Appendix D:
Biological Resources Supporting Information

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D.1 - Biological Resources Assessment

This appendix contains sensitive information relating to cultural resources and is not intended for public distribution pursuant to Public Resources Code Section 21082.3(C)(2). A copy of confidential Appendix D is on file with the City of Jurupa Valley and is available to qualified professionals upon request.

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L&L ENVIRONMENTAL, INC.
REGULATORY SERVICES
BIOLOGICAL & CULTURAL INVESTIGATIONS & MONITORING

REVISED UPDATED BIOLOGICAL RESOURCES ASSESSMENT, JURISDICTIONAL DELINEATION, MSHCP NARROW ENDEMIC PLANT, BURROWING OWL BREEDING SEASON, AND TWO-YEAR DELHI SANDS FLOWER-LOVING FLY FOCUSED SURVEYS RIO VISTA, SPECIFIC PLAN 16001, JURUPA VALLEY, RIVERSIDE COUNTY, CALIFORNIA

±902.43-Acre Property, ±902.43 Acres Surveyed

APNs 175-080-010, 175-090-001 through -005, 175-100-003 (portion), -005, & -006, 175-160-001, -005, & -007, 177-030-012 & -014, 177-040-002, & -008, SP 16001,
Rubidoux Area, Sections 3, 4, 9, & 10, Township 2 South, Range 5 West,
USGS Fontana 7.5' Topographic Quadrangle Map

Prepared For:

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Report Summary:

Burrowing owl and narrow endemic plants were not observed during focused surveys. Delhi Sands flower-loving fly was found on the site in 2005, but surveys in 2015 and 2016 were negative. The Project will impact 24.3 percent of Delhi soils and 22.5 percent of the 2005 mapped occupied Delhi Sands flower-loving fly habitat. An ancient Palmer's oak (of individual significance) is present in the survey area but will be avoided. The Project will impact 6.86 acres of CDFW Streambeds and wetlands and MSHCP Riparian/Riverine habitat of which 3.15 is waters of the state under Porter-Cologne. Listed and special status plants and wildlife have been observed. Crotch bumble bee has been observed on the site and is a candidate for state listing as endangered. It is not covered under the MSHCP and incidental take permitting is required for impacts. Habitat for nesting birds is present. Impacts are analyzed and mitigation measures are proposed to avoid, minimize, and compensate for impacts to biological resources. With implementation of the recommended measures, impacts associated with the proposed Project would be less than significant.

Surveys Conducted By: Bruyea, Dicus, Luft, Irish, Lopez, Ball
Surveys Conducted In: Apr-July 2014, Feb - Sep 2015, Apr - Oct 2016, and Apr - Sep 2018
Report Date: Dec 2016, updated Jan 2019, Aug 2020; Revised Mar 2021, Jun 2021, Aug 2021, Jan 2022, Mar 2023 and Sep 2023

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MANAGEMENT SUMMARY

L&L Environmental, Inc. conducted a biological assessment on Richland Communities' ±902.43-acre Rio Vista Project (±476.52-acre development footprint) in the City of Jurupa Valley, California. The purpose of this study was to examine the subject property to determine presence/absence of biological resources on the property, potential for special status species to occur, and presence of species or habitats that are regulated under the Western Riverside County Multiple Species Habitat Conservation Plan (MSHCP). L&L evaluated the site for Narrow Endemic plant species, burrowing owl, Delhi Sands flower-loving fly, and MSHCP Riparian/Riverine and vernal pool habitat.

The property is in the City of Jurupa Valley within the County of Riverside, east of Armstrong Road and north of the 60 freeway. It is not located within the MSHCP Criteria Area. The site contains a mixture of steep hillsides, rolling hills, rocky outcrops, and low-relief canyons combined with relatively flat areas. Several unpaved roads are present on the site and some areas have been affected by historic and ongoing off-road vehicle use. Eight vegetation communities are present: Brittle Bush Scrub, California Buckwheat Scrub, Chamise Chaparral, Bush Penstemon Scrub, Willow Scrub, Non-native Grasslands, Ornamental Vegetation, and Developed areas. Bush Penstemon Scrub is a sensitive vegetation community.

One special status plant species was observed during the 2014, 2015, 2016, 2017, and 2018 surveys, Plummer's mariposa lily (*Calochortus plummerae).* One (1) listed and nine (9) special status wildlife species were observed: coastal California gnatcatcher (*Polioptila californica californica*), Cooper's hawk (*Accipiter cooperii*), southern California rufous-crowned sparrow (*Aimophila ruficeps canescens*), Lawrence's goldfinch (*Spinus lawrencei*), northern harrier (*Circus hudsonius*), great egret (*Ardea alba*), Costa's hummingbird (*Calypte costae*), northern red-diamond rattlesnake (*Crotalus ruber*), orange-throated whiptail (*Aspidoscelis hyperythra*), and San Diego black-tailed jackrabbit (*Lepus californicus bennettii*). The Project site also supports habitat for nesting birds.

Four (4) other listed and special status wildlife species were reported as occurring in the 2005 and 2006 biological surveys conducted by AMEC: coast horned lizard (*Phrynosoma blainvillii*), coastal whiptail (*Aspidoscelis tigris stejnegeri*), Crotch bumble bee (*Bombus crotchii*), and Delhi Sands flower-loving fly (*Rhaphiomidas terminatus abdominalis*). In addition, two (2) special status plants and 18 special status wildlife species were determined to have a moderate or high potential of occurring within the survey area.

Crotch bumble bee is a candidate for state listing as endangered (as of March 2023). Impacts to this species require incidental take permitting and associated mitigation.

A single Palmer's oak (*Quercus palmeri*) was identified in the survey area. Scientific research suggests the age of this individual ranges between 13,000 and 18,000 years old. Although Palmer's oak is not a special status species, it is very uncommon within cismontane Western Riverside County. Based on the current Project design, the Palmer's oak is located in designated open space at least 150 feet outside of the Project limits.

Habitat assessment and focused botanical surveys for Narrow Endemic plants (San Diego ambrosia, Brand's phacelia, and San Miguel savory) determined there was either no suitable habitat or the species were absent due to poor habitat and multiple years of negative survey results. Focused surveys for burrowing owl in 2005, 2014, 2016, and 2018 were negative, but suitable habitat is present.

Delhi Sands flower-loving fly (DSF) was found on the site by AMEC in 2005. The area of occupied habitat was mapped as 3.73 acres. A two-year focused survey for DSF was conducted in 2015 and 2016 and results were negative. Due to the extensive and increasing impacts of off-road vehicles and unauthorized dumping within the Delhi Sands habitat, as well as reduced presence of reliable local nectar sources, DSF may have been extirpated from this area. The site is not within MSHCP Criteria Cells or Conservation Areas and, with negative survey results, no mitigation is required. The Project limits impacts to no more than 24.3 percent of the acreage of Delhi Sands habitat present and 22.5 percent of the 2005 mapped occupied habitat.

A jurisdictional delineation in 2018 found jurisdictional areas in the survey area calculated at 2.31 acres of CDFW streambed and 0.85 acre of CDFW wetlands, for a total of 3.16 acres of state jurisdiction on the Project site.

An updated jurisdictional delineation in 2023 found 5.98 acres of CDFW streambed/MSHCP Riverine habitat and 0.88 acre of CDFW wetlands/MSHCP Riparian habitat for a total of 6.86 acres of CDFW jurisdiction and MSHCP Riparian/Riverine habitat on the site. Of this 3.15 acres is also considered to be waters of the state.

The features on the property are ephemeral and therefore are not federal waters and the state wetlands do not meet the criteria for federal wetlands. The U.S. Army Corps of Engineers issued an Approved Jurisdictional Determination on February 11, 2021 stating that Waters of the U.S. do not occur on the Project site.

Project implementation will impact 5.98 acres of state streambed/MSHCP Riverine habitat and 0.88 acre of CDFW wetlands/MSHCP Riparian habitat for a total of 6.86 acres of CDFW jurisdiction and MSHCP Riparian/Riverine habitat on the site. Of this, 3.15 acres of impact will occur to waters of the state. No impacts will occur to federal waters or wetlands since none are present on the property.

The Highland Park development project is immediately adjacent to the southwest side of the Rio Vista Project. Three of the five offsite impact areas for Rio Vista (as shown on Specific Plan 16001 (T&B Planning, November 19, 2020) and plans provided by Hunsaker and Associates dated October 1, 2020) are on the Highland Park property. Impacts to areas within the Highland Park Project which were considered Rio Vista off-site improvements have been removed from this report as the Highland Park project is currently under construction. Similarly, because the Highland Park project has moved to construction, those areas within Rio Vista that were considered off-site improvements and impacts for the Highland Park Project are not addressed in this report.

Two offsite grading areas on the northeast side will connect the Project to the existing 20th Street and the existing Alicante Avenue. These areas have not been surveyed, but L&L conducted a desktop review of these areas and found them to be entirely disturbed and developed.

Impacts of the Project are analyzed and mitigation measures are proposed to avoid, minimize, and compensate for impacts to biological resources. With implementation of the recommended mitigation measures, impacts associated with the proposed Project would be less than significant.

1.0) INTRODUCTION

This report has been prepared by L&L Environmental, Inc. (L&L) for Richland Communities. It describes the proposed Rio Vista Project (Project) and its potential impacts on biological resources. It describes the results of biological surveys conducted between 2014 and 2018, including five botanical surveys, three breeding season focused surveys for burrowing owl, two jurisdictional delineations, and two consecutive years of Delhi Sands flower loving fly surveys. Surveys were conducted on the proposed development located within the City of Jurupa Valley in Riverside County, California. The Project site consists of APNs 175-080-010, 175-090-001 through -005, 175-100-003 (portion), -005, and -006, 175-160-001, -005, and -007, 177-030-012 and -014, 177-040-002, and -008, totaling ±902.12 acres plus ±0.31 acre of offsite areas for a total of ±902.43 acres.

APNs 175-080-021 and 175-150-002 and a portion of APN 175-100-003 are shown as part of Specific Plan 16001 (T&B Planning, November 19, 2020), but are considered not a part of the Project and are not further addressed in this report.

L&L's assessment consisted of (1) a review of previous data and reports documenting biological resources on the site, (2) a records search conducted to determine special status species documented in the area, and (3) field reconnaissance to identify plants and animals on the site and presence/absence of habitat for species of concern, in particular burrowing owl, Delhi Sands flower-loving fly, and Narrow Endemic plants.

1.1) Project Description

The Rio Vista Project consists of the rescission of a Specific Plan (SP), which was initially approved by Riverside County in 1992, adoption of a new Specific Plan, Zoning Ordinance Amendment and General Plan Amendment for a master planned community on an approximately 917.3-acre site (including APNs 175-080-021 and 175-150-002 and all of APN 175-100-003) in the City of Jurupa Valley. Tentative Tract Maps will be processed subsequently.

The Specific Plan was approved in 1992 for 917.3 acres but the project area limits for biological resources extend across 902.43 acres as calculated in GIS. Additional biological resource work will be required should any impacts occur outside the project area for biological resources.

Based on the Land Use Plan for Specific Plan 16001 (T&B Planning, August 5, 2021; see Appendix H), the proposed Project consists of up to 1,697 residential dwelling units on 204.4

acres[1], 140.3 acres of Light Industrial and Business Park, 14.8 acres of Public Facilities (school, water tanks), 19.6 acres for Circulation, 18.4 acres of Open Space – Recreation (parks and trails), 9.0 acres for Open Space – Water (basin), and 510.8 acres of Open Space – Conservation (natural, slopes). Acreage is approximate and will be defined through future implementing tract map(s).

Based on the Land Use Plan (T&B Planning, August 5, 2021), the Project would include approximately 510.8 acres of conserved open space, consisting of a combination of natural areas, common areas, landscaped slopes, conservation areas, and Southern California Edison Easement.

1.2) Project Location

The site is in the City of Jurupa Valley within the County of Riverside (Figure 1). It is located east of Armstrong Road and north of the 60 freeway, within parts of Sections 3, 4, 9, and 10 of Township 2 South, Range 5 West, USGS Fontana quadrangle (Figure 2). The property can be accessed from the 60 freeway by taking the Rubidoux Boulevard exit north and then taking one of the roads (28th Street, 20th Street, etc.) leading west to the Project location.

The site is generally bounded as follows: to the west by high density housing, with a golf club and undeveloped land beyond, including conserved open space; to the east by industrial developments, undeveloped land, and high density housing, with the Santa Ana River and the City of Riverside beyond; to the north by undeveloped land, with high density housing beyond; and to the south by undeveloped land and high density housing, with the 60 freeway, high density housing, and commercial developments beyond (Figure 3).

1.3) Offsite Impact Areas

Highland Park

The Highland Park project is immediately adjacent to the southwest side of the Rio Vista Project. Three of the five offsite impact areas for Rio Vista (as shown on the Land Use Plan for Specific Plan 16001, T&B Planning, August 5, 2021 [see Appendix H] and plans provided to L&L by Hunsaker and Associates on August 25, 2021) are on the Highland Park property. For the purposes of this report, all impacts within the Highland Park project and all off-site improvements

[1] This report does not include APN 175-080-021 (PA 7) with 11.1 acres and 45 dwelling units, APN 175-150-002 (PA 11) with 3.8 acres and 3 dwelling units, and a portion of APN 175-100-003 (PA 10) with 2.6 acres and 2 dwelling units.

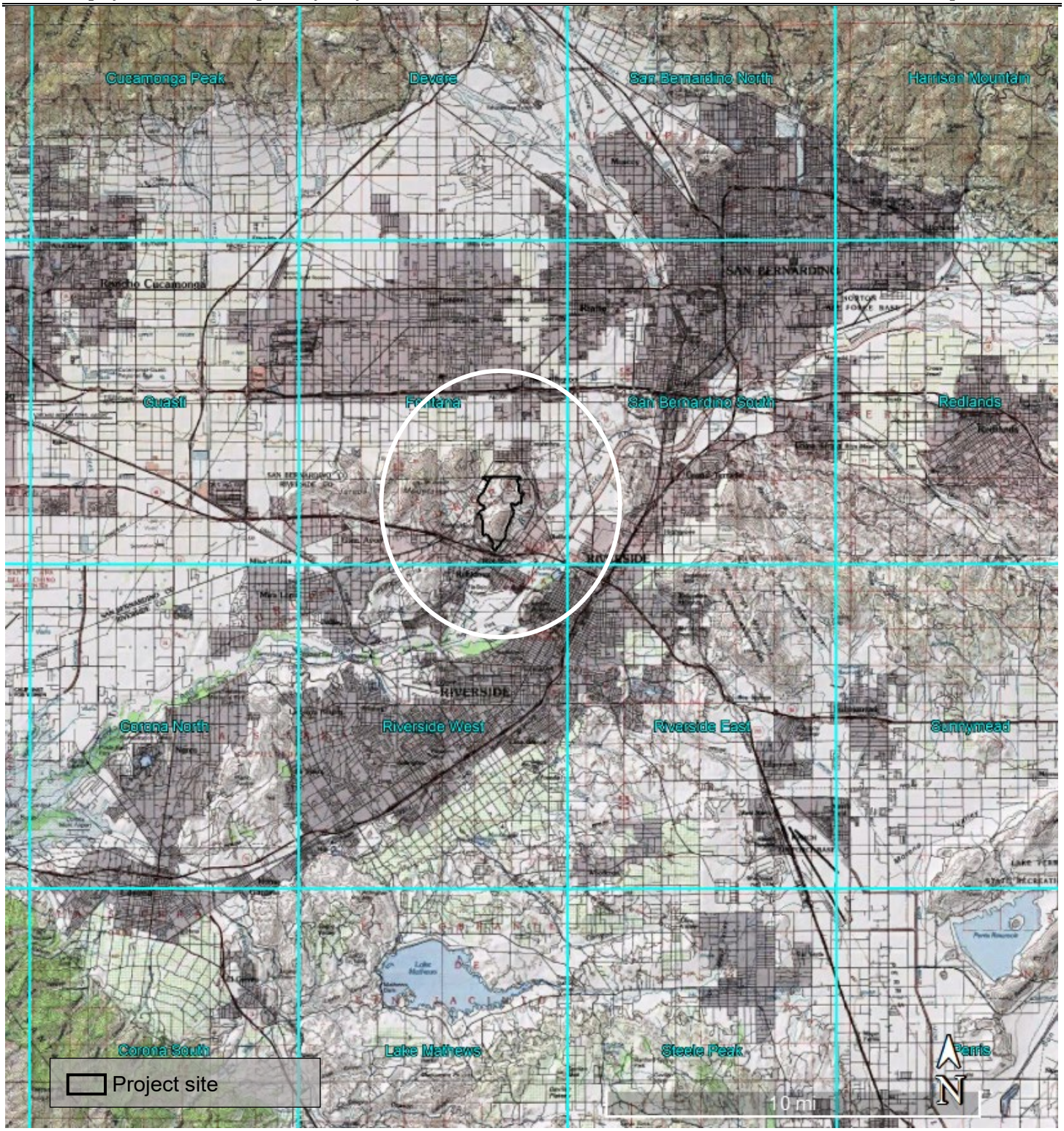
and resulting impacts for the Highland Park project including those occurring as Highland Park offsite improvements within the Rio Vista Project limits are excluded from this analysis.

On the figures in this report, the offsite impact areas in Highland Park are labeled as "offsite (not a part)," indicating that these offsite areas are not included in this analysis.

20th Street and Alicante Avenue

Offsite grading areas on the northeast side are needed to connect the Project to the existing 20th Street and the existing Alicante Avenue. These areas have not been surveyed but L&L conducted a desktop review of these areas.

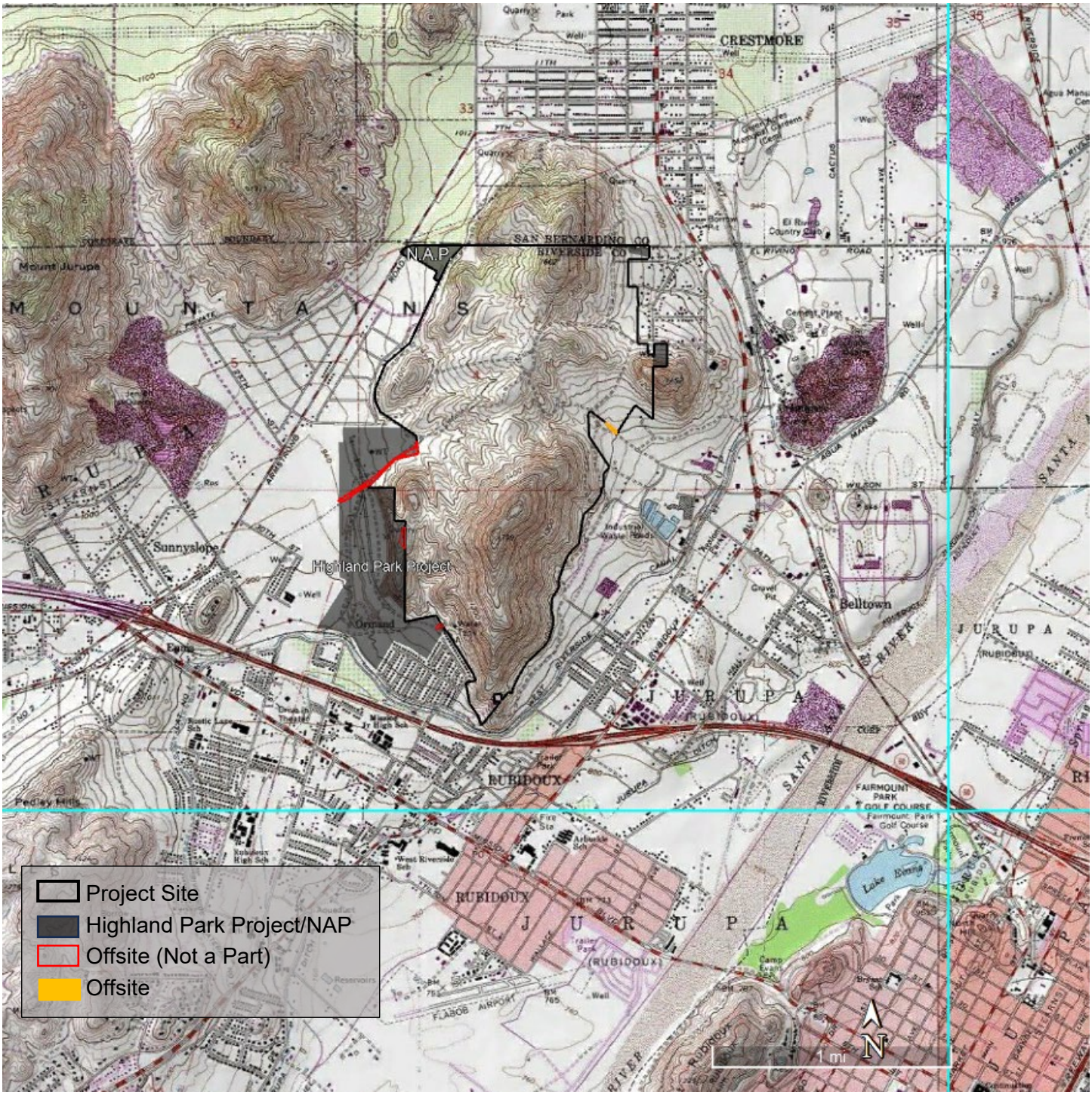
On the figures in this report, the offsite impact areas at 20th Street and Alicante Avenue are labeled as "offsite," indicating that these offsite areas are included in this analysis.



(USGS Quad, Section 3 of Township 2 South, Range 5 West)

Rio Vista Project
Riverside County, California

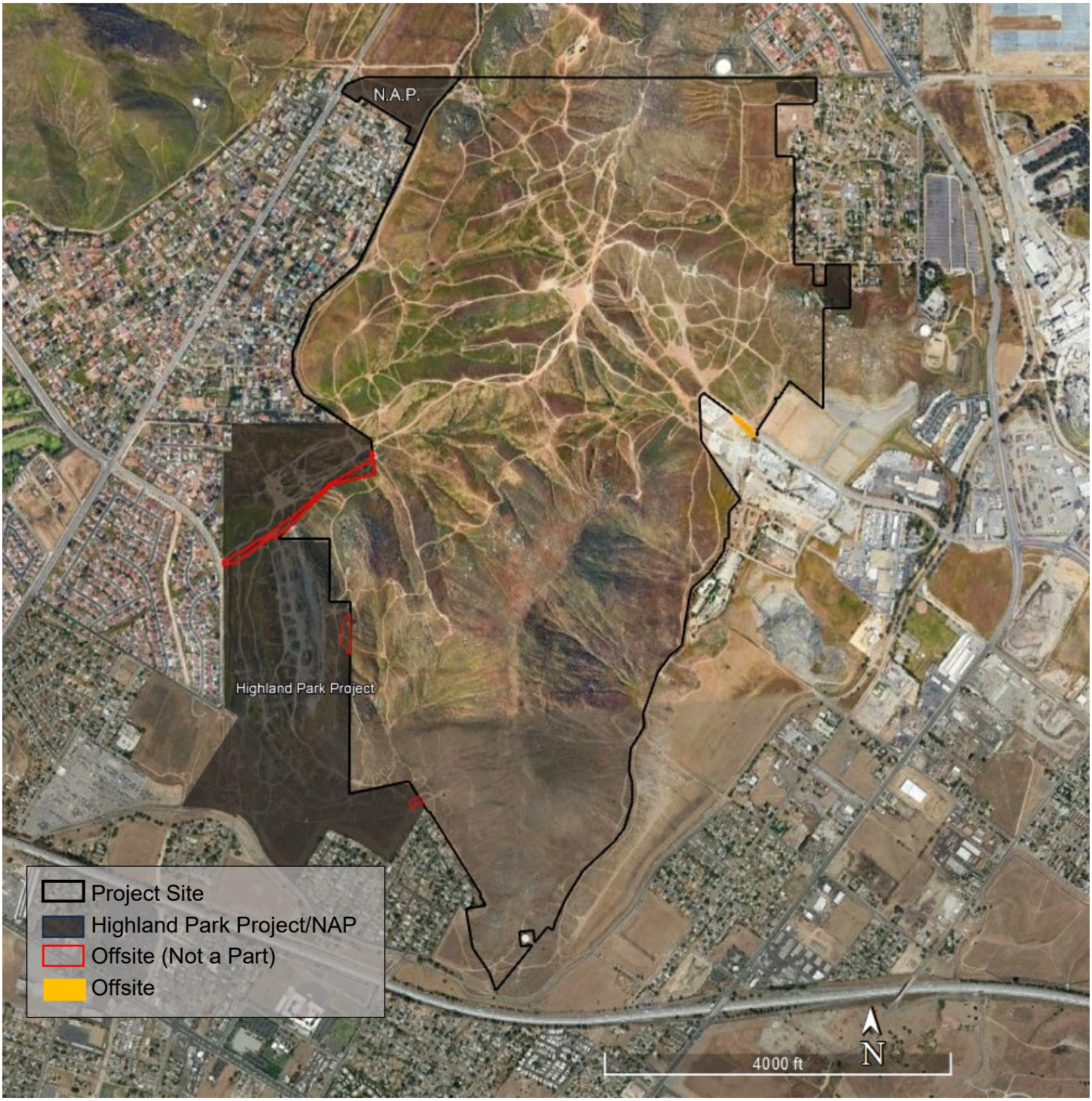
Project Vicinity
Figure 1



(USGS Quad, Section 3 of Township 2 South, Range 5 West)

Rio Vista Project
Riverside County, California

Project Location
Figure 2



(Aerial obtained from Google Earth, March 2023)

Rio Vista Project
Riverside County, California

Project Aerial
Figure 3

2.0) METHODS

2.1) Literature Review

Certain plants and animals have been listed as threatened or endangered under state or federal Endangered Species Acts. Other species have not been formally listed but declining populations or habitat availability are reasons for concern regarding their long-term viability. These species are included in lists compiled by resource management agencies or private conservation organizations. In this report, the term "special status species" refers to all species included in one or more compendia or formal list of rare, threatened, or endangered species.

Preliminary investigations included a review of pertinent literature, including both regional and local data, to identify occurrences and habitat requirements of special status species and communities occurring in the survey area. Literature reviewed included compendia provided by resource agencies, the Western Riverside County MSHCP (Dudek 2003), the California Native Plant Society Inventory of Rare and Endangered Vascular Plants of California (CNPS 2021), and California Natural Diversity Database (CNDDB; CDFW 2021a). The CNDDB and CNPS search included the Fontana topographic quadrangle, which includes the Project site, and the adjacent quadrangles (Cucamonga Peak, Guasti, Corona North, Devore, Riverside West, San Bernardino North, San Bernardino South, and Riverside East). The CNDDB and CNPS searches were updated in January 2021 (CDFW 2021a, CNPS 2021). The Information for Planning and Consultation database (IPaC; USFWS 2021) was also reviewed in January 2021. Special status species information from CDFW (2021b, 2020a), standard reference works, field guides, existing literature, and unpublished reports were also included as part of the background research.

Vegetation community classifications are based on Sawyer et al. (2009). State ranks (S ranks) for vegetation communities are from CDFW (2020b). Holland Element Codes are from Holland (1986) and/or Oberbauer (1996). Scientific names of plants follow Baldwin (2012) with updates from the online Jepson eFlora (Jepson 2021). Scientific names of animals follow Stebbins (1985), Jameson and Peeters (1988), Sibley (2000), and Arnett (2000), with updates from academic sources.

L&L reviewed and utilized reports documenting previous surveys of the property conducted by others including:

- Preliminary Determination of Jurisdictional Limits U. S. Army Corps of Engineers Section 404 Waters of the United States Including Wetlands and State Waters Subject to California

Department of Fish and Game Section 1602 Streambed Alteration Agreement, Rio Vista Specific Plan. AMEC Earth & Environmental, Inc. 2005.

- Rio Vista Specific Plan, EA & Case # SP 00243A1 & CZ 07159, Habitat Assessment and Focused Survey for Delhi Sands Flower-loving Fly. AMEC Earth & Environmental, Inc. 2005.

- Rio Vista Specific Plan, EA & Case # SP 00243A1 & CZ 07159, Biological Resources Assessment, Habitat Assessment, and Focused Burrowing Owl Survey. AMEC Earth & Environmental, Inc. 2006.

- Determination of Biologically Equivalent or Superior Preservation, Rio Vista Specific Plan SP00243A1, Riverside County, California. AMEC Earth & Environmental, Inc. 2008.

L&L reviewed and either included or updated data as appropriate from previous L&L surveys of the property, including:

- One Year Supplement Focused Study for Delhi Sands Flower-loving Fly, Rio Vista, Specific Plan 243A1, Jurupa Valley, Riverside County, California. L&L Environmental, Inc. 2015.

- Jurisdictional Delineation with Least Environmentally Damaging Practical Alternative for Rio Vista, Specific Plan 243A1, City of Jurupa Valley, Riverside County, California. L&L Environmental, Inc. 2015.

- Biological Assessment, Jurisdictional Delineation, MSHCP Narrow Endemic Plant, Burrowing Owl Breeding Season and Delhi Sands Flower-loving Fly Focused Surveys for Rio Vista, Specific Plan 243A1, Jurupa Valley, Riverside County, California. L&L Environmental, Inc. 2015.

- Second Year of a Focused Study for Delhi Sands Flower-loving Fly, Rio Vista, Specific Plan 243A1, Jurupa Valley, Riverside County, California. L&L Environmental, Inc. 2016.

- Updated Biological Assessment, Jurisdictional Delineation, MSHCP Narrow Endemic Plant, Burrowing Owl Breeding Season and Two Year Delhi Sands Flower-loving Fly Focused Surveys for Rio Vista, Specific Plan 243A1, Jurupa Valley, Riverside County, California. L&L Environmental, Inc. 2016.

- Botanical and Narrow Endemic Plant Survey for Rio Vista, Specific Plan 243A1, Jurupa Valley, Riverside County, California. L&L Environmental, Inc. 2017.

- Updated Jurisdictional Delineation with Least Environmentally Damaging Practical Alternative for Rio Vista, Specific Plan 243A1, City of Jurupa Valley, Riverside County, California. L&L Environmental, Inc. 2018.

L&L reviewed reports documenting LSA's previous surveys of the Highland Park project site, which includes offsite impact areas for the Rio Vista Project constructed by the Highland Park project:

- Biological Resources Assessment, Richland Rubidoux Residential Project. LSA 2004.

- Focused Survey for the California Gnatcatcher, Rubidoux Residential Development Project, County Case Number: TR31894. LSA 2004.

- Delineation of Wetlands and Jurisdictional Waters, Richland Rubidoux Residential Project. LSA 2004.

- Focused Survey for Burrowing Owl, Richland Rubidoux Residential Project (HANS 859, TTM 31894). LSA 2005.

- Habitat Assessment for MSHCP Survey Plants, Richland Rubidoux Residential Project (HANS 859, TTM 31894). LSA 2005.

- Focused Survey for Narrow Endemic Plant Species (Brand's Phacelia), Richland Rubidoux Residential Project (HANS 859, TTM 31894). LSA 2005.

- Compliance with MSHCP Section 6.1.2. Richland Rubidoux Residential Project, HANS 859, Case Number TR31894. LSA 2006.

- Third Year Focused Survey for Delhi Sands Giant Flower-loving Fly, Richland Rubidoux Residential Project (TR 31894). LSA 2006.

- Coastal California Gnatcatcher Survey Report, Rubidoux Residential Project (TTM 31894). LSA 2006.

- Review and Update to the Delineation of Wetlands and Jurisdictional Waters Report for the Richland Rubidoux Residential Project. LSA 2012.

Weather data for the Project vicinity was obtained from weather stations KCARIALT4 in Rialto and KRAL at the Riverside Municipal Airport in Riverside. Personal weather station KCARIALT4 is located approximately 3.5 miles northeast of the site at an elevation of 1125 feet. KRAL is located approximately 4.3 miles southwest of the site at an elevation of 817 feet (Wunderground.com 2018). Weather data is provided in Appendix C.

In this report, the Project site is defined as the entire property as shown in Figure 3. The Project footprint (or Project impact area) includes only the areas planned for development impacts as shown in Figure 17. The survey area (or study area) refers to the Project site (or the area of suitable habitat within the Project site) plus any buffer required by protocol (not including the offsite impact areas). The Project vicinity refers to the area within approximately five (5) miles of the Project site. The offsite impact areas refer to planned offsite impacts on the northeast side (20th Street and Alicante Avenue) and the southwest side (Highland Park site). Impacts to the Highland Park site will be covered under a separate project and are not addressed in this report.

2.2) General Biological Survey Methods

L&L biologists Guy Bruyea, John Dicus, and Melanie Dicus visited the survey area between April 2014 and September 2018 (see Table 1) to describe vegetation and habitat and evaluate probabilities that special status animals and plants might occur within the survey boundaries. The survey area included the Project site. Survey dates and weather conditions are listed in Table 1.

Table 1. Survey dates and weather conditions

Date	Time	Weather	Wind (mph)	Biologist	Purpose
04/25/2014	0900-1500	Partly Cloudy, 61-73° F	0-3	Bruyea	General Bio/Botanical
05/07/2014	0730-1330	Cloudy, 54-72° F	1-6	Bruyea	General Bio/Botanical
05/15/2014	0700-1300	Sunny, 67-96° F	0-2	Bruyea	General Bio/Botanical
05/24/2014	0600-1200	Partly Cloudy, 53-75° F	1-4	Bruyea	BUOW/Gen Bio/Bot
06/07/2014	0600-1200	Marine-Sunny, 60-71° F	0-1	Bruyea	BUOW/Gen Bio/Bot
06/14/2014	1330-1930	Sunny, 87-77° F	4-1	Bruyea	BUOW/Gen Bio/Bot
06/15/2014	0630-1230	Sunny, 57-80° F	0-3	Bruyea	BUOW/Gen Bio/Bot
06/19/2014	1400-2000	Sunny, 87-78° F	3-0	Bruyea	BUOW/Gen Bio/Bot
06/30/2014	0600-1200	Cloudy, 59-75° F	1-4	Bruyea	BUOW/Gen Bio/Bot
07/19/2014	0600-0930	Sunny, 62-67° F	0-1	Bruyea	General Bio/Botanical
02/17/2015	0630-1430	Marine-Sunny, 58-74° F	0-4	M. Dicus	General Bio/Botanical
02/25/2015	0800-1500	Sunny, 62-73° F	0-4	Bruyea	General Bio/Botanical
03/23/2015	0800-1500	Partly Cloudy, 65-75° F	0-3	Bruyea	General Bio/Botanical
06/01/2015	0900-1600	Sunny, 72-80° F	0-1	Bruyea	General Bio/Botanical
06/29/2015	0800-1500	Partly Cloudy, 73-85° F	0-3	Bruyea	General Bio/Botanical
04/15/2016	0800-1500	Sunny (Windy), 65-80°F	3-15	Bruyea	General Bio/Botanical
04/19/2016	0630-1700	Partly Cloudy, 68-92°F	1-5	Bruyea	BUOW/Gen Bio/Bot
04/26/2016	0630-1700	Hazy-Sunny, 61-73°F	0-3	Bruyea	BUOW/Gen Bio/Bot
05/06/2016	0800-1330	Cloudy, 60-70°F	0-3	Bruyea	General Bio/Botanical
05/15/2016	0630-1700	Marine Layer, 61-70°F	0-2	Bruyea	BUOW/Gen Bio/Bot
06/02/2016	0630-1700	Sunny, 65-91°F	0-4	Bruyea	BUOW/Gen Bio/Bot
06/30/2016	0630-1700	Sunny, 67-88°F	0-2	Bruyea	BUOW/Gen Bio/Bot
07/17/2016	1400-1700	Sunny, 100-92°F	3-2	Bruyea	General Bio/Botanical
10/18/2016	0900-1500	Partly Cloudy, 69-82°F	1-3	Bruyea	General Bio/Botanical
10/23/2016	0900-1200	Cloudy/Rain, 68-78°F	2-5	Bruyea	General Bio/Botanical
10/25/2016	1000-1300	Sunny, 69-75°F	2-4	Bruyea	General Bio/Botanical
10/26/2016	0900-1500	Sunny, 70-82°F	1-3	Bruyea	General Bio/Botanical
03/25/2017	0800-1730	Cloudy, 52-69° F	0-6	J. & M. Dicus	General Bio/Botanical
03/26/2017	0800-1700	Partly Cloudy, 55-73° F	0-6	J. & M. Dicus	General Bio/Botanical
04/14/2017	0830-1300	Sunny, 54-75° F	1-5	J. & M. Dicus	General Bio/Botanical

Table 1. Survey dates and weather conditions continued

05/29/2017	1200-1630	Partly Cloudy, 84-86° F	2-7	J. & M. Dicus	General Bio/Botanical
06/06/2017	0815-1730	Cloudy, 62-77° F	0-6	J. & M. Dicus	General Bio/Botanical
06/07/2017	0730-1645	Cloudy, 63-78° F	1-6	J. & M. Dicus	General Bio/Botanical
08/24/2017	0730-1400	Sunny, 64-68° F	1-10	J. & M. Dicus	General Bio/Botanical
08/27/2017	0710-1700	Sunny. 67-97° F	0-7	J. & M. Dicus	General Bio/Botanical
08/28/2017	0700-1330	Partly Cloudy, 71-106° F	0-7	J. & M. Dicus	General Bio/Botanical

04/05/2018	1100-1500	Partly Cloudy, 64-75°F	0-2	Bruyea	General Bio/Botanical
04/07/2018	0900-1500	Partly Cloudy, 60-73°F	0-5	Irish	General Bio/Botanical
04/20/2018	0730-1200	Sunny / Clear, 65-78°F	1-2	Bruyea	General Bio/Botanical
04/27/2018	0930-1500	Sunny / Clear, 67-76°F	0-3	Bruyea	General Bio/Botanical
05/01/2018	0900-1430	Sunny, 68-80°F	0-2	Irish	General Bio/Botanical
05/03/2018	1000-1530	Sunny / Hazy, 70-82°F	0-1	Bruyea	General Bio/Botanical
05/19/2018	0930-1330	Cloudy / Clear, 75-81°F	0-3	Bruyea	General Bio/Botanical
05/25/2018	1400-1800	Partly Cloudy, 75-79°F	2-5	Bruyea	General Bio/Botanical
06/04/2018	0900-1430	Sunny, 70-90°F	1-2	Irish	General Bio/Botanical
06/09/2018	1300-1500	Sunny / Clear, 88-96°F	1-4	Bruyea	General Bio/Botanical
06/30/2018	0930-1230	Sunny / Clear, 76-83°F	1-5	Bruyea	General Bio/Botanical
07/02/2018	0830-1400	Partly Cloudy, 76-90°F	1-2	Irish	General Bio/Botanical
07/09/2018	0630-1000	Partly Cloudy, 75-87°F	0-2	Bruyea	General Bio/Botanical
08/04/2018	0800-1200	Sunny / Clear, 79-96°F	0-3	Bruyea	General Bio/Botanical
09/04/2018	1230-1530	Sunny / Clear, 84-90°F	1-3	Bruyea	General Bio/Botanical
10/21/2018	0830-1400	Sunny / Clear, 72-84°F	0-2	Bruyea	General Bio/Botanical

A total of about 390 person-hours were spent on the site for the general biological and botanical surveys. All habitat types on the site were visited on foot. The site was surveyed by conducting a series of transects across the subject property where possible, stopping periodically for observations and notations. Fieldwork was conducted using recent aerial photography, topographic maps, and checklists based on biological information developed via the records search. Biological data were mapped onto the aerial photograph as polygon, line, and point features. All field surveys were conducted during daylight hours. Digital photographs were taken to record the conditions of the site during the surveys.

Aerial photography, digital vegetation maps, and habitat maps from previous reports were reviewed to determine potential community types within the survey area. Preliminary ground-truthing surveys concurred with digital vegetation maps and additional surveys were performed to define the community types and boundaries.

Mapping of vegetation communities was performed with the aid of Geographic Information System (GIS) programs. A preliminary map was drawn onscreen using polygons on color aerial photographs (Google Earth). The polygons were attributed with different vegetation communities after checking all available vegetation data gathered during surveys. Field data were also consulted to discern the boundaries of vegetation communities that were not easily detected with color aerial photography. This preliminary map was then checked onsite for accuracy and subsequently modified into the final vegetation community map.

Vegetation community mapping was updated in 2017 after subtle differences were noted in the field following a season with a normal amount of rainfall. Vegetation communities correspond to the California Natural Community List (CDFW 2020b).

The surveys coincided with the period during which many wildlife species, including migratory birds, would have been most detectable.

Potential for occurrence of plant and wildlife species were evaluated and classified as: absent, low, moderate, high, or occurs. These classifications are based on the presence and quality of habitat, geographic and elevational range of species, proximity to a known occurrence of a species obtained from CNDDB data, and field observations. Classifications for individual species may be modified based on biologists' experience and expert opinion.

Based on habitat assessment results and MSHCP requirements, focused surveys for burrowing owl, Narrow Endemic plants, and Delhi Sands flower loving fly were determined to be appropriate for the site and included adjacent lands as required by protocol.

2.3) Botanical Survey Methods

Information on special status plant species within the Project vicinity was gathered from the California Native Plant Society (CNPS) Inventory of Rare and Endangered Plants of California (CNPS 2021) and the CNDDB (CDFW 2021a). Maps depicting documented special status plant species locations within the Project vicinity were produced to aid in determining the target species for survey.

L&L conducted a habitat assessment for the species in Table 12 (Appendix A). The habitat assessment followed the recommendations of the California Native Plant Society (CNPS 2001). The survey area's suitability to support special status and MSHCP Narrow Endemic plant species was determined using indicators, including the presence of suitable habitat, moisture, and soil conditions. The survey area included the Project site.

A complete floristic study of the survey area, as required in a CEQA analysis, was conducted between April 2014 and September 2018 (Table 1). Focused plant surveys were conducted throughout the year (early, mid, and late season) to provide full coverage and to include the typical blooming period for these species. The plant surveys followed protocols recommended in USFWS (1996b), CDFW (CDFG 2009, CDFW 2018), and CNPS guidelines (CNPS 2001) for rare plant surveys and the standards set forth in the Western Riverside County MSHCP. All plants encountered were identified to a level necessary to ensure detection of special status species.

Plants of uncertain identity were collected and subsequently identified from keys, descriptions, and illustrations in Abrams (1923, 1944, & 1951), Abrams and Ferris (1960), Hickman (1993), Munz (1974), and Parker (1999).

This methodology is consistent with recommendations by the California Native Plant Society (CNPS 2001), because it provides more than "reasonable coverage" of all habitat types and was "floristic in nature." Systematic field techniques in all habitats of the site (transects) were employed to ensure thorough coverage of potential impact areas that is sufficient to provide comprehensive reporting.

2.4) Burrowing Owl Survey Methods

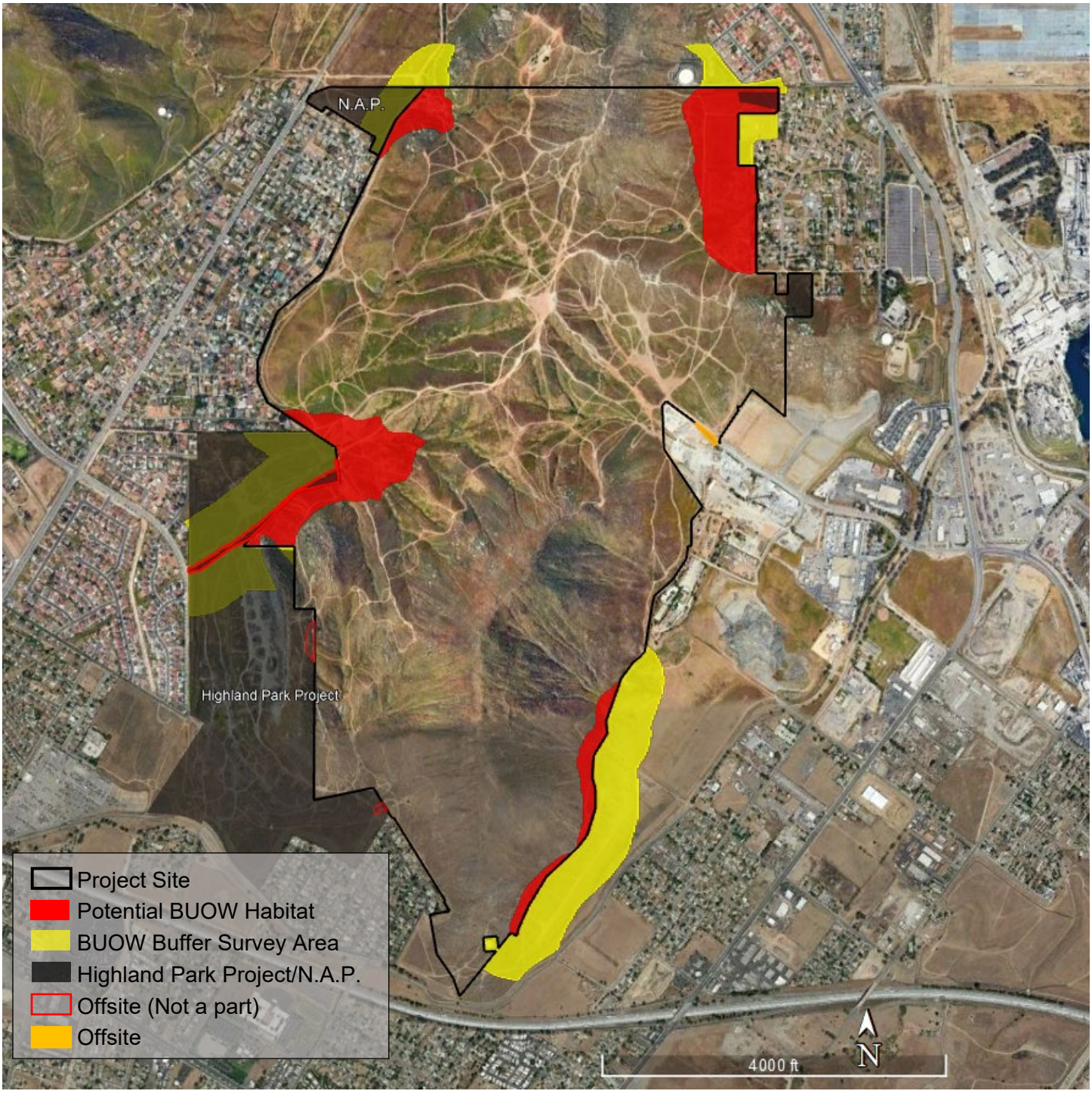
A total of about 53 person-hours were spent on the site conducting burrowing owl (BUOW) surveys between May 2014 and June of 2018 (Table 2). The survey area included the Project site and applicable buffers. The entire survey area was examined, and potential habitat areas were mapped. Suitable habitat within the site plus the required 500-foot buffer was evaluated for presence of burrowing owl using meandering transects to allow for visual coverage and habitat identification. Once potentially suitable habitat was identified and mapped, a focused burrowing owl survey was initiated. This survey was conducted in accordance with the Burrowing Owl Survey Instructions for the Western Riverside County Multiple Species Habitat Conservation Plan (EPD 2006). Surveys were conducted to determine the presence or absence of BUOW in the survey area.

Surveys must be conducted during the breeding season for BUOW (March 1 to August 31). However, surveys are best performed during the peak BUOW breeding season, which is generally considered to be from April 15 to July 15 in southern California. Protocol guidelines specify that BUOW surveys should be conducted during weather that is conducive to observing owls outside their burrows. Because BUOW is considered mostly crepuscular (active at dawn and dusk) in its activities, these guidelines suggest that surveys be conducted from one hour before to two hours after sunrise or from two hours before to one hour after sunset.

Based on protocols, surveys should be conducted on separate days and should not be conducted under any of the following weather conditions: wind speeds in excess of 20 mph, heavy rain, or dense fog. In addition, MSHCP survey instructions indicate that surveys will not be accepted if they are conducted within five (5) days following rain, during rain, during high winds, or in temperatures exceeding 90° F. Furthermore, these instructions state that focused surveys

conducted during the winter season only are not conclusive proof that BUOW is absent from a given site.

Surveys were performed in May and June of 2014, April, May, and June of 2016, and April and June of 2018. Surveys were mostly conducted on flat areas of the site (usually site margins) where potential BUOW habitat is present (Figure 4). Areas of dense vegetation, steep slopes, and canyon bottoms are not considered suitable habitat for BUOW and were excluded from surveys. Focused surveys were conducted in early morning or late afternoon hours in accordance with current BUOW survey protocols.



(Aerial obtained from Google Earth, March 2023)

Rio Vista Project
Riverside County, California

Potential Burrowing Owl Habitat and Survey Area
Figure 4

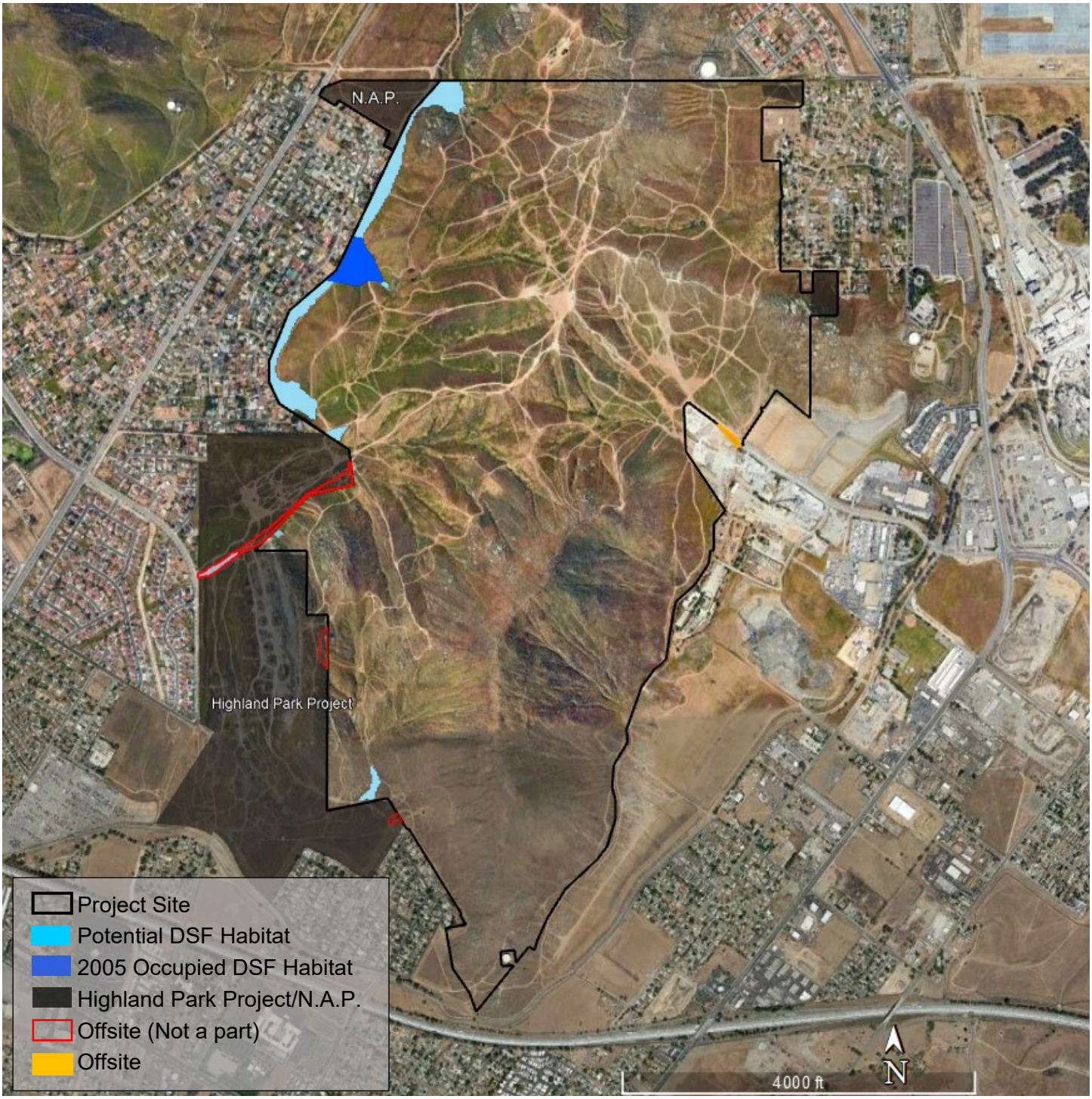
Table 2. Burrowing owl survey dates and conditions.

Date	Time	Sunrise/Sunset	Weather	Wind (mph)	Biologist	Purpose
05/24/2014	0600-0830	0545/1954	Partly Cloudy, 53-59° F	1-2	Bruyea	BUOW
06/07/2014	0600-0800	0541/2002	Marine, 60-66° F	0-1	Bruyea	BUOW
06/14/2014	1730-1930	0541/2005	Sunny, 82-77° F	3-1	Bruyea	BUOW
06/15/2014	0630-0830	0541/2005	Sunny, 57-63° F	0-1	Bruyea	BUOW
06/19/2014	1800-2000	0541/2007	Sunny, 83-78° F	2-0	Bruyea	BUOW
06/30/2014	0600-0830	0544/2008	Cloudy, 59-64° F	1-1	Bruyea	BUOW
04/19/2016	0630-1130	0616/1928	Sunny, 68-80° F	1-4	Bruyea	BUOW
04/26/2016	0630-1130	0608/1933	Sunny, 61-70° F	0-1	Bruyea	BUOW
05/15/2016	0630-1130	0551/1948	Marine Layer, 61-67° F	0-1	Bruyea	BUOW
06/02/2016	0630-1130	0542/2000	Sunny, 65-79° F	0-2	Bruyea	BUOW
06/30/2016	0630-1130	0545/2008	Sunny, 67-76° F	0-1	Bruyea	BUOW
04/05/2018	0800-1100	0634/1916	Partly Cloudy, 64-71°F	0-2	Bruyea	BUOW
04/27/2018	0630-0930	0607/1933	Sunny / Clear, 61-67°F	0-1	Bruyea	BUOW
05/19/2018	0630-0930	0548/1950	Cloudy, 64-75°F	0-1	Bruyea	BUOW
06/09/2018	1500-1800	0541/2003	Sunny / Clear, 85-96°F	1-4	Bruyea	BUOW
06/30/2018	0630-0930	0544/2008	Sunny / Clear, 67-76°F	1-3	Bruyea	BUOW

Sunrise/sunset information from timeanddate.com, time adjusted for Daylight Savings Time as applicable.

2.5) Delhi Sands Flower-loving Fly Survey Methods

Mr. Bruyea (Permit #TE-837439) and Patrick Luft conducted focused surveys for Delhi Sands flower-loving fly (DSF) on the Project site during July, August, and September 2015 and 2016. A two-year focused survey (a full protocol survey) was conducted to collect site data on DSF and to supplement the previous one-year survey conducted by AMEC in 2005. During the 2015/2016 survey, the existing condition of habitat for DSF was mapped in order to verify and compare it with the 2005 survey (Figure 5). The survey was conducted per the USFWS protocol (USFWS 1996a, 2004a, 2004b), which requires surveys at least twice a week from July 1 to September 20 for two consecutive years. Surveys were conducted twice a week between July 1 and September 20, 2015 and between July 3 and September 14, 2016. All suitable soils and immediately adjacent areas were surveyed slowly to ensure complete coverage. Surveys were conducted between 1000 and 1400 PDT under relatively clear skies. Field conditions were recorded daily and a summary of survey dates and conditions is provided in Table 3. Figure 5. Potential Delhi Sands Flower-loving Fly Habitat Surveyed



(Aerial obtained from Google Earth, March 2023)

Rio Vista Project
Riverside County, California

Delhi Sands Flower-Loving Fly Habitat

Figure 5

Table 3. Delhi Sands flower-loving fly field survey conditions

Date	Time	Temp (°F)	Cloud Cover (%)	Winds [A] (mph)	Winds [B] (mph)	Biologist
	Start-End	Start/End	Start/End	Avg/Max	Avg/Max	
2015 Week 1						
July 05	1000-1130	80/87	25/0	2.1/5.3	4.2/9.8	Bruyea
July 07	1000-1130	79/85	0/0	1.1/3.2	3.9/6.8	Bruyea
Week 2						
July 12	1000-1130	85/90	0/0	1.1/3.4	2.8/6.0	Bruyea
July 14	1230-1400	88/93	0/0	3.2/6.6	1.2/4.6	Luft
Week 3						
July 19	1000-1130	81/91	0/30	1.8/4.8	2.7/6.8	Bruyea
July 21	1200-1330	80/85	80/30	3.9/7.8	4.1/7.7	Bruyea
Week 4						
July 26	1000-1130	78/88	0/0	1.1/4.2	2.9/8.1	Bruyea
July 28	1200-1330	86/94	0/0	2.7/5.8	3.1/7.0	Bruyea
Week 5						
Aug 02	1000-1200	86/92	0/0	0.9/2.7	3.9/7.2	Bruyea
Aug 04	1000-1200	82/94	0/0	2.9/5.6	3.1/8.9	Bruyea
Week 6						
Aug 09	1100-1300	82/89	0/0	3.3/6.8	4.1/9.2	Bruyea
Aug 11	1000-1200	80/89	0/0	2.1/4.8	3.2/5.6	Bruyea
Week 7						
Aug 16	1000-1200	91/102	0/0	1.3/5.0	2.8/6.2	Bruyea
Aug 18	1000-1200	91/96	0/0	1.7/3.8	2.9/4.8	Bruyea
Week 8						
Aug 23	1100-1300	92/98	0/0	2.6/4.0	2.5/6.9	Bruyea
Aug 25	1000-1200	82/78	20/50	2.0/4.9	2.3/8.4	Bruyea
Week 9						
Aug 30	1100-1300	97/99	10/10	2.5/4.8	1.5/3.9	Bruyea
Sept 01	1230-1400	80/88	0/0	3.4/6.8	3.6/7.9	Bruyea
Week 10						
Sept 06	1130-1300	82/91	0/0	2.7/6.9	3.1/7.2	Bruyea
Sept 08	1000-1200	84/94	5/10	0.6/1.9	2.6/5.3	Bruyea
Week 11*						
Sept 13	1000-1200	89/96	0/0	1.3/2.9	2.6/4.8	Bruyea
Sept 15	Rain	68/72	100/100	N/A	N/A	Bruyea
Sept 17	1000-1200	80/84	20/20	1.1/3.9	2.0/5.7	Bruyea

Temperature and wind measurements were taken with a Kestrel 2000 Anemometer.
Winds A – Wind measurement (mph) at start of survey. Winds B – Wind measurement (mph) at end of survey.
*The September 15 survey was cancelled due to precipitation. Week 11 surveys were completed 9/17/2015.

Table 3. Delhi Sands flower-loving fly field survey conditions continued

Date	Time	Temp (°F)	Cloud Cover (%)	Winds [A] (mph)	Winds [B] (mph)	Biologist
	Start-End	Start/End	Start/End	Avg/Max	Avg/Max	
2016 Week 1						
July 03	1230-1400	81/85	0/0	2.9/5.6	1.2/4.8	Bruyea
July 07	1230-1400	88/92	0/0	1.3/4.2	5.9/7.8	Bruyea
Week 2						
July 12	1000-1130	83/89	25/25	1.4/5.4	3.0/7.1	Bruyea
July 14	1230-1400	98/102	0/0	2.2/3.8	4.2/5.9	Bruyea
Week 3						
July 17	1230-1400	97/100	0/0	1.0/2.8	3.5/7.8	Bruyea
July 21	1230-1400	99/104	0/0	2.9/5.2	3.1/6.1	Bruyea
Week 4						
July 25	1000-1130	81/87	50/50	0.8/2.2	2.5/4.1	Bruyea
July 28	1230-1400	100/105	0/0	2.7/5.8	5.1/9.0	Bruyea
Week 5						
July 31	1230-1400	91/95	July 31	1.6/2.7	2.6/5.2	Bruyea
Aug 04	1230-1400	97/102	Aug 04	1.9/4.4	4.1/6.1	Bruyea
Week 6						
Aug 07	1230-1400	86/91	Aug 07	3.7/4.9	5.1/8.0	Bruyea
Aug 09	1230-1400	83/87	Aug 09	2.0/3.3	3.1/7.0	Bruyea
Week 7						
Aug 12	1000-1130	76/80	0/0	1.2/5.0	1.4/5.2	Bruyea
Aug 18	1230-1400	93/99	0/0 (smoke)	2.3/3.8	4.0/7.8	Bruyea
Week 8						
Aug 21	1230-1400	94/98	0/0	2.0/4.0	2.2/5.7	Bruyea
Aug 23	1230-1400	86/92	0/0	2.9/5.1	2.4/6.6	Bruyea
Week 9						
Aug 26	1230-1400	81/85	25/25	1.5/3.8	3.5/3.9	Bruyea
Aug 30	1230-1400	100/105	0/0	2.6/3.8	3.1/5.9	Bruyea
Week 10						
Sept 02	1230-1400	82/86	0/0	2.7/6.9	3.1/7.2	Bruyea
Sept 07	1230-1400	90/94	0/0	2.9/3.9	4.1/5.6	Bruyea
Week 11						
Sept 12	1000-1130	70/76	100/0	0.5/1.8	2.6/4.8	Bruyea
Sept 14	1230-1400	80/85	25/0	1.4/3.3	3.5/5.9	Bruyea

Temperature and wind measurements were taken with a Kestrel 2000 Anemometer.
Winds A – Wind measurement (mph) at start of survey. Winds B – Wind measurement (mph) at end of survey.

2.6) Jurisdictional Delineation Methods

Potential for occurrence of state and federal waters and wetlands within the survey area was evaluated through a literature review and visits to the property. Literature reviewed included a previous jurisdictional delineation conducted by AMEC Earth & Environmental, Inc. (AMEC 2005a), soils maps and descriptions (Knect 1971), topographic maps (NRCS 2018), aerial photography (Google Earth 2021), and the list of wetland plants in California (USACE 2016).

Before visiting the survey area, a detailed topographic map of the property (received from Hunsaker & Associates) was studied and added as a layer over parcel shapefiles obtained from Riverside County (NAD83, California State Plane VI in feet). All features evident on the map were marked and considered potential waters/wetlands to be evaluated in the field. The feature systems were labeled for reference. All features were examined in the field (May/June 2015) by walking along their entire lengths, excluding slopes >1:1. A site visit was conducted on October 1, 2017 to update and verify the previous survey. The information was reviewed and updated for consistency with new regulations in 2018 and 2021 and field verified by CDFW in 2023.

Soil maps and descriptions of local soils have been obtained from NRCS (2018). Soils mapped in the survey area were listed and evaluated for their properties relating to potential wetlands. Soil conditions in the survey area were noted during the field visit and discrepancies between observations and SCS descriptions were further examined by digging soil pits where necessary. Soil color characteristics were evaluated using a Munsell soil color chart (Munsell 2012).

Vegetation within features was examined during field surveys. Dominant plant species were listed along with any potential indicators of wetland conditions. The vegetation criterion for wetlands is satisfied if half or more of the dominant plant species on a site are ranked as "obligate wetland," "facultative wetland," or "facultative" species (OBL, FACW, or FAC, respectively, see Table 4).

Table 4. Summary of Wetlands Vegetation Criteria

Category	Probability
Obligate Wetland (OBL)	Almost always occur in wetlands (estimated probability >99%)
Facultative Wetland (FACW)	Usually occur in wetlands (Estimated probability 67%-99%)
Facultative (FAC)	Equally likely to occur in wetlands and non-wetlands (est. probability 34%-66%)
Facultative Upland (FACU)	Usually occur in non-wetlands (estimated probability 67%-99%)
Obligate Upland (UPL)	Almost always occur in non-wetlands (estimated probability >99%)

MSHCP Riparian/Riverine and Vernal Pools

In conformance with the MSHCP, this report addresses Riparian/Riverine areas and vernal pools within the feature descriptions of each system. Where riparian vegetation is associated with features (and to the extent that it is native to California) we considered it suitable for a designation as Riparian under the MSHCP. Where flows evidence some level of energy, at least ephemerally, we considered them Riparian/Riverine in the broadest sense. To meet the definition of a vernal pool, three factors must be addressed: soils and soil conditions, hydrology, and one or more indicator species.

2.7) Offsite Impact Areas

LSA conducted biological surveys of the Highland Park site, including offsite impact areas for the Rio Vista Project. These surveys included a biological resources assessment (LSA 2004a), a focused survey for coastal California gnatcatcher (LSA 2004b, 2006c), a focused survey for burrowing owl (LSA 2005a), a habitat assessment for MSHCP narrow endemic plants (LSA 2005b), a focused survey for MSHCP narrow endemic plant species Brand's phacelia (*Phacelia stellaris*) (LSA 2005c), focused surveys for Delhi Sands flower-loving fly (LSA 2006b), a jurisdictional delineation (LSA 2004c, 2012), and an MSHCP compliance analysis (LSA 2006a). Impacts to these areas will be covered in the Highland Park reports and are not addressed in this report. Similarly, Highland Park offsite impacts within the Rio Vista Project are not addressed in this report as construction is underway.

No biological surveys were conducted of the offsite impact areas at 20th Street and Alicante Avenue, but L&L conducted a desktop review in May 2020.

3.0) RESULTS

3.1) Literature Review Results

The Project site is within the area covered by the Western Riverside County Multiple Species Habitat Conservation Plan (MSHCP). The MSHCP requires an assessment of potential habitat for burrowing owl, riparian birds, and narrow endemic plants, as well as riparian/riverine habitat and species, vernal pools, and fairy shrimp. The narrow endemic plants are San Diego ambrosia (*Ambrosia pumila*), Brand's phacelia (*Phacelia stellaris*), and San Miguel savory (*Clinopodium [Satureja] chandleri*). If potential habitat is present, focused surveys are required. Additionally, soil maps indicate the presence of Delhi soils in the survey area, so identification of potential habitat and the presence/absence of Delhi Sands flower-loving fly are also required.

The Project site is not within any MSHCP Criteria Cells or Cell Blocks (Figure 21). There are no MSHCP or Public/Quasi-public (PQP) conserved lands adjacent to or within a mile of the Project site. MSHCP conserved lands in the Jurupa Hills are located about 1.03 miles to the west of the Project site and PQP lands along the Santa Ana River are about 1.27 miles southeast of the Project site.

3.1.1) Previous Survey Results

A focused survey by AMEC (2005b) found Delhi Sands flower-loving fly (federal endangered) present within an area along the western side of the full survey area. A preliminary jurisdictional delineation by AMEC (2005a) identified 1.55 acres of state waters and 0.56 acre of "Waters of the U.S." in the survey area. A total of 0.01 acre was classified as state and federal wetlands.

The general biological survey by AMEC (2006) did not identify any special status plant species in the survey area; however, one well-known oak (Palmer oak, no conservation status) recognized for its extreme age was observed and Plummer's mariposa-lily (California Rare Plant Rank [CRPR] 4.2) was documented as "reported" in the survey area via personal communication.

In addition to the Delhi Sands flower-loving fly, several special status bird, reptile, and mammal species were detected during the AMEC (2006) surveys, including northern harrier, Cooper's hawk, southern California rufous-crowned sparrow, coast horned lizard, coastal whiptail, red-diamond rattlesnake, and San Diego black-tailed jackrabbit. Granite spiny lizard (*Sceloperus orcutti*) was also detected but is no longer considered a special status species. Rosy boa (*Charina umbratica*) (also no longer considered a special status species) was documented as "reported" in the survey area via personal communication. A focused survey for burrowing owl (*Athene*

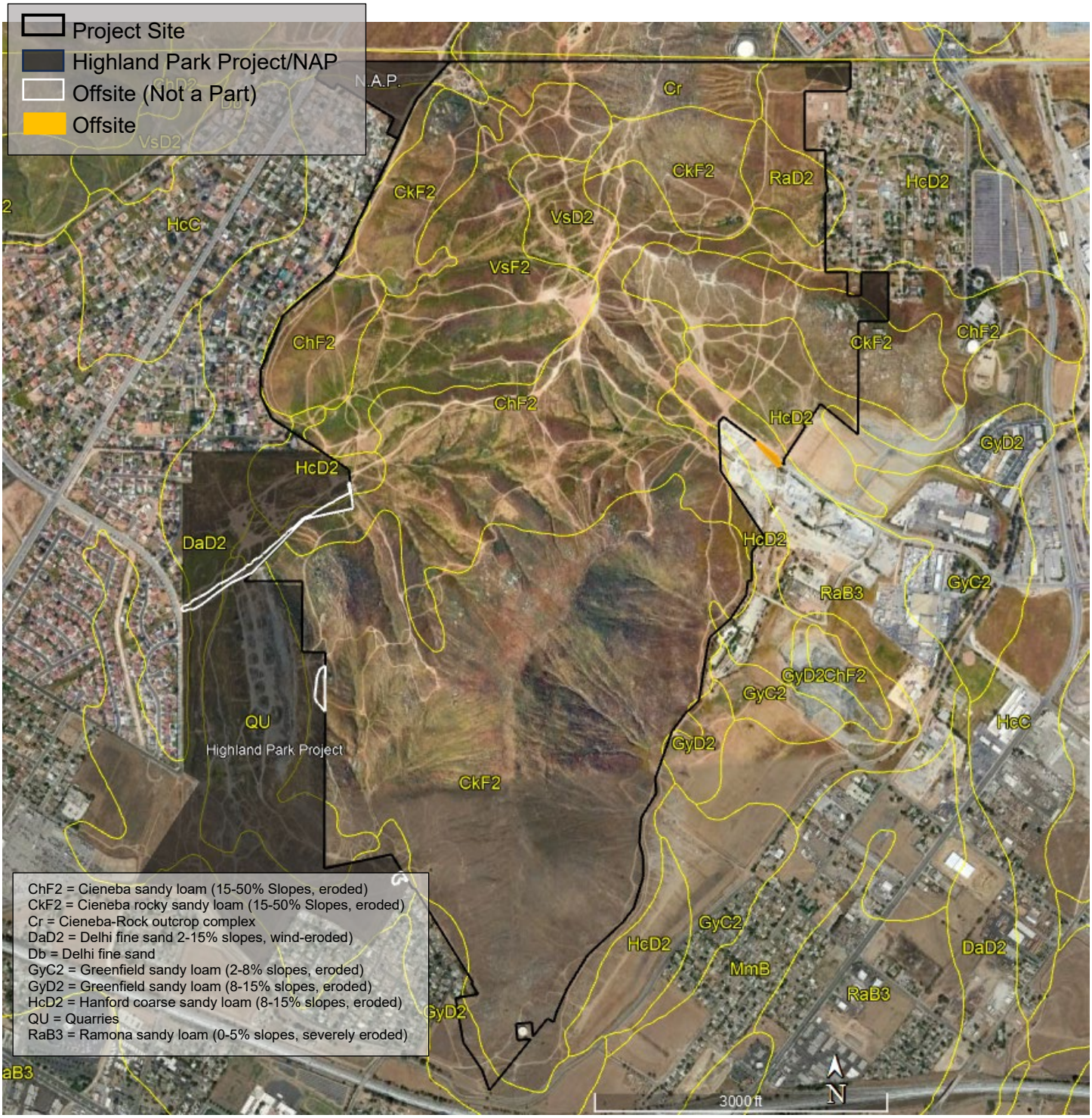
cunicularia) was conducted by AMEC in March and April of 2005 with negative results. The AMEC (2006) report concluded that the majority of the site is not suitable habitat for burrowing owl due to steep topography and dense vegetation. Most of the areas of potentially suitable habitat present are subject to disturbance from off road vehicles, trash dumping, and vegetation clearing for fire hazard abatement.

3.2) Soils and Topography

Topographically, the site is a ridge of hills containing a mixture of steep and low relief rolling hills with associated drainages or canyons. Elevation in the survey area ranges between 950 and 1,739 feet (290 to 530 meters) above mean sea level (AMSL).

Soils data for the survey area was obtained from NRCS (2021). The survey area is primarily rocky to sandy loams with a mixture of Cieneba sandy loam and rocky sandy loam (15-50% slopes, eroded), Greenfield sandy loam (8-15% slopes, eroded), Hanford coarse sandy loam (8-15% slopes, eroded), Ramona sandy loam (0-5% or 8-15% slopes, eroded or severely eroded), and Vista coarse sandy loam (8-35% slopes, eroded). Delhi fine sand (2-15% slopes, wind-eroded) is mapped along the northwestern site boundary and was observed to be present (Figure 6). Delhi fine sands are typically wind-blown and can move through physical sand transport processes similar to sand dunes. In the survey area, Delhi fine sands have been constrained to their current location by topography (onsite hills) to the east and by development to the west.

Soil at the 20th Street offsite impact area is mapped as Ramona sandy loam and at the Alicante Avenue offsite area is Hanford coarse sandy loam (Figure 6), but these areas are entirely disturbed and developed.



(Aerial obtained from Google Earth, March 2023)

Rio Vista Project
Riverside County, California

Soils

Figure 6

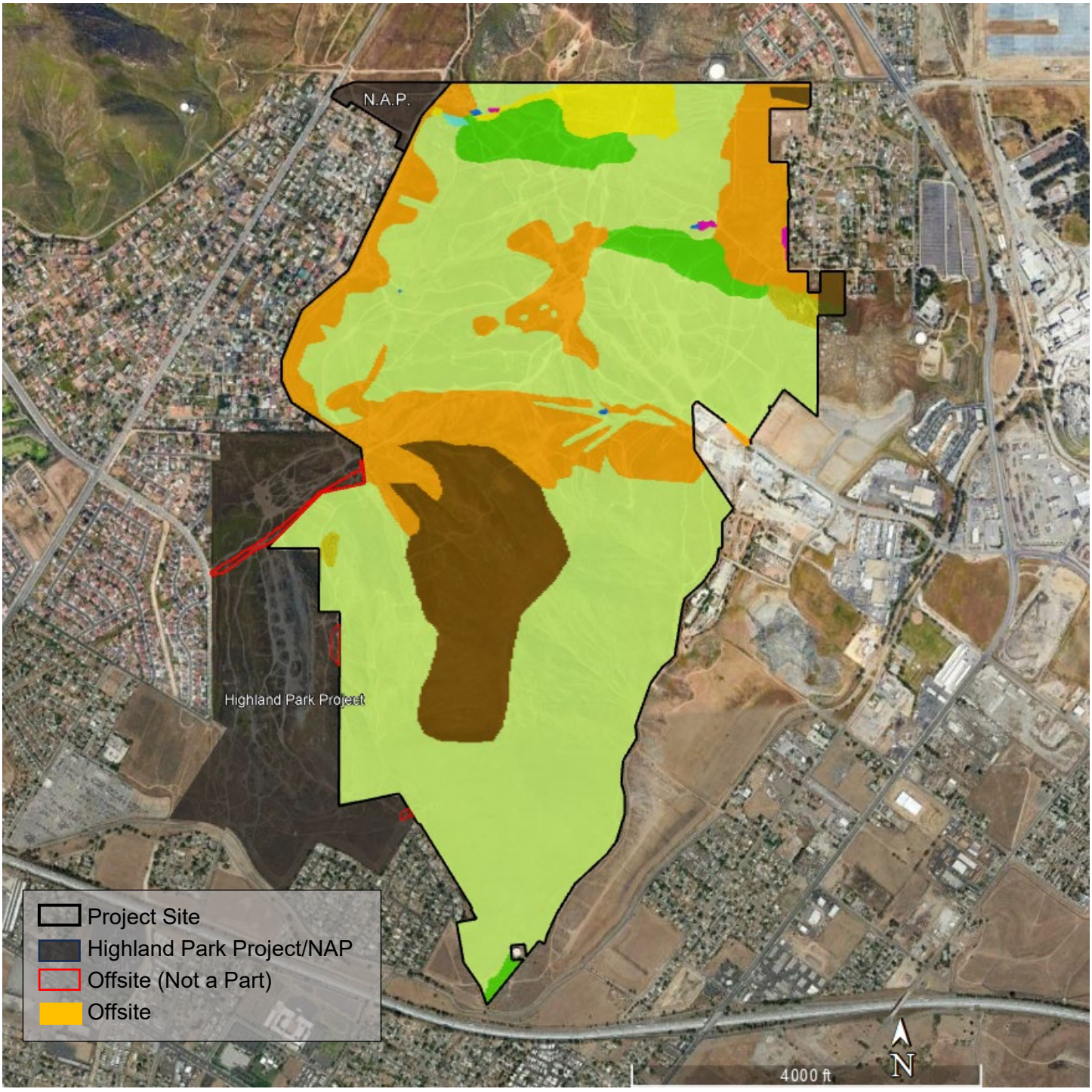
3.3) Vegetation and Setting

The site contains a mixture of steep hillsides, rolling hills, rocky outcrops, and low-relief canyons combined with relatively flat areas. Several unpaved roads are present on the site and some areas have been adversely impacted by historic and ongoing off-road vehicle use. Large areas of the site are almost completely devoid of vegetation due to these activities. Surrounding land use includes a mixture of low and high-density residential areas, fallow agricultural fields, commercial properties, mining, and open space. A previously graded area is noted on site plans (Hunsaker, October 1, 2020) on the west site of the site and covers approximately 1.35 acres (mapped as 0.92 acre of non-native grasslands and 0.42 acre of brittlebush scrub [*Encelia farinosa* Shrubland Alliance]).

Seven (7) vegetation communities or land cover types were identified during previous surveys: brittle bush scrub, California buckwheat scrub, chamise chaparral, willow scrub, non-native grasslands, ornamental vegetation, and developed land. The most recent survey refined the vegetation mapping and made minor adjustments in the boundaries and acreages of vegetation communities (Figure 7/7a, Table 5). One additional vegetation community was identified, bush penstemon scrub, which had previously been mapped as chamise chaparral.

The drainages and canyons on the site are primarily vegetated with upland habitats, but also contain small areas of riparian plants, including willow (*Salix* species) and mulefat (*Baccharis salicifolia*). Areas of Delhi fine sands occur in the survey area almost exclusively within non-native grasslands, with a small portion occurring in brittle bush scrub.

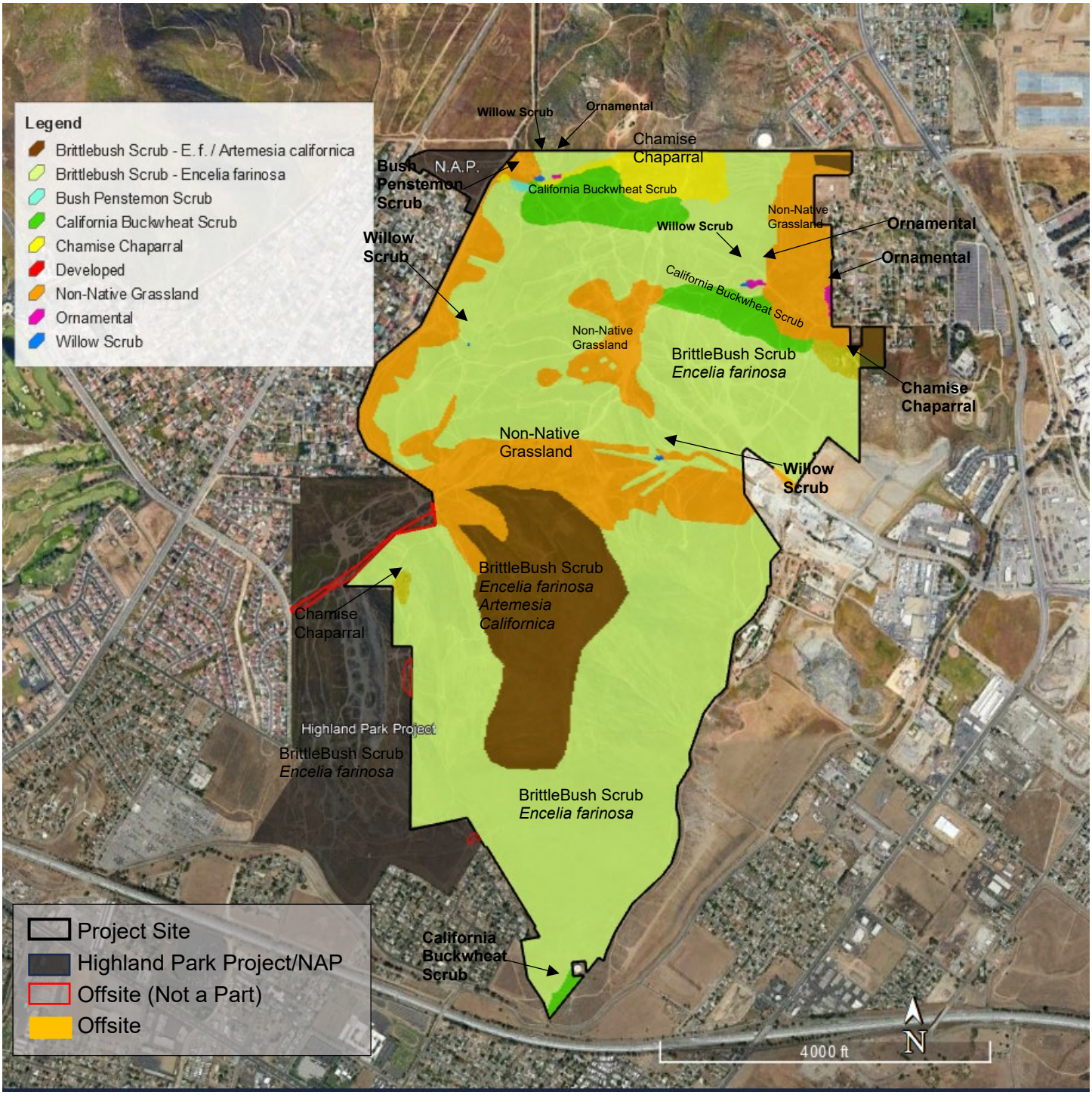
Based on a desktop review using Google Earth, the 20th Street and Alicante Avenue offsite impact areas are entirely disturbed and developed.



Aerial obtained from Google Earth, March 2023)

Rio Vista Project
Riverside County, California

Vegetation Map
Figure 7



Aerial obtained from Google Earth, March 2023)

Rio Vista Project
Riverside County, California

Vegetation Map with Labels
Figure 7a

Table 5. Habitat in the survey area

Vegetation Community	Alliance	Area (Acres)		
		Onsite	Offsite[1]	Total
Sage Scrub				
California Buckwheat Scrub	*Eriogonum fasciculatum-Encelia farinosa* Alliance	38.63	--	38.63
Brittle Bush Scrub	*Encelia farinosa* Alliance	579.68	--	579.68
Brittle Bush Scrub	*Encelia farinosa-Artemisia californica* Alliance	95.74	--	95.74
Chaparral				
Chamise Chaparral	*Adenostoma fasciculatum* Alliance	25.30	--	25.30
Sage Scrub-Chaparral				
Bush Penstemon Scrub**	*Keckiella antirrhinoides* Alliance	0.59	--	0.59
Grasslands				
Non-native Grassland	*Bromus* Semi-natural Stands	160.72	--	160.72
Riparian				
Willow Scrub	*Salix lasiolepis/Baccharis salicifolia* Alliance	0.39	--	0.39
Ornamental				
Ornamental	Not applicable	1.00	--	1.00
Developed				
Developed	Not applicable	0.07	0.31	0.38
Total Vegetation Communities		**902.12**	**0.31**	**902.43**
Delhi soils (within other mapped habitats)		19.97	--	19.97

Habitat acreages were revised in 2017; details of the changes can be found in L&L (2017). Two asterisks (**) indicates a sensitive vegetation community. 1. 20th Street and Alicante Avenue offsite areas.

3.3.1) Brittle Bush Scrub

Encelia farinosa Shrubland Alliance 33.030.00 and
Encelia farinosa – Artemisia californica Association 33.030.04

Brittle bush scrub is a drought-tolerant community dominated by brittlebush (*Encelia farinosa*), a short-lived subshrub that commonly occurs on alluvial fans, rocky hillsides, and other well-drained slopes. This alliance is considered a form of sage scrub, which generally occurs on rolling hills at lower elevations. This habitat is often found in close association with chaparral.

Much of the survey area contains a mixture of disturbed and relatively undisturbed *Encelia farinosa* Shrubland Alliance dominated by brittlebush with scattered patches of California buckwheat (*Eriogonum fasciculatum*), California sagebrush (*Artemisia californica*), and deerweed (*Acmispon glaber*). A portion of the survey area is mapped as *Encelia farinosa – Artemisia*

californica Association, which is a form of brittle bush scrub where California sagebrush is codominant. These vegetation communities both have a CDFW State Rank of S4 (apparently secure – uncommon, but not rare; some cause for long-term concern due to declines or other factors) and are not considered sensitive.

Other native plants observed within brittle bush scrub areas include, but are not necessarily limited to, wild cucumber (*Marah macrocarpa*) and wishbone bush (*Mirabilis californica*). Native annuals observed in these areas include forget-me-not (*Cryptantha* species), sapphire woollystar (*Eriastrum sapphirinum*), dove lupine (*Lupinus bicolor*), and wild hyacinth (*Dichelostemma capitatum*).

Delhi soils occur in patches and as a small percentage of the overall sandy soils in the survey area. Where present within this vegetation community, Delhi soils are immediately adjacent to larger areas of Delhi soils in more sparsely vegetated and disturbed habitats, such as non-native grassland.

3.3.2) California Buckwheat Scrub

Eriogonum fasciculatum – Encelia farinosa Association, 32.040.18

California buckwheat scrub on the site is dominated by California buckwheat and brittlebush. California buckwheat scrub commonly occurs on dry slopes, washes, and canyons that are scattered throughout foothills and mountains. This association is likely to be seral (an intermediate stage in ecological succession) to other plant communities. It is most often found on slopes that have been disturbed within the last 10 years. California buckwheat scrub forms an intermittent shrub canopy less than one meter (about three feet) tall over a variable or grassy ground layer. This vegetation community prefers shallow and rocky soils (Sawyer et al. 2009). It has a CDFW State Rank of S5 (secure – common, widespread, and abundant) and is not considered sensitive.

California buckwheat scrub occurs in two limited areas in the survey area: the southern tip of the site near the offsite water tank and on a steep north and northeast facing slope in the northeastern portion of the survey area. Some species associated with this plant community include deerweed and California sagebrush. Other native plants observed within California buckwheat scrub areas include, but are not necessarily limited to, California brickellbush (*Brickellia californica*) and cudweed aster (*Corethrogyne* [*Lessingia*] *filaginifolia*). Native annuals observed in these areas include slender pectocarya (*Pectocarya linearis*), fiddleneck (*Amsinckia intermedia*), filago (*Logfia*

species), pygmy stonecrop (*Crassula connata*), dodder (*Cuscuta* species), dove lupine, and wild hyacinth.

3.3.3) Bush Penstemon Scrub

Keckiella antirrhinoides Shrubland Alliance 32.065.01

Bush penstemon scrub has bush penstemon (*Keckiella antirrhinoides*) as a dominant or co-dominant in the shrub canopy. This vegetation community occupies transitional sites between chaparral and coastal scrub habitats. It has a CDFW State Rank of S3 (vulnerable – vulnerable to extirpation due to restricted range, relatively few populations, or other factors) and is considered sensitive.

One small area of bush penstemon scrub is located on a north-facing slope in the northwest corner of the site. Associated plant species are skunk bush (*Rhus aromatica*), spiny redberry (*Rhamnus crocea*), branching phacelia (*Phacelia ramosissima*), and rope vine (*Clematis pauciflora*).

3.3.4) Chamise Chaparral

Adenostoma fasciculatum Shrubland Alliance 37.101.16

Small areas of the site, mostly in association with higher elevation rocky hilltops and shaded northern slopes and ravines, are vegetated with chamise chaparral. This community is dominated by chamise (*Adenostoma fasciculatum*), which forms an intermittent to continuous canopy less than three meters (about 10 feet) tall. The understory is generally a sparse herbaceous layer, especially in older stands. Chamise chaparral is commonly found on the drier south and west facing slopes and ridges, growing in shallow soils. This vegetation community has a CDFW State Rank of S5 (secure) and is not considered sensitive.

The most common species associated with this community in the survey area include black sage (*Salvia mellifera*) and bush penstemon. Other plants observed in these areas include spiny redberry, hollyleaf cherry (*Prunus ilicifolia*), skunk bush, sticky monkeyflower (*Mimulus aurantiacus*), lanceleaf dudleya (*Dudleya lanceolata*), Bigelow spike-moss (*Selaginella bigelovii*), golden yarrow (*Eriophyllum confertiflorum*), and chia (*Salvia columbariae*).

3.3.5) Willow Scrub

Salix lasiolepis/Baccharis salicifolia (Willow/Mulefat) Association 61.201.06

This riparian community is composed of a mix of arroyo willow (*Salix lasiolepis*), mulefat (*Baccharis salicifolia*), and black willow (*Salix gooddingii*). This vegetation community has a CDFW State Rank of S4 (apparently secure) and is not considered sensitive.

Willows have well developed vegetative reproduction, giving the islands of habitat a clumped appearance (Klein and Evens 2006). This community is limited in the survey area, existing only in three very small areas. In addition, the habitat has been disturbed by human encroachment and trash dumping. The habitat supports few other riparian or wetland species and is not dense. What remains of this habitat in the survey area is sparse and damaged and often laden with discarded household material. It is present as patches of one or two willows with a mixed invasive and native understory. In some cases, non-native tree tobacco (*Nicotiana glauca*) and Peruvian pepper tree (*Schinus* species) are within or adjacent to willow scrub. Some portions of the trees support manmade structures or furniture. A single immature sycamore (*Platanus racemosa*) was also observed.

3.3.6) Non-Native Grasslands

Annual Brome Grasslands: *Bromus* Semi-natural Herbaceous Stands 42.026.00

Non-native grasslands consist of low herbaceous vegetation that is dominated by non-native annual grasses of various genera that are primarily of Mediterranean origin, including wild oats (*Avena* species), brome grasses (*Bromus* species), and Mediterranean grass (*Schismus* species). Small annual plants are also associated with this community and scattered throughout the habitat. Within this vegetation community are remnant plants associated with brittle bush scrub and California buckwheat scrub communities. This vegetation community is not considered sensitive.

This habitat is located along the western margins, within the central portion of the site, and in the northeastern corner of the site, just west of a low-density residential area. The majority of Delhi soils occur along the northern half of the westernmost edge of the survey area and almost all occur within this habitat type.

3.3.7) Ornamental Vegetation

Ornamental vegetation occurs within two drainages, as well as adjacent to the northeastern survey boundary, contiguous with offsite residential development. Within the drainage features, non-native ornamental vegetation consists of Peruvian pepper trees. Outside of the drainage features, non-native ornamental vegetation includes Peruvian pepper tree, olive, and other ornamental species.

3.3.8) Developed

Both the adjacent mine and the water tank are located very close to or partially on the subject property. To the extent that they are located within the study area, those areas have been mapped as developed. Offsite impact areas at 20th Street and Alicante Avenue are entirely developed.

3.4) Jurisdictional Areas (MSHCP Riparian/Riverine and Vernal Pool Habitat)

3.4.1) Jurisdictional Delineation

Twelve (12) non-relatively permanent water (Non-RPW) features (i.e., ephemeral carriers of periodic rainfall) with tributaries were identified within the Project site during the 2017 survey (Figure 8 and Table 14 in Appendix B). Rainfall runoff generally ceases to flow through the features within hours or a few days at most.

A jurisdictional delineation conducted in 2018 calculated jurisdictional areas in the survey area as 2.31 acres of CDFW streambed and 0.85 acre of CDFW wetlands for a total of 3.16 acres of state jurisdiction (Table 7).

A previously graded area is noted on site plans (Hunsaker, October 1, 2020) on the west site of the site and covers approximately 1.35 acres, including a portion of Feature 10 consisting of 191 linear feet and 0.015 acre of CDFW streambed/MSHCP Riverine. This is not included in calculations of the Project impact acreages.

The features on the property do not appear to be tributary to the Santa Ana River or any other relatively permanent water (RPW) or traditional navigable water (TNW). These features are ephemeral and therefore are not federal waters of the U.S. (WoUS) under current guidelines and the state wetlands do not meet the criteria for federal wetlands. The U.S. Army Corps of Engineers issued an Approved Jurisdictional Determination on February 11, 2021 stating that Waters of the U.S. do not occur on the Project site.

The updated 2023 jurisdictional delineation (L&L 2023) found 5.98 acres of CDFW streambed / MSHCP riverine habitat and 0.88 acre of CDFW wetland / MSHCP riparian habitat for a total of 6.86 acres of jurisdictional area on the site, of which 3.15 acres is considered waters of the state (Table 7). No federal waters and wetlands would be impacted since none are present.

The updated 2023 jurisdictional delineation (L&L 2023) found that the proposed Project would impact 5.98 acres of CDFW jurisdictional streambed and 0.88 acre of CDFW wetland and 3.15 acres of waters of the state (Table 7). No federal waters and wetlands would be impacted since none are present.

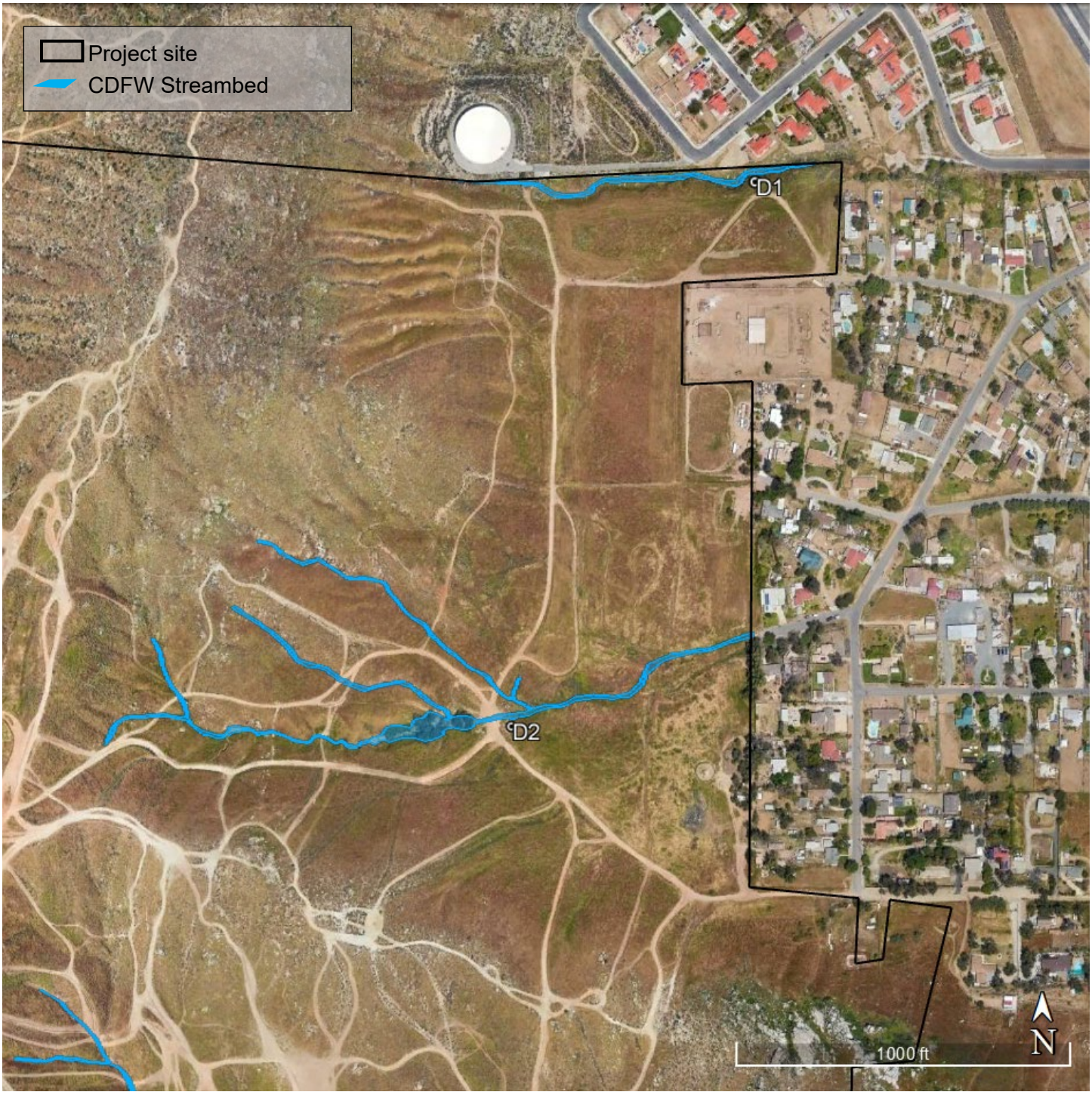
The 20th Street and Alicante Avenue offsite impact areas are entirely disturbed and developed. No jurisdictional areas are apparent in these areas on aerial images, but a jurisdictional delineation has not been conducted on these areas (Figure 8).



Aerial obtained from Google Earth, March 2023)

Rio Vista Project
Riverside County, California

CDFW Streambeds
MSHCP Riparian Riverine Habitat
Figure 8



Aerial obtained from Google Earth, March 2023)

Rio Vista Project
Riverside County, California

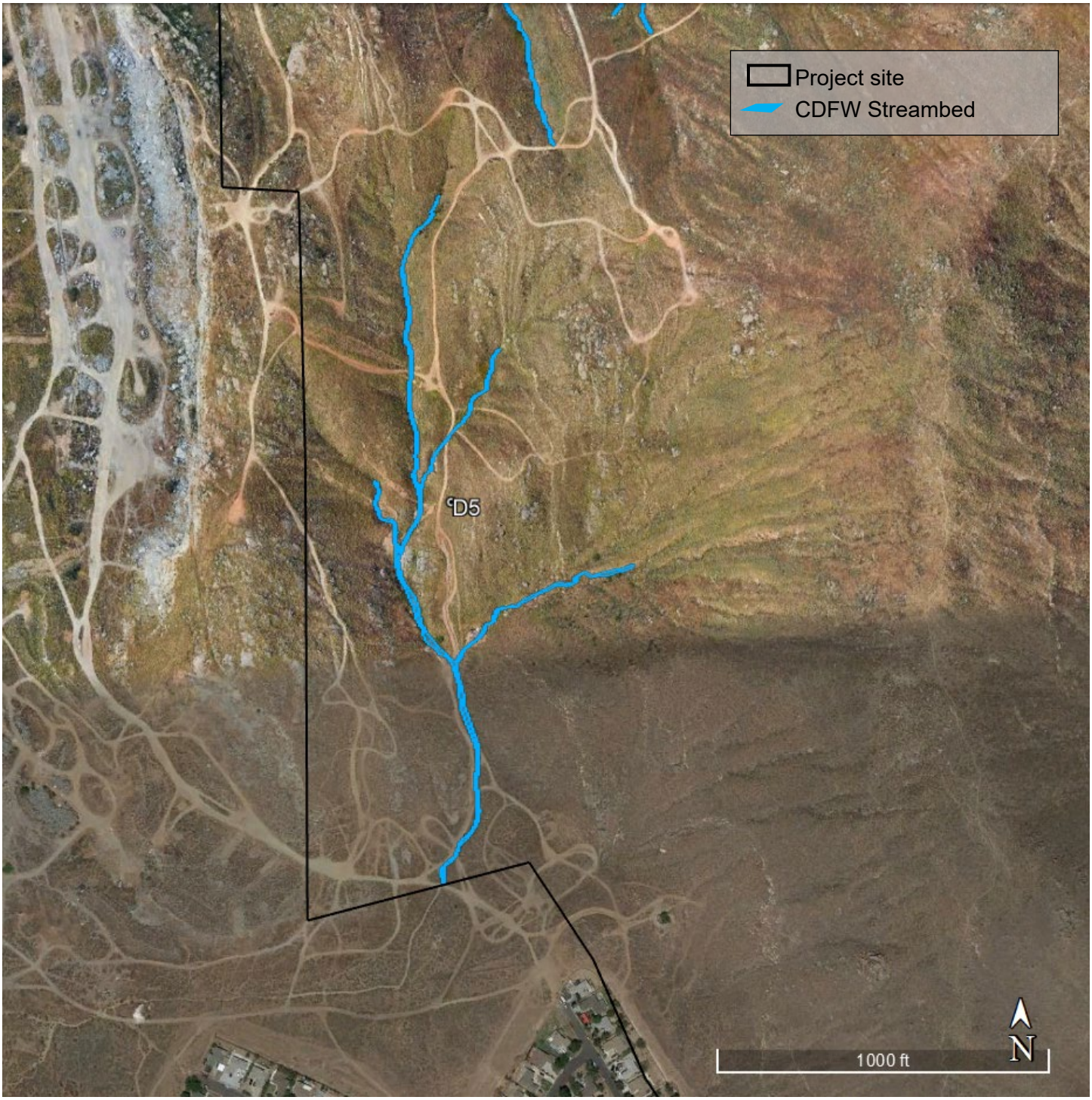
Drainage 1 & 2
Figure 9



Aerial obtained from Google Earth, March 2023)

Rio Vista Project
Riverside County, California

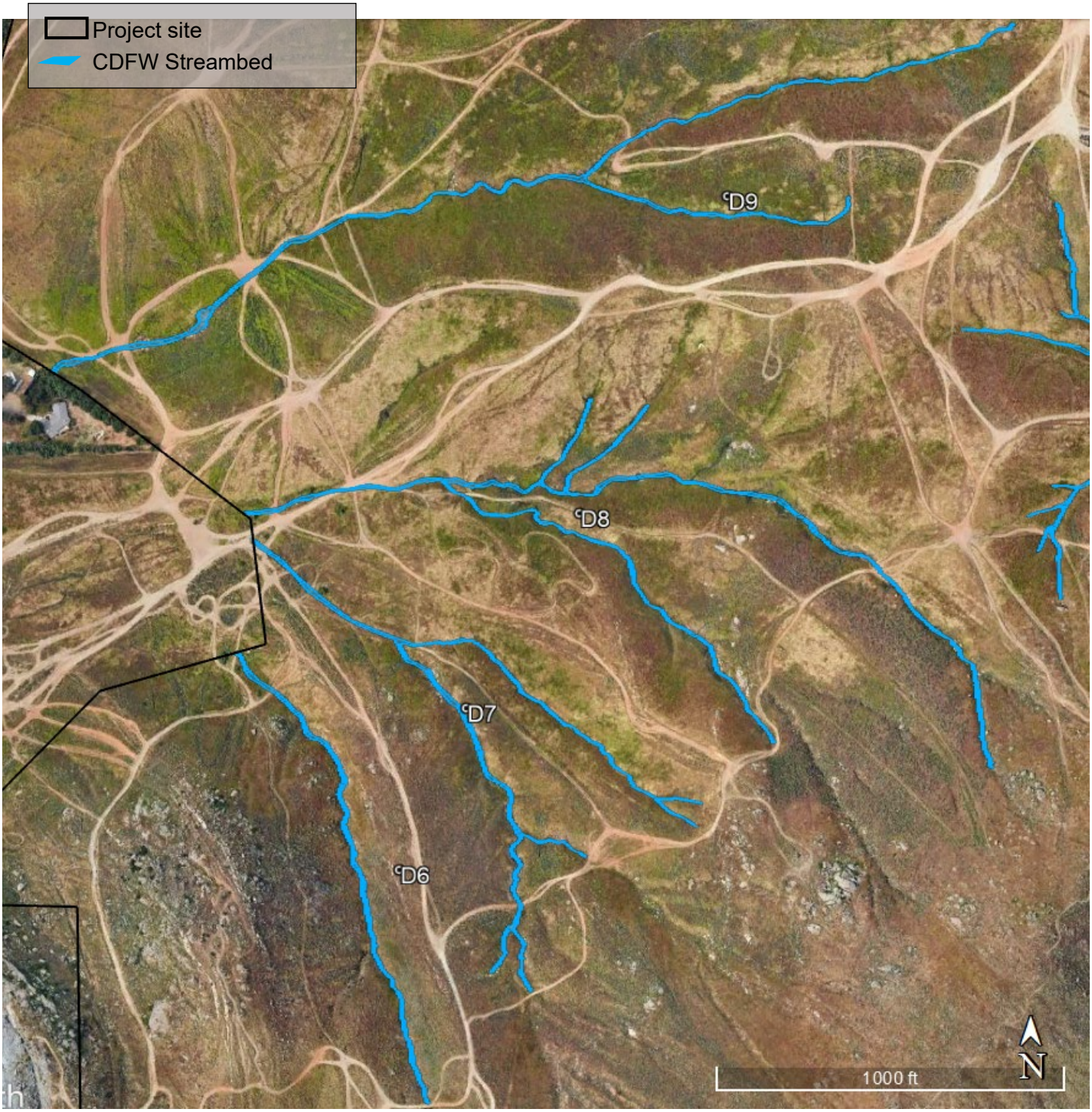
CDFW Drainages 3, 4 & 12
Figure 10



Aerial obtained from Google Earth, March 2023)

Rio Vista Project
Riverside County, California

CDFW Drainage 5
Figure 11



Aerial obtained from Google Earth, March 2023)

Rio Vista Project
Riverside County, California

CDFW Drainage 6, 7, 8, & 9
Figure 12



Aerial obtained from Google Earth, March 2023)

Rio Vista Project
Riverside County, California

CDFW Drainage 10
Figure 13



Aerial obtained from Google Earth, March 2023)

Rio Vista Project
Riverside County, California

CDFW Drainage 11
Figure 14



Aerial obtained from Google Earth, March 2023)

Rio Vista Project
Riverside County, California

RWQCB State Waters Map
Figure 15

3.4.2) MSHCP Riparian/Riverine Habitat

Under MSHCP Volume 1 Section 6.1.2, areas associated with wetland and streambed systems must be evaluated for consideration as MSHCP Riparian/Riverine or vernal pool habitat. The site contains four (4) small areas of woody water dependent vegetation. Arroyo willow, black willow, and mulefat are present within a small part of Features 2, 4, 10, and 11. In addition, Peruvian pepper tree, although ornamental and invasive, is classified as a facultative upland species. Peruvian pepper trees are therefore included in the riparian vegetation calculations where they occur in or adjacent to drainage features. MSHCP Riparian habitat corresponds to the area mapped as CDFW wetland.

A streambed channel, either unvegetated or vegetated with upland species, generally qualifies as MSHCP Riverine habitat. Therefore, Riverine habitat occurs in a narrow band along the drainage features where riparian habitats are absent. MSHCP Riverine habitat corresponds to the area mapped as CDFW streambed.

Vernal pools are depressions where a relatively impermeable underground layer prevents rainwater from draining downward into the subsoils. During winter and spring rains, the water collects and remains in the depressions. The water gradually evaporates away until the pools become completely dry in the summer and fall. The soil texture (the amount of sand, silt, and clay particles) typically contains higher amounts of fine silts and clays with lower percolation rates. Pools that retain water for a sufficient length of time will develop hydric cells. Hydric cells form when the soil is saturated from flooding for extended periods and anaerobic conditions (lacking oxygen) develop.

Soil types are not consistent with an alkali playa or vernal pool complex and pools or depressions characteristic of vernal pool habitat were not found on the property. No features are present that would support fairy shrimp. No standing water or other sign of ponding water (e.g., mud cracks, tire ruts) were recorded.

The 20th Street and Alicante Avenue offsite impact areas are entirely disturbed and developed and no jurisdictional areas or MSHCP Riparian/Riverine areas are apparent from aerial images. However, these areas were not included in the Project at the time L&L performed a jurisdictional delineation.

3.4.3) Riparian/Riverine Species

No MSHCP species listed for protection associated with Riparian/Riverine areas and vernal pools were observed. No habitat is present within the survey area suitable to support Riparian/Riverine associated wildlife species as listed in the MSHCP Section 6.1.2 (arroyo toad, mountain yellow-legged frog, California red-legged frog, bald eagle, least Bell's vireo, peregrine falcon, southwestern willow flycatcher, western yellow-billed cuckoo, Santa Ana sucker, Riverside fairy shrimp, or vernal pool fairy shrimp). Based on the presence of willow species, surveys were conducted for habitat capable of supporting least Bell's vireo; none was found. No vernal pools or alkali playas occur and riparian vegetation in the survey area consists of four (4) small, isolated areas that are not of sufficient size, density, or composition to support species of concern.

Least Bell's vireo (*Vireo bellii pusillus*) is state and federally listed as endangered. It is a covered species under the MSHCP and considered adequately conserved, but surveys are required in suitable habitat as described in MSHCP Section 6.1.2 and mitigation is required if the species is present. This species is migratory and breeds in California, arriving in March and departing by September or October. Males establish and defend territories in riparian woodlands and riparian scrub. Dense shrub cover is required for nesting. The riparian habitat utilized by this species is limited to the immediate vicinity of water courses below 1,500 feet elevation (Dudek 2003). The willows present on the site are scattered and isolated and do not provide the dense riparian habitat required by this species. Therefore, there is no suitable habitat for least Bell's vireo and this species is considered absent from the site.

Southwestern willow flycatcher (*Empidonax traillii extimus*) is state and federally listed as endangered. It is a covered species under the MSHCP and considered adequately conserved, but surveys are required in suitable habitat as described in MSHCP Section 6.1.2 and mitigation is required if the species is present. This species inhabits dense riparian forests with ample numbers of willows and other associated trees and shrubs at elevations from sea level to 8,500 feet (Dudek 2003). The willows present on the site are scattered and isolated and do not provide the dense riparian habitat required by this species. Therefore, there is no suitable habitat for southwestern willow flycatcher and this species is considered absent from the site.

Western yellow-billed cuckoo (*Coccyzus americanus occidentalis*) is federally listed as threatened and state listed as endangered. It is a covered species under the MSHCP and considered adequately conserved, but surveys are required in suitable habitat as described in MSHCP Section 6.1.2 and mitigation is required if the species is present. This species inhabits extensive riparian thickets or forests with dense, low-level or understory foliage and abutting on slow-moving

watercourses, backwaters, or seeps (Dudek 2003). The willows present on the site are scattered and isolated and do not provide the extensive and dense riparian habitat required by this species. Therefore, there is no suitable habitat for western yellow-billed cuckoo and this species is considered absent from the site.

3.5) General Botanical Species

A total of 196 botanical species were observed on or adjacent to the survey area during biological surveys. Of these, 27 species were also observed during the AMEC surveys conducted in 2005. A list of all botanical species observed on the site is included in Table 9 (Appendix A).

3.6) General Wildlife Species

A total of 291 wildlife species were observed on or adjacent to the survey area during biological surveys. Of these, 115 species were only observed during the AMEC surveys conducted in 2005 and 2006. Most of the species are insects observed during the 2005 Delhi Sands flower-loving fly surveys. Wildlife species observed or detected in the survey area are characteristic of those expected to occupy habitats in the region. Wildlife is generally diverse and abundant due to the large area of natural open space but is partially restricted by development that surrounds the property on most sides. The survey area is largely comprised of a single vegetative community that may limit diversity of species occurring in the survey area. Habitats in the survey area provide foraging and cover habitat for year-round residents, seasonal residents, and migrating songbirds.

A list of wildlife species detected on the site is included in Table 10 (Appendix A). Dogs, cats, horseback riders, off-road vehicles, mountain bikers, hikers, and unauthorized campers were observed in the survey area and roamed freely throughout the area. The presence of free-ranging pets and heavy human use likely negatively affects nesting or breeding wildlife populations.

3.7) Listed and Special Status Botanical Species

State or federally listed and special status plant species were evaluated as a part of this assessment. These species are known from or may occur within the Project vicinity. Potential for occurrence of these species is listed in Table 12 (Appendix A). These species were either documented by the CNDDB as occurring within the Project topographic quadrangle, adjacent quadrangles, or were addressed in previous reports.

No state or federally listed plant species were observed and none were determined to have high or moderate potential to occur within the Project site. One special status plant species, Plummer's

mariposa lily (*Calochortus plummerae),* was observed in the survey area during the 2017 surveys (Figure 16). It was not observed during previous surveys in 2014, 2015, or 2016, nor was it observed during the 2018 survey. Two (2) other special status species, Robinson's peppergrass (*Lepidium virginicum* var. *robinsonii*), and mesa horkelia (*Horkelia cuneata ssp. puberula*), have potentially suitable habitat in the survey area and moderate potential for occurrence, but have not been observed.

A unique botanical resource, an ancient Palmer's oak (*Quercus palmeri*) is located within the survey area, but it is not a listed or special status species.

Thread-leaved Brodiaea

Thread-leaved brodiaea (*Brodiaea filifolia*) is federally listed threatened, state listed endangered, and has a CRPR of 1B.1. It is typically found in herbaceous plant communities, including non-native grassland, alkali playa, and vernal pool communities (Holland 1986), but also grows in open areas in shrub-dominated coastal sage scrub ecosystems. Within these communities, thread-leaved brodiaea occurs in open areas on clay soils, soils with clay subsurface, or clay lenses within loamy, silty loam, loamy sand, silty deposits with cobbles, or alkaline soils ranging in elevation from 100 feet to 2500 feet (USFWS 2005).

Thread-leaved brodiaea is covered species under the MSHCP and considered Adequately Conserved. Surveys are required in the criteria area, but the Project site is not within the criteria area. The Project site is not within USFWS designated critical habitat for this species. Thread-leaved brodiaea has a low potential for occurrence on the Project site (Appendix A, Table 12).

Plummer's Mariposa Lily

Plummer's mariposa lily has a CRPR of 4.2 (limited distribution). Plummer's mariposa lily was observed in the survey area but is considered a "Covered Species Adequately Conserved" under the MSHCP once conservation objectives have been met. "Covered Species Adequately Conserved" are those species that have met the species objectives set forth in Section 9.2 of the MSHCP and have "Take Authorization" through the MSHCP and associated permits. The objectives for Plummer's mariposa lily have been met and it is now considered Adequately Conserved (RCA 2019).

Mesa Horkelia

Mesa horkelia has a CRPR of 1B.1 (rare and endangered in California and throughout its range. This species inhabits chaparral, cismontane woodlands, and coastal scrub on sandy or gravelly soils. It is endemic to California and is found in the South Coast ranges, especially the foothill edge of the Los Angeles Basin. There are four (4) historic CNDDB records of this species within five (5) miles of the Project site from 1885 to 1908. It was not found during surveys. Potentially suitable habitat for mesa horkelia occurs onsite on steep slopes and rocky hillsides and the species has a moderate potential to occur. Mesa horkelia is not a covered species under the MSHCP.

Robinson's Pepper-grass

Robinson's pepper-grass has a CRPR of 4.3 (limited distribution) and is found in chaparral and coastal scrub. It is known from San Diego, Riverside, San Bernardino, Los Angeles, Ventura, and Santa Barbara counties, and some Channel Islands. There are four (4) CNDDB records within five (5) miles of the Project site. The CNDDB identifies the closest occurrence as one (1) mile southeast near the Santa Ana River (record from 1952). A potentially suitable habitat for Robinson's pepper-grass occurs onsite on steep slopes and rocky hillsides. The species was not observed during surveys but has a moderate potential to occur. Robinson's pepper-grass is not a covered species under the MSHCP.

Palmer's Oak

A single Palmer's oak is present within the eastern portion of the survey area. Although not a listed or special status species, this individual is a unique botanical resource. Palmer's oak is present as a cluster called a "clone" at one (1) locality. Evidence indicates that this locality is a single cloned individual. The size of the clone and estimates of annual growth led researchers to conclude that the clone is more than 13,000 years old and may be as much as 18,000 years old. This would date the tree to the Late Pleistocene, possibly soon after the last glacial period (May et al. 2009).

Southern California is known to have only remnants of this species that occur as small, isolated populations, likely due to the species' preference for cooler, wetter climates. This locality may be the oldest living Palmer's oak and potentially the oldest plant in California. Although Palmer's oak is not a listed or special status species, this oak is a unique individual specimen and is very uncommon within cismontane Western Riverside County. Riverside County provides Oak Tree Management Guidelines throughout the County and this species may qualify for protection.

The Palmer's oak location was intentionally omitted from Figure 16. Due to the Palmer's oak's individual importance and uniqueness, the exact location and photographs have been placed in a "Confidential" Appendix (D) and the distribution of information regarding this plant should be limited.

3.7.1) Narrow Endemic Plant Species

The MSHCP requires a habitat assessment for the following Narrow Endemic plants: San Diego ambrosia, Brand's phacelia, and San Miguel savory. These species were not observed during focused botanical surveys and suitable habitat is either lacking or of poor quality. These species are considered absent from the site.

The 20th Street and Alicante Avenue offsite impact areas are entirely disturbed and developed and native habitat for narrow endemic plants is not present.

San Diego Ambrosia

San Diego ambrosia (*Ambrosia pumila*) is federally listed as endangered and has a CRPR of 1B.1 (rare and endangered in California and throughout its range). It is distributed within western Riverside County and western San Diego County and further south in widely scattered populations along the west coast of Baja California, Mexico (CNPS 2021, Munz 1974, Reiser 2001). The CNDDB identifies only one record within five (5) miles of the Project site (Element Occurrence [EO] #50) and it is located approximately 4.25 miles southwest of the survey area (record from 1940) and has been extirpated by development. All other records are at least 19 miles south of the site. There is no USFWS designated critical habitat for this species on the property.

According to the USFWS final critical habitat posting (USFWS 2010), ". . . we believe that periodic flooding may be necessary at some stage of the plant population's life history (such as seed germination, dispersal of seeds and rhizomes) or to maintain some essential aspect of its habitat, because native occurrences of the plant are always found on river terraces or within the watersheds of vernal pools."

Propagation is primarily through extensions of rhizomes (underground stems) indicating that each population could be a single plant and restricted to the immediate appropriate habitat. San Diego ambrosia is sensitive to seasonal conditions and variation causing the amount of above-ground biomass to fluctuate from year to year. Flowers are generally present from April to October (CNPS 2021). Because a portion of San Diego ambrosia populations remain dormant in dry years and

because of its vegetative similarity to other *Ambrosia* species, it is difficult to inventory in terms of identification, number of individuals, and true spatial extent of populations.

No suitable habitat for this species was observed in the survey area and the site is likely on the margin of its geographic range. San Diego ambrosia was not observed during multiple years of surveys, including focused botanical surveys, and is considered absent from the site.

Brand's Phacelia

Brand's phacelia (*Phacelia stellaris*), also known as Brand's star phacelia, has a CRPR of 1B.1 (rare and endangered in California and throughout its range). The CNDDB documents 15 occurrences in California (CDFW 2021). Observations range from Los Angeles County, inland to Riverside County, and south to Mexico. Many of the records are historic; most of the recent records are located in San Diego County.

The CNDDB documents an occurrence from 2000 (EO #13) in Rancho Jurupa Park within the Santa Ana River floodplain, approximately 1.75 miles south of the survey area. Another occurrence from 2003 (EO #16) is documented (CDFW 2021a) near Rancho Cucamonga about 9.3 miles northwest of the Project site but has likely been extirpated by development.

Brand's phacelia occurs in open habitats on sandy soils, coastal dunes, and coastal scrub. Flowers are generally present from March through June (CNPS 2021). Light to moderate disturbance may benefit the species (MSHCP BMP 2016).

Potentially suitable habitat occurs in the survey area, but it is regularly impacted and heavily disturbed by off-road vehicle use. The species was not observed during multiple years of surveys, including focused botanical surveys. Brand's phacelia is considered absent from the site.

San Miguel Savory

San Miguel savory (*Clinopodium chandleri*) has a CRPR of 1B.2 (rare and endangered in California and throughout its range). It is distributed within western Riverside County, southeastern Orange County, and western San Diego County, California (CNPS 2021). CNDDB records within Riverside County show all populations are associated with the Santa Ana Mountains, Elsinore Mountains, and Santa Rosa Plateau. There are no records north of Lake Elsinore (CDFW 2021a), located about 24 miles south of the Project site.

This species is found on rocky, gabbroic, and metavolcanic soils in coastal sage scrub, chaparral, cismontane and riparian woodlands, and grasslands. Flowers are generally present from March

through July (CNPS 2021).

Potentially suitable habitat occurs in the survey area, but the survey area is to the north of the known range of the species. San Miguel savory was not observed during multiple years of surveys, including focused botanical surveys, and is considered absent from the site.

3.8) Listed and Special Status Wildlife Species

3.8.1) Listed Wildlife Species

Wildlife species listed as endangered, threatened, fully protected, or candidates for listing as endangered or threatened were evaluated as a part of this assessment. Potential for occurrence of these species is listed in Table 12 (Appendix A). These species were either documented by the CNDDB to occur within the Project topographic quadrangle or adjacent quadrangles, addressed in previous reports, or identified by the USFWS, MSHCP, or other source as potentially occurring in the area.

One listed wildlife species was observed on the Project site during surveys from 2014 through 2018, coastal California gnatcatcher (*Polioptila californica*; federal threatened, CDFW Species of Special Concern) (CAGN), discussed below.

Delhi Sands flower-loving fly (*Rhaphiomidas terminatus abdominalis*; federal endangered) was observed during surveys of the site by AMEC in 2005 (AMEC 2005b) and discussed below. This species was not observed during 2015/2016 protocol surveys. No other federal or state listed threatened or endangered wildlife species have been observed on the site during surveys.

Due to the presence of riparian habitat (despite the general lack of habitat suitability) and the MSHCP requirement for evaluation of riparian/riverine habitats with regard to special status species, least Bell's vireo (*Vireo bellii pusillus*; federal and state endangered) is also discussed in more detail below.

Crotch bumble bee (*Bombus crotchii*), a candidate for state listing, was observed on the Project site during the 2005 biological surveys conducted by AMEC (AMEC 2006). It was not observed during subsequent surveys of the site by L&L, but focused surveys for this species have not been conducted.

Delhi Sands Flower-loving Fly

Delhi Sands flower-loving fly (DSF) was listed by USFWS under the Federal Endangered Species Act of 1973, as amended, on September 23, 1993 (USFWS 1993). DSF is restricted in distribution to the Colton Dune system, which covers an area of approximately 40 square miles in the cities of Colton, Rialto, Fontana, and Ontario. It is estimated that as much as 97 percent of formerly known DSF habitat has been converted for human uses or has been adversely impacted by various anthropogenic disturbances. No critical habitat has been designated for this species.

Although few DSF feeding behaviors have been observed by researchers to date, indications are that the flowers of California buckwheat (*Eriogonum fasciculatum*) may be a potentially important nectar resource (G. Bruyea, pers. obs.). Other indicator plant species are California croton (*Croton californicus*) and telegraph weed (*Heterotheca grandiflora*). Scattered patches of California buckwheat are present within the mapped California brittle bush scrub habitat on the site. California croton and telegraph weed are also present on the site.

Most DSF are observed perching on the soil surface or on plants in sparsely vegetated areas (such as unpaved roads or trails) adjacent to or within occupied habitat. Male flies are most often observed, usually defending territories or flying in search of females for mating. Adult flies are active during the late summer months of August and September, when temperatures in the region often rise above 100° F. DSF larval development takes place underground within Delhi series sands for the remaining months of the year and adult flies emerge from pupal cases located just under the soil surface. Much of the life history of DSF (e.g., food source, lifespan of the immature stages, etc.) is poorly known.

DSF was observed on the western portion of the site by AMEC biologists in August 2005. Adult flies were observed on four (4) separate dates and carcasses of dead flies were located on two (2) other dates. All DSF observations were made within an approximately 3.73-acre area on the western edge of the site, where flat areas containing Delhi series (sandy) soils are present next to a residential area (Figure 19). Other sandy areas totaling approximately 17.52 acres along the western (primarily northwestern) portion of the site were surveyed with negative results.

A previously graded area is noted on site plans (Hunsaker, October 1, 2020) on the west site of the site and covers approximately 1.35 acres, which includes 0.93 acre of DSF habitat, all within 2005 mapped occupied habitat.

L&L conducted a two-year focused survey in 2015 and 2016 to document the status of DSF in the survey area and to map any changes to the habitat. Focused surveys were conducted

between July 1 and September 20, 2015 and between July 3 and September 14, 2016. Despite a thorough survey effort, no DSF were observed.

During the 2015-2016 DSF survey, it was noted that insect diversity and overall numbers appeared to be lower than past years. Many insects commonly observed in 2015 on the site were absent or rarely observed in 2016. In addition, Hymenoptera (bees and wasps) and Lepidoptera (butterflies and moths) were conspicuously uncommon or even absent during some survey days.

In disturbed areas, such as the Rio Vista site, Russian thistle (*Salsola tragus*) and annual sunflower (*Helianthus annuus*) have been reliable nectar resources (and observation areas) for insects during the hot summer months. In 2016, these plants were low in number and many were stunted. As a result, nectar resources were uncommon throughout the survey area.

Off-road vehicle impacts are common on the Project site. Many of the roads/trails in the survey area have been widened significantly over the years because of increased traffic. Most notably there is increased disturbance to the sandy area at the central portion of the site where historic DSF observations have occurred. California croton was once common in this area and is almost extirpated. Because of ongoing disturbance over the last decade and a lack of DSF sightings during focused studies in 2015 and 2016, it is likely that DSF has been extirpated from this area.

DSF has been recorded just north (offsite) of the Rio Vista site in a small sandy area or "blowout." This population has been referred to as the "Rattlesnake Mountain" colony, which is adjacent to an abandoned mine. This area lies just north of the Riverside-San Bernardino County line (approximately 300' north of the site boundary) and is situated on a northwest-facing slope.

DSF is a covered species under the MSHCP and considered Adequately Conserved. Conservation efforts for this species under the MSHCP are focused on suitable habitat and linkages within Core Areas or adjacent to conserved habitats, including those that are not within MSHCP Criteria Areas. The Rio Vista site is not in or adjacent to a Core Area or a Criteria Area.

Coastal California Gnatcatcher

Coastal California gnatcatcher is federally listed as threatened and a CDFW Species of Special Concern. This small, insectivorous songbird occurs almost exclusively in several distinctive sub-associations of the coastal sage scrub plant community (USFWS 1993). The present survey area is not located within the revised critical habitat (USFWS 2007) for this species.

There are seven (7) CNDDB records for coastal California gnatcatcher in the Project vicinity (within 5 miles) (CDFW 2021a). Five of the occurrences are within the Jurupa Hills: approximately 1,000 feet north of the site from 1999 (one pair and one individual; EO #934), approximately 0.7 mile northwest of the site from 1995 (5 nesting pairs; EO #462), and three occurrences about 3 miles west from 1994 (2 males and 1 female; EO #467), 1994 (3 adults; EO #474), and 1998 (4 adults and 1 juvenile; EO #507). One occurrence is within the Pedley Hills, about 2.1 miles west-southwest of the site from 1997 (one immature; EO #527). The last occurrence is recorded about 3.6 miles northeast of the site in 1924 (EO #452). This area is now a large cement plant and the habitat is likely extirpated.

Three (3) coastal California gnatcatchers, possibly dispersing juveniles, were incidentally observed during botanical surveys in 2017 (Figure 15). The survey area includes suitable habitat for coastal California gnatcatcher and it has moderate potential for occurrence.

The coastal California gnatcatcher is considered a "Covered Species Adequately Conserved" under the MSHCP. The Jurupa Mountains Subunit conservation efforts include conserving large intact habitat blocks consisting of coastal sage scrub, chaparral, and grasslands to support coastal California gnatcatchers. Although the site is not within the Subunit, the Project avoids approximately 366 acres of coastal sage scrub and 59 acres of chaparral and grasslands combined.

Riparian Birds

Least Bell's vireo (*Vireo bellii pusillus*) is state and federally listed as endangered. It is a covered species under the MSHCP and considered adequately conserved, but surveys are required in suitable habitat as described in MSHCP Section 6.1.2 and mitigation is required if the species is present. This species is migratory and breeds in California, arriving in March and departing by September or October. Males establish and defend territories in riparian woodlands and riparian scrub. Dense shrub cover is required for nesting.

Southwestern willow flycatcher (*Empidonax traillii extimus*) is state and federally listed as endangered. It is a covered species under the MSHCP and considered adequately conserved, but surveys are required in suitable habitat as described in MSHCP Section 6.1.2 and mitigation is required if the species is present. This species inhabits dense riparian forests with ample numbers of willows and other associated trees and shrubs.

Western yellow-billed cuckoo (*Coccyzus americanus occidentalis*) is federally listed as threatened and state listed as endangered. It is a covered species under the MSHCP and considered

adequately conserved, but surveys are required in suitable habitat as described in MSHCP Section 6.1.2 and mitigation is required if the species is present. This species inhabits extensive riparian thickets or forests with dense, low-level or understory foliage and abutting on slow-moving watercourses, backwaters, or seeps.

The limited riparian vegetation in the survey area does not provide suitable habitat for least Bell's vireo, southwestern willow flycatcher, or western yellow-billed cuckoo. Although willow and cottonwood species are present in small areas, the diversity and density of the vegetation is not adequate to support these species. Therefore, there is no suitable habitat for these species on or adjacent to the site and they are considered absent.

Crotch Bumble Bee

Crotch bumble bee is a candidate for state listing as endangered (as of March 2023). It occurs in open grassland and scrub habitats and nests underground. Food plants include *Asclepias*, *Chaenactis*, *Lupinus*, *Medicago*, *Phacelia*, and *Salvia* (Williams et al. 2014). The range of this species includes all of California, but the majority of records are south of San Francisco along the coast and western desert into southern California.

There are four CNDDB records within five (5) miles of the site. The closest observation of this species is from 1938 (EO #185), approximately 1.4 miles north of the site, with a second record from 1938 (EO #184) about 4.4 miles north-northeast, and a third record from 1976 (EO #198), about 1.9 miles southeast of the survey area. A more recent occurrence (EO #427) was documented in April 2020 in an urban native plant garden about 3.0 miles east-southeast of the Project site.

Suitable habitat for the species occurs in sage scrub and coastal sage-chaparral scrub within the survey area and it was recorded as observed in the survey area during the 2005 DSF focused survey (AMEC 2005b). This record is not in the CNDDB database.

Crotch bumble bee is not a covered species under the MSHCP. Impacts require incidental take permitting.

3.8.2) Special Status Species

Special status wildlife species known from or expected to occur within the Project vicinity were evaluated as a part of this assessment. Potential for occurrence of these species is listed in Table 12 (Appendix A). These species were either documented by the CNDDB to occur within the

Project quadrangle or adjacent quadrangles, were addressed in previous reports covering the survey area, or were identified by the USFWS, MSHCP, or other source as potentially occurring in the area.

Nine (9) special status wildlife species were observed during the 2014, 2015, 2016, 2017, and/or 2018 biological surveys: Cooper's hawk (*Accipiter cooperii*), southern California rufous-crowned sparrow (*Aimophila ruficeps canescens*), Lawrence's goldfinch (*Spinus lawrencei*), northern harrier (*Circus hudsonius*), great egret (*Ardea alba*), Costa's hummingbird (*Calypte costae*), red-diamond rattlesnake (*Crotalus ruber*), orange-throated whiptail (*Aspidoscelis hyperythra*), and San Diego black-tailed jackrabbit (*Lepus californicus bennettii*) (see Figure 16 and Table 15). Rosy boa (*Lichanura trivirgata*) was also observed but is no longer considered a special status species by CDFW. Two (2) other special status wildlife species were observed during the 2005 biological surveys conducted by AMEC (AMEC 2006): coast horned lizard (*Phrynosoma blainvillii*) and coastal whiptail (*Aspidoscelis tigris stejnegeri*).

Eighteen (18) other special status wildlife species were determined to have high or moderate potential to occur in the survey area, based on presence of suitable habitat, species range, and proximity to known occurrences. These species are: southern California legless lizard (*Anniella stebbinsi*), California glossy snake (*Arizona elegans occidentalis),* San Diego banded gecko (*Coleonyx variegatus abbotti*), San Bernardino ringneck snake (*Diadophis punctatus* ssp. *modestus*), coast patch-nosed snake (*Salvadora hexalepis virgultea*), sharp-shinned hawk (*Accipiter striatus*), Bell's sage sparrow (*Artemisiospiza belli belli*), wrentit (*Chamaea fasciata*), California horned lark (*Eremophila alpestris actia*), peregrine falcon (*Falco peregrinus anatum*), loggerhead shrike (*Lanius ludovicianus*), Allen's hummingbird (*Selasphorus sasin*), Brewer's sparrow (*Spizella breweri*), black-chinned sparrow (*Spizella atrogularis*), northwestern San Diego pocket mouse (*Chaetodipus fallax fallax*), pallid bat (*Antrozous pallidus*), western mastiff bat (*Eumops perotis californicus*), and pocketed free-tailed bat (*Nyctinomops femorosaccus*).

Of the species observed or that have high or moderate potential to occur in the survey area, the MSHCP considers the following species "Covered Species Adequately Conserved:" orange-throated whiptail, coastal whiptail, coast horned lizard, San Diego banded gecko, red-diamond rattlesnake, Cooper's hawk, sharp-shinned hawk, Bell's sage sparrow, southern California rufous-crowned sparrow, California horned lark, peregrine falcon, loggerhead shrike, northern harrier, northwestern San Diego pocket mouse, and San Diego black-tailed jackrabbit.

Those species with suitable habitat and potential for impacts that are not covered by the MSHCP include great egret, Lawrence's goldfinch, wrentit, Allen's hummingbird, Brewer's sparrow, black-

chinned sparrow, Costa's hummingbird, southern California legless lizard, California glossy snake, San Bernardino ringneck snake, coast patch-nosed snake, pallid bat, western mastiff bat, and pocketed free-tailed bat.



(Aerial obtained from Google Earth, March 2023)

Rio Vista Project
Riverside County, California

Special Status Species Observed
Figure 16

Great Egret

The great egret is a CDFW Special Animal. It is found in marshlands, riparian forests, irrigated pastures, and wetlands. It nests in colonies in large trees. There is no suitable nesting habitat on the site and no or marginal foraging habitat. The species was detected during surveys, but it is unknown if it was observed foraging on the site or just flying over.

Lawrence's Goldfinch

Lawrence's goldfinch is a CDFW Special Animal and a USFWS Bird of Conservation Concern. This species typically nests in arid, open woodlands near chaparral, fields, and small bodies of water (Davis 1999). The species feeds mostly on seeds of annual plants, with a preference for fiddlenecks (*Amsinckia* species) in its breeding range; in winter, its diet varies by region. These birds generally travel in pairs or flocks. Its breeding range is confined to the Central Valley and coastal foothills of California, as well as the northern portion of Baja California. The nearest CNDDB record (nesting: EO #4) for the Lawrence's goldfinch is 3.5 miles southwest of the survey area (CDFW 2021a).

Although suitable woodland nesting habitat does not occur on the site, this species was observed foraging in the survey area.

Wrentit

The wrentit is a USFWS Bird of Conservation Concern. It is found in chaparral, shrublands, and oak woodlands. It is a year-round resident in southern California. It was not observed during surveys, but there are multiple eBird records of this species in the vicinity of the Project site.

Allen's hummingbird

Allen's hummingbird is a USFWS Bird of Conservation Concern. It is found in chaparral, scrub, and forest. It breeds in and migrates through southern California. It was not observed during surveys, but there are many eBird records of this species in the vicinity of the Project site.

Brewer's Sparrow

Brewer's sparrow is a CDFW Special Animal and a USFWS Bird of Conservation Concern. It is found in treeless shrub and desert scrub habitats. In California, it is a summer resident and breeder east of the Cascade-Sierra Nevada crest, in mountains and higher valleys of Mojave

Desert, and in those bounding the southern end of the San Joaquin Valley. It is uncommon in southern California at higher elevations of San Bernardino, Ventura, Kern, and San Luis Obispo Counties during the breeding season. There are no CNDDB records (nesting) in southern California. Its winter range includes southern Mojave and Colorado deserts. It was not observed during surveys but was identified on the adjacent Highland Park site. This may have been a migrating individual.

Black-chinned Sparrow

The black-chinned sparrow is a USFWS Bird of Conservation Concern. It is not tracked in the CNDDB. It is migratory and breeds in southern California in the Coast Ranges, Transverse Range, Peninsular Range, and mountains of southeastern California. It is found in chaparral, sagebrush, and arid scrublands on rugged slopes. It was not observed during surveys but was identified on the adjacent Highland Park site.

Costa's Hummingbird

Costa's hummingbird is a CDFW Special Animal and a USFWS Bird of Conservation Concern. It is a year-round resident in southern California and found in chaparral, coastal scrub, desert scrub, open meadows, and gardens. The CNDDB only tracks nesting for this species and there are no records in the CNDDB database. There is suitable habitat on the site and the species was observed during surveys of the Project site.

Southern California Legless Lizard

The southern California legless lizard is a CDFW Species of Special Concern. It is a snake-like, limbless, burrowing lizard that occurs from central California to northern Baja California, Mexico. Habitat for this lizard includes sparsely vegetated washes, beaches, chaparral, and certain woodlands. Legless lizards require loose soil (such as sand, loam, or leaf litter) for burrowing. There are 20 CNDDB records of this species within five (5) miles of the Project site. The closest record is just south of the survey area (CDFW 2021a). This species is secretive and difficult to detect.

Suitable habitat for the species occurs in the survey area and it has a moderate potential to occur.

California Glossy Snake

The California glossy snake is a CDFW Species of Special Concern. This species inhabits arid scrub, rocky washes, grassland, and chaparral. It appears to prefer microhabitats of open areas

and areas with soil loose enough for easy burrowing (Nafis 2018). The California glossy snake ranges from the San Francisco Bay Area south into Baja California, Mexico and is found from sea level to around 7,218 feet elevation (Nafis 2018). The CNDDB documents six (6) occurrences within five miles of the site. There is one historic record from 1935 (EO #101) near the southern end of the Project site (but exact location unknown).

The species was not observed during surveys, but suitable habitat for this species occurs in the survey area. The species has a high potential to occur.

San Bernardino Ringneck Snake

San Bernardino ringneck snake is a CDFW Special Animal. It occurs in relatively rocky areas within woodland, chaparral, or grassland, usually in moist habitats. The species is endemic to California and ranges from Santa Barbara south along the coast to San Diego County and inland into the San Bernardino Mountains (Nafis 2018). There are no CNDDB occurrences for this species within five miles of the survey area.

This species was not observed during surveys, but suitable habitat is present in the survey area. This species has a moderate potential to occur.

Coast Patch-nosed Snake

Coast patch-nosed snake is a CDFW Species of Special Concern. This snake is an active, diurnal resident of shrublands with open sandy areas. This species is found from San Luis Obispo County through coastal southern California to northern Baja California (Nafis 2018). There are no CNDDB records for this species within five miles of the survey area.

Suitable habitat is present on the Project site in open areas of chaparral and sage scrub habitats with sandy and loose soils and this species has a high potential for occurrence.

Pallid Bat

Pallid bat is a CDFW Species of Special Concern. This species roosts in cliff faces and rock outcrops but can also be found in manmade structures or trees. Roosting and foraging locations are common in dry, open shrubland habitat, typically near water and below 6,000 feet in elevation. This species occurs in much of California except the high mountains. Pallid bats will hibernate in small groups in the winter. The CNDDB has over 400 records of this species throughout California. The closest record of this species in the CNDDB is in Redlands (EO #244), approximately 11 miles west-northwest of the survey area.

Suitable roosting habitat occurs in the rock outcrops on the site and suitable roosting and foraging habitat occurs on and adjacent to the survey area. This site does not have a consistent water source but is just over a mile from the Santa Ana River and Lake Evans and several quarry basins are less than a mile away. This species has a moderate potential for occurrence.

Western Mastiff Bat

Western mastiff bat is a CDFW Species of Special Concern. This species primarily roosts in cliff faces and rock outcrops, but may occasionally roost in high buildings, trees, and tunnels. It inhabits a variety of habitats, including dry desert washes, flood plains, chaparral, oak woodland, open ponderosa pine forest, grassland, montane meadows, and agricultural areas. This species occurs from San Francisco south into much of southern California. CNDDB records identify this species throughout southern and central California, with the greatest concentration in the coastal areas of southern California. There are two (2) CNDDB records within five miles of the Project site. The closest is in the Pedley area (EO #172) from 1954, approximately 3.3 miles southwest of the survey area (but exact location unknown). The other record (EO # 83) is from 1933 near Colton, about 3.7 miles northeast of the site.

Suitable roosting habitat on the site is limited to rock outcrops, although a steep cliff face is present just offsite to the west. Suitable foraging habitat occurs on and adjacent to the survey area. This site does not have a consistent water source, but the site is just over a mile from the Santa Ana River and Lake Evans and several quarry basins are less than a mile from the survey area. This species has a moderate potential for occurrence.

Pocketed Free-tailed Bat

Pocketed free-tailed bat is a CDFW Species of Special Concern. This species primarily roosts in crevices of high cliffs, but can also roost in caves, rock crevices, and manmade structures (bridges, mines, etc.). It inhabits arid lowland areas and is associated with creosote bush and chaparral habitats. It prefers prominent rock features or rocky canyons. This species occurs from southwestern Texas west through New Mexico and Arizona into southern California and south to Mexico. CNDDB records identify this species mainly in southwestern southern California. There are two records of this species within five miles of the Project site, EO #22 about 3.0 miles south of the survey area (from 1988, uncertainty in location of two miles) and EO #23 about 3.6 miles northeast (from 1985, uncertainty in location of nine miles).

Suitable roosting habitat onsite includes rock outcroppings and crevices. Suitable roosting and foraging habitat occurs within and adjacent to the survey area. This species has a moderate potential for occurrence.

3.8.3) MSHCP Additional Survey Needs Species

Burrowing Owl

The burrowing owl is a CDFW Species of Special Concern and a USFWS Bird of Conversation Concern. The MSHCP identified the burrowing owl as an "Additional Needs Species" for the survey area, requiring a habitat assessment and (if warranted) focused surveys for the species. The burrowing owl historically occurred throughout much of California; however, many former populations have vanished.

The burrowing owl occurs as a resident in open areas of the lowlands across much of the southern California region (Garrett and Dunn 1981). It requires open expanses of sparsely vegetated areas on gently rolling or level terrain with an abundance of small mammal burrows. It uses rodent or other burrows for roosting and nesting cover or may dig its own burrow in soft, friable soil. In southern California, burrowing owl nesting areas are often found in association with California ground squirrel activity. Burrowing owl may also use pipes, culverts, and other manmade structures. One burrow is typically selected for use as the nest site and additional satellite burrows are usually found in the immediate vicinity of the nest burrow within the territory of the owl.

Open habitats and small rodent burrows were identified in the study area. No burrowing owl or burrowing owl sign was identified in the survey or buffer areas during the 2005 focused survey conducted by AMEC (AMEC 2006). L&L conducted focused surveys in 2014, 2016, and 2018. California ground squirrels were observed in the survey area, but not in high numbers. Most were observed in association with rocky outcrops within the southwestern portion of the site. All existing mammal burrows were thoroughly examined for evidence of burrowing owl, including molted feathers, prey remains, pellets, eggshell fragments, and whitewash. Approximately 75.2 acres of suitable burrowing owl habitat was identified within the site and buffer zone, but no burrowing owls or owl sign were observed.

Delhi Sands Flower-loving Fly

See Section 3.8.1.

3.9) Wildlife Corridors

Wildlife corridors link together areas of suitable wildlife habitat that are otherwise separated by rugged terrain, changes in vegetation, or human disturbance. The fragmentation of open space areas by urbanization creates isolated "islands" of wildlife habitat. In the absence of habitat linkages that allow movement to adjoining open space areas, various studies have concluded that some wildlife species, especially larger and more mobile mammals, will not likely persist over time in fragmented or isolated habitat areas because movement barriers prohibit the infusion of new individuals and genetic information.

Corridors mitigate the effects of this fragmentation by:

- Allowing animals to move between remaining habitats, thereby permitting depleted populations to be replenished and promoting genetic exchange;
- Providing escape routes from fire, predators, and human disturbances, thus reducing the risk that catastrophic events (fire, disease, etc.) will result in population or local species extirpation; and
- Serving as travel routes for individual animals as they move within their home ranges in search of food, water, mates, and other necessary resources.

Wildlife movement activities usually fall into one of three movement categories: dispersal (e.g., juvenile animals dispersing from natal areas or individuals extending their range), seasonal migration, and movements related to home range activities (e.g., foraging for food or water, defending territories, or searching for mates, breeding areas, or cover).

3.9.1) Connectivity

The survey area is bordered by residential development to the west with some undeveloped land to the northwest; residential, agricultural, and open land to the north; residential, industrial, and agricultural development to the east; and residential development to the south with some undeveloped land to the southeast. The survey area is north and west of MSHCP Core A (Santa Ana River) and lies between Noncontiguous Habitat Block 2 (Jurupa Mountains) and Block 3 (Delhi Soils).

The site includes habitat that supports a variety of wildlife species. The survey area can connect to the north and then northeast with the Jurupa Mountains and MSHCP designated Noncontiguous Habitat Block 2 (Jurupa Mountains), but the survey area and this habitat block are otherwise remote and do not connect with Core habitat blocks. Core A (Santa Ana River) is closest and lies approximately one (1) mile southeast, but it is separated from the survey area by

roadways and a combination of commercial, industrial, and residential development. While large, the site does not offer connection between wildlife use areas.

The site is a parcel of such a size as to allow wildlife to move freely throughout the survey area and in some cases to surrounding areas via existing travel routes, such as drainages, ridgelines, and existing dirt roads and trails. Based on the surrounding level of development, the Project site mainly provides for movement on a smaller, localized scale for species that live within the survey area and immediately adjacent open lands and are reasonably tolerant of human activity and proximity.

4.0) ANALYSIS OF POTENTIAL EFFECTS

The following discussion examines potential impacts to biological resources that may occur as a result of implementation of the proposed Project. Impacts can be direct, indirect, or cumulative. Direct impacts are those that are caused by a project and occur at the same time and place. Indirect effects are reasonably foreseeable and caused by a project but occur at a different time or place. Cumulative impacts are two or more individual effects which, when considered together, compound or increase other environmental impacts. The cumulative impact from several projects is the change in the environment that results 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.

Direct impacts include the loss, modification, or disturbance of vegetation communities, which in turn, directly affect plant and wildlife species dependent on those habitats, as well as the destruction of individual plants or wildlife. Direct impacts also include any effects that result from vegetation or ground disturbing activities during construction, including associated dust, noise and vibration, etc.

Indirect impacts are the result of such things as the introduction of invasive plants and animals; predator subsidies (i.e., food, water, perch sites, etc.) that lead to increased predation on wildlife; and harassment or predation by domestic animals. These impacts may change the behavioral patterns of wildlife and reduce native plant and wildlife diversity and abundance in habitats adjacent to project sites.

Under the CEQA Guidelines (2018 revision), project impacts on biological resources are potentially significant if one or more of the following conditions would result from implementation of the proposed Project:

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

b) A substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, and regulations or by the CDFW or USFWS.

c) A substantial adverse effect on state or federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) 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.

Impacts were evaluated with respect to general biological impacts, state and/or federal listed species, special status species, and sensitive habitats. Impacts to jurisdictional features (including drainages and wetlands) and issues of local concern (such as the Riverside County MSHCP) were also evaluated. Impacts were calculated based on the conceptual plan provided to L&L by Hunsaker & Associates on May 20, 2020 (Figure 17) with an additional 10-foot buffer around the Project.

4.1) Vegetation Communities

This section includes impacts to habitat and vegetation communities present on the Project site. Impacts result mainly from permanent removal of vegetation and habitat and direct and indirect impacts by construction associated with the development. Text of mitigation measures is provided in Section 6.0.

Impact: Development of the Rio Vista Project could result in loss of habitat and sensitive vegetation communities.

Implementation of the proposed Project would result in the permanent loss of about 477 acres of habitat (Table 6, Figure 18). The 477 acres of impacted habitat add to the reduction in availability of nest/den sites and foraging habitats for species that utilize shrublands, grasslands, and disturbed habitats. With implementation of Mitigation Measure BIO-2 (Conserve Open Space), approximately 426 acres of habitat will be deed restricted as open space and will be available to support plant and wildlife species that utilize the site. Mitigation Measure BIO-1 (Flag or Fence Impact Areas) and BIO-11 (Biological Monitoring and Clearance Surveys) would ensure that construction activities do not encroach on avoidance areas. With implementation of Mitigation Measures BIO-1 and BIO-2, impacts to common vegetation communities on the Project site would be adverse, but less than significant.

There is one sensitive vegetation community on the site, bush penstemon scrub, and approximately 0.10 acre of this vegetation (about 17 percent of the total on site) will be

permanently impacted by the Project. Mitigation Measure BIO-2 (Conserve Open Space) would conserve the remaining 0.49 acre (83 percent of the total on site) within open space areas. Bush penstemon scrub is ranked as S3 (vulnerable to extirpation) and the loss of 0.10 acre of this vegetation community, coupled with the conservation of the remaining 0.49 acre, is not expected to significantly impact regional abundance. With implementation of Mitigation Measure BIO-2, impacts to bush penstemon scrub would be less than significant.

Included in the vegetation impacts are 6.86 acres of MSHCP Riparian/Riverine areas, consisting of 5.98 acres of Riverine areas and 0.88 acre of Riparian willow scrub and ornamental/Peruvian pepper tree vegetation (where it falls within a drainage feature) (based on 2023 jurisdictional delineation). Mitigation Measure BIO-5 requires mitigation at no less than a 2:1 ratio.

Impacts to habitat in the immediate Project vicinity could potentially occur as a result of erosion and runoff, fugitive dust, and invasive species. Clearing the site of vegetation will reduce water absorption after rain events and increase runoff. In addition, use of heavy equipment and maintenance of those vehicles and use of other toxic substances in construction could result in accidental spills, leaks, or other release into the environment. Mitigation Measure BIO-6 (SWPPP) incorporates standard BMPs into Project implementation. BMPs reduce potential for discharges entering Riparian/Riverine areas.

Use of heavy equipment, exposing soils, and accessing the site on dirt roads will all result in higher than usual fugitive dust and emission levels during clearing, which can affect the health and growth of local plants and the health and behavior of local wildlife. Dust particles settling on vegetation can reduce photosynthesis, block leaf stomata, and/or block uptake into leaf tissues (Farmer 1993). These impacts can most notably reduce vegetation growth rates. Long-term impacts are expected to be similar to current levels. Mitigation Measure BIO-6 (SWPPP) incorporates standard BMPs into Project implementation and BIO-12 (Wildlife Hazards) restricts vehicles on unpaved roads to 15 mph. Standard BMPs require watering when necessary to reduce fugitive dust, subject to local water restrictions.

A potential increase in non-native species, which may impact native plant species, may occur along Project margins where newly exposed soils not developed or landscaped could provide fertile ground. Invasive species occur within the impact area and could disperse seed to newly turned soil. Invasive and noxious weed species seeds could be spread or introduced into the area by vehicles or machinery. Mitigation Measure BIO-15 reduces the potential for spread of noxious and non-native species by utilizing certified weed-free products on the site, prohibiting

the use of invasive plants in landscaping, washing heavy equipment prior to bringing it onsite, and limiting staging of equipment to areas not occupied by noxious weeds.

Human and pet encroachment will be reduced by Mitigation Measure BIO-17, which requires compliance with the Urban and Wildlands Interface guidelines. Measures detailed in Section 7.4 (Urban/Wildlands Interface) include the incorporation of rear yard fencing and/or steep inaccessible slopes between the avoided areas and development in the Project design, as well as signage and homeowner education.

With the incorporation of the Mitigation Measures outlined above, impacts to vegetation communities will be less than significant.

Table 6. Impacts to Vegetation Communities by the Proposed Project.

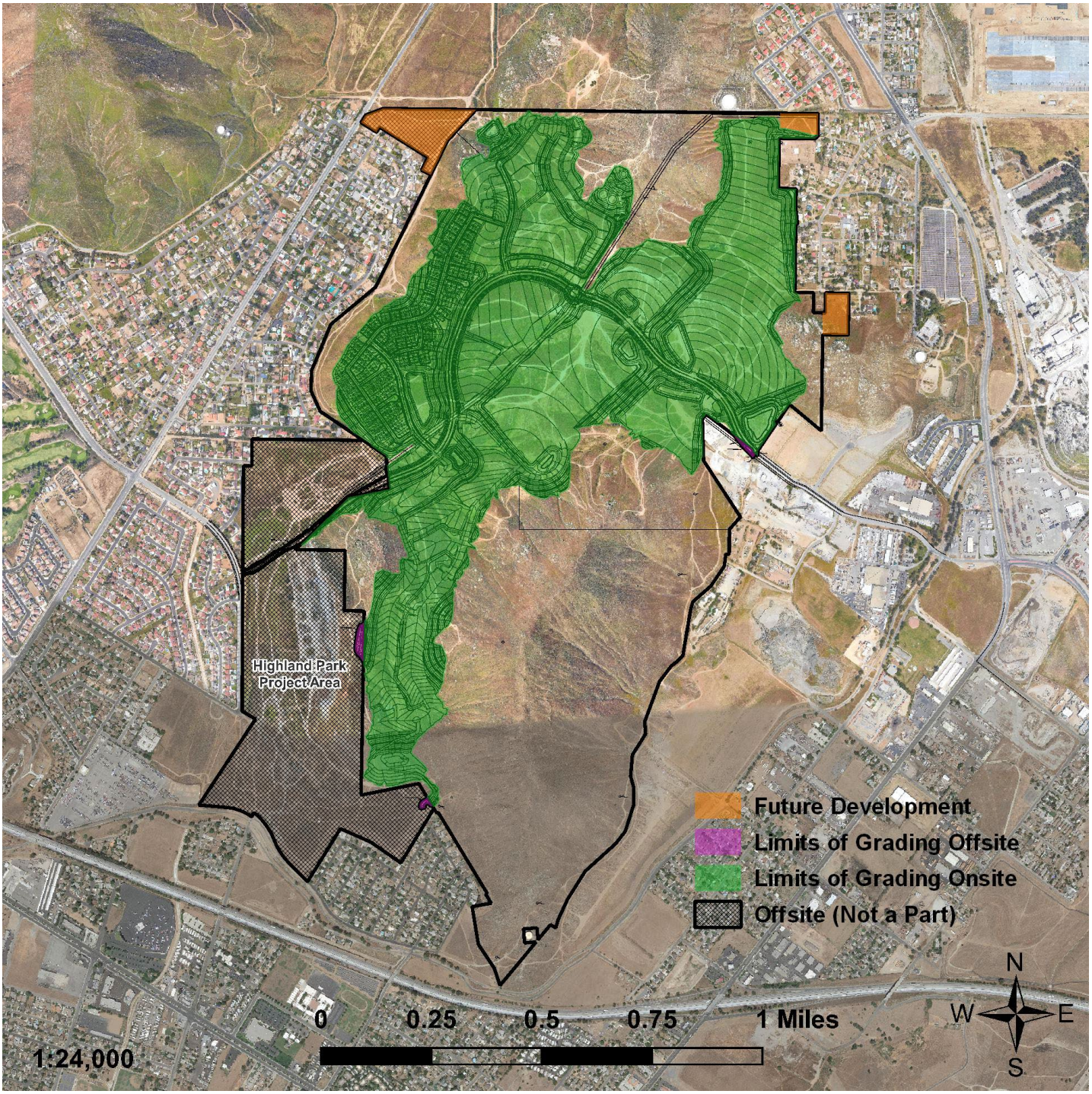
Vegetation Community	Area (acres)					
	Project Site	Onsite Impacts	Avoided Area	Riparian Impacts	Offsite Impacts	Total Impacts
Sage Scrub						
California Buckwheat Scrub	38.63	32.31	6.32	--	--	32.31
Brittle Bush Scrub (*E. farinosa*)	579.68	290.40	289.28	--	--	290.40
Brittle Bush Scrub (*E. farinosa-A. californica*)	95.74	24.90	70.84	--	--	24.90
Subtotal	**714.05**	**347.61**	**366.44**	**--**	**--**	**347.61**
Chaparral						
Chamise Chaparral	25.30	3.93	21.37	--	--	3.93
Sage Scrub-Chaparral						
Bush Penstemon Scrub**	0.59	0.10	0.49	--	--	0.10
Grasslands						
Non-native Grassland	160.72	123.18	37.54	--	--	123.18
Riparian						
Willow Scrub	0.39	0.33	0.06	0.33	--	0.33
Ornamental						
Ornamental	1.00	1.00	0.00	0.45	--	1.00
Developed						
Developed	0.07	0.07	0.00	--	0.31	0.38
TOTAL	**902.12**	**476.22**	**425.90**	**0.78**	**0.31**	**476.52**

Two asterisks (**) indicates a sensitive vegetation community. Minor discrepancies in totals due to rounding error.

Table 7. Impacts to MSHCP Riparian/Riverine on the Project Site (based on 2018 jurisdictional delineation)

Drainage Identifier	MSHCP Riparian / Riverine Habitat		Impacted Upland Vegetated or Unvegetated Riverine Acres	Impacted Riparian Facultative Vegetated Acres
	Drainage Area sq. ft.	Drainage Acreage		
1	10,912	0.25	0.25	0.00
2	45,083	1.03	0.58	0.45
3	15,729	0.36	0.36	0.00
4	36,152	0.83	0.72	0.12
5	25,435	0.58	0.58	0.00
6	11,782	0.27	0.27	0.00
7	21,677	0.50	0.50	0.00
8	30,427	0.70	0.70	0.00
9	27,560	0.63	0.63	0.00
10	36,680	0.84	0.81	0.03
11	28,156	0.65	0.37	0.28
12	9,263	0.21	0.21	0.00
Total	**298,856**	**6.86**	**5.98**	**0.88**

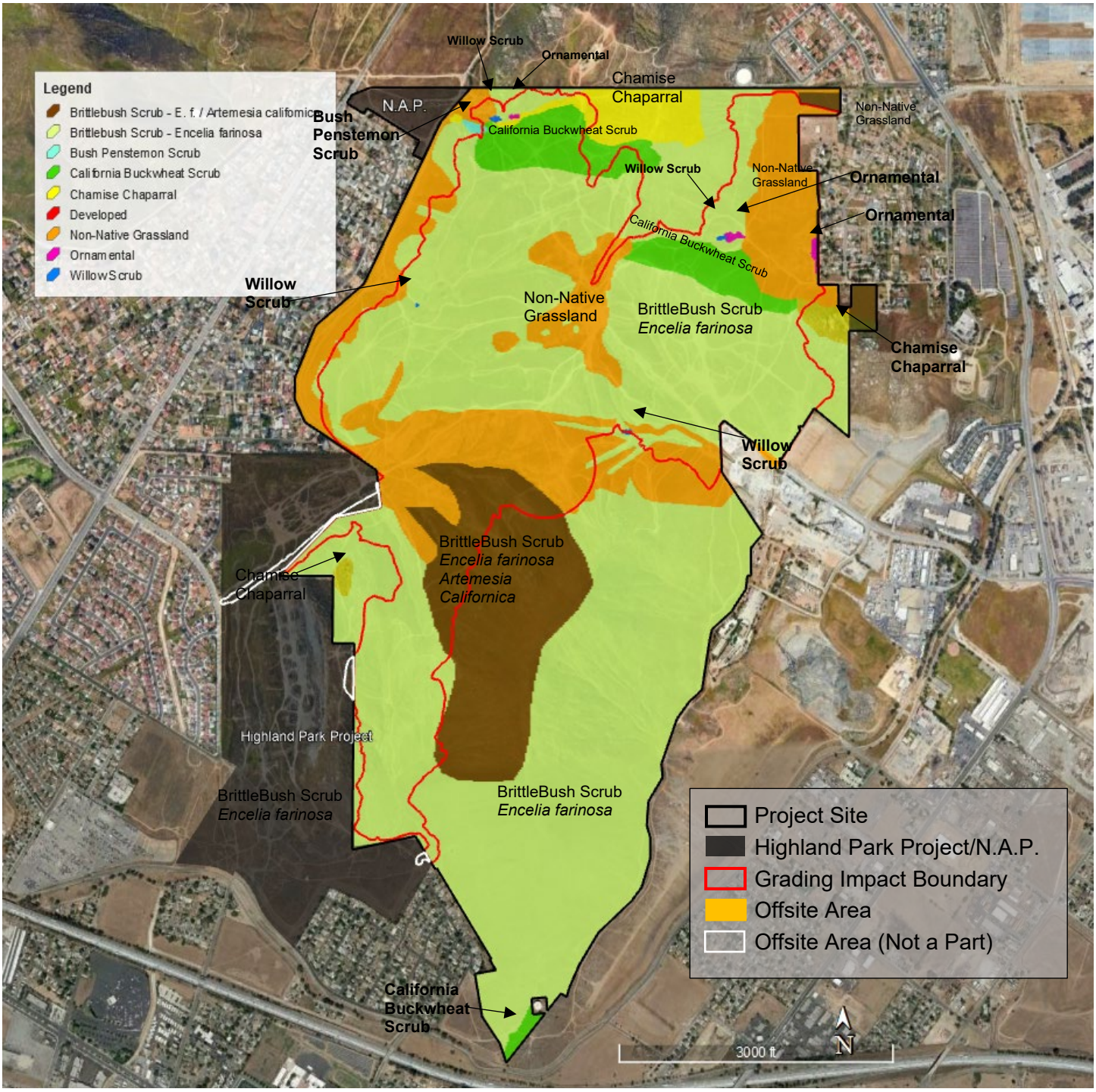
Minor discrepancies are due to rounding



Aerial obtained from Google Earth, March 2023)

Rio Vista Project
Riverside County, California

Engineering Design / Grading Impacts
Figure 17



Aerial obtained from Google Earth, March 2023)

Rio Vista Project
Riverside County, California

Vegetation Impacts
Figure 18

4.2) Botanical Species

This section describes the Project's expected direct and indirect impacts to listed and special status plants. Recommended mitigation measures to avoid, minimize, or compensate for those impacts are included in Section 6.0.

Impact: Development of the Rio Vista Project could result in loss of habitat for listed and special status plants and loss of individuals or populations.

The site was evaluated for potential presence or absence of suitable habitat to support state or federally listed botanical resources. These species were not observed during surveys and following focused surveys were determined to have low or absent potential to occur in the survey area, based on lack of suitable habitat and survey results.

No other state or federally listed plant species were observed on the Project site during surveys and none have a moderate or high potential to occur. There are no CNDDB recorded occurrences of listed plant species nor is there any designated or proposed critical habitat. No impacts are expected to listed plant species as a result of this proposed Project.

One special status plant species, Plummer's mariposa lily, was observed on the Project site. This species is covered under the MSHCP and considered Adequately Conserved and no mitigation is proposed. Two (2) special status plant species, Robinson's pepper-grass and mesa horkelia, have potentially suitable habitat in the survey area and moderate potential to occur. These species are not covered under the MSHCP.

Robinson's pepper-grass has a California Rare Plant Rank (CRPR) of 4.3 (watch list). CNDDB records of this species are present throughout the coastal and inland valleys and foothills of southern California. Although some may have been lost due to development, numerous populations are located within MSHCP conserved lands and more within Criteria Cells. With the number and frequency of records within Riverside, San Diego, San Bernardino, and Los Angeles Counties, the known locations of this species within MSHCP conservation areas, and implementation of Project mitigation measures, impacts to Robinson's pepper-grass (if it occurs) would be considered adverse, but not significant.

Mesa horkelia has a CRPR of 1B.1 (rare and endangered in California and throughout its range). The survey area appears to be near the southeastern edge of the geographic range of the species. The CNDDB identifies over 100 records of mesa horkelia within California, including numerous records in the lowlands and foothills of southwestern San Bernardino County and Los Angeles County. Although additional mesa horkelia records go as far south as San Diego County and as far east as Banning, there are limited records of this species in Riverside, San Diego, and Orange Counties. The majority of occurrences are west and northwest of the survey area in southwest San Bernardino, Los Angeles, Ventura, Santa Barbara, and San Luis Obispo Counties.

Based on the wide distribution and number of locations of this species, and implementation of Project mitigation measures, impacts to mesa horkelia (if it occurs) would be considered adverse, but not significant.

If Robinson's pepper-grass, mesa horkelia, or other special status plant species are present on the site, impacts would be avoided and minimized through implementation of Mitigation Measures BIO-2 (Conserve Open Space), BIO-11 (Biological Monitoring and Clearance Surveys) and BIO-4 (Special Status Plants), which requires avoidance or salvage or collection of propagules for use in the Project avoidance area or local restoration projects. With implementation of mitigation measures, impacts to special status plants would be less than significant.

The Palmer's oak tree located in the northeast quarter of the survey area will be avoided in accordance with Mitigation Measure BIO-3 (Palmer's Oak). Based on the current Project design, the Palmer's oak is 150 feet outside the Project disturbance area. Detailed location information is provided in Confidential Appendix D and will be shared as needed with construction staff, biological field crews, state, local, and federal agencies, and the future HOA to prevent any impacts during or after construction.

No MSHCP Narrow Endemic plants were observed in the survey area. Based on lack of habitat, poor habitat, geographic range, and/or results of multiple years of field surveys, these species were determined to be absent from the Project site. No impacts are expected to MSHCP Narrow Endemic plant species as a result of this proposed Project.

No special status plant species are known to occur within the avoided portions of the survey area or immediately adjacent to the survey area; however, if previously unknown special status botanical species were present, impacts could potentially occur as a result of chemical emissions, fugitive dust, human presence, and invasive species. Increases of chemical emissions and fugitive dust during clearing would be temporary. Release of chemical emissions from vehicles and machinery would increase during clearing; however, due to the size of the Project and open area, emissions should disperse. Impacts of chemical emissions after clearing are not expected to increase substantially over current levels.

Fugitive dust rates could increase during clearing as a result of vehicle and machinery use and exposure of soils. Mitigation Measures for reducing impacts include BIO-6 (SWPPP), incorporating standard BMPs that require limitation of fugitive dust rates in several ways, including use of water trucks where needed and where not limited by local water restrictions, and BIO-12 (Wildlife Hazards), which limits vehicle speeds on unpaved roads within the Project to 15 mph.

Propagules of invasive plant species could be spread or introduced into the area by vehicles or machinery. Mitigation Measure BIO-15 reduces the potential for spread of non-native species by utilizing certified weed-free products on the site, prohibiting the use of invasive plants in landscaping, washing heavy equipment prior to bringing it onsite, and limiting staging of equipment insofar as possible to areas not infested by invasive plants.

Human and pet encroachment will be reduced by Mitigation Measure BIO-17 (Urban/Wildlands Interface) requiring compliance with Urban and Wildlands Interface guidelines. Measures detailed in Section 7.4 (Urban/Wildlands Interface) include incorporation of rear yard fencing and/or steep inaccessible slopes between avoided areas and development in the Project design, as well as signage and homeowner education.

With incorporation of the Mitigation Measures outlined above, impacts on listed and special status plants will be less than significant.

4.3) Wildlife Species

This section describes the Project's expected direct and indirect impacts to listed and special status wildlife. Recommended mitigation measures to avoid, minimize, or compensate for those impacts are included in Section 6.0.

Impact: Development of the Rio Vista Project could cause loss of habitat for listed and special status wildlife and harm to individuals.

Listed Wildlife Species

Two (2) listed species were observed on the Project site: Delhi Sands flower-loving fly and coastal California gnatcatcher. Crotch bumble bee was also observed on the Project site and is currently (as of March 2023) a candidate for state listing as endangered.

Delhi Sands Flower-loving Fly: Delhi Sands flower-loving fly (DSF) was recorded on the Project site by AMEC in 2005 within an approximately 3.73-acre area on the western edge of the site. A two-year focused survey was conducted in 2015 and 2016 and surveys were negative both years. The site is not within a Criteria Cell or a Delhi Sands Conservation Area.

DSF is a covered species under the MSHCP and considered Adequately Conserved. The Project, as designed, impacts 24.3 percent of Delhi soils on the Project site (Figure 19). However, of the 3.73 acres of occupied DSF habitat mapped in 2005, 0.84 acres (22.5 percent) will be impacted by the Project.

Any avoided habitat will be deed restricted to prevent future impacts under Mitigation Measure BIO-2 (see Section 6.0). Based on the negative findings, Project mitigation measures, and species-specific conservation goals for DSF under the MSHCP, impacts are considered less than significant.

Table 8. Impacts to Delhi Soils by the Proposed Project

Total Present (acres)	Project Impacts (acres)	Percent Impacted (%)
All Delhi Soils		
19.97	4.86	24.3
Occupied DSF Habitat (2005)		
3.73	0.84	22.5

Coastal California gnatcatcher: Three coastal California gnatcatchers (CAGN) were incidentally observed on the Project site in 2017. These observations were likely dispersing juveniles. This species is considered a "Covered Species Adequately Conserved" in the MSHCP and the survey area is not in a Criteria Cell. Impacts to CAGN, if any, would be covered under the MSHCP and associated incidental take permits.

Project mitigation measures would further avoid and minimize impacts to CAGN through conservation of open space (BIO-2), nesting bird surveys and avoidance (BIO-9), and biological monitoring and clearance surveys (BIO-11).

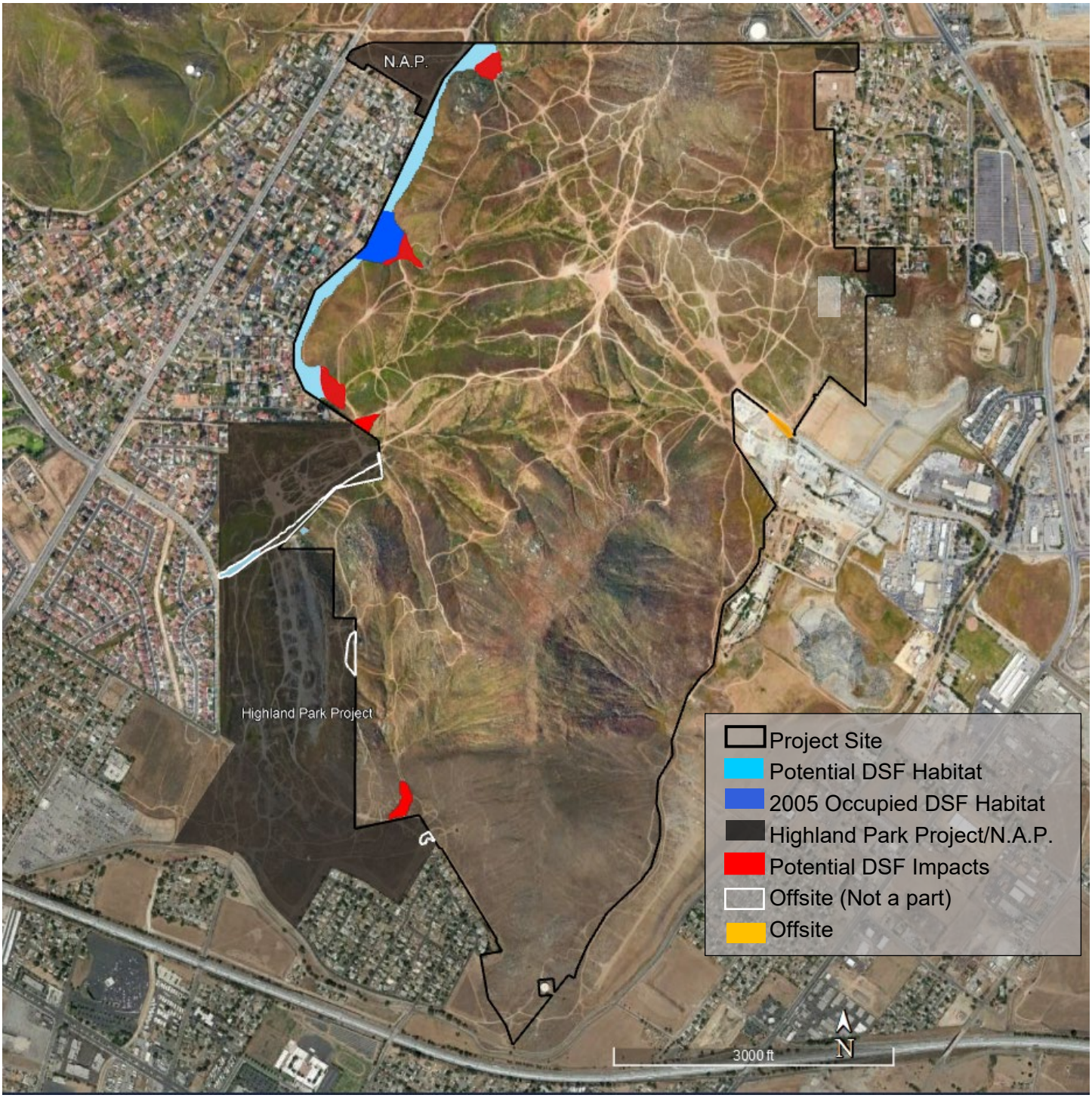
Considering the incidental take authorization provided by the MSHCP and the Mitigation Measures outlined, impacts to CAGN would be less than significant.

Crotch bumble bee: Crotch bumble bee is a candidate for state listing as endangered (as of March 2023). Suitable habitat for the species occurs in sage scrub and coastal sage-chaparral scrub within the survey area and it was recorded as observed in the survey area during the 2005 DSF focused survey (AMEC 2005b).

This species occurs in open grassland and scrub habitats and is found across California, from the northern border south to Mexico. Large areas of potentially suitable habitat for this species are present in the Project vicinity in and around the Jurupa Mountains and the Santa Ana River. With implementation of Mitigation Measure BIO-2 (Conserve Open Space), approximately 366 acres of sage scrub and about 38 acres of non-native grasslands that are potentially suitable habitat for this species will be avoided and conserved on the Project site.

Crotch bumble bee is not a covered species under the MSHCP. Impacts require incidental take permitting and associated mitigation. Mitigation Measure BIO-14 (Crotch Bumble Bee) requires the Project proponent to coordinate with CDFW to determine if an incidental take permit is required for Crotch bumble bee. If a permit is required, it will be obtained prior to the start of construction.

With implementation of Mitigation Measure BIO-14 and BIO-2 (Conserve Open Space), and any additional mitigation required under the incidental take permit (if any), impacts to Crotch bumble bee would be less than significant.



(Aerial obtained from Google Earth, March 2023)

Rio Vista Project
Riverside County, California

Delhi Sands Flower-Loving Fly Habitat Impacts Figure 19

Special Status Species

Of the special status species observed or that have high or moderate potential to occur in the survey area, the MSHCP considers most "Covered Species Adequately Conserved." Potential direct and indirect impacts to these species include loss or degradation of habitat and harm to individuals or populations. The MSHCP provides take authorization for covered species and no mitigation is proposed.

Those species with suitable habitat and potential for impacts that are not covered by the MSHCP include great egret, Lawrence's goldfinch, wrentit, Allen's hummingbird, Brewer's sparrow, black-chinned sparrow, Costa's hummingbird, southern California legless lizard, California glossy snake, San Bernardino ringneck snake, coast patch-nosed snake, pallid bat, western mastiff bat, and pocketed free-tailed bat. Potential direct and indirect impacts to these species include loss or degradation of habitat and harm to individuals or populations.

Great egret: The great egret is a CDFW Special Animal. There is no suitable nesting habitat on the site and no marginal foraging habitat. The species was detected during surveys, but it is unknown if it was foraging on the site or just flying over. Adult birds will typically avoid disturbance and impacts to individuals are not expected. The proposed Project may result in loss of marginal foraging habitat on the site. Large tracts of suitable habitat for this species are present in the Project vicinity in and around the Santa Ana River. Loss of marginal foraging habitat on the site would not be expected to appreciably affect the overall population or range of the species and impacts would be less than significant.

Lawrence's goldfinch: Lawrence's goldfinch is a CDFW Special Animal and a USFWS Bird of Conservation Concern. Although suitable nesting habitat does not occur on the site, this species was observed foraging. The proposed Project would result in loss of foraging habitat for this species. Large tracts of suitable foraging habitat for this species are present in the Project vicinity in and around the Jurupa Hills. Loss of foraging habitat on the site would not be expected to appreciably affect the overall population or range of the species and impacts would be adverse but less than significant.

Wrentit: The wrentit is a USFWS Bird of Conservation Concern. Although this species was not observed during surveys, there is potentially suitable habitat on the site and it has a high potential to occur. The proposed Project would result in potential loss of nesting and foraging habitat for this species. Large tracts of suitable foraging habitat for this species are present in the Project vicinity in and around the Jurupa Hills. Loss of nesting and foraging habitat on the site would not

be expected to appreciably affect the overall population or range of the species and impacts would be potentially adverse but less than significant.

With the implementation of Mitigation Measure BIO-9 (Nesting Birds), impacts to nesting birds, eggs, or dependent juveniles will be avoided and minimized. In addition, biological monitoring and preconstruction clearance surveys (Mitigation Measure BIO-11) will avoid and minimize impacts to any nesting birds that might be found during construction. With implementation of this mitigation, impacts to nesting birds, including wrentit, would be less than significant.

Allen's hummingbird: Allen's hummingbird is a USFWS Bird of Conservation Concern. Although this species was not observed during surveys, there is potentially suitable habitat on the site and it has a moderate potential to occur. The proposed Project would result in potential loss of nesting and foraging habitat for this species and potential harm to nests, eggs, and chicks. Large tracts of suitable nesting and foraging habitat for this species are present in the Project vicinity in and around the Jurupa Hills. Loss of nesting and foraging habitat on the site would not be expected to appreciably affect the overall population or range of the species and impacts would be potentially adverse but less than significant.

With the implementation of Mitigation Measure BIO-9 (Nesting Birds), impacts to nesting birds, eggs, or dependent juveniles will be avoided and minimized. In addition, biological monitoring and preconstruction clearance surveys (Mitigation Measure BIO-11) will avoid and minimize impacts to any nesting birds that might be found during construction. With implementation of this mitigation, impacts to nesting birds, including Allen's hummingbird, would be less than significant.

Brewer's sparrow: Brewer's sparrow is a CDFW Special Animal and a USFWS Bird of Conservation Concern. The species does not nest in the Project region and the site is outside of its winter range. The observation adjacent to the site may have been a migrating individual. The proposed Project may result in loss of potential foraging habitat for this species (during migration). Large tracts of potential foraging habitat are present in the Project vicinity in and around the Jurupa Hills. Loss of potential foraging habitat on the site would not be expected to appreciably affect the overall population or range of the species and impacts would be less than significant.

Black-chinned sparrow: The black-chinned sparrow is a USFWS Bird of Conservation Concern. It is migratory and breeds in southern California. It was not observed during surveys but was identified on the adjacent Highland Park site. The proposed Project would result in loss of potential foraging and nesting habitat for this species and potential harm to nests, eggs, and chicks. Large tracts of suitable nesting and foraging habitat for this species are present in the

Project vicinity in and around the Jurupa Hills. Loss of nesting and foraging habitat on the site would not be expected to appreciably affect the overall population or range of the species and impacts would be adverse but less than significant.

With the implementation of Mitigation Measure BIO-9 (Nesting Birds), impacts to nesting birds, eggs, or dependent juveniles will be avoided and minimized. In addition, biological monitoring and preconstruction clearance surveys (Mitigation Measure BIO-11) will avoid and minimize impacts to any nesting birds that might be found during construction.

With the implementation of Mitigation Measure BIO-9 (Nesting Birds), impacts to nesting birds, eggs, or dependent juveniles will be avoided and minimized. In addition, biological monitoring and preconstruction clearance surveys (Mitigation Measure BIO-11) will avoid and minimize impacts to any nesting birds that might be found during construction. With implementation of this mitigation, impacts to nesting birds, including black-chinned sparrow, would be less than significant.

Costa's hummingbird: Costa's hummingbird is a CDFW Special Animal and a USFWS Bird of Conservation Concern. It is a year-round resident in southern California. There is suitable nesting and foraging habitat on the site and the species was observed during surveys. The proposed Project would result in loss of foraging and nesting habitat for this species and potential harm to nests, eggs, and chicks. Large tracts of suitable nesting and foraging habitat for this species are present in the Project vicinity in and around the Jurupa Hills and Santa Ana River, as well as suburban gardens. Loss of nesting and foraging habitat on the site would not be expected to appreciably affect the overall population or range of the species and impacts would be adverse but not significant.

With the implementation of Mitigation Measure BIO-9 (Nesting Birds), impacts to nesting birds, eggs, or dependent juveniles will be avoided and minimized. In addition, biological monitoring and preconstruction clearance surveys (Mitigation Measure BIO-11) will avoid and minimize impacts to any nesting birds that might be found during construction. With the implementation of Mitigation Measure BIO-9 (Nesting Birds), impacts to nesting birds, eggs, or dependent juveniles will be avoided and minimized. In addition, biological monitoring and preconstruction clearance surveys (Mitigation Measure BIO-11) will avoid and minimize impacts to any nesting birds that might be found during construction. With implementation of this mitigation, impacts to nesting birds, including Costa's hummingbird, would be less than significant.

Southern California legless lizard: The southern California legless lizard is a CDFW Species of Special Concern. This species is a limbless, burrowing lizard and is secretive and difficult to detect. Suitable habitat for the species occurs in the survey area and it has a moderate potential to occur. If present in construction areas, this species is unlikely to be detected by biological monitoring or clearance surveys and would be killed by heavy equipment or other disturbances. The proposed Project would result in loss of potential habitat for this species and potential mortality of individuals or populations. Large tracts of suitable habitat for this species are present in the Project vicinity in and around the Jurupa Hills.

This species is found from north of the Tehachapi Mountains south through coastal southern California to Mexico. This species inhabits a wide variety of scrub, chaparral, upland forest, and coastal dunes. The CNDDB has recorded 417 occurrences in southern California. Large tracts of suitable habitat for this species are present in the Project vicinity in and around the Jurupa Mountains. With the large geographic range and diverse recorded locations, loss of habitat on the site would not be expected to appreciably affect the overall population or range of the species and impacts would be adverse but less than significant.

Direct and indirect impacts to this species (if present) and its potential habitat would be avoided and minimized with implementation of Mitigation Measures BIO-1 (Conserve Open Space), BIO-6 (SWPPP), BIO-11 (Biological Monitoring and Clearance Surveys), BIO-12 (Wildlife Hazards), BIO-15 (Invasive Plants), and BIO-17 (Urban/Wildlands Interface). With this mitigation, impacts would be considered adverse but less than significant.

California glossy snake: The California glossy snake is a CDFW Species of Special Concern. The species was not observed during surveys, but suitable habitat is present and it has a high potential to occur. If present in construction areas, this species may be detected by biological monitoring or clearance surveys but is more likely to hide in rocky areas or thick vegetation could be killed by heavy equipment or other disturbances. The proposed Project would result in loss of potential habitat for this species and potential mortality of individuals.

This species is spread across most of California from the San Francisco Bay Area south through the central valley and southern California into Baja California, Mexico. This species inhabits a wide variety of inland scrub, grasslands, and chaparral. The CNDDB has recorded 260 occurrences, the majority of which are in southern California. A single historic record from 1935 is near the southern end of the Project site. Large tracts of suitable habitat for this species are present in the Project vicinity in and around the Jurupa Mountains and the Santa Ana River. With

the wide geographic range and diverse recorded locations, impacts to this species are not expected to appreciably affect the overall population or range of the species.

Direct and indirect impacts to this species (if present) and its potential habitat would be avoided and minimized with implementation of Mitigation Measures BIO-1 (Conserve Open Space), BIO-6 (SWPPP), BIO-11 (Biological Monitoring and Clearance Surveys), BIO-12 (Wildlife Hazards), BIO-15 (Invasive Plants), and BIO-17 (Urban/Wildlands Interface). With this mitigation, impacts would be considered adverse but less than significant.

San Bernardino ringneck snake: San Bernardino ringneck snake is a CDFW Special Animal. This species was not observed during surveys, but suitable habitat is present and it has a moderate potential to occur. If present in construction areas, this species may be detected by biological monitoring or clearance surveys but is more likely to hide in rocky areas or thick vegetation and could be killed by heavy equipment or other disturbances. The proposed Project would result in loss of potential habitat for this species and potential mortality of individuals.

This species ranges from west San Diego County through to Riverside, southwestern San Bernardino, Ventura, and Los Angeles counties, from the coast to the inland mountain ranges. This species utilizes a wide variety of habitats but prefers locations with moisture. With the geographic range and variety of habitats, impacts to this species are not expected to appreciably affect the overall population or range of the species. Large tracts of suitable habitat for this species will remain in the Project vicinity, particularly within and adjacent to the Santa Ana River. Project-related impacts to this species are not expected to appreciably affect the overall population or range of the species.

Direct and indirect impacts to this species (if present) and its potential habitat would be avoided and minimized with implementation of Mitigation Measures BIO-1 (Conserve Open Space), BIO-6 (SWPPP), BIO-11 (Biological Monitoring and Clearance Surveys), BIO-12 (Wildlife Hazards), BIO-15 (Invasive Plants), and BIO-17 (Urban/Wildlands Interface). With this mitigation, impacts would be considered adverse but less than significant.

Coast patch-nosed snake: Coast patch-nosed snake is a CDFW Species of Special Concern. Suitable habitat is present on the Project site. The proposed Project would result in loss of habitat for this species and potential mortality of individuals.

This snake has a wide range from Santa Barbara County through southwestern California to Baja California, the coast inland to the coastal mountain ranges, and elevations from sea level to

around 7,000 feet. The species occupies a variety of scrub and chaparral habitats on plains, foothills, and hillsides. Although little is known about the abundance of this species, with the geographic range and habitats, impacts to this species are not expected to appreciably affect the overall population or range of the species. Large tracts of suitable habitat for this species will remain in the Project vicinity in and around the Jurupa Mountains and the Santa Ana River.

Direct and indirect impacts to this species and its habitat would be avoided and minimized with implementation of Mitigation Measures BIO-1 (Conserve Open Space), BIO-6 (SWPPP), BIO-11 (Biological Monitoring and Clearance Surveys), BIO-12 (Wildlife Hazards), BIO-15 (Invasive Plants), and BIO-17 (Urban/Wildlands Interface). With this mitigation, impacts would be considered adverse but less than significant.

Pallid bat: Pallid bat is a CDFW Species of Special Concern. Suitable roosting habitat occurs in the rock outcrops on the site and suitable roosting and foraging habitat occurs on and adjacent to the survey area. This species has a moderate potential for occurrence. The proposed Project would result in loss of potential foraging and roosting habitat for this species and potential mortality of individuals.

This species occurs in much of California except the high mountains. The CNDDB has over 400 records of this species throughout California. Roosting and foraging locations are common in dry, open shrubland habitat, typically near water and below 6,000 feet in elevation. This species roosts in cliff faces and rock outcrops but can also be found in manmade structures or trees. With the geographic range and habitats, impacts to this species are not expected to appreciably affect the overall population or range of the species. Large tracts of suitable habitat for this species will remain in the Project vicinity in and around the Jurupa Mountains and the Santa Ana River.

Direct and indirect impacts to special status bats and their habitat would be avoided and minimized with implementation of Mitigation Measures BIO-1 (Conserve Open Space), BIO-6 (SWPPP), BIO-11 (Biological Monitoring and Clearance Surveys), BIO-12 (Wildlife Hazards), and BIO-17 (Urban/Wildlands Interface).

Mitigation Measure BIO-13 (Bat Roosts) requires a qualified biologist to inspect potential roosts and implement avoidance measures. With this mitigation, impacts would be considered adverse but less than significant.

Western mastiff bat: Western mastiff bat is a CDFW Species of Special Concern. Suitable foraging habitat is present on and adjacent to the Project site. Suitable roosting habitat on the

site is limited to rock outcrops, although a steep cliff face is present just offsite to the west. This species has a moderate potential for occurrence. The proposed Project would result in loss of potential foraging and roosting habitat for this species and potential mortality of individuals.

This species inhabits a variety of habitats, including dry desert washes, flood plains, chaparral, oak woodland, open ponderosa pine forest, grassland, montane meadows, and agricultural areas and occurs from San Francisco south into much of southern California. CNDDB records identify this species throughout southern and central California, with the greatest concentration in the coastal areas of southern California.

With the geographic range and habitats, impacts to this species are not expected to appreciably affect the overall population or range of the species. Large tracts of suitable habitat for this species will remain in the Project vicinity in and around the Jurupa Mountains and the Santa Ana River.

Direct and indirect impacts to special status bats and their habitat would be avoided and minimized with implementation of Mitigation Measures BIO-1 (Conserve Open Space), BIO-6 (SWPPP), BIO-11 (Biological Monitoring and Clearance Surveys), BIO-12 (Wildlife Hazards), and BIO-17 (Urban/Wildlands Interface).

Mitigation Measure BIO-13 (Bat Roosts) requires a qualified biologist to inspect potential roosts and implement avoidance measures. With this mitigation, impacts would be considered adverse but less than significant.

Pocketed free-tailed bat: Pocketed free-tailed bat is a CDFW Species of Special Concern. Potentially suitable foraging habitat is present on and adjacent to the Project site. Suitable roosting habitat on the site is limited to rock outcrops, although a steep cliff face is present just offsite to the west. This species has a moderate potential for occurrence. The proposed Project would result in loss of potential foraging and roosting habitat for this species and potential mortality of individuals.

This species inhabits deserts and arid lowlands and prefers rocky desert areas with high cliffs or rock outcrops for roosting. In California, it is found in Riverside, San Diego, and Imperial Counties. CNDDB records identify this species mainly in southwestern California.

With the geographic range and habitats, impacts to this species are not expected to appreciably affect the overall population or range of the species. Large tracts of suitable habitat for this species will remain in the Project vicinity in and around the Jurupa Mountains.

Direct and indirect impacts to special status bats and their habitat would be avoided and minimized with implementation of Mitigation Measures BIO-2 (Conserve Open Space), BIO-6 (SWPPP), BIO-11 (Biological Monitoring and Clearance Surveys), BIO-12 (Wildlife Hazards), and BIO-17 (Urban/Wildlands Interface).

Mitigation Measure BIO-13 (Bat Roosts) requires a qualified biologist to inspect potential roosts and implement avoidance measures. With this mitigation, impacts would be considered adverse but less than significant.

Nesting Birds

Nesting birds are protected under the federal Migratory Bird Treaty Act and California Fish and Game Code. Adult birds will typically flee from disturbance, but if active nests are present in the impact area at the time of construction, there could be impacts to eggs, chicks, and/or dependent juveniles.

With the implementation of Mitigation Measure BIO-9 (Nesting Birds), impacts to nesting birds, eggs, or dependent juveniles will be avoided. In addition, biological monitoring and preconstruction clearance surveys (Mitigation Measure BIO-11) will avoid impacts to any nesting birds that might be found during construction.

About 477 acres of habitat would be permanently impacted by clearing. Loss of native habitat for nesting birds would be an adverse impact, but implementation of Mitigation Measure BIO-2 would avoid and conserve 426 acres of habitat for nesting birds on the Project site. BIO-17 would avoid and minimize edge effects that could impact the conserved habitat and reduce its value to nesting birds. Other native habitat for nesting birds is present in the Project vicinity in MSHCP Core A (Prado Basin and the Santa Ana River), Noncontiguous Habitat Block 2 (Jurupa Mountains), and Noncontiguous Habitat Block 3 (Delhi Soils Area).

With implementation of mitigation measures, impacts to nesting birds would be considered less than significant.

4.4) Jurisdictional Features

Impact: The Project could affect state or federal jurisdictional waters and MSHCP Riparian/Riverine habitat.

Based on a 2018 jurisdictional delineation, eleven (11) main jurisdictional features occur within the Project site, containing 19 tributaries, for a total of 30 Non-Relatively Permanent Water (Non-RPW) features (i.e., ephemeral carriers of periodic rainfall).

Based on the 2023 jurisdictional delineation, the proposed Project will impact 5.98 acres of California Department of Fish and Wildlife jurisdictional streambed and 0.88 acre of CDFW wetland over 27,637 linear feet, for a total of 6.86 acres of CDFW jurisdiction. The project will also impact 3.15 acres of waters of the state under Porter-Cologne. The delineation found that there are no federal waters or wetlands present on the site. The U.S. Army Corps of Engineers issued an Approved Jurisdictional Determination on February 11, 2021 stating that Waters of the U.S. do not occur on the Project site.

Impacts to individual features and feature details, including length, average width, and area of each drainage and tributary, are included in Tables 15 and 16 (Appendix B).

No aquatic or vernal pool habitats were observed within the Project site.

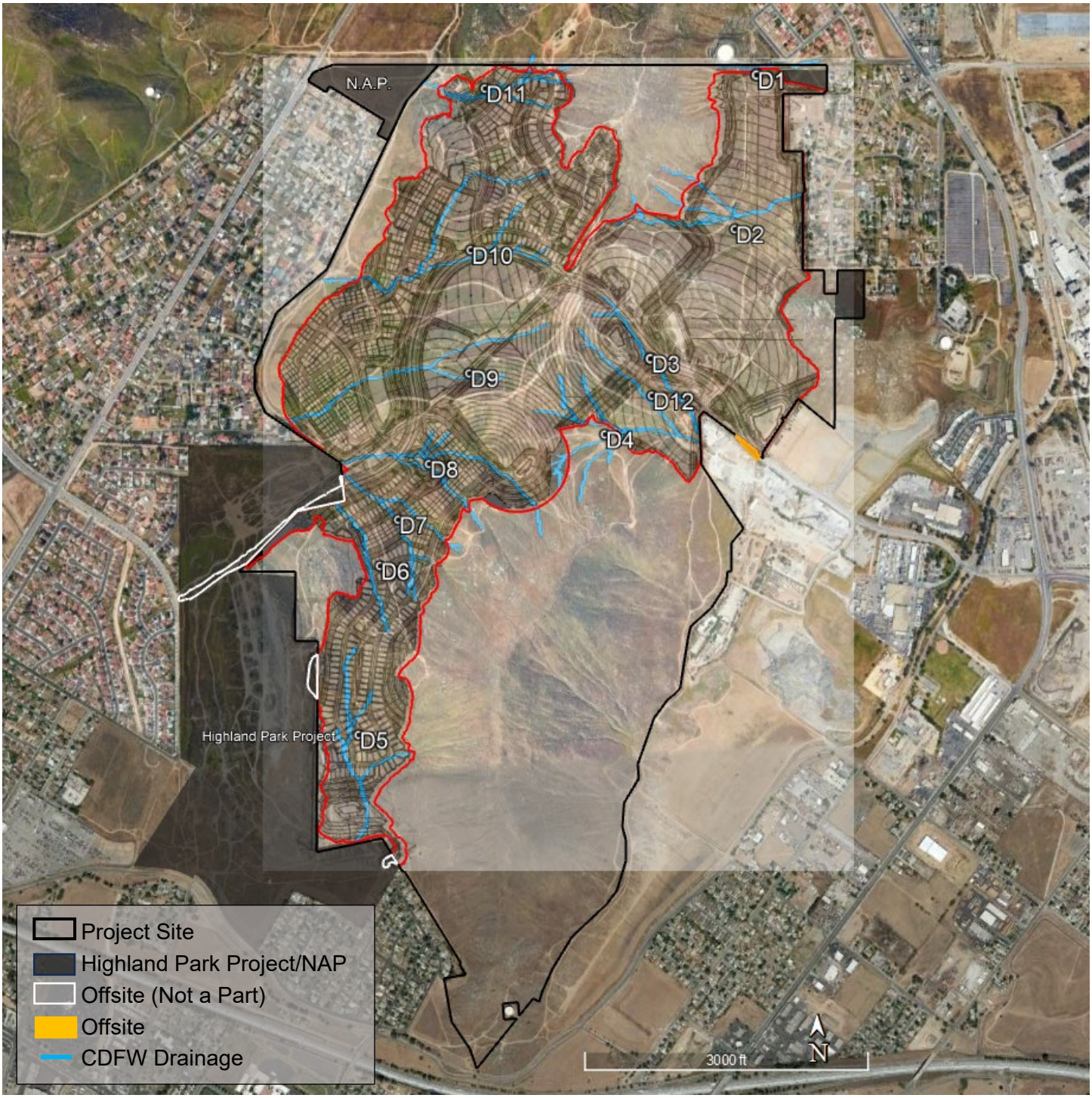
Included in the vegetation impacts are 6.86 acres of MSHCP Riparian/Riverine areas, consisting of 5.98 acres of Riverine areas and 0.88 acre of Riparian willow scrub and ornamental/Peruvian pepper tree vegetation (where it falls within a drainage feature) (based on 2018 jurisdictional delineation).

The proposed Project will not avoid jurisdictional drainages and all of the draianges will be impacted by the project design. There is no federal jurisdiction.

Mitigation Measures BIO-5 (MSHCP Riparian/Riverine Habitat), BIO-7 (USACE/RWQCB Jurisdictional Areas), and BIO-8 (CDFW Jurisdictional Areas) would require mitigation for impacts at no less than a 2:1 ratio. Mitigation Measures BIO-2 (Conserve Open Space) would also conserve jurisdictional resources within avoided areas on the Project site.

Impacts from earthmoving or other construction activities in or adjacent to drainages or sheet-flow areas could result in discharge of toxic materials, silt, debris, or excessive erosion into jurisdictional waters and wetlands during Project construction. Use of BMPs (Mitigation Measure

BIO-6 [SWPPP]) are incorporated to avoid and minimize impacts to drainage features and downstream areas. With the implementation of Project Mitigation Measures, as well as any additional measures required by regulatory permits, impacts would be less than significant.



Aerial obtained from Google Earth, March 2023)

Rio Vista Project
Riverside County, California

CDFW Jurisdiction
With Dev. Plan
Figure 20

4.5) Wildlife Corridors

Impact: The functions and values of wildlife corridors could be affected by development of the Rio Vista Project.

The Rio Vista Project site is a large tract of land surrounded by developed lands, except for a small area of undeveloped land adjacent to the north and northwest (which connects to the Jurupa Hills). Wildlife currently move freely throughout the proposed Project and surrounding undeveloped areas. Upon build-out of the Project, wildlife species are anticipated to continue to use habitat within the avoided and conserved portions of the survey area along with undeveloped areas adjacent to the Project site to the north and northwest.

The survey area does not function as a wildlife corridor and there are no adjacent wildlife corridors; therefore, no impacts to wildlife corridors are expected to occur as a result of Project implementation and no mitigation is proposed.

For movement within the survey area and open space immediately surrounding it, the proposed Project will reduce the overall area of available habitat and may increase competition for resources and leave displaced individuals vulnerable to predation. Those species that may use the Project site for foraging will have access to habitat in the avoided and conserved areas, and mobile species may also utilize adjacent undeveloped habitat and large expanses of relatively undisturbed habitat within the Jurupa Area Plan and the Santa Ana River area. Habitat in the conserved areas on the site will be largely fragmented and isolated.

Increased human presence, noise, lighting, and predation from domestic pets may hinder localized wildlife movement and behaviors within open space and adjacent habitat. Species that remain will likely be those that are more tolerant of human presence.

Management of “edge effects” under Urban/Wildland Interface Guidelines (Section 7.4) will reduce and minimize indirect impacts to wildlife species to the extent possible as required under the MSHCP.

5.0) CUMULATIVE IMPACTS

Cumulative impacts to biological resources on lands targeted for development within Western Riverside County are evaluated within the MSHCP.

5.1) Western Riverside County MSHCP

The Project site occurs within the boundaries of the MSHCP. The MSHCP is a regional Habitat Conservation Plan intended to enhance and maintain biological and ecological diversity while allowing for development and economic growth within the county. By addressing environmental resources on a regional scale rather than individually, the MSHCP is able to preserve large areas of native habitat, corridors between habitats, and areas of unique habitat while streamlining the regulatory process.

> "The MSHCP plan area encompasses approximately 1.26 million acres (1,966 square miles); it includes all unincorporated Riverside County land west of the crest of the San Jacinto Mountains to the Orange County line, as well as the jurisdictional areas of the cities of Temecula, Murrieta, Lake Elsinore, Canyon Lake, Norco, Corona, Riverside, Moreno Valley, Banning, Beaumont, Calimesa, Perris, Hemet and San Jacinto. The MSHCP will be used to allow the participating jurisdictions to authorize 'Take' of plant and wildlife species identified within the Plan Area… in exchange for the assembly and management of a coordinated MSHCP Conservation Area."

The MSHCP is a habitat-based approach to the protection of covered species that focuses on conservation and management of lands essential for their long-term conservation. During development, the MSHCP considered projects that were already planned and other reasonably foreseeable projects to determine the minimization and mitigation levels required and additional survey needs. The MSHCP provides a process to mitigate regional cumulative impacts to covered species and their habitats. Project consistency with Section 7.0 (Implementation Structure) of the MSHCP ensures cumulative impacts to covered species are mitigated.

5.2) Cumulative Impacts to Resources

The proposed Project will contribute to regional cumulative impacts to native vegetation, habitat for special status plant and wildlife species, nesting bird habitat, foraging habitat, MSHCP Riparian/Riverine habitat, jurisdictional features, and potentially to special status plant and wildlife species. However, with the Project's participation in the MSHCP, the Project's location outside of Conservation Areas and Criteria Areas, and with implementation of mitigation measures, Project-related impacts would not be cumulatively considerable.

5.2.1) Vegetation Communities

The proposed Project would contribute to a cumulative decrease in the acreage of native vegetation communities in the region (Table 6) and would add to habitat fragmentation. In addition, the Project will contribute to a cumulative loss of Delhi soils (Table 8).

Impacts to additional habitat in the Project vicinity from other projects are likely in the future and would add to cumulative impacts; however, the Project's avoidance of most Delhi soils on the site and proximity to the Jurupa Hills and Santa Ana River Basin (MSHCP Core A) will ensure that some natural open space is maintained in the Project vicinity for native species, although it will be fragmented and isolated. Those areas of the Project site not impacted by the Project footprint, including Riparian/Riverine and Delhi sands, shall be deed restricted as open space.

Cumulative development in the greater region has been considered and impacts minimized and mitigated under the MSHCP. By meeting MSHCP requirements, the Project's contribution to regional impacts would not be considered cumulatively considerable. Future projects in the vicinity would also be subject to MSHCP requirements and mitigation.

5.2.2) Listed Species

Botanical Species

There are no direct or indirect impacts to state or federally listed botanical species or to designated or proposed critical habitat on the Project site. No suitable habitat for these species occurs within the proposed Project site and none were identified during multiple years of focused surveys. Implementation of this Project would not add considerably to any cumulative effects to listed plants.

Wildlife Species

The Project would impact 4.86 acres of the 19.97 acres of existing Delhi soils onsite equivalent to 24.3 percent of Delhi soils suitable to support Delhi Sands flower-loving fly. Of the 3.73 acres of occupied habitat mapped by AMEC in 2005, 0.84 acres (22.5 percent) would be impacted by the Project. The 2015/2016 two-year survey effort on the Project site was negative. While impacts to 24.3 percent of all Delhi soils habitat and 22.5 percent of the occupied habitat mapped in 2005 will add to cumulative impacts to potentially suitable soils for this species, by meeting the MSHCP requirements for occupied sites, the Project's contribution to regional impact would not be cumulatively considerable.

Suitable habitat for coastal California gnatcatcher occurs within the Project site and this species was observed onsite in 2017. However, the species has not been observed nesting in the survey area and only a few incidental observations of this species occurred over multiple years of biological surveys. Impacts to gnatcatcher, if they occur, will add to cumulative impacts to the species in the region, but because it is considered a "Covered Species Adequately Conserved" in the MSHCP and the Project is not in an MSHCP Conservation Area, the Project's contribution to the regional impact would not be cumulatively considerable.

Crotch bumble bee was identified on the site in 2005. Crotch bumble bee is currently (as of March 2023) a candidate for state listing. It is not a covered species under the MSHCP. Although not recently observed on the site, impacts require incidental take permitting and associated mitigation.

5.2.3) Special Status Species

Cumulative habitat loss in the area will affect special status species, as loss and degradation of habitat affect the distribution and abundance of species and can indirectly affect survival of remaining populations through fragmentation and isolation.

Impacts to special status species are likely in the future; however, the creation and implementation of the MSHCP, which focuses conservation in areas of sensitive communities or concentrations of special status species in proximity to large expanses of open lands or wildlife corridors, will ensure that extensive natural open space is maintained for special status species in western Riverside County. With the mitigation associated with the MSHCP and the implementation of recommended mitigation measures (see Section 6), Project-related impacts to MSHCP covered species are not expected to be cumulatively considerable.

Impacts to special status species not covered under the MSHCP may occur, but the impacts are difficult to quantify. These impacts will add to cumulative impacts to the species, but with implementation of recommended mitigation measures (see Section 6), Project-related impacts are not expected to substantially affect regional populations and would not be cumulatively considerable.

5.2.4) Nesting Birds

With implementation of Mitigation Measures BIO-9 (Nesting Birds), BIO-10 (Burrowing Owl), and BIO-11 (Biological Monitoring and Clearance Surveys), the proposed Project would not add considerably to cumulative effects to nesting birds. Nesting habitat will be preserved in the Project vicinity as a part of the MSHCP Noncontiguous Habitat Block 2 (Jurupa Mountains) and MSHCP

Conservation Area Core A (Santa Ana River North), as well as the avoided and conserved areas on the site.

5.2.5) Jurisdictional Features

Based on the 2023 jurisdictional delineation, the Project will impact 27,637 linear feet (6.86 acres) of CDFW jurisdictional areas, composed of 5.98 acres of CDFW streambed and 0.88 acre of CDFW wetlands. The delineation found that there are no federal waters or wetlands present on the site. The U.S. Army Corps of Engineers issued an Approved Jurisdictional Determination on February 11, 2021 stating that Waters of the U.S. do not occur on the Project site.

These totals would be added to cumulative impacts to jurisdictional features in the region. With implementation of Mitigation Measures BIO-2 (Conserve Open Space), BIO-6 (SWPPP), BIO-7 (USACE/RWQCB Jurisdictional Areas), and BIO-8 (CDFW Jurisdictional Areas), the Project's contribution to regional impacts would not be cumulatively considerable.

5.2.6) Riparian/Riverine Habitat

Based on the 2023 jurisdictional delineation, the Project will impact 5.98 acres of MSHCP Riverine habitat and 0.88 acre of MSHCP Riparian habitat. Impacts include unvegetated streambeds, willow scrub habitat, and non-native ornamentals.

These totals would add to cumulative impacts to MSHCP Riparian/Riverine habitat in the region. With implementation of Mitigation Measures BIO-2 (Conserve Open Space), BIO-5 (MSHCP Riparian/Riverine Habitat), and BIO-6 (SWPPP), the Project's contribution to regional impacts would not be cumulatively considerable.

5.2.7) Wildlife Corridors

As the Project site does not function as a wildlife corridor, implementation of this Project would not add to any cumulative effects.

6.0) MITIGATION MEASURES

The following measures are recommended to avoid, minimize, and compensate for Project-related impacts on biological resources.

MM BIO-1. Flag or Fence Impact Areas

The Project impact and avoidance areas shall be clearly flagged or fenced prior to clearing to prevent incursion into unsurveyed or avoided areas.

MM BIO-2. Conserve Open Space

Those areas of the Project site not impacted by the Project footprint, including Riparian/Riverine and Delhi sands, shall be designated as open space. The open space areas shall be deed restricted prior to issuance of a grading permit, and ownership will be transferred to the Regional Conservation Authority (RCA), City-approved local conservation entity, or the Homeowner's Association (HOA) at the time of the recordation of the final map. If transferred to the HOA, the HOA shall manage the open space areas according to the Covenants, Codes, and Restrictions, which shall restrict future impact and uses of open space areas.

MM BIO-3. Palmer's Oak

The Project shall avoid the Palmer's oak and a minimum of 150 feet beyond its mapped limits.

MM BIO-4. Special Status Plants

If special status plant species are observed on the site, impacts shall be avoided and minimized to the extent feasible. If mesa horkelia or Robinson's pepper-grass plants are observed within the development footprint, they shall be salvaged, or propagules shall be collected for use in the Project avoidance area or local restoration projects.

MM BIO-5. MSHCP Riparian/Riverine Habitat

Prior to issuance of a grading permit, the Project Applicant shall provide mitigation for the loss of MSHCP Riparian/Riverine areas at no less than a 2:1 basis, or as determined through consultation with the City of Jurupa Valley, Riverside County, and wildlife agencies based on a functions and values analysis. Equal or greater value mitigation shall be provided in the form of one or more of the following: offsite acquisition and preservation, participation in an approved mitigation bank, onsite creation, offsite creation and/or enhancement, or reestablishment. If offsite mitigation is incorporated, the preferred choice shall be to find mitigation within or adjacent to the Santa Ana Watershed and within Riverside County.

If onsite mitigation is proposed, a Habitat Mitigation and Monitoring Plan shall be developed and provided for review and approval by local and other regional regulatory agencies and shall include, but not be limited to, the following:

- Recommendations for soil preparation,
- A plant palette to include native species appropriate for the Project site,
- Planting methods,
- Irrigation and maintenance requirements,
- Quantitative success criteria (vegetation cover and species richness), and
- A long-term management plan.

MM BIO-6. SWPPP

Prior to initial ground disturbance, the Project Applicant shall prepare and implement a Stormwater Pollution Prevention Plan (SWPPP), employing standard best management practices (BMPs), to prevent discharges from entering jurisdictional waters and/or wetlands during construction. BMPs shall include, but not be limited to:

- Use of erosion control or sedimentation prevention methods, such as fiber rolls, sand or gravel bags, rice mats, straw wattles, or similar measures, where appropriate.
- Proper use and disposal of oil, gasoline, diesel fuel, antifreeze, and other toxic substances.

MM BIO-7. RWQCB Jurisdictional Areas

Prior to the issuance of a grading permit, the proponent shall consult with the Regional Water Quality Control Board to determine the need and if necessary, obtain a Waste Discharge Requirement (WDR) permit under the Porter-Cologne Water Quality Control Act.

MM BIO-8. CDFW Jurisdictional Areas

Prior to the issuance of a grading permit, the Project Applicant shall enter into an agreement with the California Department of Fish and Wildlife (via issuance and implementation of a Streambed Alteration Agreement, Section 1600) to replace CDFW jurisdictional streambeds and wetlands impacted by the Project as specified by the California Department of Fish and Wildlife, through a combination of offsite acquisition and preservation, participation in an approved mitigation bank, and/or onsite or offsite creation, enhancement, or reestablishment of streambed. The exact ratio shall be based on a functions and values assessment.

MM BIO-9. Nesting Birds

To prevent impacts to nesting birds (including raptors), clearing or other work in native habitats should be avoided during the nesting season (January 1 through September 15). If work cannot be avoided during this timeframe, a nesting bird survey shall be conducted by a qualified biologist within three (3) days prior to initial clearing and/or grading. If nesting birds are present, a nesting bird plan shall be developed and implemented to include appropriate measures mitigating potential impacts, including maintenance of a buffer area while the nest is active.

Active bird nests should be mapped utilizing a hand-held global positioning system (GPS), getting as close as possible without disturbing the nest, and a buffer will be flagged around the nest (300 feet for most species, 500 feet for raptor nests, or as determined by the biologist). Construction will not be permitted within buffer areas while the nest continues to be active. Once fledging has occurred or the nest otherwise becomes inactive, no further avoidance is required. An active nest is defined as a nest that is being built or in use as part of the reproductive process, including a nest with eggs, chicks, or dependent juveniles.

MM BIO-10. Burrowing Owl

Within one year prior to the start of construction, an updated breeding season protocol survey for burrowing owl shall be conducted within all suitable burrowing owl habitat on the site and a 150-meter buffer. A pre-construction burrowing owl clearance survey shall be conducted no more than 30 days before ground or vegetation disturbance. The surveys shall be conducted as close to the actual construction initiation date as possible. If present, the Project biologist will consult with local and state agencies, as appropriate, and develop a mitigation plan. The mitigation plan will be implemented prior to any construction activities that may disturb burrowing owls. Mitigation will be based on the following goals and requirements in the MSHCP:

> If the site contains or is part of an area supporting less than 35 acres of suitable habitat or the survey reveals that the site and the surrounding area supports fewer than three (3) pairs of burrowing owls, onsite burrowing owls will be passively or actively relocated following accepted protocols.
>
> Occupied nests will be avoided during the nesting season (February 1-August 31) along with a buffer of 300 – 500 feet depending on the level of disturbance surrounding the burrow.
>
> Burrow exclusion will be utilized outside of the nesting season by installing a one-way door in burrow openings. Burrows will be closed following verification they are empty through site monitoring and scoping.
>
> If the site (including adjacent areas) supports three (3) or more pairs of burrowing owls, supports greater than 35 acres of suitable habitat, and is non-contiguous with MSHCP Conservation Area lands, at least 90 percent of the area with long-term conservation value and burrowing owl pairs will be conserved onsite.

MM BIO-11. Biological Monitoring and Clearance Surveys

One or more qualified biological monitors shall be assigned to the Project to monitor construction activities. Monitors shall be responsible for ensuring that impacts to special status species, native vegetation, wildlife habitat, jurisdictional waters, and sensitive or unique biological resources are avoided to the extent possible. Monitors shall also conduct Workers Environmental Awareness Program (WEAP) training to inform construction personnel of applicable mitigation measures and permit conditions, and any potential for infraction.

A biological monitor shall be present during initial site clearing activities (vegetation clearing, soil preparation, and ground disturbance), during work adjacent to avoided Delhi soils and jurisdictional waters and MSHCP Riparian/Riverine habitat, and at appropriate intervals throughout construction to ensure compliance with mitigation measures and regulatory permit conditions.

In addition, a qualified biologist shall conduct clearance surveys for special status plant or wildlife resources within or adjacent to the Project disturbance area within three (3) calendar days prior to initial vegetation clearing and ground disturbance, including fence installation.

If any special status plants or wildlife are found, the biologist shall take appropriate action as defined in the MSHCP, mitigation measures, permit conditions, and regulations. Federal, state, and local agencies will be consulted as needed and appropriate. If needed, an avoidance buffer will be established to protect the resource until this action has been completed.

Monitoring and survey activities will be documented and, at the conclusion of Project construction activities, all monitoring reports and communications will be retained in Project files to allow review by the lead agency and wildlife agencies, if requested.

MM BIO-12. Wildlife Hazards

All potential wildlife pitfalls (trenches, bores, and other excavations) shall be backfilled or securely covered at the end of each workday. If backfilling or covering is not feasible, wildlife escape ramps shall be installed, in consultation with the biological monitor, sufficient to allow trapped wildlife to escape. Project workers or the biological monitor will inspect all excavations for trapped wildlife daily.

All debris piles, construction pipes, culverts, or other such materials shall be securely covered or capped while stored on the Project site to prevent wildlife access. All such materials shall be inspected for wildlife before being moved, buried, or capped.

If wildlife becomes trapped, the biological monitor shall remove the animal (if feasible and safe to do so) and place it in nearby suitable habitat outside of the impact area. If the biological monitor

is unable to remove the animal, CDFW or other wildlife authority will be immediately contacted for guidance and/or assistance. Any wildlife encountered on the Project site shall be allowed to leave the area unharmed or moved or encouraged to move out of harm's way by the biological monitor, if safe, feasible, and permitted to do so.

Vehicles traveling on unpaved roads within the Project site shall be limited to 15 miles per hour (mph). Construction work shall be limited to daylight hours.

If water is applied to the site to control dust, ponding of this water shall be minimized to avoid creating predator subsidies.

MM BIO-13. Bat Roosts

Potential roosts for special status bats (e.g., caves, crevices, mines, hollow trees, palm trees, rock outcrops, buildings, etc.) shall be inspected by a qualified biologist within seven (7) days prior to initial ground or vegetation disturbance. If special status bats are roosting or hibernating, an avoidance buffer shall be implemented while bats are present and a bat exclusion plan shall be prepared and submitted to the City of Jurupa Valley and CDFW for review prior to impacts. If a maternity roost is discovered during the breeding season (March through October), the biologist shall determine appropriate avoidance measures, including, but not limited to sound walls, buffers, and Project phasing/timing to avoid and minimize disturbance to the roost until all young are weaned and capable of foraging independently.

MM BIO-14. Crotch Bumble Bee

The Project proponent shall coordinate with CDFW to determine if focused surveys and/or an incidental take permit is required for the Crotch bumble bee. If focused surveys are required, they shall be conducted during the appropriate season within all suitable habitat on the site. If a permit is required, it will be obtained prior to the start of construction.

MM BIO-15. Invasive Plants

To prevent the spread of invasive plants, all heavy equipment used onsite shall be washed, particularly the wheels, undercarriage, outriggers, and other parts that come in contact with soil and vegetation, prior to bringing it onto the Project site from other construction sites. Care shall be taken to remove soil and debris that may contain seeds or propagules of invasive plants.

Any straw, mulch, or similar products used on the Project site shall be certified weed-free. Any erosion control planting or seeding shall consist of native species, native seed mix, or other ecologically appropriate, non-invasive plants.

Insofar as possible, staging areas shall be placed in areas that have been previously disturbed or have degraded habitat within the Project footprint, but that do not show an infestation of non-native species. Staging areas will be maintained free of invasive species.

Invasive plant species shall not be installed in landscaping. Design guidelines for the proposed Project shall provide the homeowners with a list of native landscaping materials recommended for use within the development area. These materials shall be selected for their compatibility with the unique natural environment in the area. None of the plants listed in the California Invasive Plant Council Inventory (cal-ipc.org) or Section 6.1.4 of the MSHCP will be utilized in the development design/landscape plans and their use by future homeowners will be discourage to the extent possible. The MSHCP has identified invasive plants that should be eliminated from open space areas. This list is included in Table 6-2 of the MSHCP and reproduced as Table 13 in Appendix A of this document. To ensure that invasive plants are not used in landscaping within the Project site, the Project proponent shall include a list of plant species to avoid within the Covenants, Conditions, and Restrictions (CC&Rs) for the development.

MM BIO-16. Trash

All refuse created or brought onsite by Project personnel or contractors, particularly food trash and food wrappers, shall be placed in covered animal-proof containers, removed from the site regularly, and disposed of properly.

MM BIO-17. Urban/Wildlands Interface

The proposed Project will incorporate measures to meet MSHCP Urban/Wildlands Interface guidelines and requirements. These measures will address Drainage, Toxics, Lighting, Noise, Barriers, Access, Pets, and Grading/Land Development (see Section 7.4).

7.0) MSHCP CONSISTENCY ANALYSIS

7.1) Conservation Areas/Reserve Assembly

This section of the report analyzes the proposed Project's relationship to Cores and Linkages and MSHCP Cell Criteria. The overall goal of this section is to determine if the proposed Project is consistent with Reserve Assembly objectives of the MSHCP.

Cores and Linkages: The Project is not located within an MSHCP designated Core or Linkage and will not impact overall Reserve Assembly goals. The Project is in the Jurupa Area Plan between (but not contiguous with) Noncontiguous Habitat Block (Subunit) 2: Jurupa Mountains, a portion of Subunit 3: Delhi Soils area, and the Santa Ana River North: Core A. The Project will not affect either subunit or the Core area.

Cell Criteria: The Project site is not located within any Criteria Cells.

The Project site is within the Jurupa Area Plan but does not fall within a designated Cell. Preservation of the affected acreage would not contribute to conservation, habitat, or species protection objectives of the MSHCP. Development of the property for other appropriate uses will not impact overall Reserve Assembly goals.

Biological Objectives, Jurupa Area Plan: Species surveys for burrowing owl and three (3) Narrow Endemic plant species (San Diego ambrosia, Brand's phacelia, and San Miguel savory) are required if appropriate habitat is present. None of the identified plant species have been located as part of the habitat assessment and botanical survey for this Project. The Narrow Endemic plant species are not expected to occur onsite due to a lack of suitable habitat.

Species-specific Conservation Objectives: Suitable soils for Delhi Sands flower-loving fly (DSF) occur within the survey area and DSF was recorded just north of the survey area and within the survey area in 2005 (AMEC 2005b). Delhi Sands habitat in the survey area has been heavily impacted by off-road vehicles, homeless encampments, etc. over the past 10 years. The 2015 and 2016 DSF surveys were negative.

Approximately 19.97 acres of Delhi soils were identified and mapped on the Project site. Although survey results for DSF are negative, the Project was designed to minimize impacts to Delhi soils. The proposed Project will impact a total of 4.86 acres of suitable DSF habitat, representing 24.3 percent of the suitable habitat. This is within the MSHCP species-specific conservation objective limiting impacts to Delhi soils to 25 percent or less for occupied sites.

7.2) Impacts to Riparian/Riverine or Vernal Pools (MSHCP Section 6.1.2)

Streambed/wetland delineation studies of the Project site updated in 2023 identified 5.98 acres of MSHCP Riverine and 0.88 acre of MSHCP Riparian habitat (willow scrub and Peruvian pepper tree ornamental) on the site. All of the features identified as MSHCP Riparian/Riverine were also considered a part of CDFW jurisdictional area and waters of the state under Porter-Cologne. No vernal pool habitat was identified in the survey area.

MSHCP Section 6.1.2 impacts identified in 2018 include 5.98 acres of Riverine area and 0.88 acre of Riparian area on the Project site.

Onsite and/or offsite mitigation will be provided for impacts to MSHCP Riparian/Riverine habitat.

7.3) MSHCP Habitat Assessment Requirements

MSHCP Additional Needs Species and Narrow Endemic plant species that required habitat assessments include burrowing owl, San Diego ambrosia, Brand's phacelia, and San Miguel savory.

7.3.1) Burrowing Owl

A habitat assessment for burrowing owl determined that the species could occur in low-lying disturbed and undisturbed brittle bush scrub and non-native grasslands on the Project site. A focused burrowing owl survey was conducted in May and June of 2014, April through June of 2016, and April through June of 2018. No burrowing owl or burrowing owl sign were observed in the survey area or buffer zone.

7.3.2) Narrow Endemic Plants

A habitat assessment and focused survey was conducted for San Diego ambrosia, Brand's phacelia, and San Miguel savory on the Project site.

No suitable habitat for San Diego ambrosia was observed in the survey area and the site is likely on the margin of its geographic range. The species was not observed during multiple years of surveys.

Potentially suitable habitat for Brand’s phacelia occurs in the survey area, but it is regularly impacted and heavily disturbed by off-road vehicle use. The habitat is considered poor and the species was not observed during multiple years of surveys.

Potentially suitable habitat for San Miguel savory occurs in the survey area, but the survey area is to the north of the known range of the species. The species was not observed during multiple years of surveys.

Based on results of the habitat assessment and focused surveys, San Diego ambrosia, Brand's phacelia, and San Miguel savory are considered absent from the site.

7.3.3) Delhi Sands Flower-loving Fly

DSF were found on the site in 2005 and the occupied habitat was mapped as 3.73 acres (AMEC 2005). A two-year focused survey was conducted on the Project site in 2015 and 2016 by L&L, but no DSF were observed in the survey area.

MSHCP Conservation Objective 1B limits impacts to 25 percent of the Delhi soils onsite if the site is determined to be occupied by DSF. The proposed Project will impact a total of 4.86 acres of suitable DSF habitat, representing 24.3 percent of the suitable habitat on the site and 22.5 percent of the 2005 mapped occupied habitat.

7.4) Urban/Wildlands Interface

Section 6.1.4 of the MSHCP presents guidelines to minimize “edge effects” or indirect effects of projects adjacent to MSCHP Conservation Areas that might adversely affect biological resources within the MSHCP Conservation Area. The proposed Project lies between two Noncontiguous Habitat Blocks (2 – Jurupa Mountains and 3 - Delhi Soils Area). The survey area does not adjoin any Criteria Cells and is separated from any Conservation Areas by mostly residential and industrial development. Based on the distance and existing development between the Project site and Criteria Cells, indirect impacts to Criteria Cells would not occur; however, indirect impacts may occur to habitat within the survey area that is avoided by Project development, including habitat for Delhi Sands flower-loving fly.

Indirect impacts that result from development, including lighting, urban runoff, toxics, and domestic predators, will be minimized in the Project design. This section is intended to identify actions that will minimize adverse effects to Delhi Sands and avoided open space areas.

7.4.1) Drainage

The Project incorporates streets, open channels, and natural drainage courses, as well as a comprehensive system of underground storm drains, to handle storm runoff from the Project site.

Storm water from the Project site will be directed to storm drains. The design and operation of the drainage channels shall be adequate to preclude discharge of water into open space areas that are of lower quality or higher quantity than current conditions.

The proposed development 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 open space area is not altered in an adverse way when compared with existing conditions. Measures shall be put in place to avoid discharge of untreated surface runoff from developed and paved areas into open space areas. Storm water systems shall be designed to prevent the release of toxins, chemicals, petroleum products, invasive plant materials, or other elements that might degrade or harm biological resources or ecosystem processes within open space areas. This will 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.

7.4.2) Toxics

The proposed Project is designed to utilize natural drainage patterns for the flow of surface water. Water quality Best Management Practices (BMPs) include education, storm drain stenciling, and street sweeping in compliance with City of Jurupa Valley requirements. These BMPs will be implemented as part of the storm water pollution prevention measures for the Project, in accordance with all appropriate NPDES requirements.

The Project would result in additional use of hazardous materials in limited quantities associated with normal residential use, such as cleaning products, solvents, herbicides, and insecticides. However, compliance with regulations will reduce potential risk of hazardous material exposure to a level that is less than significant. An information pamphlet will be prepared for each homeowner and will prescribe avoiding discharge of toxins to downstream waters.

7.4.3) Lighting

Outdoor lighting of residences will be designed so that all direct beams would be confined to dwelling sites. Project lighting will not intrude into avoided or adjacent open space areas. Street lighting, parking lot lighting, and other Project-related illumination sources will be positioned, directed, and shielded to avoid "light spill" into conserved areas. The level of onsite lighting and lighting fixtures will comply with applicable requirements and policies of the City of Jurupa Valley.

7.4.4) Noise

The proposed Project incorporates landscape elements, including trees, shrubs, and groundcover, which will assist in noise reduction in native habitats adjacent to the Project. Noise levels created on the Project site following development are not expected to exceed residential noise standards.

7.4.5) Barriers

The proposed Project would include theme walls along Project perimeter streets adjacent to public streets. The Project will include walls and fencing located where public view and/or important interfaces are of concern. The Project will incorporate special edge treatments designed to separate development areas from open space areas. These areas of native landscaping and fencing will serve to minimize unauthorized public access, domestic animal predation, and illegal trespass and dumping. Access restrictions will be placed at key access points where development abuts avoided and adjacent open space areas. The exclusion fence will be a minimum of five feet in height and will be installed and maintained for the purpose of controlling human and domestic animal access into open space areas. Fencing will adhere to MSHCP requirements, will be permanent, and will be maintained in perpetuity. Approval of the fencing design will be required by the City of Jurupa Valley prior to Project initiation.

7.4.6) Invasive Vegetation Control

Design guidelines for the Project will provide the homeowners with a list of allowed native landscaping materials. These materials have been selected for their contribution to the Project theme, adaptability to local climatic and soil conditions, and for their compatibility with the unique natural environment in the Project vicinity. None of the plants listed in Section 6.1.4 of the MSHCP will be utilized on the Project adjacent to open space areas. This list is included in Table 6-2 of the MSHCP (see Table 13 in Appendix A).

7.4.7) Access

Access points between native habitats and the Project development will be posted with signage asking residents to stay on trails and avoid disturbing habitat. Yard fencing will not have a back gate to reduce access to native habitats adjacent to the Project. Many of the existing informal trails in open space areas would remain for use by residents and the public, but no new trails into the open space would be created.

7.4.8) Pets

Uncontrolled pets and feral dogs and cats can prey on native wildlife species. Appropriate signage will be posted requesting that residents leash their pets. Educational pamphlets will be provided to inform homeowners of the potential impacts of uncontrolled pets on native wildlife and request that residents prevent their pets from hunting in the avoidance area.

7.4.9) Grading/Land Development

All manufactured slopes associated with site development will be within the Rio Vista Project footprint and there will be no grading in the avoided areas. All manufactured slopes that abut natural open space will be retained as open space buffer zones. All manufactured slopes and areas disturbed by construction of these slopes will be revegetated with buffer species during Project construction.

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APPENDIX A: Plant and Wildlife Species

Table 9. List of plant species identified on the Rio Vista site in 2006, 2014, 2015, 2016, 2017, and/or 2018 (N=196 species). One asterisk (*) indicates a non-native species; two asterisks (**) indicates a special status species. Not all plant species that may occur on the site were documented due to season and/or environmental conditions.

Scientific Name	Common Name	Year
Lycophytes		
Selaginellaceae	**Spike Moss Family**	
Selaginella species	Spike-moss	2006
Selaginella bigelovii	Bigelow spike-moss	2014/15/16/17/18
Ferns & Fern Allies		
Polypodiaceae	**Polypody Family**	
Polypodium californicum	California polypody	2017
Pteridaceae	**Brake Family**	
Myriopteris (Cheilanthes) newberryi	California cotton fern	2014/15/17
Pellaea mucronata var. *mucronata*	Bird's-foot fern	2006, 2014/15/16/17/18
Pellaea andromedifolia	Coffee fern	2006, 2017
Angiosperms / Flowering Plants		
Adoxaceae	**Adoxa Family**	
Sambucus nigra ssp. *caerulea* [*S. mexicana*]	Blue elderberry	2006, 2014/15/16/17
Amaranthaceae	**Pigweed Family**	
*Amaranthus albus**	Tumbling pigweed*	2006, 2014/15/16/17/18
Anacardiaceae	**Sumac Family**	
Malosma laurina	Laurel sumac	2017
Rhus aromatica [*R. trilobata*]	Skunk bush	2006, 2014/15/16/17/18
*Schinus molle**	Peruvian pepper tree*	2006, 2014/15/16/17/18
Toxicodendron diversilobum	Poison oak	2017
Apiaceae	**Carrot Family**	
Apiastrum angustifolium	Mock-parsley	2017
Bowlesia incana	American bowlesia	2017
Daucus pusillus	Rattlesnake weed	2017
Apocynaceae	**Dogbane Family**	
Funastrum cynanchoides var. *hartwegii*	Climbing milkweed	2014/15/17
Asteraceae	**Sunflower Family**	
Acourtia microcephala	Sacapellote	2017
Ambrosia acanthicarpa	Annual bur-sage	2006, 2014/15/16/17/18
Artemisia californica	California sagebrush	2006, 2014/15/16/17/18
Baccharis salicifolia	Mulefat	2006, 2014/15/16/17/18
Bebbia juncea var. *aspera*	Sweetbush	2014/15/17
Brickellia californica	California brickellbush	2014/15/16/18

Asteraceae (cont.)	**Sunflower Family**	
Brickellia desertorum	Desert brickellbush	2006, 2017
*Carduus pycnocephalus**	Italian thistle*	2017
*Centaurea melitensis**	Tocalote*	2006, 2014/15/16/17/18
Corethrogyne [*Lessingia*] *filagnifolia*	California-aster	2006, 2014/15/16/17/18
Encelia farinosa	Brittlebush	2006, 2014/15/16/17/18
Ericameria palmeri var. *pachylepis*	Grassland goldenbush	2017
*Erigeron (Conyza) bonariensis**	Flax-leaved horseweed*	2006, 2014/15/16/18
Erigeron (Conyza) canadensis	Horseweed	2006, 2014/15/16/17/18
Eriophyllum confertiflorum var. *confertiflorum*	Golden-yarrow	2006, 2014/15/16/17/18
*Gazania species**	Gazania*	2018
Gutierrezia californica	California matchweed	2014/15/17
*Hedypnois cretica**	Crete weed*	2017
Helianthus annuus	Annual sunflower	2006, 2014/15/16/17/18
Heterotheca grandiflora	Telegraph weed	2006, 2014/15/16/17/18
*Hypochaeris glabra**	Smooth cat's-ear*	2017
Isocoma menziesii var. vernonioides	Coastal goldenbush	2018
*Lactuca serriola**	Prickly lettuce*	2006, 2014/15/16/17/18
Logfia (*Filago*) species	Filago	2014/15/16/18
Logfia filaginoides (*Filago californica*)	California cottonrose	2006, 2014/15/17
Logfia (*Filago*) *gallica**	Narrow-leaved filago	2006, 2017
*Oncosiphon piluliferum**	Stink-net*	2017
Pseudognaphalium (*Gnaphalium*) *bioletti*	Bioletti's cudweed	2014/15/17
Pseudognaphalium (*Gnaphalium*) *californicum*	California everlasting	2014/15/17
Pseudognaphalium microcephalum	White everlasting	2006, 2014/15/16/17/18
Senecio flaccidus var. *douglasii*	Sand-wash butterweed	2017
*Senecio vulgaris**	Common groundsel*	2014/15/17
*Sonchus asper**	Prickly sow-thistle*	2014/15/16/18
*Sonchus oleraceus**	Sow-thistle*	2006, 2014/15/16/17/18
Stephanomeria exigua ssp. *deanei*	Dean's wreath-plant	2017
Stephanomeria virgata ssp. *virgata*	Virgate wreath-plant	2017
Tetradymia canescens (identification suspect)	Horsebrush	2006, 2014/15/16/18
Tetradymia comosa	Cottonthorn	2017
Uropappus lindleyi	Silver puffs	2014/15/17
*Verbesina enceliodes**	Crownbeard*	2017
Xanthium strumarium	Cocklebur	2017
Boraginaceae	**Borage Family**	
Amsinckia intermedia	Fiddleneck	2006, 2014/15/16/17/18
Amsinckia menziesii	Fiddleneck	2006
Cryptantha species	Unidentified forget-me-not	2014/15/16/18
Cryptantha barbigera	Cryptantha	2006, 2017
Emmenanthe penduliflora var. *penduliflora*	Whispering bells	2017
Eucrypta chrysanthemifolia var. *chrysanthemifolia*	Common eucrypta	2006, 2014/15/17
Nemophila menziesii var. *menziesii*	Baby blue-eyes	
Pectocarya species	Pectocarya	2006
Pectocarya linearis	Slender pectocarya	2014/15/16/17/18
Pectocarya penicillata	Winged combseed	2017
Phacelia minor	Wild Canterbury bells	2014/15/17
Phacelia ramosissima	Branching phacelia	2006, 2017
Plagiobothrys species	Unidentified popcorn flower	2018

Scientific Name	Common Name	Year
Brassicaceae	**Mustard Family**	
*Brassica tournefortii**	Sahara mustard*	2014/15/17
*Capsella bursa-pastoris**	Shepherd's purse*	2014/15
Descurainia pinnata	Western tansy-mustard	2014/15/16/18
Descurainia species	Tansy-mustard	2006
*Hirschfeldia incana**	Short-pod mustard*	2006, 2014/15/16/17/18
*Lepidium latifolium**	Broad-leaved pepper grass*	2018
Lepidium nitidum	Shining peppergrass	2014/15/17
*Sisymbrium erysimoides**	Australian rocket*	2014/15/17
*Sisymbrium irio**	London rocket*	2014/15/16/17/18
*Sisymbrium orientale**	Hare's-ear cabbage*	2017
Cactaceae	**Cactus Family**	
Cylindropuntia californica var. *parkeri*	Valley cholla	2014/15/17
*Opuntia ficus-indica**	Indian-fig*	2017
Opuntia littoralis	Coastal prickly pear	2014/15/17
Caryophyllaceae	**Pink Family**	
*Cerastium glomeratum**	Mouse-ear chickweed*	2017
Herniaria hirsuta ssp. *cinerea**	Hairy rupture-wort*	2017
Chenopodiaceae	**Goosefoot Family**	
Chenopodium species	Pigweed	2006, 2014/15
*Chenopodium album**	Lamb's quarters*	2014/15/16/18
Chenopodium berlandieri	Pitseed goosefoot	2017
Chenopodium californicum	California goosefoot	2017
*Chenopodium murale**	Nettle-leaved goosefoot	2017
*Salsola australis**	Australian tumbleweed*	2017
*Salsola tragus**	Russian thistle*	2006, 2014/15/16/18
Convolvulaceae	**Morning-glory Family**	
Calystegia macrostegia ssp. *arida*	Finger-leaved morning-glory	2017
Calystegia macrostegia ssp. *intermedia*	Short-lobed morning-glory	2014/15
Cuscuta species	Dodder	2006, 2014/15/16/17/18
Crassulaceae	**Stonecrop Family**	
Crassula connata	Pygmy stonecrop	2006, 2014/15/16/17/18
Dudleya lanceolata	Lance-leaf dudleya	2014/15/16/17/18
Cucurbitaceae	**Gourd Family**	
Cucurbita foetidissima	Calabazilla	2006, 2014/15/16/17/18
Marah macrocarpa	Wild-cucumber	2006, 2014/15/16/17/18
Euphorbiaceae	**Spurge Family**	
Croton californicus	California croton	2006, 2014/15/16/17/18
Croton [*Eremocarpus*] *setiger*	Doveweed	2006, 2014/15/16/17/18
Euphorbia albomarginata	Rattlesnake weed	2006, 2017
*Euphorbia maculata**	Spotted spurge*	2017
*Ricinus communis**	Castor bean*	2006, 2014/15/16/17/18
Stillingia linearifolia	Narrow-leaved stillingia	2017
Fabaceae	**Pea Family**	
Acmispon americanus var. americanus	"Spanish" clover	2014/15/16/17/18

Scientific Name	Common Name	Year
Fabaceae (cont.)	**Pea Family**	
Acmispon glaber var. *brevialutus*	Deerweed	2006, 2014/15/16/17/18
Acmispon micranthus	Fishhook lotus	2017
Acmispon strigosus	Strigose lotus	2017
Lupinus bicolor	Dove lupine	2014/15/16/18
Lupinus hirsutissimus	Stinging lupine	2014/15/17
*Medicago polymorpha**	Bur-clover*	2017
*Melilotus indicus**	Sourclover*	2017
*Parkinsonia aculeata**	Mexican palo verde*	2017
Fagaceae	**Oak Family**	
Quercus palmeri	Palmer's oak	2006, 2014/15/16/17/18
Geraniaceae	**Geranium Family**	
*Erodium botrys**	Longbeak stork's bill*	2018
*Erodium cicutarium**	Red-stemmed filaree*	2006, 2014/15/16/17/18
*Erodium moschatum**	White-stemmed filaree*	2006, 2014/15/16/17/18
Grossulariaceae	**Gooseberry Family**	
Ribes indecorum	White-flowered currant	2014/15/17
Lamiaceae	**Mint Family**	
*Marrubium vulgare**	Horehound*	2006, 2014/15/16/17/18
Salvia apiana	White sage	2006, 2014/15/16/17/18
Salvia columbariae	Chia	2006, 2014/15/16/17/18
Salvia mellifera	Black sage	2006, 2014/15/16/17/18
Stachys albens	White hedge-nettle	2014/15/16/18
Stachys rigida var. *quercetorum* [*S. ajugoides rigida*]	Hillside hedge-nettle	2006/2017
Trichostemma lanceolatum	Vinegarweed	2018
Malvaceae	**Mallow Family**	
Malacothamnus fasciculatus var. *fasciculatus*	Chaparral bush-mallow	2017
*Malva parviflora**	Cheeseweed*	2006, 2014/15/16/17/18
Montiaceae	**Miner's Lettuce Family**	
Claytonia parviflora ssp. *parviflora*	Narrow-leaved miner's lettuce	2017
Myrsinaceae	**Myrsine Family**	
*Anagallis arvensis**	Scarlet pimpernel*	2017
Nyctaginaceae	**Four O'clock Family**	
Mirabilis laevis var. *crassifolia*	Wishbone bush	2006, 2014/15/16/17/18
Oleaceae	**Olive Family**	
*Olea europaea**	European olive*	2006, 2014/15/16/17/18
Onagraceae	**Evening Primrose Family**	
Camissonia strigulosa	Suncup	2006
Camissoniopsis (*Camissonia*) *bistorta*	California suncup	2017
Camissoniopsis (*Camissonia*) *hirtella*	Suncup	2006/2017
Camissoniopsis (*Camissonia*) *ignota*	Jurupa Hills suncup	2006
Epilobium canum ssp. *canum*	California fuchsia	2006/2017
Eulobus (*Camissonia*) *californica*	False-mustard	2014/15/17

*Oenothera laciniata**	Evening primrose*	2006
Scientific Name	**Common Name**	**Year**
Papaveraceae	**Poppy Family**	
Eschscholzia californica	California poppy	2018
Phrymaceae	**Lopseed Family**	
Mimulus aurantiacus var. *pubescens*	Bush monkey flower	2006, 2014/15/16/17/18
Mimulus guttatus	Seep monkey flower	2017
Plantaginaceae	**Plantain Family**	
Antirrhinum nuttallianum ssp. *nuttallianum*	Nuttall's snapdragon	2017
Keckiella antirrhinoides ssp. *antirrhinoides*	Yellow bush-penstemon	2006, 2014/15/16/17/18
Platanaceae	**Sycamore Family**	
Platanus racemosa	California sycamore	2014/15/17/18
Polemoniaceae	**Phlox Family**	
Eriastrum species	Woollystar	2006
Eriastrum sapphirinum	Sapphire woollystar	2014/15/16/2017/18
Gilia angelensis	Common gilia	2006, 2017
Polygonaceae	**Buckwheat Family**	
Eriogonum fasciculatum var. *foliolosum*	Leafy California buckwheat	2006, 2014/15/16/17/18
Eriogonum fasciculatum var. *polifolium*	Rosemary California buckwheat	2017
Eriogonum gracile	Slender buckwheat	2014/15/16/18
*Polygonum aviculare**	Knotweed*	2017
Pterostegia drymarioides	Woodland threadstem	2014/15/17
Ranunculaceae	**Buttercup Family**	
Clematis pauciflora	Rope vine	2014/15/17
Rhamnaceae	**Buckthorn Family**	
Rhamnus crocea	Spiny redberry	2006, 2014/15/16/17/18
Rosaceae	**Rose Family**	
Adenostoma fasciculatum	Chamise	2006, 2014/15/16/17/18
Prunus ilicifolia	Hollyleaf cherry	2016/17/18
Rubiaceae	**Madder Family**	
Galium angustifolium ssp. *angustifolium*	Narrow-leaved bedstraw	2017
*Galium aparine**	Annual bedstraw*	2006, 2014/15/16/17/18
Salicaceae	**Willow Family**	
Salix gooddingii	Black willow	2006, 2014/15/16/17/18
Salix lasiolepis	Arroyo willow	2006, 2014/15/16/17/18
Simaroubaceae	**Simarouba Family**	
*Ailanthus altissima**	Tree of heaven*	2017
Solanaceae	**Nightshade Family**	
Datura wrightii	Western jimsonweed	2006, 2014/15/16/17/18
*Nicotiana glauca**	Tree tobacco*	2006, 2014/15/16/17/18
Nicotiana quadrivalvis	Wallace's tobacco	2017
Solanum douglasii	White nightshade	2006, 2014/15/16/17/18
Solanum xanti	Chaparral nightshade	2014/15/17

Scientific Name	Common Name	Year
Urticaceae	**NettleFamily**	
Parietaria hespera var. *californica*	California pellitory	2017
*Urtica urens**	Dwarf nettle*	2017
Verbenaceae	**Vervain Family**	
*Lantana camara**	Lantana*	2017
Vitaceae	**Grape Family**	
Vitis californica	California wild grape	2006
Zygophyllaceae	**Caltrop Family**	
Larrea tridentata (only 1 observed, steep slope)	Creosote bush	2017
*Tribulus terrestris**	Puncture vine*	2014/15/16/17/18
Angiosperms/ Monocots		
Agavaceae	**Agave Family**	
Hesperoyucca whipplei	Chaparral yucca	2017
Alliaceae	**Onion Family**	
Allium praecox	Early onion	2017
Liliaceae	**Lily Family**	
*Calochortus plummerae*** (CRPR 4.2)	Plummer's mariposa lily**	2017
Poaceae	**Grass Family**	
*Arundo donax**	Giant reed*	2014/15/17/18
*Avena barbata**	Slender wild oat*	2006, 2014/15/16/17/18
*Avena fatua**	Wild oat*	2006, 2014/15/16/17/18
*Bromus diandrus**	Ripgut brome*	2006, 2014/15/16/17/18
Bromus madritensis ssp. *rubens**	Red brome*	2006, 2014/15/16/17/18
Elymus canadensis (identification suspect)	Canadian wild rye	2006
Elymus (*Leymus*) *condensatus*	Giant wild rye	2014/15/16/17/18
Festuca (*Vulpia*) *myuros**	Rat-tail fescue*	2006, 2014/15/16/17/18
*Hordeum marinum**	Mediterranean barley*	2014/15/16/18
*Hordeum murinum ssp. leporinum**	Hare barley*	2006/2017
Hordeum murinum ssp. *glaucum**	Glaucous barley*	2017
*Lamarckia aurea**	Goldentop grass*	2014/15/17
Melica imperfecta	Small-flowered melic-grass	2014/15/17
*Pennisetum setaceum**	African fountain grass*	2017
*Polypogon monspeliensis**	Rabbitfoot grass*	2006, 2014/15/16/18
*Schismus barbatus**	Mediterranean grass*	2006, 2014/15/16/17/18
*Secale cereale**	Cereal rye*	2006
*Triticum aestivum**	Wheat*	2006, 2014/15/16/17/18
Themidaceae	**Brodiaea Family**	
Dichelostemma capitatum	Wild hyacinth	2014/15/16/17/18

Table 10. List of wildlife species identified on the Rio Vista site in 2006, 2014, 2015, 2016, 2017, and/or 2018 (N=291). One asterisk (*) indicates a non-native species; two asterisks (**) indicates a special status species.

Scientific Name	Common Name	Year
REPTILES (11)		
Iguanidae	**Iguanid Family**	
Phrynosoma blainvillii	Coast Horned Lizard**	2006
Sceloporus occidentalis	Western Fence Lizard	2006, 2014/15/16/18
Sceloporus orcutti	Granite Spiny Lizard	2006, 2014/15/16/17/18
Uta stansburiana	Side-blotched Lizard	2006, 2014/15/16/17/18
Teiidae	**Whiptails and Relatives**	
Aspidoscelis hyperythra	Orange-throated Whiptail**	2016/18
Aspidoscelis tigris stejnegeri	Coastal Western Whiptail**	2006, 2014/15
Anguidae	**Alligator Lizards**	
Elgaria multicarinatus	Southern Alligator Lizard	2006
Boidae	**Boas and Pythons**	
Lichanura orcutti	Rosy Boa	2017
Colubridae	**Colubrid Snake Family**	
Coluber (Masticophis) flagellum	Coachwhip	2014/15
Pituophis catenifer	Gopher Snake	2006, 2014/15/18
Viperidae	**Viper Family**	
Crotalus ruber	Red-diamond Rattlesnake**	2006, 2014 2015/16/17
BIRDS (64)		
Acciptiridae	**Hawk Family**	
Accipiter cooperii	Cooper's Hawk**	2006, 2014/15/16/18
Buteo jamaicensis	Red-tailed Hawk	2006, 2014/15/16/17/18
Circus cyaneus	Northern Harrier**	2006
Aegithalidae	**Long-tailed Tit Family**	
Psaltriparus minimus	Bushtit	2006, 2014/15/16/18
Apodidae	**Swift Family**	
Aeronautes saxatalis	White-throated Swift	2006, 2014/15/16/17/18
Chaetura vauxi	Vaux's Swift	2017
Ardeidae	**Heron Family**	
Ardea alba	Great Egret**	2014/15
Bombycillidae	**Waxwing Family**	
Phainopepla nitens	Phainopepla	2016/17
Scientific Name	**Common Name**	**Year**
Cardinalidae	**Cardinal Family**	
Passerina caerulea	Blue Grosbeak	2006, 2014/15

Cathartidae	**Vulture Family**	
Cathartes aura	Turkey Vulture	2014/15/16/17/18
Charadriidae	**Plover Family**	
Charadrius vociferus	Killdeer	2014/15/16/18
Columbidae	**Pigeon Family**	
Columba livia	Rock Pigeon	2006, 2014/15/16/17/18
Streptopelia decaocto	Eurasian Collared Dove	2015/17
Zenaida macroura	Mourning Dove	2006, 2014/15/16/17/18
Corvidae	**Jay and Crow Family**	
Aphelocoma californica	California Scrub-jay	2006, 2014/15/16/18
Corvus brachyrhynchos	American Crow	2006, 2014/15/16/18
Corvus corax	Common Raven	2006, 2014/15/16/17/18
Cuculidae	**Cuckoo and Roadrunner Family**	
Geococcyx californianus	Greater Roadrunner	2014/15/16/17/18
Falconidae	**Falcons**	
Falco sparverius	American Kestrel	2006, 2016/17/18
Fringillidae	**Finch Family**	
Spinus lawrencei	Lawrence's Goldfinch**	2014/15
Spinus psaltria	Lesser Goldfinch	2006, 2014/15/16/17/18
Spinus tristes	American Goldfinch	2006
Haemorhous mexicanus	House Finch	2006, 2014/15/16/17/18
Hirundinidae	**Swallow Family**	
Hirundo rustica	Barn Swallow	2006, 2014/15/17
Petrochelidon pyrrhonota	Cliff Swallow	2006, 2016/17/18
Stelgidopteryx serripennis	Northern Rough-winged Swallow	2006, 2014/15
Tachycineta thalassina	Violet-green Swallow	2006
Icteridae	**Blackbird Family**	
Agelaius phoeniceus	Red-winged blackbird	2006
Euphagus cyanocephalus	Brewer's Blackbird	2006, 2014/15/18
Icterus bullockii	Bullock's Oriole	2006, 2014/15/16/17
Sturnella neglecta	Western Meadowlark	2006, 2014/15/16/17/18
Laridae	**Skuas, Gulls, Terns and Allies**	
Larus californicus	California Gull	2006
Mimidae	**Mockingbird Family**	
Mimus polyglottos polyglottos	Northern Mockingbird	2006, 2014/15/16/17/18
Odontophoridae	**Quail Family**	
Callipepla californica californica	California Quail	2006, 2014/15/16/17/18
Parulidae	**Wood-Warbler Family**	
Dendroica coronata	Yellow-rumped Warbler	2006
Oreothlypis celata	Orange-crowned Warbler	2006

Scientific Name	Common Name	Year
Passerellidae	**New World Sparrows**	
Aimophila ruficeps canescens	Rufous-crowned Sparrow**	2006, 2014/15/16/18
Melospiza lincolnii	Lincoln's Sparrow	2006
Melospiza melodia	Song Sparrow	2014/15/16/18
Melozone crissalis	California Towhee	2006, 2014/15/16/17/18
Passerculus sandwichensis	Savannah Sparrow	2006, 2014/15/16
Pipilo maculatus	Spotted Towhee	2006, 2014/15/16/17/18
Spizella passerina	Chipping Sparrow	2018
Zonotrichia leucophrys	White-crowned Sparrow	2006, 2017/18
Passeridae	**Old World Sparrow Family**	
Passer domesticus	House Sparrow	2006, 2014/15/16/17/18
Picidae	**Woodpecker Family**	
Colaptes auratus	Northern Flicker	2014/15
Picoides nuttallii	Nuttall's Woodpecker	2018
Polioptilidae	**Gnatcatcher Family**	
Polioptila caerulea	Blue-gray Gnatcatchers	2006
Polioptiila californica californica	Coastal California Gnatcatcher**	2017
Sturnidae	**Starling Family**	
Sturnus vulgaris	European Starling*	2006, 2014/15/16/17/18
Timaliidae	**Babbler Family**	
Chamaea fasciata	Wrentit**	2014/15/16/17/18
Trochilideae	**Hummingbird Family**	
Archilochus alexandri	Black-chinned Hummingbird	2006
Calypte anna	Anna's Hummingbird	2006, 2014/15/16/17/18
Calypte costae	Costa's Hummingbird**	2006, 2014/15/16/18
Selasphorus sasin	Allen's Hummingbird**	2018
Troglodytidae	**Wren Family**	
Catherpes mexicanus	Canyon Wren	2014/15/16/17/18
Salpinctes obsoletus	Rock Wren	2006, 2014/15/16/17/18
Thryomanes bewickii	Bewick's Wren	2006, 2014/15/16/17/18
Turdidae	**Thrush Family**	
Sialia mexicana	Western Bluebird	2018
Tyrannidae	**Tyrant Flycatchers**	
Myiarchus cinerascens	Ash-throated Flycatcher	2014/15/17/18
Sayornis nigricans	Black Phoebe	2006, 2014/15/16/17/18
Sayornis saya	Say's Phoebe	2006, 2014/15/16/17/18
Tyrannus vociferans	Cassin's Kingbird	2006, 2017
Tyrannus verticalis	Western Kingbird	2006, 2014/15/16/17/18
MAMMALS (9)		
Canidae	**Dog, Fox & Coyote Family**	
Canis latrans	Coyote	2006, 2014/15/16/18
Canis domesticus	Domestic Dog	2014/15/16/18

Scientific Name	Common Name	Year
Equidae	**Horse Family**	
Equus caballus	Domestic Horse	2018
Felidae	**Cat Family**	
Felis domesticus	Domestic Cat	2015/16
Lynx rufus	Bobcat (sign)	2015
Geomyidae	**Pocket Gopher Family**	
Thomomys bottae	Botta's Pocket Gopher	2006, 2014/15/16/17/18
Sciuridae	**Squirrel Family**	
Spermophilus beecheyi	California Ground Squirrel	2006, 2014/15/16/17/18
Leporidae	**Rabbit Family**	
Lepus californicus	Black-tailed Jackrabbit**	2006, 2014/15/16/18
Sylvilagus audubonii	Audubon's Cottontail	2006, 2014/15/16/17/18

Insects (207)

COLEOPTERA	**BEETLES**	
Buprestidae	**Ground Beetle Family**	
Nanularia brunneata	Metallic Wood Borer	2016
Carabidae	**Ground Beetle Family**	
Undetermined species	Undetermined Species	2006
Cerambycidae	**Long-horned Beetles**	
Tragidion sp.	Tarantula Hawk Mimic Long-horned Beetle	2006
Chrysomelidae	**Leaf Beetle Family**	
Diabrotica balteata	Banded Cucumber Beetle	2006
Diabrotica undecimpunctata	Western Spotted Cucumber Beetle	2006
Lema trilineata	Three-lined Potato Beetle	2014/15/16
Coscinoptera aeneipennis	Bronze-winged Leaf Beetle	2014/15
Coccineilidae	**Ladybird Beetle Family**	
Hippodamia convergens	Convergent Ladybird Beetle	2006
Curculionidae	**Snout and Bark Beetle Family**	
Apieurus albovestita	No common name	2006
Unidentified Sp 1 (*Datura*)	Weevil (small gray)	2014/15/16
Unidentified Sp 2 (*Ambrosia*)	Weevil (large gray)	2014/15/16
Mordelidae	**Tumbling Flower Beetle Family**	
Mordellistina species	Tumbling Flower Beetle	2014/15
Unidentified species	Unidentified species	2006
Scarabaeidae	**Scarab Beetle Family**	
Cotinus mutibilus	Green June Beetle	2006, 2014/15/16
Oxygrylius ruginasus	No common name	2006
Rhipiphoridae	**Wedge-shaped Beetle Family**	
Macrosaigon flavipenne	Wedge-shaped Beetle	2006

Scientific Name	Common Name	Year
Tenebrionidae	**Darkling Beetle Family**	
Eleodes species	Darkling Beetle	2014/15/16
Eleodes gracilis	Stink Beetle	2006
Unidentified species	Unidentified species	2006
DIPTERA	**FLIES**	
Apioceridae	**Flower-loving Fly Family**	
Apiocera sp	Unidentified species	2006
Apiocera chrysolasia	Flower-loving Fly	2014/15/16
Asilidae	**Robber Fly Family**	
Efferia albibarbis	Common Robber Fly	2006
Mallophora fautrix	Bumblebee Robber Fly	2014/15
Proctocanthus species	Robber Fly	2014/15
Proctacanthus occidentalis	No common name	2006
Promachus aldrichii	No common name	2006
Sarapogon luteus	Robber Fly	2014/15/16
Stenopogon species	Robber Fly	2014/15/16
Stenopogon breviusculus	No common name	2006
Bombyliidae	**Bee Fly Family**	
Exoprosopa butleri	No common name	2006
Ligyra gazophylax	No common name	2006
Thyridanthrax atrata	Black-Winged Bee Fly	2014/15/16
Thyridanthrax pallida	No common name	2006
Villa species	Bee Fly	2014/15/16
Villa, Anthrax or Thyridanthrax sp	Black Bee Fly	2006
Villa moliter	No common name	2006
Poecilanthrax species	Bee Fly	2014/15
Unidentified (several)	Bee Fly	2014/15/16
Calliphoridae	**Blow Fly Family**	
Phaenicia sp.	Green Bottle Fly	2006
Conopidae	**Thick-headed Fly Family**	
Physocephala texana	Thread-waisted Conopid	2006
Cuterebridae	**Robust Bot Fly Family**	
Cuterebra latrifrons	Wood Rat Bot Fly	2006
Dolichopodidae	**Long-legged Fly Family**	
Condylostylus pilicornis	Long-legged Fly	2014/15
Drosophilidae	**Vinegar Fly Family**	
Unidentified	Fruit Fly	2014/15
Muscidae	**House Fly Family**	
Musca domestica	House Fly	2014/15/16
Mydidae	**Mydas Fly Family**	
Nemomydas pantherinus	Mydas Fly	2006
Rhaphiomidas terminates abdominalis	Delhi Sands flower-loving fly**	2006

Scientific Name	Common Name	Year
Sarcophagidae	**Flesh Fly Family**	
Unidentified	Flesh Fly	2006, 2014/15/16
Syrphidae	**Syrphid Fly Family**	
Allograpta obliqua	Hover Fly	2014/15/16
Copestylum Mexicana	Cactus Fly	2006
Eristalis aenius	Hover Fly	2006
Eristalis latifrons	No common name	2006
Eristalis tenax	No common name	2006
Tachinidae	**Tachinid Fly Family**	
Cylindromyia sp	No common name	2006
Eumachronychia sp	Undetermined species	2006
Gymnosoma fulginosum	No common name	2006
Unidentified	Tachinid Fly	2014/15/16
Tabanidae	**Horse Fly Family**	
Tabanus punctifer	Big Black Horse Fly	2006
HEMIPTERA	**TRUE BUGS**	
Alydidae	**Broad-headed Bugs**	
Alydus sp.	Unidentified species	2006
Aphididae	**Aphid Family**	
Unidentified	Aphid	2014/15/16
Cercopidae	**Spittlebug Family**	
Clastoptera sp.	Spittlebug	2006
Unidentified	Spittlebug	2014/15/16
Cicadidae	**Cicada Family**	
Okanagana species	Cicada	2014/15/16
Unidentified species	Unidentified species	2006
Cicadellidae	**Leafhopper Family**	
Homalodisca coagulate	Glassy-winged sharp-shooter	2006
Homalodisca lacerta	Sharpshooter	2006, 2014/15/16
Largidae	**Largid Bug Family**	
Largus cinctus californicus	Bordered Plant Bug	2006
Lygaeidae	**Seed Bug Family**	
Lygaeus kalmia	Small Milkweed Bug	2006, 2014/15
Miridae	**Plant Bug Family**	
Unidentified	Plant Bug	2014/15
Pentatomidae	**Stink Bug Family**	
Chlorochroa uhleri	Uhler's Stink Bug	2006, 2014/15/16
Chlorochroa sayi	Say's Stink Bug	2006, 2014/15/16
Bagrada hilaris	African Harlequin Bug	2014/15
Trichopepla aurora	Horehound Bug	2006

Scientific Name	Common Name	Year
Reduviidae	**Assassin Bug Family**	
Apiomerus crassipes	Bee Assassin	2006
Rhynocoris ventralis	Spotted Assassin	2006
Sinea diadema	No common name	2006
Zelus tetracanthus	Four-spurred Assassin Bug	2006, 2014/15
Zelus renardii	Assassin Bug	2006, 2014/15
Tingidae	**Lace Bug Family**	
Unidentified (*Helianthus*)	Lace Bug	2014/15/16
HYMENOPTERA	**BEES, WASPS AND ANTS**	
Andrenidae	**Mining Bee Family**	
Perdita crotonis	Andrenid Bee	2014/15
Apidae	**Long-tongued Bee Family**	
Anthophoraa urbana	Urban Anthophorid	2006
Apis mellifera	Honey Bee*	2006, 2014/15/16
Bombus crotchii	Crotch Bumble Bee**	2006
Ericrocis lata	No common name	2006
Melissodes species	Long-horned Bee	2014/15/16
Melissodes sp.	No common name	2006
Nomad asp.	Cuckoo Bee	2006
Tetraloniella sp.	No common name	2006
Xylocopa varipuncta	Valley carpenter bee	2006
Zacosmia maculate	No common name	2006
Chalcididae		
Unidentified	Chalcid Wasp	2014/15
Chrysididae	**Cuckoo Wasp**	
Parnopes edwardsii	Cuckoo Wasp	2006, 2016
Crabronidae		
Bembix comata	Sand Wasp	2014/15/16
Eucerceris insignis	Crabronid Wasp	2014/15
Microbembix californica	Crabronid Wasp	2014/15
Philanthus multimaculatus	Crabronid Wasp	2014/15
Philanthus species	Crabronid Wasp	2014/15
Tachysphex species	Crabronid Wasp	2014/15
Formicidae	**Ant Family**	
Linepithema humile	Argentine Ant*	2006
Liometopum species	Tree Ant	2014/15
Messor pergandei	Black Harvester Ant	2006
Messor species	Harvester Ant	2014/15/16
Pogonomyrmex californicus	California Harvester Ant	2014/15/16
Solenopsis species	Fire Ant	2006, 2014/15/16
Halictidae	**Sweat Bee Family**	
Agapostemon texana	Metallic Sweat Bee	2006, 2014/15/16
Dieunomia nevadensis	Sweat Bee	2014/15

Scientific Name	Common Name	Year
Ichneumonidae	**Ichneumon Wasp Family**	
Unidentified	Ichneumon Wasp	2014/15
Megachilidae	**Leaf-cutter Bee Family**	
Megachile species	Leaf-cutter Bee	2006, 2014/15
Mutillidae	**Velvet Ant Family**	
Dasymutilla species	Velvet Ant (Red)	2014/15/16
Dasymutilla californica	Velvet Ant (Red)	2006
Dasymutilla clytemnestra	Velvet Ant (Red)	2006
Dasymutilla pacifica	Velvet Ant (Red)	2006
Pseudomethoca species	Velvet Ant (Black)	2014/15
Pompilidae	**Spider Wasp Family**	
Pepsis species	Tarantula Hawk Wasp	2014/15/16
Pepsis thisbe	Tarantula Hawk Wasp	2006
Scoliidae	**Scoliid Wasp Family**	
Campsomeris tolteca	Toltec Scoliid Wasp	2006, 2014/15/16
Crioscolia (Trielis) alcione	Scoliid Wasp	2014/15/16
Sphecidae	**Thread-waisted Wasp Family**	
Ammophila alberti	Sphecid Wasp	2006, 2014/15
Ammophila azteca	Sphecid Wasp	2006
Ammophila species	Sphecid Wasp	2014/15/16
Bambix Americana comata	Sand Wasp	2006
Bembix melenopsis	Large Fly Killer	2006
Cerceris femurrubrum	Weevil Wasp	2006
Chalybion californicum	Blue mud Wasp	2006
Chlorion aerarium	Steel Blue Cricket Hunter	2006, 2014/15/16
Hapalomellinus sp.	No common name	2006
Philanthus multimaculatus	Bee Killer Wasp	2006
Prionyx foxii	Grasshopper Hunter	2006
Prionyx thomae	No common name	2006
Prionyx species	Sphecid Wasp	2016
Sceliphron caementarium	Common Mud Dauber	2006, 2014/15/16
Taschytes elongates	Sand Wasp	2006
Vespidae	**Yellowjacket, Hornet, Paper Wasp Family**	
Eumenes bollii	Potter Wasp	2006
Euodynerus annulatus	No common names	2006
Polistes apachus	Apache Wasp	2006
Polistes dominulus	European Paper Wasp	2006
Polistes dorsalis	Paper Wasp	2006
Polistes fuscatus	Paper Wasp	2006, 2014/15/16
Polistes exclamans	Paper Wasp	2006, 2014/15
LEPIDOPTERA	**BUTTERFLIES AND MOTHS**	
Danaidae	**Milkweed Butterfly Family**	
Danaus gilippus	Striated Queen	2006
Danaus plexippus	Monarch	2006

Scientific Name	Common Name	Year
Hesperiidae	**Skipper Family**	
Erynnis funeralis	Funereal Duskywing	2006, 2014/15/16
Hylephila phyleus	Fiery Skipper	2006
Pyrgus albescens	Common/White-checkered Skipper	2014/15/16
Pyrgus communis	Checkered skipper	2006
Scientific Name	**Common Name**	**Year**
Lycaenidae	**Blues & Copper Family**	
Brephidium exilis	Pigmy Blue	2006, 2014/15/16
Hemiargus ceraunus gyas	Edward's Blue	2006
Icaricia acmon	Acmon Blue	2006, 2014/15
Leptodes marina	Marine Blue	2006
Strymon melinus	Gray Hairstreak	2006
Strymon melinus pudica	Common hairstreak	2014/15/16
Noctuidae	**Owlet Moth Family**	
Unidentified	Noctuid moth (larva)	2014/15/16
Nymphalidae	**Brushfoot Butterfly Family**	
Agraulis vanilla	Gulf Fritillary	2006, 2014/15
Junonia coenia	Buckeye	2006
Vanessa Annabella	West Coast Lady	2006
Vanessa cardui	Painted Lady	2006
Papilionidae	**Swallowtail Family**	
Papilio cresphontes	Giant Swallowtail*	2006, 2014/15/16
Papilio rutulus	Western Tiger Swallowtail	2006
Pieridae	**Whites & Sulphur Family**	
Pieris rapae	Cabbage White	2014/15/16
Phoebis sennae	Cloudless Sulfur	2014/15/16
Pontia protodice	Checkered White	2006, 2014/15/16
Colias eurytheme	Alfalfa Sulfur	2006, 2014/15/16
Colias philodice	Common Sulfur	2014/15
Pyralidae	**Pyralid Moth Family**	
Unidentified	Pyralid Moth	2006, 2014/15/16
Sphingidae	**Sphinx Moth Family**	
Manduca sexta (larva on *Datura*)	Tobacco Hornworm Sphinx	2006, 2014/15
Tortricidae	**Tortricid Moth Family**	
Cochlyis species (*Helianthus)*	Tortricid Moth	2014/15
NEUROPTERA	**NET-WINGED INSECTS**	
Chrysopidae	**Green Lacewing Family**	
Chrysopa species (ova – 2014/15/16)	Green Lacewing	2006, 2014/15/16
Myrmeleontidae	**Antilion Family**	
Brachynemerus species	Antlion	2014/15
Myrmeleontidae (cont.)	**Antilion Family**	
Myrmeleon species	Antlion	2014/15/16
Undetermined species	Undetermined species	2006

Scientific Name	Common Name	Year
ODONATA	**DRAGONFLIES AND DAMSELFLIES**	
Aeshnidae	**Darner Family**	
Aeshna multicolor	Blue-eyed Darner	2006, 2014/15/16
Anax junius	Common Green Darner	2006, 2014/15/16
Coenagrionidae	**Narrow-winged Damselfly Family**	
Argia species	Damselfly	2014/15
Argia vivida	Violet Dancer	2006
Enallagma species	Damselfly	2014/15/16
Gomphidae	**Clubtail Family**	
Unidentified	Clubtail	2014/15
Libellulidae	**Skimmer Family**	
Erythemis collocate	Western Pondhawk	2014/15
Libellula saturata	Big Red Skimmer	2006, 2014/15/16
Pachydiplax longipennis	Blue Dasher	2014/15
Pantala species	Wandering Glider	2014/15/16
Pantala flavescens	Wandering Skimmer	2006
Sympetrum corruptum	Variegated Meadowhawk	2006, 2014/15/16
Sympetrum illiotum	Red-tinged Skimmer	2014/15
Tramea lacerate	Black saddlebags	2006
Tramea onusta	Brown Skimmer	2014/15
ORTHOPTERA	**GRASSHOPPERS, MANTIDS, ROACHES, ETC.**	
Acrididae	**Short-horned Grasshopper Family**	
Derotmema saussuraenum	No common name	2006
Melanoplus species	Short-horned Grasshopper	2014/15/16
Psoloessa thamnogaea	No common name	2006
Schistocerca species	Short-horned Grasshopper	2014/15/16
Schistocerca nitens	Gray Bird Grasshopper	2006
Trimeritropis species	Short-horned Grasshopper	2014/15/16
Trimerotropis fontana	No Common name	2006
Trimerotropis pallidipennis	Pallid-winged Bandwing	2006
Gryllacrididae	**Wingless Long-horned Grasshopper Family**	
Stenopelmatus sp.	Jerusalem Cricket	2006
Gryllidae	**Cricket Family**	
Oecanthus sp.	Tree Cricket	2006
Undetermined species	Undetermined species	2006
Mantidae	**Praying Mantid Family**	
Iris oratoria	Mediterranean Mantid*	2006, 2014/15/16
Litaneutria minor	Minor Ground Mantis	2006
ARACHNIDA	**SPIDERS, ETC.**	
Agelenidae	**Funnel-web or Grass Spider Family**	
Unidentified	Funnel Web Spider	2006, 2014/15
Araneidae	**Orb Weaver Spider Family**	
Araneus sp.	Orb Weaver	2006

Scientific Name	Common Name	Year
Oxyopodidae	**Lynx Spiders**	
Peucetia viridans	Green Lynx Spider	2006
Salticidae	**Jumping Spider Family**	
Unidentified	Jumping Spider	2006, 2014/15/16

Scientific Name	Common Name	Year
Tetranychidae	**Spider Mite Family**	
Tetranychus urticae	Two-spotted Spider Mite	2016
Theridiidae	**Cobweb Spider Family**	
Lactrodectus geometricus	Brown Widow Spider	2014/15/16
Lactrodectus Hesperus	Western Black Widow Spider	2006
Thomisidae	**Crab Spider Family**	
Unidentified	Crab Spider	2006, 2014/15/16
SCORPIONIDA	**SCORPIONS**	
Vejovidae	**Vejovid**	
Anuroctonus phaiodactylus	Burrowing Scorpion	2006

Crustaceans

ISOPODA	**ISOPODS**	
Oniscidae	**Woodlice**	
Armadillidium vulgare	Common Pill Bug	2006

* Non-native species
** Special status species

Table 11. Special status species observations.

Taxon	Coordinates (WGS84)	No.	Location on Project Site	Year
Plummer's mariposa lily	34.017945 N, 117.414515 W	4	East-central	2017
Palmer's oak	Location withheld for the protection of the specimen	1	Northeast	2015
Orange-throated Whiptail	34.010629 N, 117.404146 W	1	Southwest	2016
Orange-throated Whiptail	34.012515 N, 117.412869 W	1	Southwest	2018
Red Diamond Rattlesnake	34.022734 N, 117.412632 W	1	West-central	2015
Red Diamond Rattlesnake	34.027838 N, 117.413768 W	1	Northwest	2016
Red Diamond Rattlesnake	34.020217 N, 117.405024 W	1	West-central	2017
Red Diamond Rattlesnake	34.024085 N, 117.412988 W	1	West-central	2018
Cooper's Hawk	34.032996 N, 117.410437 W	1	Northwest	2014
Cooper's Hawk	34.032996 N, 117.410437 W	1	Northwest	2015
Cooper's Hawk	34.027741 N, 117.413734 W	1	Northwest	2016
Cooper's Hawk	34.029119 N, 117.412982 W	1	Northwest	2018
Lawrence's Goldfinch	34.025808 N, 117.399414 W	5	Northeast	2014
Northern Harrier	34.024434 N, 117.415952 W	1	West-central	2016
Coastal California gnatcatcher	34.023170 N, 117.404462 W	1	East-central	2017
	34.011581 N, 117.407125 W	2	South	2017
Rufous-crowned Sparrow	34.032723 N, 117.404135 W	1	North	2014
Rufous-crowned Sparrow	34.032270 N, 117.405278 W	1	North	2016
Black-tailed Jackrabbit	34.027385 N, 117.413317 W	1	West	2014
Black-tailed Jackrabbit	34.012518 N, 117.412604 W	1	Southwest	2014
Black-tailed Jackrabbit	34. 025034 N, 117.404338 W	1	Central	2016
Black-tailed Jackrabbit	34.022570 N, 117.405073 W	1	Central	2018
Black-tailed Jackrabbit	34.032485 N, 117.411073 W	1	Central	2018

California Natural Diversity Database Forms

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Sacramento, CA 95811
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Reset

California Native Species Field Survey Form

Send Form

Scientific Name: *Accipiter cooperii*

Common Name: Cooper's Hawk

Species Found? ☑ Yes ☐ No _____ If not, why?

Total No. Individuals 1 Subsequent Visit? ☑ yes ☐ no

Is this an existing NDDB occurrence? _____ Yes, Occ. # ☐ no ☑ unk.

Collection? If yes: _____ Number _____ Museum / Herbarium

Reporter: Guy Bruyea
Address: L&L Environmental, Inc.
700 East Redlands Blvd., Suite U, PMB#351, Redlands, CA
E-mail Address: chrysina@hotmail.com
Phone: (951) 681-4929

Plant Information

Phenology: 60 % vegetative 40 % flowering 10 % fruiting

Animal Information

0 # adults 0 # juveniles 0 # larvae 0 # egg masses 0 # unknown

☐ wintering ☐ breeding ☐ nesting ☐ rookery ☐ burrow site ☐ other

Location Description **(please attach map AND/OR fill out your choice of coordinates, below)**

County: Riverside Landowner / Mgr.: Unknown
Quad Name: Fontana Elevation: 1145 ft.
T 1S R 4E Sec 4, NE ¼ of NW ¼, Meridian: H☐ M☐ S☐ Source of Coordinates (GPS, topo. map & type): GPS
T____ R____ Sec ____, ____ ¼ of ____ ¼, Meridian: H☐ M☐ S☐ GPS Make & Model _____
DATUM: NAD27 ☐ NAD83 ☐ WGS84 ☑ Horizontal Accuracy 12m meters/feet
Coordinate System: UTM Zone 10 ☐ UTM Zone 11 ☐ ***OR*** Geographic (Latitude & Longitude) ☑
Coordinates: 34.032996 N, 117.410437 W

Habitat Description (plants & animals) *plant communities, dominants, associates, substrates/soils, aspects/slope:*
Animal Behavior *(Describe observed behavior, such as territoriality, foraging, singing, calling, copulating, perching, roosting, etc., especially for avifauna):*

Riversidean sage scrub
Cooper's Hawk was observed in a tree tobacco (Nicotiana glauca) in mixed RSS / disturbed area just NE of residential neighborhood

Please fill out separate form for other rare taxa seen at this site.

Site Information Overall site/occurrence quality/viability (site + population): ☐ Excellent ☐ Good ☑ Fair ☐ Poor
Immediate AND surrounding land use: Open space W, E, S and N, residential to the SW
Visible disturbances: Ornamental trees (Olive), unimproved roads, off-road vehicle activities, dumping, high-density residential nearby
Threats: unknown
Comments:

Determination: *(check one or more, and fill in blanks)*
☐ Keyed (cite reference): _____
☐ Compared with specimen housed at: _____
☐ Compared with photo / drawing in: _____
☐ By another person (name): _____
☑ Other: extensive field experience in ID of species

Photographs: *(check one or more)*

	Slide	Print	Digital
Plant / animal	☐	☐	☐
Habitat	☐	☐	☑
Diagnostic feature	☐	☐	☐

May we obtain duplicates at our expense? yes ☑ no ☐

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Date of Field Work (mm/dd/yyyy): 08/02/2015

Reset

California Native Species Field Survey Form

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Scientific Name: *Accipiter cooperii*

Common Name: Cooper's Hawk

Species Found? ☑ Yes ☐ No _____ If not, why?

Total No. Individuals 1 Subsequent Visit? ☐ yes ☑ no

Is this an existing NDDB occurrence? _____ Yes, Occ. # ☐ no ☑ unk.

Collection? If yes: _____ Number _____ Museum / Herbarium

Reporter: Guy Bruyea
Address: L&L Environmental, Inc.
700 East Redlands Blvd., Suite U, PMB#351, Redlands, CA
E-mail Address: chrysina@hotmail.com
Phone: (951) 681-4929

Plant Information

Phenology: 60 % vegetative 40 % flowering 10 % fruiting

Animal Information

0	0	0	0	0
# adults	# juveniles	# larvae	# egg masses	# unknown

☐ wintering ☐ breeding ☐ nesting ☐ rookery ☐ burrow site ☐ other

Location Description ***(please attach map AND/OR fill out your choice of coordinates, below)***

County: Riverside Landowner / Mgr.: Unknown
Quad Name: Fontana Elevation: 1061 ft.
T 1S R 4E Sec 4, SW ¼ of NW ¼, Meridian: H☐ M☐ S☐ Source of Coordinates (GPS, topo. map & type): GPS
T____ R____ Sec____, ____ ¼ of ____ ¼, Meridian: H☐ M☐ S☐ GPS Make & Model _____
DATUM: NAD27 ☐ NAD83 ☐ WGS84 ☑ Horizontal Accuracy 12m meters/feet
Coordinate System: UTM Zone 10 ☐ UTM Zone 11 ☐ *OR* Geographic (Latitude & Longitude) ☑
Coordinates: 34.032996 N, 117.410437 W

Habitat Description (plants & animals) *plant communities, dominants, associates, substrates/soils, aspects/slope:*
Animal Behavior *(Describe observed behavior, such as territoriality, foraging, singing, calling, copulating, perching, roosting, etc., especially for avifauna):*

Riversidean sage scrub / ornamental
Cooper's Hawk was observed in a row of olive trees adjacent to open space and a high-density residential area.

Please fill out separate form for other rare taxa seen at this site.

Site Information Overall site/occurrence quality/viability (site + population): ☐ Excellent ☑ Good ☐ Fair ☐ Poor
Immediate AND surrounding land use: Open space E and N, residential W and S
Visible disturbances: Ornamental trees (Olive), unimproved roads, off-road vehicle activities, residential
Threats: unknown
Comments: may be attracted to backyard bird feeders

Determination: *(check one or more, and fill in blanks)*
☐ Keyed (cite reference): _____
☐ Compared with specimen housed at: _____
☐ Compared with photo / drawing in: _____
☐ By another person (name): _____
☑ Other: extensive field experience in ID of species

Photographs: *(check one or more)*

	Slide	Print	Digital
Plant / animal	☐	☐	☐
Habitat	☐	☐	☑
Diagnostic feature	☐	☐	☐

May we obtain duplicates at our expense? yes ☑ no ☐

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Date of Field Work (mm/dd/yyyy): 07/17/2016

Reset

California Native Species Field Survey Form

Send Form

Scientific Name: *Accipiter cooperii*

Common Name: Cooper's Hawk

Species Found? ☑ Yes ☐ No _____ If not, why?

Total No. Individuals 1 Subsequent Visit? ☑ yes ☐ no

Is this an existing NDDB occurrence? _____ Yes, Occ. # ☐ no ☑ unk.

Collection? If yes: _____ Number _____ Museum / Herbarium

Reporter: Guy Bruyea
Address: L&L Environmental, Inc.
700 East Redlands Blvd., Suite U, PMB#351, Redlands, CA
E-mail Address: chrysina@hotmail.com
Phone: (951) 681-4929

Plant Information

Phenology: 60 % vegetative 40 % flowering 10 % fruiting

Animal Information

0	0	0	0	0
# adults	# juveniles	# larvae	# egg masses	# unknown

☐ wintering ☐ breeding ☐ nesting ☐ rookery ☐ burrow site ☐ other

Location Description ***(please attach map AND/OR fill out your choice of coordinates, below)***

County: Riverside Landowner / Mgr.: Unknown
Quad Name: Fontana Elevation: 1145 ft.
T 1S R 4E Sec 4, NE ¼ of NW ¼, Meridian: H☐ M☐ S☐ Source of Coordinates (GPS, topo. map & type): GPS
T____ R____ Sec ____, ____ ¼ of _____¼, Meridian: H☐ M☐ S☐ GPS Make & Model _____
DATUM: NAD27 ☐ NAD83 ☐ WGS84 ☑ Horizontal Accuracy 12m meters/feet
Coordinate System: UTM Zone 10 ☐ UTM Zone 11 ☐ ***OR*** Geographic (Latitude & Longitude) ☑
Coordinates: 34.027741 N, 117.413734 W

Habitat Description (plants & animals) *plant communities, dominants, associates, substrates/soils, aspects/slope:*
Animal Behavior *(Describe observed behavior, such as territoriality, foraging, singing, calling, copulating, perching, roosting, etc., especially for avifauna):*

Riversidean sage scrub
Cooper's Hawk was observed within a row of olive trees located between a residential neighborhood and the survey area.

Please fill out separate form for other rare taxa seen at this site.

Site Information Overall site/occurrence quality/viability (site + population): ☐ Excellent ☐ Good ☑ Fair ☐ Poor

Immediate AND surrounding land use: Open space W, E, S and N, residential to the SW

Visible disturbances: Ornamental trees (Olive), unimproved roads, off-road vehicle activities, dumping, high-density residential nearby

Threats: unknown

Comments:

Determination: *(check one or more, and fill in blanks)*
☐ Keyed (cite reference): _____
☐ Compared with specimen housed at: _____
☐ Compared with photo / drawing in: _____
☐ By another person (name): _____
☑ Other: extensive field experience in ID of species

Photographs: *(check one or more)* Slide Print Digital
Plant / animal ☐ ☐ ☐
Habitat ☐ ☐ ☑
Diagnostic feature ☐ ☐ ☐

May we obtain duplicates at our expense? yes ☑ no ☐

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Elm Code: _____ Occ No.: _____
EO Index: _____ Map Index: _____

Date of Field Work (mm/dd/yyyy): 07/09/2018

Clear Form

California Native Species Field Survey Form

Print Form

Scientific Name: *Accipiter cooperi*

Common Name: Cooper's hawk

Species Found? ○ Yes ○ No _____ If not found, why?

Total No. Individuals: 1 Subsequent Visit? ○ Yes ○ No

Is this an existing NDDB occurrence? _____ Yes, Occ. # ☐ No ☐ Unk.

Collection? If yes: _____ Number _____ Museum / Herbarium

Reporter: Guy Bruyea / L&L Environmental
Address: 700 East Redlands Blvd #U351
Redlands, CA 92373
E-mail Address: cwakeman@llenviroinc.com
Phone: 909.335.9897

Plant Information
Phenology:
_____ % vegetative _____ % flowering _____ % fruiting

Animal Information
1 # adults _____ # juveniles _____ # larvae _____ # egg masses _____ # unknown
☐ wintering ☐ breeding ☐ nesting ☐ rookery ☐ burrow site ☐ lek ☐ other

Location Description ***(please attach map AND/OR fill out your choice of coordinates, below)***

County: Riverside Landowner / Mgr: Private
Quad Name: Fontana Elevation: 1100'
T___ R___ Sec___, ___1/4 of ___ 1/4, Meridian: H ○ M ○ S ○ Source of Coordinates (GPS, topo. map & type): _____
T___ R___ Sec___, ___1/4 of ___ 1/4, Meridian: H ○ M ○ S ○ GPS Make & Model: _____
DATUM: NAD27 ○ NAD83 ○ WGS84 ◉ Horizontal Accuracy: _____ meters/feet
Coordinate System: UTM Zone 10 ○ UTM Zone 11 ○ ***OR*** Geographic (Latitude & Longitude) ◉
Coordinates: 34.029119 N, 117.412982 W

Habitat Description (plants & animals) *plant communities, dominants, associates, substrates/soils, aspects/slope:*
Animal Behavior *(Describe observed behavior, such as territoriality, foraging, singing, calling, copulating, perching, roosting, etc., especially for avifauna):*

Please fill out separate form for other rare taxa seen at this site.

Site Information Overall site/occurrence quality/viability (site + population): ○ Excellent ○ Good ○ Fair ○ Poor
Immediate AND surrounding land use: _____
Visible disturbances: _____
Threats: planned development
Comments:

Determination: *(check one or more, and fill in blanks)*
☐ Keyed (cite reference): _____
☐ Compared with specimen housed at: _____
☐ Compared with photo / drawing in: _____
☐ By another person (name): _____
☒ Other: identified by experienced field biologist

Photographs: *(check one or more)*

	Slide	Print	Digital
Plant / animal	☐	☐	☐
Habitat	☐	☐	☐
Diagnostic feature	☐	☐	☐

May we obtain duplicates at our expense? ○ yes ○ no

CDFW/BDB/1747 Rev. 7/15/2015

Mail to:
California Natural Diversity Database
Department of Fish and Game
1807 13th Street, Suite 202
Sacramento, CA 95811
Fax: (916) 324-0475 email: CNDDB@dfg.ca.gov

For Office Use Only
Source Code _____ Quad Code _____
Elm Code _____ Occ. No. _____
EO Index No. _____ Map Index No. _____

Date of Field Work (mm/dd/yyyy): 05/15/2014

Reset

California Native Species Field Survey Form

Send Form

Scientific Name: *Carduelis lawrencei*

Common Name: Lawrence's Goldfinch

Species Found? ☑ Yes ☐ No _____ If not, why?

Total No. Individuals 5 Subsequent Visit? ☐ yes ☐ no

Is this an existing NDDB occurrence? _____ Yes, Occ. # ☐ no ☑ unk.

Collection? If yes: _____ Number _____ Museum / Herbarium

Reporter: Guy Bruyea
Address: L&L Environmental, Inc.
700 East Redlands Blvd., Suite U, PMB#351, Redlands, CA
E-mail Address: chrysina@hotmail.com
Phone: (951) 681-4929

Plant Information

Phenology: 60 % vegetative 40 % flowering 10 % fruiting

Animal Information

0	0	0	0	0
# adults	# juveniles	# larvae	# egg masses	# unknown

☐ wintering ☐ breeding ☐ nesting ☐ rookery ☐ burrow site ☐ other

Location Description ***(please attach map AND/OR fill out your choice of coordinates, below)***

County: Riverside Landowner / Mgr.: Unknown
Quad Name: Fontana Elevation: 1084 ft.
T 1S R 4E Sec 4, SW ¼ of NW ¼, Meridian: H☐ M☐ S☐ Source of Coordinates (GPS, topo. map & type): GPS
T____ R____ Sec ____, ____ ¼ of _____¼, Meridian: H☐ M☐ S☐ GPS Make & Model _____
DATUM: NAD27 ☐ NAD83 ☐ WGS84 ☑ Horizontal Accuracy 12m meters/feet
Coordinate System: UTM Zone 10 ☐ UTM Zone 11 ☐ ***OR*** Geographic (Latitude & Longitude) ☑
Coordinates: 34.025808 N, 117.399414 W

Habitat Description (plants & animals) *plant communities, dominants, associates, substrates/soils, aspects/slope:*
Animal Behavior *(Describe observed behavior, such as territoriality, foraging, singing, calling, copulating, perching, roosting, etc., especially for avifauna):*

A mix of Riversidean sage scrub (brittlebush dominant) and disturbed lands
LAGO was observed within a group of annual sunflowers (Helianthus annuus).

Please fill out separate form for other rare taxa seen at this site.

Site Information Overall site/occurrence quality/viability (site + population): ☐ Excellent ☑ Good ☐ Fair ☐ Poor

Immediate AND surrounding land use: Open space

Visible disturbances: unimproved roads/residential development just west, off-road vehicle activity

Threats: unknown

Comments:

Determination: *(check one or more, and fill in blanks)*
☐ Keyed (cite reference): _____
☐ Compared with specimen housed at: _____
☐ Compared with photo / drawing in: _____
☐ By another person (name): _____
☑ Other: extensive field experience in ID of species

Photographs: *(check one or more)*

	Slide	Print	Digital
Plant / animal	☐	☐	☐
Habitat	☐	☐	☑
Diagnostic feature	☐	☐	☐

May we obtain duplicates at our expense? yes ☑ no ☐

DFG/BDB/1747 Rev. 6/16/09

Mail to:
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Department of Fish and Game
1807 13th Street, Suite 202
Sacramento, CA 95811
Fax: (916) 324-0475 email: CNDDB@dfg.ca.gov

Date of Field Work (mm/dd/yyyy): 10/26/2016

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Source Code _____ Quad Code _____
Elm Code _____ Occ. No. _____
EO Index No. _____ Map Index No. _____

Reset

California Native Species Field Survey Form

Send Form

Scientific Name: *Circus cyaneus*

Common Name: Northern Harrier

Species Found? ☑ Yes ☐ No _____ If not, why?

Total No. Individuals 1 Subsequent Visit? ☐ yes ☐ no

Is this an existing NDDB occurrence? _____ Yes, Occ. # ☐ no ☑ unk.

Collection? If yes: _____ Number _____ Museum / Herbarium

Reporter: Guy Bruyea
Address: L&L Environmental, Inc.
700 East Redlands Blvd., Suite U, PMB#351, Redlands, CA
E-mail Address: chrysina@hotmail.com
Phone: (951) 681-4929

Plant Information

Phenology: 90 % vegetative 10 % flowering 20 % fruiting

Animal Information

0	0	0	0	0
# adults	# juveniles	# larvae	# egg masses	# unknown

☐ wintering ☐ breeding ☐ nesting ☐ rookery ☐ burrow site ☐ other

Location Description ***(please attach map AND/OR fill out your choice of coordinates, below)***

County: Riverside Landowner / Mgr.: Unknown
Quad Name: Fontana Elevation: 1048 ft.
T 1S R 4E Sec 4, NE ¼ of NW ¼, Meridian: H☐ M☐ S☐ Source of Coordinates (GPS, topo. map & type): GPS
T____ R____ Sec ____, ____ ¼ of _____¼, Meridian: H☐ M☐ S☐ GPS Make & Model _____
DATUM: NAD27 ☐ NAD83 ☐ WGS84 ☑ Horizontal Accuracy 12m meters/feet
Coordinate System: UTM Zone 10 ☐ UTM Zone 11 ☐ ***OR*** Geographic (Latitude & Longitude) ☑
Coordinates: 34.024434 N, 117.415952 W

Habitat Description (plants & animals) *plant communities, dominants, associates, substrates/soils, aspects/slope:*
Animal Behavior *(Describe observed behavior, such as territoriality, foraging, singing, calling, copulating, perching, roosting, etc., especially for avifauna):*

Riversidean sage scrub
Northern Harrier was observed flying along side a row of olive trees located between a residential neighborhood and the survey area.

Please fill out separate form for other rare taxa seen at this site.

Site Information Overall site/occurrence quality/viability (site + population): ☐ Excellent ☐ Good ☑ Fair ☐ Poor

Immediate AND surrounding land use: Open space W, E, S and N, residential to the SW

Visible disturbances: Ornamental trees (Olive), unimproved roads, off-road vehicle activities, dumping, high-density residential nearby

Threats: unknown

Comments:

Determination: *(check one or more, and fill in blanks)*
☐ Keyed (cite reference): _____
☐ Compared with specimen housed at: _____
☐ Compared with photo / drawing in: _____
☐ By another person (name): _____
☑ Other: extensive field experience in ID of species

Photographs: *(check one or more)*

	Slide	Print	Digital
Plant / animal	☐	☐	☐
Habitat	☐	☐	☑
Diagnostic feature	☐	☐	☐

May we obtain duplicates at our expense? yes ☑ no ☐

DFG/BDB/1747 Rev. 6/16/09

Mail to:
California Natural Diversity Database
California Dept. of Fish & Wildlife
1807 13th Street, Suite 202
Sacramento, CA 95811
Fax: (916) 324-0475 email: CNDDB@wildlife.ca.gov

Date of Field Work (mm/dd/yyyy): 06/07/2017

For Office Use Only
Source Code _____ Quad Code _____
Elm Code _____ Occ. No. _____
EO Index No. _____ Map Index No. _____

Reset

California Native Species Field Survey Form

Send Form

Scientific Name: Polioptila californica californica

Common Name: Coastal California Gnatcatcher

Species Found? ☑ Yes ☐ No _____ If not, why?

Total No. Individuals 3 Subsequent Visit? ☐ yes ☐ no

Is this an existing NDDB occurrence? _____ Yes, Occ. # ☐ no ☐ unk.

Collection? If yes: _____ Number _____ Museum / Herbarium

Reporter: Melanie Dics
Address: PO Box 1333 Black Canyon City AZ 85324

E-mail Address: redspottedpurple@aol.com
Phone: (623) 308-2455

Plant Information

Phenology: _____% vegetative _____% flowering _____% fruiting

Animal Information

_____ # adults _____ # juveniles _____ # larvae _____ # egg masses 3 # unknown

☐ wintering ☐ breeding ☐ nesting ☐ rookery ☐ burrow site ☐ other

Location Description ***(please attach map AND/OR fill out your choice of coordinates, below)***

The site is located north of Highway 60, east of Armstrong Road, west of Rubidoux Blvd, and south of 7th Street.

County: Riverside Landowner / Mgr.: Private

Quad Name: Fontana Elevation: 1132 ft, 1464 ft

T____ R____ Sec ____, ____ ¼ of _____¼, Meridian: H☐ M☐ S☐ Source of Coordinates (GPS, topo. map & type): GPS

T____ R____ Sec ____, ____ ¼ of _____¼, Meridian: H☐ M☐ S☐ GPS Make & Model Garmin 60CSX

DATUM: NAD27 ☐ NAD83 ☑ WGS84 ☐ Horizontal Accuracy 9 feet meters/feet

Coordinate System: UTM Zone 10 ☐ UTM Zone 11 ☐ ***OR*** Geographic (Latitude & Longitude) ☑

Coordinates:

Habitat Description (plants & animals) *plant communities, dominants, associates, substrates/soils, aspects/slope:*

Animal Behavior *(Describe observed behavior, such as territoriality, foraging, singing, calling, copulating, perching, roosting, etc., especially for avifauna):*

Two California Gnatcatchers were observed on 06/06/2017 on a ridge line. They stopped briefly on the ridge, vocalized several times, and flew to the northeast where they were lost on the steep east-facing slope. One individual was identified as a juvenile or female (lacked the black cap); the other individual could not be acquired with binoculars before flying out of view. A second California Gnatcatcher sighting was made on 06/07/2017 when an individual (juvenile or female) vocalized once and moved quickly through the surey area toward the west. The habitats in both of these locations are dominated by non-native plants (Brassica tournefortii, Hirschfeldia incana, Bromus diandrus, Bromus rubens, etc) with scattered Encelia farinosa and small, sparse Artemisia californica. Given the behavior of the Gnatcatchers moving rapidly through the area, it seems likely the individuals were dispersing juveniles.

Please fill out separate form for other rare taxa seen at this site.

Site Information Overall site/occurrence quality/viability (site + population): ☐ Excellent ☐ Good ☑ Fair ☐ Poor

Immediate AND surrounding land use: Immediate use: disturbed open space; surrounding use: disturbed open space, residential

Visible disturbances: ORV and pedestrian traffic, non-native plants, homeless camps, dumping

Threats: potential development; non-native plants, ORV

Comments: observations were made incidental to conducting other surveys

Determination: *(check one or more, and fill in blanks)*

☐ Keyed (cite reference): _____
☐ Compared with specimen housed at: _____
☐ Compared with photo / drawing in: _____
☐ By another person (name): _____
☑ Other: Personal experience; I am permitted to conduct surveys for California Gnatcatcher and have identified the

Photographs: *(check one or more)*

	Slide	Print	Digital
Plant / animal	☐	☐	☐
Habitat	☐	☐	☐
Diagnostic feature	☐	☐	☐

May we obtain duplicates at our expense? yes☐ no☐

CDFW/BDB/1747 Rev. 4/26/13

Mail to:
California Natural Diversity Database
Department of Fish and Game
1807 13th Street, Suite 202
Sacramento, CA 95811
Fax: (916) 324-0475 email: CNDDB@dfg.ca.gov

For Office Use Only
Source Code _____ Quad Code _____
Elm Code _____ Occ. No. _____
EO Index No. _____ Map Index No. _____

Date of Field Work (mm/dd/yyyy): 05/07/2014

Reset

California Native Species Field Survey Form

Send Form

Scientific Name: *Aimophila ruficeps canescens*

Common Name: Southern California rufous-crowned sparrow

Species Found? ☑ Yes ☐ No _____ If not, why?

Total No. Individuals 1 Subsequent Visit? ☐ yes ☑ no

Is this an existing NDDB occurrence? _____ Yes, Occ. # ☐ no ☑ unk.

Collection? If yes: _____ Number _____ Museum / Herbarium

Reporter: Guy Bruyea
Address: L&L Environmental, Inc.
700 East Redlands Blvd., Suite U, PMB#351, Redlands, CA
E-mail Address: chrysina@hotmail.com
Phone: (951) 681-4929

Plant Information

Phenology: 60 % vegetative 40 % flowering 10 % fruiting

Animal Information

0 # adults 0 # juveniles 0 # larvae 0 # egg masses 0 # unknown

☐ wintering ☐ breeding ☐ nesting ☐ rookery ☐ burrow site ☐ other

Location Description ***(please attach map AND/OR fill out your choice of coordinates, below)***

County: Riverside Landowner / Mgr.: Unknown
Quad Name: Fontana Elevation: 1487 ft.
T 1S R 4E Sec 4, NW ¼ of NE ¼, Meridian: H☐ M☐ S☐ Source of Coordinates (GPS, topo. map & type): GPS
T____ R____ Sec____, ____ ¼ of ____ ¼, Meridian: H☐ M☐ S☐ GPS Make & Model _____
DATUM: NAD27 ☐ NAD83 ☐ WGS84 ☑ Horizontal Accuracy 12m meters/feet
Coordinate System: UTM Zone 10 ☐ UTM Zone 11 ☐ ***OR*** Geographic (Latitude & Longitude) ☑
Coordinates: 34.032723 N, 117.404135 W

Habitat Description (plants & animals) *plant communities, dominants, associates, substrates/soils, aspects/slope:*
Animal Behavior *(Describe observed behavior, such as territoriality, foraging, singing, calling, copulating, perching, roosting, etc., especially for avifauna):*

Riversidean sage scrub / mixed chaparral
RCSP was observed perched within a patch of California buckwheat (Eriogonum fasciculatum), with patches of chamise (Adenostoma fasciculatum and black sage (Salvia mellifera) nearby.

Please fill out separate form for other rare taxa seen at this site.

Site Information Overall site/occurrence quality/viability (site + population): ☐ Excellent ☑ Good ☐ Fair ☐ Poor

Immediate AND surrounding land use: Open space

Visible disturbances: unimproved roads/residential developments W and E, off-road vehicle activity

Threats: unknown

Comments:

Determination: *(check one or more, and fill in blanks)*
☐ Keyed (cite reference): _____
☐ Compared with specimen housed at: _____
☐ Compared with photo / drawing in: _____
☐ By another person (name): _____
☑ Other: extensive field experience in ID of species

Photographs: *(check one or more)* Slide Print Digital
Plant / animal ☐ ☐ ☐
Habitat ☐ ☐ ☑
Diagnostic feature ☐ ☐ ☐

May we obtain duplicates at our expense? yes ☑ no ☐

DFG/BDB/1747 Rev. 6/16/09

Mail to:
California Natural Diversity Database
Department of Fish and Game
1807 13th Street, Suite 202
Sacramento, CA 95811
Fax: (916) 324-0475 email: CNDDB@dfg.ca.gov

Date of Field Work (mm/dd/yyyy): 05/06/2016

For Office Use Only
Source Code _____ Quad Code _____
Elm Code _____ Occ. No. _____
EO Index No. _____ Map Index No. _____

Reset

California Native Species Field Survey Form

Send Form

Scientific Name: *Aimophila ruficeps canescens*

Common Name: Southern California rufous-crowned sparrow

Species Found? ☑ Yes ☐ No _____ If not, why?

Total No. Individuals 1 Subsequent Visit? ☐ yes ☑ no

Is this an existing NDDB occurrence? _____ Yes, Occ. # ☐ no ☑ unk.

Collection? If yes: _____ Number _____ Museum / Herbarium

Reporter: Guy Bruyea
Address: L&L Environmental, Inc.
700 East Redlands Blvd., Suite U, PMB#351, Redlands, CA
E-mail Address: chrysina@hotmail.com
Phone: (951) 681-4929

Plant Information

Phenology: 60 % vegetative 40 % flowering 10 % fruiting

Animal Information

0	0	0	0	0
# adults	# juveniles	# larvae	# egg masses	# unknown

☐ wintering ☐ breeding ☐ nesting ☐ rookery ☐ burrow site ☐ other

Location Description ***(please attach map AND/OR fill out your choice of coordinates, below)***

County: Riverside Landowner / Mgr.: Unknown
Quad Name: Fontana Elevation: 1360 ft.
T 1S R 4E Sec 4, NW ¼ of NE ¼, Meridian: H☐ M☐ S☐ Source of Coordinates (GPS, topo. map & type): GPS
T____ R____ Sec ____, ____ ¼ of _____¼, Meridian: H☐ M☐ S☐ GPS Make & Model _____
DATUM: NAD27 ☐ NAD83 ☐ WGS84 ☑ Horizontal Accuracy 12m meters/feet
Coordinate System: UTM Zone 10 ☐ UTM Zone 11 ☐ ***OR*** Geographic (Latitude & Longitude) ☑
Coordinates: 34.032270 N, 117.405278 W

Habitat Description (plants & animals) *plant communities, dominants, associates, substrates/soils, aspects/slope:*
Animal Behavior *(Describe observed behavior, such as territoriality, foraging, singing, calling, copulating, perching, roosting, etc., especially for avifauna):*

Riversidean sage scrub / mixed chaparral
RCSP was observed perched within a patch of California buckwheat (Eriogonum fasciculatum) and brittlebush (Encelia farinosa), with patches of chamise (Adenostoma fasciculatum) nearby.

Please fill out separate form for other rare taxa seen at this site.

Site Information Overall site/occurrence quality/viability (site + population): ☐ Excellent ☑ Good ☐ Fair ☐ Poor

Immediate AND surrounding land use: Open space

Visible disturbances: unimproved roads/residential developments W and E, off-road vehicle activity

Threats: unknown

Comments:

Determination: *(check one or more, and fill in blanks)*
☐ Keyed (cite reference): _____
☐ Compared with specimen housed at: _____
☐ Compared with photo / drawing in: _____
☐ By another person (name): _____
☑ Other: extensive field experience in ID of species

Photographs: *(check one or more)*

	Slide	Print	Digital
Plant / animal	☐	☐	☐
Habitat	☐	☐	☑
Diagnostic feature	☐	☐	☐

May we obtain duplicates at our expense? yes ☑ no ☐

DFG/BDB/1747 Rev. 6/16/09

Mail to:
California Natural Diversity Database
Department of Fish and Game
1807 13th Street, Suite 202
Sacramento, CA 95811
Fax: (916) 324-0475 email: CNDDB@dfg.ca.gov

Date of Field Work (mm/dd/yyyy): 06/15/2014

For Office Use Only
Source Code _____ Quad Code _____
Elm Code _____ Occ. No. _____
EO Index No. _____ Map Index No. _____

Reset

California Native Species Field Survey Form

Send Form

Scientific Name: *Lepus californicus*

Common Name: Black-tailed Jackrabbit

Species Found? ☑ Yes ☐ No _____ If not, why?

Total No. Individuals 1 Subsequent Visit? ☑ yes ☐ no

Is this an existing NDDB occurrence? _____ Yes, Occ. # ☐ no ☑ unk.

Collection? If yes: _____ Number _____ Museum / Herbarium

Reporter: Guy Bruyea
Address: L&L Environmental, Inc.
700 East Redlands Blvd., Suite U, PMB#351, Redlands, CA
E-mail Address: chrysina@hotmail.com
Phone: (951) 681-4929

Plant Information

Phenology: 60 % vegetative 40 % flowering 10 % fruiting

Animal Information

0 # adults 0 # juveniles 0 # larvae 0 # egg masses 0 # unknown

☐ wintering ☐ breeding ☐ nesting ☐ rookery ☐ burrow site ☐ other

Location Description ***(please attach map AND/OR fill out your choice of coordinates, below)***

County: Riverside Landowner / Mgr.: Unknown
Quad Name: Fontana Elevation: 1084 ft.
T 1S R 4E Sec 4, SW ¼ of NW ¼, Meridian: H☐ M☐ S☐ Source of Coordinates (GPS, topo. map & type): GPS
T____ R____ Sec____, ____ ¼ of ____ ¼, Meridian: H☐ M☐ S☐ GPS Make & Model _____
DATUM: NAD27 ☐ NAD83 ☐ WGS84 ☑ Horizontal Accuracy 12m meters/feet
Coordinate System: UTM Zone 10 ☐ UTM Zone 11 ☐ ***OR*** Geographic (Latitude & Longitude) ☑
Coordinates: 34.027385 N, 117.413317 W

Habitat Description (plants & animals) *plant communities, dominants, associates, substrates/soils, aspects/slope:*
Animal Behavior *(Describe observed behavior, such as territoriality, foraging, singing, calling, copulating, perching, roosting, etc., especially for avifauna):*

Riversidean sage scrub
BTJA was observed running along unimproved road/trail.

Please fill out separate form for other rare taxa seen at this site.

Site Information Overall site/occurrence quality/viability (site + population): ☐ Excellent ☑ Good ☐ Fair ☐ Poor

Immediate AND surrounding land use: Open space

Visible disturbances: unimproved roads/residential development just west, off-road vehicle activity

Threats: unknown

Comments:

Determination: *(check one or more, and fill in blanks)*

☐ Keyed (cite reference): _____
☐ Compared with specimen housed at: _____
☐ Compared with photo / drawing in: _____
☐ By another person (name): _____
☑ Other: extensive field experience in ID of species

Photographs: *(check one or more)* Slide Print Digital

	Slide	Print	Digital
Plant / animal	☐	☐	☐
Habitat	☐	☐	☑
Diagnostic feature	☐	☐	☐

May we obtain duplicates at our expense? yes ☑ no ☐

DFG/BDB/1747 Rev. 6/16/09

Mail to:
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Department of Fish and Game
1807 13th Street, Suite 202
Sacramento, CA 95811
Fax: (916) 324-0475 email: CNDDB@dfg.ca.gov

Date of Field Work (mm/dd/yyyy): 07/19/2014

For Office Use Only
Source Code _____ Quad Code _____
Elm Code _____ Occ. No. _____
EO Index No. _____ Map Index No. _____

Reset

California Native Species Field Survey Form

Send Form

Scientific Name: *Lepus californicus*

Common Name: Black-tailed Jackrabbit

Species Found? ☑ Yes ☐ No _____ If not, why?

Total No. Individuals 1 Subsequent Visit? ☐ yes ☑ no

Is this an existing NDDB occurrence? _____ Yes, Occ. # ☐ no ☑ unk.

Collection? If yes: _____ Number _____ Museum / Herbarium

Reporter: Guy Bruyea
Address: L&L Environmental, Inc.
700 East Redlands Blvd., Suite U, PMB#351, Redlands, CA
E-mail Address: chrysina@hotmail.com
Phone: (951) 681-4929

Plant Information

Phenology: 60 % vegetative 40 % flowering 10 % fruiting

Animal Information

0 # adults 0 # juveniles 0 # larvae 0 # egg masses 0 # unknown

☐ wintering ☐ breeding ☐ nesting ☐ rookery ☐ burrow site ☐ other

Location Description ***(please attach map AND/OR fill out your choice of coordinates, below)***

County: Riverside Landowner / Mgr.: Unknown
Quad Name: Fontana Elevation: 998 ft.
T 1S R 4E Sec 9, SE ¼ of NW ¼, Meridian: H☐ M☐ S☐ Source of Coordinates (GPS, topo. map & type): GPS
T____ R____ Sec____, ____ ¼ of ____ ¼, Meridian: H☐ M☐ S☐ GPS Make & Model _____
DATUM: NAD27 ☐ NAD83 ☐ WGS84 ☑ Horizontal Accuracy 12m meters/feet
Coordinate System: UTM Zone 10 ☐ UTM Zone 11 ☐ ***OR*** Geographic (Latitude & Longitude) ☑
Coordinates: 34.012518 N, 117.412604 W

Habitat Description (plants & animals) *plant communities, dominants, associates, substrates/soils, aspects/slope:*
Animal Behavior *(Describe observed behavior, such as territoriality, foraging, singing, calling, copulating, perching, roosting, etc., especially for avifauna):*

Riversidean sage scrub
BTJA was observed running NE in RSS

Please fill out separate form for other rare taxa seen at this site.

Site Information Overall site/occurrence quality/viability (site + population): ☐ Excellent ☑ Good ☐ Fair ☐ Poor

Immediate AND surrounding land use: Open space

Visible disturbances: unimproved roads/residential developments S, W and E, off-road vehicle activity

Threats: unknown

Comments:

Determination: *(check one or more, and fill in blanks)*
☐ Keyed (cite reference): _____
☐ Compared with specimen housed at: _____
☐ Compared with photo / drawing in: _____
☐ By another person (name): _____
☑ Other: extensive field experience in ID of species

Photographs: *(check one or more)* Slide Print Digital
Plant / animal ☐ ☐ ☐
Habitat ☐ ☐ ☑
Diagnostic feature ☐ ☐ ☐

May we obtain duplicates at our expense? yes ☑ no ☐

DFG/BDB/1747 Rev. 6/16/09

Mail to:
California Natural Diversity Database
Department of Fish and Game
1807 13th Street, Suite 202
Sacramento, CA 95811
Fax: (916) 324-0475 email: CNDDB@dfg.ca.gov

Date of Field Work (mm/dd/yyyy): 06/30/2016

For Office Use Only
Source Code _____ Quad Code _____
Elm Code _____ Occ. No. _____
EO Index No. _____ Map Index No. _____

Reset

California Native Species Field Survey Form

Send Form

Scientific Name: *Lepus californicus*

Common Name: Black-tailed Jackrabbit

Species Found? ☑ Yes ☐ No _____ If not, why?

Total No. Individuals 1 Subsequent Visit? ☐ yes ☐ no

Is this an existing NDDB occurrence? _____ Yes, Occ. # ☐ no ☑ unk.

Collection? If yes: _____ Number _____ Museum / Herbarium

Reporter: Guy Bruyea
Address: L&L Environmental, Inc.
700 East Redlands Blvd., Suite U, PMB#351, Redlands, CA
E-mail Address: chrysina@hotmail.com
Phone: (951) 681-4929

Plant Information

Phenology: 60 % vegetative 40 % flowering 10 % fruiting

Animal Information

0	0	0	0	0
# adults	# juveniles	# larvae	# egg masses	# unknown

☐ wintering ☐ breeding ☐ nesting ☐ rookery ☐ burrow site ☐ other

Location Description ***(please attach map AND/OR fill out your choice of coordinates, below)***

County: Riverside Landowner / Mgr.: Unknown
Quad Name: Fontana Elevation: 1125 ft.
T 1S R 4E Sec 4, SW ¼ of NW ¼, Meridian: H☐ M☐ S☐ Source of Coordinates (GPS, topo. map & type): GPS
T____ R____ Sec ____, ____ ¼ of _____¼, Meridian: H☐ M☐ S☐ GPS Make & Model _____
DATUM: NAD27 ☐ NAD83 ☐ WGS84 ☑ Horizontal Accuracy 12m meters/feet
Coordinate System: UTM Zone 10 ☐ UTM Zone 11 ☐ ***OR*** Geographic (Latitude & Longitude) ☑
Coordinates: 34.025034 N, 117.404338 W

Habitat Description (plants & animals) *plant communities, dominants, associates, substrates/soils, aspects/slope:*
Animal Behavior *(Describe observed behavior, such as territoriality, foraging, singing, calling, copulating, perching, roosting, etc., especially for avifauna):*

Riversidean sage scrub with brittlebush (Encelia farinosa) dominant
BTJA was observed running along unimproved road/trail.

Please fill out separate form for other rare taxa seen at this site.

Site Information Overall site/occurrence quality/viability (site + population): ☐ Excellent ☑ Good ☐ Fair ☐ Poor

Immediate AND surrounding land use: Open space

Visible disturbances: unimproved roads/residential development just west, off-road vehicle activity

Threats: unknown

Comments:

Determination: *(check one or more, and fill in blanks)*
☐ Keyed (cite reference): _____
☐ Compared with specimen housed at: _____
☐ Compared with photo / drawing in: _____
☐ By another person (name): _____
☑ Other: extensive field experience in ID of species

Photographs: *(check one or more)*

	Slide	Print	Digital
Plant / animal	☐	☐	☐
Habitat	☐	☐	☑
Diagnostic feature	☐	☐	☐

May we obtain duplicates at our expense? yes ☑ no ☐

DFG/BDB/1747 Rev. 6/16/09

Mail to:
California Natural Diversity Database
California Dept. of Fish & Wildlife
1416 9th Street, Suite 1266
Sacramento, CA 95814
Fax: (916) 324-0475 email: CNDDB@wildlife.ca.gov

For Office Use Only
Source Code: _____ Quad Code: _____
Elm Code: _____ Occ No.: _____
EO Index: _____ Map Index: _____

Date of Field Work (mm/dd/yyyy): 04/27/2018

Clear Form

California Native Species Field Survey Form

Print Form

Scientific Name: *Lepus californicus bennettii*

Common Name: Black-tailed jackrabbit

Species Found? ○ Yes ○ No _____ If not found, why?

Total No. Individuals: 1 Subsequent Visit? ○ Yes ○ No

Is this an existing NDDB occurrence? _____ Yes, Occ. # ☐ No ☐ Unk.

Collection? If yes: _____ Number _____ Museum / Herbarium

Reporter: Guy Bruyea / L&L Environmental
Address: 700 East Redlands Blvd #U351
Redlands, CA 92373
E-mail Address: cwakeman@llenviroinc.com
Phone: 909.335.9897

Plant Information
Phenology:
_____ % vegetative _____ % flowering _____ % fruiting

Animal Information
1 # adults _____ # juveniles _____ # larvae _____ # egg masses _____ # unknown
☐ wintering ☐ breeding ☐ nesting ☐ rookery ☐ burrow site ☐ lek ☐ other

Location Description *(please attach map AND/OR fill out your choice of coordinates, below)*

County: Riverside Landowner / Mgr: Private
Quad Name: Fontana Elevation: 1145'
T___ R___ Sec___, ___1/4 of ___ 1/4, Meridian: H ○ M ○ S ○ Source of Coordinates (GPS, topo. map & type): _____
T___ R___ Sec___, ___1/4 of ___ 1/4, Meridian: H ○ M ○ S ○ GPS Make & Model: _____
DATUM: NAD27 ○ NAD83 ○ WGS84 ◉ Horizontal Accuracy: _____ meters/feet
Coordinate System: UTM Zone 10 ○ UTM Zone 11 ○ *OR* Geographic (Latitude & Longitude) ◉
Coordinates: 34.022570 N, 117.405073 W

Habitat Description (plants & animals) *plant communities, dominants, associates, substrates/soils, aspects/slope:*
Animal Behavior *(Describe observed behavior, such as territoriality, foraging, singing, calling, copulating, perching, roosting, etc., especially for avifauna):*

Please fill out separate form for other rare taxa seen at this site.

Site Information Overall site/occurrence quality/viability (site + population): ○ Excellent ○ Good ○ Fair ○ Poor
Immediate AND surrounding land use: _____
Visible disturbances: _____
Threats: planned development
Comments:

Determination: *(check one or more, and fill in blanks)*
☐ Keyed (cite reference): _____
☐ Compared with specimen housed at: _____
☐ Compared with photo / drawing in: _____
☐ By another person (name): _____
☒ Other: identified by experienced field biologist

Photographs: *(check one or more)*

	Slide	Print	Digital
Plant / animal	☐	☐	☐
Habitat	☐	☐	☐
Diagnostic feature	☐	☐	☐

May we obtain duplicates at our expense? ○ yes ○ no

CDFW/BDB/1747 Rev. 7/15/2015

Mail to:
California Natural Diversity Database
California Dept. of Fish & Wildlife
1416 9th Street, Suite 1266
Sacramento, CA 95814
Fax: (916) 324-0475 email: CNDDB@wildlife.ca.gov

For Office Use Only
Source Code: _____ Quad Code: _____
Elm Code: _____ Occ No.: _____
EO Index: _____ Map Index: _____

Date of Field Work (mm/dd/yyyy): 05/03/2018

Clear Form

California Native Species Field Survey Form

Print Form

Scientific Name: *Lepus californicus bennettii*

Common Name: Black-tailed jackrabbit

Species Found? ○ Yes ○ No _____ If not found, why?

Total No. Individuals: 1 Subsequent Visit? ○ Yes ○ No

Is this an existing NDDB occurrence? _____ Yes, Occ. # ☐ No ☐ Unk.

Collection? If yes: _____ Number _____ Museum / Herbarium

Reporter: Guy Bruyea / L&L Environmental
Address: 700 East Redlands Blvd #U351
Redlands, CA 92373
E-mail Address: cwakeman@llenviroinc.com
Phone: 909.335.9897

Plant Information
Phenology:
_____ % vegetative _____ % flowering _____ % fruiting

Animal Information
1 # adults _____ # juveniles _____ # larvae _____ # egg masses _____ # unknown
☐ wintering ☐ breeding ☐ nesting ☐ rookery ☐ burrow site ☐ lek ☐ other

Location Description ***(please attach map AND/OR fill out your choice of coordinates, below)***

County: Riverside Landowner / Mgr: Private
Quad Name: Fontana Elevation: 1116'
T___ R___ Sec___, ___1/4 of ___ 1/4, Meridian: H ○ M ○ S ○ Source of Coordinates (GPS, topo. map & type): _____
T___ R___ Sec___, ___1/4 of ___ 1/4, Meridian: H ○ M ○ S ○ GPS Make & Model: _____
DATUM: NAD27 ○ NAD83 ○ WGS84 ◉ Horizontal Accuracy: _____ meters/feet
Coordinate System: UTM Zone 10 ○ UTM Zone 11 ○ ***OR*** Geographic (Latitude & Longitude) ◉
Coordinates: 34.032485 N, 117.411073 W

Habitat Description (plants & animals) *plant communities, dominants, associates, substrates/soils, aspects/slope:*
Animal Behavior *(Describe observed behavior, such as territoriality, foraging, singing, calling, copulating, perching, roosting, etc., especially for avifauna):*

Please fill out separate form for other rare taxa seen at this site.

Site Information Overall site/occurrence quality/viability (site + population): ○ Excellent ○ Good ○ Fair ○ Poor
Immediate AND surrounding land use: _____
Visible disturbances: _____
Threats: planned development
Comments:

Determination: *(check one or more, and fill in blanks)*
☐ Keyed (cite reference): _____
☐ Compared with specimen housed at: _____
☐ Compared with photo / drawing in: _____
☐ By another person (name): _____
☒ Other: identified by experienced field biologist

Photographs: *(check one or more)*

	Slide	Print	Digital
Plant / animal	☐	☐	☐
Habitat	☐	☐	☐
Diagnostic feature	☐	☐	☐

May we obtain duplicates at our expense? ○ yes ○ no

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Mail to:
California Natural Diversity Database
Department of Fish and Game
1807 13th Street, Suite 202
Sacramento, CA 95811
Fax: (916) 324-0475 email: CNDDB@dfg.ca.gov

Date of Field Work (mm/dd/yyyy): 06/02/2016

For Office Use Only
Source Code _____ Quad Code _____
Elm Code _____ Occ. No. _____
EO Index No. _____ Map Index No. _____

Reset

California Native Species Field Survey Form

Send Form

Scientific Name: *Aspidoscelis hyperythrus beldingi*

Common Name: Orange-throated Whiptail

Species Found? ☑ Yes ☐ No _____ If not, why?

Total No. Individuals 1 Subsequent Visit? ☐ yes ☐ no

Is this an existing NDDB occurrence? _____ Yes, Occ. # ☐ no ☑ unk.

Collection? If yes: _____ Number _____ Museum / Herbarium

Reporter: Guy Bruyea
Address: L&L Environmental, Inc.
700 East Redlands Blvd., Suite U, PMB#351, Redlands, CA
E-mail Address: chrysina@hotmail.com
Phone: (951) 681-4929

Plant Information

Phenology: 60 % vegetative 40 % flowering 10 % fruiting

Animal Information

0 # adults 0 # juveniles 0 # larvae 0 # egg masses 0 # unknown

☐ wintering ☐ breeding ☐ nesting ☐ rookery ☐ burrow site ☐ other

Location Description **(please attach map AND/OR fill out your choice of coordinates, below)**

County: Riverside Landowner / Mgr.: Unknown
Quad Name: Fontana Elevation: 972 ft.
T 1S R 4E Sec 4, SW ¼ of NW ¼, Meridian: H☐ M☐ S☐ Source of Coordinates (GPS, topo. map & type): GPS
T____ R____ Sec ____, ____ ¼ of _____¼, Meridian: H☐ M☐ S☐ GPS Make & Model _____
DATUM: NAD27 ☐ NAD83 ☐ WGS84 ☑ Horizontal Accuracy 12m meters/feet
Coordinate System: UTM Zone 10 ☐ UTM Zone 11 ☐ ***OR*** Geographic (Latitude & Longitude) ☑
Coordinates: 34.010629 N, 117.404146 W

Habitat Description (plants & animals) *plant communities, dominants, associates, substrates/soils, aspects/slope:*
Animal Behavior *(Describe observed behavior, such as territoriality, foraging, singing, calling, copulating, perching, roosting, etc., especially for avifauna):*

Riversidean sage scrub w/Brittlebush (Encelia farinosa) dominant
OTW was observed on unimproved transmission line road.

Please fill out separate form for other rare taxa seen at this site.

Site Information Overall site/occurrence quality/viability (site + population): ☐ Excellent ☑ Good ☐ Fair ☐ Poor

Immediate AND surrounding land use: Open space

Visible disturbances: unimproved roads/residential development just west, off-road vehicle activity

Threats: unknown

Comments:

Determination: *(check one or more, and fill in blanks)*
☐ Keyed (cite reference): _____
☐ Compared with specimen housed at: _____
☐ Compared with photo / drawing in: _____
☐ By another person (name): _____
☑ Other: extensive field experience in ID of species

Photographs: *(check one or more)* Slide Print Digital
Plant / animal ☐ ☐ ☐
Habitat ☐ ☐ ☑
Diagnostic feature ☐ ☐ ☐

May we obtain duplicates at our expense? yes ☑ no ☐

DFG/BDB/1747 Rev. 6/16/09

Mail to:
California Natural Diversity Database
California Dept. of Fish & Wildlife
1416 9th Street, Suite 1266
Sacramento, CA 95814
Fax: (916) 324-0475 email: CNDDB@wildlife.ca.gov

For Office Use Only
Source Code: _____ Quad Code: _____
Elm Code: _____ Occ No.: _____
EO Index: _____ Map Index: _____

Date of Field Work (mm/dd/yyyy): 06/09/2018

Clear Form

California Native Species Field Survey Form

Print Form

Scientific Name: *Aspidoscelis hyperythra*

Common Name: Orange-throated whiptail

Species Found? ○ Yes ○ No _____ If not found, why?

Total No. Individuals: 1 Subsequent Visit? ○ Yes ○ No

Is this an existing NDDB occurrence? _____ Yes, Occ. # ☐ No ☐ Unk.

Collection? If yes: _____ Number _____ Museum / Herbarium

Reporter: Guy Bruyea / L&L Environmental
Address: 700 East Redlands Blvd #U351
Redlands, CA 92373
E-mail Address: cwakeman@llenviroinc.com
Phone: 909.335.9897

Plant Information
Phenology:
_____ % vegetative _____ % flowering _____ % fruiting

Animal Information
1 # adults _____ # juveniles _____ # larvae _____ # egg masses _____ # unknown
☐ wintering ☐ breeding ☐ nesting ☐ rookery ☐ burrow site ☐ lek ☐ other

Location Description *(please attach map AND/OR fill out your choice of coordinates, below)*

County: Riverside Landowner / Mgr: Private
Quad Name: Fontana Elevation: 1028'
T___ R___ Sec___, ___1/4 of ___ 1/4, Meridian: H ○ M ○ S ○ Source of Coordinates (GPS, topo. map & type): _____
T___ R___ Sec___, ___1/4 of ___ 1/4, Meridian: H ○ M ○ S ○ GPS Make & Model: _____
DATUM: NAD27 ○ NAD83 ○ WGS84 ◉ Horizontal Accuracy: _____ meters/feet
Coordinate System: UTM Zone 10 ○ UTM Zone 11 ○ *OR* Geographic (Latitude & Longitude) ◉
Coordinates: 34.012515 N, 117.412869 W

Habitat Description (plants & animals) *plant communities, dominants, associates, substrates/soils, aspects/slope:*
Animal Behavior *(Describe observed behavior, such as territoriality, foraging, singing, calling, copulating, perching, roosting, etc., especially for avifauna):*

Please fill out separate form for other rare taxa seen at this site.

Site Information Overall site/occurrence quality/viability (site + population): ○ Excellent ○ Good ○ Fair ○ Poor
Immediate AND surrounding land use: _____
Visible disturbances: _____
Threats: planned development
Comments:

Determination: *(check one or more, and fill in blanks)*
☐ Keyed (cite reference): _____
☐ Compared with specimen housed at: _____
☐ Compared with photo / drawing in: _____
☐ By another person (name): _____
☒ Other: identified by experienced field biologist

Photographs: *(check one or more)*

	Slide	Print	Digital
Plant / animal	☐	☐	☐
Habitat	☐	☐	☐
Diagnostic feature	☐	☐	☐

May we obtain duplicates at our expense? ○ yes ○ no

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Mail to:
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Department of Fish and Game
1807 13th Street, Suite 202
Sacramento, CA 95811
Fax: (916) 324-0475 email: CNDDB@dfg.ca.gov

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Source Code _____ Quad Code _____
Elm Code _____ Occ. No. _____
EO Index No. _____ Map Index No. _____

Date of Field Work (mm/dd/yyyy): 07/12/2015

Reset

California Native Species Field Survey Form

Send Form

Scientific Name: *Crotalus ruber*

Common Name: Red Diamond Rattlesnake

Species Found? ☑ Yes ☐ No _____ If not, why?

Total No. Individuals 1 Subsequent Visit? ☐ yes ☐ no

Is this an existing NDDB occurrence? _____ Yes, Occ. # ☐ no ☑ unk.

Collection? If yes: _____ Number _____ Museum / Herbarium

Reporter: Guy Bruyea
Address: L&L Environmental, Inc.
700 East Redlands Blvd., Suite U, PMB#351, Redlands, CA
E-mail Address: chrysina@hotmail.com
Phone: (951) 681-4929

Plant Information

Phenology: 80 % vegetative 20 % flowering 10 % fruiting

Animal Information

0	0	0	0	0
# adults	# juveniles	# larvae	# egg masses	# unknown

☐ wintering ☐ breeding ☐ nesting ☐ rookery ☐ burrow site ☐ other

Location Description ***(please attach map AND/OR fill out your choice of coordinates, below)***

County: Riverside Landowner / Mgr.: Unknown
Quad Name: Fontana Elevation: 1054 ft.
T 1S R 4E Sec 4, SW ¼ of NW ¼, Meridian: H☐ M☐ S☐ Source of Coordinates (GPS, topo. map & type): GPS
T___ R___ Sec ___, ___ ¼ of ___ ¼, Meridian: H☐ M☐ S☐ GPS Make & Model _____
DATUM: NAD27 ☐ NAD83 ☐ WGS84 ☑ Horizontal Accuracy 12m meters/feet
Coordinate System: UTM Zone 10 ☐ UTM Zone 11 ☐ ***OR*** Geographic (Latitude & Longitude) ☑
Coordinates: 34.022734 N, 117.412632 W

Habitat Description (plants & animals) *plant communities, dominants, associates, substrates/soils, aspects/slope:*
Animal Behavior *(Describe observed behavior, such as territoriality, foraging, singing, calling, copulating, perching, roosting, etc., especially for avifauna):*

Riversidean sage scrub / disturbed habitat near old quarry site
RDR was observed on an unimproved road.

Please fill out separate form for other rare taxa seen at this site.

Site Information Overall site/occurrence quality/viability (site + population): ☐ Excellent ☑ Good ☐ Fair ☐ Poor

Immediate AND surrounding land use: Open space

Visible disturbances: unimproved roads/residential development just west, off-road vehicle activity

Threats: unknown

Comments:

Determination: *(check one or more, and fill in blanks)*
☐ Keyed (cite reference): _____
☐ Compared with specimen housed at: _____
☐ Compared with photo / drawing in: _____
☐ By another person (name): _____
☑ Other: extensive field experience in ID of species

Photographs: *(check one or more)* Slide Print Digital
Plant / animal ☐ ☐ ☐
Habitat ☐ ☐ ☑
Diagnostic feature ☐ ☐ ☐

May we obtain duplicates at our expense? yes ☑ no ☐

DFG/BDB/1747 Rev. 6/16/09

Mail to:
California Natural Diversity Database
Department of Fish and Game
1807 13th Street, Suite 202
Sacramento, CA 95811
Fax: (916) 324-0475 email: CNDDB@dfg.ca.gov

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Source Code _____ Quad Code _____
Elm Code _____ Occ. No. _____
EO Index No. _____ Map Index No. _____

Date of Field Work (mm/dd/yyyy): 07/12/2016

Reset

California Native Species Field Survey Form

Send Form

Scientific Name: *Crotalus ruber*

Common Name: Red Diamond Rattlesnake

Species Found? ☑ Yes ☐ No _____ If not, why?

Total No. Individuals 1 Subsequent Visit? ☐ yes ☐ no

Is this an existing NDDB occurrence? _____ Yes, Occ. # ☐ no ☑ unk.

Collection? If yes: _____ Number _____ Museum / Herbarium

Reporter: Guy Bruyea
Address: L&L Environmental, Inc.
700 East Redlands Blvd., Suite U, PMB#351, Redlands, CA
E-mail Address: chrysina@hotmail.com
Phone: (951) 681-4929

Plant Information

Phenology: 80 % vegetative 20 % flowering 10 % fruiting

Animal Information

0 # adults 0 # juveniles 0 # larvae 0 # egg masses 0 # unknown

☐ wintering ☐ breeding ☐ nesting ☐ rookery ☐ burrow site ☐ other

Location Description ***(please attach map AND/OR fill out your choice of coordinates, below)***

County: Riverside Landowner / Mgr.: Unknown
Quad Name: Fontana Elevation: 1057 ft.
T 1S R 4E Sec 4, SW ¼ of NW ¼, Meridian: H☐ M☐ S☐ Source of Coordinates (GPS, topo. map & type): GPS
T____ R____ Sec____, ____ ¼ of ____ ¼, Meridian: H☐ M☐ S☐ GPS Make & Model _____
DATUM: NAD27 ☐ NAD83 ☐ WGS84 ☑ Horizontal Accuracy 12m meters/feet
Coordinate System: UTM Zone 10 ☐ UTM Zone 11 ☐ ***OR*** Geographic (Latitude & Longitude) ☑
Coordinates: 34.027838 N, 117.413768 W

Habitat Description (plants & animals) *plant communities, dominants, associates, substrates/soils, aspects/slope:*
Animal Behavior *(Describe observed behavior, such as territoriality, foraging, singing, calling, copulating, perching, roosting, etc., especially for avifauna):*

Riversidean sage scrub / disturbed habitat near residential neighborhood
RDR was observed on unconsolidated soils near unimproved road.

Please fill out separate form for other rare taxa seen at this site.

Site Information Overall site/occurrence quality/viability (site + population): ☐ Excellent ☑ Good ☐ Fair ☐ Poor

Immediate AND surrounding land use: Open space

Visible disturbances: unimproved roads/residential development just west, off-road vehicle activity

Threats: unknown

Comments:

Determination: *(check one or more, and fill in blanks)*
☐ Keyed (cite reference): _____
☐ Compared with specimen housed at: _____
☐ Compared with photo / drawing in: _____
☐ By another person (name): _____
☑ Other: extensive field experience in ID of species

Photographs: *(check one or more)* Slide Print Digital
Plant / animal ☐ ☐ ☑
Habitat ☐ ☐ ☑
Diagnostic feature ☐ ☐ ☐

May we obtain duplicates at our expense? yes ☑ no ☐

DFG/BDB/1747 Rev. 6/16/09

Mail to:
California Natural Diversity Database
California Dept. of Fish & Wildlife
1807 13th Street, Suite 202
Sacramento, CA 95811
Fax: (916) 324-0475 email: CNDDB@wildlife.ca.gov

Date of Field Work (mm/dd/yyyy): 03/26/2017

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Source Code _____ Quad Code _____
Elm Code _____ Occ. No. _____
EO Index No. _____ Map Index No. _____

Reset

California Native Species Field Survey Form

Send Form

Scientific Name: Crotalus ruber

Common Name: Red Diamond Rattlesnake

Species Found? ☑ Yes ☐ No _____ If not, why?

Total No. Individuals 1 Subsequent Visit? ☐ yes ☐ no

Is this an existing NDDB occurrence? _____ Yes, Occ. # ☐ no ☑ unk.

Collection? If yes: _____ Number _____ Museum / Herbarium

Reporter: Melanie Dicus, John Dicus
Address: PO Box 1333 Black Canyon City, AZ 85324

E-mail Address: redspottedpurple@aol.com
Phone: (623) 308-2455

Plant Information

Phenology: _____% vegetative _____% flowering _____% fruiting

Animal Information

1 # adults _____ # juveniles _____ # larvae _____ # egg masses _____ # unknown

☐ wintering ☐ breeding ☐ nesting ☐ rookery ☐ burrow site ☐ other

Location Description ***(please attach map AND/OR fill out your choice of coordinates, below)***
The site is located between Armstrong Road and Rubidoux Boulvard north of Highway 60 and south of 7th Street.

County: Riverside Landowner / Mgr.: Private
Quad Name: Fontana Elevation: 1519 feet
T____ R____ Sec ____, ____ ¼ of _____¼, Meridian: H☐ M☐ S☐ Source of Coordinates (GPS, topo. map & type): GPS
T____ R____ Sec ____, ____ ¼ of _____¼, Meridian: H☐ M☐ S☐ GPS Make & Model Garmin 60CSX
DATUM: NAD27 ☐ NAD83 ☑ WGS84 ☐ Horizontal Accuracy 9 feet meters/feet
Coordinate System: UTM Zone 10 ☐ UTM Zone 11 ☐ ***OR*** Geographic (Latitude & Longitude) ☐
Coordinates: 34.020217° -117.405024°

Habitat Description (plants & animals) *plant communities, dominants, associates, substrates/soils, aspects/slope:*
Animal Behavior *(Describe observed behavior, such as territoriality, foraging, singing, calling, copulating, perching, roosting, etc., especially for avifauna):*
1 adult observed on rocky granitic ridge line dominated by non-native plants (mustards, grasses) with scattered Encelia farinosa.

Please fill out separate form for other rare taxa seen at this site.

Site Information Overall site/occurrence quality/viability (site + population): ☐ Excellent ☐ Good ☑ Fair ☐ Poor
Immediate AND surrounding land use: Immediate use: disturbed open space; surrounding use: disturbed open space, residential
Visible disturbances: non-native plants, ORV and pedestrian traffic, dumping, homeless camps
Threats: ORV, non-native plants, potential development
Comments:

Determination: *(check one or more, and fill in blanks)*
☐ Keyed (cite reference): _____
☐ Compared with specimen housed at: _____
☐ Compared with photo / drawing in: _____
☐ By another person (name): _____
☐ Other: _____

Photographs: *(check one or more)* Slide Print Digital
Plant / animal ☐ ☐ ☐
Habitat ☐ ☐ ☐
Diagnostic feature ☐ ☐ ☐

May we obtain duplicates at our expense? yes☐ no☐

CDFW/BDB/1747 Rev. 4/26/13

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California Natural Diversity Database
California Dept. of Fish & Wildlife
1416 9th Street, Suite 1266
Sacramento, CA 95814
Fax: (916) 324-0475 email: CNDDB@wildlife.ca.gov

For Office Use Only
Source Code: _____ Quad Code: _____
Elm Code: _____ Occ No.: _____
EO Index: _____ Map Index: _____

Date of Field Work (mm/dd/yyyy): 09/04/2018

Clear Form

California Native Species Field Survey Form

Print Form

Scientific Name: *Crotalus ruber*

Common Name: Red diamond rattlesnake

Species Found? ○ Yes ○ No _____ If not found, why?

Total No. Individuals: 1 Subsequent Visit? ○ Yes ○ No

Is this an existing NDDB occurrence? _____ Yes, Occ. # ☐ No ☐ Unk.

Collection? If yes: _____ Number _____ Museum / Herbarium

Reporter: Guy Bruyea / L&L Environmental
Address: 700 East Redlands Blvd #U351
Redlands, CA 92373
E-mail Address: cwakeman@llenviroinc.com
Phone: 909.335.9897

Plant Information
Phenology:
_____ % vegetative _____ % flowering _____ % fruiting

Animal Information
1 # adults _____ # juveniles _____ # larvae _____ # egg masses _____ # unknown
☐ wintering ☐ breeding ☐ nesting ☐ rookery ☐ burrow site ☐ lek ☐ other

Location Description ***(please attach map AND/OR fill out your choice of coordinates, below)***

County: Riverside Landowner / Mgr: Private
Quad Name: Fontana Elevation: 1052
T___ R___ Sec___, ___1/4 of ___ 1/4, Meridian: H ○ M ○ S ○ Source of Coordinates (GPS, topo. map & type): _____
T___ R___ Sec___, ___1/4 of ___ 1/4, Meridian: H ○ M ○ S ○ GPS Make & Model: _____
DATUM: NAD27 ○ NAD83 ○ WGS84 ◉ Horizontal Accuracy: _____ meters/feet
Coordinate System: UTM Zone 10 ○ UTM Zone 11 ○ ***OR*** Geographic (Latitude & Longitude) ◉
Coordinates: 34.024085 N, 117.412988 W

Habitat Description (plants & animals) *plant communities, dominants, associates, substrates/soils, aspects/slope:*
Animal Behavior *(Describe observed behavior, such as territoriality, foraging, singing, calling, copulating, perching, roosting, etc., especially for avifauna):*

Please fill out separate form for other rare taxa seen at this site.

Site Information Overall site/occurrence quality/viability (site + population): ○ Excellent ○ Good ○ Fair ○ Poor
Immediate AND surrounding land use: _____
Visible disturbances: _____
Threats: planned development
Comments:

Determination: *(check one or more, and fill in blanks)*
☐ Keyed (cite reference): _____
☐ Compared with specimen housed at: _____
☐ Compared with photo / drawing in: _____
☐ By another person (name): _____
☒ Other: identified by experienced field biologist

Photographs: *(check one or more)*

	Slide	Print	Digital
Plant / animal	☐	☐	☐
Habitat	☐	☐	☐
Diagnostic feature	☐	☐	☐

May we obtain duplicates at our expense? ○ yes ○ no

CDFW/BDB/1747 Rev. 7/15/2015

Mail to:
California Natural Diversity Database
California Dept. of Fish & Wildlife
1807 13th Street, Suite 202
Sacramento, CA 95811
Fax: (916) 324-0475 email: CNDDB@wildlife.ca.gov

Date of Field Work (mm/dd/yyyy): 06/06/2017

For Office Use Only
Source Code _____ Quad Code _____
Elm Code _____ Occ. No. _____
EO Index No. _____ Map Index No. _____

Reset

California Native Species Field Survey Form

Send Form

Scientific Name: Calochortus plummerae

Common Name: Plummer's mariposa-lily

Species Found? ☑ Yes ☐ No _____ If not, why?

Total No. Individuals 4 Subsequent Visit? ☐ yes ☐ no

Is this an existing NDDB occurrence? _____ Yes, Occ. # ☑ no ☐ unk.

Collection? If yes: _____ Number _____ Museum / Herbarium

Reporter: Melanie Dicus, John Dicus
Address: P.O. Box 1333 Black Canyon City, AZ 85324
E-mail Address: redspottedpurple@aol.com
Phone: (623) 308-2455

Plant Information

Phenology: 50 % vegetative 25 % flowering 25 % fruiting

Animal Information

_____ # adults _____ # juveniles _____ # larvae _____ # egg masses _____ # unknown

☐ wintering ☐ breeding ☐ nesting ☐ rookery ☐ burrow site ☐ other

Location Description ***(please attach map AND/OR fill out your choice of coordinates, below)***

Site is located between Armstrong Road and Rubidoux Boulevard just north of Highway 60 and south of 7th Street

County: Riverside Landowner / Mgr.: Private

Quad Name: Fontana Elevation: 1205 feet

T____ R____ Sec ____, ____ ¼ of _____ ¼, Meridian: H☐ M☐ S☐ Source of Coordinates (GPS, topo. map & type): GPS

T____ R____ Sec ____, ____ ¼ of _____ ¼, Meridian: H☐ M☐ S☐ GPS Make & Model Garmin 60CSX

DATUM: **NAD27** ☐ **NAD83** ☑ **WGS84** ☐ Horizontal Accuracy 9 feet meters/feet

Coordinate System: UTM Zone 10 ☐ UTM Zone 11 ☐ ***OR*** Geographic (Latitude & Longitude) ☑

Coordinates: 34.017945°, -117.414515°; 7-foot radius

Habitat Description (plants & animals) *plant communities, dominants, associates, substrates/soils, aspects/slope:*
Animal Behavior *(Describe observed behavior, such as territoriality, foraging, singing, calling, copulating, perching, roosting, etc., especially for avifauna):*
The lilies were observed on a rocky, southwest-facing slope dominated by non-native plants. Native shrubs were sparse and included Encelia farinosa, Artemisia californica, and Eriogonum fasciculatum; non-native species included Schismus barbatus, Hirschfeldia incana, Brassica tournefortii, with Bromus rubens and Centaurea melitensis.

Please fill out separate form for other rare taxa seen at this site.

Site Information Overall site/occurrence quality/viability (site + population): ☐ Excellent ☐ Good ☐ Fair ☑ Poor

Immediate AND surrounding land use: Immediate use: disturbed open space, ORV and pedestrian recreation, homelss camps; Surrounding

Visible disturbances: Dirt roads, ORV and pedestrian activity, dumping, homeless camps

Threats: Non-native/invasive plants, ORV and pedestrian disturbance; possible development

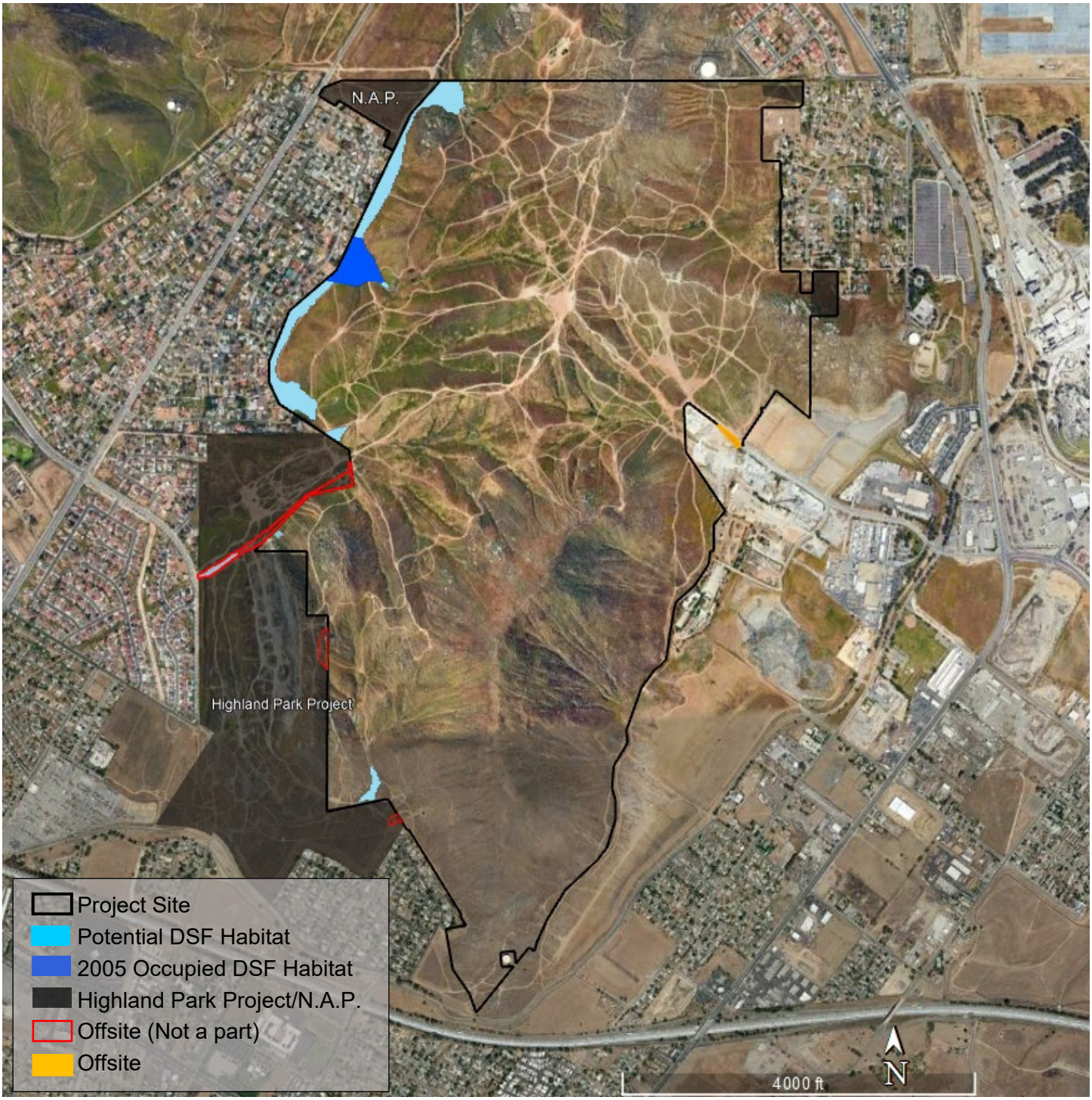
Comments: Much of the open space surrounding this location is highly disturbed by ORV activity and non-native annual plants, including Brassica tournefortii, Hirschfeldia incana, Sisymbrium erysimoides, S. irio, S. orientale, Bromus diandrus and rubens, Schismus barbatus, Centaurea melitensis, etc. Within several hundred acres of survey area, only 4 Calochortus plummerae were observed.

Determination: *(check one or more, and fill in blanks)*
☑ Keyed (cite reference): TJM 2
☐ Compared with specimen housed at: _____
☑ Compared with photo / drawing in: Santa Ana Wildflowers, CalPhotos
☐ By another person (name): _____
☐ Other: _____

Photographs: *(check one or more)* Slide Print Digital
Plant / animal ☐ ☐ ☐
Habitat ☐ ☐ ☐
Diagnostic feature ☐ ☐ ☐

May we obtain duplicates at our expense? yes ☐ no ☐

CDFW/BDB/1747 Rev. 4/26/13



(Aerial obtained from Google Earth, March 2023)

Rio Vista Project
Riverside County, California

Delhi Sands Flower-Loving Fly Habitat

Table 12. Potentials for occurrence.

Species	Growth Form Habitat and Distribution	Flowering season	Conservation Status	Potential for Occurrence
PLANTS				
Abronia villosa var. *aurita* **Chaparral sand-verbena**	Annual herb. Sandy soils in chaparral, coastal scrub, desert dunes at 75-1600m elevation. Southern CA, Arizona, Baja.	(Jan)Mar-Sep	Fed: None Calif: S2 CRPR: 1B.1 BLM: S USFS: S	Absent (Survey)
Acanthoscyphus parishii var. parishii **Parish's oxytheca**	Annual herb. Sandy or gravelly soils in chaparral, lower montane coniferous forest at 1220-2600m elevation. LA, San Bernardino, Ventura Cos. Not tracked in CNDDB.	Jun-Sep	Fed: None Calif: S3S4 CRPR: 4.2	Absent (below elevation range, no records in Riverside County, survey results)
Ambrosia monogyra **Singlewhorl burrobrush**	Perennial shrub. Sandy soils in chaparral and Sonoran desert scrub at 10-500m elevation. Riverside, San Bernardino, and San Diego Cos., SW US, and Mexico.	Aug - Nov	Fed: None Calif: S2 CRPR: 2B.2	Absent (poor habitat, survey results)
Ambrosia pumila **San Diego ambrosia**	Perennial rhizomatous herb. Sandy loam or clay soils, often in disturbed areas, sometimes alkaline. Chaparral, coastal scrub, valley and foothill grassland, and vernal pools at 20-487m elevation. Riverside, San Diego Co., Baja.	Apr-Oct	Fed: **END** Calif: S1 CRPR: 1B.1 MSHCP: AC b	Absent (No habitat, margin of range)
Arctostaphylos glandulosa ssp. gabrielensis **San Gabriel manzanita**	Perennial evergreen shrub. Rocky areas in chaparral at 595-1500m elevation. LA, Santa Barbara, San Bernardino Cos.	Mar	Fed: None Cal: S3 CRPR: 1B.2 BLM: S USFS: S	Absent (Survey and range)
Arenaria paludicola **Marsh sandwort**	Perennial stoloniferous herb. Sandy soils and openings in freshwater or brackish marshes and swamps at 3-170m elevation. LA, San Bernardino, Santa Cruz, San Francisco, San Luis Obispo Co. and Sonora Mexico, Washington state.	May-Aug	Fed: **END** Ca: **END**, S1 CRPR: 1B.1	Absent (No habitat)
Asplenium vespertinum **Western spleenwort**	Perennial rhizomatous fern. Rocky soils and moist, shady areas in chaparral, cismontane woodland, coastal scrub at 180-1000m elevation. Southern CA and Baja. Not tracked in CNDDB.	Feb-Jun	Fed: None Calif: S4 CRPR: 4.2	Low (limited or no habitat, survey results)
Astragalus hornii var. hornii **Horn's milk-vetch**	Annual herb. Alkaline soils along lake margins, meadows and seeps and playas at 60-850m elevation. San Bernardino, Inyo, Kern, Tulare(?) Co and Nevada. San Joaquin Valley, South Coast, Western Transverse Ranges, W edge of the Mojave Desert.	May-Oct	Fed: None Calif: S1 CRPR: 1B.1 BLM: S	Absent (No habitat)

Species	Growth Form Habitat and Distribution	Flowering season	Conservation Status	Potential for Occurrence
Berberis nevinii **Nevin's barberry**	Perennial evergreen shrub. Sandy or gravelly soils in chaparral, coastal scrub, cismontane woodland, riparian scrub at 70-825m elevation. Scattered localities in LA, San Bernardino, Riverside, & San Diego Co.	Mar-Jun can ID all year	Fed: **END** Calif: **END** CRPR: 1B.1 MSHCP: AC d	Absent (Survey)
Brodiaea filifolia **Thread-leaved brodiaea**	Perennial bulbiferous herb. Often on clay soils in chaparral openings, cismontane woodland, coastal scrub, playas, valley and foothill grassland, and vernal pools at 25-1120m elevation. LA, Orange, Riverside, San Bernardino, and San Diego Co; scattered in Southern CA foothills & valleys.	Mar-Jun	Fed: **THR** Calif: **END**, S2 CRPR: 1B.1 MSHCP: AC d	Low (No or limited habitat; observed on adjacent site)
Calochortus catalinae **Catalina mariposa-lily**	Perennial bulbiferous herb. Chaparral, cismontane woodland, coastal scrub, valley and foothill grassland at 15-700m elevation. LA, Orange, Santa Barbara, San Bernardino, San Diego, Ventura Co, some Channel Islands. Not tracked in CNDDB.	(Feb)Mar-Jun	Fed: None Calif: S3S4 CRPR: 4.2	Low (potentially suitable habitat, not detected during surveys, no records within 5 mi.)
Calochortus palmeri var. palmeri **Palmer's mariposa-lily**	Perennial bulbiferous herb. Mesic soils in chaparral, lower montane coniferous forest, meadows and seeps at 710-2390m elevation. Kern, LA, Riverside, Santa Barbara, San Bernardino, San Luis Obispo, Ventura Co.	Apr-Jul	Fed: None Calif: S2 CRPR: 1B.2 BLM: S USFS: S	Absent (Below elev. range, no suitable habitat, survey results)
Calochortus plummerae **Plummer's mariposa-lily**	Perennial bulbiferous herb. Granitic rocky soils in chaparral, cismontane woodland, coastal scrub, lower montane coniferous forest, valley and foothill grassland at 100-1700m elevation. LA, Orange, Riverside, San Bernardino, Ventura Co.	May-Jul	Fed: None Calif: S4 CRPR: 4.2 MSHCP: AC	Occurs
Carex comosa **Bristly sedge**	Perennial rhizomatous herb. Coastal prairie, marshes and swamps (lake margins), valley and foothill grassland at 0-625m elevation.	May-Sep	Fed: None Calif: S2 CRPR: 2B.1	Absent (No habitat)
Castilleja lasiorhyncha **San Bernardino Mountain's owl's-clover**	Hemiparasitic annual herb. Mesic areas in chaparral, montane meadows, pebble plains, riparian woodland, upper montane coniferous forest at 1300-2390m elevation. Moist edges of springs/seeps on clay soil, wet meadows, openings in coniferous forest. Riverside, San Diego, San Bernardino Co.; San Bernardino Mts, San Jacinto Mts.	May-Aug	Fed: None Calif: S2? CRPR: 1B.2 USFS: S	Absent (No habitat)

Species	Growth Form Habitat and Distribution	Flowering season	Conservation Status	Potential for Occurrence
Centromadia pungens ssp. *laevis* **Smooth tarplant**	Annual herb. Alkaline soils in chenopod scrub, meadows and seeps, playas, riparian woodland, valley and foothill grassland at 0-1170m elevation. Also fallow fields, drainage ditches; mainly in SW Riverside Co., a few sites in interior valleys of LA, San Bernardino, San Diego Co.	Apr-Sep	Fed: None Calif: S2 CRPR: 1B.1 MSHCP: AC d	Absent (No habitat)
Chloropyron maritimum ssp. maritimum **Salt marsh bird's-beak**	Hemiparasitic annual herb. Coastal salt marsh and swamp and coastal dunes. Limited to the higher zones of the salt marsh habitat. 0-30m elevation. Central and Southern CA, Baja.	May-Oct(Nov)	Fed: **END** Calif: **END**, S1 CRPR: 1B.2	Absent (Range; no habitat)
Chorizanthe leptotheca **Peninsular spineflower**	Annual herb. Granitic soils and alluvial fans in chaparral, coastal scrub, lower montane coniferous forest at 300-1900m elevation. Riverside, San Bernardino, San Diego Co., Baja. Not tracked in the CNDDB.	May-Aug	Fed: None Calif: S3 CRPR: 4.2 MSHCP: AC	Low (no or limited suitable soils, not found during surveys)
Chorizanthe parryi var. *parryi* **Parry's spineflower**	Annual herb. Sandy or rocky soils and openings in chaparral, cismontane woodland, coastal scrub, valley and foothill grassland at 275-1220m elev. LA, Riverside, San Bernardino Co.	Apr-Jun	Fed: None Calif: S2 CRPR: 1B.1 BLM: S USFS: S MSHCP: AC	Low (Surveys)
Chorizanthe xanti var. *leucotheca* **White-bracted spineflower**	Annual herb. Sandy or gravelly soil in coastal scrub (alluvial fans), Mojavean desert scrub, pinyon and juniper woodlands at 300-1300m elevation. LA, Riverside, San Bernardino, San Diego Co.	Apr-Jun	Fed: None Calif: S3 CRPR: 1B.2 BLM: S USFS: S	Absent (No habitat)
Cladium californicum **California saw-grass**	Perennial rhizomatous herb. Meadows and seeps, marshes, swamps, alkaline or freshwater at 60-1600m elevation. LA, Inyo, Riverside, Santa Barbara, San Bernardino, San Luis Obispo Co, SW US. Known from fewer than 20 locations in CA. Presumed extirpated from LA, San Bernardino Co.	Jun-Sep	Fed: None Calif: S2 CRPR: 2B.2 USFS: S	Absent (No habitat)
Claytonia peirsonii ssp. peirsonii *(C. lanceolata* var. *peirsonii)* **Peirson's spring beauty**	Perennial herb. Scree slopes in subalpine coniferous forest, upper montane coniferous forest at 1510-2745m elevation. Known only from San Gabriel and San Bernardino Mts.	(Mar)May-Jun	Fed: None Calif: S2 CRPR: 1B.2 USFS: S	Absent (No habitat, elevation)
Clinopodium chandleri **San Miguel savory**	Perennial shrub. Rocky, gabbroic, or metavolcanic soils in chaparral, cismontane woodlands, coastal scrub, riparian woodland, valley and foothill grassland at 120-1075m elevation. Orange, Riverside, San Diego Co., Baja.	Mar-Jul	Fed: None Calif: S2 CRPR: 1B.2 BLM: S USFS: S MSHCP: AC b	Absent (margin of geographic range, Survey results)

Species	Growth Form Habitat and Distribution	Flowering season	Conservation Status	Potential for Occurrence
Cuscuta obtusiflora var. glandulosa **Peruvian dodder**	Annual parasitic vine. Freshwater marshes & swamps at 15-280m elevation. Scattered locations in No, Central, and Southern CA, various US states and Baja. Presumed extirpated from San Bernardino Co.	Jul-Oct	Fed: None Calif: SH CRPR: 2B.2	Absent (No habitat)
Cylindropuntia californica var. californica **Snake cholla**	Perennial stem succulent (cactus). Chaparral, coastal scrub at 30-150m elevation. San Diego, Riverside Co., Baja.	Apr-May	Fed: None Calif: S1 CRPR: 1B.1	Absent (above elevation range, conspicuous plant not observed during surveys)
Deinandra (Hemizonia) paniculata **Paniculate tarplant**	Annual herb. Usually vernally mesic areas, sometimes sandy. Coastal scrub, valley and foothill grassland, vernal pools at 25-940m elevation. Orange, Riverside, Santa Barbara, San Bernardino, San Diego, San Luis Obispo Co., Baja. Not tracked in the CNDDB.	(Mar) Apr-Nov	Fed: None Calif: S4 CRPR: 4.2	Low (no or limited suitable habitat, not observed during surveys)
Dodecahema leptoceras **Slender-horned spineflower**	Annual herb. Open, sandy alluvial benches in valleys & canyons. Chaparral, coastal scrub, alluvial scrub, cismontane woodland at 200-760m elevation. LA, Riverside, San Bernardino Co. San Fernando Valley, Santa Ana River Valley, W Riverside Co.	Apr-Jun	Fed: **END** Calif: **END**, S1 CRPR: 1B.1 MSHCP: AC b	Absent (limited habitat, survey results)
Dudleya multicaulis **Many-stemmed dudleya**	Perennial herb. Often on clay soils in chaparral, coastal scrub, valley and foothill grassland at 15-790m elevation. LA, Orange, Riverside, San Bernardino, San Diego Co.	Apr-Jul	Fed: None Calif: S2 CRPR: 1B.2 BLM: S USFS: S MSHCP: AC b	Absent (poor habitat, survey results
Eriastrum densifolium ssp. *sanctorum* **Santa Ana River woollystar**	Perennial herb. Sandy or gravelly soils in chaparral, coastal scrub (alluvial fans and plains) at 91-610m elevation. Orange, Riverside, San Bernardino Co., endemic to Santa Ana River watershed.	Apr-Sep	Fed: **END** CA: **END**, S1 CRPR: 1B.1 MSHCP: AC	Absent (No habitat)
Eriogonum microthecum var. johnstonii **Johnstons' buckwheat**	Perennial deciduous shrub. Rocky soils in subalpine coniferous forest, upper montane coniferous forest at 1829-2926m elevation. LA and San Bernardino Co., Slopes and ridges on granite or limestone, typically among rocks. San Gabriel & San Bernardino Mts.	Jul-Sep	Fed: None CA: S2 CRPR: 1B.3 USFS: S	Absent (No habitat, elevation)

Species	Growth Form Habitat and Distribution	Flowering season	Conservation Status	Potential for Occurrence
Eriogonum umbellatum var. minus **Alpine sulfur-flowered buckwheat**	Perennial deciduous shrub. Rocky soils in subalpine coniferous forest, upper montane coniferous forest at 1829-2926m elevation. LA and San Bernardino Co., Slopes and ridges on granite or limestone, typically among rocks. San Gabriel & San Bernardino Mts.	Jul-Sep	Fed: None CA: S4 CRPR: 4.3	Absent (no suitable habitat, outside geographic and elevation range)
Fimbristylis thermalis **Hot springs fimbristylis**	Perennial rhizomatous herb. Found in meadows & seeps (alkaline, near hot springs) at 110-1340m elevation. Inyo, Kern, LA, Mono, San Bernardino Co.	Jul-Sep	Fed: None Calif: S1S2 CRPR: 2B.2	Absent (No habitat)
Frasera neglecta **Pine green-gentian**	Perennial herb. Lower montane coniferous forest, pinyon and juniper woodland, upper montane coniferous forest at 1400-2500m elevation. Kern, LA, Santa Barbara, San Bernardino, Ventura Co. Not tracked in CNDDB.	May-Jul	Fed: None Calif: S4 CRPR: 4.3	Absent (no suitable habitat, outside geographic and elevation range)
Galium angustifolium ssp. gabrielense **San Antonio Canyon bedstraw**	Perennial herb. Granitic, sandy, or rocky soils in chaparral, lower montane coniferous forest at 1200-2650m elevation. LA and San Bernardino Co. Not tracked in CNDDB.	Apr-Aug	Fed: None Calif: S3 CRPR: 4.3	Absent (well below elevation range, not observed during surveys)
Galium californicum ssp. primum **Alvin Meadow bedstraw**	Perennial herb. Granitic, sandy soil in chaparral, lower montane coniferous forest at 1350-1700m elevation. Riverside, San Bernardino Co.	May-Jul	Fed: None Calif: S2 CRPR: 1B.2 BLM: S USFS: S MSHCP: NAC f	Absent (No habitat, well below elev. range)
Galium johnstonii **Johnston's bedstraw**	Perennial herb. Chaparral, lower montane coniferous forest, pinyon and juniper woodland, riparian woodland at 1220-2300m elevation. LA, Riverside, San Bernardino, San Diego Co. Not tracked in the CNDDB.	Jun-Jul	Fed: None Calif: S4 CRPR: 4.3	Absent (well below elevation range, not observed during surveys)
Helianthus nuttallii ssp. parishii **Los Angeles sunflower**	Perennial rhizomatous herb. Coastal salt and freshwater marshes and swamps at 10-1525m elevation. LA, Orange, San Bernardino Co. Last seen in 1937, presumed extinct.	Aug-Oct	Fed: None Calif: SX CRPR: 1A	Absent (No habitat)
Heuchera caespitosa **Urn-flowered alumroot**	Perennial rhizomatous herb. Rocky soils in cismontane woodland, lower montane coniferous forest, montane riparian forest, upper montane coniferous forest at 1155-2650m elevation. Kern, LA, San Bernardino, Ventura Co. Not tracked in CNDDB.	May-Aug	Fed: None Calif: S3 CRPR: 4.3 USFS: S	Absent (no suitable habitat, well below elevation range)

Species	Growth Form Habitat and Distribution	Flowering season	Conservation Status	Potential for Occurrence
Horkelia cuneata ssp *puberula* **Mesa horkelia**	Perennial herb. Sandy or gravelly soils in maritime chaparral, cismontane woodland, coastal scrub at 70-810m elevation. LA, Orange, Riverside, Santa Barbara, San Bernardino, San Diego, San Luis Obispo, Ventura Co.	Feb-Jul(Sep)	Fed: None Calif: S1 CRPR: 1B.1 USFS: S	**Moderate** (suitable habitat on steep slopes, historic record)
Imperata brevifolia **California satintail**	Perennial rhizomatous herb. Mesic areas in chaparral, coastal scrub, Mojavean desert scrub, meadows and seeps (often alkali), riparian scrub at 0-1215m elevation. Scattered location throughout CA, SW US, Baja.	Sep-May	Fed: None Calif: S3 CRPR: 2B.1 USFS: S	Absent (No habitat)
Juglans californica **Southern California black walnut**	Perennial deciduous tree. Alluvial soils in chaparral, cismontane woodland, coastal scrub, riparian woodland at 50-900m elevation. LA, Orange, Riverside, Santa Barbara, San Bernardino, San Diego, Ventura Co.	Mar-Aug	Fed: None Calif: S4 CRPR: 4.2 MSHCP: AC	Absent (conspicuous tree not observed during surveys)
Juncus duranii Duran's rush	Perennial rhizomatous herb. Mesic areas in lower montane coniferous forest, meadows and seeps, upper montane coniferous forest at 1769-2804m elevation. LA, Riverside, San Bernardino Co. Not tracked in CNDDB.	Jul-Aug	Fed: None Calif: S3 CRPR: 4.3	Absent (no suitable habitat, well below elevation range)
Lasthenia glabrata ssp. *coulteri* **Coulter's goldfields**	Annual herb. Coastal salt marshes and swamps, playas, vernal pools at 1-1220m elevation. Scattered locations in CA, Baja.	Feb-Jun	Fed: None Calif: S2 CRPR: 1B.1 MSHCP: AC d	Absent (No habitat)
Lepechinia fragrans **Fragrant pitcher sage**	Perennial shrub. Rocky slopes, ridgetops, dry canyons in chaparral at 20-1310m elevation. LA, San Bernardino, Ventura Co, some Channel Islands. Not tracked in CNDDB.	Mar-Oct	Fed: None Calif: S3 CRPR: 4.2 USFS: S	Low (potentially suitable habitat, no records in Riverside County, not observed during surveys)
Lepidium virginicum var. *robinsonii* **Robinson's pepper-grass**	Annual herb. Chaparral, coastal scrub at 1-885m elevation. LA, Orange, Riverside, Santa Barbara, San Bernardino, San Diego, Ventura Co., Santa Cruz Island.	Jan-Jul	Fed: None Calif: S3 CRPR: 4.3	**Moderate** (suitable habitat on steep slopes)

Species	Growth Form Habitat and Distribution	Flowering season	Conservation Status	Potential for Occurrence
Lilium humboldtii ssp. ocellatum **Ocellated Humboldt lily**	Perennial bulbiferous herb. Openings in chaparral, cismontane woodland, coastal scrub, lower montane coniferous forest, riparian woodland at 30-1800m elevation. LA, Orange, Riverside, Santa Barbara, San Bernardino, San Diego, Ventura Co, some Channel Islands. Lower stream benches in riparian corridors in lower montane coniferous forest and coastal chaparral or shaded, dry slopes beneath a dense oak or conifer canopy.	Mar-Jul(Aug)	Fed: None Calif: S4? CRPR: 4.2 MSHCP: NAC f	Low (marginal or no suitable habitat, not observed during surveys)
Lilium parryi **Lemon lily**	Perennial bulbiferous herb. Mesic soils in upper and lower montane coniferous forest, riparian forest, meadows and seeps at 1220-2745m elevation. LA, Riverside, San Bernardino, San Diego Co, Arizona, Sonora Mex.	Jul-Aug	Fed: None Calif: S3 CRPR: 1B.2 USFS: S MSHCP: NAC f	Absent (No habitat, well below elev. range)
Linanthus concinnus **San Gabriel linanthus**	Annual herb. Rocky soils in openings in chaparral, upper and lower montane coniferous forest at 1520-2800m elevation. LA and San Bernardino Co.	Apr-Jul	Fed: None Calif: S2 CRPR: 1B.2 USFS: S	Absent (No habitat, well below elev. range)
Lycium parishii **Parish's desert-thorn**	Perennial shrub. Arid slopes & sand flats in coastal scrub and Sonoran desert scrub at 135-1000m elevation. Imperial, Riverside, San Bernardino, San Diego Co., Arizona, Sonora Mexico. Presumed extirpated in San Bernardino Co.	Mar-Apr	Fed: None Calif: S1 CRPR: 2B.3	Absent (Survey, margin of current range)
Malacothamnus parishii **Parish's bush-mallow**	Perennial deciduous shrub. Chaparral, coastal scrub at 305-455m elevation. San Bernardino Co. Presumed extirpated.	Jun-Jul	Fed: None Calif: SX CRPR: 1A	Absent (above elev. Range, Thought extirpated, survey results)
Monardella australis ssp. jokerstii **Jokerst's monardella**	Perennial rhizomatous herb. Steep scree or talus slopes, alluvial benches in chaparral, lower montane coniferous forest at 1350-1750m elevation. San Bernardino Co, known only from San Gabriel Mts.	Jul-Sep	Fed: None Calif: S1? CRPR: 1B.1 USFS: S	Absent (No habitat, well below elev. Range)
Monardella pringlei **Pringle's monardella**	Annual herb. Sandy soil in coastal scrub at 300-400m elevation. Riverside, San Bernardino Co. Presumed extirpated.	May-Jun	Fed: None Calif: SX CRPR: 1A	Absent (Survey; may be extinct in CA)
Monardella saxicola **Rock monardella**	Perennial rhizomatous herb. Rocky soils, usually serpentine, in chaparral, lower montane coniferous forest, closed-cone coniferous forest at 500-1800m elevation. LA, San Bernardino Co. Not tracked in CNDDB.	Jun-Sep	Fed: None Calif: S3 CRPR: 4.2 USFS: S	Low (no or limited suitable habitat, lower edge of elevation range, not observed during surveys)

Species	Growth Form Habitat and Distribution	Flowering season	Conservation Status	Potential for Occurrence
Muhlenbergia californica **California muhly**	Perennial rhizomatous herb. Mesic areas, seeps, and streambanks in chaparral, coastal scrub, lower montane coniferous forest at 100-2000m elevation. LA, Riverside, San Bernardino Co.	Jun-Sep	Fed: None Calif: S4 CRPR: 4.3 MSHCP: NAC e	Absent (No habitat)
Muhlenbergia utilis **Aparejo grass**	Perennial rhizomatous herb. Sometimes alkaline or serpentinite soils in chaparral, coastal scrub, cismontane woodland, marshes and swamps, meadows and seeps at 25-2325m elevation. San Bernardino, Inyo, Kern, Ventura, Fresno Cos. and central coast, TX, Central America.	Oct-Mar	Fed: None Calif: S2S3 CRPR: 2B.2	Low. Potentially suitable habitat, only CNDDB occurrence south of Santa Barbara is from 1916 in Upland area and extirpated.
Myosurus minimus ssp. apus **Little mousetail**	Annual herb. Valley and foothill grasslands, alkaline vernal pools at 20-640m elevation. Locations in northern, central, and southern CA, Oregon, Baja.	Mar-Jun	Fed: None Calif: S2 CRPR: 3.1 MSHCP: AC d	Low (no or marginal suitable habitat, not observed during surveys)
Nasturtium gambelii **Gambel's water cress**	Perennial rhizomatous herb. Freshwater or brackish marshes and swamps at 5-330m elevation. LA, Orange, Santa Barbara, San Bernardino, San Diego, San Luis Obispo Co. Presumed extirpated in San Bernardino Co.	Apr-Oct	Fed: **END** Calif: **THR**, S1 CRPR: 1B.1	Absent (No habitat)
Navarretia prostrata **Prostrate vernal pool navarretia**	Annual herb. Mesic areas in coastal scrub, valley and foothill grassland (alkaline), meadows and seeps, vernal pools at 3-1210m elevation. Locations in northern, central, and southern CA.	Apr-Jun	Fed: None Calif: S2 CRPR: 1B.2 MSHCP: AC d	Absent (No habitat)
Opuntia basilaris var. *brachyclada* **Short-joint beavertail**	Perennial stem succulent (cactus). Chaparral, Joshua tree woodland, Mojavean desert scrub, pinyon and juniper woodland at 425-1800m elevation. LA, San Bernardino Co.	Apr-Jun(Aug)	Fed: None Calif: S3 CRPR: 1B.2 BLM: S USFS: S	Absent (No habitat)
Oreonana vestita **Woolly mountain-parsley**	Perennial herb. Gravel or talus soils in lower and upper montane and subalpine coniferous forest at 1615-3500m elevation. Kern, LA, San Bernardino Co. Endemic to San Bernardino, San Gabriel, and Scodie Mts.	Mar-Sep	Fed: None Calif: S3 CRPR: 1B.3 USFS: S	Absent (No habitat)
Phacelia mohavensis **Mojave phacelia**	Annual herb. Sandy or gravelly soil in cismontane woodland, lower montane coniferous forest, meadows and seeps, pinyon and juniper woodland at 1400-2500m elevation. LA, San Bernardino, Tulare, Ventura Co. Not tracked in CNDDB.	Apr-Aug	Fed: None Calif: S4 CRPR: 4.3	Absent (no suitable habitat, well below elevation range)

Species	Growth Form Habitat and Distribution	Flowering season	Conservation Status	Potential for Occurrence
Phacelia stellaris **Brand's star phacelia**	Annual herb. Coastal dunes, coastal scrub at 1-400m elevation. Sandy openings, sandy benches, dunes, sandy washes, or floodplains. LA, Orange, Riverside, San Bernardino, San Diego Co.	Mar-Jun	Fed: None Calif: S1 CRPR: 1B.1 MSHCP: AC b	Absent (poor habitat, heavily disturbed, survey results)
Pickeringia montana var. tomentosa Woolly chaparral-pea	Evergreen shrub. Gabbroic, granitic, or clay soils in chaparral at 0-1700m elevation. LA, Riverside, Orange, San Bernardino, San Diego Co. Not tracked in CNDDB.	May-Aug	Fed: None Calif: S3S4 CRPR: 4.3	Low (potentially suitable habitat, not observed during surveys, no records within 5 mi.)
Pseudognaphalium leucocephalum **White rabbit-tobacco**	Perennial herb. Sandy or gravelly soils in chaparral, cismontane woodland, coastal scrub, riparian woodland at 0-2100m elevation. LA, Orange, Riverside, San Bernardino, San Diego, Ventura Co, Arizona, New Mexico, Texas, Baja and Sonora Mex.	(Jul)Aug-Nov(Dec)	Fed: None Calif: S2 CRPR: 2B.2	Low (small area of habitat, survey results
Quercus palmeri **Palmer oak**	Evergreen shrub. Rocky slopes and flats at 300 to 1600m elevation. CA, AZ, Baja.	Apr-May	Fed: None Calif: None CRPR: None	**Occurs** at NE edge (rare and unique specimen)
Ribes divaricatum var. parishii **Parish's gooseberry**	Perennial deciduous shrub. Riparian woodland at 65-300m elevation. LA, San Bernardino Co. Extirpated in CA.	Feb-Apr	Fed: None Calif: SX CRPR: 1A	Absent (No habitat, thought extirpated)
Romneya coulteri **Coulter's matilija**	Large perennial rhizomatous herb. Often in burn areas in chaparral, coastal scrub at 20-1200m elevation. LA, Orange, Riverside, San Diego Co. Not tracked in CNDDB.	Mar-Jul(Aug)	Fed: None Calif: S4 CRPR: 4.2 MSHCP: AC	Low (conspicuous plant not observed during surveys)
Sagittaria sanfordii **Sanford's arrowhead**	Emergent perennial rhizomatous herb. Shallow freshwater marshes and swamps at 0-650m elevation. Locations in northern, central, southern CA. Extirpated from Southern CA.	May-Oct(Nov)	Fed: None Calif: S3 CRPR: 1B.2 BLM: S	Absent (No habitat)
Schoenus nigricans **Black bog-rush**	Perennial herb. Marshes and swamps, often alkaline, at 150-2000m elevation. San Bernardino, Inyo Co, Florida, Nevada, Texas, South America.	Aug-Sep	Fed: None Calif: S2 CRPR: 2B.2 USFS: S	Absent (No habitat)
Senecio aphanactis **Chaparral ragwort**	Annual herb. Alkaline soils (sometimes) in chaparral, cismontane woodland, coastal scrub at 15-800m elevation. Locations in northern, central, southern CA.	Jan-Apr(May)	Fed: None Calif: S2 CRPR: 2B.2	Absent (No habitat)
Senecio astephanus **San Gabriel ragwort**	Perennial herb. Rocky slopes in coastal bluff scrub, chaparral at 400-1500m elevation. Kern, LA, Monterey, Santa Barbara, San Bernardino, San Diego, San Luis Obispo Co.	May-Jul	Fed: None Calif: S3 CRPR: 4.3	Low (no records within 5 mi., not observed during surveys)

Species	Growth Form Habitat and Distribution	Flowering season	Conservation Status	Potential for Occurrence
Sidalcea neomexicana **Salt Spring checkerbloom**	Perennial herb. Alkaline, mesic soils in chaparral, coastal scrub, lower montane coniferous forest, Mojavean desert scrub, playas at 15-1530m elevation. Kern, LA, Orange, Riverside, San Bernardino, San Diego, Ventura Co, western US, Sonora Mex.	Mar-Jun	Fed: None Calif: S2 CRPR: 2B.2 USFS: S	Absent (Survey; No habitat)
Sphenopholis obtusata **Prairie wedge grass**	Perennial herb. Mesic areas in cismontane woodland, meadows and seeps at 300-2000m elevation. Locations in northern, central, southern California, throughout US, Baja and Sonora Mex.	Apr-Jul	Fed: None Calif: S2 CRPR: 2B.2	Absent (No habitat)
Streptanthus bernardinus **Laguna Mountain jewelflower**	Perennial herb. Chaparral, lower montane coniferous forest at 670-2500m elevation. Riverside, San Bernardino, San Diego Co.	May-Aug	Fed: None Calif: S3S4 CRPR: 4.3	Absent (Range; No habitat)
Streptanthus campestris **Southern jewelflower**	Perennial herb. Rocky soils in chaparral, lower montane coniferous forest, pinyon and juniper woodland at 900-2300m elevation. Imperial, Santa Barbara, Ventura, San Bernardino, Riverside, San Diego Co, Baja.	(Apr)May-Jul	Fed: None Calif: S3 CRPR: 1B.3 BLM: S USFS: S	Absent (No habitat, below elev. range)
Symphyotrichum defoliatum **San Bernardino aster**	Perennial rhizomatous herb. Near ditches, streams, springs in cismontane woodland, coastal scrub, lower montane coniferous forest, meadows and seeps, marshes and swamps, valley and foothill grasslands (vernally mesic) at 2-2040m elevation. Southern and Central California.	Jul-Nov	Fed: None Calif: S2 CRPR: 1B.2 BLM: S USFS: S	Low (Survey results)
Viola pinetorum ssp. grisea **Grey-leaved violet**	Perennial herb. Meadows and seeps, subalpine and upper montane coniferous forest at 1500-3400m elevation. Locations in northern, central, and southern CA.	Apr-Jul	Fed: None Calif: S3 CRPR: 1B.2	Absent (Below elev. Range, no suitable hab, survey results)
References: CDFW (2021a, 2021b), CNPS (2021), Dudek (2003), RCA (2019)				

Special Status Species	HABITAT AND DISTRIBUTION	Status Designation	Potential for Occurrence
FISH			
Catostomus santaanae **Santa Ana sucker**	Small to medium permanent streams. LA & San Gabriel drainage, lower Santa Ana River.	Fed: **THR** Calif: SA, S1 MSHCP: AC	Absent (No habitat)
Gila orcuttii **Arroyo chub**	Slow –moving or backwater sections of warm/ cool streams with mud or sand substrates. LA, San Gabriel, San Luis Rey, Santa Ana & Santa Margarita Rivers and Malibu and San Juan creeks.	Fed: None Calif: SSC, S2 USFS: S MSHCP: AC	Absent (No habitat)
Oncorhynchus mykiss irideus pop. 10 **Steelhead – So. California DPS**	South coast flowing waters. Fed listing refers to pops from Santa Maria River south to southern extent of range (San Mateo Creek in San Diego Co.)	Fed: END Calif: SA, S1	Absent (No habitat)
Rhinichthys osculus ssp 3 **Santa Ana speckled dace**	Endemic to Santa Ana and San Gabriel Riv. watersheds, historic in Big Tujunga Canyon. Santa Ana River populations in lower San Bernardino Mountain foothills & washes	Fed: None Calif: SSC, S1 USFS: S	Absent (No habitat)
AMPHIBIANS			
Batrachoseps gabrieli **San Gabriel slender salamander**	Lives & lays eggs in moist places on land. Found under large rocks, logs, & bark. A relict species found only in a few locations in San Gabriel Mts. & W end of San Bern. Mts. 2800-7800 ft. elev. Inhabits forested talus slopes, & shaded areas near a stream.	Fed: None Calif: SA, S2S3 USFS: S	Absent (No habitat)
Coleonyx variegatus abbotti **San Diego banded gecko**	Coastal and cismontane southern California. Found in granite or rocky outcrops in coastal scrub and chaparral.	Fed: None Calif: SSC, S1S2 MSHCP: AC	**Moderate** (Habitat present)
Rana muscosa **Southern mountain yellow-legged frog**	Always encountered within a few feet of water. Tadpoles may require up to 2 years to complete development	Fed: **END** Ca: **END**, WL, S1 MSHCP: AC c	Absent (No habitat)
Spea hammondii **Western spadefoot**	Cismontane woodland, coastal scrub, valley & foothill grassland, vernal pool. Breeds in quiet streams & vernal pools, burrows beneath sand during dry season. W CA, Central Valley to Baja California. From near sea level up to 4,500 ft elev.	Fed: None Ca: SSC, S3 BLM: S MSHCP: AC	Absent (No habitat)
REPTILES			
Anniella stebbinsi **Southern California legless lizard**	Various habitats, mainly shrublands, <6500 ft. elev. Coast Ranges from Bay area to N Baja CA, SW Sierra Nevada, parts of the Central Valley, Transverse & Peninsular Ranges.	Fed: None Calif: SSC, S3 USFS: S	**Moderate** (Habitat present)
Arizona elegans occidentalis **California glossy snake**	Arid scrub, rocky washes, grasslands, chaparral, often with loose or sandy soils. Patchily distributed from the eastern portion of San Francisco Bay, southern San Joaquin Valley, and the Coast, Transverse, and Peninsular Ranges, south to Baja California. Sea level to 7200' elev.	Fed: None Calif: SSC CNDDB: S2	**High** (Historic record crosses southern edge of site 1935, Suitable habitat)
Aspidoscelis hyperythra **Orange-throated whiptail**	Low-elevation coastal scrub, chaparral, and valley-foothill hardwood. Sandy areas, patches of rock. Southern California, west of desert, to tip of Baja California.	Fed: None Calif: WL, S2S3 USFS: S MSHCP: AC	**Occurs**

Special Status Species	HABITAT AND DISTRIBUTION	Status Designation	Potential for Occurrence
Aspidoscelis tigris stejnegeri **Coastal whiptail**	Primarily hot, dry open areas with sparse foliage, chaparral, woodland, riparian; coastal So CA, mostly west of Peninsular Ranges and south of Transverse Ranges, north into Ventura County, below ±7000' elev. and into Baja.	Fed: None Calif: SSC, S3 MSHCP: AC	**Occurs** (AMEC 2006)
Charina trivergata **Rosy boa**	Rocky brushlands and desert. Attracted to permanent and intermittent streams. Death Valley, CA., to the tip of Baja California, and coastal southern CA to south-central Arizona. No longer considered a special status species.	Fed: None Calif: None	**Occurs**
Charina umbratica **Southern rubber boa**	Found in a few locales in San Bernardino & San Jacinto Mtn. ranges. Moist coniferous forest and woodlands from about 5000-9000 ft. elev. Fossorial, nocturnal, sometimes crepuscular. Hibernates in rock outcrops, rotting logs, or other underground refuges. Active April-October. Thick duff and downed logs important for cover. Usually found within several hundred meters of water.	Fed: None Calif: **THR,** S2S3 USFS: S MSHCP: NAC f	Absent (No habitat, elevation)
Crotalus ruber **Red-diamond rattlesnake**	Desert scrub, thorn scrub, chaparral below 4,000ft. San Bernardino County S through most of Baja California, Mexico.	Fed: None Calif: SSC, S3 USFS: S MSHCP: AC	**Occurs**
Diadophis punctatus ssp. modestus **San Bernardino ringneck snake**	Open relatively rocky areas within valley-foothill locales, mixed chaparral/annual grasslands. Prefers moist habitats. W San Diego & Riv. Cos., SW San Bern., Vent. & LA Cos., NW Baja CA.	Fed: None Calif: SA, S2? USFS: S	**Moderate** (Habitat present)
Emys marmorata **Western pond turtle**	Perennial ponds, streams, marshes, irrigation ditches. Coastal S & cent. CA, NW Baja CA, below about 4800 ft. elev. (few higher elev. pops.)	Fed: None Calif: SSC, S3 BLM: S USFS: S MSHCP: AC	Absent
Lampropeltis zonata parvirubra **California mountain Kingsnake** (San Bernardino pop.)	Forests & chaparral with rock outcrops or talus, often riparian. 1200-8100ft. elev. San Gabriel, San Bernardino, & San Jacinto Mts. Recent taxonomic changes, no longer considered a special status species.	Fed: None Calif: None USFS: S MSHCP: NAC f	Absent-Low (Habitat and Elevation requirement)
Phrynosoma blainvillii **Coast horned lizard**	Coastal sage scrub, low elevation chaparral, annual grassland, oak & riparian woodlands, coniferous forest. SW California to NW Baja California, Mexico.	Fed: None Calif: SSC, S3S4 BLM: S MSHCP: AC	**Occurs** (AMEC 2006)
Salvadora hexalepis virgultea **Coast patch-nosed snake**	Shrublands, washes, sandy flats, rocky areas; Santa Barbara county through southwest Calif., to northwest Baja Calif.	Fed: None Ca: SSC, S2S3	**High** (Habitat present, observed on adjacent site)
Thamnophis hammondii **Two-striped garter snake**	Usually in or near perennial fresh water & adjacent riparian habitat, pools in streams. SW CA & NW Baja California.	Fed: None Calif: SSC, S3S4 BLM: S USFS: S	Absent (No habitat)
BIRDS			

Special Status Species	HABITAT AND DISTRIBUTION	Status Designation	Potential for Occurrence
Accipiter cooperii **Cooper's hawk**	Cismontane woodland, riparian forest, riparian woodland, upper montane coniferous forest. Forages in open areas over scrublands; California, Mexico, Central America. Nests in trees, often in dense woods. Year-round resident in most of southern California range. CNDDB only tracks nesting.	Fed: None Calif: WL, S4 MSHCP: AC	Nesting: Absent Foraging: **Occurs** (observed on Project site [L&L])
Accipiter striatus **Sharp-shinned hawk**	Ponderosa pine, black oak, riparian deciduous, mixed conifer, and Jeffrey pine habitats. Prefers riparian areas. North-facing slopes with plucking perches are critical requirements. Nests usually within 275 ft of water. Breeding range in CA poorly known, probably breeds primarily in northern half of state.	Fed: None Calif: WL, S4 MSHCP: AC	Nesting: Absent Foraging: **High** (observed on adjacent site)
Agelaius tricolor **Tricolored blackbird**	Breeds colonially in freshwater marshes, nomadic among marshes and fields in winter; almost completely endemic to Calif. Year-round resident in southern California range. CNDDB only tracks nesting.	Fed: BCC Calif: **THR**, SSC, S1S2 BLM: S MSHCP: AC	Absent (No habitat)
Aimophila ruficeps canescens **Southern California rufous-crowned sparrow**	Sparse, mixed chaparral, scrub, rocky, brushy slopes. Central California to Baja California. Year-round resident in southern California range.	Fed: None Calif: WL, S3 MSHCP: AC	**Occurs**
Aquila chrysaetos **Golden eagle**	Found in a variety of habitats from sea level to 11,500 feet, rugged open habitats preferred. Large platform nests constructed on secluded cliffs, large trees, and occasionally structures (i.e., electrical transmission towers). CNDDB tracks nesting and wintering.	Fed: BGEPA, BCC Calif: **FP**, WL, S3 BLM: S MSHCP: AC	Nesting: Absent Foraging: Low
Ardea alba **Great egret**	Brackish and freshwater marshes, estuary, riparian forest, wetland. Colonial nester in large trees. Rookery sites located near marshes, tide-flats, irrigated pastures, and margins of rivers and lakes. CNDDB only tracks nesting colonies.	Fed: none Calif: SA, S4	Occurs (probably fly over)
Artemisiospiza belli belli **Bell's sage sparrow**	Sage scrub and chaparral communities. Nests mainly in shrubs, also in grass, and occasionally on ground under shrub. Found in coastal sage scrub in south of range. Central Washington southward to Baja California, Mexico. Year-round resident in southern CA.	Fed: None Calif: WL, S3 MSHCP: AC	**High** (observed on adjacent site)
Athene cunicularia **Burrowing owl**	Nests in burrows, often rodent burrows, usually in grasslands. Forages in open habitat; increasingly uncomm. in S CA. Occurs through W US/Mex. Sparse in desert scrub but common around irrigated lands. CNDDB tracks burrow sites and some wintering sites.	Fed: BCC Calif: SSC, S3 MSHCP: AC c	Project site: Absent (Based on survey)
Baeolophus inornatus **Oak titmouse**	Open pine or mixed oak-pine forest, juniper woodland, pinyon or juniper mixed with Joshua trees. Not migratory. CNDDB only tracks nesting.	Fed: BCC Calif: SA, S4	Absent

Special Status Species	HABITAT AND DISTRIBUTION	Status Designation	Potential for Occurrence
Buteo swainsoni **Swainson's hawk**	Grassland/agricultural, large trees for nesting, desert scrub with Joshua tree & Fremont cottonwood overstory, near streams & open fields. Breeds overwhelmingly in Great Basin & Central Valley of California. Seen in migration in southern California. CNDDB only tracks nesting.	Fed: BCC Calif: **THR**, S3 BLM: S MSHCP: AC	Nesting: Absent Foraging: Low
Calypte costae **Costa's hummingbird**	Desert and coastal scrub and chaparral in desert, semi-desert and mountain foothills and seasonally in mountains, adjacent open meadows and gardens. Found in NV, UT, AZ, CA and Mexico. Year-round resident in southern CA. CNDDB only tracks nesting.	Fed: BCC Calif: SA, S4	**Occurs**
Chamaea fasciata **Wrentit**	Chaparral, oak woodland, shrublands, western CA, northwestern Baja, western Oregon. Year-round resident in southern CA range. CNDDB does not track this species.	Fed: BCC Calif: None	**High** (multiple ebird records in vicinity)
Circus hudsonius (Circus cyaneus) **Northern harrier**	Open habitats with hunting perches, marshes, meadows, grasslands, pastures, croplands, lake and river edges. Nests on the ground. Breeds widely but locally in North America, various portions of CA including Central Valley, central and northern coast, northeastern CA, and southern coastal CA. Does not breed in most of southern CA range. CNDDB only tracks nesting.	Fed: None Calif: SSC, S3 MSHCP: AC	Nesting: Absent Foraging: **Occurs** (Based on previous survey)
Coccyzus americanus occidentalis **Western yellow-billed cuckoo**	Open woods, orchards, riparian willow, riparian forest and alder forests. Most of the United States (excluding the northwestern states), and into Baja California and northern Mexico.	Fed: **THR**, BCC Calif: **END**, S1 BLM: S USFS: S MSHCP: AC a	Absent (No habitat)
Coturnicops noveboracensis **Yellow rail**	Summer resident in eastern Sierra Nevada. Freshwater marshlands. Occurs year round in California, very local breeder in NE interior and winter visitor on the coast and Suisun Marsh region, central and southern coastal US, parts of Canada, south central Oregon.	Fed: BCC Calif: SSC, S1S2 USFS: S (Lassen and Shasta-Trinity National Forests)	Absent (No habitat)
Dryobates (Picoides) nuttallii **Nuttall's woodpecker**	Found in low elevation riparian and oak woodlands; rarely in conifers. Central Valley, Transverse and Peninsular Ranges, Coast Ranges north to Sonoma Co., lower portions of the Cascade Range and Sierra Nevada. Year-round resident throughout coastal mountains of CA. Not tracked in CNDDB.	Fed: BCC Calif: None	Low (no suitable habitat, multiple ebird records in vicinity of Santa Ana River)
Empidonax traillii extimus **Southwestern willow flycatcher**	Dense riparian forests, wet mountain meadow systems with standing water for at least part of the breeding season (May to July) & with ample numbers of willow & other associated trees & shrubs. Rare & local in S CA. SW US & N Baja California. CNDDB only tracks nesting.	Fed: **END** Calif: **END**, S1 MSHCP: AC a	Absent (No habitat)

Special Status Species	HABITAT AND DISTRIBUTION	Status Designation	Potential for Occurrence
Eremophila alpestris actia **California horned lark**	Variety of open habitats with low growing vegetation or bare ground, grasslands, rangelands, "bald" hills, mtn. meadows, open coastal plains, fallow fields, alkali flats. Within coastal Sonoma Co. to San Diego Co., San Joaquin Valley & E to foothills.	Fed: None Calif: WL, S4 MSHCP: AC	**High**
Falco columbarius **Merlin**	Woodlands, grasslands, agricultural fields, and areas around livestock feed lots. Dense tree stands close to bodies of water are needed for cover. Uses a wide variety of habitats. Winter migratory bird to southern California.	Fed: None Calif: WL, S3S4 MSHCP: AC	Low (poor hab. Adj. to agriculture)
Falco peregrinus anatum **American peregrine falcon**	Broad array of habitats, including urban. Near wetlands, lakes, rivers, or other water; on cliffs, banks, dunes, mounds; also, human-made structures. Nest consists of a scrape or a depression or ledge in an open site. Nest sites usually associated with water. CNDDB only tracks nesting.	Fed: Delisted, BCC Calif: Delisted, FP, S3S4 MSHCP: AC	**Moderate**
Icteria virens **Yellow-breasted chat**	Summer resident, inhabits riparian thickets of willow near watercourses, low dense riparian willow. Migrant and summer resident in CA, northern CA, central coast, eastern Central Valley, coastal southern CA, Colorado River, western US, Canada, Mexico, Central America. CNDDB only tracks nesting.	Fed: None Calif: SSC, S3 MSHCP: AC	Absent (No habitat)
Lanius ludovicianus **Loggerhead shrike**	Open areas where small trees, shrubs, and fences can provide suitable perches. Nests in small trees and large shrubs. Throughout much of North America. CNDDB only tracks nesting.	Fed: BCC Calif: SSC, S4 MSHCP: AC	Nesting: **Mod** Foraging: **High** (observed on adjacent site)
Laterallus jamaicensis coturniculus **California black rail**	Saline, brackish, and freshwater emergent wetlands. San Francisco Bay area, Sacramento-San Joaquin Delta, scattered locations on coastal southern CA, Salton Sea, lower Colorado River, scattered locations in US, Mex, Central America.	Fed: None Calif: **THR, FP**, S1 BLM: S	Absent (no suitable hab.)
Melanerpes lewis **Lewis's woodpecker**	Breeds in open forest and woodland with an open canopy and brushy understory. Requires dead trees for nest cavities. Open ponderosa pine forest, open riparian woodland, logged or burned pine forest, oak woodlands, orchards, pinyon-juniper woodland, pine and fir forest, agricultural areas. CNDDB only tracks nesting.	Fed: BCC Calif: SA, S4	Low (no suitable nesting habitat, two ebird records in vicinity of Santa Ana River)
Polioptila californica californica **Coastal California gnatcatcher**	Sage scrub, also chaparral, grasslands, riparian adjacent to or mixed with sage scrub. S Ventura Co. to LA, Orange, Riv., San Bern., San D. Cos into Baja CA, Mexico.	Fed: **THR** Calif: SSC, S2 MSHCP: AC	**Occurs** (Incidental obs. 2017. Likely dispersing juveniles. Observed on adjacent site)

Special Status Species	HABITAT AND DISTRIBUTION	Status Designation	Potential for Occurrence
Selasphorus rufus **Rufous hummingbird**	Breeds in open or shrubby areas, forest openings, yards and parks. Sometimes forests, thickets, swamps, meadows. Elev. range 0-6000 ft. Migrating birds can be up to 12,600 ft. Wintering birds in oak, pine, and juniper woodlands. Found in Western US and Canada. Generally migrates through southern CA during pre-breeding migratory season (mid-Feb to mid-May). CNDDB only tracks nesting.	Fed: BCC Calif: SA, S1S2	**Moderate** (migration) (multiple ebird records in project vicinity)
Setophaga petechia **Yellow Warbler**	Migrant and summer resident in southern CA. Riparian, including willow, cottonwood, sycamore, alder, aspen for nesting & foraging, also conifer forest. CNDDB only tracks nesting.	Fed: BCC Calif: SSC, S3S4 MSHCP: AC	Low (Habitat)
Spinus lawrencei **Lawrence's goldfinch**	Summer breeder, may overwinter. Coastal side of southern and central CA, western edge of southern deserts, east side of Central Valley into northern CA, Colorado River, SW US and northern Mex. Valley foothill hardwood and hardwood-conifer, desert riparian, pinyon juniper, palm oasis, lower montane. CNDDB only tracks nesting.	Fed: BCC Calif: SA, S3S4	Nesting: Low Foraging: **Occurs**
Spizella atrogularis **Black-chinned sparrow**	Chaparral, sagebrush, arid scrublands, and brushy hillsides, rugged slopes. Sea level to 2700m elevation. Brush generally tall (1–2 m), at least moderately dense, of mixed species, and broken by rocky outcrops and scattered large shrubs or trees. Not tracked in the CNDDB.	Fed: BCC Calif: None	High (observed on adjacent site)
Spizella breweri **Brewer's sparrow**	Treeless shrub and desert scrub habitats. Summer resident/breeder east of Cascade-Sierra Nevada crest, mountains and higher valleys of Mojave Desert and at southern end of San Joaquin Valley. Uncommon breeder at higher elevations of San Bernardino, Ventura, Kern, and San Luis Obispo Cos. Winter range includes southern Mojave and Colorado deserts. CNDDB only tracks nesting.	Fed: BCC Calif: SA, S4	**Moderate** (observed on adjacent site, probably in migration)
Vireo bellii pusillus **Least Bell's vireo**	Riparian woodlands, bottomlands. N Mex. & Baja CA into S CA & the S mid-western US. CNDDB only tracks nesting.	Fed: **END** Calif: **END**, S2 MSHCP: AC a	Absent-Low
MAMMALS			

Special Status Species	HABITAT AND DISTRIBUTION	Status Designation	Potential for Occurrence
Antrozous pallidus **Pallid bat**	Rock outcrops of shrublands, ≤ 6000' elevation; southwest North America to interior Oregon and Washington; hibernates in winter. Locally common at low elevations in grasslands, shrublands, woodlands, and forests. Most common in open, dry habitats with rocky areas for roosting. Forages over open ground. Roosts in caves, crevices, mines, hollow trees, buildings. Very sensitive to disturbance of roosting sites.	Fed: None Calif: SSC, S3 BLM: S USFS: S	Roosting: **Moderate** Foraging: **Moderate**
Chaetodipus fallax fallax **Northwestern San Diego pocket mouse**	Sandy herbaceous areas, usually in association with rocks or coarse gravel, chaparral, coastal scrub, grasslands. SW CA & NW Baja California (inland to San Bernardino Valley).	Fed: None Calif: SSC, S3S4 MSHCP: AC	**Moderate**
Chaetodipus fallax pallidus **Pallid San Diego pocket mouse**	Sandy, herbaceous areas, usually in association with rocks or coarse gravel, desert wash, desert scrub, pinyon juniper, chaparral. San Diego, Riv, Imperial, LA, San Bern cos.	Fed: none Calif: SSC, S3S4	Low
Dipodomys merriami parvus **San Bernardino kangaroo rat**	Alluvial floodplains and adjacent upland habitats within the San Bernardino, Menifee, and San Jacinto valleys, Riversidean alluvial fan sage scrub.	Fed: **END** Calif: **CanE**, SSC, S1 MSHCP: AC c	Low
Dipodomys stephensi **Stephens' kangaroo rat**	Sparse, gently sloping grassland, sometimes at margins of cultivated or disturbed lands; prefers grassland dominated by forbs rather than annual grasses, prefers sparse perennial vegetation; firm soil for burrowing (not too hard or too sandy); may use abandoned gopher burrows; W Riverside Co. and adjacent San Diego Co. San Bernardino County occurrences extirpated. No critical habitat has been designated.	Fed: **END** Ca: **THR**, S2 MSHCP: AC	Low
Eumops perotis californicus **Western mastiff bat**	Lowlands (with rare exceptions), many open, semi-arid to arid habitats, conifer and deciduous woodlands, coastal scrub, grasslands, chaparral. Central & S CA, S AZ, NM, SW TX. Roosts in deep rock crevices, high buildings, trees, and tunnels; forages over wide area.	Fed: None Calif: SSC, S3S4 BLM: S	Roosting: **Moderate** Foraging: **Moderate**
Glaucomys oregonensis californicus **San Bernardino flying squirrel**	Mature mixed conifer forest (white fir, Jeffrey pine, & black oak) with large trees & snags, closed canopy, downed woody debris, & riparian areas. 4000-8500 ft. elev. San Bernardino & San Jacinto Mt. Ranges (may be extirpated in the San Jacinto Mts.).	Fed: None Calif: SSC, S1S2 USFS: S MSHCP: NAC e	Absent (No habitat)
Lasiurus blossevillii **Western red bat**	Cismontane woodland, lower montane coniferous forest, riparian woodland/forest. Roosts primarily in trees, 2-40 ft above ground, from sea level up through mixed conifer forests. Prefers habitat edges and mosaics with trees that are protected from above and open below with open areas for foraging. Migratory.	Fed: None Calif: SSC, S3	Low-Absent (No cottonwood habitat, minimal riparian)

Special Status Species	HABITAT AND DISTRIBUTION	Status Designation	Potential for Occurrence
Lasiurus xanthinus **Western yellow bat**	Valley foothill riparian, desert riparian, desert wash, palm oasis. Roosts in trees, particularly palms. Forages over water and among trees. Desert regions of the SW US. Distributed in S CA, AZ, NM, & TX, into Mexico.	Fed: None Calif: SSC, S3	Low (habitat)
Lepus californicus bennettii **San Diego black-tailed jackrabbit**	Chaparral, coastal, or Riversidean sage scrub with adjacent open grassland. Los Angeles Co. S to San Quintin, Baja California, Mexico.	Fed: None Calif: SSC, S3S4 MSHCP: AC	**Occurs** (Observed)
Neotoma lepida intermedia **San Diego desert woodrat**	Arid shrublands, rocky outcrops, & crevices. Cismontane CA., San Luis Obispo to San Diego Co. & NW Baja California. 0-7000 ft. elev. Variety of shrub and desert habitats, primarily associated with rock outcroppings, boulders, cacti, or areas of dense undergrowth. Constructs elaborate middens of sticks and other materials.	Fed: None Calif: SSC, S3S4 MSHCP: AC	Low (Habitat but no sign)
Nyctinomops femorosaccus **Pocketed free-tailed bat**	Deserts & arid lowlands, pinyon juniper woodlands, desert scrub, riparian scrub, Joshua tree woodland, rocky areas with high cliffs. E Riverside & San Diego Cos. and Imperial Co., through SW US, Baja California, mainland Mexico. Roost mainly in crevices of high cliffs. Few records in So CA. Prefers rocky desert areas with high cliffs or rock outcrops. Feeds over ponds, streams, and arid desert.	Fed: None Calif: SSC, S3	Roosting: **Moderate** Foraging: **Moderate**
Onychomys torridus ramona **Southern grasshopper mouse**	Nocturnal, active year-round. Desert scrub, coastal scrub, mixed chaparral, sagebrush, especially scrub habitats with friable soil, prefers low to moderate shrub cover. LA through San Diego counties and northwest Baja.	Fed: None Calif: SSC, S3	Low
Ovis canadensis nelsoni **Desert bighorn sheep**	Desert mountains of SE California, SW US and Mex. Rocky, steep terrain, scrub and grassland.	Fed: None Calif: **FP**, S3 BLM: S USFS: S	Absent (Range)
Perognathus longimembris brevinasus **Los Angeles pocket mouse**	Nocturnal, active Apr-Aug. Annual grassland, sage scrub, alluvial sage scrub. S California from Rancho Cucamonga (W boundary), San Gorgonio (E), Aguanga & Oak Grove, San Diego (S). Open ground with fine, sandy soils.	Fed: None Calif: SSC, S1S2 MSHCP: AC c	Low
Taxidea taxus **American badger**	Mountains, deserts, interior valleys where burrowing animals are available as prey & soil permits digging. Throughout Central & W North America.	Fed: None Calif: SSC, S3	Absent (No burrows)
INVERTEBRATES			
Bombus crotchii **Crotch bumble bee**	Coastal CA E to Sierra-Cascade crest & S into Mexico. Open grassland and scrub habitats. Food plant genera include *Antirrhinum, Asclepias, Chaenactis, Lupinus, Medicago, Salvia, Phacelia, Clarkia, Dendromecon, Eschscholzia,* and *Eriogonum*. Lives in colonies that may be underground in rodent holes or above ground in rock piles, tree cavities, etc.	Fed: None Calif: CanE, S1S2	**Occurs**

Special Status Species	HABITAT AND DISTRIBUTION	Status Designation	Potential for Occurrence
Carolella busckana **Busck's gallmoth**	Beaches, salt marshes, sand dunes and coastal scrub dunes, presumed extirpated.	Fed: None Calif: SA, SH	Absent (No habitat)
Ceratochrysis longimala **Desert cuckoo wasp**	Chaparral, scrub habitats, juniper. LA, Riv, Ventura cos. Possibly extirpated.	Fed: None Calif: SA, S1	Low
Cicindela tranquebarica viridissima **Greenest tiger beetle**	Riparian woodland adjacent to Santa Ana River basin, usually found in open spots between trees.	Fed: None Calif: SA, S1	Absent (No habitat)
Euchloe hyantis andrewsi **Andrew's marble butterfly**	Rocky canyons, cliffs, moraines, & gravelly flats. Larvae host plants – native mustards, especially *Streptanthu*s sp. S Oregon S through CA W of Sierra Nevada crest to N Baja California.	Fed: None Calif: SA, S1	Absent (No habitat)
Euphydryas editha quino Quino checkerspot butterfly	Coastal scrub, open chaparral, juniper woodland, native grassland. Western Riverside Co., southern San Diego Co., Baja. Flight season from mid-Jan to late May. Host plants are dwarf plantain (*Plantago erecta*), purple owl's clover (*Castilleja exserta*), white snapdragon (*Antirrhinum coulterianum*), wooly plantain (*Plantago patagonica*), thread-leaved bird's beak (*Cordylanthus rigidus*). USFWS considers species extirpated in San Bernardino Co.	Fed: **END** Calif: SA, S1S2 MSHCP: AC	Not expected. Potentially suitable habitat. Not observed during surveys, no documented occurrences within 5 mi. Nearest are 7.1 mi. NE (from 1914 and extirpated) and 8.0 mi. S (from 1945 and possible extirpated).
Neolarra alba White cuckoo bee	Cleptoparasitic in the nests of perdita bees. Known only from localities in Southern California. All occurrences are historical.	Fed: None Calif: SA, SH	Not expected. All known occurrences are historical. Two documented occurrences within 5 mi., from 1928 and 1937, likely extirpated by development.
Rhaphiomidas terminatus abdominalis **Delhi Sands flower-loving fly**	Delhi fine sands, often with unconsolidated dunes present. SW San Bernardino Co. & NW Riverside Co.	Fed: **END** Calif: SA, S1 MSHCP: AC	**Occurs** (Based on 2005 survey)
Streptocephalus woottoni **Riverside fairy shrimp**	Endemic to Western Riverside, Orange, and San Diego counties in areas of tectonic swales/earth slump basins in grassland and coastal sage scrub. Coastal scrub, valley & foothill grassland, vernal pool, wetland. Inhabit seasonally astatic pools filled by winter/spring rains. Hatch in warm water later in the season. Generally restricted to pools greater than 12 inches deep.	Fed: **END** Calif: SA, S1S2 MSHCP: AC a	Absent (No vernal pool habitat)
CDFW (2020a, 2021a), USFWS (2021), Dudek (2003), RCA (2019); BNA (2020); eBird (2020)			

Documented occurrences refers to species occurrences in the California Natural Diversity Database (CNDDB) unless otherwise noted. For plant species that are not tracked in the CNDDB, records from the Consortium of California Herbaria (CCH) may be used. eBird (eBird.org) records of bird observations are noted but should be interpreted with caution.

Federal designations: (Federal Endangered Species Act, U. S. Fish and Wildlife Service):

END: Federally listed, endangered; an animal or plant in danger of extinction within the foreseeable future throughout all or a significant portion of its range.

THR: Federally listed, threatened; an animal or plant which is likely to become an Endangered species within the foreseeable future throughout all or a significant portion of its range.
Cand Candidate for federal listing as threatened or endangered; species that has been studied by the U.S. Fish and Wildlife Service, and the Service has concluded that it should be proposed for addition to the Federal Endangered and Threatened species list.
Prop Proposed for federal listing as Endangered or Threatened under Section 4 of the Endangered Species Act.
Delisted: Previously federally listed as endangered or threatened, but is no longer listed (e.g., due to recovery).
None: The species has no federal conservation status.
BGEPA: Federal Bald and Golden Eagle Protection Act; protects bald and golden eagles.
BCC: USFWS Bird of Conservation Concern; migratory and non-migratory bird species (beyond those already designated as Federally threatened or endangered) that represent USFWS highest conservation priorities.

State designations: (California Endangered Species Act, California Dept. of Fish and Wildlife)
END: State listed, endangered; 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.
CanE: Candidate Endangered; a native species or subspecies of a bird, mammal, fish, amphibian, reptile, or plant that the Fish and Game Commission has formally noticed as being under review by the Department of Fish and Wildlife for addition to the list of endangered species, or a species for which the commission has published a notice of proposed regulation to add the species to the list of endangered species.
CanF: Candidate Threatened; a native species or subspecies of a bird, mammal, fish, amphibian, reptile, or plant that the Fish and Game Commission has formally noticed as being under review by the Department of Fish and Wildlife for addition to the list of threatened species, or a species for which the commission has published a notice of proposed regulation to add the species to the list of threatened species.
THR: State listed, threatened; 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 special protection and management efforts.
RARE: State listed as rare: a native plant species, subspecies, or variety when, although not presently threatened with extinction, it is in such small numbers throughout its range that it may become endangered if its present environment worsens (Native Plant Protection Act of 1977).
SSC: CDFW Species of Special Concern; vertebrate species of concern due to declining population levels, limited ranges, and/or continuing threats that have made them vulnerable to extinction.
FP: Fully Protected; California Fish and Game Code states that Fully Protected species "...may not be taken or possessed at any time and no provision of this code or any other law shall be construed to authorize the issuance of permits or licenses to take any fully protected" species, although take may be authorized for necessary scientific research.
Delisted: Previously state listed as threatened or endangered, but no longer listed (e.g., due to recovery).
SA: CDFW Special Animal; wildlife of state conservation concern.
SH: All California sites are historical, still some hope of rediscovery.
SX: All California sites are historical, presumed extirpated.
None: The species has no state conservation status.

State Rank (S Rank): A reflection of the condition and imperilment of an element (plant, animal, vegetation community) throughout its range within the state. The S ranks are determined through a combination of rarity, threat, and trend factors, weighted more heavily on the rarity factors. Where correct category is uncertain, the S rank includes two categories or a question mark. Older ranks, which need to be updated, may still contain a decimal "threat" rank of .1, .2, or .3, where .1 indicates very threatened status, .2 indicates moderate threat, and .3 indicates few or no current known threats.

S1: Critically imperiled; imperiled in the state because of extreme rarity or some factor(s) making it especially vulnerable to extirpation from the state.
S2: Imperiled; imperiled in the state because of rarity due to very restricted range, very few populations, steep declines, or other factors making it very vulnerable to extirpation from the state or nation.
S3: Vulnerable; vulnerable in the state due to a restricted range, relatively few populations, recent and widespread declines, or other factors making it vulnerable to extirpation. S4: Apparently secure; uncommon but not rare, some cause for long-term concern due to declines or other factors.

S5: Secure; common, widespread, and abundant in the state.
SH: Possibly extirpated; species or community occurred historically in the state, and there is some possibility that it may be rediscovered. The element has not been seen for at least 20 years, but suitable habitat still exists.
SX: Presumed extirpated; species or community is believed to be extirpated from the state.

California Rare Plant Rank (CRPR): The *California Rare Plant Ranks* are a ranking system originally developed by the California Native Plant Society (CNPS) to better define and categorize rarity in California's plants. These ranks were previously known as the CNPS lists but were renamed to the *California Rare Plant Ranks* to better reflect the joint effort among the CNPS, the CDFW, and a wide range of botanical experts, who work together to assign a rarity ranking.

1A: Plants presumed extinct in California and rare/extinct elsewhere.
1B: Plants rare, threatened, or endangered in California and elsewhere.
2A: Plants presumed extirpated in California, but more common elsewhere.
2B: Plants rare, threatened, or endangered in California but more common elsewhere.
3: Plants about which we need more information.
4: Plants of limited distribution.
X.1: Extension to CRPR (e.g., 1B.1); seriously threatened in California.
X.2: Extension to CRPR (e.g., 1B.2); fairly threatened in California.
X.3: Extension to CRPR (e.g., 1B.3); not very threatened in California.
CBR: Considered but rejected.

U.S. Forest Service (USFS) designation:

S: Sensitive; plant and animal species identified by a regional forester that are not listed or proposed for listing under the Federal Endangered Species Act for which population viability is a concern, as evidenced by significant current or predicted downward trends in population numbers or density, or significant current or predicted downward trends in habitat capability that would reduce a species' existing distribution.

Bureau of Land Management (BLM designation:

S: Sensitive; plant and animal species requiring special management consideration to promote their conservation and reduce the likelihood for future listing under the Federal Endangered Species Act. Includes species designated as sensitive by the BLM State Director and all Federal Candidate species and Federal delisted species in the 5 years following delisting. Sensitive species are managed as special status species.

Western Riverside County Multiple Species Habitat Conservation Plan: Applied to species that are covered under state and federal permits for the MSHCP.

NAC: Species Not Adequately Conserved
AC: Species Adequately Conserved
(a): Surveys may be required for these species as part of wetlands mapping as described in Section 6.1.2 of the MSHCP.
(b): Surveys may be required for these species within Narrow Endemic Plant Species survey area as described in Section 6.1.3 of the MSHCP.
(c): Surveys may be required for these species within locations shown on survey maps as described in Section 6.3.2 of the MSHCP.
(d): Surveys may be required for these species within Criteria Area as described in Section 6.3.2 of the MSHCP.
(e): These Covered Species will be considered Adequately Conserved when conservation requirements identified in species-specific conservation objectives have been met. Species-specific conservation objectives for these species are presented in Section 9.0 of the MSHCP. Please refer to Table 9-3 of the MSHCP for specific conservation objectives that must be met for these species prior to including them on the list of Covered Species Adequately Conserved.
(f): These Covered Species will be considered Adequately Conserved when a Memorandum of Understanding is executed with the U.S. Forest Service that addresses management for these species on Forest Service Land. Refer to Table 9-3 of the MSHCP.
No entry: Not a Covered Species

Definitions of occurrence probability:

These definitions provide general guidance. Classifications for individual species may be modified based on biologists' experience and expert opinion.

Occurs:	Species was detected during surveys or previously documented on the Project site or adjacent areas.
High:	Species documented in the vicinity (i.e., within 5 miles) of the Project site and suitable habitat is present, but species not detected during surveys.
Moderate:	Species documented in the vicinity of the Project site or suitable habitat present and site is within geographic and elevational range of the species.
Low:	Species not documented in the vicinity of the Project site or suitable habitat is marginal.
Not Expected:	Species not documented in the vicinity of the Project site and suitable habitat marginal or absent, or site is not within geographic and elevational range of the species.
Absent:	No potential for the species to occur due to lack of habitat, geographic or elevation range, species life history, survey results, etc.
Unknown:	No focused surveys have been performed in the region, and the species' distribution and habitat are poorly known.

Table 13. MSHCP Table 6-2. **PLANTS THAT SHOULD BE AVOIDED ADJACENT TO THE MSHCP CONSERVATION AREA** (Taken Directly from MSHCP Section 6.1.4)

BOTANICAL NAME	COMMON NAME
Acacia spp. (all species)	acacia
Achillea millefolium var. *millefolium*	common yarrow
Ailanthus altissima	tree of heaven
Aptenia cordifolia	red apple
Arctotheca calendula	cape weed
Arctotis spp. (all species & hybrids)	African daisy
Arundo donax	giant reed or arundo grass
Asphodelus fistulosus	asphodel
Atriplex glauca	white saltbush
Atriplex semibaccata	Australian saltbush
Carex spp. (all species*)	sedge
Carpobrotus chilensis	ice plant
Carpobrotus edulis	sea fig
Centranthus ruber	red valerian
Chrysanthemum coronarium	annual chrysanthemum
Cistus ladanifer (incl. hybrids/varieties)	gum rockrose
Cortaderia jubata [*syn.C. Atacamensis*]	jubata grass, pampas grass
Cortaderia dioica [syn. *C. sellowana*]	pampas grass
Cotoneaster spp. (all species)	cotoneaster
Cynodon dactylon (incl. hybrids varieties)	Bermuda grass
Cyperus spp. (all species*)	nutsedge, umbrella plant
Cytisus spp. (all species)	broom
Delosperma 'Alba'	white trailing ice plant
Dimorphotheca spp. (all species)	African daisy, Cape marigold
Drosanthemum floribundum	rosea ice plant
Drosanthemum hispidum	purple ice plant
Eichhornia crassipes	water hyacinth
Elaegnus angustifolia	Russian olive
Eucalyptus spp. (all species)	eucalyptus or gum tree
Eupatorium coelestinum [syn. *Ageratina* sp.]	mist flower
Festuca arundinacea	tall fescue
Festuca rubra	creeping red fescue
Foeniculum vulgare	sweet fennel
Fraxinus uhdei (and cultivars)	evergreen ash, shamel ash
Gaura (spp.) (all species)	gaura
Gazania spp. (all species & hybrids)	gazania
Genista spp. (all species)	broom
Hedera canariensis	Algerian ivy
Hedera helix	English ivy
Hypericum spp. (all species)	St. John's Wort
Ipomoea acuminata	Mexican morning glory
Lampranthus spectabilis	trailing ice plant
Lantana camara	common garden lantana
Lantana montevidensis [syn. *L. sellowiana*]	lantana
Limonium perezii	sea lavender
Linaria bipartita	toadflax
Lolium multiflorum	Italian ryegrass
Lolium perenne	perennial ryegrass
Lonicera japonica (incl. 'Halliana')	Japanese honeysuckle
Lotus corniculatus	birdsfoot trefoil

TABLE 6-2. PLANTS THAT SHOULD BE AVOIDED ADJACENT TO THE MSHCP CONSERVATION AREA (*Cont.*)

BOTANICAL NAME	COMMON NAME
Lupinus arboreus	yellow bush lupine
Lupinus texanus	Texas blue bonnets
Malephora crocea	ice plant
Malephora luteola	ice plant
Mesembryanthemum nodiflorum	little ice plant
Myoporum laetum	myoporum
Myoporum pacificum	shiny myoproum
Myoporum parvifolium (incl. 'Prostratum')	ground cover myoporum
Oenothera berlandieri	Mexican evening primrose
Olea europea	European olive tree
Opuntia ficus-indica	Indian fig
Osteospermum spp. (all species)	trailing African daisy, African daisy,
Oxalis pes-caprae	Bermuda buttercup
Parkinsonia aculeata	Mexican palo verde
Pennisetum clandestinum	Kikuyu grass
Pennisetum setaceum	fountain grass
Phoenix canariensis	Canary Island date palm
Phoenix dactylifera	date palm
Plumbago auriculata	cape plumbago
Polygonum spp. (all species)	knotweed
Populus nigra 'italica'	Lombardy poplar
Prosopis spp. (all species*)	mesquite
Ricinus communis	castorbean
Robinia pseudoacacia	black locust
Rubus procerus	Himalayan blackberry
Sapium sebiferum	Chinese tallow tree
Saponaria officinalis	bouncing bet, soapwart
Schinus molle	Peruvian pepper tree, California pepper
Schinus terebinthifolius	Brazilian pepper tree
Spartium junceum	Spanish broom
Tamarix spp. (all species)	tamarisk, salt cedar
Trifolium tragiferum	strawberry clover
Tropaelolum majus	garden nasturtium
Ulex europaeus	prickly broom
Vinca major	periwinkle
Yucca gloriosa	Spanish dagger

An asterisk (*) indicates some native species of the genera exist that may be appropriate.

Sources: California Exotic Pest Plant Council, United States Department of Agriculture-Division of Plant Health and Pest Prevention Services, California Native Plant Society, *Fremontia* Vol. 26 No. 4, October 1998, *The Jepson Manual: Higher Plants of California*, and County of San Diego-Department of Agriculture.

APPENDIX B: Jurisdictional Features

Table 14. Locations and Characteristics of Jurisdictional Features (based on 2018 jurisdictional delineation).

Feature	Lat. / Long.	Cowardin Code	HGM Code	Dominant Vegetation
1	34.033733ºN 117.397731ºW	RIVERINE	R6	Sage scrub, non-native grass and mustard
2	34.029489ºN 117.399833ºW	RIVERINE	R6	Sage scrub, mulefat/riparian, non-native trees
3	34.023025ºN 117.401147ºW	RIVERINE	R6	Sage scrub, non-native grass and mustard
4	34.022847ºN 117.401125ºW	RIVERINE	R6	Sage scrub, non-native grass and mustard, mulefat/willow riparian
5	34.011539ºN 117.412528ºW	RIVERINE	R6	Sage scrub, non-native grass and mustard
6	34.021225ºN 117.413728ºW	RIVERINE	R6	Sage scrub, non-native grass and mustard
7	34.018739ºN 117.410575ºW	RIVERINE	R6	Sage scrub, non-native grass and mustard
8	34.022514ºN 117.412475ºW	RIVERINE	R6	Sage scrub, non-native grass and mustard
9	34.024364ºN 117.413542ºW	RIVERINE	R6	Sage scrub, non-native grass and mustard
10	34.027383ºN 117.412203ºW	RIVERINE	R6	Sage scrub, non-native grass and mustard
11	34.033711ºN 117.405781ºW	RIVERINE	R6	Sage scrub, non-native grass and mustard, mulefat/willow riparian
12	34.023025ºN 117.401147ºW	RIVERINE	R6	Sage scrub, non-native grass and mustard

Table 15. CDFW & MSHCP Jurisdiction & Impacts (based on 2023 jurisdictional delineation).

Drainage Identifier	CDFW Streambeds / Wetlands & MSHCP Habitat				Impacted CDFW Streambed / Wetlands MSHCP Riparian / Riverine
	CDFW Drainage Area sq. ft.	CDFW Drainage Acreage	CDFW Streambed / Riverine	CDFW Wetland / Riparian	
1	10,912	0.25	10,912	0	0.25
2	45,083	1.03	25,028	20,055	1.03
3	15,729	0.36	15,729	0	0.36
4	36,152	0.83	30,946	5,206	0.83
5	25,435	0.58	25,435	0	0.58
6	11,782	0.27	11,782	0	0.27
7	21,677	0.50	21,677	0	0.50
8	30,427	0.70	30,427	0	0.70
9	27,560	0.63	27,560	0	0.63
10	36,680	0.84	35,537	1,143	0.84
11	28,156	0.65	16,089	12,067	0.65
12	9,263	0.21	9,263	0	0.21
Total	**298,856**	**6.86**	**260,385** **5.97 ac**	**38,471** **0.88 ac**	**6.86**

Table 16. State Waters Jurisdiction& Impactes

Drainage Identifier	State Waters including Wetlands		
	Length (ft.)	Present (sq. ft.)	Impacted (sq. ft.)
1	947	5682	5682
2	2,103	30100	30100
3	1,704	7400	7400
4	1,700	13233	13233
5	1,683	6692	6692
6	1,604	4,809	4,809
7	1,359	12710	12710
8	1,846	16182	16182
9	2,596	8098	8098
10	2,116	2034	2034
11	1,402	18136	18136
12	2103	12100	12100
TOTALS		137076 (3.15 acres)	137076 (3.15 acres)

APPENDIX C: Weather Data

Table 17. Weather Data

Year/Month	Riverside Municipal, CA airport – KRAL			Rialto, CA – KCARIALT4		
	Avg. High (ºF)	Avg. Low (ºF)	Precipitation (inches)	High (ºF)	Low (ºF)	Precipitation (inches)
14-Oct	103	55	0.00	103	51	0.68
14-Nov	92	44	0.28	90	44	0.88
14-Dec	80	34	1.69	77	29	4.86
15-Jan	84	30	0.39	80	29	0.78
15-Feb	87	40	0.28	85	41	1.33
15-Mar	94	40	0.24	95	39	0.15
15-Apr	96	45	0.13	98	43	0.14
15-May	93	48	0.53	97	45	0.85
15-Jun	105	57	0.00	109	54	0.00
15-Jul	97	60	1.41	102	57	0.77
15-Aug	108	61	0.00	111	58	0.00
15-Sept	106	59	1.87	106	56	1.43
Total 2014-15 season			**6.82**			**11.87**
15-Oct	104	57	0.06	101	53	0.38
15-Nov	90	35	0.08	89	37	0.43
15-Dec	84	33	0.32	81	30	1.67
16-Jan	78	38	3.26	74	34	2.88
16-Feb	91	37	0.04	87	32	0.84
16-Mar	89	41	0.44	85	41	1.27
16-Apr	98	46	0.26	96	42	0.87
16-May	93	50	0.00	95	48	0.38
16-Jun	114	56	0.00	114	53	0.00
16-Jul	110	60	0.00	111	56	0.00
16-Aug	107	61	0.00	106	57	0.00
16-Sept	91	62	0.00	105	51	0.00
Total 2015-16 season			**4.46**			**8.72**
16-Oct	83	58	0.55	95	50	0.64
16-Nov	78	51	0.68	90	39	1.14
16-Dec	66	48	1.86	76	33	4.37
17-Jan	62	45	4.79	75	36	7.05
17-Feb	65	48	1.06	79	36	2.25
17-Mar	78	49	0.16	93	37	0.33
17-Apr	81	52	0.10	96	43	0.02

Year/Month	Riverside Municipal, CA airport – KRAL			Rialto, CA – KCARIALT4		
	Avg. High (ºF)	Avg. Low (ºF)	Precipitation (inches)	High (ºF)	Low (ºF)	Precipitation (inches)
17-May	81	55	0.01	100	42	0.25
17-Jun	91	61	0.00	108	50	0.00
17-Jul	97	66	0.01	107	56	0.07
17-Aug	96	66	0.28	109	59	0.38
17-Sept	89	64	0.00	109	54	0.73
Total 2016-17 season			**9.50**			**17.23**
17-Oct	88	58	0.00	100	53	0.00
17-Nov	78	60	0.03	94	49	0.01
17-Dec	69	52	0.00	84	41	0.01
18-Jan	74	47	1.55	82	42	0.45
18-Feb	69	47	0.35	85	35	0.56
18-Mar	71	52	0.94	89	40	2.82
18-Apr	71	52	0.94	95	32	0.00
18-May	77	54	0.15	99	50	0.47
18-Jun	80	67	0.00	99	54	0.00
18-Jul	96	75	0.02	116	59	0.00
18-Aug	89	76	0.00	109	60	0.00
18-Sep	81	58	1.10	101	57	0.00
Total 2017-18 season			**5.08**			**4.32**

APPENDIX D: Palmer's Oak Information (Confidential)

This section deleted for publication

APPENDIX E: Site Photographs





Photo 1 (05.15.2014): Near the southern end of the survey area facing north.

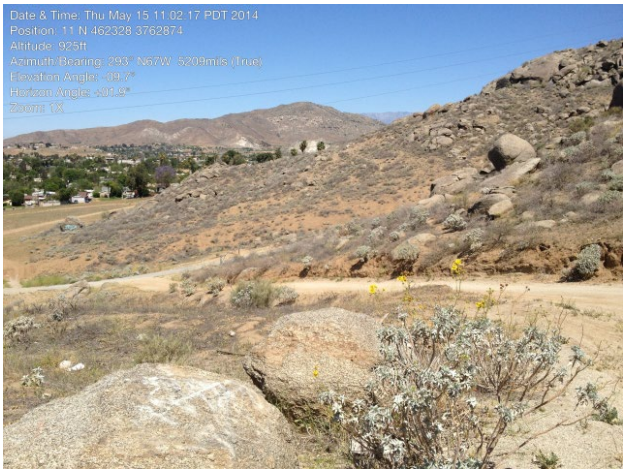


Photo 2 (05.15.2014): Near the southern end of the survey area facing northwest.



Photo 3 (09.17.2015): Southwest edge of the survey area facing northeast.



Photo 4a (02.17.2015): Southwest edge of the survey area facing north.



Photo 4b (02.17.2015): Southwest edge of the survey area facing east.



Photo 5 (02.17.2015): Portion of the survey area facing northeast.



Photo 6a (02.17.2015): Western portion of the survey area facing north.



Photo 6b (02.17.2015): Western portion of the survey area facing southeast.



Photo 7a (02.17.2015): Western portion of the survey area facing southeast.



Photo 7b (02.17.2015): Western portion of the survey area facing northeast.



Photo 8 (02.17.2015): Western portion of the survey area facing east.



Photo 9 (02.17.2015): Western portion of the survey area facing northwest.



Photo 10a (6247): Northwestern boundary facing northeast.



Photo 10b (02.17.2015): Northwestern boundary facing southeast. Delhi soils area.



Photo 10c (02.17.2015): Northwestern boundary of the survey area facing northeast.



Photo 11 (02.17.2015): Northwestern corner of the survey area facing south.



Photo 12 (02.17.2015): Just north of the northwestern corner facing south.



Photo 13 (02.17.2015): Northern end, center of the survey area facing south.



Photo 14a (02.17.2015): Near the northeast corner of the survey area facing east.



Photo 14b (02.17.2015): Near the northeast corner of the survey area facing west.



Photo 14c (02.17.2015): Near the northeast corner of the survey area facing southwest.



Photo 15a (06.30.2014): Northeast portion of the survey area facing northwest.

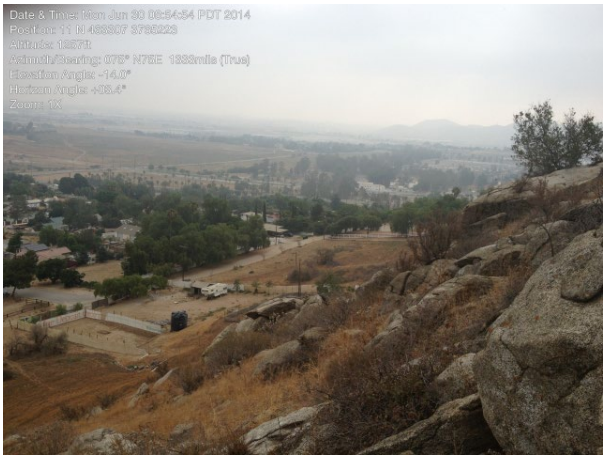


Photo 15b (4652): Northeast portion of the survey area facing northeast.



Photo 15c (06.30.2014): Northeast portion of the survey area facing southwest.



Photo 16a (02.17.2015): Center of the survey area facing west.



Photo 16b (02.17.2015): Center of the survey area facing north.



Photo 16c (02.17.2015): Center of the survey area facing east.



Photo 17 (02.17.2015): Eastern boundary (center) of the survey area facing south.



Photo 18 (04.19.2016): Brittlebush scrub, facing north.

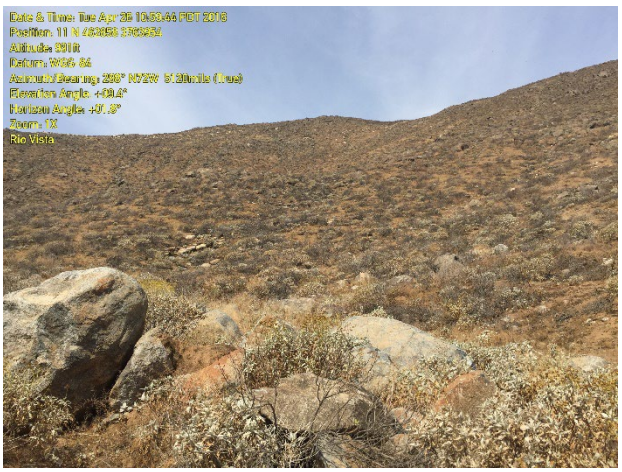


Photo 19 (04.26.2016): Brittlebush scrub, facing west-northwest.



Photo 20 (01.21.2022): California buckwheat scrub, facing northeast.

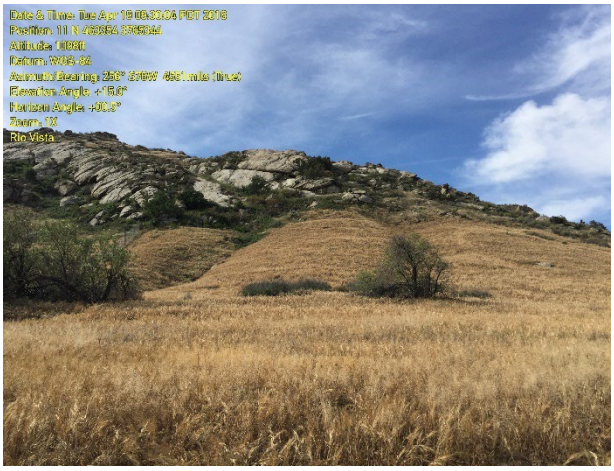


Photo 21(04.19.2016) Chamise chaparral in background; non-native grassland in foreground, facing WSW.



Photo 22 (04.19.2016): Chamise chaparral on left, facing SSW. Vegetation to the right of road is offsite.



Photo 23 (04.19.2016): Ornamental vegetation in background on right, facing NNE.



Photo 24 (01.21.2022): Ornamental vegetation in drainage, facing northeast.



Photo 25 (01.21.2022): Willow scrub in drainage, facing SSE.



Photo 26 (07.05.2015): Willow scrub on left and ornamental vegetation on right, facing east.



Photo 27 (04.19.2016): Non-native grassland, facing SSW.

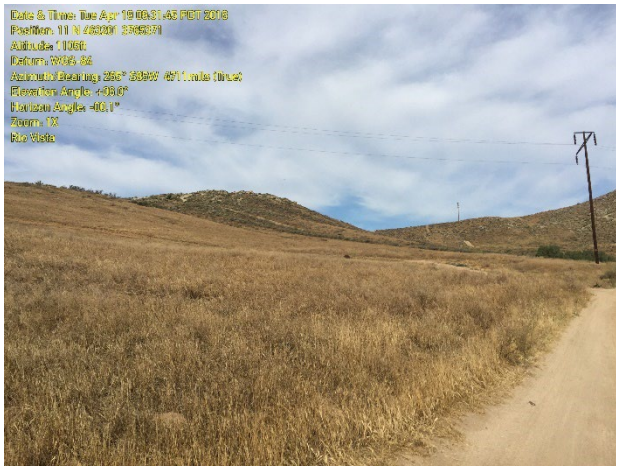


Photo 28 (04.19.2016): Non-native grassland, facing west.



Photo 29 (01.21.2022). Trash dumping on the site.

APPENDIX F: Regulatory Environment

The following summary of the regulatory environment is provided for information purposes and is not intended for review or comment by the lead or wildlife agencies.

Federal Endangered Species Act

Section 9 of the federal Endangered Species Act (FESA), 1973 (as amended) prohibits “take” of federally listed threatened and endangered species. Candidate species receive no protection under FESA, but the USFWS encourages conservation of these species. “Take” is defined as to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such conduct. “Harm” is further defined to include habitat modification or degradation when it actually kills or injures wildlife by impairing essential behavioral patterns including breeding, feeding, or sheltering.

Incidental take is take that results from, but is not the purpose of, carrying out an otherwise lawful activity. Incidental take of federally listed species may be authorized under Section 7 of FESA for federal properties or where federal actions (i.e., federal permitting or federal funding) are involved or under Section 10 of FESA for non-federal actions.

Section 7 requires all Federal agencies, in "consultation" with the USFWS, to ensure that their actions are not likely to jeopardize the continued existence of listed species or result in destruction or adverse modification of critical habitat. The Section 7 process requires preparation of a federal Biological Assessment to determine whether a proposed major construction activity under the authority of a Federal action agency is likely to adversely affect listed species, proposed species, or designated critical habitat. After formal consultation, the USFWS will issue a Biological Opinion stating whether or not a Federal action is likely to jeopardize the continued existence of listed species or result in the destruction or adverse modification of critical habitat.

Section 10 lays out the guidelines under which a permit may be issued to authorize take of endangered or threatened species (in the absence of any federal nexus). Application for an incidental take permit under Section 10 is subject to certain requirements, including preparation by the permit applicant of a conservation plan, generally known as a "Habitat Conservation Plan" or "HCP." An HCP is a plan that outlines ways of maintaining, enhancing, and protecting a given habitat type needed to protect species. The plan usually includes measures to minimize impacts,

such as provisions for permanently protecting land, restoring habitat, and relocating plants or animals to another area.

The Migratory Bird Treaty Act and Executive Order 13186

The federal Migratory Bird Treaty Act (MBTA) of 1918 (16 USC 703-711) is an international treaty that made it unlawful to take, possess, buy, sell, purchase, or barter any migratory bird listed in 50 CFR Part 10, including feathers or other parts, nests, eggs, or products, except as allowed by implementing regulations (50 CFR 21). Executive Order 13186 ensures that environmental analyses of federal actions required by the National Environmental Policy Act (NEPA) or other established environmental review processes evaluate the effects of actions on migratory birds, with emphasis on species of concern. Disturbance that causes nest abandonment and/or loss of reproductive effort (e.g., killing or abandonment of eggs or young) or loss of habitat upon which the birds depend could be considered “take.”

Bald and Golden Eagle Protection Act

The Bald and Golden Eagle Protection Act (BGEPA) provides for the protection of the bald eagle and the golden eagle by prohibiting the take, possession, sale, purchase, barter, offer to sell, purchase or barter, transport, export or import, of any bald or golden eagle, alive or dead, including any part, nest, or egg, unless allowed by permit (16 U.S.C. 668(a); 50 CFR 22). "Take" includes to pursue, shoot, shoot at, poison, wound, kill, capture, trap, collect, molest or disturb. “Disturb” means to agitate or bother a bald or golden eagle to a degree that causes, or is likely to cause injury to an eagle, a decrease in its productivity by substantially interfering with normal breeding, feeding, or sheltering behavior, or nest abandonment.

California Fish and Game Code, Sections 3503 and 3513

California Fish and Game Code Section 3503 prohibits take, possession, or needless destruction of bird nests or eggs except as otherwise provided by the Code; Section 3503.5 prohibits take or possession of birds of prey or their eggs except as otherwise provided by the Code; and Section 3513 provides for the adoption of the provisions of the federal Migratory Bird Treaty Act, described above.

Jurisdictional Determination of Waters and Wetlands

Three agencies generally regulate activities within streams, wetlands, and riparian areas in California: (1) the U.S. Army Corps of Engineers (USACE) regulates activities under Section 404 of the federal Clean Water Act; (2) the Regional Water Quality Control Board (RWQCB) regulates activities under Section 401 of the federal Clean Water Act and the State Porter-Cologne Water Quality Control Act; and (3) the California Department of Fish and Wildlife (CDFW) regulates activities under California Fish and Game Code Sections 1600-1616.

Federal Clean Water Act, Section 404

Section 404 of the federal Clean Water Act applies to "Waters of the United States" (WoUS). By definition these include waterways that could be used for interstate commerce and their tributaries, including any waters that flow into traditional navigable waters. In non-tidal waters, the limits of jurisdiction are "ordinary high water marks" (OHWM) such as stream banks.

There have been recent changes to the definition of USACE jurisdictional waters. The final rule published on April 21, 2020 and effective on June 22, 2020 (85 FR 22250) defined the scope of waters federally regulated under the Clean Water Act; however, litigation could affect implementation and changes may occur under the current administration. The 2020 rule defined Waters of the U.S. as:

- Territorial seas and traditional navigable waters;
- Tributaries of jurisdictional waters;
- Lakes, ponds, and impoundments that contribute surface water flow to a jurisdictional water in a typical year; and
- Wetlands adjacent to non-wetland jurisdictional waters.

Under the rule, a wetland is considered “adjacent” if it:

- Abuts (i.e., touches a side or corner of) another non-wetland jurisdictional water;
- Is inundated by flooding from another non-wetland jurisdictional water at least once in a typical year;
- Is physically separated from a non-wetland jurisdictional water by a natural berm, bank, dune, or similar natural feature without regard to whether there is a specific hydrological surface connection in a typical year; or
- Is physically separated from a non-wetland jurisdictional water by an artificial structure like a road, dike, or barrier as long as the structure allows for a direct hydrologic surface

connection between the wetland and the other jurisdictional water at least once in a typical year. This connection can be through a gate or culvert or even by water overtopping a road.

Waters specifically excluded from the definition of Waters of the U.S. are:

- All waters not covered by the four categories of Waters of the U.S. listed above;
- Groundwater;
- Ephemeral features;
- Storm water runoff and overland sheet flow;
- All ditches not considered "tributaries;"
- Prior converted cropland;
- Artificially irrigated areas;
- Certain artificial lakes and ponds;
- Water-filled depressions or pits excavated in connection with mining or construction or to obtain fill, sand, or gravel;
- Certain storm water control features;
- Groundwater recharge, water reuse, and wastewater recycling structures; and
- Wastewater treatment systems.

Final determination and delineation of federal jurisdiction is made by the USACE and not by the project biologists. Therefore, fieldwork and documentation of the site conditions are done as a preliminary delineation until the USACE reviews and concurs with the results.

Federal Clean Water Act, Section 401 and Porter-Cologne

The RWQCB has jurisdiction over wetlands, WoUS, and Waters of the State under Section 401 of the CWA and the Porter-Cologne Water Quality Control Act (Porter-Cologne) under the California Water Code (§ 13000, et seq.) Permitting is required for activities that will result in a discharge of soils, nutrients, chemicals, detrital materials, or other pollutants into WoUS, Waters of the State, or adjacent wetlands that will affect the water quality of those bodies and the watershed.

California Fish and Game Code, Section 1600

The CDFW, through provisions of the California Fish and Game Code (Sections 1600-1616), is empowered to issue agreements ("Lake and Streambed Alteration Agreements") for projects that

will adversely affect wildlife habitat associated with any river, stream, or lake edges. The Lake and Streambed Alteration Agreement will typically include required measures to mitigate impacts.

Sections 1600-1616 of the California Fish and Game Code apply to stream channels, defined elsewhere in the Code as follows:

"A stream is a body of water that flows at least periodically through a bed or channel having banks and supports fish or other aquatic life. This includes watercourses having a surface or subsurface flow that supports or has supported riparian vegetation."

The state definition does not specify a flow rate or inundation frequency and provides no clear distinction between jurisdictional and non-jurisdictional lands.

While the federal USACE criteria (hydrology, soils, and vegetation) are used to evaluate the presence or absence of wetlands within the project site, the determination of state wetland status is not based on the combined presence of the three criterion because the state can take jurisdiction of any one of the three: (1) the presence of open water or saturated soils, (2) presence of vegetation including riparian or wetland species, and/or (3) water-modified or oxygen-depleted soils.

California Endangered Species Act

California Endangered Species Act (CESA) definitions of endangered and threatened species parallel those defined in the FESA. The 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, over exploitation, predation, competition or disease." Endangered species are in serious danger of becoming extinct and threatened species are likely to become endangered species in the foreseeable future (according to Sections 2062 and 2067, respectively, of the California Fish and Wildlife Code). Candidate species are those under formal review by the CDFW for listing as endangered or threatened (Section 2067). Prior to being considered for protected status, the CDFW designates a species as being of special concern. Species of Special Concern are those for which the CDFW has information indicating population decline.

California Environmental Quality Act

The California Environmental Quality Act (CEQA) and CEQA Guidelines (§ 15000 et seq.) require identification of environmental effects from discretionary projects. Significant effects are to be mitigated by avoidance, minimization, rectification, or compensation whenever possible.

Effects to all state and federal listed species are considered significant under CEQA. In addition to formally listed species, CEQA considers effects to species that are demonstrably endangered or rare as important or significant. These definitions can include state designated species of special concern, federal candidate and proposed species, California Natural Diversity Database (CNDDB) tracked species, and California Rare Plant Rank (CRPR) 1B and 2 plants.

Appendix G of the CEQA Guidelines specifically addresses biological resources and encompasses a broad range of resources to be considered.

California Natural Diversity Database

The California Natural Diversity Database (CNDDB) is a database that ranks overall condition of listed and special status species and sensitive vegetation communities on global (throughout its range) and state (within California) levels. The CNDDB includes documented occurrences of listed and special status species that have been reported to CDFW. State ranking is numerical, ranging from one to five (S1 to S5), with one indicating very few remaining individuals or little remaining habitat and five indicating a demonstrably secure to ineradicable population condition. State ranks (S ranks) may also include an extension (e.g., S1.x) indicating current threats ranging from one (very threatened) to three (no current threats known).

California Rare Plant Rank

The California Native Plant Society (CNPS) Inventory of Rare and Endangered Species includes documented occurrences of special status plant species that are available through the Consortium of California Herbaria and other sources. The CNPS, in coordination with CDFW, has cataloged California's rare and endangered plants into lists according to population distributions and viability. These lists are numbered and indicate the following California Rare Plant Ranks (CRPR): (1A) presumed extinct in California; (1B) rare, threatened, or endangered throughout their range; (2A) presumed extirpated in California, but more common in other states; (2B) threatened or endangered in California, but more common in other states; (3) more information is needed to establish rarity; and (4) plants of limited distribution in California (i.e., naturally rare in the wild), but whose populations do not appear to be susceptible to threat. A

CRPR may also have an extension (e.g., 1B.x) that indicates current level of threat: seriously threatened (x.1), moderately threatened (x.2), or not very threatened (x.3).

Western Riverside County Multiple Species Habitat Conservation Plan

The County of Riverside, eight (8) additional land jurisdictions, and 14 cities have prepared a Multiple Species Habitat Conservation Plan (MSHCP). The plan will build upon existing preserves to provide connectivity and wildlife corridors throughout the region. The plan proposes to conserve approximately 500,000 acres and 146 different species. Approximately 347,000 acres are anticipated to be conserved on existing Public/Quasi-Public lands with additional contributions of approximately 153,000 acres from willing sellers.

The MSHCP was approved by the County on June 17, 2003 and an Implementation Agreement (IA) between the USFWS, CDFW, and the County was executed and an associated USFWS Section 10(a)(1)(B) Permit was issued on June 22, 2004. The permit grants take authorization for species as "Covered Species Adequately Conserved." Focused surveys are required for species identified as not adequately conserved under the MSHCP if suitable habitat is present onsite.

The MSHCP establishes seven (7) core reserve areas and associated linkages between proposed and existing core areas. The MSHCP divides areas into Criteria Cells using USGS coordinates and establishes conservation goals for each Cell. If a property is located in a Cell, the proponent will be required to undergo a Habitat Acquisition and Negotiation Strategy (HANS) determination with the County of Riverside.

According to the Riverside County Integrated Project website, the parcels that compose the Project site are located within the Jurupa Area Plan. Conservation efforts for the Project site will be evaluated with regard to Criteria Cell/Group goals, sensitive species identified as not adequately conserved and observed in the survey area, riverine/riparian or vernal pool habitat and their associated sensitive species (if located in the survey area), fairy shrimp, and jurisdictional areas. The survey area is located north and east of Core A (Figure 21). The MSHCP Conservation Summary Report requires a habitat assessment on the property to address, at a minimum, potential habitat for burrowing owl. In addition, the Project site lies within the Narrow Endemic plant survey area map and requires habitat assessments for San Diego ambrosia, Brand's phacelia, and San Miguel savory. A habitat assessment and focused survey for Delhi Sands flower-loving fly was also required by the Riverside County Environmental Programs Department, due to presence of appropriate soils in the survey area.

MSHCP Section 6.1.2

Section 6.1.2 of the MSHCP requires an assessment of potentially significant effects of the proposed Project on riparian/riverine areas and vernal pools, as currently required by CEQA, using available information augmented by Project-specific mapping. Riparian/Riverine areas and vernal pools are defined as follows:

- Riparian/Riverine Areas are lands that have flow for all or a portion of the year and which contain habitat dominated by trees, shrubs, persistent emergents, or emergent mosses and lichens, which occur close to or which depend upon soil moisture from a nearby fresh water source; or areas with fresh water flow during all or a portion of the year.

- Vernal pools are 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 wetlands indicators of hydrology and/or vegetation during the drier portion of the growing season. Obligate hydrophytes and facultative wetlands plant species are normally dominant during the wetter portion of the growing season, while upland species (annuals) may be dominant during the drier portion of the growing season. The determination that an area exhibits vernal pool characteristics, and the definition of the watershed supporting vernal pool hydrology, must be made on a case-by case basis. Such determinations should consider the length of the time the area exhibits upland and wetland characteristics and the manner in which the area fits into the overall ecological system as a wetland. Evidence concerning the persistence of an area's wetness can be obtained from its history, vegetation, soils, and drainage characteristics, uses to which it has been subjected, and weather and hydrologic records.

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 the characteristics described above which are artificially created are not included in these definitions.

Species Specific Conservation Goals; Delhi Sands Flower Loving Fly

The conservation objectives for this species are currently based on Objective 1B:

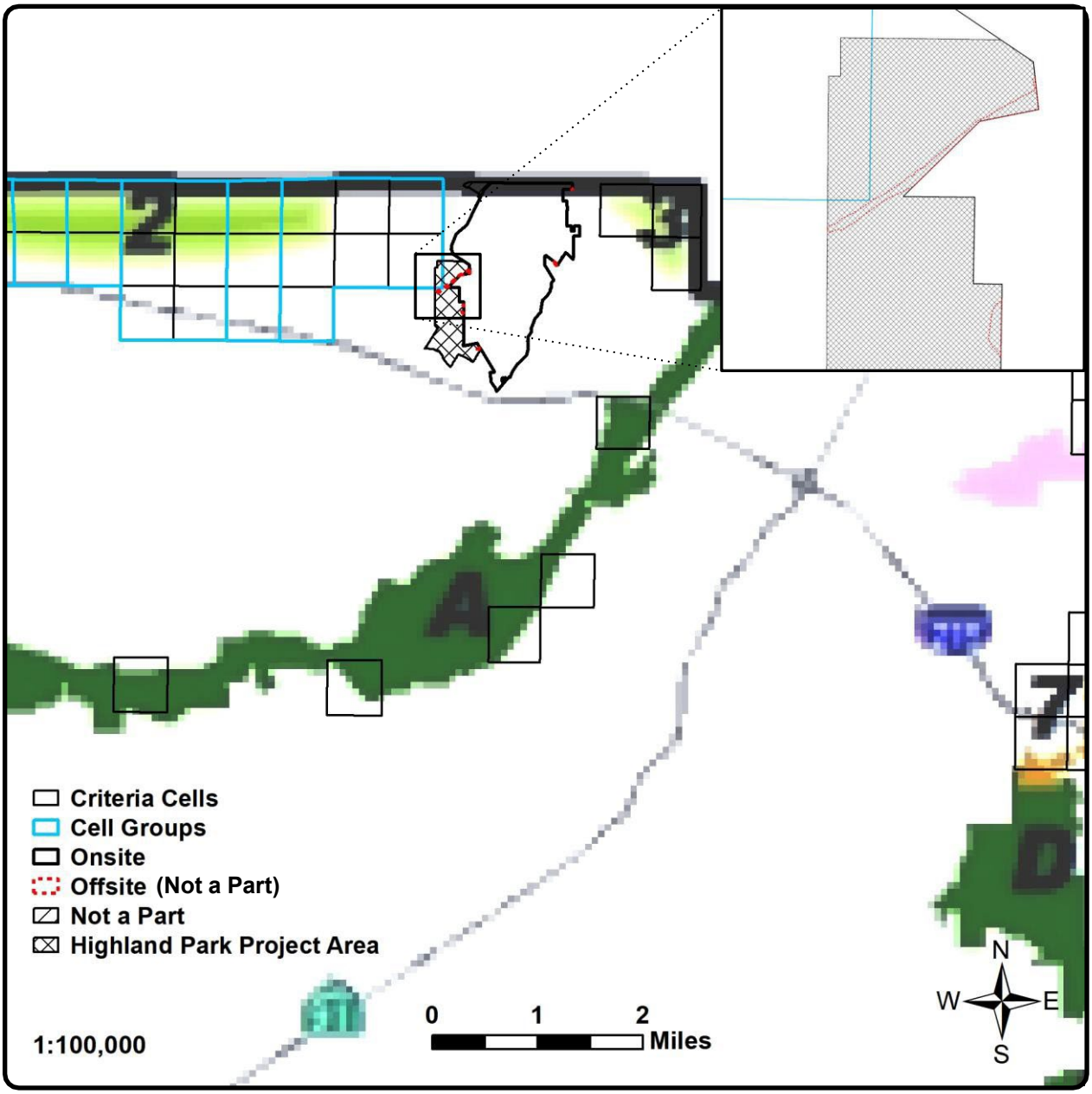
> "With the exception of Cells 21, 22 and 55 within Area Plan Subunit 3 of the Jurupa Area Plan discussed below, include within the MSHCP Conservation Area locations within the Plan Area determined to be occupied by the Delhi Sands flower-loving fly based on the results of surveys…. If the Project site is determined to be occupied, 75 percent of the mapped Delhi Soils onsite will be conserved (or), if the…distribution of habitat for the Delhi Sands flower-loving onsite is not consistent with the extent of mapped Delhi Soils onsite, 75 percent of such habitat onsite will be conserved. If it is determined that 75 percent conservation on the occupied site is infeasible or the Service concurs that such conservation would not contribute

to the long-term conservation of the species, conservation may occur within the conservation areas identified in Objective 1A (of the MSHCP) at a ratio of three times (3:1) the mapped Delhi soils or subject to Service concurrence, the habitat of the species as identified by survey biologist on the identified occupied site."

Riverside County Oak Tree Management Guidelines

The Conservation Element of the Riverside County General Plan requires that development in oak woodlands be evaluated through biological reports and mitigation measures prepared. Retention and replacement may be required.

The County developed Oak Tree Management Guidelines to address the treatment of oak woodlands and reduce project impacts on oak trees. The Guidelines require a biological study on all properties that contain oak trees to include an inventory and mapping of all oak trees (trees in the genus *Quercus*) greater than two (2) inches in diameter at breast height (DBH). DBH is a forestry term that means diameter of the trunk (or sum of the diameters of multiple trunks) of a tree at 4.5 feet above the ground on the uphill side.



Rio Vista Project
Riverside County, California

MSHCP Cells and Linkages
Figure 21

APPENDIX G: Riverside County Documentation

Certification

Certification: I hereby certify that the statements furnished above and in the attached exhibits present the 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.

DATE: March 30, 2023 SIGNED: 

Leslie Irish, Principal, L&L Environmental, Inc.
909-335-9897

1) Fieldwork Performed By:

Guy Bruyea
Name

2) Fieldwork Performed By:

Melanie Dicus
Name

3) Fieldwork Performed By:

Patrick Luft
Name

4) Fieldwork Performed By:

Leslie Irish
Name

5) Fieldwork Performed By:

Name

6) Fieldwork Performed By:

Name

Check here __ if adding any additional names / signatures below or on other side of page.

BIOLOGICAL REPORT SUMMARY SHEET

Applicant Name: Richland Communities
Assessor's Parcel Number(s): 175-080-010, 175-090-001 through -005, 175-100-003, -005, & -006, 175-150-002, 175-160-001, -005, & -007, 177-030-012 & -014, 177-040-002, & -008
Section, Township and Range: Sections 3, 4, 9 & 10, Township 2 South, Range 5 West
Building and Safety Log Number: _____
Case Number: _____ Lot/Parcel _____ EA Number _____

MARK ITEM(S) SURVEYED FOR	**SPECIES or ENVIRONMENTAL ISSUE of CONCERN**	***(Mark Yes, No, or N/A regarding species findings on the referenced site)***		
		Yes	**No**	**n/a**
	Arroyo Southwestern Toad	Yes	**No**	n/a
X	Blueline Stream(s)	Yes	**No**	n/a
X	Burrowing Owl	Yes	**No**	n/a
	Coachella Valley Fringed-toed Lizard	Yes	No	n/a
X	Coastal California Gnatcatcher	**Yes**	No	n/a
X	Coastal Sage Scrub	**Yes**	No	n/a
X	Delhi Sands Flower-loving Fly	Yes	**No**	n/a
	Desert Pupfish	Yes	No	n/a
	Desert Slender Salamander	Yes	No	n/a
	Desert Tortoise	Yes	No	n/a
	Flat-tailed Horned Lizard	Yes	No	n/a
X (HA)	Least Bell's Vireo	Yes	**No**	n/a
X	Oak Woodlands	Yes	**No**	n/a
	Quino Checkerspot Butterfly	Yes	No	n/a
X (HA)	Riverside Fairy Shrimp	Yes	**No**	n/a
	Santa Ana River Woolystar	Yes	No	n/a
	San Bernardino Kangaroo Rat	Yes	No	n/a
	Slender-horned Spineflower	Yes	No	n/a
	Stephens' Kangaroo Rat	Yes	No	n/a
X	Vernal Pools	Yes	**No**	n/a
X	Wetlands (Only State Wetlands present)	**Yes**	No	n/a

MARK ITEM(S) SURVEYED FOR	SPECIES or ENVIRONMENTAL ISSUE of CONCERN	*(Mark Yes, No, or N/A regarding species findings on the referenced site)*		
X	San Diego Ambrosia	Yes	**No**	n/a
X	Brand's Phacelia	Yes	**No**	n/a
X	San Miguel savory	Yes	**No**	n/a
	Other	Yes	No	n/a
	Other	Yes	No	n/a
	Other	Yes	No	n/a

Species of concern shall be any unique, rare, endangered, or threatened species. It shall include species used to delineate wetlands and riparian corridors. It shall also include any hosts, perching, or food plants used by any animals listed as rare, endangered, threatened, or candidate species by either state, or federal regulations, or for Riverside County as listed by the California Department of Fish and Game Natural Diversity Data Base (CNDDB).

I declare under penalty of perjury that the information provided on this summary sheet is in accordance with the information provided in the biological report or habitat assessment.

L & L Environmental, Inc. — March 30, 2023

Signature and Company Name — Date

10(a) Permit Number (if applicable) — Permit Expiration Date

County Use Only

Received By: _____ Date: _____

PD-B# _____

Attachment E-4

LEVEL OF SIGNIFICANCE CHECKLIST
For Biological Resources
(Submit two copies to the County)

Case Number: _____ Lot/Parcel No. _____ EA Number _____

Assessor's Parcel Number(s): 175-080-010, 175-090-001 through -005, 175-100-003, -005, & -006, 175-160-001, -005, & -007, 177-030-012 & -014, 177-040-002, & -008
Date: March 30, 2023

Biological Resources: (Check the level of impact that applies to the following questions.)

Potentially Significant Impact	Less than Significant Impact with Mitigation Incorporated	Less than Significant Impact	No Impact

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

☐ ■ ☐ ☐

b) Have a substantial adverse effect, either directly or through habitat modifications, on any endangered, or threatened species, as listed in Title 14 of the California Code of Regulations (Sections 670.2 or 670.5) or in Title 50, Code of Federal Regulations (Sections 17.11 or 17.12)?

☐ ■ ☐ ☐

c) 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. Wildlife Service?

☐ ■ ☐ ☐

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

☐ ☐ ■ ☐

LEVEL OF SIGNIFICANCE CHECKLIST
For Biological Resources
(Submit two copies to the County)

e) 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 the U. S. Fish and Wildlife Service?

☐ ■ ☐ ☐

f) Have a substantial adverse effect on federally protected wetlands, as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pools, coastal, etc.) through direct removal, filling, hydrological interruption)

☐ ☐ ☐ ■

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

☐ ☐ ☐ ■

Findings of Fact:

The Project will impact MSHCP Riparian/Riverine habitat. Delhi Sands flower-loving fly was found on the site in 2005, but 2015/2016 surveys were negative. The Project will impact 24.3% of the suitable habitat and 22.5% of the 2005 mapped occupied habitat. Focused surveys for burrowing owl were negative. Narrow endemic plants were not observed and suitable habitat is either lacking or of poor quality. An ancient Palmer's oak is present. Coastal California gnatcatcher and Crotch bumble bee have been observed on the site.

Proposed Mitigation:

Conservation of open space on the site. Avoidance of the Palmer's oak. Completion of a preconstruction burrowing owl clearance survey and a nesting bird survey. Biological monitoring. Preconstruction clearance surveys. Completion of permits and agreements for impacts to jurisdictional features, if required. Mitigation for impacts to jurisdictional features and riparian/riverine habitat.

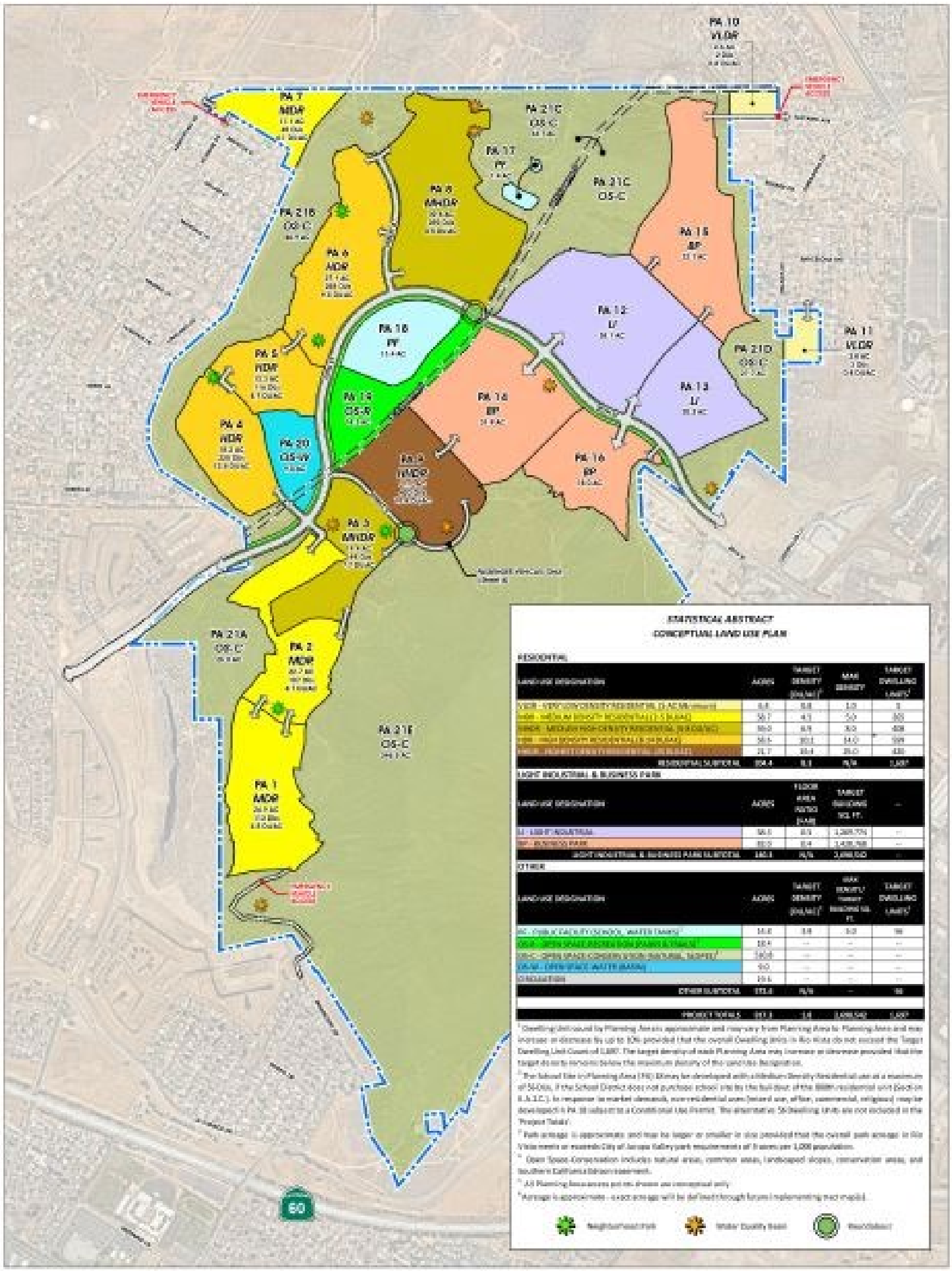
Monitoring Recommended:

Monitoring is recommended during clearing and grubbing of vegetation, and when work is done adjacent to the avoided Delhi soils and jurisdictional waters or Riparian/Riverine habitat.

Source: CGP Fig. VI.36-VI.40
Revised October 1999

APPENDIX H: Land Use Plan

RIOVISTA



STATISTICAL ABSTRACT
CONCEPTUAL LAND USE PLAN

RESIDENTIAL

LAND USE DESIGNATION	ACRES	TARGET DENSITY (DU/AC)[1]	MAX DENSITY	TARGET DWELLING UNITS[1]
VLDR - VERY LOW DENSITY RESIDENTIAL (1 AC MIN.)	6.8	0.8	1.0	5
MDR - MEDIUM DENSITY RESIDENTIAL (2-5 DU/AC)	36.7	4.5	5.0	165
MHDR - MEDIUM HIGH DENSITY RESIDENTIAL (5-8 DU/AC)	99.0	6.9	8.0	408
HDR - HIGH DENSITY RESIDENTIAL (8-14 DU/AC)	36.5	10.1	14.0	369
VHDR - HIGHEST DENSITY RESIDENTIAL (14+ DU/AC)	31.7	10.9	20.0	435
RESIDENTIAL SUBTOTAL	204.4	6.3	N/A	1,382

LIGHT INDUSTRIAL & BUSINESS PARK

LAND USE DESIGNATION	ACRES	FLOOR AREA RATIO (FAR)	TARGET BUILDING SQ. FT.	--
LI - LIGHT INDUSTRIAL	96.0	0.3	1,254,774	--
BP - BUSINESS PARK	85.0	0.4	1,479,168	--
LIGHT INDUSTRIAL & BUSINESS PARK SUBTOTAL	181.0	N/A	2,733,942	--

OTHER

LAND USE DESIGNATION	ACRES	TARGET DENSITY (DU/AC)[1]	MAX DENSITY[1] (UNLESS NOTED)	TARGET DWELLING UNITS[1]
OS-C - OPEN SPACE-CONSERVATION (WATER BASIN)	54.8	0.0	0.0	56
OS-R - OPEN SPACE-RECREATION (PARKS & TRAILS)	39.1	--	--	--
OS-C - OPEN SPACE-CONSERVATION (NATURAL SLOPES)[2]	14.0	--	--	--
VLDR - VERY LOW DENSITY RESIDENTIAL (WATER BASIN)	9.0	--	--	--
OS-W - OPEN SPACE-WATER	19.6	--	--	--
OTHER SUBTOTAL	135.4	N/A	--	56
PROJECT TOTALS	521.0	2.8	2,733,942	1,507

[1] Dwelling Unit count by Planning Area is approximate and may vary from Planning Area to Planning Area and may increase or decrease by up to 10% provided that the overall Dwelling Units in Rio Vista do not exceed the Target Dwelling Unit Count of 1,507. The target density of each Planning Area may increase or decrease provided that the target do not to no more below the minimum density of the zone it is designated as.

[2] The School Site in Planning Area (PA) 10 may be developed with a Medium Density Residential use at a maximum of 5.0 DUs, if the School District does not purchase school site by the final close of the 666th residential unit (Land Use A.A.C.C.). In response to market demands, age-restricted uses (retirement, affiliated, assisted, etc.) may be developed in PA 18 subject to a Conditional Use Permit. The alternative 56 dwelling units are not included in the "Project Totals".

[3] Park acreage is approximate and may be larger or smaller in size provided that the overall park acreage in Rio Vista meets or exceeds City of Jurupa Valley park requirements of 3 acres per 1,000 population.

[4] Open Space-Conservation includes natural areas, common areas, landscaped slopes, conservation areas, and Southern California Edison easement.

[5] All Planning Area areas and dimensions are conceptual only.

[6] Acreage is approximate - exact acreage will be defined through formal implementing tract map(s).

Neighborhood Park Water Quality Basin Well/Reservoir

Source(s): Nearmap Imagery (2020), RIVERSIDE (2020)
Compiled by: Hunsaker and Associates (07-23-2021)

0 225 450 900 Feet

Rio Vista Specific Plan Land Use Plan

SP 16001

Job #: 471-004
Date: August 5, 2021

D.2 - Jurisdictional Delineation

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L&L ENVIRONMENTAL, INC.
REGULATORY SERVICES
BIOLOGICAL & CULTURAL INVESTIGATIONS & MONITORING

UPDATED JURISDICTIONAL DELINEATION FOR RIO VISTA, SPECIFIC PLAN CITY OF JURUPA VALLEY, RIVERSIDE COUNTY, CALIFORNIA

±902.43-Acre Property, ±902.43 Acres Surveyed

APNs 175-080-010, 175-090-001 through -005, 175-100-003 (portion), -005, & -006, 175-160-001, -005, & -007, 177-030-012 & -014, 177-040-002, & -008, SP MA16045, Rubidoux Area, Sections 3, 4, 9, & 10, Township 2 South, Range 5 West, USGS Fontana 7.5' Topographic Quadrangle Map

Prepared For:

Brian Hardy
RMD Inland Investors, LLC & Canadian Pacific Land, LLC / Richland Real Estate Fund, LLC
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Prepared By:

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Ann Lopez, Delineator — alopez@llenviroinc.com
Jeffrey Sonnentag, Technical Editor — jsonnentag@llenviroinc.com

Report Summary:

Jurisdictional Drainages on the project site include 298,821.6 sq. ft. (6.86 acre) of CDFW Streambeds and MSHCP Riparian/Riverine habitat. Of this 3.15 acres is considered RWQCB State Waters. The Project will impact 298,821.6 sq. ft. (6.86 acre) of Streambeds and Riparian Riverine habitat of which 3.15 acres is also State Water under Porter Cologne. No impacts will occur to federal waters or wetlands since none are present onsite.

Delineation Conducted By: Leslie Irish & Ann Lopez
Delineation Conducted On: May/June 2015, updated October 2017, May 2018
Report Date: October 2015, revised December 2016
Updated: May 2018, Nov 2021, Jan and Sept 2022, and September 2023

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MANAGEMENT SUMMARY

L&L Environmental, Inc. conducted a jurisdictional delineation on Richland Communities' Rio Vista Project in the City of Jurupa Valley, California.

The purpose of the jurisdictional delineation is to quantify the portion of a project site that is subject to jurisdiction of the U. S. Army Corps of Engineers (USACE), the Regional Water Quality Control Board (RWQCB), and the California Department of Fish and Wildlife (CDFW). This information is required to support applications for regulatory permits under the Federal Clean Water Act (CWA) Section 404 and Section 401, Porter Cologne and California Department of Fish and Game 1600 Code (Code).

L&L delineators Leslie Irish and Ann Lopez conducted a survey of the parcels in November 2014, August 2015, October 2017, August 5, 2020, and updated the information in January 2022 and September 2023 finding 298,821.6 sq. ft. (6.86 acres) of CDFW and MSHCP jurisdiction/habitat. Of the 6.86 acres of CDFW jurisdiction present, 3.15 acres is subject to the control of the RWQCB under Porter Cologne.

An Approved Jurisdictional Delineation (AJD) was received from the USACE verifying no "waters of the U. S." are present onsite.

RESPONSIBLE PARTIES

Applicant
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Richland Communities, Inc.
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Irvine, CA 92612
(949) 698-2191

Property Owner
RMD Inland Investors, LLC & Canadian Pacific Land, LLC / Richland Real Estate Fund, LLC
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949-383-4124

Preparer of Jurisdictional Delineation
Leslie Irish
L&L Environmental, Inc.
721 Nevada Blvd, Suite 307
Redlands, CA 92373
909-335-9897

Directions, Address, and Geographic Coordinates

The Project site is located east of Armstrong Blvd and north of the 60 Freeway in Jurupa Valley/Riverside. The Project does not have a street address.

From Los Angeles or Ontario:

- Take the 60 Freeway east toward Riverside.
- Take Exit 50 Rubidoux Blvd.
- Turn left onto Rubidoux Blvd.
- Take the third left onto 28th Street (portions unpaved).
- Go past railroad tracks, straight ahead (through gate) to Project site.

From Riverside (downtown area):

- Take the 60 Freeway west toward Los Angeles.
- Take Rubidoux exit.
- Turn right onto Rubidoux Blvd.
- Take the second left onto 28th Street (portions unpaved).
- Go past railroad tracks, straight ahead (through gate) to Project site.

The center of the Project site is located at 34.022613° N / -117.407957° W. The access point is located at 34.011202° N / -117.400224° W.

1.0) PROJECT DESCRIPTION

The Rio Vista Project consists of the rescission of a Specific Plan (SP), which was initially approved by Riverside County in 1992, followed by adoption of a new Specific Plan, Zoning Ordinance Amendment, and General Plan Amendment for a master planned community on an approximately 917.3-acre site (including APNs 175-080-021 and 175-150-002 and all of APN 175-100-003) in the City of Jurupa Valley. Tentative Tract Maps will be processed subsequently.

The 1992 Approved Specific Plan included 917.3 acres, but the project area limits for biological resources extends across 902.43 acres as calculated in GIS. Additional biological resource work will be required should any impacts occur outside the project area.

Based on the NOP Residential land uses within the proposed project would consist of Very Low-Density Residential (VLDR), Medium Density Residential (MDR), Medium-High Density Residential (MHDR), High-Density Residential (HDR), and Highest Density Residential (HHDR). Additionally, the proposed project would include an elementary school, a community park and open spaces, and circulation improvements. Light Industrial (LI) and Business Park (BP) areas are included in the proposed project as well. The Land Use Plan for the Specific Plan (T&B Planning, August 5, 2021) describes the proposed Project as up to 1,697 residential dwelling units on 204.4 acres[1], 140.3 acres of Light Industrial and Business Park, 14.8 acres of Public Facilities (school, water tanks), 19.6 acres for Circulation, 18.4 acres of Open Space–Recreation (parks and trails), 9.0 acres for Open Space–Water (basin), and 510.8 acres of Open Space–Conservation (natural, slopes). Acreage is approximate and will be defined through future implementing tract map(s).

The Land Use Plan would include approximately 510.8 acres of conserved open space, consisting of a combination of natural areas, common areas, landscaped slopes, conservation areas, and Southern California Edison Easement.

[1] This report does not include APN 175-080-021 (PA 7) with 11.1 acres and 45 dwelling units, APN 175-150-002 (PA 11) with 3.8 acres and 3 dwelling units, and a portion of APN 175-100-003 (PA 10) with 2.6 acres and 2 dwelling units.

2.0) PROJECT LOCATION AND SETTING

The Rio Vista project is located within the City of Jurupa Valley within the County of Riverside (Figure 1), east of Armstrong Road and north of the 60 freeway, within parts of Sections 3, 4, 9, and 10 of Township 2 south, Range 5 west within the USGS Fontana quadrangle (Figure 2).

The site is generally bounded as follows: to the west by high-density housing, with a golf club and open space beyond; to the east by industrial developments, open space, and high density housing, with the Santa Ana River and the City of Riverside beyond; to the north by open space, with high density housing beyond; and to the south by open space and high density housing, with the 60 freeway, high density housing, and commercial developments beyond (Figure 3).

Topographically, the project contains flat sandy areas graduating to steep, rocky hillsides. Elevation onsite ranges from approximately 920 to 1,740 feet above mean sea level (AMSL). Surrounding topographic features in the project vicinity include small valleys and surrounding relatively flat areas.

3.0) REGULATORY CRITERIA USED

L&L used the following criteria and definitions to evaluate the drainages within the Rio Vista project.

3.1) Jurisdictional Criteria

Section 404 of the federal Clean Water Act applies to "Waters of the United States" (WoUS). By definition, these include waterways, streams, and intermittent streams that could be used for interstate commerce and their tributaries. In non-tidal waters the limits of jurisdiction are "ordinary high water marks" (OHWM) such as stream banks.

Sections 1600-1616 of the state Fish and Game Code apply to stream channels, defined elsewhere in the Code as follows:

> "A stream is a body of water that flows at least periodically through a bed or channel having banks and supports fish or other aquatic life. This includes watercourses having a surface or subsurface flow that supports or has supported riparian vegetation."

The state definition does not specify a flow rate or inundation frequency and provides no clear distinction between jurisdictional and non-jurisdictional lands.

Under MSHCP Volume 1 Section 6.1.2, areas associated with wetland and streambed systems must be evaluated for consideration as riparian/riverine or vernal pool habitat. Riparian/riverine areas are defined within the MSHCP as:

> ". . . lands which contain Habitat dominated by trees, shrubs, persistent emergents, or emergent mosses and lichens, which occur close to or which depend upon soil moisture from a nearby fresh water source; or areas with fresh water flow during all or a portion of the year." MSHCP Vol. 1, Section 6.1.2.

Vernal pools are defined within the MSHCP as:

> ". . . seasonal wetlands that occur in depression areas that have wetland indicators of all three parameters (soils, vegetation and hydrology) during the wetter portion of the growing season but normally lack wetland indicators of hydrology and/or vegetation during the drier portion of the growing season. Obligate hydrophytes and facultative wetlands plant species are normally dominant during the wetter portion of the growing season, while upland species (annuals) may be dominant during the drier portion of the growing season. . . ." MSHCP Vol. 1, Section 6.1.2.

3.2) Evaluation Criteria

According to the Clean Water Act (as amended in 1977) and the Corps of Engineers Wetlands Delineation Manual (1987), a "wetland" is a site that is "inundated or saturated . . . at a frequency and duration sufficient to support . . . vegetation typically adapted for life in saturated soil conditions. . . ." Soil saturation deprives plant roots of oxygen, limiting the types of plants that can grow. Absence of oxygen leads to reducing chemical conditions (rather than oxidizing conditions) and development of unique soil types (hydric soils). The USACE evaluates wetlands by three (3) criteria: hydrology, soils, and vegetation. Under the federal delineation procedure, a site must normally satisfy all three (3) criteria to be classified as a wetland. At its discretion, CDFW may regard a site as a wetland based on only one (1) listed criterion.

The hydrology criterion evaluates the presence of water based on observed flooding or inundation or on indirect evidence such as high water marks, drift lines, or sediment deposits. The soils criterion is based on "hydric" soil characteristics, such as certain colors and mottling that develop under wetland conditions. (These characteristics generally do not develop in sandy soils found in many southern California streambeds.) The vegetation criterion evaluates plant species growing onsite. Most plants cannot survive extended periods of root saturation and are called "obligate upland" species. Others grow almost exclusively in wetland habitats, while still others may be found growing in both wetlands and uplands. These are called "obligate wetlands" or "facultative wetlands" species, respectively. While the federal USACE criteria are used to evaluate the presence or absence of wetlands within the project site, the determination of state wetland status is not based on the combined presence of the three (3) criteria, because the state can take jurisdiction of area exhibiting any one (1) of the criteria: (1) presence of open water or saturated soils, (2) presence of vegetation, including riparian or wetland species, and/or (3) water modified or oxygen depleted soils.

Traditional Navigable Waters (TNWs) and Relatively Permanent Waters (RPWs), where water flows for three (3) or more months per year, are jurisdictional by definition; however, for Non-Relatively Permanent Waters (Non-RPWs) data and analyses supporting connectivity must be provided to justify USACE jurisdiction. Erosional features (i.e., small and large gullies), swales, and excavated roadside ditches are usually not considered jurisdictional. Non-RPW are evaluated for "more than an insubstantial or speculative effect on the chemical, physical, or biological integrity of TNWs."

On August 29, 2023, the U.S. Environmental Protection Agency (EPA) and Department of the Army (the agencies) issued a final rule to amend the final "Revised Definition of 'Waters of the United States'" rule, published in the Federal Register on January 18, 2023. This final rule conforms the definition of "waters of the United States" to the U.S. Supreme Court's May 25, 2023, decision in the case of *Sackett v. Environmental Protection Agency*. Parts of the January 2023 Rule are invalid under the Supreme Court's interpretation of the Clean Water Act in the *Sackett* decision. Therefore, the agencies have amended key aspects of the regulatory text to conform it to the Court's decision. The conforming rule, "Revised Definition of 'Waters of the United States'; Conforming," published in the *Federal Register* and became effective on September 8, 2023.

In addition, due to ongoing litigation, the January 2023 Rule is not currently operative in certain states and for certain parties. The agencies are implementing the January 2023 Rule, as amended by the conforming rule, in 23 states, the District of Columbia, and the U.S. Territories. In the other 27 states and for certain parties, the agencies are interpreting "waters of the United States" consistent with the pre-2015 regulatory regime and the Supreme Court's decision in *Sackett* until further notice. See the Rule Status page for additional information about the status of the January 2023 Rule, as amended, and litigation.

In summary (see link for full text) WoUS are defined below as shown in 40 CFR 120.2(a)

(1) Waters which are:

(i) 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;

(ii) The territorial seas; or

(iii) Interstate waters;

(2) Impoundments of waters otherwise defined as waters of the United States under this definition, other than impoundments of waters identified under paragraph (a)(5) of this section;

(3) Tributaries of waters identified in paragraph (a)(1) or (2) of this section that are relatively permanent, standing or continuously flowing bodies of water;

(4) Wetlands adjacent to the following waters:

(i) Waters identified in paragraph (a)(1) of this section; or

(ii) Relatively permanent, standing or continuously flowing bodies of water identified in paragraph (a)(2) or (a)(3) of this section and with a continuous surface connection to those waters;

(5) Intrastate lakes and ponds, streams, or wetlands not identified in paragraphs (a)(1) through (4) of this section that are relatively permanent, standing or continuously flowing bodies of water with a continuous surface connection to the waters identified in paragraph (a)(1) or (a)(3) of this section.

Eight exclusions from the definition of "waters of the United States" are codified at paragraph (b), and key terms are defined at paragraph (c). "Adjacent" is defined at (c)(2) as "having a continuous surface connection."

In April of 2020 the State Water Resources Control Board issued Implementation Guidance for the State Wetland Definition and Procedures for Discharges of Dredged or Fill Materials into Water of the State (vs WoUS) (Procedures). Which said:

Waters of the State California Code of Regulations, title 23, section 3831(w) states that "[a]ll waters of the United States are also 'waters of the state.'" As a practical application the RWQCB has taken jurisdiction over the OHWM and any associated wetlands. Wetlands that are categorically excluded from qualifying as a water of the U.S. may nevertheless qualify as waters of the state under another jurisdictional category regardless of federal status.

In September 2023, the Regional Board began offering Training on the 2023 Procedures that take into account the Sackett Ruling by SCOTUS. The 2023 Procedures will become effective when published in the Federal Register. The revised procedures modify the timeline for obtaining a 401 permit from 60 days to up to one year with the reasonable period of time defaulting to 6 months when not otherwise defined by the agencies. Other changes are also proposed.

In January 2023, the California State Water Resources Control Board (Board) amended the Porter-Cologne Water Quality Control Act (Water Code), including 2022 Statutes. Porter-Cologne Water Quality Control Act - 2023 Version (ca.gov) The Water Code defines "Waters of the state" as any surface water or groundwater, including saline waters, within the boundaries of the state. It describes "Beneficial uses" of the waters of the state that may be protected against quality degradation include, but are not limited to, domestic, municipal, agricultural and industrial supply; power generation; recreation; aesthetic enjoyment; navigation; and preservation and enhancement of fish, wildlife, and other aquatic resources or preserves. It describes "Quality of the water" as the chemical, physical, biological, bacteriological, radiological, and other

properties and characteristics of water which affect its use. "It defines "Contamination" as impairment of the quality of the waters of the state by waste to a degree which creates a hazard to the public health through poisoning or through the spread of disease. "Contamination" includes any equivalent effect resulting from the disposal of waste, whether or not waters of the state are affected.

In the absence of Waters of the US, the Regional Board will exert jurisdiction over Waters of the State via the Water Code. When this occurs a WDR is issued rather than a 401 permit under the Clean Water Act.

4.0) METHODS

The potential for occurrence of state and federal waters and wetlands within the project site was evaluated through a literature review and visits to the property. Literature reviewed included a previous jurisdictional delineation conducted by AMEC Earth & Environmental, Inc. (2005), soils maps and descriptions (Knect 1971), topographic maps (USDA Nat. Res. Cons. Serv. SSURGO Data), aerial photography (Google Earth, 1994-2014), and the list of wetland plants in California.

Before visiting the site, a detailed topographic map of the property (received from Hunsaker & Associates) was studied and placed as a layer over parcel shapefiles obtained from Riverside County (NAD83, California State Plane VI in feet). All Drainages evident on the map were marked and considered potential waters/wetlands to be evaluated in the field. The Drainage systems were labeled for reference in the field and in this report. All Drainages were examined in the field May/June 2015, October 2017 by walking along their entire lengths, and updated in 2018, 2020, 2022 and 2023.

Soil maps and descriptions of local soils have been obtained from the USDA Natural Resources Conservation Service (Soil Survey Geographic [SSURGO] Database - websoilsurvey.nrcs.usda.gov/app/). Soils mapped on the project site were listed and evaluated for their properties relating to potential wetlands. Soil conditions onsite were noted during the field visit and discrepancies between observations and SCS descriptions were further examined by digging soil pits where necessary. Soil color characteristics were evaluated using a Munsell soil color chart.

During field surveys, vegetation growing within drainages was examined. Dominant plant species were listed along with any potential indicators of wetland conditions. The vegetation criterion for wetlands is satisfied if half or more of the dominant plant species at a site are ranked as "obligate wetland," "facultative wetland," or "facultative" species (OBL, FACW, or FAC, respectively, see Table 1).

Table 1. Summary of Wetlands Vegetation Criteria.

Category	Probability
Obligate Wetland (OBL)	Almost always occur in wetlands (estimated probability >99%)
Facultative Wetland (FACW)	Usually occur in wetlands (Estimated probability 67%-99%)
Facultative (FAC)	Equally likely to occur in wetlands and non-wetlands (est. probability 34%-66%)
Facultative Upland (FACU)	Usually occur in non-wetlands (estimated probability 67%-99%)
Obligate Upland (UPL)	Almost always occur in non-wetlands (estimated probability >99%)

MSHCP Riparian/Riverine and Vernal Pools

In conformance with the MSHCP, this report addresses riparian/riverine areas and vernal pools within the drainages descriptions of each system. Where riparian vegetation is associated with drainages (and to the extent that it is native to California), we considered it suitable for designation as riparian under the MSHCP. Where flows evidence some level of energy, at least ephemerally, we consider them to be riverine in the broadest sense. To meet the definition of a vernal pool three (3) factors must be addressed: suitable soils and soils conditions, proper hydrology, and one (1) or more indicator species.

5.0) RESULTS

The nearest Traditional Navigable Water (TNW) is the Pacific Ocean, which is located 49.5 river miles away. The nearest Relatively Permanent Water (RPW) is the Santa Ana River, which is located 1.25 river miles away.

5.1) Hydrology

Twelve (12) Non-Relatively Permanent Water (Non-RPW) Drainages and their tributaries (i.e., ephemeral carriers of periodic rainfall) were identified within the project area during the present survey (Figure 5). Rainfall runoff generally ceases to flow through the drainages within hours or a few days at most. We classed these as CDFW Streambeds, MSHCP Riparian/Riverine including areas which were classified as Waters of the State. No Waters of the US are present.

Drainage 1 drains toward the east of the site and flows offsite into a storm drain at the corner of Cedar and Pine Road. The storm drain outlet is offsite and not visible on Google Earth. The flow may enter a detention basin, located just to the east, and percolate into the ground.

Drainage 2 drains toward the east of the site and flows offsite onto a road. It appears to follow roadside gutters toward a sand and gravel operation and terminate at a detention basin where it percolates into the ground.

Drainage 3 drains toward the east of the site and flows offsite into Drainage 4.

Drainage 4 drains toward the east of the site and flows offsite into a cement plant site on 20th Street, where it appears to percolate into the ground. Drainage 12 connects to Drainage 4 but is detailed separately in Table 2.

Drainage 5 drains toward the south of the site and flows offsite and either percolates into the ground or enters the West Riverside Canal. The West Riverside Canal, which flowed freely in past decades and drained to the Santa Ana River, now appears to terminate in a field and percolate into the ground.

Drainages 6 through 10 drain the western portion of the site and flow offsite where their respective channels dissipate at the base of the hill. The water then percolates into the ground.

Drainage 11 drains the western portion of the site and flows offsite where it dissipates into an agricultural field and percolates into the ground.

5.2) Soils

Soil Survey Geographic (SSURGO) Database shapefiles identify 13 soil mapping units on the portions of the site surveyed (see Figure 4) in the following groups:

ChF2 = Cieneba sandy loam (15-50% slopes, eroded)
CkF2 = Cieneba rocky sandy loam (15-50% slopes, eroded)
Cr = Cieneba-Rock outcrop complex
DaD2 = Delhi fine sand (2-15% slopes, wind-eroded)
Db = Delhi fine sand
GyC2 = Greenfield sandy loam (2-8% slopes, eroded)
GyD2 = Greenfield sandy loam (8-15% slopes, eroded)
HcD2 = Hanford coarse sandy loam (8-15% slopes, eroded)
QU = Quarries
RaB3 = Ramona sandy loam (0-5% slopes, severely eroded)
RaD2 = Ramona sandy loam (8-15% slopes, eroded)
VsD2 = Vista coarse sandy loam (8-15% slopes, eroded)
VsF2 = Vista coarse sandy loam (15-35% slopes, eroded)

Mapping units, as defined by the Soil Conservation Service, are not necessarily composed entirely of the soil type for which they are named. For example, areas shown as the "Cajalco" mapping unit are predominantly Cajalco soils but may include patches of unnamed soils with slightly different profiles. Descriptions by Knecht (1971) do not indicate that any of the soil mapping units on the project site have unmapped inclusions of hydric soils.

Soil types are not consistent with an alkali playa or vernal pool complex. Pools or depressions characteristic of vernal pool habitat were not found on the subject property.

5.3) Vegetation

The site contains a mixture of steep hillsides, rolling hills, rocky outcrops, and low-relief canyons combined with relatively flat areas. Many unpaved roads are present onsite and nearby areas have been adversely impacted by historic and ongoing heavy off-road vehicle use. Large areas of the site are almost completely devoid of vegetation due to these activities. Surrounding land use includes a mixture of low and high-density residential areas, fallow agricultural fields, commercial properties, mining, and open space.

Seven (7) vegetation communities are present within the survey area: Brittle Bush Scrub (*Encelia farinosa* Shrubland Alliance), California Buckwheat Scrub (*Eriogonum fasciculatum* Shrubland Alliance), Chamise Chaparral (*Adenostoma fasciculatum* Shrubland Alliance), Willow Scrub (*Salix lasiolepis/Baccharis salicifolia* Association), Non-native Grasslands (*Bromus*

Semi-natural Herbaceous Stands), Ornamental, and Developed land (Figure 8). It was noted that while the drainages and canyons are primarily vegetated with upland habitats, they also contain small numbers of blue elderberry (*Sambucus mexicana*), willow (*Salix* species), mulefat (*Baccharis salicifolia*), and non-native Peruvian pepper tree (*Schinus* species) and were determined to include small areas of riparian habitat.

A single Palmer's oak (*Quercus palmeri*) is present within the survey area. Palmer's oak is present as a cluster called a "clone" at one (1) locality. The locality is not within a jurisdictional area. No MSHCP species listed for protection associated with riparian/riverine areas or vernal pools were observed.

Table 2. Streambed/MSHCP Summary Table .

Drainage Identifier	CDFW Streambeds / MSHCP Riparian / Riverine Habitat	
	CDFW Drainage Area sq. ft.	CDFW Drainage Acreage
1	10,912	0.25
2	45,083	1.03
3	15,729	0.36
4	36,152	0.83
5	25,435	0.58
6	11,782	0.27
7	21,677	0.50
8	30,427	0.70
9	27,560	0.63
10	36,680	0.84
11	28,156	0.65
12	9,263	0.21
Total	**298,856**	**6.86**

Drainages present in this table are subject to Section 6.1.2 of the MSHCP and Section 1602 of the California Department of Fish and Game Code.

Table 3. Waters of the State Summary Table .

Feature	RWQCB Area sq. ft.	RWQCB Acreage
1	5,559	0.13
2	22,648	0.52
3	9,630	0.22
4	20,317	0.47
5	10,173	0.23
6	4,701	0.11
7	13,406	0.31
8	14,056	0.32
9	11,872	0.27
10	11,175	0.26
11	10,905	0.25
12	2,772	0.06
Total	**137,214**	**3.15**

Drainages in this table are subject to Porter-Cologne under the control of RWQCB

5.4) Wildlife

Seven (7) special status wildlife species were observed during the 2014, 2015, and 2016 biological surveys: Cooper's hawk (*Accipiter cooperii*; CDFW Watch List Species), southern California rufous-crowned sparrow (*Aimophila ruficeps canescens*; CDFW Watch List Species), Lawrence's goldfinch (*Spinus lawrencei*; USFWS Bird of Conservation Concern, CDFW Special Animal), northern harrier (*Circus cyaneus*; CDFW Species of Special Concern), northern red-diamond rattlesnake (*Crotalus ruber*; CDFW Species of Special Concern), orange-throated whiptail (*Aspidoscelis hyperythra*; CDFW Watch List Species), and San Diego black-tailed jackrabbit (*Lepus californicus bennettii*; CDFW Species of Special Concern). Two (2) other special status wildlife species were reported as occurring in the 2005 biological surveys conducted by AMEC: coast horned lizard (*Phrynosoma blainvillii*; CDFW Species of Special Concern) and coastal whiptail (*Aspidoscelis tigris stejnegeri*; CDFW Species of Special Concern).

Suitable habitat is present, but no burrowing owl (*Athene cunicularia*; USFWS Bird of Conservation Concern, CDFW Species of Special Concern) or burrowing owl sign was identified on the property or buffer areas during surveys in 2005, 2014, and 2016.

No habitat is present within the survey area suitable to support riparian/riverine associated wildlife species as listed in the MSHCP Section 6.1.2 (arroyo toad, mountain yellow-legged frog, California red-legged frog, bald eagle, least Bell's vireo, peregrine falcon, southwestern willow flycatcher, western yellow-billed cuckoo, Santa Ana sucker, Riverside fairy shrimp, or vernal pool fairy shrimp).

Approximately 20 acres of Delhi soils occur on the property, almost entirely within Non-native Grasslands, with a small portion occurring in Brittle Bush Scrub. This area of Delhi soils is located along the western edge of the property and includes or is adjacent to the lower ends of Drainages 9, 10, and 11. Delhi sands flower-loving fly (*Rhaphiomidas terminatus abdominalis*; federal endangered) (DSF) was observed during focused surveys by AMEC in 2005. All DSF observations were made within an approximately 3.5-acre area on the western edge of the site, where flat areas containing Delhi series (sandy) soils are present next to a residential area. This area includes or is adjacent to the lower end of Drainages 10. No DSF were found in this area during a two-year focused survey by L&L in 2015 and 2016. Because of ongoing disturbance over the last decade and a lack of DSF sightings during focused studies in 2015 and 2016, it is likely that DSF has been extirpated from this area.

Habitat suitable for coastal California gnatcatcher (*Polioptila californica californica*; federal threatened, CDFW Species of Special Concern) is present on the property. Three (3) coastal California gnatcatchers (*Polioptila californica californica*), possibly dispersing juveniles, were incidentally observed on the site and suitable habitat for this species is present. California gnatcatcher is a covered species under the MSHCP and considered adequately conserved. However, the MSHCP does not provide take authorization for nesting birds, including gnatcatchers (discussed below). One bird was incidentally identified by vocalizations by a Kizh Nation Biologist during an AB-52 Site meeting but is not listed in the CNDDB (personal communication).

The riparian habitat onsite is not adequate for least Bell's vireo (*Vireo bellii pusillus*; state and federal endangered), and no individuals were detected during focused surveys.

5.5) MSHCP Riparian/Riverine and Vernal Pool Habitat

Under the MSHCP (Volume 1, Section 6.1.2), areas associated with wetland and streambed systems must be evaluated for consideration as riparian/riverine or vernal pool habitat.

A streambed channel, either unvegetated or vegetated with upland species, generally qualifies as MSHCP riverine habitat. Therefore, riverine habitat occurs in a narrow band along drainages in the survey area where riparian habitat is absent. This area corresponds as portions of the area mapped during the jurisdictional delineation as CDFW Streambed.

The subject site contains four (4) small areas of woody, water-dependent vegetation (Figures6, 7, & 11). Arroyo willow, black willow, and mulefat are present within small portions of Drainages 2, 4, 10, and 11. In addition, Peruvian pepper trees, although ornamental and invasive, are classified as a facultative upland species in the Arid West and are, therefore, included in the riparian vegetation calculations where they occur in or adjacent to drainage. These drainages are ephemeral and rely on rainfall for their water supply. This area corresponds to the area mapped during the jurisdictional delineation as CDFW/State wetland habitat.

Soil types are not consistent with an alkali playa or vernal pool complex and pools or depressions characteristic of vernal pool habitat were not found on the property.

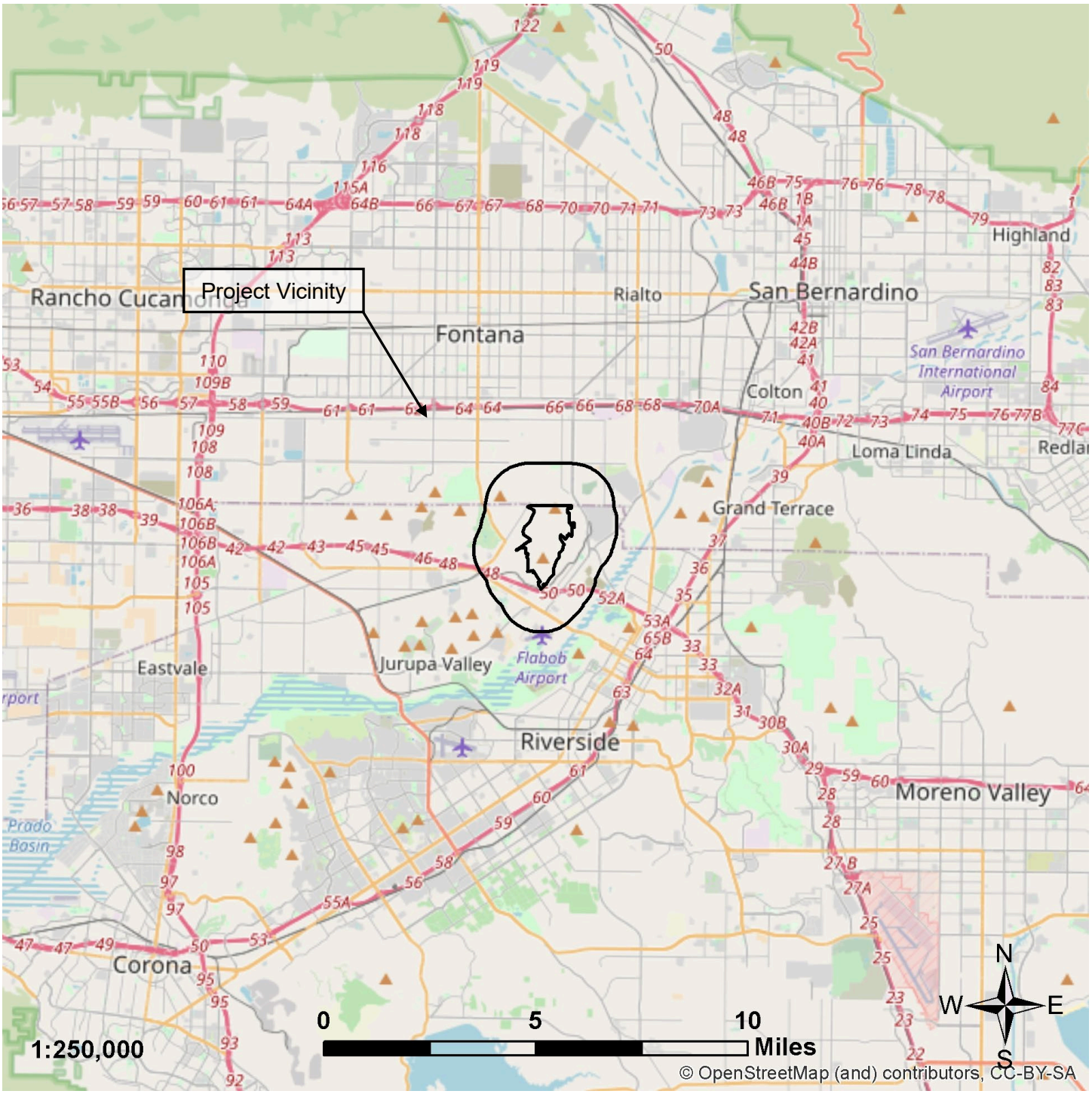
6.0) CONCLUSIONS

Jurisdictional areas on the project site include a total of 298,821.6 sq. ft. (6.86 acres) of CDFW Streambeds. Of the 6.86 acres of CDFW jurisdiction present, 3.15 acres are State Waters subject to the control of the RWQCB under Porter Cologne.

The proposed project will impact 298,821.6 sq. ft. (6.86 acres) of CDFW Streambed and 3.15 acres of RWQCB State Waters.

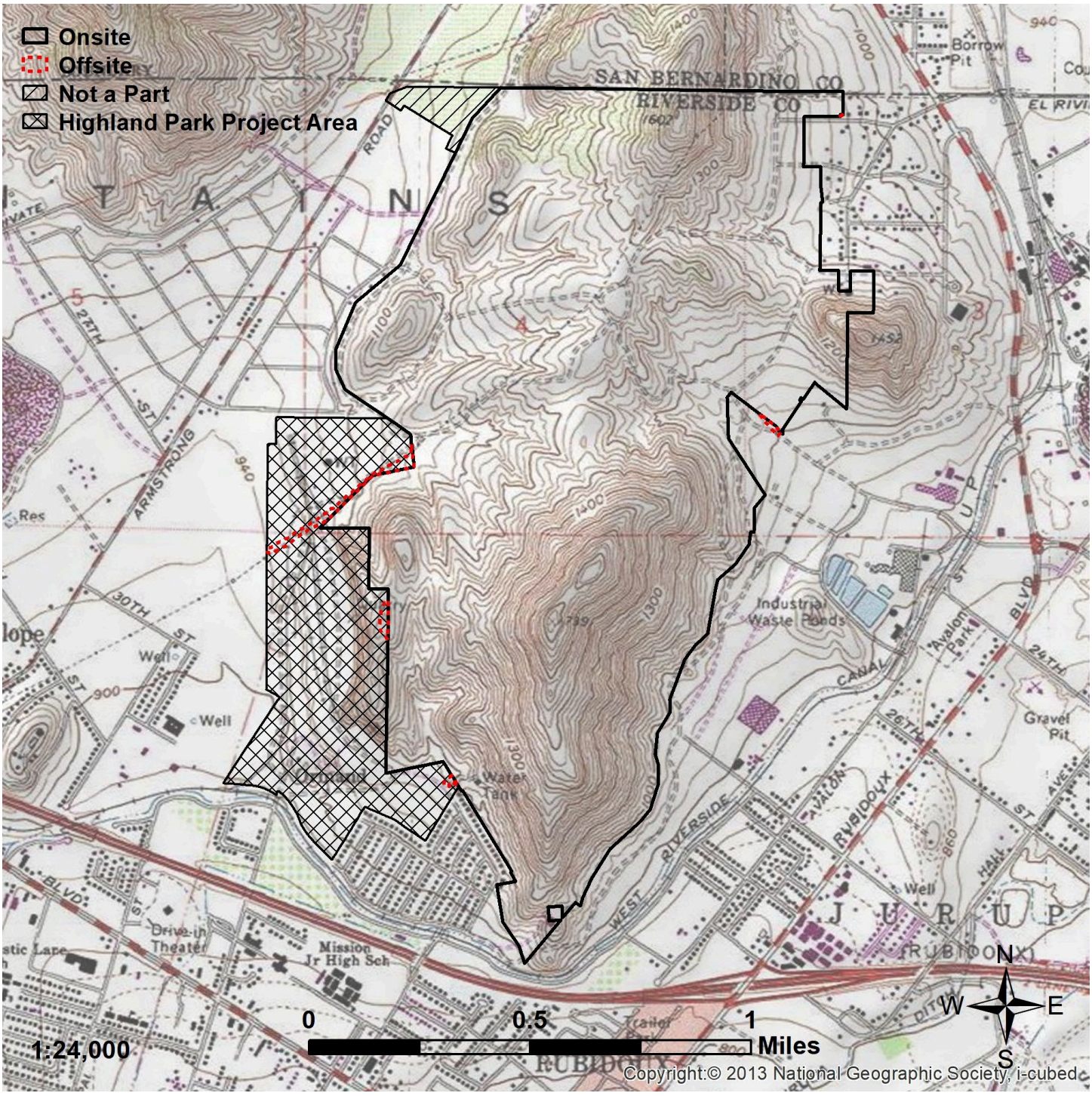
Due to lack of connectivity with the Santa Ana River neither federal waters nor federal wetlands are present within the Rio Vista project.

The client is advised that a Streambed Alteration Agreement (1602) and a Waste Discharge Permit (WDR) will be required prior to any project related earthmoving or vegetation disturbing activities on the Project.



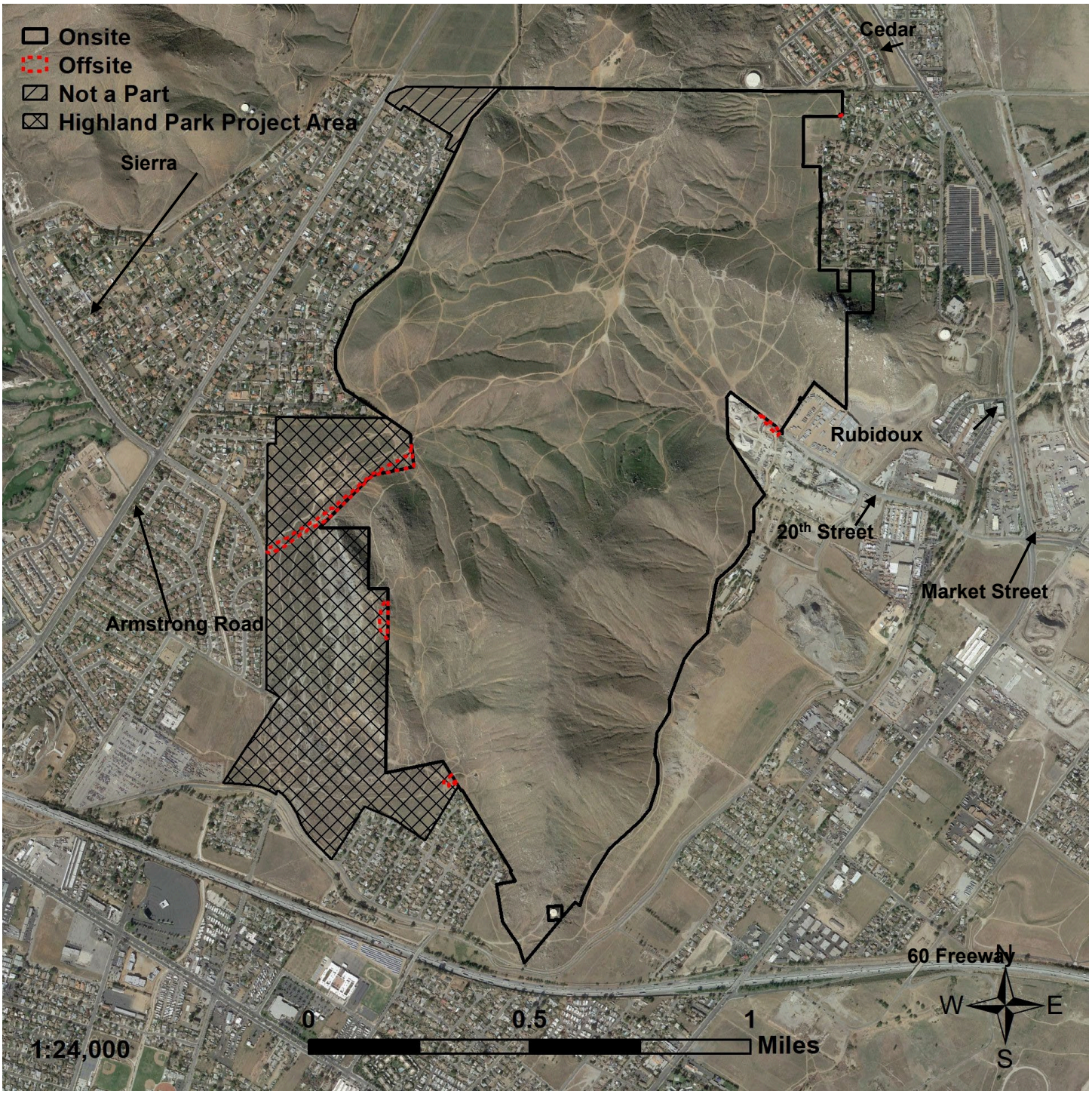
Rio Vista Project
Riverside County, California

Vicinity Map
Figure 1



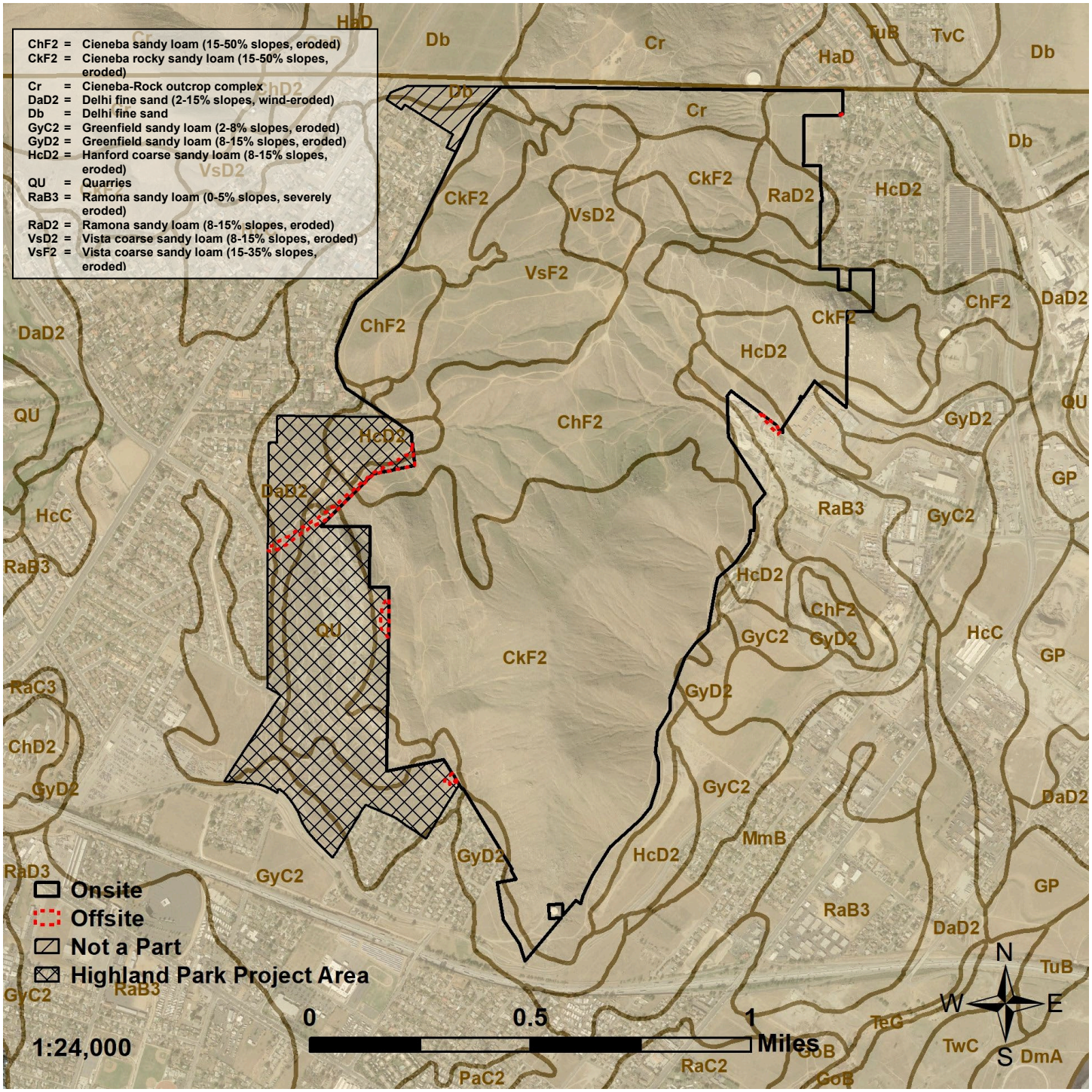
Rio Vista Project
Riverside County, California

Project Location
Figure 2



Rio Vista Project
Riverside County, California

Project Location
Figure 3



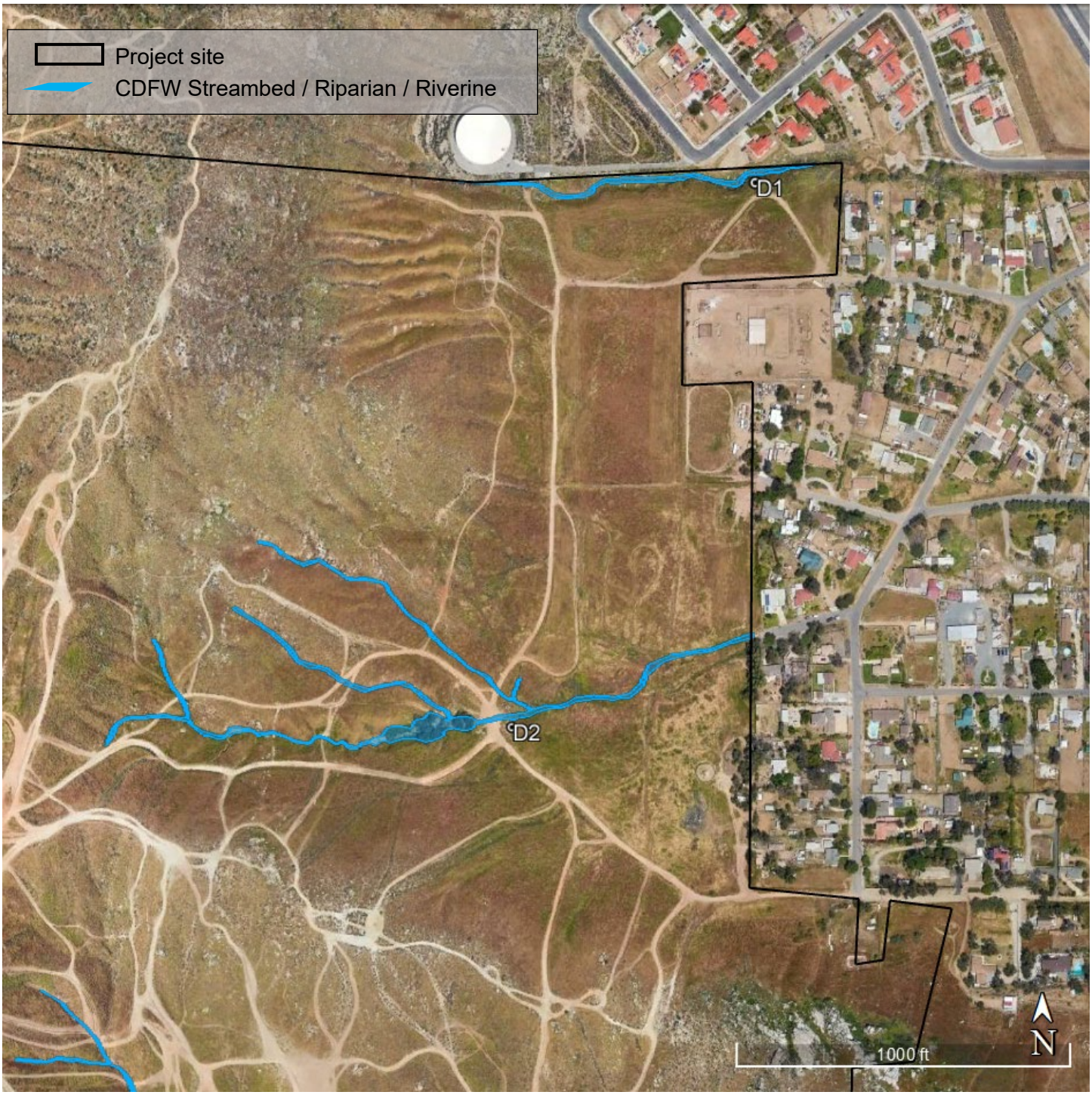
Rio Vista Project
Riverside County, California

Soils Map
Figure 4



Rio Vista Project
Riverside County, California

CDFW/ MSHCP Riparian Riverine Habitat
Figure 5



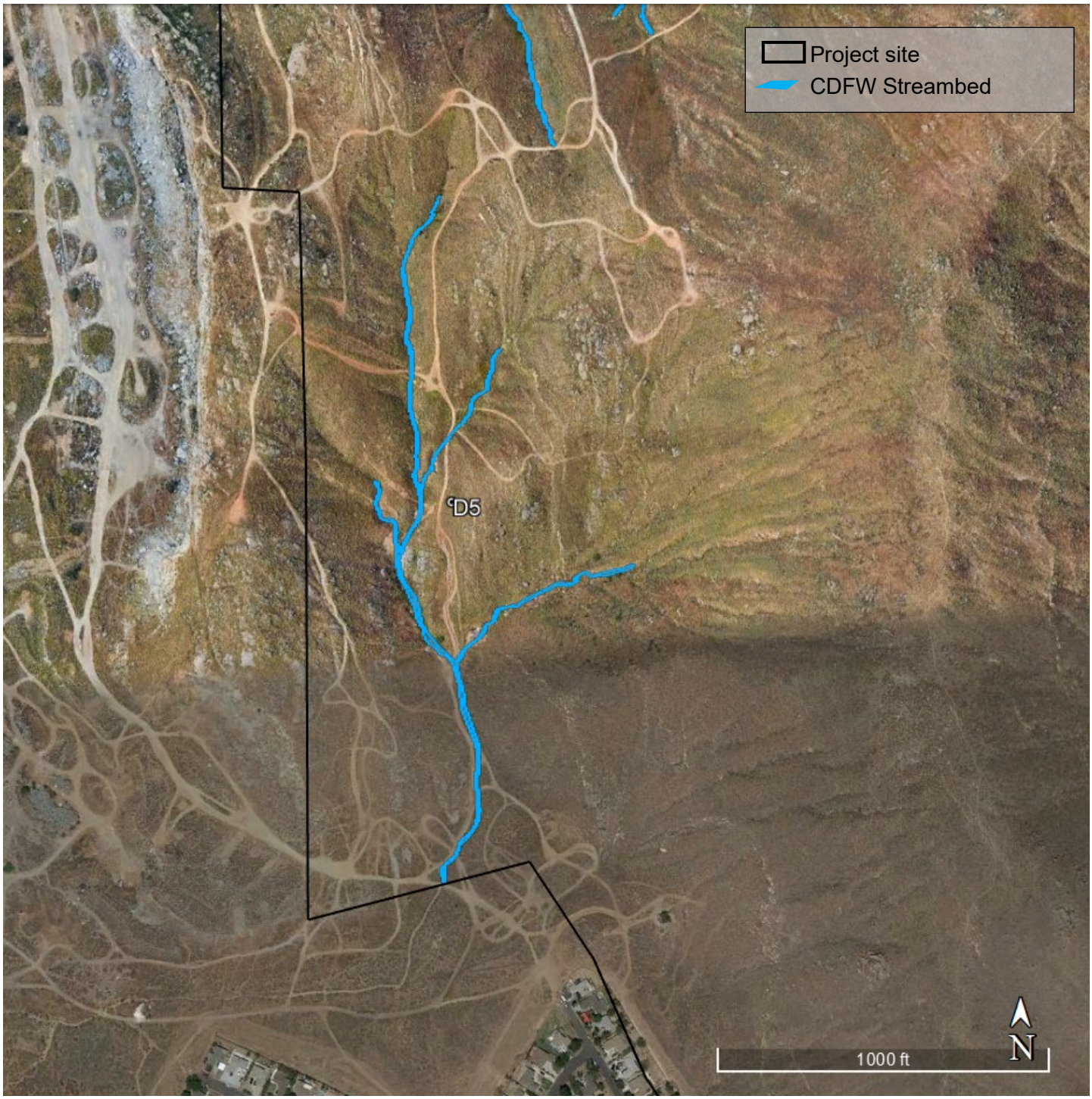
Rio Vista Project
Riverside County, California

Drainage 1 & 2
Figure 6



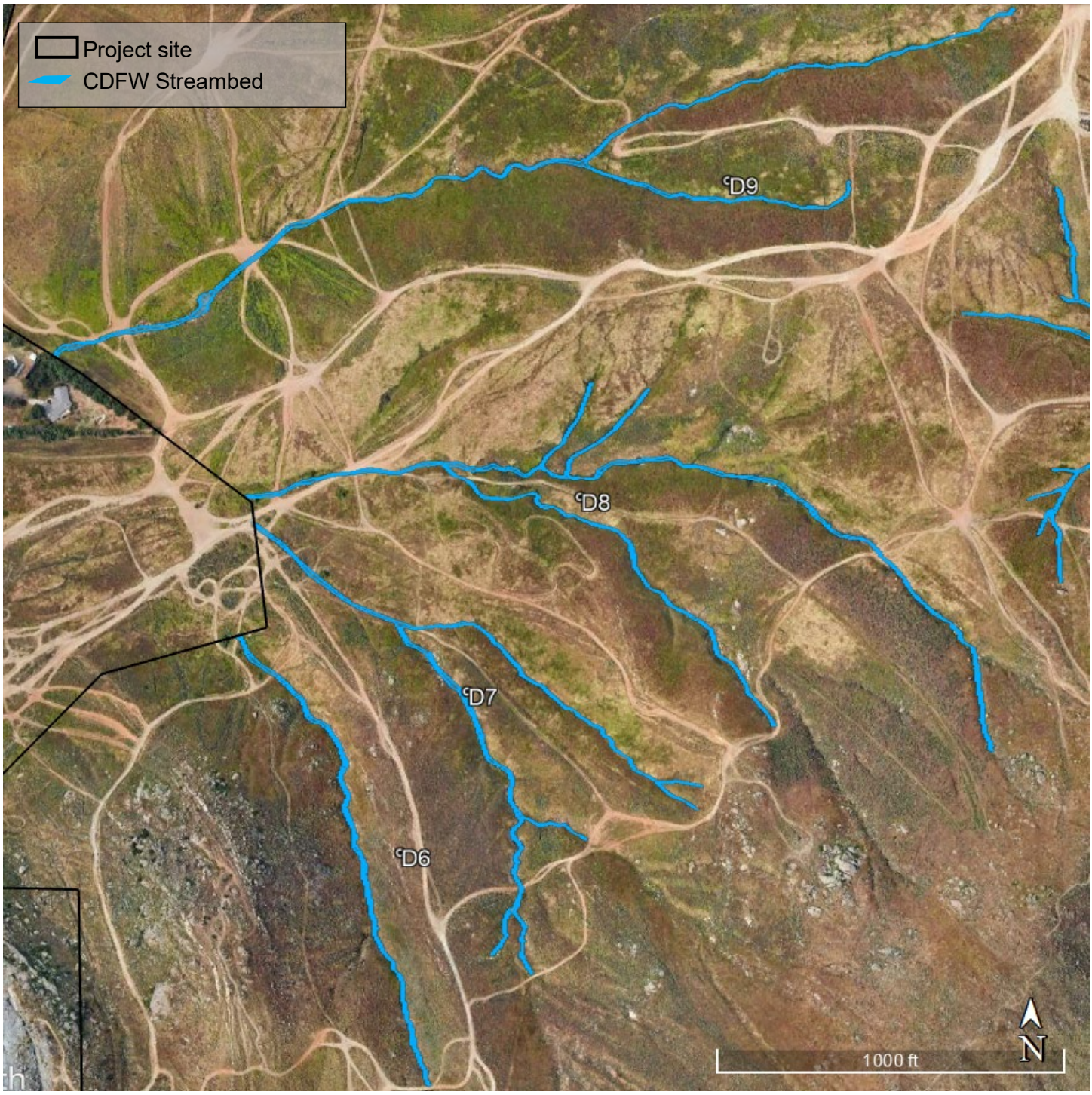
Rio Vista Project
Riverside County, California

Drainages 3, 4 & 12
Figure 7



Rio Vista Project
Riverside County, California

Drainage 5
Figure 8



Rio Vista Project
Riverside County, California

Drainage 6, 7, 8, & 9
Figure 9



Rio Vista Project
Riverside County, California
Drainage 10
Figure 10



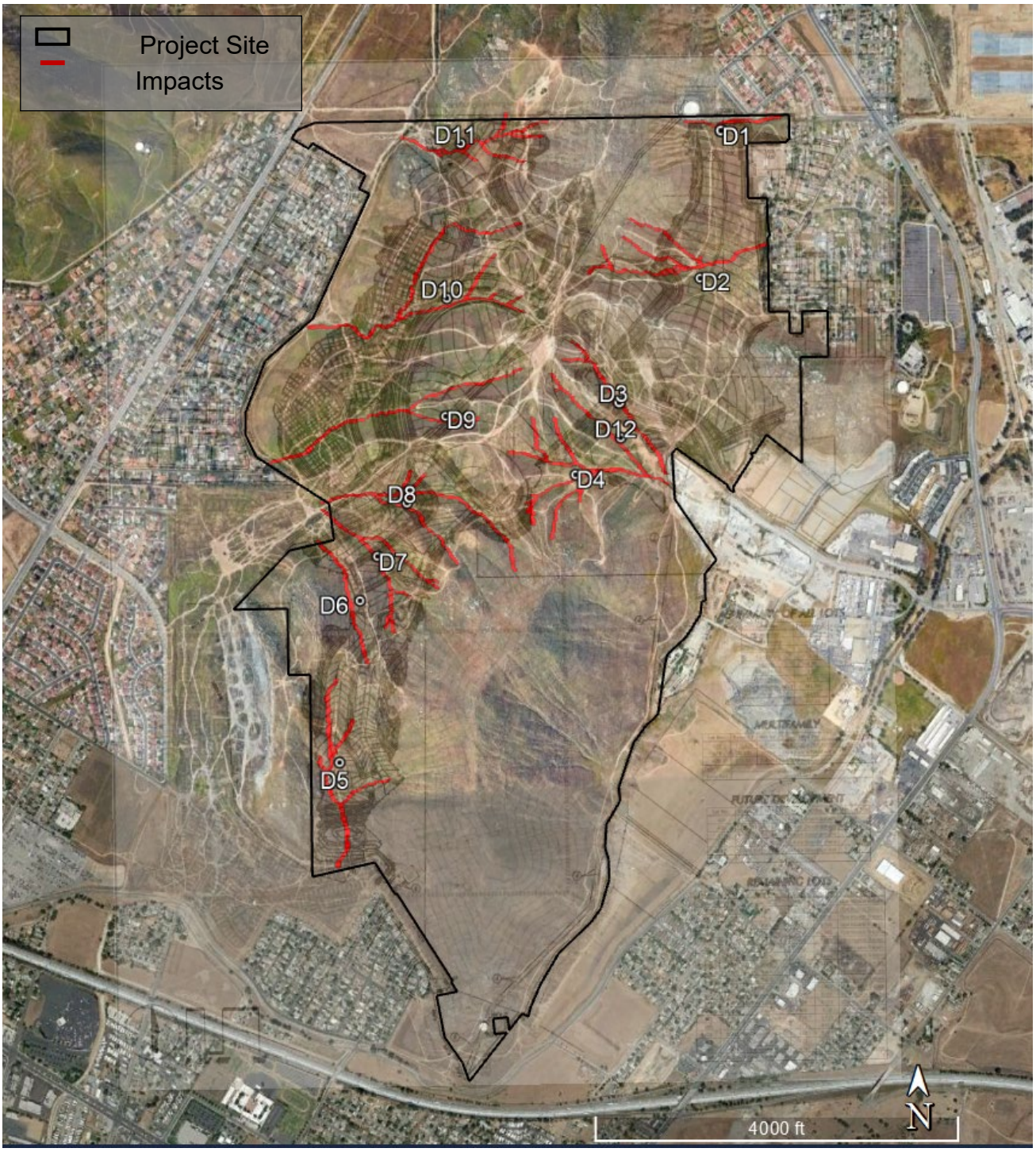
Rio Vista Project
Riverside County, California

Drainage 11
Figure 11



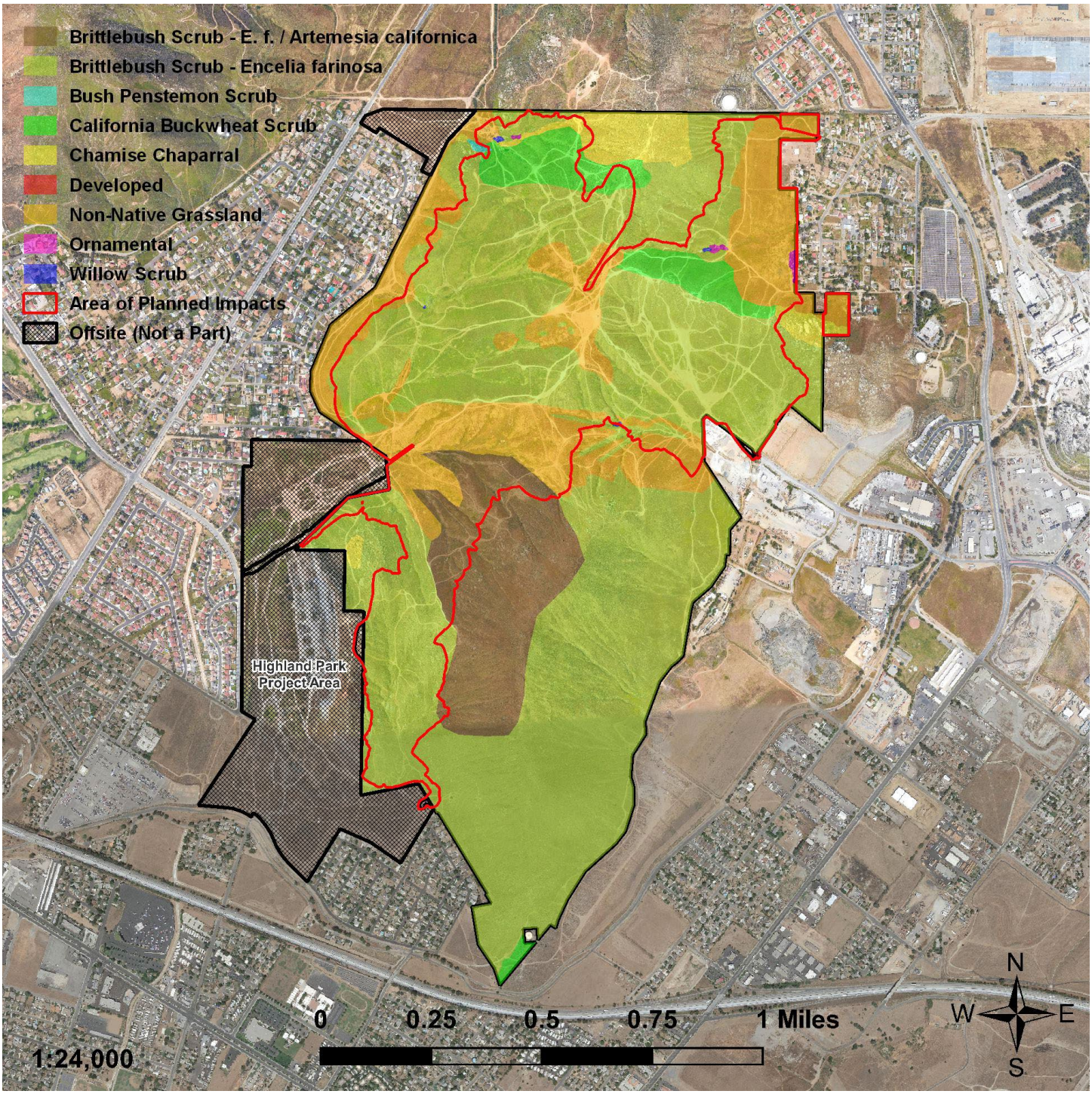
Rio Vista Project
Riverside County, California

RWQCB State Waters
Figure 12



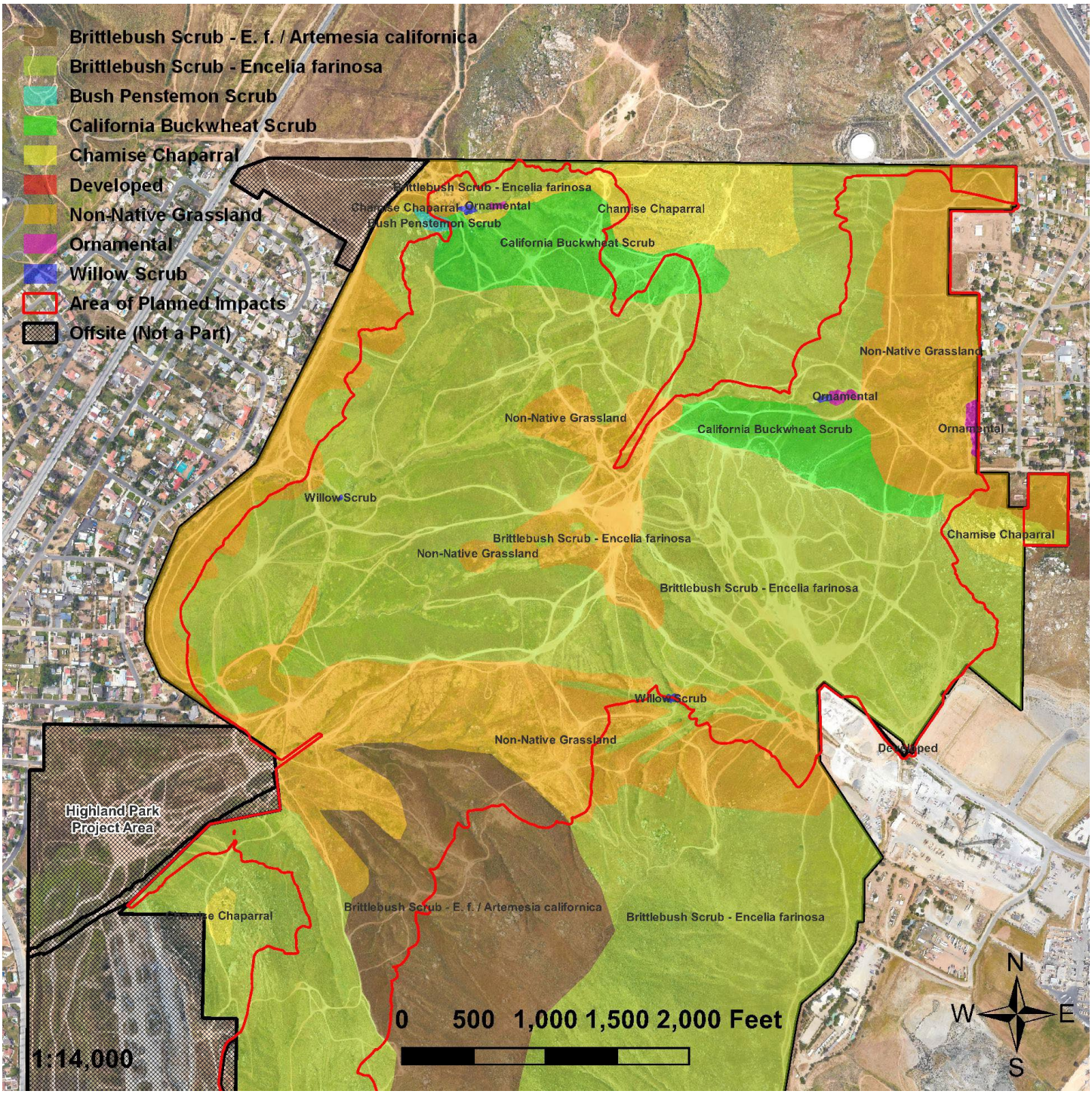
Rio Vista Project
Riverside County, California

Drainage Impacts
Figure 13



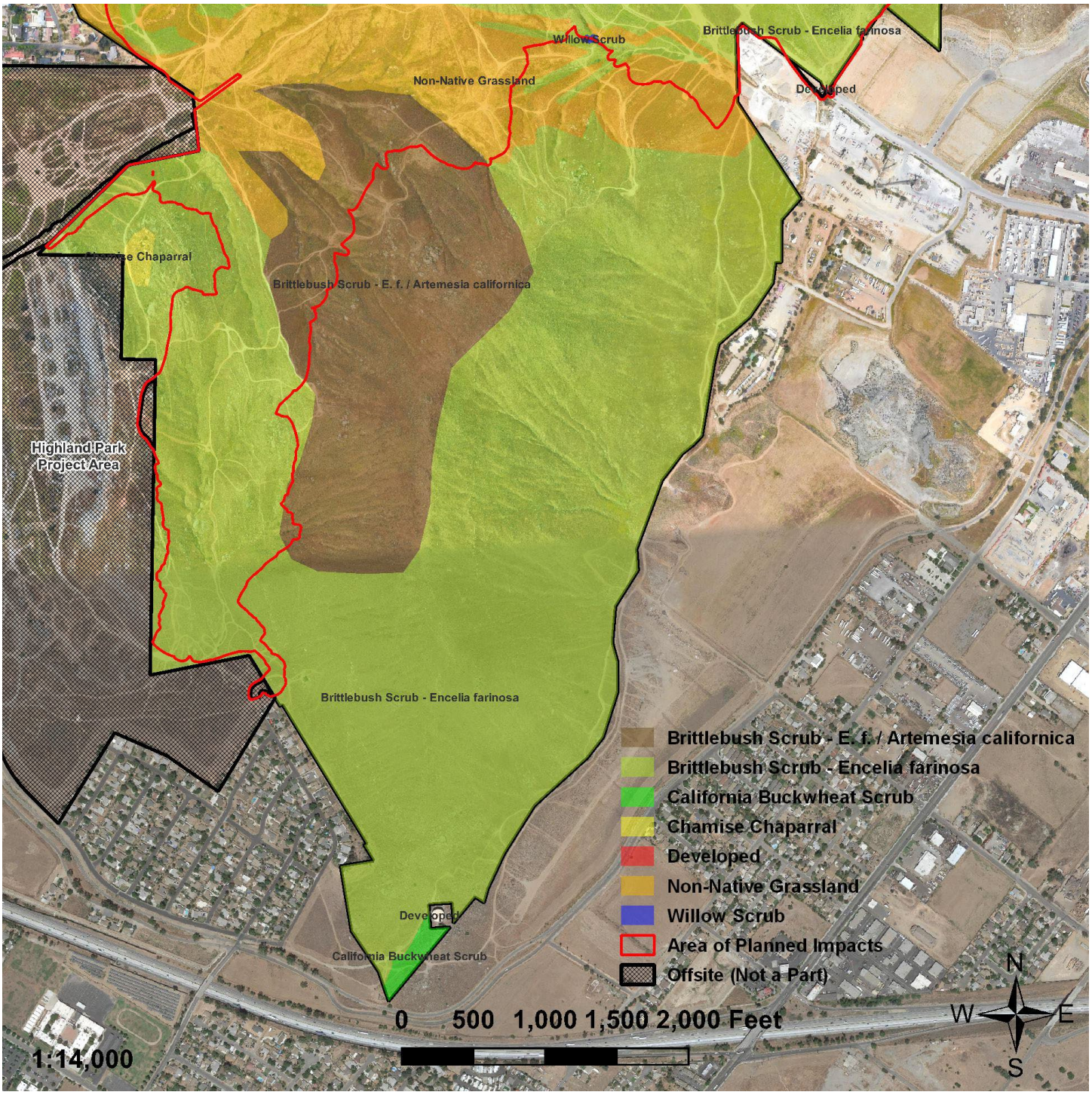
Rio Vista Project
Riverside County, California

Vegetation Map
Figure 14



Rio Vista Project
Riverside County, California

Northern Half Vegetation
Figure 14a



Rio Vista Project
Riverside County, California

Southern Half Vegetation
Figure 14b

7.0) REFERENCES

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Climatic Data

Climate (weather.gov)

Monthly Total Precipitation for POMONA/FAIRPLEX, CA

Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual
2000	M	M	M	M	M	0.00	0.00	0.00	0.00	0.50	0.00	0.00	M
2001	4.33	6.19	0.25	1.12	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	11.89
2002	0.20	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	M	M
2003	0.00	M	3.85	1.30	M	0.00	0.00	0.00	0.00	0.10	1.01	2.20	M
2004	1.10	2.36	1.20	0.36	0.90	0.00	M	0.00	0.00	8.26	1.76	10.27	M
2005	8.68	11.71	M	1.17	0.04	0.00	0.00	0.00	0.00	1.90	0.00	1.32	M
2006	1.07	3.75	4.67	4.56	0.50	0.00	0.00	0.00	M	M	M	0.63	M
2007	0.55	2.19	0.08	0.98	0.03	0.00	0.01	0.00	0.00	0.00	1.14	1.41	6.39
2008	5.52	1.61	0.00	0.00	0.14	0.00	0.00	0.00	0.00	M	9.28	3.59	M
2009	0.33	5.34	0.14	0.01	0.00	0.01	0.00	0.00	0.00	0.36	M	2.04	M
2010	M	M	0.04	M	0.03	0.00	0.00	0.00	0.01	1.11	1.31	9.86	M
2011	0.56	0.53	0.06	0.04	0.27	0.05	0.02	0.00	0.03	1.28	0.61	0.32	3.77
2012	0.99	1.00	2.61	0.56	0.06	0.00	0.01	0.10	0.00	0.15	1.11	2.58	9.17
2013	1.01	0.77	M	0.06	M	0.00	0.00	0.00	0.03	0.69	0.73	M	M
2014	M	0.69	0.67	0.59	0.00	0.00	0.01	0.03	0.00	0.00	0.69	3.85	M
2015	0.92	0.51	0.38	0.36	1.01	0.02	0.85	M	1.02	0.81	0.70	1.15	M
2016	2.52	0.49	M	M	M	0.00	0.00	0.00	0.00	0.60	0.67	M	M
2017	M	2.39	0.17	0.07	M	0.00	M	0.04	M	M	M	M	M
2018	M	M	M	M	M	M	M	M	M	M	M	M	M
2019	M	M	M	M	M	M	M	M	M	M	M	M	M
2020	M	M	M	M	M	M	M	M	M	M	M	M	M
2021	M	M	M	M	M	M	M	M	M	M	M	M	M
2022	M	M	M	M	M	M	M	M	M	M	M	M	M
Mean	1.98	2.64	1.01	0.75	0.23	0.00	0.06	0.01	0.07	1.05	1.27	2.80	7.81
Max	8.68 2005	11.71 2005	4.67 2006	4.56 2006	1.01 2015	0.05 2011	0.85 2015	0.10 2012	1.02 2015	8.26 2004	9.28 2008	10.27 2004	11.89 2001
Min	0.00 2003	0.00 2002	0.00 2008	0.00 2008	0.00 2014	0.00 2017	0.00 2016	0.00 2016	0.00 2016	0.00 2014	0.00 2005	0.00 2001	3.77 2011

Site Photographs



Drainage 1.



Drainage 1.



Drainage 2.



Drainage 2.



Drainage 2a (July 6, 2015).



Drainage 2a1 (July 6, 2015).



Drainage 2.



Drainage 2



Drainage 3.



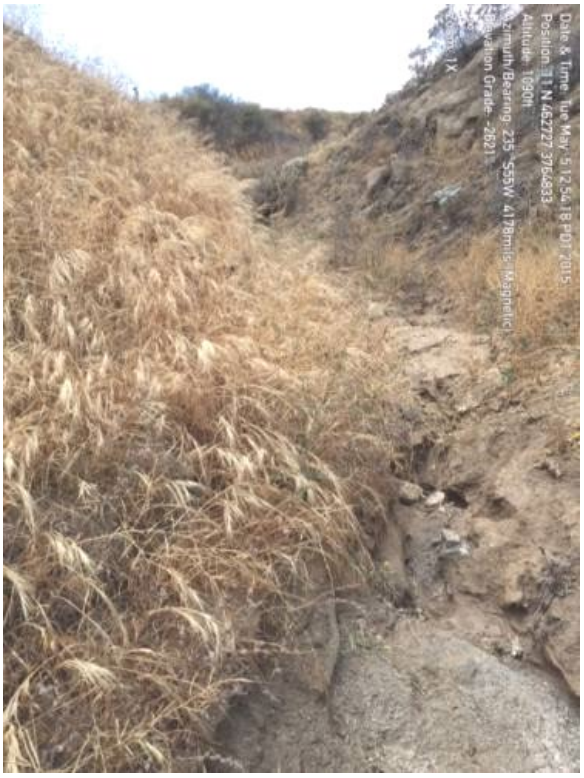
Drainage 3a.



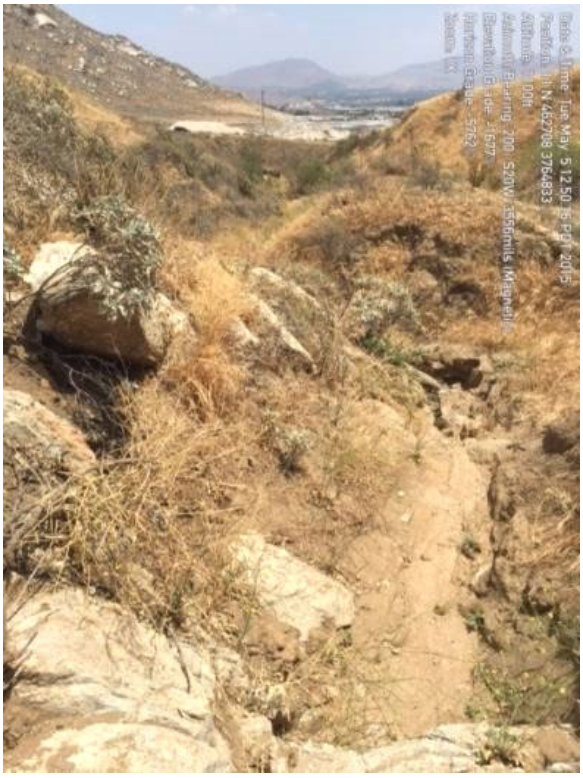
Drainage 4.



Drainage 4.



Drainage 4



Drainage 4



Drainage 4.



Drainage 4.



Drainage 5



Drainage 5



Drainage 6



Drainage 6.



Drainage 7



Drainage 7



Drainage 8



Drainage 8.



Drainage 8.



Drainage 8



Drainage 9



Drainage 9



Drainage 10.



Drainage 10



Drainage 10b.



Drainage 11.



Drainage 11.



Drainage 11.



Drainage 11



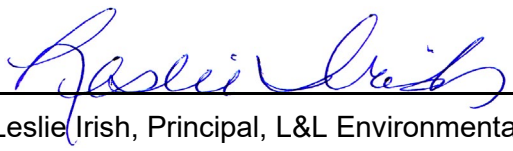
Drainage 11

APPENDIX B

Riverside County Documentation

Certification

Certification: I hereby certify that the statements furnished above and in the attached exhibits present the 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.

DATE: September 21, 2022 SIGNED: 

Leslie Irish, Principal, L&L Environmental, Inc.
909-335-9897

1) Fieldwork Performed By:

Leslie Irish
Name

2) Fieldwork Performed By:

Ann Lopez
Name

3) Fieldwork Performed By:

Name

4) Fieldwork Performed By:

Name

5) Fieldwork Performed By:

Name

6) Fieldwork Performed By:

Name

Check here _____ if adding any additional names / signatures below or on other side of page.

BIOLOGICAL REPORT SUMMARY SHEET

Applicant Name: Richland Real Estate Fund, LLC
Assessor's Parcel Number(s): 175-080-010, 175-090-001 through -005, 175-100-003, -005, & -006, 175-160-001, -005, & -007, 177-030-012 & -014, 177-040-002, & -008
Section, Township and Range: Sections 3, 4, 9, & 10, Township 2 South, Range 5 West
Building and Safety Log Number: _____
Case Number: _____ Lot/Parcel _____ EA Number _____

MARK ITEM(S) SURVEYED FOR	SPECIES or ENVIRONMENTAL ISSUE of CONCERN	*(Mark Yes, No, or N/A regarding species findings on the referenced site)*		
		Yes	**No**	**n/a**
	Arroyo Southwestern Toad	Yes	No	n/a
X	Blueline Stream(s)	Yes	No	n/a
	Burrowing Owl	Yes	No	n/a
	Coachella Valley Fringed-toed Lizard	Yes	No	n/a
	Coastal California Gnatcatcher	Yes	No	n/a
	Coastal Sage Scrub	Yes	No	n/a
	Delhi Sands Flower-loving Fly	Yes	No	n/a
	Desert Pupfish	Yes	No	n/a
	Desert Slender Salamander	Yes	No	n/a
	Desert Tortoise	Yes	No	n/a
	Flat-tailed Horned Lizard	Yes	No	n/a
	Least Bell's Vireo	Yes	No	n/a
	Oak Woodlands	Yes	No	n/a
	Quino Checkerspot Butterfly	Yes	No	n/a
	Riverside Fairy Shrimp	Yes	No	n/a
	Santa Ana River Woolystar	Yes	No	n/a
	San Bernardino Kangaroo Rat	Yes	No	n/a
	Slender-horned Spineflower	Yes	No	n/a
	Stephens' Kangaroo Rat	Yes	No	n/a
X	Vernal Pools	Yes	No	n/a
X	Wetlands (State wetlands only present)	Yes	No	n/a

MARK ITEM(S) SURVEYED FOR	SPECIES or ENVIRONMENTAL ISSUE of CONCERN	*(Mark Yes, No, or N/A regarding species findings on the referenced site)*		
	Other	Yes	No	n/a
	Other	Yes	No	n/a
	Other	Yes	No	n/a
	Other	Yes	No	n/a
	Other	Yes	No	n/a
	Other	Yes	No	n/a

Species of concern shall be any unique, rare, endangered, or threatened species. It shall include species used to delineate wetlands and riparian corridors. It shall also include any hosts, perching, or food plants used by any animals listed as rare, endangered, threatened, or candidate species by either state, or federal regulations, or for Riverside County as listed by the California Department of Fish and Game Natural Diversity Data Base (CNDDB).

I declare under penalty of perjury that the information provided on this summary sheet is in accordance with the information provided in the biological report or habitat assessment.

L & L Environmental, Inc. **September 21, 2022**
Signature and Company Name Date

10(a) Permit Number (if applicable) Permit Expiration Date

County Use Only

Received By: _____ Date: _____
PD-B# _____

Attachment E-4

LEVEL OF SIGNIFICANCE CHECKLIST
For Biological Resources
(Submit two copies to the County)

Case Number: _____ Lot/Parcel No. _____ EA Number _____

Assessor's Parcel Number(s): 175-080-010, 175-090-001 through -005, 175-100-003, -005, & -006, 175-160-001, -005, & -007, 177-030-012 & -014, 177-040-002, & -008
Date: September 21, 2022

Biological Resources: (Check the level of impact that applies to the following questions.)

Potentially Significant Impact	Less than Significant Impact with Mitigation Incorporated	Less than Significant Impact	No Impact

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

☐ ■ ☐ ☐

b) Have a substantial adverse effect, either directly or through habitat modifications, on any endangered, or threatened species, as listed in Title 14 of the California Code of Regulations (Sections 670.2 or 670.5) or in Title 50, Code of Federal Regulations (Sections 17.11 or 17.12)?

☐ ■ ☐ ☐

c) 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. Wildlife Service?

☐ ■ ☐ ☐

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

☐ ☐ ■ ☐

LEVEL OF SIGNIFICANCE CHECKLIST
For Biological Resources
(Submit two copies to the County)

e) 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 the U. S. Fish and Wildlife Service?

☐ ■ ☐ ☐

f) Have a substantial adverse effect on federally protected wetlands, as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pools, coastal, etc.) through direct removal, filling, hydrological interruption)

☐ ☐ ☐ ■

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

☐ ☐ ☐ ■

Findings of Fact:

Proposed Mitigation:

Mitigation will be conducted on or offsite at no-net-loss according to a functions and values assessment.

Monitoring Recommended:

Monitoring is recommended when working in or adjacent to sensitive resources and jurisdictional Drainages.

Source: CGP Fig. VI.36-VI.40
Revised October 1999

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D.3 - Hydrogeologic Investigation

This appendix contains sensitive information relating to cultural resources and is not intended for public distribution pursuant to Public Resources Code Section 21082.3(C)(2). A copy of confidential Appendix D is on file with the City of Jurupa Valley and is available to qualified professionals upon request.

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D.4 - Biological Review of Palmer's Oak

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D.5 - Vibration Prediction Study

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Qtative Development Solutions
100 Spectrum Center Drive, Suite 1400
Irvine, CA 92618

5/3/2023

EPD Solutions, Inc.
3333 Michelson Dr, Ste 500
Irvine, CA 92612

Attention: Yerin Bang

Rio Vista Grading and ESA Preservation

Dear Yerin,

Qtative has been asked to evaluate the proposed grading and blasting plan for the Rio Vista project, particularly around an environmentally sensitive site at the northeast portion of the Rio Vista site. Qtative and its blasting contractor with over 40 years of experience completed the attached grading and blasting analysis using an assumption of blast strength of 2 inches per second (ips).Additional assumptions include an explosive charge weight of 150 lbs(which is greater than the anticipated charge weight needed for this project) and the distance from the edge of the grading limits to the environmentally sensitive area being 259 lineal feet. The following is the explanation of the findings.

The project is proposing to potentially blast 125,000 cubic yards in AC1 (see attached grading exhibit). Based on the locations of grading and blasting, the analysis shows that the distances of those activities from the environmentally sensitive site would not cause vibration that will impact the environmentally sensitive site identified on the exhibit. Assuming the conservative 150 lbs. charge weight and the distance of 259 lineal feet, blasting will create a a peak partial velocity to 1.21 ips, which is well under the U.S. BLM 8507 standards for safe vibrations of 2 ips.

Any concerns about equipment vibrations from the largest piece of equipment (CAT D10 dozer) at 259 feet would also be well under the BLM 8507 standard for safe vibrations of 2 ips. Therefore, the environmentally sensitive site documented in the attached grading exhibit would not be impacted by vibration damage and/or earthwork operational hazards in the project design's current configuration.

Thank you,

Scott Emery

Scott Emery
Principal
QTative Development Solutions

Average Predicted Vibration (ips)

K factor: 160 Slope: -1.6

Distance Away (ft)	Charge Weight (lb)														
	280	280	280	280	280	280	280	280	280	280	280	280	280	280	280
259	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
309	1.51	1.51	1.51	1.51	1.51	1.51	1.51	1.51	1.51	1.51	1.51	1.51	1.51	1.51	1.51
359	1.18	1.18	1.18	1.18	1.18	1.18	1.18	1.18	1.18	1.18	1.18	1.18	1.18	1.18	1.18
409	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
459	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80
509	0.68	0.68	0.68	0.68	0.68	0.68	0.68	0.68	0.68	0.68	0.68	0.68	0.68	0.68	0.68
559	0.58	0.58	0.58	0.58	0.58	0.58	0.58	0.58	0.58	0.58	0.58	0.58	0.58	0.58	0.58
609	0.51	0.51	0.51	0.51	0.51	0.51	0.51	0.51	0.51	0.51	0.51	0.51	0.51	0.51	0.51
659	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45
709	0.40	0.40	0.40	0.40	0.40	0.40	0.40	0.40	0.40	0.40	0.40	0.40	0.40	0.40	0.40
759	0.36	0.36	0.36	0.36	0.36	0.36	0.36	0.36	0.36	0.36	0.36	0.36	0.36	0.36	0.36
809	0.32	0.32	0.32	0.32	0.32	0.32	0.32	0.32	0.32	0.32	0.32	0.32	0.32	0.32	0.32
859	0.29	0.29	0.29	0.29	0.29	0.29	0.29	0.29	0.29	0.29	0.29	0.29	0.29	0.29	0.29
909	0.27	0.27	0.27	0.27	0.27	0.27	0.27	0.27	0.27	0.27	0.27	0.27	0.27	0.27	0.27
959	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25
1009	0.23	0.23	0.23	0.23	0.23	0.23	0.23	0.23	0.23	0.23	0.23	0.23	0.23	0.23	0.23
1059	0.21	0.21	0.21	0.21	0.21	0.21	0.21	0.21	0.21	0.21	0.21	0.21	0.21	0.21	0.21
1109	0.19	0.19	0.19	0.19	0.19	0.19	0.19	0.19	0.19	0.19	0.19	0.19	0.19	0.19	0.19
1159	0.18	0.18	0.18	0.18	0.18	0.18	0.18	0.18	0.18	0.18	0.18	0.18	0.18	0.18	0.18
1209	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17
1259	0.16	0.16	0.16	0.16	0.16	0.16	0.16	0.16	0.16	0.16	0.16	0.16	0.16	0.16	0.16
1309	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15
1359	0.14	0.14	0.14	0.14	0.14	0.14	0.14	0.14	0.14	0.14	0.14	0.14	0.14	0.14	0.14
1409	0.13	0.13	0.13	0.13	0.13	0.13	0.13	0.13	0.13	0.13	0.13	0.13	0.13	0.13	0.13
1459	0.13	0.13	0.13	0.13	0.13	0.13	0.13	0.13	0.13	0.13	0.13	0.13	0.13	0.13	0.13
1509	0.12	0.12	0.12	0.12	0.12	0.12	0.12	0.12	0.12	0.12	0.12	0.12	0.12	0.12	0.12
1559	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.11
1609	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.11
1659	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10
1709	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10