impacts (acre)	Length of Impact (Linear feet)
Drainage A	0.002	0.002	0.002	97
Tributary A-1	0	0	0	0
Total	**0.002**	**0.002**	**0.002**	**97**

5.9 MSHCP Riparian/Riverine Impacts and Riparian Birds

Riparian/Riverine Habitat

The Project will fill temporarily fill 0.01 acre of MSHCP riparian habitat (saltbush scrub) and permanently fill approximately 0.292-acre of MSHCP Riparian/Riverine habitat, of which 0.29 acre consists of riparian habitat [saltbush scrub] and 0.002 acre of which consists of riverine resources. The Project shall permanently impact approximately 97 linear feet of streambed [Exhibit 9B]. Offsite areas upstream of Drainage A and Tributary A-1 have been previously impacted due to offsite development associated with other projects. Due to the nature of the impacted areas surrounding the Project and the small scope of MSHCP Riparian/Riverine areas to be impacted, there will be little to no loss of hydrological functions on the site or to the streambed as flows within Drainage A are being placed in the same location as they currently flow, minus the 97 linear feet of streambed that will be filled. Tributary A-1 will not be disturbed. There will also be a ten-foot buffer on either side of each drainage feature which will allow for additional streamflow adjacent to each existing drainage.

In the interim, until site grading is complete, detention and catch basins with temporary corrugated metal pipe risers will be constructed to collect and protect water quality and then discharge the controlled flows into each drainage at the toe of constructed slopes through rip rap within the development footprint which will be located in upland, non-jurisdictional areas. Flows entering each drainage will be at a similar velocity as compared to historic flows which currently exist on site. This protection will be in place during grading and retained until development occurs. The Project's small lot map improvement plans will include permanent water quality basins and catch basins constructed within the development footprint to existing industry standards and no additional temporary or permanent impact to streambeds or riparian/riverine resources beyond what is described and contemplated in this report will occur.

The impact to these features would not be a biologically significant impact under CEQA, but it would require the preparation of a DBESP. Impacts to MSHCP Riparian/Riverine resources would be mitigated at an approved mitigation bank and/or in-lieu fee program at a minimum 5:1 ratio for streambed/riverine features and 1:1 for saltbush scrub. All temporary impacts will be restored through reseeding of native habitat in the temporary impact areas.

Riparian Birds

Section 6.1.2 of the MSHCP describes the process through which protection of riparian/riverine areas and vernal pools would occur within the MSHCP Plan Area. Protection of these areas is important to Conservation of listed species such as the least Bell's vireo (*Vireo bellii pusillus*), the southwestern willow flycatcher (*Empidonax traillii extimus*), and the western yellow-billed cuckoo (*Coccyzus americanus*).

There are two small patches of riparian habitat present within Drainage A in the Project site and a 0.30-acre patch of saltbush scrub habitat adjacent to Whitewood Road and Baxter Road. These patches of riparian habitat total approximately 0.303 acre and are isolated from other areas of habitat that could be considered suitable for the three species noted above; therefore, suitable habitat for each of these species is absent from the site. Each species is further discussed below as it relates to a lack of suitable habitat present.

Least Bell's Vireo: The least Bell's vireo requires dense riparian habitats with a stratified canopy, including southern willow scrub, mule fat scrub, and riparian forest plant communities. This area is not a suitable habitat for the least Bell's vireo as the mule fat scrub habitat on site does not have the vegetative structure or canopy to support the least Bell's vireo. Based on existing site conditions, there is no suitable habitat for the least Bell's vireo and no surveys for this species are necessary. This species will not be impacted by the Project.

Southwestern Willow Flycatcher: The southwestern willow flycatcher requires riparian woodlands along streams and rivers with mature dense thickets of trees and shrubs. This area on site is not suitable habitat for the southwestern willow flycatcher as the mule fat scrub habitat on site does not have the vegetative structure of mature, dense thickets of trees and shrubs to support the southwestern willow flycatcher. Based on existing site conditions, there is no suitable habitat for the southwestern willow flycatcher and no surveys for this species are necessary. This species will not be impacted by the Project.

Western Yellow-Billed Cuckoo: The Western yellow-billed cuckoo requires dense, wide riparian woodlands with a well-developed understory. The riparian habitat on site consists of three patches of isolated riparian habitat totaling 0.303 acre, which does not contain a dense, wide riparian woodland or understory. The mule fat scrub habitat on site does not have the vegetative structure of mature, dense wide riparian woodlands to support the Western yellow-billed cuckoo. Based on existing site conditions, there is no suitable habitat for the Western yellow-billed cuckoo and no surveys for this species are necessary. This species will not be impacted by the Project.

5.10 Indirect Impacts to Biological Resources

In the context of biological resources, indirect effects are those effects associated with developing areas adjacent to adjacent native open space. Potential indirect effects associated with development include water quality impacts associated with drainage into adjacent open space/downstream aquatic resources; lighting effects; noise effects; invasive plant species from landscaping; and effects from human access into adjacent open space, such as recreational

activities (including off-road vehicles and hiking), pets, dumping, etc. Temporary, indirect effects may also occur as a result of construction-related activities.

The Project is not expected to result in significant indirect impacts to special-status biological resources, with the implementation of measures pursuant to the MSHCP Urban/Wildlands Interface Guidelines (*Volume I, Section 6.1.4* of the MSHCP). These guidelines are intended to address indirect effects associated with locating projects (particularly development) in proximity to the MSHCP Conservation Area. To minimize potential edge effects, the guidelines are to be implemented in conjunction with review of individual public and private development projects in proximity to the MSHCP Conservation Area. The Project will implement measure consistent with the MSHCP guidelines to address the following:

- Drainage;
- Toxics;
- Lighting;
- Noise;
- Invasives;
- Barriers; and
- Grading/Land Development.

5.10.1 Drainage

Proposed Projects in proximity to the MSHCP Conservation Area shall incorporate measures, including measures required through the National Pollutant Discharge Elimination System (NPDES) requirements, to ensure that the quantity and quality of runoff discharged to the MSHCP Conservation Area is not altered in an adverse way when compared with existing conditions. In particular, measures shall be put in place to avoid discharge of untreated surface runoff from developed and paved areas into the MSHCP Conservation Area. Stormwater systems shall be designed to prevent the release of toxins, chemicals, petroleum products, exotic plant materials or other elements that might degrade or harm biological resources or ecosystem processes within the MSHCP Conservation Area. This can be accomplished using a variety of methods including natural detention basins, grass swales or mechanical trapping devices. Regular maintenance shall occur to ensure effective operations of runoff control systems.

The Project's contractor would be required to develop a Stormwater Pollution Prevention Plan (SWPPP) to address runoff and water quality during construction. Following the completion of construction activities, areas proposed for development as part of the Project would consist of buildings and other impervious surfaces, along with areas proposed for ornamental landscaping. The Project has been designed to detain runoff generated on the Project site such that there would be no increase in developed storm flows as compared to existing drainage conditions. Additionally, the Project would be subject to compliance with a Project-specific Water Quality Management Plan (WQMP), which would specify measures that must be undertaken to ensure long-term maintenance of the water quality and detention features. As such, the Project would not in any way result in increased drainage or affect the water quality of the river to Warm Springs Creek or Murrieta Creek. Mandatory compliance with the future-required SWPPP during construction and the Project's WQMP under long-term operations would ensure that the Project

does not conflict with the MSHCP provisions related to indirect drainage impacts. Accordingly, impacts would be less than significant.

5.10.2 Toxics

Land uses proposed in proximity to the MSHCP Conservation Area that use chemicals or generate bioproducts such as manure that are potentially toxic or may adversely affect wildlife species, habitat or water quality shall incorporate measures to ensure that application of such chemicals does not result in discharge to the MSHCP Conservation Area. Measures such as those employed to address drainage issues shall be implemented. The proposed Project will implement a SWPPP that will address runoff during construction.

5.10.3 Lighting

Night lighting associated with future development shall be directed away from the MSHCP Conservation Area to protect species within the MSHCP Conservation Area from direct night lighting. If night lighting is required during construction, shielding shall be incorporated to ensure ambient lighting in the MSHCP Conservation Area is not increased.

5.10.4 Noise

As discussed below in Section 7.0, MSHCP compliance, proposed noise generating land uses affecting the MSHCP Conservation Area shall incorporate setbacks, berms or walls to minimize the effects of noise on MSHCP Conservation Area resources pursuant to applicable rules, regulations and guidelines related to land use noise standards. For planning purposes, wildlife within the MSHCP Conservation Area should not be subject to noise that would exceed biological noise level standards of the Equivalent Continuous [Average] Sound Level (Leq), which is 65 dBA Leq.

It is expected that noise thresholds would be exceeded during construction operations.

Since the noise threshold for special-status wildlife and nesting birds would be exceeded during construction should be conducted outside of the breeding season (February 1 to August 31 is recognized as the breeding season) to further reduce potential indirect noise effects on special-status wildlife. If this is not feasible, then sound walls, hay bales, or other measures designed to reduce effects from Project noise levels on special-status wildlife species would be installed/erected prior to the commencement of ground-disturbing activities. Sound monitoring would also occur as needed, within 300 feet of potential burrowing owl and nesting bird territories to ensure that noise levels at these locations are below the 65 dBA Leq level and would not affect special-status wildlife species.

5.10.5 Invasive Species

Projects adjacent to the MSHCP Conservation Area shall avoid the use of invasive plant species in landscaping, including invasive, non-native plant species listed in Volume I, *Table 6-2* of the MSHCP.

5.10.6 Barriers

Proposed land uses adjacent to the MSHCP Conservation Area shall incorporate barriers, where appropriate in individual project designs to minimize unauthorized public access, domestic animal predation, illegal trespass or dumping in the MSHCP Conservation Area. Such barriers may include native landscaping, rocks/boulders, fencing, walls, signage and/or other appropriate mechanisms.

5.10.7 Grading/Land Development

The MSHCP states that manufactured slopes associated with development shall not extend into the MSHCP Conservation Area.

5.11 Cumulative Impacts to Biological Resources

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 potentially significant. "Related projects" refers to past, present, and reasonably foreseeable probable future projects, which would have similar impacts to the proposed project.

As discussed throughout Section 5 of this report, the proposed Project would not result in any CEQA significant impacts. Due to the isolated nature of the Study Area, the limited amount and relatively low quality of the habitat affected, as well as previous site disturbance associated with the creation of the borrow pits, the loss of this area will not contribute to a cumulatively significant impact to biological resources.

6.0 MITIGATION/AVOIDANCE MEASURES

The following discussion provides project-specific mitigation/avoidance measures for actual or potential impacts to special-status resources.

6.1 Burrowing Owl

The Project site contains suitable habitat for burrowing owls; however, burrowing owls were not detected onsite during focused surveys. MSHCP Objective 6 for burrowing owls requires that pre-construction surveys prior to site grading. As such, the following measure is recommended to avoid direct impacts to burrowing owls and to ensure consistency with the MSHCP:

- Due to the presence of suitable habitat for burrowing owl, a pre-construction survey for burrowing owl in areas of suitable habitat shall be conducted not more than 30 days prior to the initiation of ground disturbance (e.g., vegetation clearing, clearing and grubbing, tree removal, site watering, equipment staging, grading, etc.) to ensure that no owls have colonized the site in the days or weeks preceding the ground-disturbing activities.

If burrowing owls have colonized the project site prior to the initiation of ground-disturbing activities, the project proponent will immediately inform the Regional Conservation Authority (RCA) and the Wildlife Agencies and will need to coordinate further with RCA and the Wildlife Agencies, including the possibility of preparing a Burrowing Owl Protection and Relocation Plan, prior to initiating ground disturbance. 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 has not colonized the site since it was last disturbed. If burrowing owl is found, the same coordination described above will be necessary."

6.2 Nesting Birds

The Project site contains vegetation with the potential to support native nesting birds. As discussed above, the California Fish and Game Code prohibits mortality of native birds, including eggs. The following measure is recommended to avoid mortality to nesting birds. Potential impacts to native birds were not considered a biologically significant impact under CEQA, however, to comply with state law, the following is recommended:

- As feasible, vegetation clearing should be conducted outside of the nesting season, which is generally identified as February 1 through August 31. If avoidance of the nesting season is not feasible, then a qualified biologist shall conduct a nesting bird survey within three days prior to any disturbance of the site, including disking, demolition activities, and grading. If active nests are identified, the biologist shall establish suitable buffers around the nests, and the buffer areas shall be avoided until the nests are no longer occupied and the juvenile birds can survive independently from the nests.

6.3 Jurisdictional Waters

As noted above, the Project will permanently impact a total of 0.002 acre of Corps, Regional Board, and CDFW jurisdiction within the Project Site. No temporary impact is proposed.

The following measure identifies mitigation proposed for impacts to jurisdictional waters. Impacts to jurisdictional waters shall be mitigated at a minimum 5:1 ratio, subject to approval of the Corps, Regional Board, and CDFW, and include the following:

- The purchase of 0.01 acre of re-establishment and/or rehabilitation credits from the Riverpark Mitigation Bank; and/or

- The purchase of 0.01 acre of preservation credits from the Barry Jones/Skunk Hollow Mitigation Bank

6.4 MSHCP Riparian/Riverine Areas

The Project would temporarily impact 0.01 acre of MSHCP riparian/riverine resources and permanently impact 0.292 acre of MSHCP riparian resources.

The riverine streambed features proposed for impact will be compensated at a minimum 5:1 ratio and the mitigation proposed for saltbush scrub habitat would be compensated at a minimum 1:1 ratio.

Compensatory mitigation for the loss of 0.002 acre of riverine resources will include the following:

- The purchase of 0.01 acre of re-establishment and/or rehabilitation credits from the Riverpark Mitigation Bank; and/or

- The purchase of 0.01 acre of preservation credits from the Barry Jones/Skunk Hollow Mitigation Bank.

Compensatory mitigation for the permanent impact to 0.29 acre of saltbush scrub habitat area will consist of the purchase of either 0.29 acre of rehabilitation credits or 0.29 acre of re-establishment credits at the Riverpark Mitigation Bank.

The temporary impact to 0.01 acre of saltbush scrub habitat will be compensated for through the restoration of temporary impacts through seeding of native habitat.

6.5 Noise

Since the noise threshold for special-status wildlife and nesting birds would be exceeded during construction, project construction adjacent to sensitive biological resources should be conducted outside of the breeding season (February 1 to August 31 is recognized as the breeding season) to further reduce potential indirect noise effects on special-status wildlife. If this is not feasible, then sound walls, hay bales, or other measures designed to reduce effects from Project noise levels on special-status wildlife species would be installed/erected prior to the commencement of ground-disturbing activities. Sound monitoring would also occur as needed, within 300 feet of potential burrowing owl and nesting bird territories to ensure that noise levels at these locations are below the 65 dBA Leq level and would not affect special-status wildlife species.

6.6 Invasives

The Project shall avoid the use of invasive plant species in landscaping, including invasive, non-native plant species listed in *Volume I*, *Table 6-2* of the MSHCP.

6.7 Water Quality

The Project's contractor will develop a Stormwater Pollution Prevention Plan (SWPPP) to prevent impacts to water quality during construction. A Water Quality Management Plan (WQMP) will be developed to prevent pollutants from entering streambeds during construction activities.

6.8 Toxics

The proposed Project shall implement a SWPPP that will address runoff during construction and a WQMP to address runoff during operation and maintenance following construction activities.

6.9 Night Lighting

If the Project is to have lighting during night hours, it shall be directed away from the drainage features. If night lighting is required during construction, shielding shall be incorporated to ensure ambient lighting in the adjacent lands is not increased.

6.10 Monitoring

Orange silt fencing will be placed to demarcate the limits of disturbance for streambed impact areas. Its placement will be over seen by a biological monitor and all preliminary vegetation removal and initial grading will be monitored by a biologist.

6.11 Post Construction Seeding

The disturbance area will be seeded using a native seed mix appropriate to upland areas within Western Riverside County.

6.12 JPR Findings

The Project shall comply with the findings contained in JPR Number 22-05-03-02 and its avoidance and minimization measures. A copy of the approved JPR findings is attached as Exhibit 13.

6.13 Deed Restriction/Environmental Awareness Program

A deed restriction, restrictive covenant, or other environmental restriction shall be placed on the 0.87-acre streambed open space area which will result in its permanent preservation. Maintenance of this open space area shall be the responsibility of the Project Homeowners' Association (HOA).

Prior to commencing maintenance activities each year, the HOA maintenance crew will undergo an environmental awareness training program to be conducted by a qualified biologist designed to educate the maintenance personnel regarding the environmental sensitivity of the open space.

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. Specifically, this analysis evaluates the proposed Project with respect to the Project's consistency with MSHCP Reserve assembly requirements, *Section 6.1.2* (Protection of Species Associated with

Riparian/Riverine Areas and Vernal Pools), *Section 6.1.3* (Protection of Narrow Endemic Plant Species), *Section 6.1.4* (Guidelines Pertaining to the Urban/Wildlands Interface), and *Section 6.3.2* (Additional Survey Needs and Procedures).

7.1 Project Relationship to Reserve Assembly

The Project site is located entirely within the Southwest Area Plan of the MSHCP. The majority of the Project site is not located within a Criteria Cell; however, a small portion of the Project site along the northern boundary occurs within the southernmost portion of Criteria Cell 5361 and the southwestern-most portion of Criteria Cell 5366, which are included within Subunit 5 and Cell Group Y of the Southwest Area Plan.

Conservation within Cell Group Y will contribute to the assembly of Proposed Core 2 and Proposed Constrained Linkage 16. Conservation within this Cell Group will focus on chaparral, coastal sage scrub, grassland, riparian scrub, woodland/forest habitat, and agricultural land. Areas conserved within Cell Group Y will be connected to chaparral, coastal sage scrub, and grassland habitat proposed for conservation in Cell Group X to the east and will also be connected to chaparral habitat proposed for conservation in Cell Group C in the Sun City/Menifee Area Plan to the west. Conservation within Cell Group Y will range from 55% to 65% of the Cell Group focusing on the eastern and western central portions of the Cell Group.

As such, the proposed Project is subject to the Habitat Evaluation and Acquisition Negotiation Strategy (HANS) process. The Project is also subject to Joint Project Review (JPR) by the RCA in order for the RCA to determine that the Project will be consistent with the conservation goals of the MSHCP. Both processes have been completed. The RCA issued JPR findings on September 26, 2022. The City confirmed the completion of HANS on January 9, 2023. A copy of the JPR findings is attached as Exhibit 13 and a copy of the City HANS completion statement is attached as Exhibit 14.

, 7.2 Protection of Species Associated with Riparian/Riverine Areas and Vernal Pools

As noted in Sections 4.10 and 5.3 above, riparian/riverine resources occur within the Study Area and all but 0.292 acre of these resources will be permanently avoided. As a result, a DBESP is necessary for the Project. In addition, no vernal or seasonal pools occur within the Study Area.

The Project will not impact habitat with the potential to support riparian birds, including the least Bell's vireo, southwestern willow flycatcher, or the western yellow-billed cuckoo. Furthermore, the Project will not impact vernal pool species, including listed fairy shrimp.

7.3 Protection of Narrow Endemic Plants

Volume I, Section 6.1.3 of the MSHCP requires that within identified Narrow Endemic Plant Species Survey Areas (NEPSSA), site-specific focused surveys for Narrow Endemic Plants Species will be required for all public and private projects where appropriate soils and habitat are present.

The majority of the Study Area is located within the MSHCP NEPSSA designated survey area 4 which targets the following species: Munz's onion, San Diego ambrosia, many-stemmed dudleya, spreading navarretia, California Orcutt grass, and Wright's trichocoronis. The Study Area was not found to support suitable habitat for the majority of the NEPSSA target species, with the exception of San Diego ambrosia; however, San Diego ambrosia was confirmed absent through focused plant surveys. Therefore, the proposed Project would be consistent with *Volume I, Section 6.1.3* of the MSHCP.

7.4 Guidelines Pertaining to the Urban/Wildland Interface

The MSHCP Urban/Wildland Interface Guidelines are intended to address indirect effects associated with locating development in proximity to the MSHCP Conservation Area. As the MSHCP Conservation Area is assembled, development is expected to occur adjacent to the Conservation Area. Future development in proximity to the MSHCP Conservation Area may result in edge effects with the potential to adversely affect biological resources within the Conservation Area. To minimize such edge effects, the guidelines shall be implemented in conjunction with review of individual public and private development projects in proximity to the MSHCP Conservation Area and address the following:

- Drainage;
- Toxics;
- Lighting;
- Noise;
- Invasive species;
- Barriers;
- Grading/Land Development.

As discussed in Section 5.0 of this report, the Project will implement applicable measures as it relates to temporary construction impacts to minimize adverse indirect impacts on special-status resources within Conserved Lands. The proposed Project will be consistent with *Section 6.1.4* of the MSHCP.

7.5 Additional Survey Needs and Procedures

Volume I, Section 6.3.2 of the MSHCP states that in addition to the Narrow Endemic Plant Species addressed in *Volume I, Section 6.1.3*, additional surveys may be needed for other certain plant and animal species in conjunction with MSHCP implementation in order to achieve full coverage for these species. Within areas of suitable habitat, focused surveys are required for additional plant species if a project site occurs within a designated Criteria Area Plant Species Survey Area. In addition, focused surveys are also required (within suitable habitat) for seven animal species as identified by the corresponding Survey Area.

The Project site is located within the MSHCP burrowing owl survey area. Focused burrowing owl surveys were performed for the Project site and burrowing owls were not detected at the site. However, as discussed above in Section 6.1, pre-construction surveys are required no more than 30 days prior to construction to confirm the absence of owls. With the performance of pre-

construction surveys, the Project would be consistent with *Volume I, Section 6.3.2* of the MSHCP.

In addition, a portion of the Project site along the northern boundary is located within the MSHCP CAPSSA area which targets the following species: Parish's brittlescale (*Atriplex parishii*), Davidson's saltscale, thread-leaved brodiaea, round-leaved filaree, tarplant, Coulter's goldfields, little mousetail, and mud nama. As such, the entire Study Area was evaluated for the target CAPSSA species noted above. The Study Area was not found to support suitable habitat for the CAPSSA target species, with the exception of smooth tarplant; however, smooth tarplant was confirmed absent through focused plant surveys. Therefore, the proposed Project would be consistent with *Volume I, Section 6.3.2* of the MSHCP.

The Project site is not located within the MSHCP mammal or amphibian survey area.

7.6 Conclusion of MSHCP Consistency

As outlined above, the proposed Project will be consistent with the biological requirements of the MSHCP; specifically pertaining to the Project's relationship to reserve assembly, *Section 6.1.2* (Protection of Species Associated with Riparian/Riverine Areas and Vernal Pools), *Section 6.1.3* (Protection of Narrow Endemic Plant Species), *Section 6.1.4* (Guidelines Pertaining to the Urban/Wildlands Interface), and *Section 6.3.2* (Additional Survey Needs and Procedures).

8.0 REFERENCES

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9.0 CERTIFICATION

I hereby certify that the statements furnished above and in the attached exhibits present data and information required for this biological evaluation, and that the facts, statements, and information presented are true and correct to the best of my knowledge and belief.

Signed:____  Date: _December 5, 2022_____

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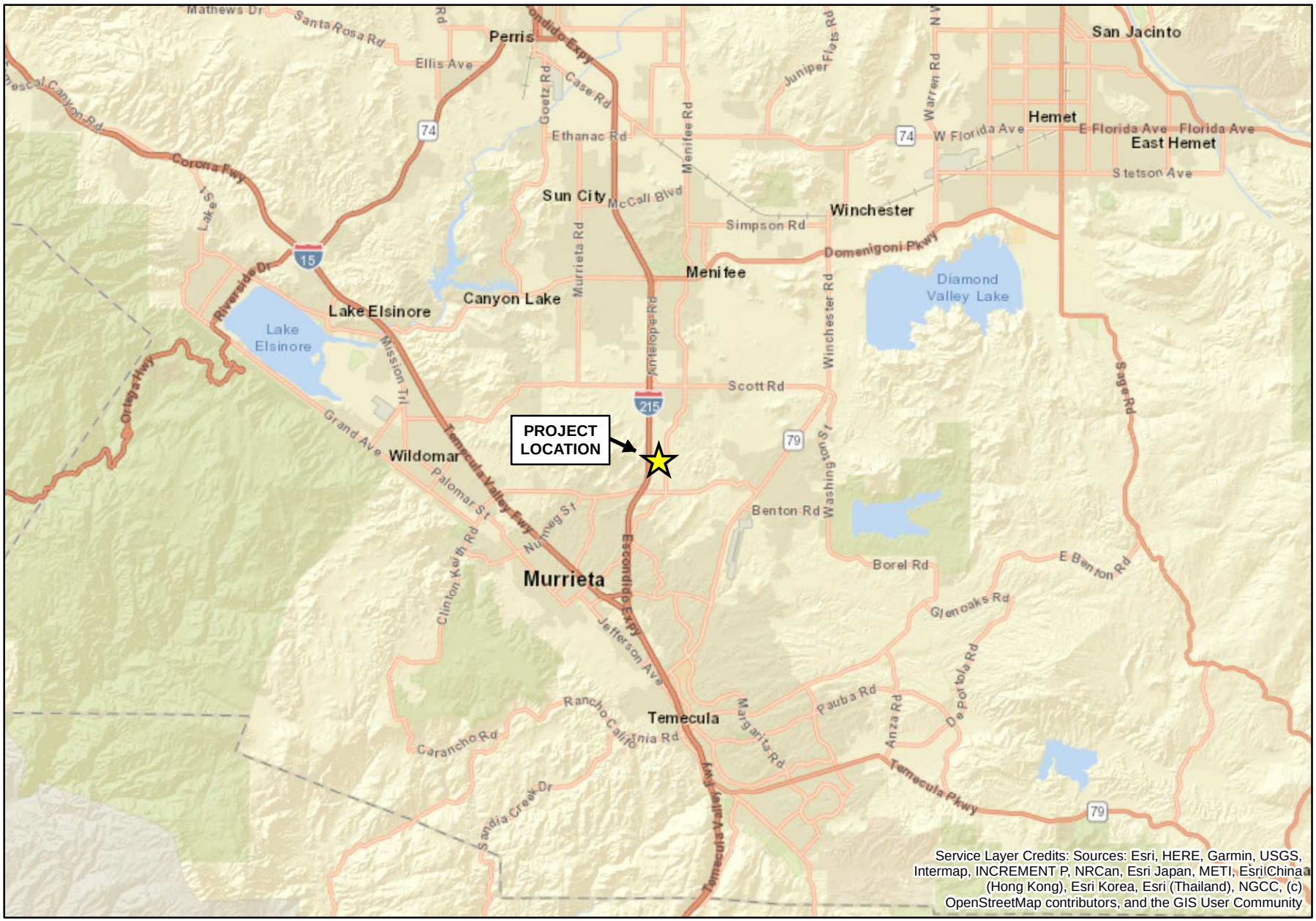


Source: ESRI World Street Map

N

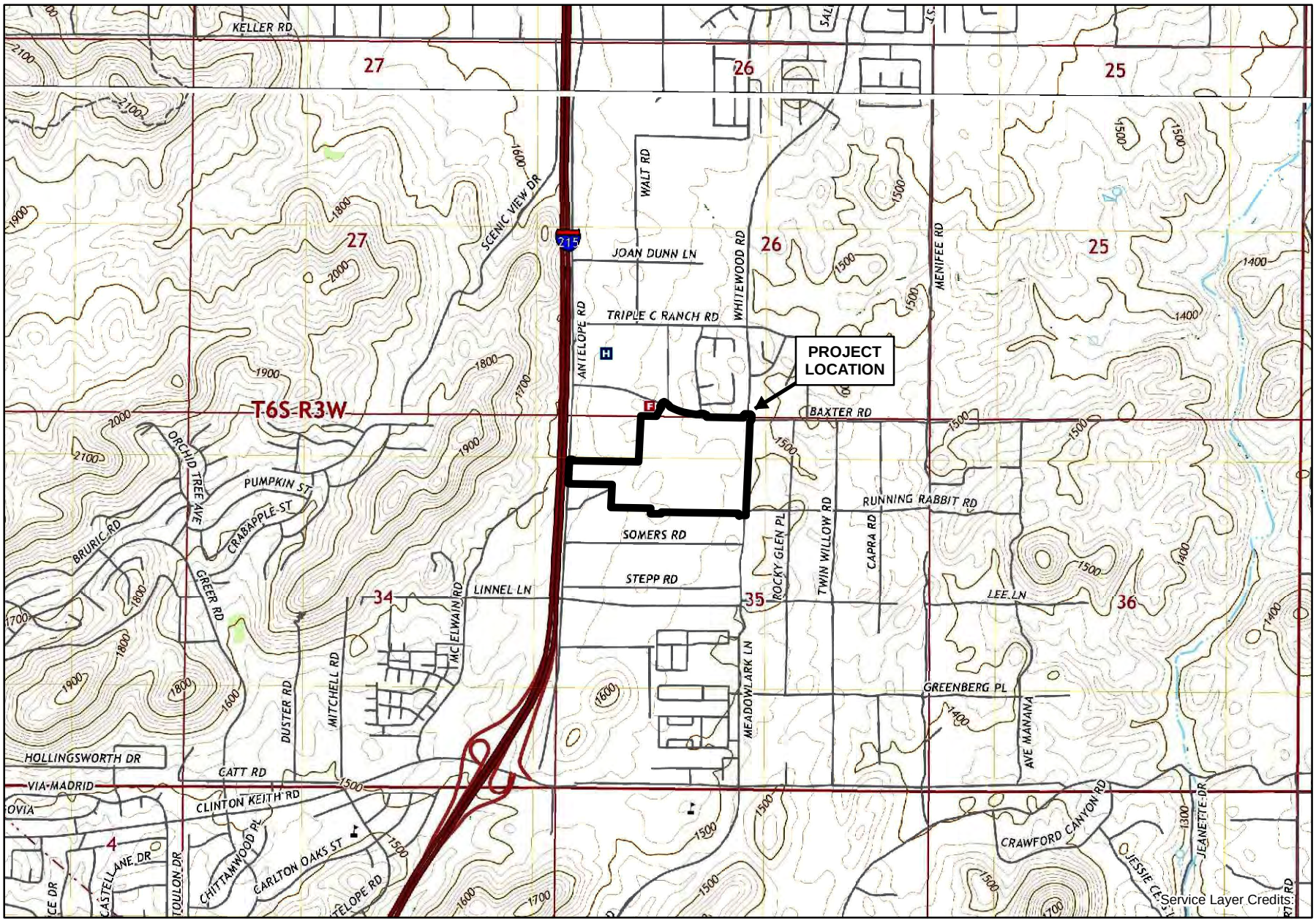
0 2 4 8 Miles

DISCOVERY VILLAGE PROPERTY

Regional Map

GLENN LUKOS ASSOCIATES

Exhibit 1



Adapted from USGS Murrieta, CA quadrangle

N

0 1,000 2,000 4,000 Feet

DISCOVERY VILLAGE PROPERTY

Vicinity Map

GLENN LUKOS ASSOCIATES

Exhibit 2

Onsite Project Site

Offsite Project Site

Criteria Cell

N

0 100 200 400

Feet

1 inch = 200 feet

DISCOVERY VILLAGE PROPERTY

Aerial Map

GLENN LUKOS ASSOCIATES

Exhibit 3

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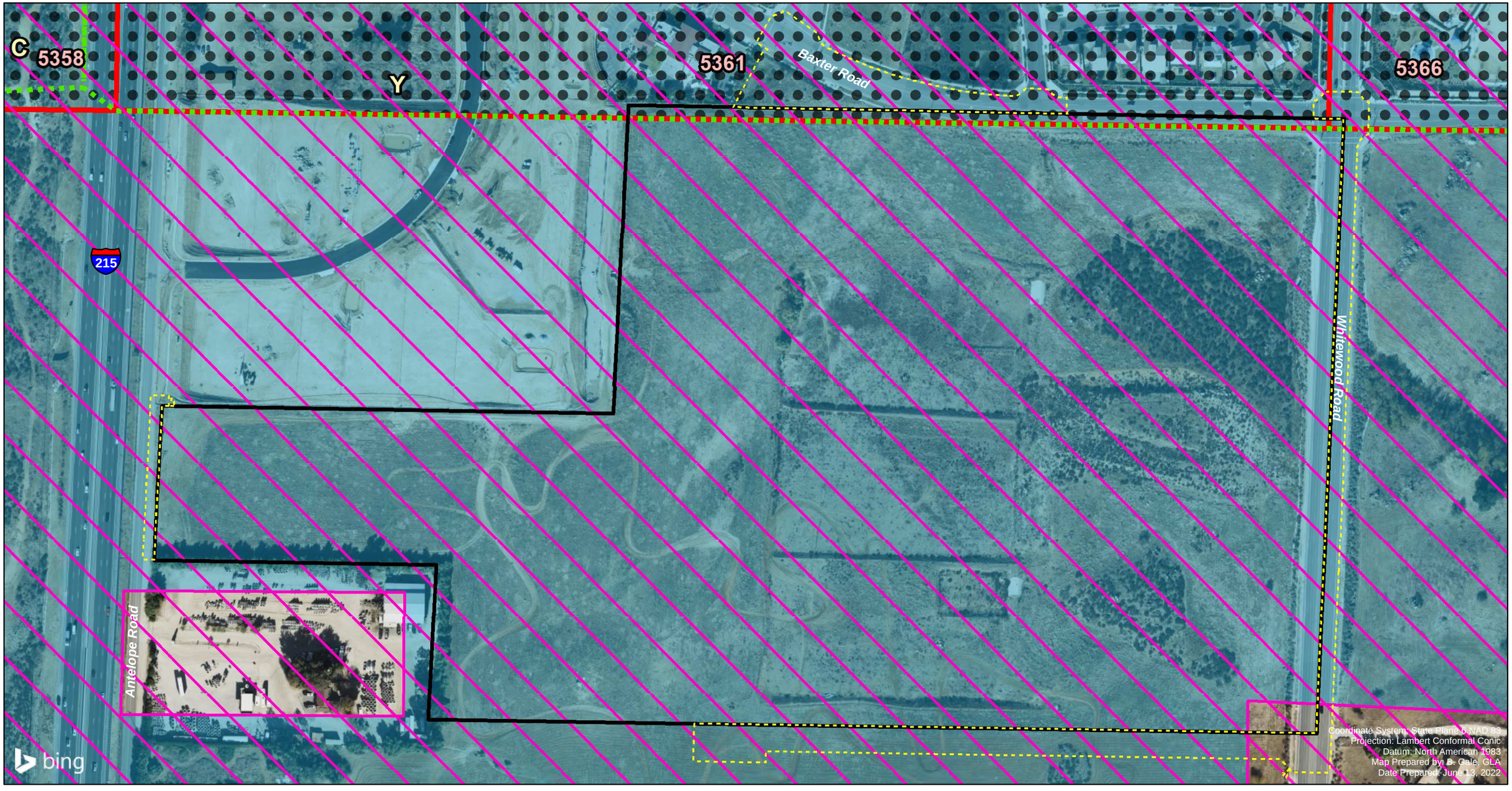

Onsite Project Site

Offsite Project Site

Cell Groups

Criteria Cell

Criteria Area Species Survey Area

Narrow Endemic Plants Survey Area

Burrowing Owl Survey Area

N

0 100 200 400

Feet

1 inch = 200 feet

DISCOVERY VILLAGE PROPERTY

MSHCP Overlay Map

GLENN LUKOS ASSOCIATES

Exhibit 4

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Onsite Project Site

Offsite Project Site

Criteria Cell

CHAP - Chamise Chaparral

DBS - Disturbed Buckwheat Scrub

DEV - Developed

ORN - Ornamental

MFS - Mule Fat Scrub

RUD - Ruderal

SS - Saltbush Scrub

WTS - Willow/Tamarisk Scrub

N

0 100 200 400

Feet

1 inch = 200 feet

DISCOVERY VILLAGE PROPERTY

Vegetation Map

GLENN LUKOS ASSOCIATES

Exhibit 5

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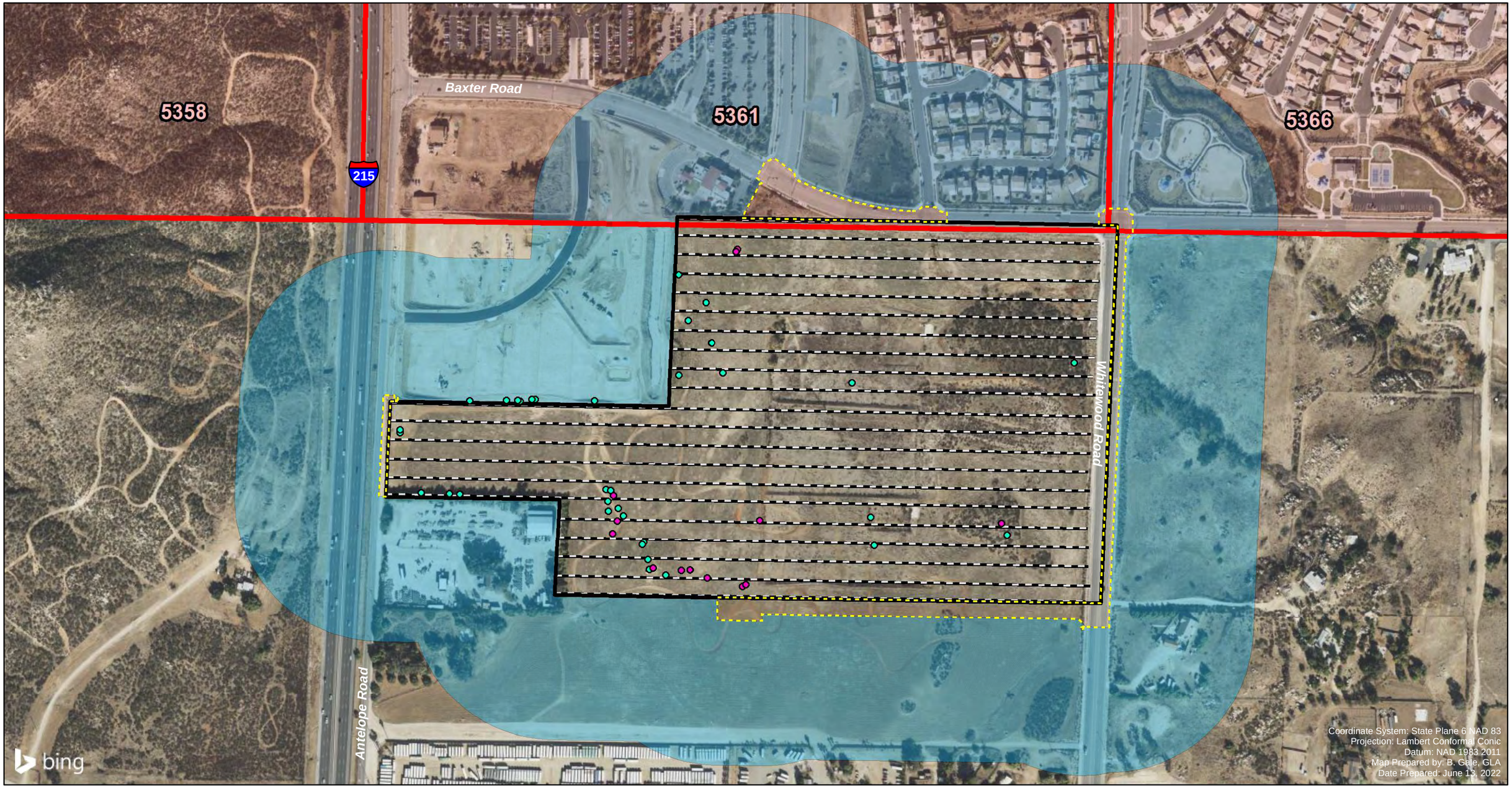

Onsite Project Site

Offsite Project Site

Criteria Cell

500' Visual Survey Area

Transect

Burrow

Burrow Complex

N

0 162.5 325 650

Feet

1 inch = 325 feet

DISCOVERY VILLAGE PROPERTY

Burrowing Owl Survey Area / Location Map

GLENN LUKOS ASSOCIATES

Exhibit 6

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- Onsite Project Site
- Offsite Project Site
- Criteria Cell
- Paniculate Tarplant Area (0.95 ac.)
- CHAP - Chamise Chaparral
- DBS - Disturbed Buckwheat Scrub
- DEV - Developed
- ORN - Ornamental
- MFS - Mule Fat Scrub
- RUD - Ruderal
- SS - Saltbush Scrub
- WTS - Willow/Tamarisk Scrub

N

0 100 200 400
Feet

1 inch = 200 feet

DISCOVERY VILLAGE PROPERTY

Rare Plant Map

GLENN LUKOS ASSOCIATES

Exhibit 7

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Onsite Project Site

Offsite Project Site

Criteria Cell

Corps/RWQCB Non-Wetland Waters of the State & U.S.

Width of Drainage in Feet

N

0 100 200 400

Feet

1 inch = 200 feet

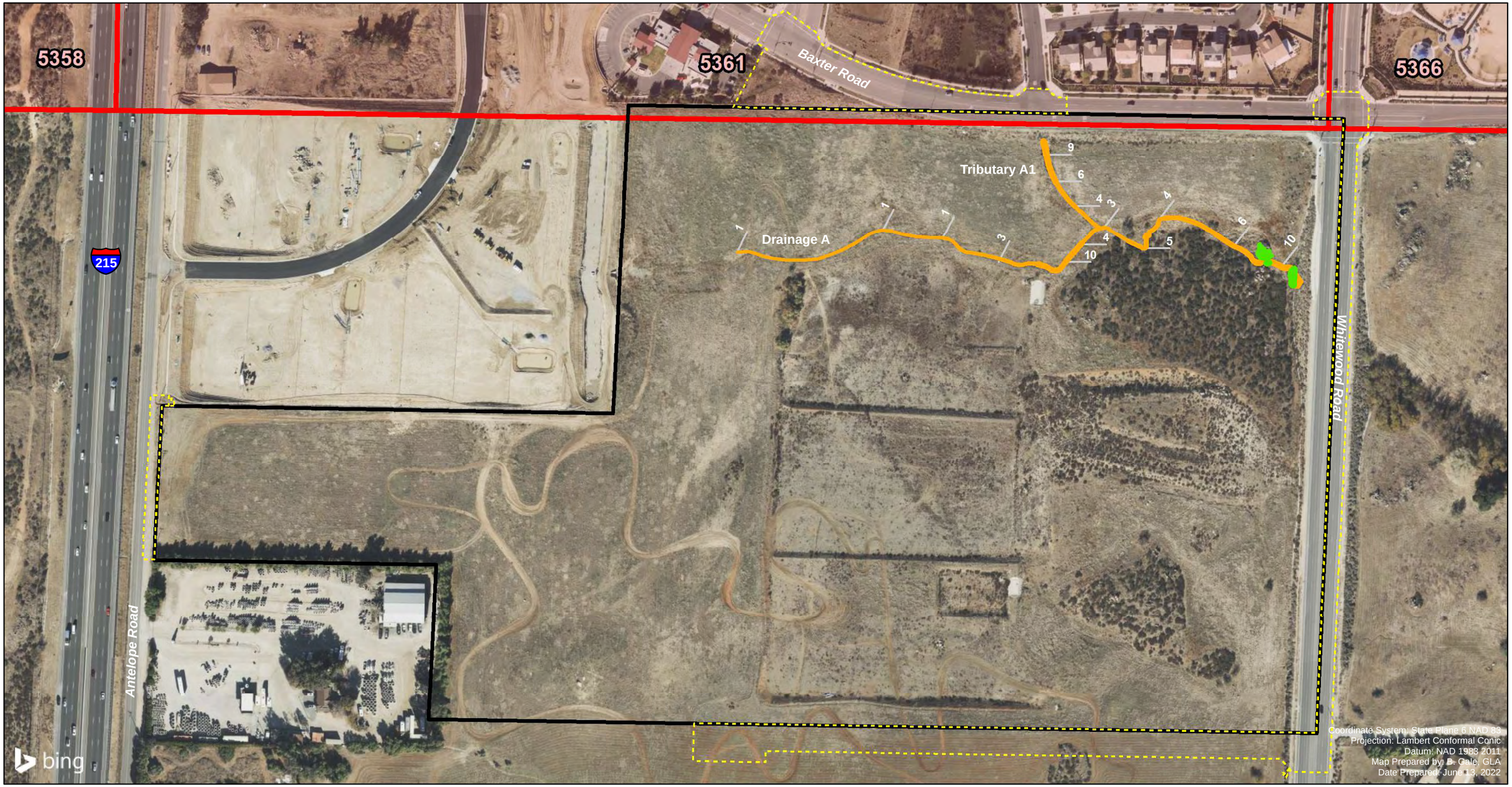
DISCOVERY VILLAGE PROPERTY

Corps/RWQCB Jurisdictional Delineation Map

GLENN LUKOS ASSOCIATES

Exhibit 8A

X:\00 - 0362 ONLY\0275-95MR56\275-95GIS\DelineationGIS\275-95_JD_CorpsRWQCB.mxd



Onsite Project Site

Offsite Project Site

Criteria Cell

CDFW Riparian

CDFW Non-Riparian Stream

Width of Drainage in Feet

N

0 100 200 400

Feet

1 inch = 200 feet

DISCOVERY VILLAGE PROPERTY

CDFW Jurisdictional Delineation Map

GLENN LUKOS ASSOCIATES

Exhibit 8B

X:\00 - 0362 ONLY\0275-95MR56\275-95GIS\DelineationGIS\275-95_JD_CDFW.mxd

Onsite Project Site

Offsite Project Site

Criteria Cell

MSHCP Riparian

MSHCP Riverine

Width of Drainage in Feet

N

0 100 200 400

Feet

1 inch = 200 feet

DISCOVERY VILLAGE PROPERTY

MSHCP Riparian/Riverine Map

GLENN LUKOS ASSOCIATES

Exhibit 8C

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Onsite Project Site

Offsite Project Site

Deed Protected Open Space

Other Protected Open Space/ Temporary Impact Area

Permanent Impact Area

Proposed Warm Springs Road

Storm Drain Culvert and Road Improvements

Criteria Cell

Corps/RWQCB Non-Wetland Waters of the State & U.S.

Width of Drainage in Feet

N

0 100 200 400

Feet

1 inch = 200 feet

DISCOVERY VILLAGE DEVELOPMENT PROJECT

Corps/RWQCB Jurisdictional Delineation Impact Map

GLENN LUKOS ASSOCIATES

Exhibit 9A

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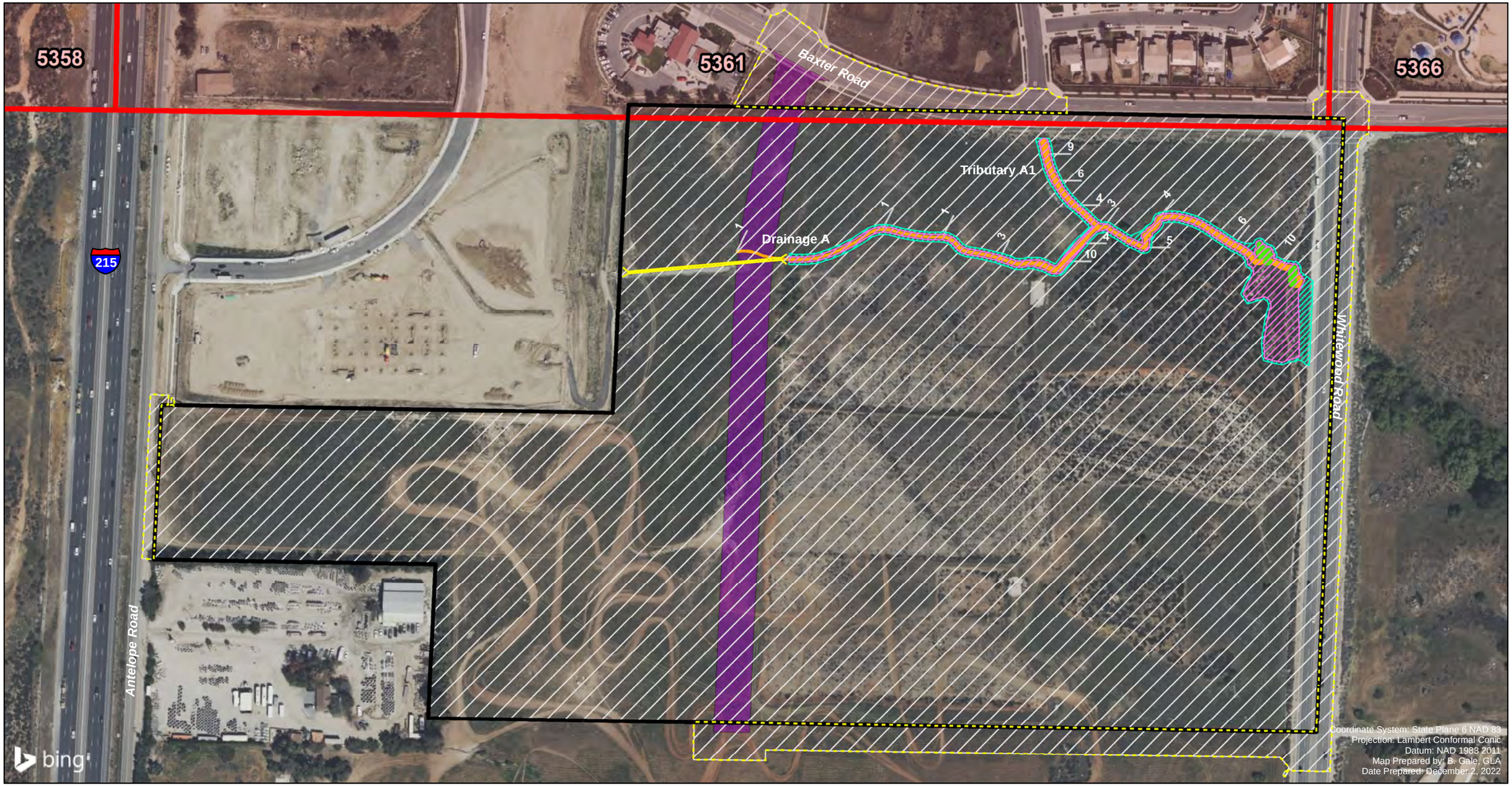

Onsite Project Site

Offsite Project Site

Deed Protected Open Space

Other Protected Open Space/ Temporary Impact Area

Permanent Impact Area

Proposed Warm Springs Road

Storm Drain Culvert and Road Improvements

Criteria Cell

CDFW Riparian

CDFW Non-Riparian Stream

Width of Drainage in Feet

N

0 100 200 400

Feet

1 inch = 200 feet

DISCOVERY VILLAGE DEVELOPMENT PROJECT

CDFW Jurisdictional Delineation Impact Map

GLENN LUKOS ASSOCIATES

Exhibit 9B

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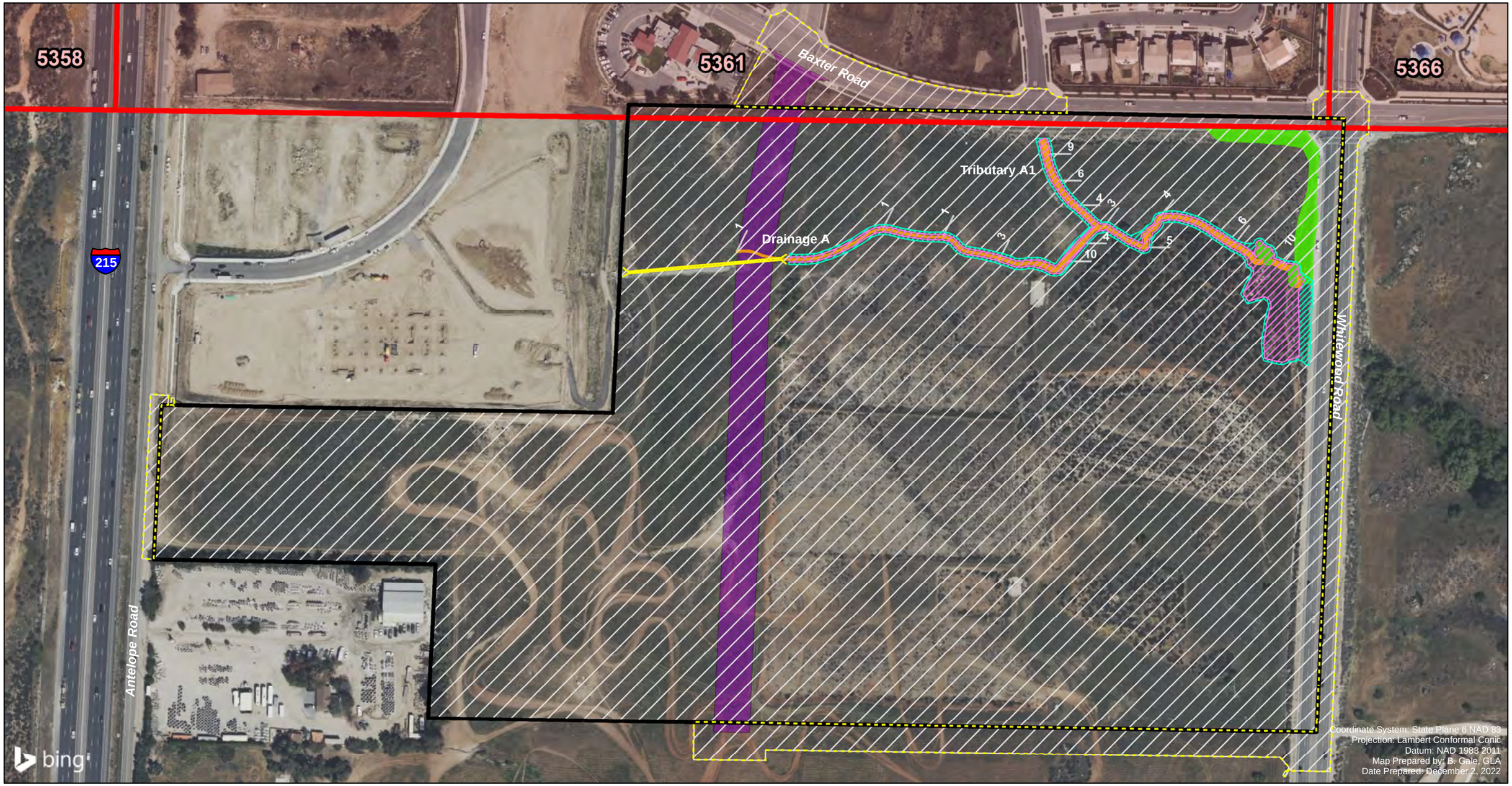

Onsite Project Site

Offsite Project Site

Deed Protected Open Space

Other Protected Open Space/ Temporary Impact Area

Permanent Impact Area

Proposed Warm Springs Road

Storm Drain Culvert and Road Improvements

Criteria Cell

MSHCP Riparian

MSHCP Riverine

Width of Drainage in Feet

N

0 100 200 400

Feet

1 inch = 200 feet

DISCOVERY VILLAGE DEVELOPMENT PROJECT

MSCHP Riparian/Riverine Impact Map

GLENN LUKOS ASSOCIATES

Exhibit 9C

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Photograph 1: Representative site photograph of the ruderal vegetation throughout the Project site. Image documents the westernmost portion of the Study Area, with I-215 visible in the background, facing southwest.

Photograph 2: Representative site photograph of the disturbed buckwheat scrub which occurs within the created borrow pits. Note the sparse vegetation dominated by California buckwheat. Image documents the northernmost borrow pit, facing north.

MURRIETA 56 DEVELOPMENT PROJECT
Site Photographs

Photograph 3: Representative site photograph of the patch of mule fat scrub which occurs within the northeastern portion of the Project site, representing riparian habitat. The chamise chaparral vegetation is also visible in the background. Image taken facing southwest.

Photograph 4: Image documents ephemeral Drainage A following a rain event, facing west. Note the unvegetated streambed and the adjacent riparian vegetation.

- Onsite Project Site
- Offsite Project Site
- Criteria Cell
- Cajalco fine sandy loam, 2 to 8 percent slopes, eroded
- Cajalco fine sandy loam, 8 to 15 percent slopes, eroded
- Cajalco rocky fine sandy loam, 5 to 15 percent slopes, eroded
- Cieneba rocky sandy loam, 15 to 50 percent slopes, eroded
- Cieneba sandy loam, 5 to 8 percent slopes
- Cieneba sandy loam, 8 to 15 percent slopes, eroded
- Fallbrook sandy loam, shallow, 5 to 8 percent slopes, eroded
- Greenfield sandy loam, 2 to 8 percent slopes, eroded
- Honcut loam, 2 to 8 percent slopes, eroded
- Las Posas loam, 2 to 8 percent slopes
- Vista coarse sandy loam, 2 to 8 percent slopes

Coordinate System: State Plane 6 NAD 83
Projection: Lambert Conformal Conic
Datum: NAD 1983 2011
Map Prepared by: B. Gale, GLA
Date Prepared: June 13, 2022

N

0 100 200 400
Feet

1 inch = 200 feet

DISCOVERY VILLAGE PROPERTY

Soils Map

GLENN LUKOS ASSOCIATES

Exhibit 11

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Coordinate System: State Plane 6 NAD 83
Projection: Lambert Conformal Conic
Datum: NAD 1983 2011
Map Prepared by: B. Gale, GLA
Date Prepared: December 2, 2022

- Onsite Project Site
- Offsite Project Site
- Deed Protected Open Space
- Other Protected Open Space/ Temporary Impact Area
- Permanent Impact Area
- Criteria Cell
- CHAP - Chamise Chaparral
- DBS - Disturbed Buckwheat Scrub
- DEV - Developed
- ORN - Ornamental
- MFS - Mule Fat Scrub
- RUD - Ruderal
- SS - Saltbush Scrub
- WTS - Willow/Tamarisk Scrub

N

0 100 200 400
Feet

1 inch = 200 feet

DISCOVERY VILLAGE DEVELOPMENT PROJECT

Vegetation Impact Map

GLENN LUKOS ASSOCIATES

Exhibit 12

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APPENDIX A: FLORAL COMPENDIUM

The floral compendium lists species identified on the project site. Taxonomy follows the Jepson Manual (Baldwin et al 2012) and, for sensitive species, the California Native Plant Society's Rare Plant Inventory (Tibor 2001). Common plant names are taken from Hickman (1993), Munz (1974), and Roberts et al (2004). An asterisk (*) denotes a non-native species.

Scientific Name	Common Name
MAGNOLIOPHYTA	**FLOWERING PLANTS**
MONOCOTYLEDONS	**MONOCOTS**
Liliaceae	**Lily Family**
Calochortus splendens	splendid mariposa lily
Poaceae	**Grass Family**
**Avena fatua*	wild oat
**Bromus diandrus*	ripgut grass
**Bromus madritensis*	red brome
Distichis spicata	saltgrass
**Hordeum murinum*	foxtail barley
**Hordeum volugare*	common barley
**Schismus barbatus*	Mediterranean grass
Triticum aestivum	common wheat
EUDICOTYLEDONS	**EUDICOTS**
Adoxaceae	**Elderberry Family**
Sambucus nigra ssp. caerulea	blue elderberry
Anacardiaceae	**Sumac Family**
Rhus aromatica	fragrant sumac
Schinus molle	Peruvian pepper tree
Apiaceae	**Sumac Family**
Bowlesia incana	hoary bowlesia
Asteraceae	**Sunflower Family**
Acourtia microcephala	sacapellote
Ambrosia psilostachya	ragweed

Anthemis cotula	mayweed
Artemisia californica	coastal sage brush
Baccharis pilularis	coyote brush
Baccharis salicifolia	mule fat
**Centaurea melitensis*	tocalote
Corethrogyne filaginifolia	common sandaster
Deinandra fasciculata	clustered tarweed
Deinandra paniculata	paniculate tarplant
Encelia farinosa	brittlebush
Gutierrezia californica	matchweed
Heterotheca grandiflora	telegraph weed
**Hypochaeris glabra*	smooth cat's ear
Lasthenia californica	California goldfields
**Logfia gallica*	narrowleaf cottonrose
**Oncosiphon piluliferum*	stinknet
Pseudognaphalium beneolens	cudweed
**Sonchus oleraceus*	sow thistle
Uropappus lindleyi	silver puffs
Boraginaceae	**Borage Family**
Amsinckia intermedia	common fiddleneck
Amsinckia menziesii	Menzie's fiddleneck
Cryptantha sp.	popcorn flower
Phacelia sp.	phacelia species
Plagiobothrys sp.	Plagiobothrys species
Brassicaceae	**Mustard Family**
**Brassica tournefortii*	Saharan mustard
**Capsella bursa-pastoris*	shepard's purse
**Descurainia sophia*	flix weed
**Hirschfeldia incana*	summer mustard
Pectocarya linearis	sagebrush combseed
**Raphanus sativus*	wild radish
**Sisymbrium irio*	London rocket
Chenopodiaceae	**Goosefoot Family**
Atriplex polycarpa	cattle saltbush
**Salsola tragus*	Russian thistle
Cleomaceae	**Cleome Family**
Peritoma arborea	bladderpod

Convolvulaceae	**Morning Glory Family**
**Convolvulus arvensis*	field bindweed
Crassulaceae	**Stonecrop Family**
Crassula connata	pigmyweed
Cucurbitaceae	**Cucumber Family**
Marah macrocarpa	wild cucumber
Fabaceae	**Pea Family**
Acmispon americanus	Spanish lotus
Acmispon glaber	deerweed
Acmispon strigosus	strigose lotus
Lupinus bicolor	bicolor lupine
**Medicago polymorpha*	bur clover
**Melilotus indicus*	annual yellow sweetclover
**Vicia sativa*	spring vetch
Geraniaceae	**Geranium Family**
**Erodium cicutarium*	red-stemmed filaree
Lamiaceae	**Mint Family**
Salvia apiana	white sage
Salvia columbariae	chia sage
Malvaceae	**Mallow Family**
**Malva parviflora*	cheeseweed
**Malva sylvestris*	high cheeseweed
Malacothamnus fasciculatus	chaparral bush mallow
Montiaceae	**Spring Beauty Family**
Calandrinia menziesii	red maids
Onagraceae	**Evening Primrose Family**
Camissoniopsis bistorta	California sun cup
Camissoniopsis ignota	Jurupa hills sun cup
Camissoniopsis micrantha	miniature sun sup
Camissonia contorta	plains evening primrose
Clarkia epilobiodes	willow herb clarkia
Clarkia purpurea	winecup clarkia

Eulobus californicus	California primrose
Orobanchaceae	**Broomrape Family**
Castilleja exserta	owl's clover
Polemoniaceae	**Phlox Family**
Navarretia atractyloides	holly leaf navarretia
Polygonaceae	**Buckwheat Family**
Eriogonum fasciculatum	California buckwheat
Lastarriaea coriacea	leather spineflower
Phrymaceae	**Monkeyflower Family**
Mimetanthe pilosa	snouted monkey flower
Plantaginaceae	**Plantain Family**
Keckiella antirrhinoides	chaparral beard tongue
Ranunculaceae	**Buttercup Family**
Delphinium parryi	San Bernardino larkspur
Rosaceae	**Rose Family**
Adenostoma fasciculatum	chamise
Salicaceae	**Willow Family**
Salix gooddingii	black willow
Schrophulariaceae	**Figwort**
Scrophularia californica	California bee plant
Nuttallanthus canadensis	Canada toadflax
Solanaceae	**Nightshade Family**
**Nicotiana glauca*	tree tobacco
Solanum umbelliferum	blue witch nightshade
Tamaricaceae	**Tamarix Family**
**Tamarix ramosissima*	tamarisk
Urticaeae	**Nettle Family**
**Urtica urens*	dwarf nettle

APPENDIX B

FAUNAL COMPENDIA

Vertebrates identified in the field by sight, calls, tracks, scat, or other signs are cited according to the nomenclature of Collins (1997) for amphibians and reptiles, AOU (1998) for birds, and Jones et al. (1992) for mammals. Species were noted by direct observation, call identification, or detection of tracks, scat, or other diagnostic signs.

LEGEND

† Denotes special-status species
* Denotes non-native species

TERRESTRIAL INVERTEBRATES

TENEBRIONIDAE – DARKLING BEETLES
Coelocnemis sp.
stink beetle
Eleodes osculans.
wooly darkling beetle
Tipula abdominalis
pinacate beetle

TIPULIDAE – CRANE FLIES
Tipula abdominalis
giant crane fly

COCCINELLIDAE – LADYBUGS
Harmonia axyridis
Asian lady beetle

FORMICIDAE - ANTS
Messor sp.
harvester ant species

PIERIDAE - WHITES AND SULPHURS
Phoebis sennae
cloudless sulfur butterfly

NYMPHALIDAE – BRUSH-FOOTED BUTTERFLIES
Vanessa cardui
painted lady

TERRESTRIAL VERTEBRATES

REPTILES

IGUANIDAE - IGUANID LIZARDS

Sceloporus occidentalis
Great Basin fence lizard

VIPERIDAE - VIPERS

Crotalus oreganus helleri
southern pacific rattlesnake

BIRDS

ACCIPITRIDAE - HAWKS

Buteo jamaicensis
red-tailed hawk

ALAUDIDAE – LARKS

Eremophila alpestris
horned lark

COLUMBIDAE - PIGEONS AND DOVES

Zenaida macroura
mourning dove

CORVIDAE - JAYS AND CROWS

Aphelocoma californica
California scrub-jay
Corvus brachyrhynchos
American crow

EMBERIZIDAE – SPARROWS, BUNTINGS, WARBLERS, AND RELATIVES

Zonotrichia leucophrys
white-crowned sparrow

FALCONIDAE - FALCONS

Falco sparverius
American kestrel

FRINGILLIDAE - FINCHES

Carpodacus mexicanus
house finch
Carduelis psaltria
lesser goldfinch
Spinus lawrencei
Lawrence’s goldfinch

HIRUNDINIDAE - SWALLOWS

Stelgidopteryx serripennis
northern rough-winged swallow

ICTERIDAE - BLACKBIRDS AND ORIOLES

Agelaius phoeniceus
red-winged blackbird
Icterus cucullatus
hooded oriole
Sturnella neglecta
western meadowlark

PASSERELLIDAE - AMERICAN SPARROWS

Junco hyemalis
dark-eyed junco
Pipilo maculatus
spotted towhee
Melozone crissalis
California towhee
Passerculus sandwichensis
savannah sparrow

POLIOPTILIDAE - GNATCATCHERS

†*Polioptila californica*
California gnatcatcher

STURNIDAE - STARLINGS

**Sturnus vulgaris*
European starling

TIMALIIDAE – BABBLERS

Chamaea fasciata
wrentit

TROCHILIDAE - HUMMINGBIRDS

Calypte anna
Anna's hummingbird

TROGLODYTIDAE - WRENS

Thryomanes bewickii
Bewick's wren

TURDIDAE – THRUSHES

Sialia mexicana
western bluebird

TYRANNIDAE - TYRANT FLYCATCHERS

Sayornis nigricans
black phoebe

Sayornis saya
Say's phoebe
Tyrranis verticalis
western kingbird
Tyrranis vociferans
Cassin's kingbird

TYTONIDAE - BARN OWLS
Tyto alba
barn owl

MAMMALS

CANIDAE - FOXES, WOLVES, AND ALLIES
Canis familiaris
domestic dog

CRICETIDAE - NEW WORLD RATS, MICE, VOLES, HAMSTERS, AND RELATIVES
Neotoma fuscipes
dusky-footed woodrat

LEPORIDAE - RABBITS AND HARES
Sylvilagus audubonii
desert cottontail
†*Lepus californicus bennettii*
black-tailed jackrabbit

SCIURIIDAE - SQUIRRELS
Otospermophilus beecheyi
California ground squirrel