

## **Appendix B**

Habitat Assessment/MSHCP Consistency Analysis/Jurisdictional  
Delineation

# **TRAFFIC SIGNAL AT WABASH LANE AND TEMECULA PARKWAY PROJECT**

CITY OF TEMECULA, RIVERSIDE COUNTY, CALIFORNIA

## **Habitat Assessment and MSHCP Consistency Analysis**

---

Prepared For:

**CITY OF TEMECULA**  
41000 Main Street  
Temecula, California 92590  
Contact: *Laura Bragg*  
909.694.6411

Prepared By:

**MICHAEL BAKER INTERNATIONAL**  
5 Hutton Centre Drive, Suite 500  
Santa Ana, California 92707  
Contact: *Tom Millington*  
949.855.5777

May 2019  
JN 171221



# TRAFFIC SIGNAL AT WABASH LANE AND TEMECULA PARKWAY PROJECT

CITY OF TEMECULA, RIVERSIDE COUNTY, CALIFORNIA

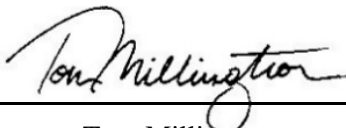
## Habitat Assessment and MSHCP Consistency Analysis

---

The undersigned certify that the statements furnished in this report and exhibits present data and information required for this biological evaluation, and the facts, statements, and information presented is a complete and accurate account of the findings and conclusions to the best of our knowledge and beliefs.



Stephen Anderson  
Biologist  
Natural Resources and Regulatory Permitting



Tom Millington  
Senior Biologist  
Natural Resources and Regulatory Permitting

May 2019  
JN 171221

# Executive Summary

---

This report contains the findings of Michael Baker International's (Michael Baker) habitat assessment and Western Riverside County Multiple Species Habitat Conservation Plan (MSHCP) consistency analysis for the proposed Traffic Signal at Wabash Lane and Temecula Parkway Project (project or project site) located in the City of Temecula, Riverside County, California. Michael Baker conducted a habitat assessment or field survey on February 12, 2019 to characterize existing site conditions and assess the potential for special-status<sup>1</sup> biological resources to occur on or within the vicinity of the project site that could pose a constraint to implementation of the proposed project. Based on the results of the habitat assessment, two (2) vegetation communities were observed within the boundaries of the survey area: 1) riparian woodland; and 2) non-native grassland.

One (1) drainage feature (Drainage 1) occurs within the survey area and falls under the regulatory authority of the United State Army Corps of Engineers (Corps), Regional Water Quality Control Board (Regional Board), and the California Department of Fish and Wildlife (CDFW). Further, Drainage 1 qualifies as riparian/riverine habitat and is protected under Section 6.1.2 of the MSHCP. Based on a review of the current project design, it is anticipated that the proposed project would avoid impacts to Drainage 1 and regulatory approvals from the Corps, Regional Board, and CDFW would not be required. However, should the proposed project be expanded and impacts to Drainage 1 would occur, the City of Temecula would need to obtain the following regulatory approvals: 1) Corps Clean Water Act (CWA) Section 404 Nationwide Permit; 2) Regional Board CWA Section 401 Water Quality Certification; and 3) CDFW Section 1602 Streambed Alteration Agreement. In addition, a Determination of Biologically Equivalent or Superior Preservation report would need to be prepared and submitted to the Western Riverside County Regional Conservation Authority (RCA) for approval.

No special-status plant species were observed during the habitat assessment. The project site is located within the southwest portion of the City of Temecula, in an area that has been heavily impacted by development through various residential and transportation construction projects. On-going disturbance including illegal trash dumping and routine weed abatement (i.e., disking) are evident throughout the survey area resulting in heavily compacted soils that are dominated by non-native plant species. Based on existing site conditions and a review of specific habitat requirements, occurrence records, known distributions, and elevation ranges, none of the special-status plant species identified during the literature review are expected to occur.

Northern harrier (*Circus hudsonius*) was the only special-status wildlife species observed during the habitat assessment. In addition, it was determined that the following special-status wildlife species have a low potential to occur within or adjacent to the project site: Cooper's hawk (*Accipiter cooperii*), white-tailed kite (*Elanus leucurus*), and California horned lark (*Eremophila alpestris actia*). All other special-status wildlife species identified during the literature review are not expected to occur based on existing site conditions and a review of specific habitat requirements, occurrence records, known distributions, and

---

<sup>1</sup> As used in this report, "special-status" refers to plant and wildlife species that are Federally-/State-listed, proposed, or candidates; plant species that have been designated a California Rare Plant Rank by the California Native Plant Society (CNPS); wildlife species that are designated by the California Department of Fish and Wildlife (CDFW) as Fully Protected, Species of Special Concern, or Watch List species; State/locally rare vegetation communities; and MSHCP-covered species.

elevation ranges. Cooper's hawk, northern harrier, white-tailed kite, and California horned lark are all fully covered species under the MSHCP.

Nesting birds are protected pursuant to the Migratory Bird Treaty Act (MBTA) of 1918 and the California Fish and Game Code (CFGF). If project-related activities are to be initiated during the nesting season (February 1 to August 31), a pre-construction nesting bird clearance survey should be conducted by a qualified biologist no more than three (3) days prior to the start of any vegetation removal or ground disturbing activities to maintain compliance with the MBTA and CFGF and ensure that impacts to nesting birds do not occur. The qualified biologist should survey all suitable nesting habitat within the project impact area, including areas within a biologically defensible buffer distance surrounding the project impact area, for the presence of nesting birds and should provide documentation of the surveys and findings to the City of Temecula for review prior to initiating project activities. If no active bird nests are detected, project-related activities may begin. If an active nest is found, the bird should be identified to species and the approximate distance from the closest work site to the active nest should be estimated and the qualified biologist should establish a "no-disturbance" buffer around the active nest. The distance of the "no-disturbance" buffer may be increased or decreased according to the judgement of the qualified biologist depending on the level of activity and species (i.e., listed, sensitive). In addition, the qualified biologist should periodically monitor any active bird nests to determine if project-related activities occurring outside the "no disturbance" buffer disturb the birds and if the buffer should be increased. Once the young have fledged and left the nest, or the nest otherwise becomes inactive under natural conditions, project-related activities within the "no disturbance" buffer may occur.

Pursuant to the MSHCP, a pre-construction clearance survey would need to be conducted to confirm the absence of burrowing owl (*Athene cunicularia* [BUOW]) and ensure that project-related activities do not result in impacts to any occupied burrows that may be located within or adjacent to the project site. In accordance with the *Burrowing Owl Survey Instructions for the Western Riverside Multiple Species Habitat Conservation Plan Area*, the pre-construction BUOW clearance survey should be conducted no more than thirty (30) days prior to any ground disturbance or vegetation removal activities occur.

The project site is located within the Southwest Area Plan of the MSHCP. Specifically, the project site is located within *Subunit 2: Temecula and Pechanga Creeks* and within Criteria Cell 7357 (not in a cell group). Conservation within Criteria Cell 7357 would contribute to the assembly of Proposed Constrained Linkage 14 (PCL-14) and focuses on riparian scrub, woodland, and forest habitats along Temecula Creek. The MSHCP states that conservation will range from 10-20% focusing on the southern portion of Criteria Cell 7357. Based on a review of the current project design, the proposed project would occur outside of the areas targeted for conservation within Criteria Cell 7357. As such, the proposed project would not conflict with the conservation goals of Criteria Cell 7357 or the assembly of PCL-14.

Pursuant to Section 6.1.1 of the MSHCP, development within a Criteria Cell is subject to the Habitat Evaluation and Acquisition Negotiation Strategy (HANS) process to determine if all or part of the project site is needed for inclusion in the MSHCP Conservation Area. Therefore, the City of Temecula would need to submit a HANS application to the RCA for review and approval prior to implementation of the proposed project. Further, with implementation of the recommendations provided in Section 5 of this report, including payment of the MSHCP local development mitigation fee, the proposed project would be fully consistent with the goals and objectives of the MSHCP.

# Table of Contents

<b>Section 1</b>	<b>Introduction.....</b>	<b>1</b>
1.1	Project Location.....	1
1.2	Project Description .....	1
<b>Section 2</b>	<b>Methodology .....</b>	<b>6</b>
2.1	Literature Review .....	6
2.2	Habitat Assessment.....	6
2.3	Soil Series Assessment .....	7
2.4	Vegetation Communities .....	7
2.5	Plants.....	7
2.6	Wildlife .....	8
<b>Section 3</b>	<b>Existing Conditions.....</b>	<b>9</b>
3.1	Local Climate.....	9
3.2	Topography and Soils .....	9
3.3	Surrounding Land Uses .....	9
<b>Section 4</b>	<b>Discussion .....</b>	<b>11</b>
4.1	Existing Site Conditions .....	11
4.2	Vegetation Communities and Land Cover Types .....	11
4.2.1	Riparian Woodland.....	11
4.2.2	Non-native Grassland .....	11
4.3	Wildlife .....	13
4.3.1	Fish .....	13
4.3.2	Amphibians.....	13
4.3.3	Reptiles .....	13
4.3.4	Birds.....	13
4.3.5	Mammals .....	14
4.4	Migratory Corridors and Linkages.....	14
4.5	State and Federal Jurisdictional Areas.....	15
4.5.1	United States Army Corps of Engineers.....	15
4.5.2	Regional Water Quality Control Board .....	16
4.5.3	California Department of Fish and Wildlife .....	16
4.6	Special-Status Biological Resources.....	16
4.6.1	Special-Status Plant Species .....	17
4.6.2	Special-Status Wildlife Species .....	17
4.6.3	Special-Status Vegetation Communities.....	17
4.6.4	Stephens' Kangaroo Rat Habitat Conservation Plan .....	17
4.7	Critical Habitat.....	18

<b>Section 5</b>	<b>MSHCP Consistency Analysis</b>	20
5.1	Project Introduction and Setting	20
5.1.1	Project Area	20
5.1.2	Project Description	22
5.1.3	Covered Roads	22
5.1.4	Covered Public Access Activities	22
5.1.5	General Setting	22
5.2	Reserve Assembly Analysis	22
5.2.1	Criteria Cell 7357	23
5.2.2	Public/Quasi-Public Lands	24
5.3	Vegetation Mapping	24
5.4	Protection of Species Associated With Riparian/Riverine Areas and Vernal Pools	24
5.4.1	Riparian/Riverine	24
5.4.2	Vernal Pools	26
5.4.3	Fairy Shrimp	26
5.4.4	Riparian Birds	27
5.5	Protection of Narrow Endemic Plant Species	28
5.6	Additional Survey Needs and Procedures	29
5.6.1	Criteria Area Plant Species	29
5.6.2	Amphibians	29
5.6.3	Burrowing Owl	29
5.6.4	Mammals	30
5.7	Information On Other Species	30
5.7.1	Delhi Sands Flower-Loving Fly	30
5.7.2	Species Not Adequately Conserved	30
5.8	Guidelines Pertaining to the Urban/Wildlands Interface	31
5.8.1	Drainage	31
5.8.2	Toxics	31
5.8.3	Lighting	31
5.8.4	Noise	31
5.8.5	Invasive Plant Species	32
5.8.6	Barriers	32
5.8.7	Grading/Land Development	32
<b>Section 6</b>	<b>Conclusion and Recommendations</b>	33
<b>Section 7</b>	<b>References</b>	35

## **FIGURES**

Figure 1:	Regional Vicinity .....	2
Figure 2:	Project Vicinity .....	3
Figure 3:	Survey Area .....	4
Figure 4:	Project Depiction .....	5
Figure 5:	USDA Soils.....	10
Figure 6:	Vegetation.....	12
Figure 7:	Critical Habitat.....	19
Figure 8:	MSHCP Conservation Areas .....	21
Figure 9:	Riparian/Riverine Resources .....	25

## **APPENDICES**

Appendix A	Site Photographs
Appendix B	Plant and Wildlife Species Observed List
Appendix C	Potentially Occurring Special-Status Biological Resources

## **LIST OF ACRONYMS AND ABBREVIATIONS**

°F	degrees Fahrenheit
amsl	above mean sea level
APN	Assessor's Parcel Number
BUOW	burrowing owl
CDFW	California Department of Fish and Wildlife
CFGF	California Fish and Game Code
CNDDDB	California Natural Diversity Database RareFind 5
CNPS	California Native Plant Society
Corps	United States Army Corps of Engineers
CWA	Clean Water Act
DBESP	Determination of Biologically Equivalent or Superior Preservation
FESA	Federal Endangered Species Act
GIS	Geographic Information Systems
HANS	Habitat Evaluation and Acquisition Negotiation Strategy
LBVI	least Bell's vireo
MBTA	Migratory Bird Treaty Act
Michael Baker	Michael Baker International
MSHCP	Western Riverside County Multiple Species Habitat Conservation Plan
Online Inventory	Online Inventory of Rare and Endangered Plants of California
P/QP	Public/Quasi-Public
PCL-14	Proposed Constrained Linkage 14
RCA	Western Riverside County Regional Conservation Authority
Regional Board	Regional Water Quality Control Board
SAA	Streambed Alteration Agreement
SKR	Stephens' kangaroo rat
SKR HCP	Stephens' Kangaroo Rat Habitat Conservation Plan
SWWF	southwestern willow flycatcher
USDA	United States Department of Agriculture
USFWS	United States Fish and Wildlife Service
USGS	United States Geological Survey
WoUS	waters of the U.S.
WQC	Water Quality Certification
WYBC	western yellow billed cuckoo

# Section 1                      Introduction

---

This report contains the findings of Michael Baker International's (Michael Baker) habitat assessment and Western Riverside County Multiple Species Habitat Conservation Plan (MSHCP) consistency analysis for the proposed Traffic Signal at Wabash Lane and Temecula Parkway Project (project or project site) located in the City of Temecula, Riverside County, California.

Michael Baker biologists Stephen Anderson and Frances Yau conducted a habitat assessment or field survey on February 12, 2019 to characterize existing site conditions and assess the potential for special-status<sup>2</sup> biological resources to occur on or within the vicinity of the project site that could pose a constraint to implementation of the proposed project. Special attention was given to the suitability of the habitat within the project site and its potential to support special-status plant and wildlife species that were identified by the CDFW California Natural Diversity Database RareFind 5 (CNDDDB), the CNPS Online Inventory of Rare and Endangered Plants of California (Online Inventory), the Western Riverside County Regional Conservation Authority's (RCA) online MSHCP Information Application, and other databases as potentially occurring in the vicinity of the project site.

## 1.1      PROJECT LOCATION

The project site is generally located east of the Interstate 15/State Route 79 junction in the southwest portion of the City of Temecula (Figure 1, *Regional Vicinity*). The project site is depicted in Section 18, Township 8 South, Range 2 West, on the United States Geological Survey's (USGS) *Temecula, California* 7.5-minute topographic quadrangle map (Figure 2, *Project Vicinity*). Specifically, the project site is located on vacant, undeveloped land to the north of Temecula Parkway (State Route 79), east of Interstate 15, south of Vallejo Avenue, and west of Jedediah Smith Road (Figure 3, *Survey Area*). For this study, the survey area includes the entire project site (impact footprint) and undeveloped areas within a 500-foot buffer.

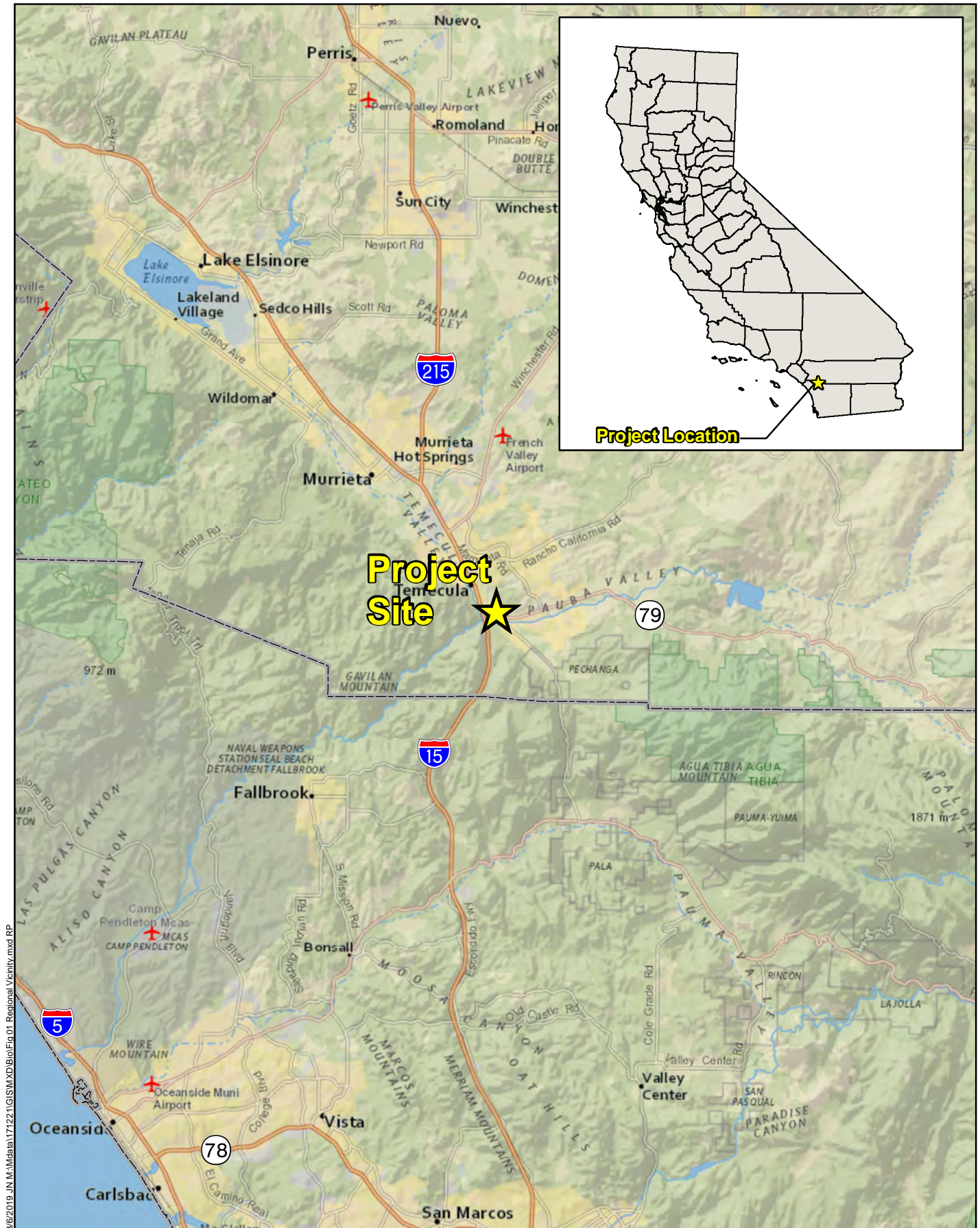
## 1.2      PROJECT DESCRIPTION

The project proposes to add an approximate 42-foot wide, 280 linear foot access road off of Temecula Parkway (State Route 79) for an existing park and ride facility that is located just east of La Paz Road (Figure 4, *Project Depiction*). The proposed project is situated in the northwest corner of the survey area, within Assessor's Parcel Number (APN) 922-190-033. To accommodate the access road, a new signalized intersection will be constructed at Wabash Lane and Temecula Parkway. The existing median in Temecula Parkway will be reconfigured to provide a left turn from Temecula Parkway eastbound into the park and ride access road. The entrance to the community south of Temecula Parkway at Wabash Lane has an existing median that will be reconfigured to accommodate traffic flow through the proposed signalized intersection. A portion of the east end of the existing park and ride facility will be reconfigured (move parking spaces/restripe) to accommodate the access road. Once the access road is complete, the current access/entrance off of Vallejo Avenue will be closed off and will no longer function as an access into the park and ride facility.

---

<sup>2</sup> As used in this report, "special-status" refers to plant and wildlife species that are Federally-/State-listed, proposed, or candidates; plant species that have been designated a California Rare Plant Rank by the California Native Plant Society (CNPS); wildlife species that are designated by the California Department of Fish and Wildlife (CDFW) as Fully Protected, Species of Special Concern, or Watch List species; State/locally rare vegetation communities; and MSHCP-covered species.





TRAFFIC SIGNAL AT WABASH LANE AND TEMECULA PARKWAY PROJECT  
HABITAT ASSESSMENT AND MSHCP CONSISTENCY ANALYSIS

## Regional Vicinity

Figure 1

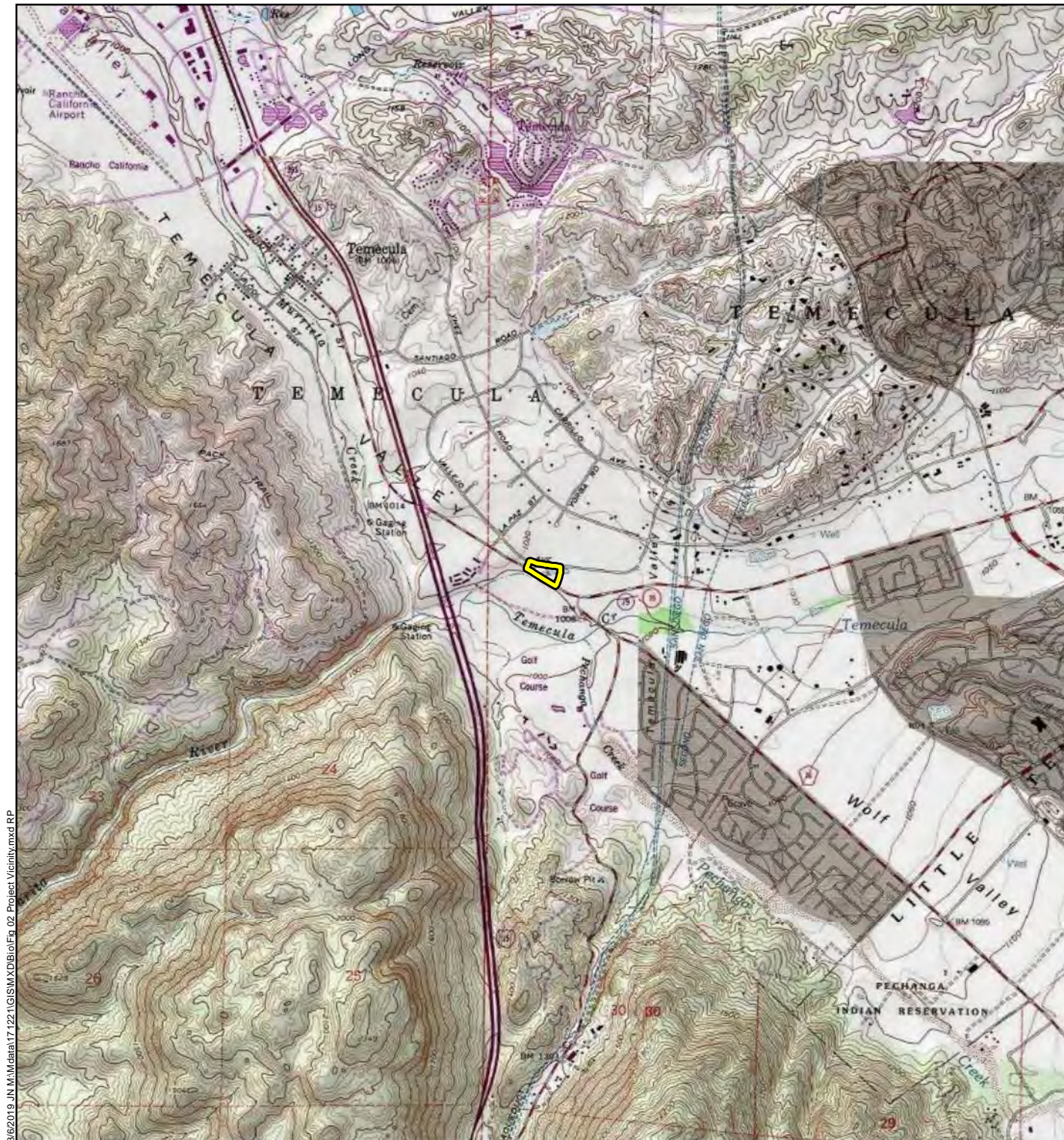
3/6/2019 10:11:11 AM \\J:\GIS\MapData\171221\GIS\MapData\Bio\Fig01\_Regional\_Vicinity.mxd RP

**Michael Baker**  
INTERNATIONAL

0 2.5 5  
Miles

Source: ArcGIS Online, 2018





3/6/2019 J:\M1\Mapa\171221\GIS\MAXDB\BIO\Fig 02 Project Vicinity.mxd RP

### Legend



Survey Area

TRAFFIC SIGNAL AT WABASH LANE AND TEMECULA PARKWAY PROJECT  
HABITAT ASSESSMENT AND MSHCP CONSISTENCY ANALYSIS

## Project Vicinity

**Michael Baker**  
INTERNATIONAL



0 0.25 0.5  
Miles

Source: ArcGIS Online, 2018, USGS 7.5-Minute topographic quadrangle maps: Temecula, California (2018)

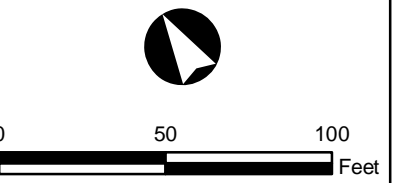
Figure 2





**Legend**

- Survey Area
- Photograph Point and Direction
- Reference Point

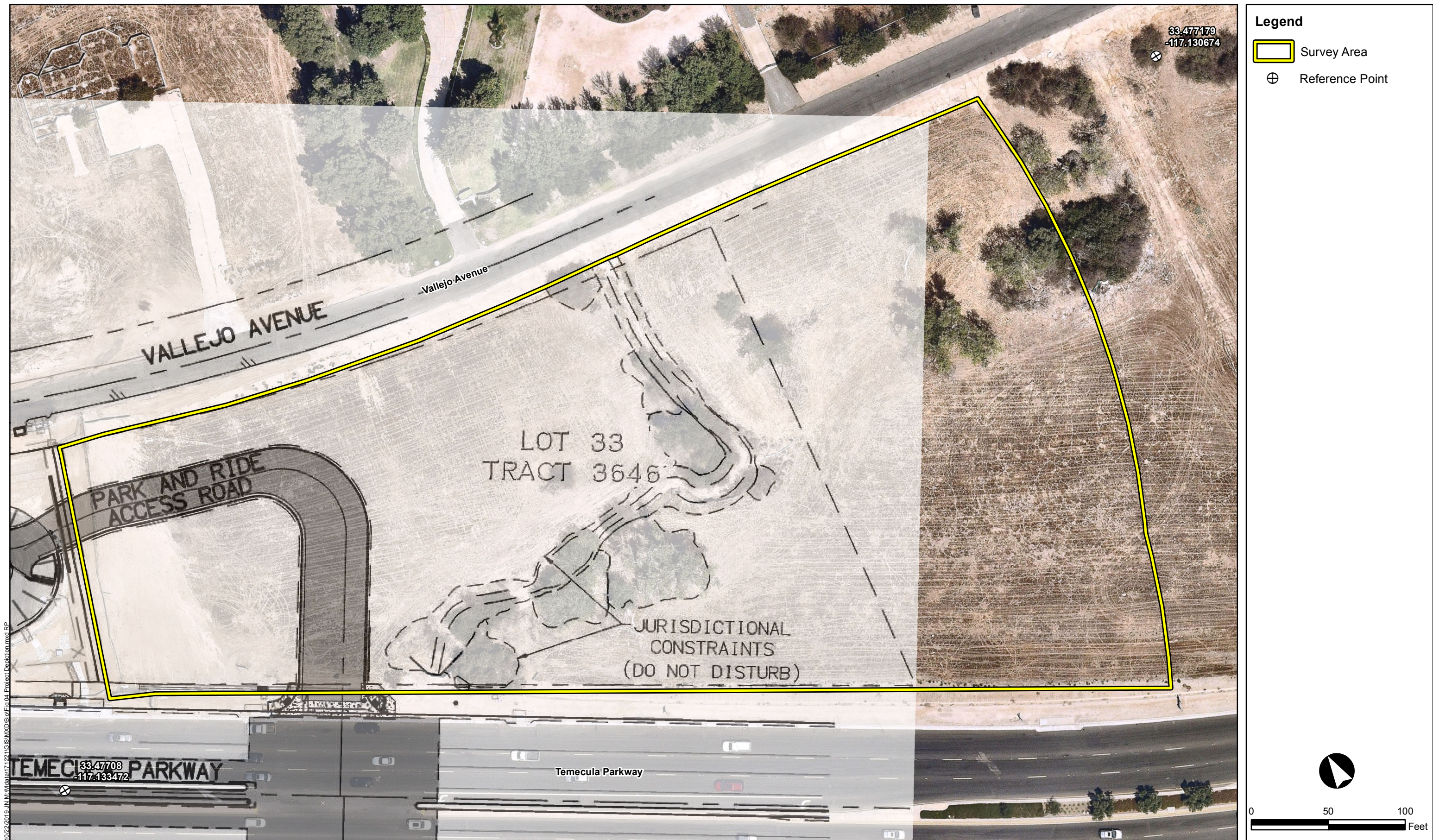


TRAFFIC SIGNAL AT WABASH LANE AND TEMECULA PARKWAY PROJECT  
HABITAT ASSESSMENT AND MSHCP CONSISTENCY ANALYSIS

## Survey Area

Figure 3





10/22/2019, J:\M:\data\71221\GIS\MXD\BlaFig 04, Project Depiction.mxd RP



## Section 2      Methodology

---

Michael Baker conducted thorough literature reviews and records searches to determine which special-status biological resources have the potential to occur on or within the general vicinity of the project site prior to conducting the field survey. A general habitat assessment or field survey was conducted to document existing site conditions and determine the potential for special-status plant and wildlife species to occur within the project site.

### 2.1      LITERATURE REVIEW

Prior to conducting the field survey, literature reviews and records searches were conducted for special-status biological resources potentially occurring on or within the vicinity of the project site. Previous special-status plant and wildlife species occurrence records within the USGS *Temecula*, *Pechanga*, *Murrieta*, and *Bachelor Mountain*, *California* 7.5-minute quadrangles were determined through a query of the CNDDDB, the CNPS Online Inventory, the Calflora Database, species listings provided by the CDFW and the United States Fish and Wildlife Service (USFWS), and those species covered under the MSHCP and evaluated in its associated technical documents.

In addition to the databases referenced above, Michael Baker reviewed all available reports, survey results, and literature detailing the biological resources previously observed on or within the vicinity of the project site to gain an understanding of existing site conditions, confirm previous species observations, and note the extent of any disturbances that have occurred within the project site that would otherwise limit the distribution of special-status biological resources. Standard field guides and texts were reviewed for specific habitat requirements of special-status and non-special-status biological resources. In addition, aerial photography was reviewed prior to conducting the habitat assessment to preliminarily identify potential natural corridors and linkages that may support the movement of wildlife through the area. The literature review provided a baseline from which to inventory existing biological resources and evaluate the ability of the project site to support special-status biological resources. Additional occurrence records of those species that have been documented on or within the vicinity of the project site were derived from database queries. The CNDDDB was used, in conjunction with Geographic Information Systems (GIS) ArcView software, to identify special-status species occurrence records within the USGS *Temecula*, *Pechanga*, *Murrieta*, and *Bachelor Mountain*, *California* 7.5-minute quadrangles. Refer to Section 7 of this report for a complete list of technical references that were utilized by Michael Baker throughout the course of the habitat assessment.

### 2.2      HABITAT ASSESSMENT

Michael Baker biologists Stephen Anderson and Frances Yau conducted a field survey on February 12, 2019 to document existing site conditions and determine the potential for special-status plant and wildlife species to occur within the project site. Vegetation communities preliminarily identified on aerial photographs during the literature review were verified in the field by walking meandering transects through the vegetation communities and along boundaries between vegetation communities. In addition, aerial photography was reviewed prior to conducting the habitat assessment to preliminarily identify any natural wildlife corridors or linkages that may support the movement of wildlife through the area.

During the habitat assessment, Michael Baker extensively surveyed all special-status habitats and/or natural areas, where accessible, which have a higher potential to support special-status plant and wildlife species. All plant and wildlife species observed during the habitat assessment, as well as dominant plant species within each vegetation community, were recorded in a field notebook. Plant species observed during the habitat assessment were identified by visual characteristics and morphology in the field while unusual and less familiar plant species were photographed and later identified in the laboratory using taxonomical guides. Wildlife detections were made through aural and visual detection, as well as observation of sign including scat, trails, tracks, burrows, and nests. Site characteristics such as soil condition, topography, hydrology, anthropogenic disturbances, indicator species, and the condition of on-site vegetation communities were noted.

It should also be noted that a jurisdictional delineation was performed by Michael Baker certified wetland delineators Josephine Lim and Tim Tidwell on February 6, 2019 to identify and map the jurisdictional limits of waters of the U.S. (WoUS), including potential wetlands, and waters of the State within the boundaries of the survey area. During the delineation, Michael Baker utilized the methods outlined in the *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region, Version 2.0* (United States Army Corps of Engineers [Corps], 2008) to document the presence and extent of jurisdictional features that would fall under the regulatory authority of the Corps, the Regional Water Quality Control Board (Regional Board), and the CDFW. The results of Michael Baker's delineation are summarized in Section 4.5 of this report.

## 2.3 SOIL SERIES ASSESSMENT

On-site and adjoining soils were researched prior to conducting the habitat assessment using the United States Department of Agriculture's (USDA) *Custom Soil Resources Report for Western Riverside Area, California* (USDA, 2019). In addition, a review of the local geological conditions and historical aerial photographs was conducted to assess the ecological changes and disturbances that may have occurred within the survey area.

## 2.4 VEGETATION COMMUNITIES

Vegetation communities occurring within the survey area were delineated on an aerial photograph during the habitat assessment and later digitized using the GIS ArcView software to quantify the area of each vegetation community in acres. Vegetation communities occurring within the survey area were classified in accordance with the vegetation descriptions provided in the *Manual of California Vegetation* (Sawyer *et al.*, 2009) and cross referenced with the vegetation communities described in the MSHCP.

## 2.5 PLANTS

Plant species observed during the habitat assessment were identified by visual characteristics and morphology in the field and recorded in a field notebook. Unusual and less familiar plants were photographed in the field and later identified in the laboratory using taxonomic guides. Plant nomenclature used in this report follows the Jepson Flora Project (2019). In this report, scientific names are provided immediately following common names of plant species (first reference only).

## 2.6 WILDLIFE

Wildlife species detected during the habitat assessment by sight, calls, tracks, scat, or other types of sign were recorded in a field notebook. Field guides used to assist with identification of species during the habitat assessment included *The Sibley Guide to Birds* (Sibley, 2014) for birds, *A Field Guide to Western Reptiles and Amphibians* (Stebbins, 2003) for herpetofauna, and *A Field Guide to Mammals of North America* (Reid, 2006) for mammals. Although common names of wildlife species are well standardized, scientific names are provided immediately following common names of wildlife species in this report (first reference only).

## Section 3      Existing Conditions

---

### 3.1      LOCAL CLIMATE

Riverside County features a somewhat cooler version of a Mediterranean climate, or semi-arid climate, with warm, sunny, dry summers and cool, rainy, mild winters. Climatological data obtained from nearby weather stations indicates the annual precipitation in the City of Temecula averages 14.2 inches per year.<sup>3</sup> Almost all the precipitation in the form of rain occurs in the months between November and March, with hardly any occurring between the months of May and September. The wettest month is February, with a monthly average total precipitation of 3.7 inches, and the driest month is June with monthly average total precipitation of 0.0 inches. The average maximum and minimum temperatures are 78- and 51-degrees Fahrenheit (°F) respectively with August (monthly average high 91°F) being the hottest month and December (monthly average low 40°F) being the coldest.

### 3.2      TOPOGRAPHY AND SOILS

On-site surface elevation ranges from approximately 1,002 to 1,020 feet above mean sea level (amsl) and generally slopes downward to the southwest. According to the *Custom Soil Resources Report for Western Riverside Area, California* (USDA, 2019), the survey area is underlain by the following soil units: Arlington and Greenfield fine sandy loams, 8 to 15 percent slopes, eroded (AtD2), Gorgonio loamy sand, deep, 2 to 8 percent slopes (GIC), Placentia fine sandy loam, 5 to 15 percent slopes (PID), and Ramona and Buren sandy loams, 15 to 25 percent slopes, severely eroded (RmE3). Refer to Figure 5, *USDA Soils*, for a depiction of soil units that have been mapped within the survey area.

### 3.3      SURROUNDING LAND USES

Land uses surrounding the survey area mainly consist of low-/medium-density residential, and vacant, undeveloped land. Interstate 15 is approximately 0.35 miles to the west and runs in a north/south direction, while State Route 79 runs in an east/west direction along the southern boundary of the survey area. In addition, Temecula Creek is located approximately 0.2 miles to the south of the survey area.

---

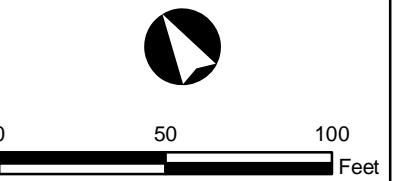
<sup>3</sup> <https://www.weather-us.com/en/california-usa/temecula-climate>





# Legend

- Survey Area
- AtD2** Arlington and Greenfield fine sandy loams, 8 to 15 percent slopes, eroded
- GIC** Gorgonio loamy sand, deep, 2 to 8 percent slopes
- PID** Placentia fine sandy loam, 5 to 15 percent slopes
- RmE3** Ramona and Buren Sandy Loams, 15 to 25 percent slopes, severely eroded
- ⊕ Reference Point



TRAFFIC SIGNAL AT WABASH LANE AND TEMECULA PARKWAY PROJECT  
HABITAT ASSESSMENT AND MSHCP CONSISTENCY ANALYSIS

**USDA Soils**

Figure 5



## Section 4 Discussion

---

### 4.1 EXISTING SITE CONDITIONS

The survey area is located within the southwest portion of the City of Temecula, in an area that has been heavily impacted by development through various residential and transportation construction projects. The topography of the survey area consists of a nearly flat, undeveloped land with an unnamed drainage feature flowing through the center. On-going disturbance including illegal trash dumping and routine weed abatement (i.e., disking) are evident throughout the survey area. Refer to Appendix A for representative photographs taken throughout the survey area.

### 4.2 VEGETATION COMMUNITIES AND LAND COVER TYPES

Two (2) vegetation communities were observed and mapped within the boundaries of the survey area: 1) riparian woodland; and 2) non-native grassland. Vegetation communities that occur within the survey area are depicted on Figure 6, *Vegetation*, and described in further detail below. In addition, refer to *Table B-1: Plant Species Observed List*, provided in Appendix B, for a complete list of plant species observed during the field survey.

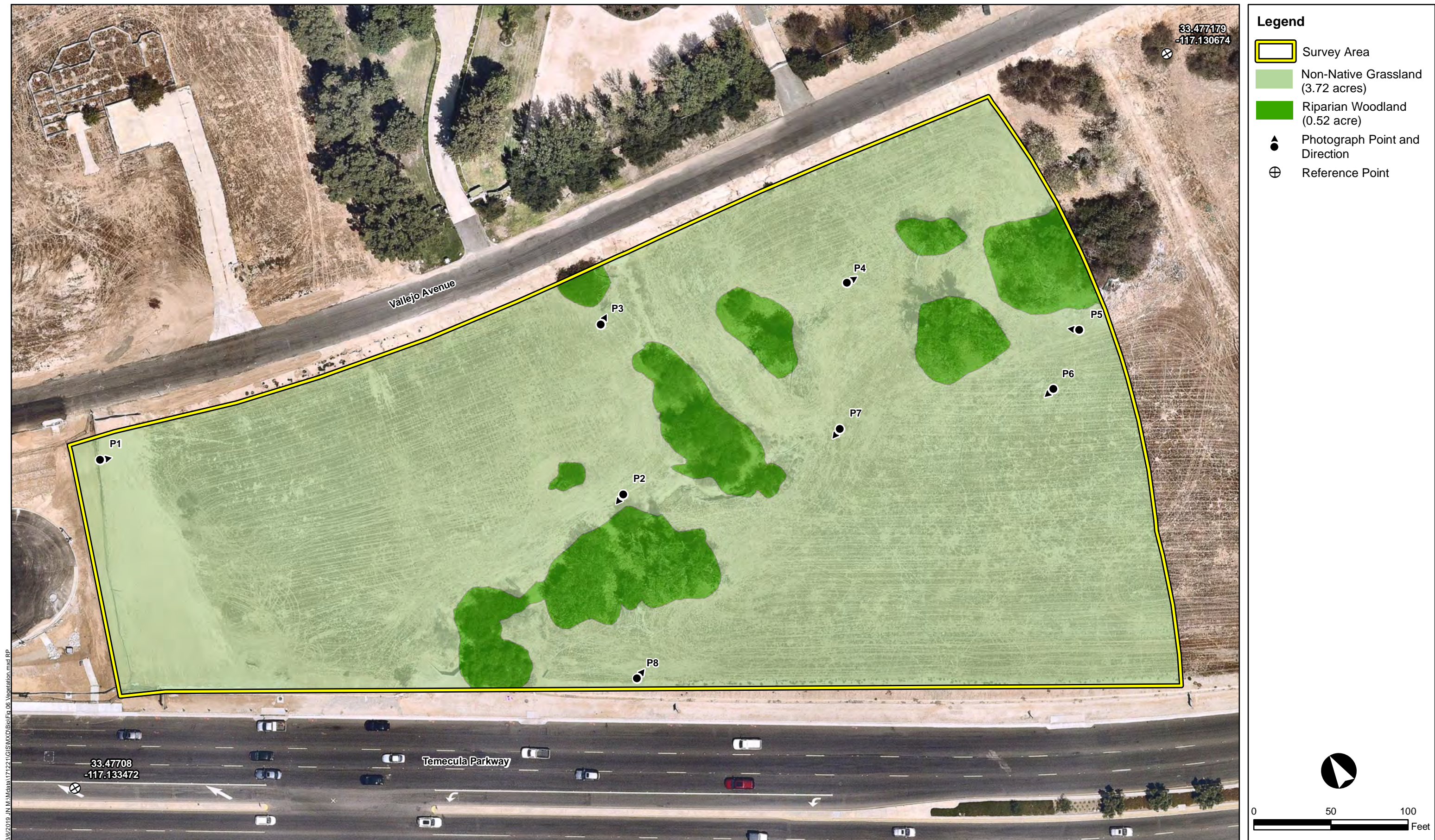
#### 4.2.1 Riparian Woodland

The riparian woodland vegetation community encompasses approximately 0.52 acres and occurs along the unnamed drainage feature and in a small area located at the northeast end of the survey area. This vegetation community is dominated by scattered mule fat (*Baccharis salicifolia*), narrowleaf willow (*Salix exigua*), Fremont cottonwood (*Populus fremontii*), and black elderberry (*Sambucus nigra*).

#### 4.2.2 Non-native Grassland

The non-native grassland vegetation community encompasses approximately 3.72 acres of the survey area. This vegetation community also occurs intermixed with the riparian woodland vegetation community within the central and northeast portions of the survey area and is routinely exposed to weed abatement activities (i.e., disking), illegal trespass, and trash dumping. As a result, this vegetation community is heavily disturbed and dominated by various non-native plant species including big heron bill (*Erodium botrys*), coastal heron's bill (*Erodium cicutarium*), foxtail brome (*Bromus madritensis* ssp. *rubens*), short-podded mustard (*Hirschfeldia incana*), wild oat (*Avena fatua*), foxtail barley (*Hordeum murinum*), and London rocket (*Sisymbrium irio*).





3/6/2019 J:\M\MapData\171221\GIS\MapDocs\Fig 06\_Vegetation.mxd RP



## 4.3 WILDLIFE

Natural vegetation communities provide foraging habitat, nesting/denning sites, and shelter from adverse weather or predation. This section provides a general discussion of those wildlife species that were observed during the field survey or that are expected to occur based on existing site conditions. The discussion is to be used as a general reference and is limited by the season, time of day, and weather conditions in which the field survey was conducted. Wildlife detections were based on calls, songs, scat, tracks, burrows, and direct observation. Refer to *Table B-2: Wildlife Species Observed List*, provided in Appendix B, for a complete list of wildlife species observed during the field survey.

### 4.3.1 Fish

No fish or hydrologic features (i.e., ponds, lakes, reservoirs) with perennial water sources were observed within the survey area during the field survey. The drainage feature that runs through the center of the survey area is ephemeral and only expected to flow during significant storm events. Therefore, no fish are expected to occur.

### 4.3.2 Amphibians

No amphibians were observed within the survey area during the field survey. The drainage feature that runs through the center of the survey area is ephemeral and only expected to flow during significant storm events. This drainage feature does not support shallow ponds or pools which are needed to provide suitable breeding habitat for amphibians. However, it is still possible that some common amphibians may be present under leaf litter or aestivating underneath the surface, such as Baja California treefrog (*Pseudacris hypochondriaca*) or California treefrog (*Pseudacris cadaverina*).

### 4.3.3 Reptiles

No reptilian species were observed within the survey area during the field survey. However, the survey area has the potential to support several reptilian species that are adapted to a highly urban environment including western side-blotched lizard (*Uta stansburiana elegans*), Great Basin fence lizard (*Sceloporus occidentalis longipes*), and San Diego alligator lizard (*Elgaria multicarinata webbii*).

### 4.3.4 Birds

Bird species that were observed or detected during the field survey included northern harrier (*Circus hudsonius*), turkey vulture (*Cathartes aura*), common starling (*Sturnus vulgaris*), Anna's hummingbird (*Calypte anna*), American crow (*Corvus brachyrhynchos*), lesser goldfinch (*Spinus psaltria*), Cassin's kingbird (*Tyrannus vociferans*), ash-throated flycatcher (*Myiarchus cinerascens*), Audubon's yellow-rumped warbler (*Setophaga coronata*). Other common bird species that are expected to occur within the survey area include red-tailed hawk (*Buteo jamaicensis*), common raven (*Corvus corax*), American kestrel (*Falco sparverius*), killdeer (*Charadrius vociferus*), house finch (*Haemorhous mexicanus*), California towhee (*Melospiza crissalis*), American bushtit (*Psaltiriparus minimus*), black phoebe (*Sayornis nigricans*), Say's phoebe (*Sayornis saya*), Bewick's wren (*Thryomanes bewickii*), white-crowned sparrow (*Zonotrichia leucophrys*), song sparrow (*Melospiza melodia*), northern mockingbird (*Mimus polyglottos*), house sparrow (*Passer domesticus*), mourning dove (*Zenaida macroura*), Eurasian collared dove (*Streptopelia decaocto*), and rock pigeon (*Columba livia*).

Although no active bird nests or birds displaying nesting behaviors were observed during the field survey, the vegetation communities within the survey area provide suitable nesting opportunities for a variety of bird species. Additionally, the non-native grassland and unvegetated areas within the survey area could provide nesting opportunities for birds that nest on the open ground (e.g., killdeer, western meadowlark [*Sturnella neglecta*]). Nesting birds are protected pursuant to the Federal Migratory Bird Treaty Act (MBTA) of 1918 and the California Fish and Game Code<sup>4</sup> (CFGF). To maintain compliance with the MBTA and CFGF, clearance surveys are typically required prior to any ground disturbance or vegetation removal activities to avoid direct and indirect impacts to active bird nests and/or nesting birds. Consequently, if an active bird nest is destroyed or if project activities result in indirect impacts to nesting birds (e.g., nest abandonment, loss of reproductive effort), it is considered “take” and is potentially punishable by fines and/or imprisonment.

#### 4.3.5 Mammals

The survey area has the potential to support a variety of small mammalian species that are adapted to a highly urban environment. However, most mammalian species are nocturnal and are difficult to observe during a diurnal survey. Mammalian species either observed or detected during the field survey included Audubon’s cottontail rabbit (*Sylvilagus audubonii*) and woodrat (*Neotoma* sp.). Other common mammalian species that may occur include Botta’s pocket gopher (*Thomomys bottae*), coyote (*Canis latrans*), raccoon (*Procyon lotor*), and opossum (*Didelphis virginiana*).

## 4.4 MIGRATORY CORRIDORS AND LINKAGES

Habitat linkages provide connections between larger habitat areas that are separated by development. Wildlife corridors are similar to linkages but provide specific opportunities for animals to disperse or migrate between areas. A corridor can be defined as a linear landscape feature of sufficient width to allow animal movement between two comparatively undisturbed habitat fragments. Adequate cover is essential for a corridor to function as a wildlife movement area. It is possible for a habitat corridor to be adequate for one species yet, inadequate for others. Wildlife corridors are key features for dispersal, seasonal migration, breeding, and foraging. Additionally, open space can provide a buffer against both human disturbance and natural fluctuations in resources.

The survey area consists of 4.24 acres of undeveloped land that is dominated almost entirely by non-native plant species, routinely exposed to various anthropogenic disturbances (i.e., disking, illegal trespass, and trash dumping), and surrounded by existing development, including an existing park and ride facility to the west and residential developments to the north, east, and south. As such, wildlife movement opportunities within the survey area are extremely limited and would most likely be confined to the on-site drainage feature. However, this drainage feature is only 430 linear feet in length and provides a limited amount of vegetated cover and refuge habitat; the channel and its associated vegetation average approximately 19 feet in width.

<sup>4</sup> Section 3503 makes it unlawful to take, possess, or needlessly destroy the nest or eggs of any bird, except as otherwise provided by CFGF or any regulation made pursuant thereto; Section 3503.5 makes it unlawful to take, possess, or destroy any birds in the orders Falconiformes or Strigiformes (birds-of-prey); and Section 3513 makes it unlawful to take or possess any migratory non-game bird except as provided by the rules and regulations adopted by the Secretary of the Interior under provisions of the MBTA, as amended (16 U.S.C. § 703 *et. sq.*).

Proposed Constrained Linkage 14 (PCL-14), which includes portions of Pechanga and Temecula Creeks, is located to the south of Temecula Parkway. PCL-14 connects Existing Core G and Proposed Linkage 10 to Existing Linkage A and is generally constrained by urban development. This linkage is believed to be important for bobcats (*Lynx rufus*) and mountain lions (*Puma concolor*), particularly for mountain lions traveling between the Santa Ana Mountains and the Palomar Mountains. However, the survey area is located approximately 480 feet northeast of PCL-14 and is separated from it not only by Temecula Parkway, but by the California Sunset residential neighborhood, which predates the MSHCP. Because PCL-14 partially encompasses this neighborhood, the survey area is actually approximately 750 feet northeast of any open space within Temecula Creek. As such, there is little to no potential for bobcats, mountain lions, or any other migrating wildlife to occur within the survey area due to the development buffer between PCL-14.

## 4.5 STATE AND FEDERAL JURISDICTIONAL AREAS

There are three key agencies that regulate activities within inland streams, wetlands, and riparian areas in California. The Corps Regulatory Branch regulates the discharge of dredged or fill material into WoUS, including wetlands, pursuant to Section 404 of the Federal Clean Water Act (CWA) and Section 10 of the Rivers and Harbors Act. Of the State agencies, the Regional Board regulates discharges to surface waters pursuant to Section 401 of the CWA and Section 13263 of the California Porter-Cologne Water Quality Control Act and the CDFW regulates alterations to streambed and associated vegetation communities under Section 1600 *et seq.* of the CFGC.

As identified in the *Delineation of Jurisdictional Waters for the Traffic Signal at Wabash Lane and Temecula Parkway Project* (Michael Baker, 2019), prepared under a separate cover, one (1) drainage feature was documented within the boundaries of the survey area. Refer to Table 1 below and the following sections for a summary of State and Federal jurisdictional features that were documented within the survey area.

**Table 1: State and Federal Jurisdictional Features**

No.	Jurisdictional Feature	Linear Feet	Jurisdictional Limits (acres)	
			Corps/Regional Board Non-Wetland WoUS	CDFW Streambed/Riparian
1.	Drainage 1	430	0.08	0.40

### 4.5.1 United States Army Corps of Engineers

Drainage 1 is an ephemeral drainage located in the central portion of the survey area and exhibits an earthen substrate consisting of sand, gravel, and cobble. Based on the results of the field delineation, it was determined that Drainage 1 possesses a hydrologic connection to downstream WoUS (Temecula Creek) and would fall under the regulatory authority of the Corps. Based on the results of the field delineation, approximately 0.08 acres (430 linear feet) of Corps jurisdiction (non-wetland WoUS) occurs within the survey area.

An area must exhibit all three wetland parameters (i.e., vegetation, soils, and hydrology) described in the *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region, Version 2.0* (Corps, 2008) to be considered a jurisdictional wetland. As identified in the field delineation, it was

determined that no portion of survey area, including Drainage 1, contained all three of the required wetland parameters. Therefore, no jurisdictional wetland features occur within the survey area.

Based on a review of the current project design, it is anticipated that the proposed project would occur outside of Drainage 1 and avoid impacts to Corps jurisdiction. However, should the proposed project be expanded and impacts to Drainage 1 would occur, the City of Temecula would need to obtain a CWA Section 404 Nationwide Permit from the Corps prior to implementation of the proposed project.

#### **4.5.2 Regional Water Quality Control Board**

The Regional Board regulates discharges to surface waters under Section 401 of the CWA and Section 13263 of the California Porter-Cologne Water Quality Control Act. No isolated or Rapanos conditions were observed within the boundaries of the survey area. Therefore, the jurisdiction of the Regional Board reflects that of the Corps and totals approximately 0.08 acres (430 linear feet) of non-wetland WoUS.

Based on a review of the current project design, it is anticipated that the proposed project would occur outside of Drainage 1 and avoid impacts to Regional Board jurisdiction. However, should the proposed project be expanded and impacts to Drainage 1 would occur, the City of Temecula would need to obtain a CWA Section 401 Water Quality Certification (WQC) from the Regional Board prior to implementation of the proposed project.

#### **4.5.3 California Department of Fish and Wildlife**

Drainage 1 exhibits a bed and bank and is considered CDFW jurisdictional streambed. As identified in the field delineation, approximately 0.40 acres (430 linear feet) of CDFW jurisdictional streambed and associated riparian vegetation occurs within the survey area.

Based on a review of the current project design, it is anticipated that the proposed project would occur outside of Drainage 1 and avoid impacts to CDFW jurisdiction. However, should the proposed project be expanded and impacts to Drainage 1 would occur, the City of Temecula would need to obtain a Section 1602 Streambed Alteration Agreement (SAA) from CDFW prior to implementation of the proposed project.

### **4.6 SPECIAL-STATUS BIOLOGICAL RESOURCES**

The CNDDDB and CNPS Online Inventory were queried for reported locations of special-status plant and wildlife species as well as special-status natural vegetation communities in the USGS *Temecula, Pechanga, Murrieta, and Bachelor Mountain, California* 7.5-minute quadrangles. The habitat assessment was conducted to assess and evaluate the existing condition of the habitat(s) within the boundaries of the survey area to determine if the existing vegetation communities, at the time of the field survey, have the potential to provide suitable habitat(s) for special-status plant and wildlife species.

The literature search identified sixty-one (61) special-status plant species, forty-seven (47) special-status wildlife species, and six (6) special-status vegetation communities as having the potential to occur in the USGS *Temecula, Pechanga, Murrieta, and Bachelor Mountain, California* 7.5-minute quadrangles. Special-status plant and wildlife species were evaluated for their potential to occur within the vicinity of the project site based on specific habitat requirements, availability and quality of suitable habitat, occurrence records, known distributions, and elevation ranges. Special-status biological resources identified during the literature review as having the potential to occur within the vicinity of the project site

are presented in *Table C-1: Potentially Occurring Special-Status Biological Resources*, provided in Appendix C. Refer to the following sections and information provided in Appendix C for a detailed analysis regarding the potential occurrence of special-status biological resources.

#### 4.6.1 Special-Status Plant Species

Sixty-one (61) special-status plant species have been recorded in the USGS *Temecula, Pechanga, Murrieta, and Bachelor Mountain, California* 7.5-minute quadrangles (refer to Appendix C). No special-status plant species were observed during the habitat assessment. The project site is located within the southwest portion of the City of Temecula, in an area that has been heavily impacted by development through various residential and transportation construction projects. On-going disturbance including illegal trash dumping and routine weed abatement (i.e., disking) are evident throughout the survey area resulting in heavily compacted soils that are dominated by non-native plant species. Based on existing site conditions and a review of specific habitat requirements, occurrence records, known distributions, and elevation ranges, none of the special-status plant species identified during the literature review are expected to occur.

#### 4.6.2 Special-Status Wildlife Species

Forty-seven (47) special-status wildlife species have been recorded in the USGS *Temecula, Pechanga, Murrieta, and Bachelor Mountain, California* 7.5-minute quadrangles (refer to Appendix C). Northern harrier was the only special-status wildlife species observed during the habitat assessment. In addition, it was determined that the following special-status wildlife species have a low potential to occur within or adjacent to the project site: Cooper's hawk (*Accipiter cooperii*), white-tailed kite (*Elanus leucurus*), and California horned lark (*Eremophila alpestris actia*). All other special-status wildlife species identified during the literature review are not expected to occur based on existing site conditions and a review of specific habitat requirements, occurrence records, known distributions, and elevation ranges. Cooper's hawk, northern harrier, white-tailed kite, and California horned lark are all fully covered species under the MSHCP.

#### 4.6.3 Special-Status Vegetation Communities

Six (6) special-status vegetation communities have been recorded within the USGS *Temecula, Pechanga, Murrieta, and Bachelor Mountain, California* 7.5-minute quadrangles by the CNDDDB: 1) Southern Coast Live Oak Riparian Forest; 2) Southern Cottonwood Willow Riparian Forest; 3) Southern Interior Basalt Flow Vernal Pool; 4) Southern Sycamore Alder Riparian Woodland; 5) Southern Willow Scrub; 6) and Valley Needlegrass Grassland. Based on the results of field survey, none of these special-status vegetation communities occur within or adjacent to the project site.

#### 4.6.4 Stephens' Kangaroo Rat Habitat Conservation Plan

The Stephens' kangaroo rat (*Dipodomys stephensi* [SKR]) is one of nineteen (19) species of kangaroo rat and is found at elevations ranging from approximately 180 to 4,100 feet amsl in open grasslands or sparse shrublands with < 50 percent cover. Soil type is an important factor for the presence of SKR; they are typically found in sandy and sandy loam soils with a low clay to gravel content. SKR tend to utilize flatter slopes (< 30 percent slope) for burrowing. SKR has a patchy distribution in western Riverside County, ranging from Corona/Norco Hills just west of Highway 91 to the Anza Valley in the eastern, and in the



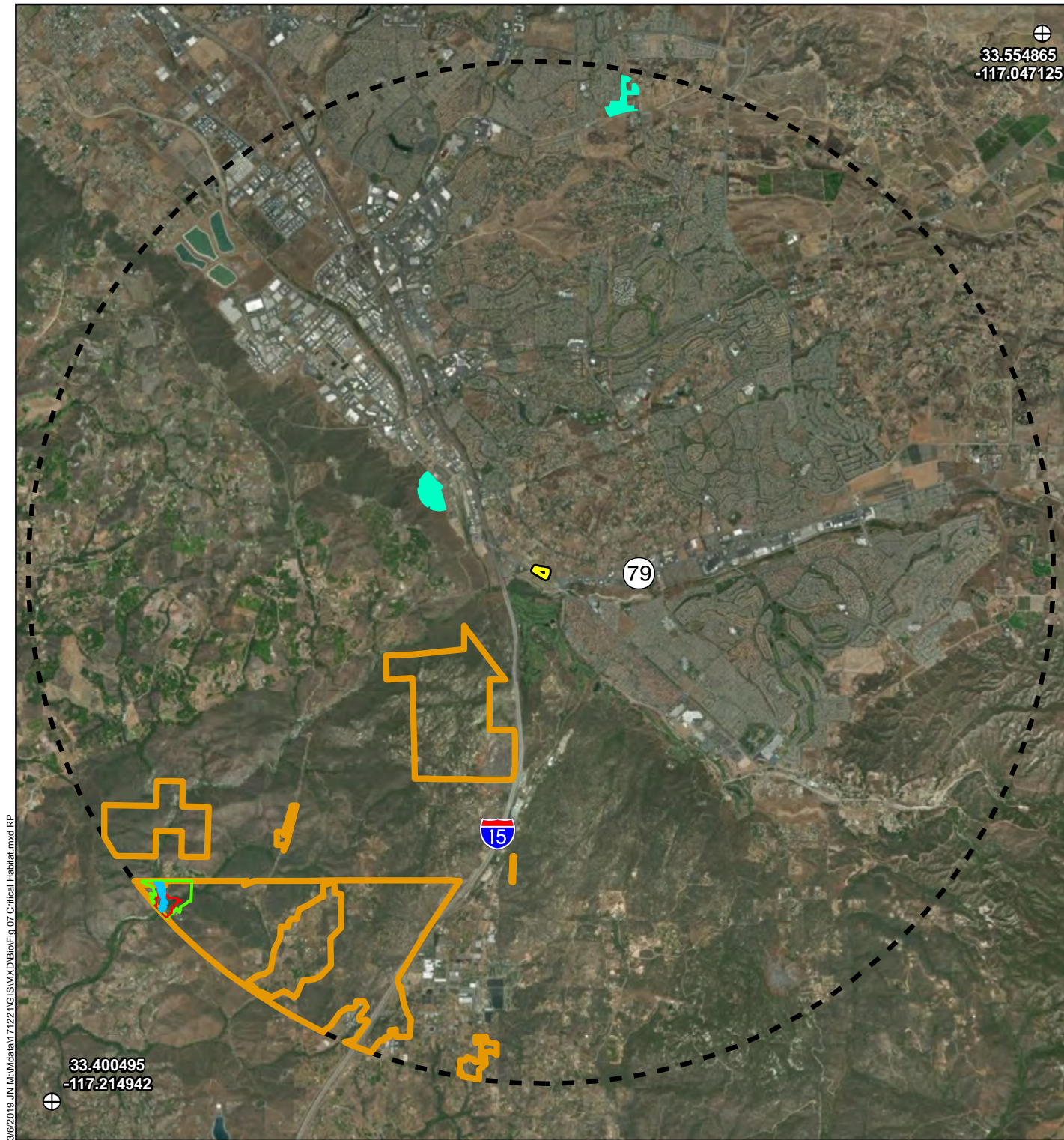
southern Temecula area to Potrero Valley and the Badlands in the north. As with other kangaroo rats, SKR is primarily nocturnal and mostly feeds on the seeds of filaree (*Erodium* sp.) and annual brome grasses.

Separate from the MSHCP, USFWS and CDFW issued the Riverside County Habitat Conservation Agency a Section 10 (a) Permit and CFGC Section 2081 Management Authorization in 1996 establishing the Long-Term Stephens' Kangaroo Rat Habitat Conservation Plan (SKR HCP). Based on a review of the SKR HCP, the project site is not located within a SKR Reserve Area but is located within the boundaries of the Mitigation Fee Area for the SKR HCP.

## 4.7 CRITICAL HABITAT

Under the Federal Endangered Species Act (FESA), "Critical Habitat" is designated at the time of listing of a species or within of year of listing. Critical Habitat refers to specific areas within the geographical range of a species at the time it is listed that include the physical or biological features that are essential to the survival and eventual recovery of that species. Maintenance of these physical and biological features requires special management considerations or protection, regardless of whether individuals or the species are present or not. In the event that a project may result in take or adverse modification to a species' designated Critical Habitat, a project proponent may be required to engage in suitable mitigation. However, consultation for impacts to Critical Habitat is only required when a project has a Federal nexus. This may include projects that occur on Federal lands, require Federal permits (e.g., CWA Section 404 permit), or receive any Federal oversight or funding. If there is a Federal nexus, then the Federal agency that is responsible for providing funds or permits would be required to consult with the USFWS under the FESA.

The project site is not located within or adjacent to Federally-designated Critical Habitat (Figure 7, *Critical Habitat*). Therefore, the proposed project would not result in the loss or adverse modification of Critical Habitat and consultation with the USFWS under the FESA would not be required.



3/6/2019, JN M:\Media\171221\GIS\MAXD\Bio\Fig 07 Critical Habitat.mxd RP

### Legend

- Survey Area
- 5-mile Radius Buffer
- Reference Point

### Critical Habitat

- Arroyo southwestern toad
- Coastal California gnatcatcher
- Least Bell's vireo
- San Diego ambrosia
- Southwestern willow flycatcher

TRAFFIC SIGNAL AT WABASH LANE AND TEMECULA PARKWAY PROJECT  
HABITAT ASSESSMENT AND MSHCP CONSISTENCY ANALYSIS

**Critical Habitat**

Figure 7



## Section 5 MSHCP Consistency Analysis

This section contains the findings of Michael Baker’s MSHCP consistency analysis for the proposed project. The purpose of this consistency analysis is to summarize the biological data for the proposed project and to document the project’s consistency with the goals and objectives of the MSHCP. The proposed project consists of the development of 0.21 acres of vacant, undeveloped land located north of Temecula Parkway (State Route 79), east of Interstate 15, south of Vallejo Avenue, and west of Jedediah Smith Road.

Based on a review of the RCA’s online MSHCP Information Application, the project site is located within the Southwest Area Plan of the MSHCP. Specifically, the project site is located within *Subunit 2: Temecula and Pechanga Creeks* and within Criteria Cell 7357 (not in a cell group) (Figure 8, *MSHCP Conservation Areas*). As stated in Section 7.3 of the MSHCP, public and private development within Criteria Areas and Public/Quasi-Public (P/QP) Lands is considered a Covered Activity, subject to consistency with the following sections of the MSHCP:

- Section 6.1.1 – *Property Owner Initiated Habitat Evaluation and Acquisition Negotiation Strategy (HANS)*;
- Section 6.1.2 – *Protection of Species Associated with Riparian/Riverine Areas and Vernal Pools*;
- Section 6.1.3 – *Protection of Narrow Endemic Plant Species*;
- Section 6.1.4 – *Guidelines Pertaining to the Urban/Wildlands Interface*;
- Section 6.3.1 – *Vegetation Mapping*; and
- Section 6.3.2 – *Additional Survey Needs and Procedures*.

### 5.1 PROJECT INTRODUCTION AND SETTING

#### 5.1.1 Project Area

The project site is situated in the northwest corner of APN 922-190-033 and would occur entirely within Criteria Cell 7357 (refer to Figure 8). Based on a review of the RCA’s online MSHCP Information Application, the project site is located within the Southwest Area Plan of the MSHCP. Specifically, the project site is located within *Subunit 2: Temecula and Pechanga Creeks* and within Criteria Cell 7357 (not in a cell group). Refer to Table 2 below for a summary of the total acreage that occurs within and outside of the Criteria Cell 7357.

**Table 2: Summary of Acreages located Within/Outside of a Criteria Cell**

APNs	Acreage		
	Total Within Project Site	Total Within Criteria Cell	Total Outside Criteria Cell
922-190-033	0.21	0.21	0.00





3/6/2019 J:\M\MapData\171221\GIS\MapData\Bio\Fig 08 MSHCP Conservation Areas.mxd RP



### 5.1.2 Project Description

The project proposes to add an approximate 42-foot wide, 280 linear foot access road off of Temecula Parkway (State Route 79) for an existing park and ride facility that is located just east of La Paz Road (refer to Figure 4). To accommodate the access road, a new signalized intersection will be constructed at Wabash Lane and Temecula Parkway. The existing median in Temecula Parkway will be reconfigured to provide a left turn from Temecula Parkway eastbound into the park and ride access road. The entrance to the community south of Temecula Parkway at Wabash Lane has an existing median that will be reconfigured to accommodate traffic flow through the proposed signalized intersection. A portion of the east end of the existing park and ride facility will be reconfigured (move parking spaces/restripe) to accommodate the access road. Once the access road is complete, the current access/entrance off of Vallejo Avenue will be closed off and will no longer function as an access into the park and ride facility.

### 5.1.3 Covered Roads

The proposed project would not include the construction of, or improvements to, any of the Covered Roads identified in Section 7 of the MSHCP. Therefore, a discussion related to the proposed project and Covered Roads is not warranted.

### 5.1.4 Covered Public Access Activities

The proposed project would not include the construction of, or improvements to, trails or other public access facilities. Therefore, a discussion related to the proposed project and Covered Public Access Activities is not warranted.

### 5.1.5 General Setting

Land uses surrounding the project site mainly consist of low-/medium-density residential, and vacant, undeveloped land. Interstate 15 is approximately 0.35 miles to the west and runs in a north/south direction and Temecula Creek is located approximately 0.2 miles to the south.

## 5.2 RESERVE ASSEMBLY ANALYSIS

Based on a review of the RCA's online MSHCP Information Application, the project site is located within the Southwest Area Plan of the MSHCP. Specifically, the proposed project is located within *Subunit 2: Temecula and Pechanga Creeks* and within Criteria Cell 7357 (not in a cell group). *Subunit 2: Temecula and Pechanga Creeks* has a target acreage range for Additional Reserve Lands of 365-840 acres. Planning species associated with this subunit include Cooper's hawk, downy woodpecker (*Picoides pubescens*), least Bell's vireo (*Vireo bellii pusillus* [LBVI]), loggerhead shrike (*Lanius ludovicianus*), southwestern willow flycatcher (*Empidonax traillii extimus* [SWWF]), tree swallow (*Tachycineta bicolor*), white-tailed kite, yellow-breasted chat (*Icteria virens*), yellow warbler (*Setophaga petechia*), bobcat, Los Angeles pocket mouse (*Perognathus longimembris brevinasus*), mountain lion, and western pond turtle (*Actinemys marmorata*).

Pursuant to Section 6.1.1 of the MSHCP, development within a Criteria Cell is subject to the Habitat Evaluation and Acquisition Negotiation Strategy (HANS) process to determine if all or part of the project site is needed for inclusion in the MSHCP Conservation Area. Therefore, the City of Temecula would need to submit a HANS application to the RCA for review and approval. If it is determined that all or part of

project site is needed for inclusion in the MSHCP Conservation Area, the City of Temecula would enter negotiations with the RCA to determine the extent of development allowed within the project site that would not significantly impact the function of the MSHCP Conservation Area in question.

### 5.2.1 Criteria Cell 7357

According to the MSHCP, conservation within Criteria Cell 7357 contributes to the assembly of PCL-14 and focuses on riparian scrub, woodland, and forest habitat along Temecula Creek. These habitats within Criteria Cell 7357 provide a connection to riparian scrub, woodland, and forest habitats proposed for conservation in Cell 7356 to the west, in Cell 7358 to the east, and in Cell 7444 to the south. The MSHCP states that conservation will range from 10-20% focusing on the southern portion of Criteria Cell 7357. The project site is situated in the northwest corner of APN 922-190-033 and encompasses approximately 0.21 acres of Criteria Cell 7357 (Refer to Figure 8). In addition, PCL-14 encompasses approximately 25.07 acres of the southern portion of Criteria Cell 7357 and is located approximately 480 feet southwest of the project site. Refer to Table 3 below for a summary of Criteria Cell 7357 and associated acreages.

**Table 3: Criteria Cell 7357**

Criteria Cell #	% Conservation Within Criteria Cell	Acreage		
		Total Within Project Site	Total Within Criteria Cell	Existing/Pending Conservation (PCL-14)
7357	10-20% of southern portion	0.21	164.08	25.07

Based on the results of the habitat assessment, the following vegetation communities were mapped by Michael Baker within Criteria Cell 7357: 1) riparian woodland; and 2) non-native grassland. Refer to Table 4 below for a summary of vegetation communities that were mapped within Criteria Cell 7357 and impacts that are expected to occur as a result of the proposed project.

**Table 4: Vegetation Communities within Criteria Cell 7357 and Proposed Impacts**

Vegetation Community	Acreages	
	Total Within Criteria Cell	Total Impacts Within Criteria Cell
Riparian Woodland	0.52	0.00
Non-native Grassland	3.72	0.21
<b>TOTAL</b>	<b>4.24</b>	<b>0.21</b>

PCL-14, which includes portions of Pechanga and Temecula Creeks, is located to the south of Temecula Parkway. PCL-14 connects Existing Core G and Proposed Linkage 10 to Existing Linkage A and is generally constrained by urban development. This linkage is believed to be important for bobcats and mountain lions, particularly for mountain lions traveling between the Santa Ana Mountains and the Palomar Mountains. However, the project site is located approximately 480 feet northeast of PCL-14 and is separated from it not only by Temecula Parkway, but by the California Sunset residential neighborhood, which predates the MSHCP. Because PCL-14 partially encompasses this neighborhood, the project site is actually approximately 750 feet northeast of any open space within Temecula Creek. As such, there is little to no

potential for bobcats, mountain lions, or any other migrating wildlife to occur within the project site due to the development buffer between PCL-14.

As previously stated, conservation within Criteria Cell 7357 would contribute to the assembly of PCL-14 and focuses on riparian scrub, woodland, and forest habitats along Temecula Creek. The MSHCP states that conservation will range from 10-20% focusing on the southern portion of Criteria Cell 7357. Based on a review of the current project design, the proposed project would impact approximately 0.21 acres located outside of the areas targeted for conservation within Criteria Cell 7357 (refer to Figure 8). Therefore, the proposed project would not conflict with the conservation goals of Criteria Cell 7357 or the assembly of PCL-14.

### **5.2.2 Public/Quasi-Public Lands**

Based on a review of the RCA's online MSHCP Information Application, the project site is not located within or adjacent to an area identified as P/QP Lands. Therefore, the proposed project would not directly or indirectly impact P/QP Lands and no further discussion related to the proposed project and P/QP Lands is warranted.

## **5.3 VEGETATION MAPPING**

As stated in Section 6.3.1 of the MSHCP, project-level vegetation mapping may be required for projects that meet certain criteria to assess whether conservation is required. Michael Baker reviewed the 2012 vegetation layer presented in the RCA's online MSHCP Information Application and aerial photography to understand existing site conditions and extent of any disturbances that have occurred within the survey area. In addition, a field survey was conducted on February 12, 2019 to document the extent and condition of the vegetation communities occurring within the boundaries of the survey area.

Based on the results of the habitat assessment, two (2) vegetation communities were observed and mapped by Michael Baker within the boundaries of the survey area: 1) riparian woodland; and 2) non-native grassland. Refer to Figure 6 and Table 4 above for a summary of the vegetation communities mapped within the survey area and impacts that are expected to occur as a result of the proposed project.

## **5.4 PROTECTION OF SPECIES ASSOCIATED WITH RIPARIAN/RIVERINE AREAS AND VERNAL POOLS**

### **5.4.1 Riparian/Riverine**

As defined under Section 6.1.2 of the MSHCP, riparian/riverine areas are areas dominated by trees, shrubs, persistent emergent plants, or emergent mosses and lichens which occur close to or are dependent upon nearby freshwater, or areas with freshwater flowing during all or a portion of the year. Conservation of these areas is intended to protect habitat that is essential to a wide variety of listed or special-status water-dependent fish, amphibian, avian, and plant species.

Based on the results of the habitat assessment, one (1) ephemeral drainage feature (Drainage 1) occurs within the survey area and qualifies as riparian/riverine habitat pursuant to Section 6.1.2 of the MSHCP (Figure 9, *Riparian/Riverine Resources*). Refer to Figure 9 and Table 5 below for a summary of riparian/riverine habitat mapped within the survey area and impacts that are expected to occur.





3/6/2019 J:\M\Mapa\171221\GIS\Map\BIO\Fig\_09\_Riparian\_Riverine\_Resources.mxd RP



**Table 5: Riparian/Riverine Habitat within the Survey Area and Proposed Impacts**

Resource Type	Acreages	
	Total Within Survey Area	Total Impacts Within Project Site
Riparian	0.31	0.00
Riverine	0.09	0.00
<b>TOTAL</b>	<b>0.40</b>	<b>0.00</b>

Based on a review of the current project design, it is anticipated that impacts to riparian/riverine habitat would be avoided. However, should the proposed project be expanded and impacts to riparian/riverine habitat would occur, the City of Temecula would need to submit a Determination of Biologically Equivalent or Superior Preservation (DBESP) report to the RCA for approval and ensure that an appropriate mitigation strategy will be approved and implemented.

#### 5.4.2 Vernal Pools

One of the factors for determining the presence of vernal pools would be demonstrable evidence of seasonal ponding in an area of topographic depression that is not subject to flowing waters. The MSHCP lists two general classes of soils known to be associated with special-status plant species and presence of vernal pool habitat; clay soils and Traver-Domino Willow association soils. The specific clay soils known to be associated with special-status species/vernal pool habitat within the MSHCP plan area include Bosanko, Auld, Altamont, and Porterville series soils, whereas Traver-Domino Willows association includes saline-alkali soils largely located along floodplain areas of the San Jacinto River and Salt Creek.

Based on a review of the *Custom Soil Resources Report for Western Riverside Area, California* (USDA, 2019), none of the soil classes (i.e., Bosanko, Auld, Altamont, Porterville series and Traver-Domino Willows association) known to be associated with vernal pool habitat occur within or adjacent to the project site (refer to Figure 5). Instead, soils consist of sandy loam textures and lack the clay soil textures which are needed to form the impermeable restrictive duripan layer below the soils surface. Additionally, a review of historical aerial photographs did not provide visual evidence of any astatic or vernal pool conditions within the project site or surrounding vicinity. Therefore, no direct or indirect impacts are expected to occur, and no further discussion related to the proposed project and vernal pools is warranted.

#### 5.4.3 Fairy Shrimp

Four (4) species of fairy shrimp have been recorded in the USGS *Temecula, Pechanga, Murrieta, and Bachelor Mountain, California* 7.5-minute quadrangles: vernal pool fairy shrimp (*Branchinecta lynchi*), San Diego fairy shrimp (*Branchinecta sandiegonensis*), Santa Rosa Plateau fairy shrimp (*Linderiella santarosae*), and Riverside fairy shrimp (*Streptocephalus woottoni*).

According to the CNDDDB, there are no occurrences records for vernal pool fairy shrimp, San Diego fairy shrimp, or Santa Rosa Plateau fairy shrimp within five (5) miles of the project site (CNDDDB, 2019). The closest recorded occurrence (Occurrence 20) for Riverside fairy shrimp is 1.1 miles south of the project site (CNDDDB, 2014). Based on a review of the *Custom Soil Resources Report for Western Riverside Area, California* (USDA, 2019), none of the soil classes (i.e., Bosanko, Auld, Altamont, Porterville series and Traver-Domino Willows association) known to be associated with vernal pool habitat occur within or

adjacent to the project site (refer to Figure 5). Instead, soils consist of sandy loam textures and lack the clay soil textures which are needed to form the impermeable restrictive duripan layer below the soils surface. Additionally, a review of historical aerial photographs did not provide visual evidence of any astatic or vernal pool conditions within the project site or surrounding vicinity. Based on this information, it was determined that there is no suitable habitat for fairy shrimp within or adjacent to the project site. Therefore, no direct or indirect impacts are expected to occur, and no further discussion related to the proposed project and fairy shrimp is warranted.

#### 5.4.4 Riparian Birds

Based on the results of the habitat assessment, approximately 0.40 acres of riparian/riverine habitat occurs adjacent to the project site (refer to Figure 9). As such, the potential for this area to provide suitable habitat for the following riparian bird species was evaluated: western yellow-billed cuckoo (*Coccyzus americanus occidentalis* [WYBC]), SWWF, and LBVI.

##### Species Background

In California, the WYBC breeding distribution is restricted to isolated sites in the Sacramento, Armargosa, Kern, Santa Ana, and Colorado River valleys (Laymon and Halterman, 1985). The species require large patches of multi-layered riparian forest, with cottonwoods and willows (ideally both) most preferred. WYBCs may use patches of forest as small as 25 to 50 acres (10 to 20 hectares) in area and 330 feet (100 meters) wide, but ideal habitat patches are typically greater than 200 acres (80 hectares) in area or more than 2,000 feet (600 meters) wide and contain open water within 330 feet (100 meters) of the bird's nesting area.

SWWFs usually arrive in southern California in early May, but rarely as early as the last two or three days of April, and breeds only in riparian habitats, typically along a dynamic river or lakeside. Surface water or saturated soil is usually present in or adjacent to nesting sites during at least the initial portion of the nesting period (Muiznieks *et al.*, 1994; Tibbits *et al.*, 1994). Riparian habitats used by SWWF typically consist of dense thickets of trees and shrubs that range in height from about 6 to 90 feet (2 to 30 meters). Preferred nesting sites usually contain riparian foliage from the ground level up to a dense (about 50 to 100 percent) tree or shrub canopy.

LBVIs begin to arrive at their breeding grounds in southern California riparian areas from mid-March to early April. Upon arrival, males establish breeding territories that range in size from 0.5 to 7.4 acres (0.5 to 3.0 hectares), with an average size of approximately 2 acres (0.8 hectares). In California, females begin laying eggs in April, fledging birds until the end of July (Kus *et al.*, 2010). The fledglings remain in the parental territory for up to a month. LBVIs leave the breeding grounds and migrate south mid- to late September. LBVI populations are evenly distributed throughout southern California with 54 percent of the total population occurring in San Diego County and 30 percent of the population occurring in Riverside County (USFWS, 1998). Preferred nesting habitat typically consists of a well-developed overstory and understory, along with low densities of aquatic and herbaceous plant cover. The understory frequently contains dense sub-shrub or shrub thickets that are often dominated by plants such as willow, mule fat, and one or more herbaceous species.

### Literature Review and Habitat Assessment Results

According to CNDDDB, there is one (1) occurrence record for WYBC, thirteen (13) occurrence records for LBVI, and no records for SWWF within the USGS *Temecula, Pechanga, Murrieta, and Bachelor Mountain, California* 7.5-minute quadrangles. The only occurrence record for WYBC (Occurrence Number 84) is located approximately 1.2 miles southwest of the project site; two individuals were collected in 1947 by the Santa Barbara County Museum (CNDDDB, 1950). The closest extant LBVI occurrence record (Occurrence Number 394) is located approximately 2.5 miles north of the project site; two (2) pairs were detected between April and May between Interstate 15 and Ynez Road, in habitat dominated by black willow (*Salix gooddingii*), narrowleaf willow, arroyo willow (*Salix lasiolepis*), red willow (*Salix laevigata*), and Fremont cottonwood (CNDDDB, 2013). The most recent extant LBVI occurrence record (Occurrence Number 587) is located approximately 5 miles north of the project site; two (2) adult males and one (1) adult female were observed within Tualota Creek in habitat dominated by black willow, arroyo willow, and Fremont cottonwood (CNDDDB, 2017).

Based on the results of the habitat assessment, approximately 0.40 acres of riparian/riverine habitat occurs adjacent to the project site, along Drainage 1 (refer to Figure 9). The vegetation occurring within this area averages approximately 19 feet in width and is generally comprised of non-uniform, widely spaced riparian trees/shrubs that lack the dense understory that would be needed to provide suitable nesting habitat for WYBC, SWWF, and LBVI. In addition, Drainage 1 is surrounded by existing development and lacks a direct connection to areas containing suitable habitat within the surrounding areas; Drainage 1 is located approximately 480 feet northeast and separated from Temecula Creek by the California Sunset residential neighborhood. Based on this information, the riparian habitat adjacent to the project site would not provide suitable nesting habitat for WYBC, SWWF, or LBVI and focused surveys are not recommended.

### Additional Survey and Mitigation Requirements

Based on a review of the current project design, it is anticipated that impacts to riparian habitat along Drainage 1 would be avoided. However, should the proposed project be expanded and impacts to riparian habitat would occur, the City of Temecula would need to submit a DBESP report to the RCA for approval and ensure that an appropriate mitigation strategy will be approved and implemented. The RCA could also require that the City of Temecula conduct focused riparian bird surveys to confirm the presence/absence of WYBC, SWWF, and LBVI and determine if 90% of the on-site habitat should be conserved.

## **5.5 PROTECTION OF NARROW ENDEMIC PLANT SPECIES**

As stated in Section 6.1.3 of the MSHCP, the MSHCP database does not provide sufficient detail to determine the extent of the presence/distribution of narrow endemic plant species within the Plan Area. As such, additional surveys may be needed to gather information to determine the presence/absence of these species and ensure that appropriate conservation occurs. According to the RCA's online MSHCP Information Application and Figure 6-1 of the MSHCP, the project site is not located within the designated survey area for any narrow endemic plant species. Therefore, no direct or indirect impacts are expected to occur, and no further discussion related to the proposed project and narrow endemic plant species is warranted.

## 5.6 ADDITIONAL SURVEY NEEDS AND PROCEDURES

### 5.6.1 Criteria Area Plant Species

According to the RCA's online MSHCP Information Application and Figure 6-2 of the MSHCP, the project site is not located within a survey area for Criteria Area plant species. Therefore, no direct or indirect impacts are expected to occur, and no further discussion related to the proposed project and Criteria Area plant species is warranted.

### 5.6.2 Amphibians

According to the RCA's online MSHCP Information Application and Figure 6-3 of the MSHCP, the project site is not located within a survey area for amphibian species. Therefore, no direct or indirect impacts are expected to occur, and no further discussion related to the proposed project and amphibian species is warranted.

### 5.6.3 Burrowing Owl

According to the RCA's online MSHCP Information Application and Figure 6-4 of the MSHCP, the project site is located within a survey area for burrowing owl (*Athene cunicularia* [BUOW]).

#### Species Background

The BUOW is a grassland specialist distributed throughout western North America where it occupies open areas with short vegetation and bare ground within shrub, desert, and grassland environments. BUOWs use a wide variety of arid and semi-arid environments with well-drained, level to gently-sloping areas characterized by sparse vegetation and bare ground (Haug and Didiuk, 1993; Dechant *et al.*, 1999). BUOWs are dependent upon the presence of burrowing mammals (e.g., California ground squirrels [*Otospermophilus beecheyi*], coyotes, American badger [*Taxidea taxus*]) whose burrows are used for roosting and nesting. The presence or absence of mammal burrows is often a major factor that limits the presence or absence of BUOW. Where mammal burrows are scarce, BUOWs have been found occupying man-made cavities, such as buried and non-functioning drain pipes, stand-pipes, and dry culverts. BUOWs may also burrow beneath rocks and debris or large, heavy objects such as abandoned cars, concrete blocks, or concrete pads. They also require open vegetation allowing open line-of-sight of the surrounding habitat to forage as well as watch for predators.

#### Literature Review and Habitat Assessment Results

According to the CNDDDB, there are twenty-five (25) occurrence records for BUOW within the USGS Temecula, Pechanga, Murrieta, and Bachelor Mountain, California 7.5-minute quadrangles. The closest extant occurrence (Occurrence Number 593) was recorded in 2001, approximately 1.4 miles north of the project site; two (2) pairs with young and burrows were observed in two vacant lots along Santiago Road in the City of Temecula (CNDDDB, 2003).

The project site is located within the southwest portion of the City of Temecula, in an area that has been heavily impacted by development through various residential and transportation construction projects. The non-native grassland vegetation community within and adjacent to the project site could potentially provide suitable foraging habitat for BUOW, if present. However, this vegetation community is exposed to an elevated

level of human disturbance (i.e., traffic, noise, weed abatement) which would likely preclude BUOWs from occurring. It is also expected that the existing light poles and trees within and adjacent to the project site would further decrease the likelihood that BUOW would occur as these features provide perching opportunities for larger raptor species (e.g., red-tailed hawk) that prey on BUOWs. Further, no suitable burrow complexes (>4 inches in diameter) capable of providing roosting and nesting opportunities for BUOW were observed. Despite a systematic search of the project site and surrounding area, no BUOWs or sign (i.e., pellets, feathers, castings, or white wash) that would indicate the presence of BUOW was observed during the habitat assessment. Therefore, BUOW is not expected to occur and focused surveys are not recommended.

#### Additional Survey and Mitigation Requirements

Pursuant to the MSHCP, a pre-construction clearance survey would need to be conducted to confirm the absence of BUOW and ensure that project-related activities do not result in impacts to any occupied burrows that may be located within or adjacent to the project site. In accordance with the *Burrowing Owl Survey Instructions for the Western Riverside Multiple Species Habitat Conservation Plan Area*, the pre-construction BUOW clearance survey should be conducted no more than thirty (30) days prior to any ground disturbance or vegetation removal activities occur. With implementation of the pre-construction BUOW clearance survey, the proposed project would be consistent with Section 6.3.2 of the MSHCP and no additional surveys or analysis would be required.

#### **5.6.4 Mammals**

According to the RCA's online MSHCP Information Application and Figure 6-5 of the MSHCP, the project site is not located within a survey area for mammals. Therefore, no direct or indirect impacts are expected to occur, and no further discussion related to the proposed project and mammal species is warranted.

### **5.7 INFORMATION ON OTHER SPECIES**

#### **5.7.1 Delhi Sands Flower-Loving Fly**

According to the RCA's online MSHCP Information Application and the *Custom Soil Resources Report for Western Riverside Area, California* (USDA, 2019), the project site and surrounding area is not underlain by or fall within an area containing Delhi Sand soils. Therefore, no direct or indirect impacts are expected to occur, and no further discussion related to the proposed project and the Delhi Sands flower-loving fly (*Rhaphiomidas terminatus abdominalis*) is warranted.

#### **5.7.2 Species Not Adequately Conserved**

As stated in Section 2.1.4 of the MSHCP, of the one hundred and forty-six (146) Covered Species addressed in the MSHCP, one-hundred and eighteen (118) species are considered to be adequately conserved. The remaining twenty-eight (28) Covered Species will be considered to be adequately conserved when certain conservation requirements are met as identified in the species-specific conservation objectives listed in Table 9-3 of the MSHCP. Based on existing site conditions and a review of specific habitat requirements, occurrence records, known distributions, and elevation ranges, none of the twenty-eight (28) Covered Species listed in Table 9-3 of the MSHCP are expected to occur within or adjacent to the project site. Therefore, no direct or indirect impacts are expected to occur, and no further discussion is warranted.

## **5.8 GUIDELINES PERTAINING TO THE URBAN/WILDLANDS INTERFACE**

The urban/wildlands interface guidelines presented in Section 6.1.4 of the MSHCP are intended to address indirect effects associated with new development in proximity to MSHCP Conservation Areas. The project site is located within Criteria Cell 7357 and approximately 480 feet northeast of PCL-14. The project site is separated from PCL-14 not only by Temecula Parkway, but by the California Sunset residential neighborhood, which predates the MSHCP. Because PCL-14 partially encompasses this neighborhood, the project site is actually approximately 750 feet northeast of any open space within Temecula Creek. Although the proposed project would not result in direct impacts to PCL-14, the guidelines discussed below should be incorporated into the project to ensure that indirect impacts related to drainage, toxics, lighting, noise, invasive plant species, barriers, and grading/land development are avoided or minimized.

### **5.8.1 Drainage**

The proposed project should incorporate measures to ensure that the quantity and quality of runoff discharged to the MSHCP Conservation Area is not altered in an adverse way when compared with existing conditions. Further, any stormwater systems should be designed to prevent the release of untreated surface runoff, toxins, chemicals, petroleum products, exotic plant materials or other elements.

### **5.8.2 Toxics**

The proposed project has the potential to cause the release of toxic chemicals or materials related to the use of pesticides and herbicides during landscaping and/or leaks from construction equipment. To ensure that the proposed project does not result in the discharge of toxics chemicals or materials to the MSHCP Conservation Area, all equipment maintenance, staging, and dispensing of fuel, oil, or any other such activities should occur in developed or previously disturbed upland areas and as far away, to the maximum extent feasible, from the MSHCP Conservation Area. Further, appropriate erosion control measures should be implemented to minimize erosion and eliminate or control potential point and non-point pollution sources during and following the project's construction phase.

### **5.8.3 Lighting**

Any light sources associated with the proposed project should be designed to have a zero-side angle cut off to the horizon. In addition, light sources should utilize internal baffles to shield/direct lighting away from the MSHCP Conservation Area and towards the ground or developed areas.

### **5.8.4 Noise**

Pursuant to the MSHCP, wildlife within the MSHCP Conservation Area should not be subject to noise that would exceed residential noise standards. As such, construction-related activities should incorporate measures pursuant to County of Riverside rules, regulations, and guidelines related to land use noise standards.

### **5.8.5 Invasive Plant Species**

If the proposed project will include landscaping, all landscape plans should avoid the use of invasive, non-native plant species listed in Table 6-2 of the MSHCP. To ensure this, the final landscape plans would need to be reviewed and verified by the County of Riverside.

### **5.8.6 Barriers**

The proposed project should incorporate barriers, where feasible, to minimize unauthorized public access, domestic animals, illegal trespassing, and dumping in the MSHCP Conservation Area. Pursuant to the MSHCP, suitable barriers may include native landscaping, rocks/boulders, fencing, walls, signage, and/or other appropriate mechanisms. As such, it is recommended that highly visible barriers (e.g., orange construction fencing or flagging) be installed around the perimeter of the project impact area and access routes prior to construction and remain in place for the duration of the project.

### **5.8.7 Grading/Land Development**

The limits of disturbance should be minimized to the maximum extent feasible and access to the project work area should be limited to developed or previously disturbed upland areas. Further, any manufactured slopes associated with the proposed project should be contained within the boundaries of the impact footprint and should not extend into the MSHCP Conservation Area or otherwise into the area targeted for conservation within Criteria Cell 7357.

## Section 6 Conclusion and Recommendations

---

The proposed project is located within the southwest portion of the City of Temecula, within an area that has been impacted with heavy development through various residential and transportation construction projects. Michael Baker conducted a habitat assessment or field survey on February 12, 2019 to characterize existing site conditions and assess the potential for special-status biological resources to occur on or within the vicinity of the project site that could pose a constraint to implementation of the proposed project. Based on the results of the habitat assessment, two (2) vegetation communities were observed within the boundaries of the survey area: 1) riparian woodland; and 2) non-native grassland.

One (1) drainage feature (Drainage 1) occurs within the survey area and would fall under the regulatory authority of the Corps, Regional Board, and CDFW. Further, Drainage 1 would qualify as riparian/riverine habitat and is protected under Section 6.1.2 of the MSHCP. Based on a review of the current project design, it is anticipated that the proposed project would avoid impacts to Drainage 1 and regulatory approvals from the Corps, Regional Board, and CDFW would not be required. However, should the proposed project be expanded and impacts to Drainage 1 would occur, the City of Temecula would need to obtain the following regulatory approvals: 1) Corps CWA Section 404 Nationwide Permit; 2) Regional Board CWA Section 401 WQC; and 3) CDFW Section 1602 SAA. In addition, a DBESP report would need to be prepared and submitted to the RCA for approval.

No special-status plant species were observed during the habitat assessment. The project site is located within the southwest portion of the City of Temecula, in an area that has been heavily impacted by development through various residential and transportation construction projects. On-going disturbance including illegal trash dumping and routine weed abatement (i.e., disking) are evident throughout the survey area resulting in heavily compacted soils that are dominated by non-native plant species. Based on existing site conditions and a review of specific habitat requirements, occurrence records, known distributions, and elevation ranges, none of the special-status plant species identified during the literature review are expected to occur.

Northern harrier was the only special-status wildlife species observed during the habitat assessment. In addition, it was determined that the following special-status wildlife species have a low potential to occur within or adjacent to the project site: Cooper's hawk, white-tailed kite, and California horned lark. All other special-status wildlife species identified during the literature review are not expected to occur based on existing site conditions and a review of specific habitat requirements, occurrence records, known distributions, and elevation ranges. Cooper's hawk, northern harrier, white-tailed kite, and California horned lark are all fully covered species under the MSHCP.

Nesting birds are protected pursuant to the MBTA of 1918 and the CFGC. If project-related activities are to be initiated during the nesting season (February 1 to August 31), a pre-construction nesting bird clearance survey should be conducted by a qualified biologist no more than three (3) days prior to the start of any vegetation removal or ground disturbing activities to maintain compliance with the MBTA and CFGC and ensure that impacts to nesting birds do not occur. The qualified biologist should survey all suitable nesting habitat within the project impact area, including areas within a biologically defensible buffer distance surrounding the project impact area, for the presence of nesting birds and should provide documentation of the surveys and findings to the City of Temecula for review prior to initiating project activities. If no active



bird nests are detected, project-related activities may begin. If an active nest is found, the bird should be identified to species and the approximate distance from the closest work site to the active nest should be estimated and the qualified biologist should establish a “no-disturbance” buffer around the active nest. The distance of the “no-disturbance” buffer may be increased or decreased according to the judgement of the qualified biologist depending on the level of activity and species (i.e., listed, sensitive). In addition, the qualified biologist should periodically monitor any active bird nests to determine if project-related activities occurring outside the ‘no disturbance’ buffer disturb the birds and if the buffer should be increased. Once the young have fledged and left the nest, or the nest otherwise becomes inactive under natural conditions, project-related activities within the ‘no disturbance’ buffer may occur.

Pursuant to the MSHCP, a pre-construction clearance survey would need to be conducted to confirm the absence of BUOW and ensure that project-related activities do not result in impacts to any occupied burrows that may be located within or adjacent to the project site. In accordance with the *Burrowing Owl Survey Instructions for the Western Riverside Multiple Species Habitat Conservation Plan Area*, the pre-construction BUOW clearance survey should be conducted no more than thirty (30) days prior to any ground disturbance or vegetation removal activities occur.

The project site is located within the Southwest Area Plan of the MSHCP. Specifically, the project site is located within *Subunit 2: Temecula and Pechanga Creeks* and within Criteria Cell 7357 (not in a cell group). Conservation within Criteria Cell 7357 would contribute to the assembly of PCL-14 and focuses on riparian scrub, woodland, and forest habitats along Temecula Creek. The MSHCP states that conservation will range from 10-20% focusing on the southern portion of Criteria Cell 7357. Based on a review of the current project design, the proposed project would occur outside of the areas targeted for conservation within Criteria Cell 7357. As such, the proposed project would not conflict with the conservation goals of Criteria Cell 7357 or the assembly of PCL-14.

Pursuant to Section 6.1.1 of the MSHCP, development within a Criteria Cell is subject to the HANS process to determine if all or part of the project site is needed for inclusion in the MSHCP Conservation Area. Therefore, the City of Temecula would need to submit a HANS application to the RCA for review and approval prior to implementation of the proposed project. Further, with implementation of the recommendations provided in Section 5 of this report, including payment of the MSHCP local development mitigation fee, the proposed project would be fully consistent with the goals and objectives of the MSHCP.

## Section 7      References

---

- Baldwin, B.G., D.H. Goldman, D.J. Keil, R. Patterson, T.J. Rosatti, and D.H. Wilken, Editors. 2012. *The Jepson Manual: Vascular Plants of California, Second Edition*. University of California Press, Berkeley, CA.
- Brylski, P.V. 1998. Los Angeles Pocket Mouse, *Perognathus longimembris brevinasus*. In: Bolster, B.C. Terrestrial Mammal Species of Special Concern in California.
- California Department of Fish and Game. 2012. *Staff Report on Burrowing Owl Mitigation*. State of California Natural Resources Agency. 34 pp.
- CDFW. 2019. RareFind 5, California Natural Diversity Data Base, California. Data base report on threatened, endangered, rare or otherwise sensitive species and communities for the USGS Temecula, California, Pechanga, California, Murrieta, California, and Bachelor Mountain, California 7.5-minute quadrangles.
- CNPS Rare Plant Program. 2019. Inventory of Rare and Endangered Plants of California (online edition, v8-03 0.39). Available online at: <http://www.rareplants.cnps.org>.
- Dudek & Associates, Inc. 2003. Western Riverside County Multiple Species Habitat Conservation Plan (MSHCP). Final MSHCP, Volumes I and II. Prepared for County of Riverside Transportation and Lands Management Agency. Approved June 17, 2003.
- Feldhamer, G.A., B.C. Thompson, and J.A. Chapman (eds.). 2003. *Wild Mammals of North America: Biology, Management and Conservation, 2nd ed.* Johns Hopkins University Press, Baltimore MD.
- Google, Inc. 2019. Google Earth Pro version 7.3.2.5491, build date 7/23/2018. Historical aerial imagery from 1995 to 2018.
- Harvey, M. J., J. S. Altenbach, and T.L. Best. 2011. *Bats of the United States and Canada*. John Hopkins University Press, Baltimore, Maryland.
- Holland, R. F. 1986. *Preliminary Descriptions of the Terrestrial Natural Communities of California*. Calif. Dept. of Fish and Game, Sacramento, CA.
- Weather Atlas. 2019. Historical Weather Averages for Temecula, California. Available online at: <https://www.weather-us.com/en/california-usa/temecula-climate>.
- Jennings, M.R. and M.P. Hayes. 1994. *Amphibian and reptile species of special concern in California*. Final report submitted to the California Department of Fish and Game, Rancho Cordova, CA. Contract 8023.
- Jepson Flora Project. 2019. Jepson eFlora. Available online at: <http://ucjeps.berkeley.edu/eflora/>.

- Kus, B., S.L. Hopp, R.R. Johnson, B.T. Brown. 2010. Bell's Vireo (*Vireo bellii*). In: Rodewald PG, editor. *The Birds of North America Online*. Cornell Lab of Ornithology, Ithaca, NY.
- Michael Baker International. 2019. *Delineation of Jurisdictional Waters for the Traffic Signal at Wabash Lane and Temecula Parkway Project*.
- Muiznieks, B.D., T.E. Corman, S.J. Sferra, M.K. Sogge, and T.J. Tibbitts. 1994. Arizona Partners in Flight 1993 southwestern willow flycatcher survey. Technical Report 52. Arizona Game and Fish Department, Nongame and Endangered Wildlife Program, Phoenix, Arizona. 25p.
- Reid, F.A. 2006. *A Field Guide to Mammals of North America, Fourth Edition*. Houghton Mifflin Company, New York, New York.
- Riverside County Habitat Conservation Agency. 1996. *Implementation Agreement, Riverside County, Long Term Habitat Conservation Plan*. Available online at: [http://www.skrplan.org/docs/implementation\\_agreement.pdf](http://www.skrplan.org/docs/implementation_agreement.pdf).
- Sawyer, J.O., T. Keeler-Wolf, and J. Evens. 2009. *A Manual of California Vegetation (Second Edition)*. California Native Plant Society, Sacramento, California, USA.
- Shuford, W. D., and Gardali, T., editors. 2008. California Bird Species of Special Concern: A ranked assessment of species, subspecies, and distinct populations of birds of immediate conservation concern in California. Studies of Western Birds 1. Western Field Ornithologists, Camarillo, California, and California Department of Fish and Game, Sacramento.
- Sibley, D.A. 2003. *The Sibley Field Guide to Birds of Western North America*. Alfred A. Knopf, Inc., New York, New York.
- Sibley, D.A. 2014. *The Sibley Guide to Birds, Second Edition*. Alfred A. Knopf, Inc., New York, New York.
- Stebbins, R.C. 2003. *A Field Guide to Western Reptiles and Amphibians, Third Edition*. Houghton Mifflin Company, New York, New York.
- Tibbitts, T.J., M.K. Sogge, and S.J. Sferra. 1994. A survey of protocol for the southwestern willow flycatcher (*Empidonax traillii extimus*). Technical Report NPS/NAUCPRS/NRTR-94/04. National Park Service Colorado Plateau Research Station, Flagstaff, Arizona. 24p.
- U.S. Department of Agriculture, Natural Resources Conservation Service. 2019. *Custom Soil Resources Report for Western Riverside Area, California*. Available online at: <https://websoilsurvey.sc.egov.usda.gov/App/WebSoilSurvey.aspx>.
- USGS. 1953 (photo inspected 1978). 7.5-minute Series Topographic Map, *Bachelor Mtn., California*.
- USGS. 1953 (photo revised 1979). 7.5-minute Series Topographic Map, *Murrieta, California*.
- USGS. 1968 (photo revised 1975). 7.5-minute Series Topographic Map, *Temecula, California*.

- USGS. 1968 (photo revised 1988). 7.5-minute Series Topographic Map, *Pechanga, California*.
- USFWS. 1998. *Draft recovery plan for the least Bell's vireo*. USFWS, Portland OR. 139 pp.
- USFWS. 2000. *Southwestern Willow Flycatcher Protocol Revision 2000*. Sacramento, California: USFWS. <https://www.fws.gov/pacific/ecoservices/endangered/recovery/documents/SWWFlycatcher.2000.protocol.pdf>.
- USFWS. 2001. *Least Bell's Vireo Survey Guidelines*. January 19, 2001. Sacramento, California: USFWS. [https://www.fws.gov/cno/es/Recovery\\_Permitting/birds/least\\_bells\\_vireo/LeastBellsVireo\\_SurveyGuidelines\\_20010119.pdf](https://www.fws.gov/cno/es/Recovery_Permitting/birds/least_bells_vireo/LeastBellsVireo_SurveyGuidelines_20010119.pdf).
- USFWS. 2002. *Southwestern Willow Flycatcher Recovery Plan*. Albuquerque, New Mexico. i-ix + 210 pp., Appendices A-O.
- USFWS. 2015. *A Natural History Summary and Survey Protocol for the Western Distinct Population Segment of the Yellow-Billed Cuckoo*. Prepared by M. Halterman, M.J. Johnson, J.A. Holmes, and S.A. Laymon. Sacramento, California: USFWS. April 2015. [https://www.fws.gov/southwest/es/Documents/R2ES/YBCU\\_SurveyProtocol\\_FINAL\\_DRAFT\\_22Apr2015.pdf](https://www.fws.gov/southwest/es/Documents/R2ES/YBCU_SurveyProtocol_FINAL_DRAFT_22Apr2015.pdf).

## **Appendix A    Site Photographs**

---





**Photograph 1:** View of the non-native grassland vegetation community within the western portion of the survey area, facing southeast.



**Photograph 2:** View of riparian woodland in the central portion of the survey area, facing southwest.





**Photograph 3:** View of the north end of the Drainage 1 within the survey area, facing northeast.



**Photograph 4:** View of the eastern portion of the survey area, facing northeast.





**Photograph 5:** Litter and debris located within the eastern portion of the survey area, facing northwest.



**Photograph 6:** View of non-native grassland within the eastern portion of the survey area, facing west.





**Photograph 7:** View of the non-native grassland and riparian woodland along Drainage 1 in the central portion of the survey area, facing southwest.



**Photograph 8:** View of non-native grassland within the eastern portion of the survey area, facing east.

## **Appendix B   Plant and Wildlife Species Observed List**

---



**Table B-1: Plant Species Observed List**

Scientific Name*	Common Name	Cal-IPC Rating**	Special-Status Rank***
<b>Plants</b>			
<i>Amsinckia</i> sp.	fiddleneck		
<i>Anthemis cotula</i> *	mayweed		
<i>Avena fatua</i> *	wild oat	Moderate	
<i>Baccharis salicifolia</i>	mule fat		
<i>Brassica nigra</i> *	black mustard	Moderate	
<i>Bromus madritensis</i> ssp. <i>rubens</i> *	foxtail brome	High	
<i>Eriogonum fasciculatum</i>	California buckwheat		
<i>Erodium botrys</i> *	big heron bill		
<i>Erodium cicutarium</i> *	coastal heron's bill	Limited	
<i>Galium aparine</i>	cleavers		
<i>Helminthotheca echioides</i> *	bristly ox-tongue	Limited	
<i>Hordeum murinum</i> *	foxtail barley	Moderate	
<i>Hirschfeldia incana</i> *	short-podded mustard	Moderate	
<i>Lamium amplexicaule</i> *	henbit		
<i>Lupinus bicolor</i>	miniature lupine		
<i>Marrubium vulgare</i> *	white horehound	Limited	
<i>Medicago polymorpha</i> *	California burclover	Limited	
<i>Populus fremontii</i>	Fremont cottonwood		
<i>Ricinus communis</i> *	castor bean	Limited	
<i>Rumex crispus</i> *	curly dock	Limited	
<i>Salix exigua</i>	narrowleaf willow		
<i>Salsola tragus</i> *	Russian thistle	Limited	
<i>Sambucus nigra</i>	black elderberry		
<i>Senecio vulgaris</i> *	common groundsel		
<i>Silybum marianum</i> *	milk thistle	Limited	
<i>Sisymbrium irio</i> *	London rocket	Moderate	
<i>Stipa miliacea</i> var. <i>miliacea</i> *	smilo grass	Limited	

**Table B-2: Wildlife Species Observed List**

Scientific Name*	Common Name	Special-Status Rank***
<b>Birds</b>		
<i>Calypte anna</i>	Anna's hummingbird	
<i>Cathartes aura</i>	turkey vulture	
<i>Circus hudsonius</i>	northern harrier	SSC
<i>Corvus brachyrhynchos</i>	American crow	
<i>Myiarchus cinerascens</i>	ash-throated flycatcher	
<i>Setophaga coronata</i>	yellow-rumped warbler	
<i>Spinus psaltria</i>	lesser goldfinch	
<i>Sturnus vulgaris</i>	common starling	
<i>Tyrannus vociferans</i>	Cassin's kingbird	
<b>Mammals</b>		
<i>Neotoma</i> sp.	woodrat	
<i>Sylvilagus audubonii</i>	Audubon's cottontail rabbit	

\* Non-native species

\*\* **California Invasive Plant Council (Cal-IPC) Ratings**

- |          |   |
|----------|---|
| High     | These species have severe ecological impacts on physical processes, plant and animal communities, and vegetation structure. Their reproductive biology and other attributes are conducive to moderate to high rates of dispersal and establishment. Most are widely distributed ecologically.   |
| Moderate | These species have substantial and apparent—but generally not severe—ecological impacts on physical processes, plant and animal communities, and vegetation structure. Their reproductive biology and other attributes are conducive to moderate to high rates of dispersal, though establishment is generally dependent upon ecological disturbance. Ecological amplitude and distribution may range from limited to widespread. |
| Limited  | These species are invasive but their ecological impacts are minor on a statewide level or there was not enough information to justify a higher score. Their reproductive biology and other attributes result in low to moderate rates of invasiveness. Ecological amplitude and distribution are generally limited, but these species may be locally persistent and problematic.  |

\*\*\* **Special-Status Rank**

- |     |   |
|-----|---|
| SSC | <p>Species of Special Concern – any species, subspecies, or distinct population of fish, amphibian, reptile, bird, or mammal native to California that currently satisfies one or more of the following criteria:</p> <ul style="list-style-type: none"> <li>- is extirpated from California or, in the case of birds, in its primary seasonal or breeding role;</li> <li>- is listed as Federally-, but not State-, threatened or endangered; meets the State definition of threatened or endangered but has not formally been listed;</li> <li>- is experiencing, or formerly experienced, serious (noncyclical) population declines or range retractions (not reversed) that, if continued or resumed, could qualify it for State threatened or endangered status; or</li> <li>- has naturally small populations exhibiting high susceptibility to risk from any factor(s), that if realized, could lead to declines that would qualify it for State threatened or endangered status.</li> </ul> |
|-----|---|

## **Appendix C   Potentially   Occurring   Special-Status Biological Resources**

---



Table C-1: Potentially Occurring Special-Status Biological Resources

Scientific Name Common Name	Special-Status Rank*	Habitat Preferences and Distribution	Covered by MSHCP	Observed On-site	Potential to Occur
<b>SPECIAL-STATUS WILDLIFE SPECIES</b>					
<i>Accipiter cooperii</i> Cooper's hawk	WL G5 S4	Yearlong resident of California. Generally, found in forested areas up to 3,000 feet above mean sea level (amsl) in elevation, especially near edges and rivers. Prefers hardwood stands and mature forests but can be found in urban and suburban areas where there are tall trees for nesting. Common in open areas during nesting season.	Yes	No	<b>Low</b> There is suitable foraging habitat within and adjacent to the project site. However, there is no suitable nesting habitat.
<i>Agelaius tricolor</i> tricolored blackbird	SSC G2G3 S1S2	Range is limited to the coastal areas of the Pacific coast of North America, from Northern California to upper Baja California. Can be found in a wide variety of habitat including annual grasslands, wet and dry vernal pools and other seasonal wetlands, agricultural fields, cattle feedlots, and dairies. Occasionally forage in riparian scrub habitats along marsh borders. Basic habitat requirements for breeding include open accessible water, protected nesting substrate freshwater marsh dominated by cattails ( <i>Typha</i> spp.), willows ( <i>Salix</i> spp.), and bulrushes ( <i>Schoenoplectus</i> spp.), and either flooded or thorny/spiny vegetation and suitable foraging space providing adequate insect prey.	Yes	No	<b>Not Expected</b> There is no suitable habitat within or adjacent to the project site.
<i>Aimophila ruficeps canescens</i> southern California rufous-crowned sparrow	WL G5T3 S3	Yearlong resident that is typically found between 3,000 and 6,000 feet amsl. Breed in sparsely vegetated scrubland on hillsides and canyons. Prefers coastal sage scrub dominated by California sagebrush ( <i>Artemisia californica</i> ), but they can also be found breeding in coastal bluff scrub, low-growing serpentine chaparral, and along the edges of tall chaparral habitats.	Yes	No	<b>Not Expected</b> There is no suitable habitat within or adjacent to the project site.
<i>Anaxyrus californicus</i> arroyo toad	FE SSC G2G3 S2S3	Occurs in semi-arid regions near washes or intermittent streams, including valley-foothill grasslands, desert riparian, desert washes, and oak woodlands. Breeding habitat consists of shallow streams with a mixture of sandy and gravelly substrate and sandy terraces. Generally requires mule fat ( <i>Baccharis salicifolia</i> ) and willow ( <i>Salix</i> sp.) in the streambed for vegetative canopy for breeding areas and forages for insects primarily under oak ( <i>Quercus</i> sp.), cottonwood ( <i>Populus fremontii</i> ), and sycamore ( <i>Platanus racemosa</i> ) trees. Occurs at elevations from near sea level to about 4,600 feet amsl.	Yes (a/c)	No	<b>Not Expected</b> There is no suitable habitat within or adjacent to the project site.
<i>Anniella stebbinsi</i> southern California legless lizard	SSC G3 S3	Locally abundant specimens are found in coastal sand dunes and a variety of interior habitats, including sandy washes and alluvial fans. A large protected population persists in the remnant of the once extensive El Segundo Dunes at Los Angeles International Airport.	No	No	<b>Not Expected</b> There is no suitable habitat within or adjacent to the project site.

Table C-1: Potentially Occurring Special-Status Biological Resources

Scientific Name Common Name	Special-Status Rank*	Habitat Preferences and Distribution	Covered by MSHCP	Observed On-site	Potential to Occur
<i>Aquila chrysaetos</i> golden eagle	FP WL G5 S3	Yearlong resident of California. Occupies nearly all terrestrial habitats of the western states except densely forested areas. Favors secluded cliffs with overhanging ledges and large trees for nesting and cover. Hilly or mountainous country where takeoff and soaring are supported by updrafts is generally preferred to flat habitats. Deeply cut canyons rising to open mountain slopes and crags are ideal habitat.	Yes	No	<b>Not Expected</b> There is no suitable habitat within or adjacent to the project site.
<i>Arizona elegans occidentalis</i> California glossy snake	SSC G5T2 S2	Distributed in patches from the eastern portion of San Francisco Bay, southern San Joaquin Valley, and the Coast, Transverse, and Peninsular ranges, south to Baja California. Generally found from a range of scrub to grassland habitats, often within loose or sandy soils.	No	No	<b>Not Expected</b> There is no suitable habitat within or adjacent to the project site.
<i>Artemisiospiza belli belli</i> Bell's sage sparrow	WL G5T2T3 S3	This species has a wide, but sparse distribution in western Riverside County, specifically within the "Riverside lowlands, San Jacinto Foothills, Santa Ana Mountains, and Desert Transition Bioregions. Yearlong resident on the coastal side of southern California mountains. Breeds in coastal sage scrub and chaparral habitats from February to August. They require semi-open habitats with evenly spaced shrubs one to two meters high. Occurs in chaparral dominated by fairly dense stands of chamise ( <i>Adenostoma fasciculatum</i> ).	Yes	No	<b>Not Expected</b> There is no suitable habitat within or adjacent to the project site.
<i>Aspidoscelis hyperythra</i> orange-throated whiptail	WL G5 S2S3	Uncommon to fairly common over much of its range in Orange, Riverside, and San Diego counties. Also occurs in southwestern San Bernardino County near Colton. Semi-arid brushy areas typically with loose soil and rocks, including washes, streamsides, rocky hillsides, and coastal chaparral.	Yes	No	<b>Not Expected</b> There is no suitable habitat within or adjacent to the project site.
<i>Aspidoscelis tigris stejnegeri</i> coastal whiptail	SSC G5T5 S3	This subspecies is found in coastal southern California, mostly west of the Peninsular Ranges and south of the Transverse Ranges, and north into Ventura County. Ranges south into Baja California. Found in a variety of ecosystems, primarily hot and dry open areas with sparse vegetation in chaparral, woodland, and riparian areas. Associated with rocky areas with little vegetation or sunny microhabitats within shrub or grassland associations.	Yes	No	<b>Not Expected</b> There is no suitable habitat within or adjacent to the project site.

Table C-1: Potentially Occurring Special-Status Biological Resources

Scientific Name Common Name	Special-Status Rank*	Habitat Preferences and Distribution	Covered by MSHCP	Observed On-site	Potential to Occur
<i>Athene cunicularia</i> burrowing owl	SSC G4 S3	Yearlong resident of California. Primarily a grassland species, but it persists and even thrives in some landscapes highly altered by human activity. Occurs in open, annual or perennial grasslands, deserts, and scrublands characterized by low-growing vegetation. The overriding characteristics of suitable habitat appear to be burrows for roosting and nesting and relatively short vegetation with only sparse shrubs and taller vegetation.	Yes (c)	No	<b>Not Expected</b> There is marginally suitable foraging habitat within and adjacent to the project site. However, no suitable burrow complexes (>4 inches in diameter) capable of providing roosting and nesting opportunities occur. Existing light poles and trees within and adjacent to the project site would further decrease the suitability of the habitat as these features provide perching opportunities for larger raptor species that prey on burrowing owls.
<i>Bombus crotchii</i> Crotch bumble bee	G3G4 S1S2	Habitat includes Coastal California east to the Sierra-Cascade crest and south into Mexico. Food plant genera include <i>Antirrhinum</i> , <i>Phacelia</i> , <i>Clarkia</i> , <i>Dendromecon</i> , <i>Eschscholzia</i> , and <i>Eriogonum</i> .	No	No	<b>Not Expected</b> There is no suitable habitat within or adjacent to the project site.
<i>Branchinecta lynchi</i> vernal pool fairy shrimp	FT G3 S3	Endemic to California and only found in vernal pools. Vernal pool habitats form in depressions above an impervious substrate layer, or claypan/duripan. This species does not occur in riverine, marine, or other permanent bodies of water. When the temporary pools dry, offspring persist in suspended development as desiccation-resistant embryos (commonly called cysts) in the pool substrate until the return of winter rains and appropriate temperatures allow some of the cysts to hatch.	Yes (a)	No	<b>Not Expected</b> There is no suitable habitat within or adjacent to the project site.
<i>Branchinecta sandiegonensis</i> San Diego fairy shrimp	FE G2 S2	Crustaceans endemic to San Diego and Orange County mesas and found in vernal pools.	No	No	<b>Not Expected</b> There is no suitable habitat within or adjacent to the project site.
<i>Buteo regalis</i> ferruginous hawk	WL G4 S3S4	Common winter resident of grasslands and agricultural areas in southwestern California. Frequents open grasslands, sagebrush flats, desert scrub, low foothills surrounding valleys, and fringes of pinyon-juniper habitats. This species does not breed in California.	Yes	No	<b>Not Expected</b> There is no suitable habitat within or adjacent to the project site.
<i>Buteo swainsoni</i> Swainson's hawk	ST G5 S3	Summer migrant in southern California. Typical habitat is open desert, grassland, or cropland containing scattered, large trees or small groves. Breeds in stands with few trees in juniper-sage flats, riparian areas, and in oak savannah in the Central Valley. Forages in adjacent grassland or suitable grain or alfalfa fields or livestock pastures.	Yes	No	<b>Not Expected</b> There is no suitable habitat within or adjacent to the project site.
<i>Chaetodipus californicus femoralis</i> Dulzura pocket mouse	SSC G5T3 S3	Found most often in grass-chaparral edges but may also be found in coastal scrub or other habitats, primarily in San Diego County.	No	No	<b>Not Expected</b> There is no suitable habitat within or adjacent to the project site.



Table C-1: Potentially Occurring Special-Status Biological Resources

Scientific Name Common Name	Special-Status Rank*	Habitat Preferences and Distribution	Covered by MSHCP	Observed On-site	Potential to Occur
<i>Chaetodipus fallax fallax</i> northwestern San Diego pocket mouse	SSC G5T3T4 S3S4	Found terrestrially in a wide variety of temperate habitats ranging from chaparral and grasslands to scrub forests and deserts. Open habitat on the Pacific slope from southwestern San Bernardino County to northwestern Baja California. Habitat types include coastal sage scrub, sage scrub/grassland ecotones, and chaparral communities. Major habitat requirement is the presence of low growing vegetation or rocky outcroppings, as well as sandy soil to dig burrows.	Yes	No	<b>Not Expected</b> There is no suitable habitat within or adjacent to the project site.
<i>Circus cyaneus</i> northern harrier	SSC G5 S3	Yearlong resident of California. Frequents meadows, grasslands, open rangelands, desert sinks, fresh and saltwater emergent wetlands; seldom found in wooded area. In general, it prefers saltwater marshes, wet meadows, sloughs, and bogs for nesting and foraging. Nests on the ground in shrubby vegetation or patches of dense vegetation, usually at the marsh edge.	Yes	Yes	<b>Present</b> One individual was observed foraging on-site during the habitat assessment. However, there is no suitable nesting habitat within or adjacent to the project site.
<i>Coccyzus americanus occidentalis</i> western yellow-billed cuckoo	FT SE G5T2T3 S1	In California, the breeding distribution is now thought to be restricted to isolated sites in Sacramento, Amargosa, Kern, Santa Ana, and Colorado River valleys. Obligate riparian species with a primary habitat association of willow-cottonwood riparian forest.	Yes (a)	No	<b>Not Expected</b> The vegetation occurring within Drainage 1 averages approximately 19 feet in width and is generally comprised of non-uniform, widely spaced riparian trees/shrubs that lack the dense understory that would be needed to provide suitable nesting habitat. In addition, Drainage 1 is surrounded by existing development and lacks a direct connection to areas containing suitable habitat within the surrounding areas; Drainage 1 is located approximately 480 feet northeast and separated from Temecula Creek by the California Sunset residential neighborhood. Based on this information, the riparian habitat adjacent to the project site would not provide suitable nesting habitat.
<i>Coleonyx variegatus abbotti</i> San Diego banded gecko	SSC G5T3T4 S1S2	Found in southwestern California just inland from the Pacific coast, from Ventura County south into northwestern and central Baja California. Prefers granite or rocky outcrops in coastal scrub and chaparral habitats.	Yes	No	<b>Not Expected</b> There is no suitable habitat within or adjacent to the project site.

Table C-1: Potentially Occurring Special-Status Biological Resources

Scientific Name Common Name	Special-Status Rank*	Habitat Preferences and Distribution	Covered by MSHCP	Observed On-site	Potential to Occur
<i>Crotalus ruber</i> red-diamond rattlesnake	SSC G4 S3	Found in southwestern California, from the Morongo Valley west to the coast and south along the peninsular ranges to mid Baja California. It can be found from the desert, through dense chaparral in the foothills (it avoids the mountains above around 4,000 feet amsl), to warm inland mesas and valleys, all the way to the cool ocean shore. It is most commonly associated with heavy brush with large rocks or boulders. Dense chaparral in the foothills, boulders associated coastal sage scrub, oak/pine woodlands, and desert slope scrub associations; however, chamise and red shank ( <i>Adenostoma sparsifolium</i> ) associations may offer better structural habitat for refuges and food resources for this species than other habitats.	Yes	No	<b>Not Expected</b> There is no suitable habitat within or adjacent to the project site.
<i>Diadophis punctatus modestus</i> San Bernardino ringneck snake	G5T2T3 S2?	Most common in open, relatively rocky areas. Often found in somewhat moist microhabitats near intermittent streams. Avoids moving through open or barren areas by restricting movements to areas of surface litter or herbaceous vegetation.	No	No	<b>Not Expected</b> There is no suitable habitat within or adjacent to the project site.
<i>Dipodomys merriami parvus</i> San Bernardino kangaroo rat	FE SSC G5T1 S1	Primarily found in Riversidian alluvial fan sage scrub and sandy loam soils, alluvial fans and flood plains, and along washes with nearby sage scrub. May occur at lower densities in Riversidian upland sage scrub, chaparral and grassland in uplands and tributaries in proximity to Riversidian alluvial fan sage scrub habitats. Tend to avoid rocky substrates and prefer sandy loam substrates for digging of shallow burrows.	Yes (c)	No	<b>Not Expected</b> There is no suitable habitat within or adjacent to the project site.
<i>Dipodomys stephensi</i> Stephens' kangaroo rat	FE ST G2 S2	Occur in arid and semi-arid habitats of open grassland or sparse shrublands with less than 50% protective cover. Require soft, well-drained substrate for building burrows and are typically found in areas with sandy soil in areas with <30 percent slope.	Yes	No	<b>Not Expected</b> There is no suitable habitat within or adjacent to the project site.
<i>Elanus leucurus</i> white-tailed kite	FP G5 S3S4	Yearlong resident along the coastal ranges and valleys of California. Occurs in low elevation, open grasslands, savannah-like habitats, agricultural areas, wetlands, and oak woodlands. Uses trees with dense canopies for cover. Important prey item is the California vole ( <i>Microtus californicus</i> ). Nests in tall (20 to 50 feet) coast live oaks ( <i>Quercus agrifolia</i> ).	Yes	No	<b>Low</b> There is suitable foraging habitat within and adjacent to the project site. However, there is no suitable nesting habitat.
<i>Emys marmorata</i> western pond turtle	SSC G3G4 S3	Found in ponds, lakes, rivers, streams, creeks, marshes, and irrigation ditches, with abundant vegetation, either rocky or muddy bottoms, in woodland, forest, and grassland. In streams, prefers pools to shallower areas. Logs, rocks, cattail mats, and exposed banks are required for basking. May enter brackish water and even seawater. Found at elevations from sea level to over 5,900 feet amsl.	Yes	No	<b>Not Expected</b> There is no suitable habitat within or adjacent to the project site.

Table C-1: Potentially Occurring Special-Status Biological Resources

Scientific Name Common Name	Special-Status Rank*	Habitat Preferences and Distribution	Covered by MSHCP	Observed On-site	Potential to Occur
<i>Eremophila alpestris actia</i> California horned lark	WL G5T4Q S4	Yearlong resident of California. This subspecies is typically found in coastal regions. Breed in level or gently sloping shortgrass prairie, montane meadows, "bald" hills, open coastal plains, fallow grain fields, and alkali flats. Within southern California, California horned larks breed primarily in open fields, (short) grasslands, and rangelands. Nests on the open ground.	Yes	No	<b>Low</b> There is suitable foraging and nesting habitat within and adjacent to the project site.
<i>Eumops perotis californicus</i> western mastiff bat	SSC G5T4 S3S4	Primarily a cliff-dwelling species, roost generally under exfoliating rock slabs. Roosts are generally high above the ground, usually allowing a clear vertical drop of at least 3 meters below the entrance for flight. In California, it is most frequently encountered in broad open areas. Its foraging habitat includes dry desert washes, flood plains, chaparral, oak woodland, open ponderosa pine forest, grassland, and agricultural areas.	No	No	<b>Not Expected</b> There is no suitable habitat within or adjacent to the project site.
<i>Euphydryas editha quino</i> quino checkerspot butterfly	FE G5T1T2 S1S2	Occupies a variety of habitat types that support California plantain ( <i>Plantago erecta</i> ), the species primary larval host plant, including grasslands, coastal sage scrub, chamise chaparral, red shank chaparral, juniper woodland, and semi-desert scrub. Can also be found in desert canyons and washes at the lower edge of chaparral habitats.	Yes	No	<b>Not Expected</b> There is no suitable habitat within or adjacent to the project site.
<i>Gila orcuttii</i> arroyo chub	SSC G5 S3	Warm streams of the Los Angeles Plain, which are typically muddy torrents during the winter, and clear quiet brooks in the summer, possibly drying up in places. They are found both in slow-moving and fast-moving sections, but generally deeper than 40 cm.	Yes (a)	No	<b>Not Expected</b> There is no suitable habitat within or adjacent to the project site.
<i>Haliaeetus leucocephalus</i> bald eagle	SE FP G5 S3	Locally common yearlong resident of southern California. Typically prefer areas near large water bodies such as sea coasts, coastal estuaries and inland lakes and rivers, in many areas, these birds are found within two miles of a water source. Most populations, specifically those in northern regions, migrate to southern, milder climates annually. Generally, these birds nest in the canopy of tall, coniferous trees, surrounded by smaller trees. They have been reported nesting on the ground, on cliffs, on cellular phone towers, on electrical poles and in artificial nesting towers.	Yes	No	<b>Not Expected</b> There is no suitable habitat within or adjacent to the project site.
<i>Lanius ludovicianus</i> loggerhead shrike	SSC G4 S4	Yearlong resident of California. Prefers open habitats with bare ground, scattered shrubs, and areas with low or sparse herbaceous cover including open-canopied valley foothill hardwood, riparian, pinyon-juniper desert riparian, creosote bush scrub, and Joshua tree woodland. Requires suitable perches including trees, posts, fences, utility lines, or other perches. Nests in branches up to 14 feet above the ground frequently in a shrub with thorns or with tangled branching habitats.	Yes	No	<b>Not Expected</b> There is no suitable habitat within or adjacent to the project site.
<i>Lepus californicus bennettii</i> San Diego black-tailed jackrabbit	SSC G5T3T4 S3S4	Occupies many diverse habitats, but primarily is found in arid regions supporting short-grass habitats, agricultural fields, or sparse coastal scrub.	Yes	No	<b>Not Expected</b> There is no suitable habitat within or adjacent to the project site.



Table C-1: Potentially Occurring Special-Status Biological Resources

Scientific Name Common Name	Special-Status Rank*	Habitat Preferences and Distribution	Covered by MSHCP	Observed On-site	Potential to Occur
<i>Linderiella santarosae</i> Santa Rosa Plateau fairy shrimp	G1G2 S1	Found only in the southern basalt flow vernal pools on Santa Rosa Plateau in Riverside County.	Yes (a)	No	<b>Not Expected</b> There is no suitable habitat within or adjacent to the project site.
<i>Neotoma lepida intermedia</i> San Diego desert woodrat	SSC G5T3T4 S3S4	Occurs in coastal scrub communities between San Luis Obispo and San Diego Counties. Found in a variety of shrub and desert habitats, primarily associated with rock outcroppings, boulders, cacti, or areas of dense undergrowth. Woodrats often are associated with cholla cactus which they use for water and dens or boulders and boulder piles. The most common natural habitats for records are chaparral, coastal sage scrub (including RSS and Diegan coastal sage scrub) and grassland.	Yes	No	<b>Not Expected</b> There is no suitable habitat within or adjacent to the project site.
<i>Nycticorax nycticorax</i> black-crowned night heron	G5 S4	Colonial nester, typically in trees, and occasionally in tule patches. Rookery sites are located to adjacent foraging areas, which includes lake margins, mud-bordered bays, and marshy spots.	Yes (a)	No	<b>Not Expected</b> There is no suitable habitat within or adjacent to the project site.
<i>Perognathus longimembris brevinasus</i> Los Angeles pocket mouse	SSC G5T1T2 S1S2	Occurs in lower elevation grasslands and coastal sage scrub communities in and around the Los Angeles Basin. Prefers open ground with fine sandy soils. May not dig extensive burrows, but instead will seek refuge under weeds and dead leaves instead.	Yes (c)	No	<b>Not Expected</b> There is no suitable habitat within or adjacent to the project site.
<i>Perognathus longimembris internationalis</i> Jacumba pocket mouse	SSC G5T2T3 S2	Occurs in desert riparian, desert scrub, desert wash, coastal scrub, and coastal sagebrush habitats. This species uses all canopy coverages and is rarely found on rocky sites.	No	No	<b>Not Expected</b> There is no suitable habitat within or adjacent to the project site.
<i>Phrynosoma blainvillii</i> coast horned lizard	SSC G3G4 S4	Occurs in a wide variety of vegetation types including coastal sage scrub, annual grassland, chaparral, oak woodland, riparian woodland and coniferous forest. Its elevational range extends up to 4,000 feet in the Sierra Nevada foothills and up to 6,000 feet in the mountains of southern California. In inland areas, this species is restricted to areas with pockets of open microhabitat, created by disturbance (e.g. fire, floods, unimproved roads, grazing lands, and fire breaks). The key elements of such habitats are loose, fine soils with a high sand fraction; an abundance of native ants or other insects; and open areas with limited overstory for basking and low, but relatively dense shrubs for refuge.	Yes	No	<b>Not Expected</b> There is no suitable habitat within or adjacent to the project site.
<i>Plestiodon skiltonianus interparietalis</i> Coronado skink	WL G5T5 S2S3	Occurs in grassland, chaparral, pinion-juniper and juniper sage woodland, pine-oak, and pine forest in Coast Ranges of Southern California. Prefers early successional stages or open areas. Often found in rocky areas close to streams and on dry hillsides.	No	No	<b>Not Expected</b> There is no suitable habitat within or adjacent to the project site.
<i>Poliophtila californica californica</i> coastal California gnatcatcher	FT SSC G4G5T2Q S2	Yearlong resident of sage scrub habitats that are dominated by California sagebrush. This species generally occurs below 750 feet amsl in coastal regions and below 1,500 feet amsl inland. Ranges from the Ventura County, south to San Diego County and northern Baja California and it is less common in sage scrub with a high percentage of tall shrubs. Prefers habitat with more low-growing vegetation.	Yes	No	<b>Not Expected</b> There is no suitable habitat within or adjacent to the project site.

Table C-1: Potentially Occurring Special-Status Biological Resources

Scientific Name Common Name	Special-Status Rank*	Habitat Preferences and Distribution	Covered by MSHCP	Observed On-site	Potential to Occur
<i>Spea hammondi</i> western spadefoot	SSC G3 S3	Prefers open areas with sandy or gravelly soils, in a variety of habitats including mixed woodlands, grasslands, coastal sage scrub, chaparral, sandy washes, lowlands, river floodplains, alluvial fans, playas, alkali flats, foothills, and mountains. Rain pools which do not contain American bullfrogs ( <i>Lithobates catesbeianus</i> ), predatory fish, or crayfish are necessary for breeding. Estivates in upland habitats adjacent to potential breeding sites in burrows approximating 3 feet in depth.	Yes	No	<b>Not Expected</b> There is no suitable habitat within or adjacent to the project site. Drainage 1 is ephemeral and would likely only flow during significant storm events.
<i>Streptocephalus woottoni</i> Riverside fairy shrimp	FE G1G2 S1S2	Restricted to deep seasonal vernal pools, vernal pool like ephemeral ponds, and stock ponds and other human modified depressions. Basins that support Riverside fairy shrimp are typically dry a portion of the year, but usually are filled by late fall, winter, or spring rains, and may persist through May. Endemic to western Riverside, Orange, and San Diego Counties in tectonic swales/earth slump basins in grassland and coastal sage scrub. In Riverside County, the species been found in pools formed over the following soils: Murrieta stony clay loams, Las Posas series, Wyman clay loam, and Willows soils. All known habitat lies within annual grasslands, which may be interspersed through chaparral or coastal sage scrub vegetation.	Yes (a)	No	<b>Not Expected</b> There is no suitable habitat within or adjacent to the project site.
<i>Taricha torosa</i> Coast Range newt	SSC G4 S4	Found in coastal drainages from Mendocino County to San Diego County. Lives in terrestrial habitats and will migrate over 1 kilometer to breed in ponds, reservoirs, and slow moving streams.	Yes (a)	No	<b>Not Expected</b> There is no suitable habitat within or adjacent to the project site.
<i>Thamnophis hammondi</i> two-striped garter snake	SSC G4 S3S4	Occurs in or near permanent fresh water, often along streams with rocky beds and riparian growth up to 7,000 feet amsl.	No	No	<b>Not Expected</b> There is no suitable habitat within or adjacent to the project site.

Table C-1: Potentially Occurring Special-Status Biological Resources

Scientific Name Common Name	Special-Status Rank*	Habitat Preferences and Distribution	Covered by MSHCP	Observed On-site	Potential to Occur
<i>Vireo bellii pusillus</i> least Bell's vireo	FE SE SSC G5T2 S2	Summer resident in southern California. Breeding habitat generally consists of dense, low, shrubby vegetation in riparian areas, and mesquite brushlands, often near water in arid regions. Early successional cottonwood-willow riparian groves are preferred for nesting. The most critical structural component of nesting habitat in California is a dense shrub layer that is 2 to 10 feet (0.6 to 3.0 meters) above ground. The presence of water, including ponded surface water or moist soil conditions, may also be a key component for nesting habitat.	Yes (a)	No	<b>Not Expected</b> The vegetation occurring within Drainage 1 averages approximately 19 feet in width and is generally comprised of non-uniform, widely spaced riparian trees/shrubs that lack the dense understory that would be needed to provide suitable nesting habitat. In addition, Drainage 1 is surrounded by existing development and lacks a direct connection to areas containing suitable habitat within the surrounding areas; Drainage 1 is located approximately 480 feet northeast and separated from Temecula Creek by the California Sunset residential neighborhood. Based on this information, the riparian habitat adjacent to the project site would not provide suitable nesting habitat.
<b>SPECIAL-STATUS PLANT SPECIES</b>					
<i>Abronia villosa</i> var. <i>aurita</i> chaparral sand-verbena	1B.1 G5T2? S2	Annual herb. Occurs on sandy soils within chaparral, coastal scrub, and desert dunes. Grows in elevations ranging from 246 to 5,250 amsl. Blooming period is from January to September.	No	No	<b>Not Expected</b> There is no suitable habitat within or adjacent to the project site.
<i>Allium munzii</i> Munz's onion	FE ST 1B.1 G1 S1	Perennial herb (bulb). Occurs in chaparral, foothill woodland, pinyon-juniper woodland, and valley grassland. Blooms March to May. Grows in heavy clay soils. Grows in elevations ranging from 1000 to 3,120 feet amsl.	Yes (b)	No	<b>Not Expected</b> There is no suitable habitat within or adjacent to the project site.
<i>Almutaster pauciflorus</i> alkali marsh aster	2B.2 G4 S1S2	Perennial herb. Occurs in meadows and seeps in alkaline soils. Blooms from June to October. Grows in elevations ranging from 180 to 2,300 feet amsl.	No	No	<b>Not Expected</b> There is no suitable habitat within or adjacent to the project site.
<i>Ambrosia pumila</i> San Diego ambrosia	FE 1B.1 G1 S1	Perennial rhizomatous herb. Occurs in sandy loam or clay soils (often in disturbed areas) and sometimes alkaline soils. Habitats include chaparral, coastal scrub, valley and foothill grassland, and vernal pools. Grows in elevations ranging from 66 to 1,362 feet amsl. Blooming period is from April to October.	Yes (b)	No	<b>Not Expected</b> There is no suitable habitat within or adjacent to the project site.



Table C-1: Potentially Occurring Special-Status Biological Resources

Scientific Name Common Name	Special-Status Rank*	Habitat Preferences and Distribution	Covered by MSHCP	Observed On-site	Potential to Occur
<i>Amsinckia douglasiana</i> Douglas' fiddleneck	4.2 G4 S4	Annual herb. Occurs in Monterey shale and dry habitats within valley and foothill grassland and oak woodland. Grows in elevations ranging from 0 to 5,800 feet amsl. Typically blooms from March to May.	No	No	<b>Not Expected</b> There is no suitable habitat within or adjacent to the project site.
<i>Arctostaphylos rainbowensis</i> Rainbow manzanita	1B.1 G2 S2	Shrub. Usually occurs in gabbro chaparral. Grows in elevations ranging from 300 to 2,600 feet amsl. Typically blooms from December through March.	Yes	No	<b>Not Expected</b> There is no suitable habitat within or adjacent to the project site.
<i>Astragalus pachypus</i> var. <i>jaegeri</i> Jaeger's bush milk-vetch	1B.1 G4T2 S2	Perennial shrub. Occurs within chaparral, cismontane woodland, coastal scrub, valley, and foothill grassland. Grows in elevations ranging from 1,197 to 3,199 feet amsl. Blooming period is from December to June.	Yes	No	<b>Not Expected</b> There is no suitable habitat within or adjacent to the project site.
<i>Berberis nevini</i> Nevin's barberry	FE SE 1B.1 G1 S1	Shrub. Occurs on steep, north-facing slopes or in low grade sandy washes within chaparral, cismontane woodland, coastal scrub, and riparian scrub habitats. Grows in elevations ranging from 115 to 1,575 feet amsl. Blooming period is typically from March to June.	Yes (c)	No	<b>Not Expected</b> There is no suitable habitat within or adjacent to the project site.
<i>Brodiaea orcuttii</i> Orcutt's brodiaea	1B.1 G2 S2	Perennial herb (bulb). Found in mesic, clay habitats. Usually found in vernal pools and small drainages, but can be found in valley and foothill grassland, closed-cone coniferous forest, cismontane woodland, chaparral, meadows, and seeps. Grows in elevations ranging from 330 to 5,610 feet amsl. Blooming period is from May to July.	Yes (a)	No	<b>Not Expected</b> There is no suitable habitat within or adjacent to the project site.
<i>Brodiaea santarosae</i> Santa Rosa Basalt brodiaea	1B.2 G1 S1	Perennial herb. Occurs on Santa Rosa Basalt within valley and foothill grassland. Grows in elevations ranging from 1,445 to 3,315 feet amsl. Blooming period is from May to June.	No	No	<b>Not Expected</b> There is no suitable habitat within or adjacent to the project site.
<i>Calochortus plummerae</i> Plummer's mariposa-lily	4.2 G4 S4	Perennial bulbiferous herb. Occurs on granitic and rocky soils within chaparral, cismontane woodland, coastal scrub, lower montane coniferous forest, and valley/foothill grassland. Grows in elevations ranging from 328 to 5,577 feet amsl. Blooming period is from May to July.	Yes	No	<b>Not Expected</b> There is no suitable habitat within or adjacent to the project site.
<i>Calochortus weedii</i> var. <i>intermedius</i> intermediate mariposa-lily	1B.2 G3G4T2 S2	Found in chaparral, coastal scrub, and valley and foothill grasslands in rocky or calcareous soils. Found at elevations ranging from 344 to 2,805 feet above msl. Blooming period is from May to July.	Yes	No	<b>Not Expected</b> There is no suitable habitat within or adjacent to the project site.
<i>Caulanthus simulans</i> Payson's jewelflower	4.2 G4 S4	Annual herb. Occurs on sandy, granitic soils in chaparral and coastal scrub habitats. Found at elevations ranging from 295 to 7,218 feet amsl. Blooming period is from (February) March to May (June).	Yes	No	<b>Not Expected</b> There is no suitable habitat within or adjacent to the project site.

Table C-1: Potentially Occurring Special-Status Biological Resources

Scientific Name Common Name	Special-Status Rank*	Habitat Preferences and Distribution	Covered by MSHCP	Observed On-site	Potential to Occur
<i>Ceanothus cyaneus</i> Lakeside ceanothus	1B.2 G2 S2	Shrub. Typically occurs in closed-cone coniferous forest and chaparral. Found at elevations ranging from 490 to 2,725 feet amsl. Blooming period is from April to June.	No	No	<b>Not Expected</b> There is no suitable habitat within or adjacent to the project site.
<i>Ceanothus ophiocbilus</i> Vail Lake ceanothus	FT SE 1B.1 G1 S1	Shrub. Typically occurs gabbro seams on north-facing ridges on the eastern sides of mountains within chaparral. Found at elevations ranging from 1,800 to 3,000 feet amsl. Blooming period is from February to March.	Yes	No	<b>Not Expected</b> There is no suitable habitat within or adjacent to the project site.
<i>Centromadia pungens</i> ssp. <i>laevis</i> smooth tarplant	1B.1 G3G4T2 S2	Annual herb. Occurs in alkaline soils within chenopod scrub, meadows and seeps, playas, riparian woodland, and valley/foothill grassland habitats. Grows in elevation from 0 to 2,100 feet amsl. Blooming period is from April to September.	Yes (c)	No	<b>Not Expected</b> There is no suitable habitat within or adjacent to the project site.
<i>Chorizanthe leptotheca</i> Peninsular spineflower	4.2 G3 S3	Annual herb. Typically occurs on granitic soils in alluvial fans. Found in chaparral, coastal scrub, and lower montane coniferous forest. Grows in elevations ranging from 2,035 to 4,035 feet amsl. Blooming period is from May to August.	Yes	No	<b>Not Expected</b> There is no suitable habitat within or adjacent to the project site.
<i>Chorizanthe parryi</i> var. <i>parryi</i> Parry's spineflower	1B.1 G3T2 S2	Annual herb. Occurs on sandy and/or rocky soils in chaparral, coastal sage scrub, and sandy openings within alluvial washes and margins. Found at elevations ranging from 951 to 3,773 feet amsl. Blooming period is from April to June.	Yes	No	<b>Not Expected</b> There is no suitable habitat within or adjacent to the project site.
<i>Chorizanthe polygonoides</i> var. <i>longispina</i> long-spined spineflower	1B.2 G5T3 S3	Occurs in chaparral, coastal scrub, meadows and seeps, valley and foothill grassland, vernal pools. Microhabitat includes Gabbroic clay. Found at elevations ranging from 100 to 5,052 feet amsl.	Yes	No	<b>Not Expected</b> There is no suitable habitat within or adjacent to the project site.
<i>Clarkia delicata</i> delicate clarkia	1B.2 G3 S3	Annual herb. Typically occurs on gabbro soils within cismontane woodland and chaparral. Found at elevations ranging from 525 to 3,870 feet amsl. Blooming period is from April to June.	No	No	<b>Not Expected</b> There is no suitable habitat within or adjacent to the project site.
<i>Clinopodium chandleri</i> San Miguel savory	1B.2 G3 S2	Perennial herb. Found on rocky, gabbroic, or metavolcanics substrate within chaparral, cismontane woodland, coastal scrub, riparian woodland, and valley and foothill grassland. Found at elevations ranging from 1,345 to 3,410 feet amsl. Blooming period is from March to July.	Yes (b)	No	<b>Not Expected</b> There is no suitable habitat within or adjacent to the project site.
<i>Convolvulus simulans</i> small-flower morning glory	4.2 G4 S4	Found in valley grassland, northern coastal scrub, coastal sage scrub. Blooming period ranges from March to July.	Yes	No	<b>Not Expected</b> There is no suitable habitat within or adjacent to the project site.

Table C-1: Potentially Occurring Special-Status Biological Resources

Scientific Name Common Name	Special-Status Rank*	Habitat Preferences and Distribution	Covered by MSHCP	Observed On-site	Potential to Occur
<i>Cryptantha wigginsii</i> Wiggins' cryptantha	1B.2 S3 G4	Annual herb. Often found in clays soils within coastal scrub habitat. Found at elevations ranging from 150 to 330 feet amsl.	No	No	<b>Not Expected</b> There is no suitable habitat within or adjacent to the project site.
<i>Deinandra paniculata</i> paniculate tarplant	4.2 G4 S4	Occurs in coastal scrub, vernal pools, valley and foothill grassland habitats. Found at elevations ranging from 82 to 3,084 feet. Blooming period is from April to November.	No	No	<b>Not Expected</b> There is no suitable habitat within or adjacent to the project site.
<i>Dodecahema leptoceras</i> slender-horned spineflower	FE SE 1B.1 S1 G1	Annual herb. Found in sandy soils on flood deposited terraces and washes within chaparral, cismontane woodland, and coastal scrub (alluvial fan sage scrub). Associated species include <i>Encelia</i> , <i>Dalea</i> , and <i>Lepidospartum</i> . Found at elevations ranging from 600 to 2,300 feet amsl. Blooming period is from April to June.	Yes (b)	No	<b>Not Expected</b> There is no suitable habitat within or adjacent to the project site.
<i>Dudleya viscida</i> sticky dudleya	1B.2 G2 S2	Perennial herb. Found on north and south-facing cliffs and banks within coastal scrub, coastal bluff scrub, chaparral, and cismontane woodland. Found at elevations ranging from 15 to 2,330 feet amsl. Blooming period is from May to June.	Yes	No	<b>Not Expected</b> There is no suitable habitat within or adjacent to the project site.
<i>Eryngium aristulatum</i> var. <i>parishii</i> San Diego button-celery	FE SE 1B.1 G5T1 S1	Annual and perennial herb. Found in San Diego mesa hardpan and claypan vernal pools and in southern interior basalt flow vernal pools, usually surrounded by scrub. Can also be found in coastal scrub and valley and foothill grassland. Found at elevations ranging from 115 to 2,495 feet amsl. Blooming period is from April to June.	Yes (a)	No	<b>Not Expected</b> There is no suitable habitat within or adjacent to the project site.
<i>Erythranthe diffusa</i> Palomar monkeyflower	4.3 G4 S3	Occurs in chaparral and yellow pine forest. Blooming period is from April to June.	Yes	No	<b>Not Expected</b> There is no suitable habitat within or adjacent to the project site.
<i>Harpagonella palmeri</i> Palmer's grapplinghook	4.2 G4 S3	Annual herb. Found in clay soils within open grassy areas within shrubland. Found at elevations ranging from 150 to 3,970 feet amsl. Blooming period is from March to May.	Yes	No	<b>Not Expected</b> There is no suitable habitat within or adjacent to the project site.
<i>Holocarpha virgata</i> ssp. <i>elongata</i> graceful tarplant	4.2 G5T3 S3	Annual herb. Found in chaparral, coastal scrub, valley and foothill grassland, and cismontane woodland. Found at elevations from 65 to 2,755 feet amsl. Blooming period is from May to November.	Yes (a)	No	<b>Not Expected</b> There is no suitable habitat within or adjacent to the project site.
<i>Hordeum intercedens</i> vernal barley	3.2 G3G4 S3S4	Annual herb. Habitat includes coastal dunes, coastal scrub, vernal pools, and valley/foothill grassland. Grows in elevations ranging from 16 to 3,281 feet amsl. Blooming period is from March to June.	Yes	No	<b>Not Expected</b> There is no suitable habitat within or adjacent to the project site.



Table C-1: Potentially Occurring Special-Status Biological Resources

Scientific Name Common Name	Special-Status Rank*	Habitat Preferences and Distribution	Covered by MSHCP	Observed On-site	Potential to Occur
<i>Horkelia cuneata</i> var. <i>puberula</i> mesa horkelia	1B.1 G4T1 S1	Perennial herb. Found in sandy or gravelly soils within chaparral, cismontane woodland, and coastal scrub habitats. Found at elevations ranging from 230 to 2,657 feet amsl. Blooming period is from February to September.	No	No	<b>Not Expected</b> There is no suitable habitat within or adjacent to the project site.
<i>Juncus acutus</i> ssp. <i>leopoldii</i> southwestern spiny rush	4.2 G5T5 S4	Rhizomatous perennial grasslike herb. Found in moist saline places in salt marshes, alkaline seeps, and coastal dunes (mesic sites). Found at elevations ranging from 0 to 1,310 feet amsl. Blooming period is from May to June.	No	No	<b>Not Expected</b> There is no suitable habitat within or adjacent to the project site.
<i>Juncus luciensis</i> Santa Lucia dwarf rush	1B.2 G3 S3	Annual grass. Found in vernal pools, ephemeral drainages, wet meadow habitats, and streamsides within lower montane coniferous forest, chaparral, and Great Basin scrub. Found at elevations ranging from 900 to 6,000 feet amsl. Blooming period is from April to July.	No	No	<b>Not Expected</b> There is no suitable habitat within or adjacent to the project site.
<i>Lasthenia glabrata</i> ssp. <i>coulteri</i> Coulter's goldfields	1B.1 G4T2 S2	Annual herb. Prefers playas, vernal pools, and coastal salt marshes and swamps. Found at elevations ranging from 3 to 4,003 feet amsl. Blooming period is from February to June.	Yes (c)	No	<b>Not Expected</b> There is no suitable habitat within or adjacent to the project site.
<i>Lepechinia cardiophylla</i> heart-leaved pitcher sage	1B.2 G3 S2S3	Found in closed-cone coniferous forest, chaparral, cismontane woodland. Found at elevations ranging from 377 to 4,412 feet amsl.	Yes (c)	No	<b>Not Expected</b> There is no suitable habitat within or adjacent to the project site.
<i>Lepidium virginicum</i> var. <i>robinsonii</i> Robinson's pepper-grass	4.3 G5t3 S3	Annual herb. Occurs on dry soils on chaparral and coastal sage scrub. Found at elevations ranging from 66 to 4,396 feet amsl. Blooming period is from January to July.	No	No	<b>Not Expected</b> There is no suitable habitat within or adjacent to the project site.
<i>Lilium humboldtii</i> ssp. <i>ocellatum</i> ocellated Humboldt lily	4.2 G4T4? S4?	Perennial herb (bulb). Occurs in chaparral, coastal scrub, cismontane woodland, lower montane coniferous forest, riparian forest, yellow-pine forest, and oak canyons. Found at elevations ranging from 90 to 5,545 feet amsl. Blooming period is from March to July.	Yes (a)	No	<b>Not Expected</b> There is no suitable habitat within or adjacent to the project site.
<i>Microseris douglasii</i> ssp. <i>platycarpa</i> small-flowered microseris	4.2 G4T4 S4	Annual herb. Found in alkaline clay in river bottoms within cismontane woodland, valley and foothill grassland, coastal scrub, and vernal pools. Found at elevations ranging from 50 to 1,935 feet amsl. Blooming period is from March to May.	Yes	No	<b>Not Expected</b> There is no suitable habitat within or adjacent to the project site.
<i>Mielichhoferia shevockii</i> Shevock's copper moss	1B.2 G2 S2	Moss. Found on metamorphic rocks containing heavy metals within mesic sites. Often found on rocks along roads in the same habitat as <i>Mielichhoferia elongata</i> . Can also be found within cismontane woodland. Known elevations range from 2,250 to 3,200 feet amsl.	No	No	<b>Not Expected</b> There is no suitable habitat within or adjacent to the project site.
<i>Monardella hypoleuca</i> ssp. <i>intermedia</i> intermediate monardella	1B.3 G4T2? S2?	Occurs in chaparral, cismontane woodland, lower montane coniferous forest (sometimes). Often in steep, brushy areas. Found at elevations ranging from 640 to 5,495 feet amsl.	No	No	<b>Not Expected</b> There is no suitable habitat within or adjacent to the project site.

Table C-1: Potentially Occurring Special-Status Biological Resources

Scientific Name Common Name	Special-Status Rank*	Habitat Preferences and Distribution	Covered by MSHCP	Observed On-site	Potential to Occur
<i>Monardella hypoleuca</i> ssp. <i>lanata</i> felt-leaved monardella	1B.2 G4T3 S3	Perennial herb. Often found in steep, brush areas within chaparral, cismontane woodland, and sometimes lower montane coniferous forest. Known elevations range from 600 to 3,380 feet amsl. Blooming period is from June to August.	No	No	<b>Not Expected</b> There is no suitable habitat within or adjacent to the project site.
<i>Monardella macrantha</i> ssp. <i>hallii</i> Hall's monardella	1B.3 G5T3 S3	Perennial rhizomatous herb. Found on dry slopes and ridges in openings within broadleaved upland forest, chaparral, lower montane coniferous forest, cismontane woodland, and valley and foothill grassland. Known elevations range from 2,100 to 5,610 feet amsl. Blooming period is from June to October.	Yes	No	<b>Not Expected</b> There is no suitable habitat within or adjacent to the project site.
<i>Myosurus minimus</i> ssp. <i>apus</i> little mousetail	3.1 G5T2Q S2	Annual herb. Found in alkaline soils in vernal pools and valley and foothill grassland. Known elevations range from 60 to 1,900 feet amsl. Blooming period is from March to June.	Yes (c)	No	<b>Not Expected</b> There is no suitable habitat within or adjacent to the project site.
<i>Navarretia fossalis</i> spreading navarretia	FE 1B.1 G2 S2	Annual herb. Habitats include chenopod scrub, marshes and swamps (assorted shallow freshwater), playas, and vernal pools. Grows in elevation ranging from 98 to 2,149 feet amsl. Blooming period is from April to June.	Yes (b)	No	<b>Not Expected</b> There is no suitable habitat within or adjacent to the project site.
<i>Navarretia prostrata</i> prostrate vernal pool navarretia	1B.1 S2 G2	Annual herb. Found in alkaline soils in grassland, or in vernal pools. Can also be found in coastal scrub, meadows and seeps, and mesic sites. Known elevations range from 65 to 3,600 feet amsl. Blooming period is from April to July.	Yes (c)	No	<b>Not Expected</b> There is no suitable habitat within or adjacent to the project site.
<i>Nolina cismontana</i> chaparral nolina	1B.2 G3 S3	Occurs in chaparral and coastal scrub. Grows primarily on sandstone and shale substrates; also known from gabbro. Found at elevations ranging from 460 to 3,608 feet amsl.	No	No	<b>Not Expected</b> There is no suitable habitat within or adjacent to the project site.
<i>Orcuttia californica</i> California Orcutt grass	FE SE 1B.1 G1 S1	Annual grass. Found in vernal pools. Known elevations range from 30 to 2,200 feet amsl. Blooming period is from April to August.	Yes (a)	No	<b>Not Expected</b> There is no suitable habitat within or adjacent to the project site.
<i>Packera ganderi</i> Gander's ragwort	1B.2 G2 S2	Perennial herb. Found in recently burned sites and gabbro outcrops in chaparral. Known elevations range from 1500 to 4,300 feet amsl. Blooming period is from April to June.	No	No	<b>Not Expected</b> There is no suitable habitat within or adjacent to the project site.
<i>Pickeringia montana</i> var. <i>tomentosa</i> woolly chaparral-pea	4.3 G5T3T4 S3S4	Found in clay, gabbroic, or granitic substrates within chaparral. The blooming period is May through August. Found at elevations ranging from 655 to 4,165 ft above msl.	No	No	<b>Not Expected</b> There is no suitable habitat within or adjacent to the project site.

Table C-1: Potentially Occurring Special-Status Biological Resources

Scientific Name Common Name	Special-Status Rank*	Habitat Preferences and Distribution	Covered by MSHCP	Observed On-site	Potential to Occur
<i>Polygala cornuta</i> var. <i>fishiae</i> Fish's milkwort	4.3 G5T4 S4	Shrub. Found on bushy ridges and along creeks within cismontane woodland, riparian woodland, and chaparral. Often found alongside oaks. Known elevations range from 100 to 3,905 feet amsl. Blooming period is from May to August.	Yes (a)	No	<b>Not Expected</b> There is no suitable habitat within or adjacent to the project site.
<i>Pseudognaphalium leucocephalum</i> white rabbit-tobacco	2B.2 G4 S2	Found in sandy and gravelly soils within chaparral, cismontane woodland, coastal scrub, and riparian woodland habitats. Found at elevations ranging from 0 to 6,890 feet above msl. Blooming period is from July to December.	No	No	<b>Not Expected</b> There is no suitable habitat within or adjacent to the project site.
<i>Quercus engelmannii</i> Engelmann oak	4.2 G4T3 S3	Perennial deciduous tree. Occurs in chaparral, cismontane woodland, riparian woodland, and valley/foothill grassland. Grows in elevations ranging from 160 to 4,275 feet amsl. Blooming period is from March to June.	Yes	No	<b>Not Expected</b> There is no suitable habitat within or adjacent to the project site.
<i>Saltugilia latimeri</i> Latimer's woodland-gilia	1B.2 G3 S3	Annual herb. Found in rocky or sandy substrate within chaparral, Mojavean desert scrub, and pinyon and juniper woodland. Sometimes found in washes and limestone. Known elevations range from 360 to 6,600 feet amsl. Blooming period is from March to June.	No	No	<b>Not Expected</b> There is no suitable habitat within or adjacent to the project site.
<i>Scutellaria bolanderi</i> ssp. <i>austromontana</i> southern mountains skullcap	1B.2 G4T3 S3	Perennial rhizomatous herb. Found in gravelly soils on streambanks or in mesic sites in oak or pine woodland. Can also be found in chaparral. Known elevations range from 1,500 to 6,000 feet amsl. Blooming period is from June to August.	No	No	<b>Not Expected</b> There is no suitable habitat within or adjacent to the project site.
<i>Selaginella cinerascens</i> ashy spike-moss	4.1 G3G4 S3	Rhizomatous fern. Found in chaparral and coastal scrub. Known elevations range from 35 to 1,245 feet amsl.	No	No	<b>Not Expected</b> There is no suitable habitat within or adjacent to the project site.
<i>Senecio neomexicana</i> salt spring checkerbloom	2B.2 G4 S2	Habitat includes chaparral, coastal scrub, lower montane coniferous forest, plays, and Mojavean desert scrub. Found at elevations ranging from 49 to 5,020 feet. Blooming period is from March to June.	No	No	<b>Not Expected</b> There is no suitable habitat within or adjacent to the project site.
<i>Symphyotrichum defoliatum</i> San Bernardino aster	1B.2 G2 S2	Perennial rhizomatous herb. Occurs near ditches, streams, and springs within cismontane woodland, coastal scrub, lower montane coniferous forest, meadows, seeps, marshes, and valley/foothill grassland. Grows in elevations ranging from 0 to 6,700 feet amsl. Blooming period is from July to November.	No	No	<b>Not Expected</b> There is no suitable habitat within or adjacent to the project site.
<i>Tetracoccus dioicus</i> Parry's tetracoccus	1B.2 G2G3 S2	Shrub. Occurs on stony, decomposed gabbro soil within chaparral and coastal scrub. Known elevations range from 490 to 2725 feet amsl. Blooming period is from April to May.	No	No	<b>Not Expected</b> There is no suitable habitat within or adjacent to the project site.
<i>Texosporium sancti-jacobi</i> woven-spored lichen	3 G3 S1	Lichen. Found in open sites in chaparral within California. Associated with <i>Adenostoma fasciculatum</i> , <i>Eriogonum</i> , and <i>Selaginella</i> . Found on small mammal pellets. Known elevations range from 900 to 2,000 feet amsl.	No	No	<b>Not Expected</b> There is no suitable habitat within or adjacent to the project site.



Table C-1: Potentially Occurring Special-Status Biological Resources

Scientific Name Common Name	Special-Status Rank*	Habitat Preferences and Distribution	Covered by MSHCP	Observed On-site	Potential to Occur
<i>Tortula californica</i> California screw moss	1B.2 G2G3 S2S3	Moss. Grows on sandy soils within chenopod scrub and valley and foothill grassland. Known elevations range from 30 to 3,500 feet amsl.	No	No	<b>Not Expected</b> There is no suitable habitat within or adjacent to the project site.
<b>SPECIAL-STATUS VEGETATION COMMUNITIES</b>					
<u>CNDDB/Holland (1986)</u> Southern Coast Live Oak Riparian Forest  <u>MCV (1995)</u> Coast Live Oak Series  <u>NVCS (2009)</u> <i>Quercus agrifolia</i> Woodland Alliance	G5 S4	Found at elevations ranging from sea level to 3,937 feet amsl in alluvial terraces, canyon bottoms, stream banks, slopes, and flats. Soils are deep, sandy or loamy with high organic matter. Coast live oak is a dominant or co-dominant in the tree canopy with bigleaf maple ( <i>Acer macrophyllum</i> ), box elder ( <i>Acer negundo</i> ), madrono ( <i>Arbutus menziesii</i> ), southern California black walnut, California sycamore, Fremont cottonwood, blue oak ( <i>Quercus douglasii</i> ), Engelmann oak, California black oak ( <i>Quercus kelloggii</i> ), valley oak ( <i>Quercus lobata</i> ), arroyo willow ( <i>Salix lasiolepis</i> ), and California bay ( <i>Umbellularia californica</i> ). Trees are less than 98 feet tall; canopy is open to continuous. Shrub layer is sparse to intermittent. Herbaceous layer is sparse or grassy.	N/A	No	<b>Absent</b> This vegetation community does not occur within or adjacent to the project site.
<u>CNDDB/Holland (1986)</u> Southern Cottonwood Willow Riparian Forest  <u>MCV (1995)</u> Fremont Cottonwood Series  <u>NVCS (2009)</u> <i>Populus fremontii</i> Forest Alliance	G4 S3.2	Found at elevations ranging from sea level to 7,874 feet amsl on floodplains, along low-gradient rivers, perennial or seasonally intermittent streams, springs, in lower canyons in desert mountains, in alluvial fans, and in valleys with a dependable subsurface water supply that varies considerably during the year. Fremont cottonwood is a dominant or co-dominant in the tree canopy with box elder, desert baccharis ( <i>Baccharis sergiloides</i> ), Oregon ash ( <i>Fraxinus latifolia</i> ), northern California black walnut ( <i>Juglans hindsii</i> ), California sycamore, coast live oak, narrowleaf willow ( <i>Salix exigua</i> ), Goodding's willow ( <i>Salix goodingii</i> ), polished willow ( <i>Salix laevigata</i> ), arroyo willow, pacific willow ( <i>Salix lasiandra</i> ssp. <i>lasiandra</i> ), and yellow willow ( <i>Salix lutea</i> ). Trees and less than 25 meters tall; canopy is continuous to open. Shrub layer is intermittent to open. Herbaceous layer is variable.	N/A	No	<b>Absent</b> This vegetation community does not occur within or adjacent to the project site.
<u>CNDDB/Holland (1986)</u> Southern Interior Basalt Flow Vernal Pool  <u>MCV (1995)</u> N/A  <u>NVCS (2009)</u> N/A	G1 S1.2	A very low, open to nearly closed mixture of amphibious annual herbs and grasses that require seasonal inundation and desiccation for completion of their life cycle. Most species are active in winter, flower in spring, and spend summers as seeds waiting for the return of fall rain. Pools range in size from a few meters squared to several hectares. Occurs mostly as small, playa-like lakes on tops of basalt-capped plateau. Shallow soils over bedrock prevent woodlands from establishing. The pools fill at the onset of fall rains and dry by evaporation during warm spring weather (Holland 1986).	N/A	No	<b>Absent</b> This vegetation community does not occur within or adjacent to the project site.

Table C-1: Potentially Occurring Special-Status Biological Resources

Scientific Name Common Name	Special-Status Rank*	Habitat Preferences and Distribution	Covered by MSHCP	Observed On-site	Potential to Occur
<u>CNDDB/Holland (1986)</u> Southern Sycamore Alder Riparian Woodland <u>MCV (1995)</u> California Sycamore Series <u>NVCS (2009)</u> <i>Platanus racemosa</i> Woodland Alliance	G3  S3	Found at elevations ranging from sea level to 7,874 feet amsl in gullies, intermittent streams, springs, seeps, stream banks, and terraces adjacent to floodplains that are subject to high-intensity flooding. Soils are rocky or cobbly alluvium with permanent moisture at depth. California sycamore is a dominant or co-dominant in the tree canopy with white alder, southern California black walnut, Fremont cottonwood, coast live oak, valley oak, narrowleaf willow, Gooding's willow, polished willow, arroyo willow, yellow willow, Peruvian pepper tree ( <i>Schinus mole</i> ), and California bay.	N/A	No	<b>Absent</b>  This vegetation community does not occur within or adjacent to the project site.
<u>CNDDB/Holland (1986)</u> Southern Willow Scrub <u>MCV (1995)</u> N/A <u>NVCS (2009)</u> N/A	G3  S2.1	Southern willow scrub consists of dense, broadleaved, winter-deciduous stands of trees dominated by shrubby willows in association with mule fat and scattered emergent cottonwood and western sycamores. This vegetation community occurs on loose, sandy or fine, gravelly alluvium deposited near stream channels during flood flows. Frequent flooding maintains this early seral community, preventing succession to a riparian woodland or forest (Holland 1986). In the absence of periodic flooding, this early seral type would be succeeded by southern cottonwood or western sycamore riparian forest.	N/A	No	<b>Absent</b>  This vegetation community does not occur within or adjacent to the project site.
<u>CNDDB/Holland (1986)</u> Valley Needlegrass Grassland <u>MCV (1995)</u> Purple needlegrass series <u>NVCS (2009)</u> <i>Nassella pulchra</i> Grassland Alliance		A mid-height (up to 2 feet) grassland dominated by perennial, tussock forming purple needlegrass ( <i>Stipa pulchra</i> ). Native and introduced annuals occur between the perennials, often actually exceeding the bunchgrasses in cover. Usually on fine-textured (often clay) soils, moist or even waterlogged during winter, but very dry in summer. Often integrates with oak woodlands on moister, better drained sites (Holland 1986).	N/A	No	<b>Absent</b>  This vegetation community does not occur within or adjacent to the project site.

\* **U.S. Fish and Wildlife Service (USFWS)**

- FE      Endangered – any species which is in danger of extinction throughout all or a significant portion of its range.
- FT      Threatened – any species which is likely to become an endangered species within the foreseeable future throughout all or a significant portion of its range.

**California Department of Fish and Wildlife (CDFW)**

- SE      Endangered – any native species or subspecies of 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.
- ST      Threatened – any native species or subspecies of bird, mammal, fish, amphibian, reptile, or plant that, although not presently threatened with extinction, is likely to become an endangered species in the foreseeable future in the absence of the special protection and management efforts required under the California Endangered Species Act.
- CSE      Candidate Endangered – any native species or subspecies of bird, mammal, fish, amphibian, reptile, or plant that the California Fish and Game Commission has formally noticed as being under review by the CDFW for listing.
- FP      Fully Protected – any native species or subspecies of bird, mammal, fish, amphibian, or reptile that were determined by the State of California to be rare or face possible extinction.
- SSC      Species of Special Concern – any species, subspecies, or distinct population of fish, amphibian, reptile, bird, or mammal native to California that currently satisfies one or more of the following criteria:
- is extirpated from California or, in the case of birds, in its primary seasonal or breeding role;
  - is listed as Federally-, but not State-, threatened or endangered; meets the State definition of threatened or endangered but has not formally been listed.
  - is experiencing, or formerly experienced, serious (noncyclical) population declines or range retractions (not reversed) that, if continued or resumed, could qualify it for State threatened or endangered status; or
  - has naturally small populations exhibiting high susceptibility to risk from any factor(s), that if realized, could lead to declines that would qualify it for State threatened or endangered status.
- WL      Watch List - taxa that were previously designated as “Species of Special Concern” but no longer merit that status, or which do not yet meet SSC criteria, but for which there is concern and a need for additional information to clarify status.

**California Native Plant Society (CNPS) California Rare Plant Rank**

- 1B      Plants rare, threatened, or endangered in California and elsewhere.
- 2B      Plants rare, threatened, or endangered in California but more common elsewhere.
- 3      Plants about which more information is needed – Review List.
- 4      Plants of limited distribution – Watch List.

**Threat Ranks**

- .1      Seriously threatened in California (over 80% of occurrences threatened/high degree any immediacy of threat).
- .2      Moderately threatened in California (20 to 80 percent of occurrences threatened/moderate degree and immediacy of threat).
- .3      Not very threatened in California (less than 20 percent of occurrences threatened/low degree and immediacy of threat or no current threats known).

**NatureServe Conservation Status Rank**

The Global Rank (G#) reflects the overall condition and imperilment of a species throughout its global range. The Intraspecific Taxon Rank (T#) reflects the global situation of just the subspecies or variety. The State Rank (S#) reflects the condition and imperilment of an element throughout its range within California. (G#Q) reflects that the element is very rare but there are taxonomic questions associated with it; the calculated G rank is qualified by adding a Q after the G#. Adding a ? to a rank expresses uncertainty about the rank.

- G1/T1      Critically Imperiled – At very high risk of extinction due to extreme rarity (often 5 or fewer populations), very steep declines, or other factors.
- G2/T2      Imperiled— At high risk of extinction due to very restricted range, very few populations (often 20 or fewer), steep declines, or other factors.
- G3/T3      Vulnerable— At moderate risk of extinction due to a restricted range, relatively few populations (often 80 or fewer), recent and widespread declines, or other factors.
- G4/T4      Apparently Secure— Uncommon but not rare; some cause for long-term concern due to declines or other factors.



- G5/T5      Secure – Common; widespread and abundant.
- S1            Critically Imperiled – Critically imperiled in the state because of extreme rarity (often 5 or fewer occurrences) or because of some factor(s) such as very steep declines 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 (often 20 or fewer), steep declines, or other factors making it very vulnerable to extirpation from the nation or State.
- S3            Vulnerable – Vulnerable in the State due to a restricted range, relatively few populations (often 80 or fewer), 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.

**Western Riverside County Multiple Species Habitat Conservation Plan**

Yes – Fully Covered.

No – Not Covered.

Yes (a) – May require additional surveys pursuant to Section 6.1.2, *Protection of Species Associated with Riparian/Riverine Areas and Vernal Pools*.

Yes (b) – May require additional surveys pursuant to Section 6.1.3, *Protection of Narrow Endemic Plant Species*.

Yes (c) – May require additional surveys pursuant to Section 6.3.2, *Additional Survey Needs and Procedures*.

April 19, 2019

JN 171221

**City of Temecula**  
Attn: Ms. Laura Bragg  
41000 Main Street  
Temecula, CA 92590

**SUBJECT: Delineation of State and Federal Jurisdictional Waters for the Traffic Signal at Wabash Lane and Temecula Parkway Project, City of Temecula, County of Riverside, California**

Dear Ms. Bragg:

On behalf of City of Temecula, Michael Baker International (Michael Baker) has prepared this technical letter report to document the jurisdictional authority of the U.S. Army Corps of Engineers Los Angeles District (Corps), San Diego Regional Water Quality Control Board (Regional Board), and California Department of Fish and Wildlife Inland Deserts Region (CDFW) within the proposed Traffic Signal at Wabash Lane and Temecula Parkway (project or survey area). The proposed project is located north of Highway 79, Temecula Parkway, and south of Vallejo Avenue within the southwestern portion of the City of Temecula, Riverside County, California. The fieldwork for this jurisdictional delineation was conducted on February 6, 2019.

### **Project Description and Location**

The project proposes to add an approximate 42 feet wide and 280 feet long access road off of Temecula Parkway (Highway 79) to an existing park and ride facility located just east of La Paz Road. To accommodate the access road, a new signalized intersection will be constructed at Wabash Lane and Temecula Parkway. The existing median in Temecula Parkway will be reconfigured to provide a left turn lane from Temecula Parkway eastbound into the park and ride access road. The entrance to the community south of Temecula Parkway at Wabash Lane has an existing median that will be reconfigured to accommodate traffic flow through the proposed signalized intersection. A portion of the east end of the existing park and ride will be reconfigured to accommodate the access road. Once the access road is complete, the existing entrance off of Vallejo Avenue will be closed and will no longer provide access into the park and ride facility.

The survey area is located on vacant undeveloped land east of the existing park and ride facility, north of Highway 79 and south of Vallejo Avenue. Specifically, the survey area is located at 33.476936°, -117.132419°, in Section 18, Township 8 South, Range 2 West, of the U.S. Geological Survey (USGS) *Temecula, California*, 7.5-minute topographic quadrangle map. Refer to Figures 1 – 3 provided in Attachment A.

## **Summary of Regulations**

There are three key agencies that regulate activities within streams, wetlands, and riparian areas in California. The Corps Regulatory Division regulates activities pursuant to Section 404 of the Clean Water Act (CWA) and Section 10 of the Rivers and Harbors Act. Of the State agencies, the CDFW regulates activities under Sections 1600 *et seq.* of the California Fish and Game Code (CFGF), and the Regional Board regulates activities pursuant to Section 401 of the CWA and Section 13263 of the California Porter-Cologne Water Quality Control Act (Porter-Cologne Act).

## **Literature Review**

A thorough review of relevant literature and materials was conducted to obtain a general understanding of the environmental setting and preliminarily identify features/areas that may fall under the jurisdiction of the regulatory agencies. Relevant materials utilized during the literature review are summarized below with references provided in Attachment B.

### Watershed

According to the Water Quality Control Plan for the San Diego Basin (Region 9), the survey area is located within the northern portion of the Santa Margarita Hydrologic Unit (HU 902.00) of the Murrieta Creek Watershed (Hydrologic Unit Code 180703020401). Specifically, the survey area is located within the Murrieta Hydrologic Area (HA 902.33).

### Soils

On-site and adjoining soils were reviewed prior to conducting the field delineation using the U.S. Department of Agriculture (USDA), Natural Resources Conservation Service (NRCS), Web Soil Survey (refer to Attachment C). According to the *Custom Soil Resources Report for Western Riverside Area, California*, the survey area is underlain by the following soil units:

- AtD2 – Arlington and Greenfield fine sandy loams, 8 to 15 percent slopes, eroded
- GLC – Gorgonio loamy sand, deep, 2 to 8 percent slopes
- PID – Placentia fine sandy loam, 5 to 15 percent slopes
- RmE3 – Ramona and Buren sandy loams, 15 to 25 percent slopes severely eroded

### Hydric Soils List of California

Michael Baker then reviewed the USDA NRCS *Hydric Soils List for California* to preliminarily verify whether any of the soils mapped within the survey area are considered to be hydric. According to the *Hydric Soils List for California*, Placentia fine sandy loam, 5 to 15 percent slopes (PID) is the only on-site soil unit that is considered to be a hydric soil. Soil textures identified on-site during the field delineation were generally consistent with those identified in the *NRCS Custom Soil Resources Report for Western Riverside Area, California* (refer to Attachment C).

### National Wetlands Inventory

Michael Baker reviewed the U.S. Fish and Wildlife Service (USFWS) National Wetlands Inventory (NWI) Mapper. The drainage located within the survey area is mapped as Riverine Wetlands (R5UBF and R4SBC).



These mapped areas were used as reference while documenting all potentially jurisdictional features as observed on-site during the field delineation. Refer to Attachment D for a depiction of the USFWS NWI designations.

### Flood Zone

Michael Baker also reviewed the Federal Emergency Management Agency's (FEMA) National Flood Hazard Layer and portions of the survey area are located in Zone X which is described as areas of 0.2 percent annual chance flood hazard or areas of 1 percent annual chance flood with average depths of less than 1 foot or with drainage areas less than 1 square mile. Refer to Attachment E for the FEMA flood zone map.

### **Methodology**

Michael Baker certified wetland delineators and regulatory specialists Josephine Lim and Tim Tidwell conducted a formal jurisdictional delineation of the survey area on February 6, 2019 using the most recent, agency-approved methodology, to identify and map jurisdictional limits of waters of the U.S. (WoUS), including potential wetlands, and waters of the State located within the boundaries of the survey area. For this location, potential wetlands were delineated using the methods outlined in the *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region, Version 2.0* (Arid West Regional Supplement; Corps, 2008). While in the field, jurisdictional features were recorded on an aerial base map at a scale of 1" = 75' using topographic contours and visible landmarks as guidelines. Data points were obtained with a Garmin Map62 Global Positioning System to record and identify specific widths for ordinary high-water mark (OHWM) indicators and photograph locations, soil pits, and other pertinent jurisdictional features, if present. These data were then transferred as a .shp file and added to the project's jurisdictional figures. The jurisdictional figures were prepared using ESRI ArcMap Version 10.5 software.

### **Site Conditions**

Refer to Attachment F for representative photographs taken within the survey area during the jurisdictional delineation.

### Non-Wetland Features

Unnamed Drainage 1 is an ephemeral drainage located in the eastern portion of the survey area and is tributary to Temecula Creek. Drainage 1 exhibits an earthen substrate consisting of sand, gravel, and cobble. Surface water was present within Drainage 1 during the site visit and evidence of an OHWM was observed as a natural line impressed on the bank, scour, wrack, a break in the bank slope, and presence of litter and drift. Vegetation within the channel of Drainage 1 primarily consisted of mule fat (*Baccharis salicifolia*, FAC) and black mustard (*Brassica nigra*, not indicated [NI]). Associated riparian vegetation identified along the drainage banks included elderberry (*Sambucus nigra*, FACU), Fremont cottonwood (*Populus fremontii*, FACW), and mule fat (FAC). Drainage 1 measures approximately 430 linear feet in length and averages approximately 8 feet in width for the Corps/Regional Board, and averages approximately 19 feet in width for CDFW. Evidence of human disturbance including illegal trash dumping and an encampment was observed within Drainage 1. Table 1, *Jurisdictional Limits within the Survey Area*, below provides a summary of the jurisdictional limits for Drainage 1.

**Table 1: Jurisdictional Limits within the Survey Area**

No.	Feature	Linear Feet	Jurisdictional Limits (acres)	
			Corps/Regional Board Non-Wetland WoUS	CDFW Streambed/Banks and Riparian Vegetation
1.	Drainage 1	430	0.08	0.40
<b>TOTAL</b>		<b>430</b>	0.08	0.40

### Wetland Features

Based on the results of the field delineation, no wetland features were noted within the boundaries of the survey area. One soil pit (SP1) was dug within a depressional area on a terrace adjacent to the southern bank of Drainage 1 where dominant hydrophytic vegetation (Fremont cottonwood) was observed. SP1 was dug to a depth of approximately 16 inches and exhibited a texture of sandy loam with a matrix color of 10 YR 2.5/2 when moist. Redoximorphic features were observed as concentrations within the matrix with a color of 7.5 YR 3/4 when moist. However, evidence of wetland hydrology was not observed within the vicinity of the SP1. Therefore, based on the results of the field delineation, it was determined that SP1 only met two (hydrophytic vegetation and hydric soil) of the three required parameters and thus did not qualify as a wetland. Refer to Attachment G for copies of the wetland determination data forms.

### **Findings**

#### U.S. Army Corps of Engineers

Drainage 1 qualifies as Corps non-wetland WoUS and evidence of an OHWM was noted within the survey area, which totaled approximately 0.08 acre. Refer to Figure 4, *Corps/Regional Board Jurisdictional Map*, provided in Attachment A.

An area must exhibit all three wetland parameters (i.e., hydrophytic vegetation, hydric soils, and hydrology) as described in the Arid West Regional Supplement to be considered a jurisdictional wetland. Based on the results of the field delineation, it was determined that no portion of the survey area contained all three of the required wetland parameters (refer to Attachment G). Therefore, no jurisdictional wetland features exist within the survey area.

#### Regional Water Quality Control Board

The Regional Board regulates discharges of fill and dredged material to surface waters under Section 401 of the CWA, and the Porter-Cologne Act for those that do not. No isolated or Rapanos conditions were observed within the boundaries of the survey area. Therefore, the jurisdiction of the Regional Board reflects that of the Corps and totals approximately 0.08 acre of non-wetland WoUS. Refer to Figure 4, *Corps/Regional Board Jurisdictional Map* provided in Attachment A.

### California Department of Fish and Wildlife

Drainage 1 exhibits a bed and bank and is considered CDFW jurisdictional streambed. Based on the results of the field delineation, it was determined that approximately 0.20 acre of CDFW jurisdictional vegetated streambed is located within the survey area. In addition, approximately 0.20 acre of CDFW associated riparian vegetation is located on-site. Refer to Figure 5, *CDFW Jurisdictional Map*, provided in Attachment A.

### **Regulatory Approval Process**

This report has been prepared for the City of Temecula to document the jurisdictional authority of the Corps, Regional Board, and CDFW within the survey area. The following sections provide a general summary of the various permits, certification, and agreements that would be required prior to any temporary or permanent impacts occurring to jurisdictional areas within the survey area.

### U.S. Army Corps of Engineers

The Corps regulates discharges of dredged or fill materials into WoUS, including wetlands, pursuant to Section 404 of the CWA. Based on the results of the field delineation, a total of approximately 0.08 acre of Corps jurisdiction occurs within the survey area. Permit authorization would be required from the Corps prior to commencement of any construction activities (i.e., dredge or fill) within Corps delineated jurisdictional areas. Depending upon the extent of impacts to WoUS within the project area, there are three permits issued by the Corps: Nationwide (impact of 0.5 acre or less), Regional General (category of activities similar in nature, with minimal cumulative impact), and Standard Individual Permit (impact more than 0.5 acre). The Section 404 Standard Individual Permit is issued for projects that are likely to have more than a minimal individual or cumulative impact on aquatic resources and includes a public notice and comment period, an alternatives analysis pursuant to Section 404(b)(1) of the CWA, and review under the National Environmental Policy Act (NEPA). Based on a review of the current project design, it is anticipated that impacts to Corps jurisdictional areas would be avoided. However, should construction activities impact the on-site Corps non-wetland WoUS, authorization from the Corps may be obtained under Nationwide Permit 14, *Linear Transportation Projects*, as it is anticipated impacts would be less than 0.5 acre.

### Regional Water Quality Control Board

The Regional Board regulates discharges to surface waters pursuant to Section 401 of the CWA and the Porter-Cologne Act. As the drainage feature within the survey area possesses a surface hydrologic connection to downstream WoUS, the Regional Board's jurisdiction reflects that of the Corps and totals approximately 0.08 acre of non-wetland WoUS. Prior to the issuance of a Section 404 permit, the Corps requires that a Section 401 Water Quality Certification (WQC) be obtained from the Regional Board to ensure that impacts would comply with the State's water quality standards. Based on a review of the current project design, it is anticipated that impacts to Corps/Regional Board jurisdictional areas would be avoided. However, should construction activities impact the on-site Corps/Regional Board non-wetland WoUS, the project proponent would be required to submit a Section 401 WQC application and fee to the Regional Board if any construction activities occur within Corps and Regional Board delineated jurisdictional areas. The fee is calculated using the Regional Board's Fee Schedule and is based on the quantity (i.e., acreage, linear feet) of both temporary and permanent impacts to jurisdictional areas that would occur as a result of project implementation. The Regional Board also requires that California Environmental Quality Act (CEQA) compliance be obtained prior to the issuance of the final Section 401 WQC.



California Department of Fish and Wildlife

Pursuant to Sections 1600 *et seq.* of the CFGC, the CDFW regulates any activity that would divert or obstruct the natural flow or alter the bed, channel, or bank of a lake or streambed; this would also include any impacts to associated riparian vegetation. Based on the results of the field delineation, a total of 0.40 acre of CDFW jurisdiction occurs within the survey area. The CDFW must be notified prior to activities that alter jurisdictional areas. Based on a review of the current project design, it is anticipated that impacts to CDFW jurisdictional areas would be avoided. However, should construction activities impact the on-site jurisdictional streambed or associated riparian vegetation, notification of Lake or Streambed Alteration to CDFW, and subsequent authorization from CDFW, would be required prior to the commencement of any construction activities within the CDFW delineated jurisdictional areas. The CDFW also requires that CEQA compliance be obtained prior to obtaining a Lake or Streambed Alteration Agreement (LSAA), Operation by Law letter, or similar mechanism. A CDFW notification fee is required with the application package, which is calculated based on the total project cost.

Please feel free to contact me at (949) 330-4208 or at [timothy.tidwell@mbakerintl.com](mailto:timothy.tidwell@mbakerintl.com) with any questions you may have regarding the information presented in this report.

Sincerely,



Tim Tidwell  
Regulatory Specialist  
Natural Resources and Regulatory Permitting

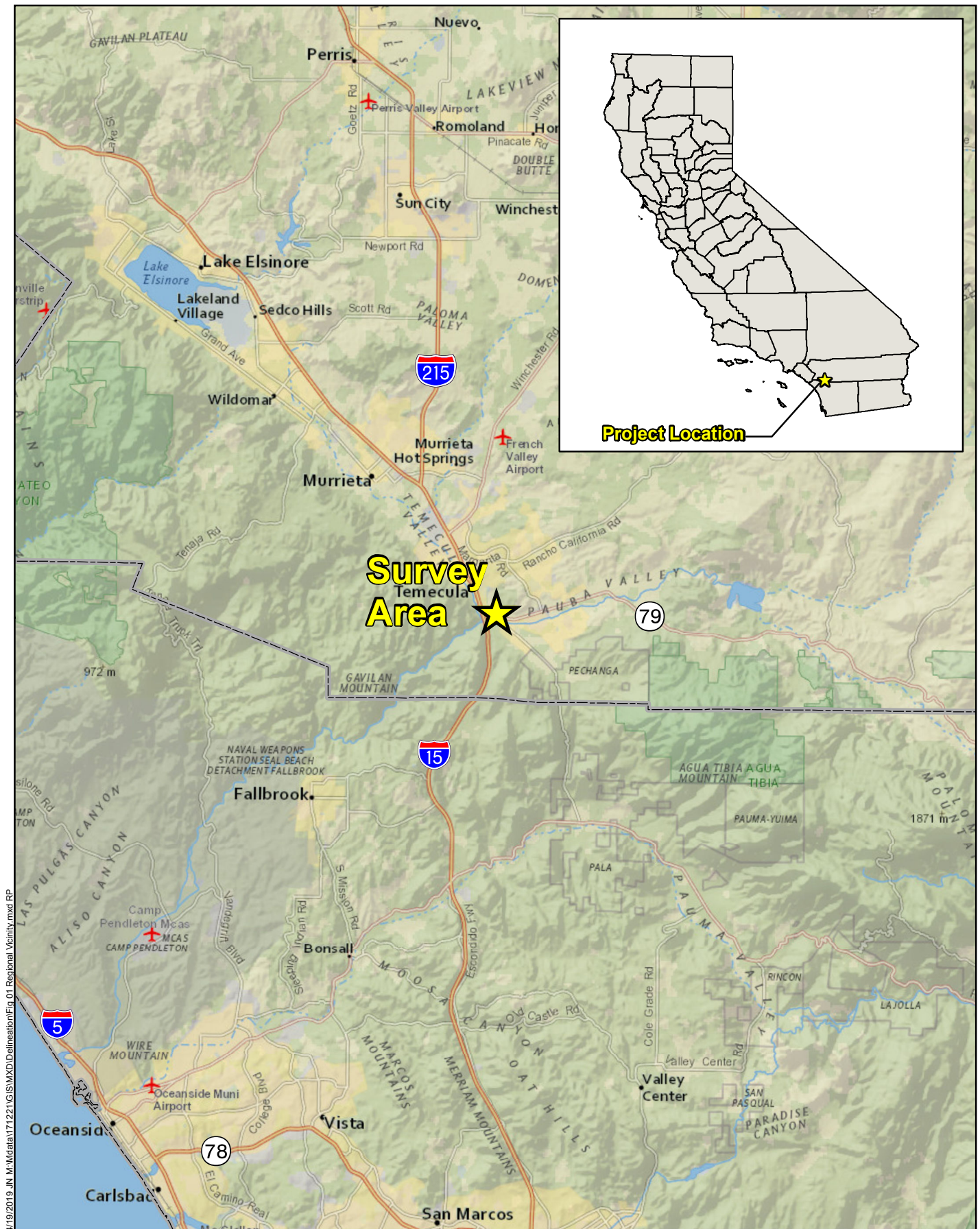
Attachments:

- A. *Project Figures*
- B. *References*
- C. *USDA Custom Soil Resources Report*
- D. *USFWS National Wetlands Inventory Map*
- E. *FEMA Flood Zone Maps*
- F. *Site Photographs*
- G. *Wetland Determination Data Forms*

## **Attachment A**

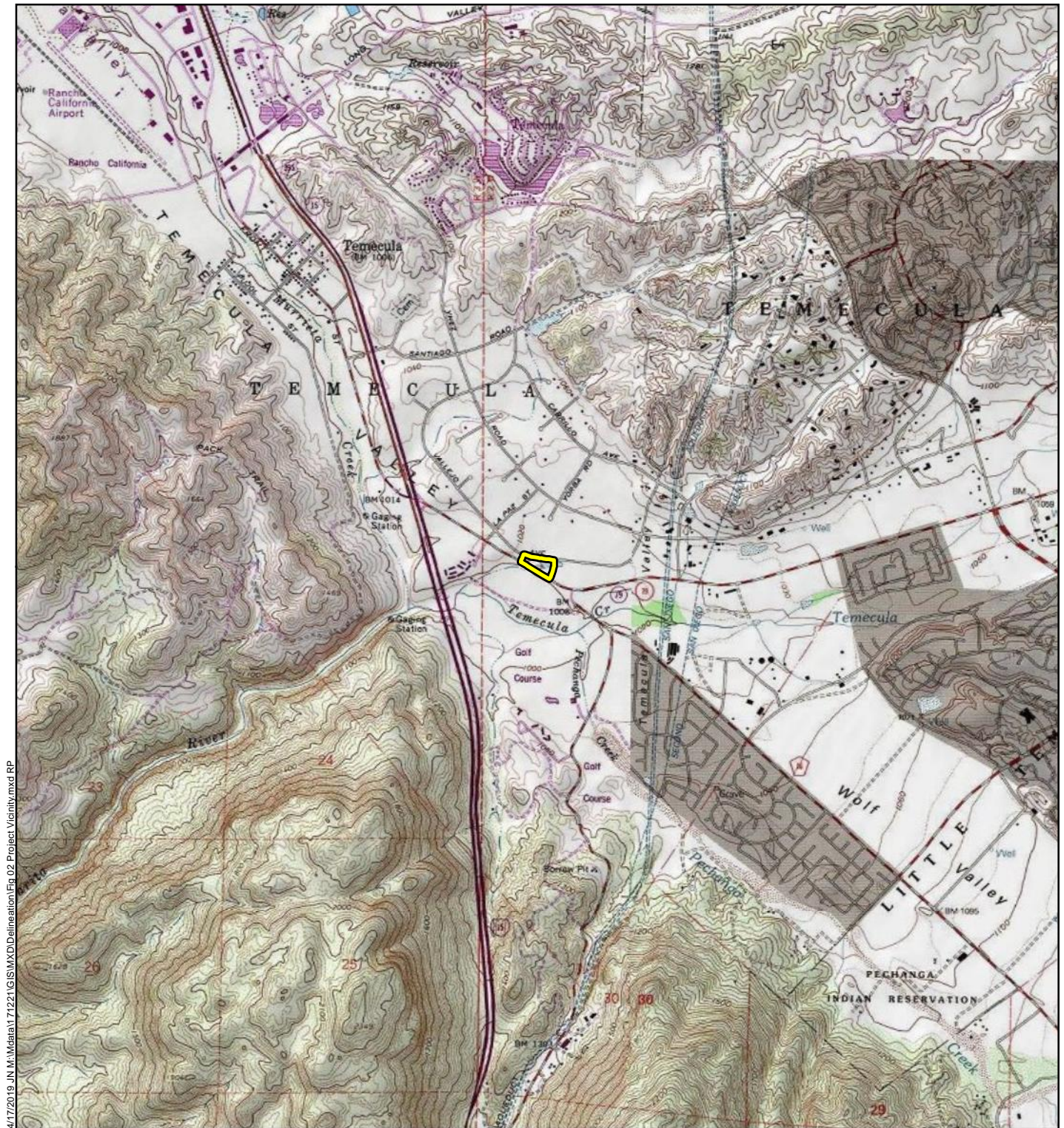
---

### Project Figures



4/19/2019 J:\M\Mapdata\171221\GIS\MXD\Delination\Fig.01 Regional Vicinity.mxd RP





4/17/2019 J:\M:\Data\171221\GIS\MXD\Delination\Fig 02 Project Vicinity.mxd RP

### Legend

 Survey Area

TRAFFIC SIGNAL AT WABASH LANE AND TEMECULA PARKWAY PROJECT  
DELINEATION OF STATE AND FEDERAL JURISDICTIONAL WATERS

## Project Vicinity

**Michael Baker**  
INTERNATIONAL



0 0.25 0.5  
Miles

Source: ArcGIS Online, 2018, USGS 7.5-Minute topographic quadrangle maps: Temecula, California (2018)

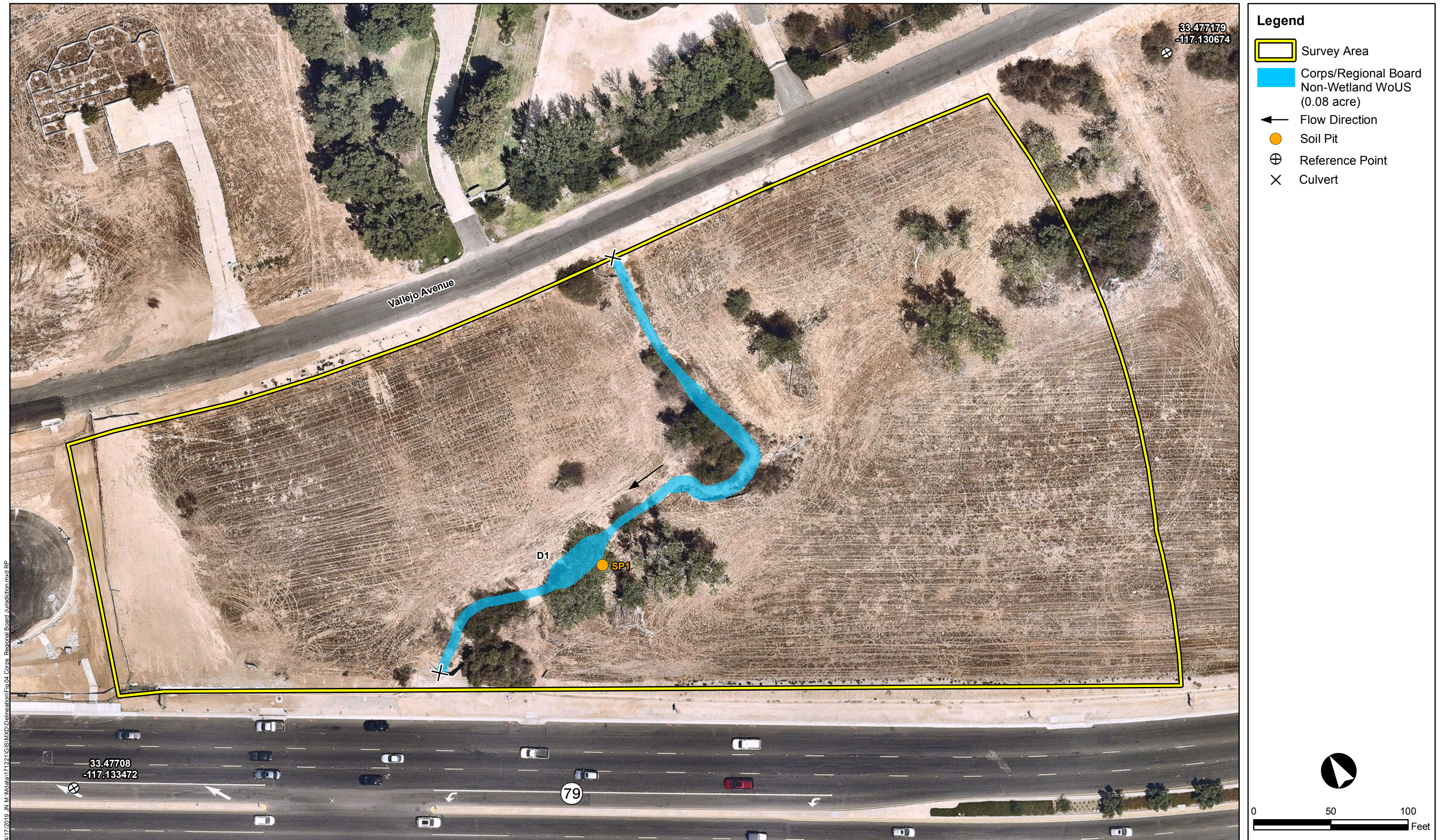
Figure 2





4/19/2019 JN M:\data\171221\GIS\MXD\Delination\Fig 03 Project Site.mxd RP





4/17/2019 JN M:\data\171221\GIS\MXD\Delination\Fig 04 Corps Regional Board Jurisdiction.mxd RP





4/17/2019 J:\M\MapData\171221\GIS\MXD\Delination\Fig\_05\_CDFW\_Jurisdictional\_Map.mxd RP



## **Attachment B**

---

### References

- California Department of Fish and Wildlife, *Lake and Streambed Alteration Program*.  
<https://www.wildlife.ca.gov/Conservation/LSA>.
- California Regional Water Quality Control Board, Santa Diego, *San Diego Region Basin Plan*, August 5, 2016. Accessed online at: [https://www.waterboards.ca.gov/sandiego/water\\_issues/programs/basin\\_plan/](https://www.waterboards.ca.gov/sandiego/water_issues/programs/basin_plan/).
- Calflora, *What Grows Here?*, Accessed online at: <https://www.calflora.org/entry/wgh.html>.
- Environmental Laboratory. 1987. *Corps of Engineers Wetlands Delineation Manual*. Technical Report Y-87-1. Vicksburg, MS: U.S. Army Engineer Waterways Experiment Station.
- Google, Inc. 2013. Google Earth Pro Imagery Version 7.3.2.5491, build date July 23, 2018. 2018. Aerial Image dated November 20, 2018.
- Lichvar, R.W., D.C. Finnegan, M.P. Ericsson, and W. Ochs. 2006. *Distribution of Ordinary High Water Mark Indicators and their Reliability in Identifying the Limits of “Waters of the United States” in the Arid Southwestern Channels*. ERDC/CRREL TR-06-5. Hanover, New Hampshire: U.S. Army Engineer Research and Development Center, Cold Regions Research and Engineering Laboratory.
- Lichvar, R.W., and S.M. McColley. 2008. *A Field Guide to the Identification of the Ordinary High Water Mark (OHWM) in the Arid West Region of the Western United States: A Delineation Manual*. ERDC/CRREL TR-08-12. Hanover, NH: U.S. Army Engineer Research and Development Center, Cold Regions Research and Engineering Laboratory.
- Lichvar, R.W., D.L. Banks, W.N. Kirchner, and N.C. Melvin. 2016. The National Wetland Plant List: 2016 wetland ratings. *Phytoneuron* 2016-30: 1-17. Published 28 April 2016. ISSN 2153 733X. Accessed online at: <http://wetland-plants.usace.army.mil/>.
- Munsell Color. 2012. *Munsell Soil Color Charts*. Munsell Color, Grand Rapids, Michigan.
- Reed, B. Porter, Jr. 1988. *National List of Plant Species That Occur in Wetlands: California (Region 0)*. National Ecology Research Center. National Wetlands Inventory, U.S. Fish and Wildlife Service. Biological Report 88 (26.10).
- U.S. Army Corps of Engineers (USACE). 2008. *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region (Version 2.0)*. ERDC/EL TR-08-28. Vicksburg, MS: U.S. Army Engineer Research and Development Center.
- USACE. 2016. *Special Public Notice: Updated Map and Drawing Standards for the South Pacific Regulatory Division Regulatory Program*. Issued on February 10, 2016.
- USACE. 2017. *Special Public Notice: Minimum Standards for Acceptance of Aquatic Resources Delineation Reports*. Issued on March 16, 2017.
- USACE. 2017. *Special Public Notice: Reissuance of the Nationwide Permits and Issuance of Final Regional Conditions for the Los Angeles District*. Issued on March 22, 2017.
- U.S. Department of Homeland Security (USDHS), Federal Emergency Management Agency (FEMA), National Flood Hazard Layer Viewer. 2014. *Flood Insurance Rate Map No. 06065C3285G*. Accessed online at: <https://msc.fema.gov/portal/home>.



U.S. Department of Agriculture (USDA), Natural Resources Conservation Service (NRCS), *Custom Soil Resources Report for Western Riverside Area, California*. Accessed online at: <https://websoilsurvey.nrcs.usda.gov/app/>.

USDA, NRCS. 2018. *Hydric Soils List of California*. Accessed online at: <http://www.nrcs.usda.gov/wps/portal/nrcs/main/soils/use/hydric/>.

U.S. Fish and Wildlife Service (USFWS), National Wetlands Inventory Mapper. 2018. Accessed online at: <http://www.fws.gov/wetlands/Data/Mapper.html>.

U.S. Geological Survey, 7.5 Minute Series Topographic Quadrangle, *Temecula, California*, 2018.

## **Attachment C**

---

### USDA Custom Soil Resources Report





United States  
Department of  
Agriculture

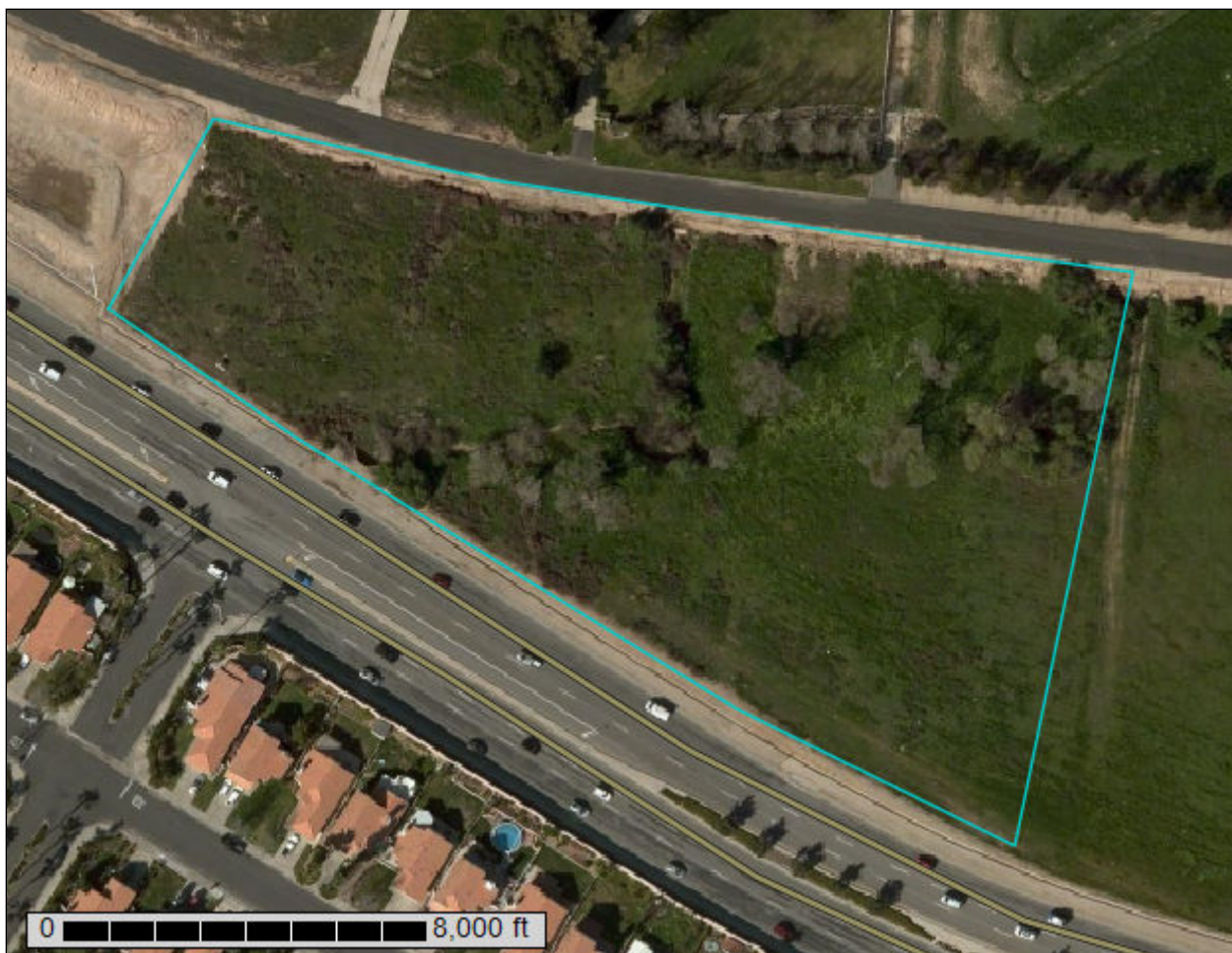
NRCS

Natural  
Resources  
Conservation  
Service

A product of the National  
Cooperative Soil Survey,  
a joint effort of the United  
States Department of  
Agriculture and other  
Federal agencies, State  
agencies including the  
Agricultural Experiment  
Stations, and local  
participants

# Custom Soil Resource Report for Western Riverside Area, California

## Traffic Signal at Wabash Lane and Temecula Parkway Project



March 12, 2019

# Preface

---

Soil surveys contain information that affects land use planning in survey areas. They highlight soil limitations that affect various land uses and provide information about the properties of the soils in the survey areas. Soil surveys are designed for many different users, including farmers, ranchers, foresters, agronomists, urban planners, community officials, engineers, developers, builders, and home buyers. Also, conservationists, teachers, students, and specialists in recreation, waste disposal, and pollution control can use the surveys to help them understand, protect, or enhance the environment.

Various land use regulations of Federal, State, and local governments may impose special restrictions on land use or land treatment. Soil surveys identify soil properties that are used in making various land use or land treatment decisions. The information is intended to help the land users identify and reduce the effects of soil limitations on various land uses. The landowner or user is responsible for identifying and complying with existing laws and regulations.

Although soil survey information can be used for general farm, local, and wider area planning, onsite investigation is needed to supplement this information in some cases. Examples include soil quality assessments (<http://www.nrcs.usda.gov/wps/portal/nrcs/main/soils/health/>) and certain conservation and engineering applications. For more detailed information, contact your local USDA Service Center (<https://offices.sc.egov.usda.gov/locator/app?agency=nrcs>) or your NRCS State Soil Scientist ([http://www.nrcs.usda.gov/wps/portal/nrcs/detail/soils/contactus/?cid=nrcs142p2\\_053951](http://www.nrcs.usda.gov/wps/portal/nrcs/detail/soils/contactus/?cid=nrcs142p2_053951)).

Great differences in soil properties can occur within short distances. Some soils are seasonally wet or subject to flooding. Some are too unstable to be used as a foundation for buildings or roads. Clayey or wet soils are poorly suited to use as septic tank absorption fields. A high water table makes a soil poorly suited to basements or underground installations.

The National Cooperative Soil Survey is a joint effort of the United States Department of Agriculture and other Federal agencies, State agencies including the Agricultural Experiment Stations, and local agencies. The Natural Resources Conservation Service (NRCS) has leadership for the Federal part of the National Cooperative Soil Survey.

Information about soils is updated periodically. Updated information is available through the NRCS Web Soil Survey, the site for official soil survey information.

The U.S. Department of Agriculture (USDA) prohibits discrimination in all its programs and activities on the basis of race, color, national origin, age, disability, and where applicable, sex, marital status, familial status, parental status, religion, sexual orientation, genetic information, political beliefs, reprisal, or because all or a part of an individual's income is derived from any public assistance program. (Not all prohibited bases apply to all programs.) Persons with disabilities who require

alternative means for communication of program information (Braille, large print, audiotape, etc.) should contact USDA's TARGET Center at (202) 720-2600 (voice and TDD). To file a complaint of discrimination, write to USDA, Director, Office of Civil Rights, 1400 Independence Avenue, S.W., Washington, D.C. 20250-9410 or call (800) 795-3272 (voice) or (202) 720-6382 (TDD). USDA is an equal opportunity provider and employer.



# Contents

---

<b>Preface</b> .....	2
<b>Soil Map</b> .....	5
Soil Map.....	6
Legend.....	7
Map Unit Legend.....	8
Map Unit Descriptions.....	8
Western Riverside Area, California.....	10
AtD2—Arlington and Greenfield fine sandy loams, 8 to 15 percent slopes, eroded.....	10
GIC—Gorgonio loamy sand, deep, 2 to 8 percent slopes.....	12
PID—Placentia fine sandy loam, 5 to 15 percent slopes.....	13
RmE3—Ramona and Buren sandy loams, 15 to 25 percent slopes, severely eroded.....	14
<b>References</b> .....	17

# Soil Map

---

The soil map section includes the soil map for the defined area of interest, a list of soil map units on the map and extent of each map unit, and cartographic symbols displayed on the map. Also presented are various metadata about data used to produce the map, and a description of each soil map unit.

# Custom Soil Resource Report Soil Map





# Custom Soil Resource Report


## MAP LEGEND

### Area of Interest (AOI)

 Area of Interest (AOI)

### Soils

 Soil Map Unit Polygons

 Soil Map Unit Lines

 Soil Map Unit Points

### Special Point Features

 Blowout

 Borrow Pit

 Clay Spot


 Closed Depression

 Gravel Pit

 Gravelly Spot

 Landfill

 Lava Flow

 Marsh or swamp

 Mine or Quarry

 Miscellaneous Water

 Perennial Water

 Rock Outcrop


 Saline Spot

 Sandy Spot

 Severely Eroded Spot

 Sinkhole

 Slide or Slip

 Sodic Spot

 Spoil Area

 Stony Spot

 Very Stony Spot

 Wet Spot

 Other

 Special Line Features

### Water Features

 Streams and Canals

### Transportation

 Rails

 Interstate Highways

 US Routes

 Major Roads

 Local Roads

### Background

 Aerial Photography

## MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:15,800.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service  
Web Soil Survey URL:  
Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Western Riverside Area, California  
Survey Area Data: Version 11, Sep 12, 2018

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Feb 24, 2015—Feb 26, 2015

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

## Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
AtD2	Arlington and Greenfield fine sandy loams, 8 to 15 percent slopes, eroded	0.2	4.6%
GIC	Gorgonio loamy sand, deep, 2 to 8 percent slopes	1.1	21.8%
PID	Placentia fine sandy loam, 5 to 15 percent slopes	1.1	22.8%
RmE3	Ramona and Buren sandy loams, 15 to 25 percent slopes, severely eroded	2.5	50.9%
<b>Totals for Area of Interest</b>		<b>4.9</b>	<b>100.0%</b>

## Map Unit Descriptions

The map units delineated on the detailed soil maps in a soil survey represent the soils or miscellaneous areas in the survey area. The map unit descriptions, along with the maps, can be used to determine the composition and properties of a unit.

A map unit delineation on a soil map represents an area dominated by one or more major kinds of soil or miscellaneous areas. A map unit is identified and named according to the taxonomic classification of the dominant soils. Within a taxonomic class there are precisely defined limits for the properties of the soils. On the landscape, however, the soils are natural phenomena, and they have the characteristic variability of all natural phenomena. Thus, the range of some observed properties may extend beyond the limits defined for a taxonomic class. Areas of soils of a single taxonomic class rarely, if ever, can be mapped without including areas of other taxonomic classes. Consequently, every map unit is made up of the soils or miscellaneous areas for which it is named and some minor components that belong to taxonomic classes other than those of the major soils.

Most minor soils have properties similar to those of the dominant soil or soils in the map unit, and thus they do not affect use and management. These are called noncontrasting, or similar, components. They may or may not be mentioned in a particular map unit description. Other minor components, however, have properties and behavioral characteristics divergent enough to affect use or to require different management. These are called contrasting, or dissimilar, components. They generally are in small areas and could not be mapped separately because of the scale used. Some small areas of strongly contrasting soils or miscellaneous areas are identified by a special symbol on the maps. If included in the database for a given area, the contrasting minor components are identified in the map unit descriptions along with some characteristics of each. A few areas of minor components may not have been observed, and consequently they are not mentioned in the descriptions, especially where the pattern was so complex that it was impractical to make enough observations to identify all the soils and miscellaneous areas on the landscape.

## Custom Soil Resource Report

The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The objective of mapping is not to delineate pure taxonomic classes but rather to separate the landscape into landforms or landform segments that have similar use and management requirements. The delineation of such segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, however, onsite investigation is needed to define and locate the soils and miscellaneous areas.

An identifying symbol precedes the map unit name in the map unit descriptions. Each description includes general facts about the unit and gives important soil properties and qualities.

Soils that have profiles that are almost alike make up a *soil series*. Except for differences in texture of the surface layer, all the soils of a series have major horizons that are similar in composition, thickness, and arrangement.

Soils of one series can differ in texture of the surface layer, slope, stoniness, salinity, degree of erosion, and other characteristics that affect their use. On the basis of such differences, a soil series is divided into *soil phases*. Most of the areas shown on the detailed soil maps are phases of soil series. The name of a soil phase commonly indicates a feature that affects use or management. For example, Alpha silt loam, 0 to 2 percent slopes, is a phase of the Alpha series.

Some map units are made up of two or more major soils or miscellaneous areas. These map units are complexes, associations, or undifferentiated groups.

A *complex* consists of two or more soils or miscellaneous areas in such an intricate pattern or in such small areas that they cannot be shown separately on the maps. The pattern and proportion of the soils or miscellaneous areas are somewhat similar in all areas. Alpha-Beta complex, 0 to 6 percent slopes, is an example.

An *association* is made up of two or more geographically associated soils or miscellaneous areas that are shown as one unit on the maps. Because of present or anticipated uses of the map units in the survey area, it was not considered practical or necessary to map the soils or miscellaneous areas separately. The pattern and relative proportion of the soils or miscellaneous areas are somewhat similar. Alpha-Beta association, 0 to 2 percent slopes, is an example.

An *undifferentiated group* is made up of two or more soils or miscellaneous areas that could be mapped individually but are mapped as one unit because similar interpretations can be made for use and management. The pattern and proportion of the soils or miscellaneous areas in a mapped area are not uniform. An area can be made up of only one of the major soils or miscellaneous areas, or it can be made up of all of them. Alpha and Beta soils, 0 to 2 percent slopes, is an example.

Some surveys include *miscellaneous areas*. Such areas have little or no soil material and support little or no vegetation. Rock outcrop is an example.



## Western Riverside Area, California

### AtD2—Arlington and Greenfield fine sandy loams, 8 to 15 percent slopes, eroded

#### Map Unit Setting

*National map unit symbol:* hcr6

*Elevation:* 100 to 3,500 feet

*Mean annual precipitation:* 9 to 20 inches

*Mean annual air temperature:* 63 degrees F

*Frost-free period:* 200 to 320 days

*Farmland classification:* Not prime farmland

#### Map Unit Composition

*Arlington and similar soils:* 35 percent

*Greenfield and similar soils:* 35 percent

*Unnamed, severely eroded:* 20 percent

*Minor components:* 10 percent

*Estimates are based on observations, descriptions, and transects of the mapunit.*

#### Description of Arlington

##### Setting

*Landform:* Alluvial fans

*Landform position (three-dimensional):* Tread

*Down-slope shape:* Concave

*Across-slope shape:* Convex

*Parent material:* Alluvium derived from granite

##### Typical profile

*H1 - 0 to 11 inches:* fine sandy loam

*H2 - 11 to 24 inches:* sandy loam

*H3 - 24 to 36 inches:* cemented

*H4 - 36 to 47 inches:* coarse sandy loam, loamy coarse sand

*H4 - 36 to 47 inches:*

##### Properties and qualities

*Slope:* 8 to 15 percent

*Depth to restrictive feature:* 24 to 40 inches to duripan

*Natural drainage class:* Well drained

*Runoff class:* High

*Capacity of the most limiting layer to transmit water (Ksat):* Moderately low to moderately high (0.06 to 0.20 in/hr)

*Depth to water table:* More than 80 inches

*Frequency of flooding:* None

*Frequency of ponding:* None

*Calcium carbonate, maximum in profile:* 5 percent

*Salinity, maximum in profile:* Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)

*Available water storage in profile:* Low (about 3.2 inches)

##### Interpretive groups

*Land capability classification (irrigated):* 4e

*Land capability classification (nonirrigated):* 4e

*Hydrologic Soil Group:* C

## Custom Soil Resource Report

*Ecological site:* LOAMY (1975) (R019XD029CA)

*Hydric soil rating:* No

### Description of Greenfield

#### Setting

*Landform:* Alluvial fans

*Landform position (three-dimensional):* Tread

*Down-slope shape:* Concave

*Across-slope shape:* Convex

*Parent material:* Alluvium derived from granite

#### Typical profile

*H1 - 0 to 26 inches:* fine sandy loam

*H2 - 26 to 43 inches:* fine sandy loam

*H3 - 43 to 60 inches:* loam

*H4 - 60 to 70 inches:* stratified loamy sand to sandy loam

#### Properties and qualities

*Slope:* 8 to 15 percent

*Depth to restrictive feature:* More than 80 inches

*Natural drainage class:* Well drained

*Runoff class:* Low

*Capacity of the most limiting layer to transmit water (Ksat):* Moderately high to high (0.57 to 1.98 in/hr)

*Depth to water table:* More than 80 inches

*Frequency of flooding:* None

*Frequency of ponding:* None

*Calcium carbonate, maximum in profile:* 5 percent

*Salinity, maximum in profile:* Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)

*Available water storage in profile:* Moderate (about 8.3 inches)

#### Interpretive groups

*Land capability classification (irrigated):* 4e

*Land capability classification (nonirrigated):* 4e

*Hydrologic Soil Group:* A

*Ecological site:* LOAMY (1975) (R019XD029CA)

*Hydric soil rating:* No

### Description of Unnamed, Severely Eroded

#### Properties and qualities

*Depth to restrictive feature:* More than 80 inches

*Depth to water table:* More than 80 inches

*Frequency of flooding:* None

*Frequency of ponding:* None

### Minor Components

#### Greenfield

*Percent of map unit:* 10 percent

*Hydric soil rating:* No

## **GIC—Gorgonio loamy sand, deep, 2 to 8 percent slopes**

### **Map Unit Setting**

*National map unit symbol:* hcvf  
*Elevation:* 20 to 3,000 feet  
*Mean annual precipitation:* 10 to 25 inches  
*Mean annual air temperature:* 57 to 63 degrees F  
*Frost-free period:* 250 to 310 days  
*Farmland classification:* Prime farmland if irrigated

### **Map Unit Composition**

*Gorgonio and similar soils:* 85 percent  
*Minor components:* 15 percent  
*Estimates are based on observations, descriptions, and transects of the mapunit.*

### **Description of Gorgonio**

#### **Setting**

*Landform:* Alluvial fans  
*Landform position (three-dimensional):* Tread  
*Down-slope shape:* Linear  
*Across-slope shape:* Linear  
*Parent material:* Alluvium derived from granite

#### **Typical profile**

*H1 - 0 to 15 inches:* loamy sand  
*H2 - 15 to 60 inches:* stratified gravelly loamy sand to gravelly loamy fine sand

#### **Properties and qualities**

*Slope:* 2 to 8 percent  
*Depth to restrictive feature:* More than 80 inches  
*Natural drainage class:* Somewhat excessively drained  
*Runoff class:* Negligible  
*Capacity of the most limiting layer to transmit water (Ksat):* High to very high (5.95 to 19.98 in/hr)  
*Depth to water table:* More than 80 inches  
*Frequency of flooding:* None  
*Frequency of ponding:* None  
*Available water storage in profile:* Low (about 3.4 inches)

#### **Interpretive groups**

*Land capability classification (irrigated):* 2e  
*Land capability classification (nonirrigated):* 4e  
*Hydrologic Soil Group:* A  
*Ecological site:* SANDY (1975) (R019XD035CA)  
*Hydric soil rating:* No



**Minor Components**

**Hanford**

*Percent of map unit:* 5 percent  
*Hydric soil rating:* No

**Soboba**

*Percent of map unit:* 5 percent  
*Hydric soil rating:* No

**Tujunga**

*Percent of map unit:* 5 percent  
*Hydric soil rating:* No

**PID—Placentia fine sandy loam, 5 to 15 percent slopes**

**Map Unit Setting**

*National map unit symbol:* hcxw  
*Elevation:* 50 to 2,500 feet  
*Mean annual precipitation:* 12 to 18 inches  
*Mean annual air temperature:* 61 to 64 degrees F  
*Frost-free period:* 200 to 300 days  
*Farmland classification:* Not prime farmland

**Map Unit Composition**

*Placentia and similar soils:* 85 percent  
*Minor components:* 15 percent  
*Estimates are based on observations, descriptions, and transects of the mapunit.*

**Description of Placentia**

**Setting**

*Landform:* Alluvial fans, terraces  
*Landform position (three-dimensional):* Tread  
*Down-slope shape:* Linear  
*Across-slope shape:* Linear  
*Parent material:* Alluvium derived from granite

**Typical profile**

*H1 - 0 to 18 inches:* fine sandy loam  
*H2 - 18 to 39 inches:* clay  
*H3 - 39 to 57 inches:* clay loam  
*H4 - 57 to 60 inches:* gravelly sandy loam

**Properties and qualities**

*Slope:* 5 to 15 percent  
*Depth to restrictive feature:* More than 80 inches  
*Natural drainage class:* Moderately well drained  
*Runoff class:* Very high  
*Capacity of the most limiting layer to transmit water (Ksat):* Very low to moderately low (0.00 to 0.06 in/hr)

## Custom Soil Resource Report

*Depth to water table:* More than 80 inches  
*Frequency of flooding:* None  
*Frequency of ponding:* None  
*Calcium carbonate, maximum in profile:* 5 percent  
*Salinity, maximum in profile:* Very slightly saline to moderately saline (2.0 to 8.0 mmhos/cm)  
*Sodium adsorption ratio, maximum in profile:* 50.0  
*Available water storage in profile:* Low (about 4.8 inches)

### Interpretive groups

*Land capability classification (irrigated):* 4e  
*Land capability classification (nonirrigated):* 4e  
*Hydrologic Soil Group:* D  
*Ecological site:* CLAYPAN (1975) (R019XD061CA)  
*Hydric soil rating:* No

### Minor Components

#### Greenfield

*Percent of map unit:* 5 percent  
*Hydric soil rating:* No

#### Hanford

*Percent of map unit:* 5 percent  
*Hydric soil rating:* No

#### Ramona

*Percent of map unit:* 4 percent  
*Hydric soil rating:* No

#### Unnamed, ponded

*Percent of map unit:* 1 percent  
*Landform:* Depressions  
*Hydric soil rating:* Yes

## RmE3—Ramona and Buren sandy loams, 15 to 25 percent slopes, severely eroded

### Map Unit Setting

*National map unit symbol:* hcyj  
*Elevation:* 250 to 3,500 feet  
*Mean annual precipitation:* 10 to 20 inches  
*Mean annual air temperature:* 63 degrees F  
*Frost-free period:* 230 to 320 days  
*Farmland classification:* Not prime farmland

### Map Unit Composition

*Ramona and similar soils:* 45 percent  
*Buren and similar soils:* 40 percent  
*Minor components:* 15 percent  
*Estimates are based on observations, descriptions, and transects of the mapunit.*

## Description of Ramona

### Setting

*Landform:* Terraces, alluvial fans  
*Landform position (three-dimensional):* Tread  
*Down-slope shape:* Concave  
*Across-slope shape:* Convex  
*Parent material:* Alluvium derived from granite

### Typical profile

*H1 - 0 to 8 inches:* sandy loam  
*H2 - 8 to 17 inches:* fine sandy loam  
*H3 - 17 to 68 inches:* sandy clay loam  
*H4 - 68 to 74 inches:* gravelly sandy loam

### Properties and qualities

*Slope:* 15 to 25 percent  
*Depth to restrictive feature:* More than 80 inches  
*Natural drainage class:* Well drained  
*Runoff class:* Very high  
*Capacity of the most limiting layer to transmit water (Ksat):* Moderately high (0.20 to 0.57 in/hr)  
*Depth to water table:* More than 80 inches  
*Frequency of flooding:* None  
*Frequency of ponding:* None  
*Calcium carbonate, maximum in profile:* 1 percent  
*Available water storage in profile:* Moderate (about 8.4 inches)

### Interpretive groups

*Land capability classification (irrigated):* None specified  
*Land capability classification (nonirrigated):* 6e  
*Hydrologic Soil Group:* C  
*Ecological site:* LOAMY (1975) (R019XD029CA)  
*Hydric soil rating:* No

## Description of Buren

### Setting

*Landform:* Alluvial fans, terraces  
*Landform position (three-dimensional):* Tread  
*Down-slope shape:* Linear  
*Across-slope shape:* Convex, linear  
*Parent material:* Alluvium

### Typical profile

*H1 - 0 to 12 inches:* sandy loam  
*H2 - 12 to 28 inches:* loam  
*H3 - 28 to 37 inches:* loam  
*H4 - 37 to 52 inches:* cemented

### Properties and qualities

*Slope:* 15 to 25 percent  
*Depth to restrictive feature:* 37 to 40 inches to duripan  
*Natural drainage class:* Well drained  
*Runoff class:* Very high  
*Capacity of the most limiting layer to transmit water (Ksat):* Very low to moderately low (0.00 to 0.06 in/hr)



## Custom Soil Resource Report

*Depth to water table:* More than 80 inches  
*Frequency of flooding:* None  
*Frequency of ponding:* None  
*Calcium carbonate, maximum in profile:* 1 percent  
*Salinity, maximum in profile:* Nonsaline to slightly saline (0.0 to 4.0 mmhos/cm)  
*Available water storage in profile:* Low (about 5.5 inches)

### Interpretive groups

*Land capability classification (irrigated):* None specified  
*Land capability classification (nonirrigated):* 6e  
*Hydrologic Soil Group:* C  
*Ecological site:* LOAMY (1975) (R019XD029CA)  
*Hydric soil rating:* No

### Minor Components

#### Ramona

*Percent of map unit:* 5 percent  
*Hydric soil rating:* No

#### Buren

*Percent of map unit:* 5 percent  
*Hydric soil rating:* No

#### Hanford

*Percent of map unit:* 5 percent  
*Hydric soil rating:* No

# References

---

- American Association of State Highway and Transportation Officials (AASHTO). 2004. Standard specifications for transportation materials and methods of sampling and testing. 24th edition.
- American Society for Testing and Materials (ASTM). 2005. Standard classification of soils for engineering purposes. ASTM Standard D2487-00.
- Cowardin, L.M., V. Carter, F.C. Golet, and E.T. LaRoe. 1979. Classification of wetlands and deep-water habitats of the United States. U.S. Fish and Wildlife Service FWS/OBS-79/31.
- Federal Register. July 13, 1994. Changes in hydric soils of the United States.
- Federal Register. September 18, 2002. Hydric soils of the United States.
- Hurt, G.W., and L.M. Vasilas, editors. Version 6.0, 2006. Field indicators of hydric soils in the United States.
- National Research Council. 1995. Wetlands: Characteristics and boundaries.
- Soil Survey Division Staff. 1993. Soil survey manual. Soil Conservation Service. U.S. Department of Agriculture Handbook 18. [http://www.nrcs.usda.gov/wps/portal/nrcs/detail/national/soils/?cid=nrcs142p2\\_054262](http://www.nrcs.usda.gov/wps/portal/nrcs/detail/national/soils/?cid=nrcs142p2_054262)
- Soil Survey Staff. 1999. Soil taxonomy: A basic system of soil classification for making and interpreting soil surveys. 2nd edition. Natural Resources Conservation Service, U.S. Department of Agriculture Handbook 436. [http://www.nrcs.usda.gov/wps/portal/nrcs/detail/national/soils/?cid=nrcs142p2\\_053577](http://www.nrcs.usda.gov/wps/portal/nrcs/detail/national/soils/?cid=nrcs142p2_053577)
- Soil Survey Staff. 2010. Keys to soil taxonomy. 11th edition. U.S. Department of Agriculture, Natural Resources Conservation Service. [http://www.nrcs.usda.gov/wps/portal/nrcs/detail/national/soils/?cid=nrcs142p2\\_053580](http://www.nrcs.usda.gov/wps/portal/nrcs/detail/national/soils/?cid=nrcs142p2_053580)
- Tiner, R.W., Jr. 1985. Wetlands of Delaware. U.S. Fish and Wildlife Service and Delaware Department of Natural Resources and Environmental Control, Wetlands Section.
- United States Army Corps of Engineers, Environmental Laboratory. 1987. Corps of Engineers wetlands delineation manual. Waterways Experiment Station Technical Report Y-87-1.
- United States Department of Agriculture, Natural Resources Conservation Service. National forestry manual. [http://www.nrcs.usda.gov/wps/portal/nrcs/detail/soils/home/?cid=nrcs142p2\\_053374](http://www.nrcs.usda.gov/wps/portal/nrcs/detail/soils/home/?cid=nrcs142p2_053374)
- United States Department of Agriculture, Natural Resources Conservation Service. National range and pasture handbook. <http://www.nrcs.usda.gov/wps/portal/nrcs/detail/national/landuse/rangepasture/?cid=stelprdb1043084>

## Custom Soil Resource Report

United States Department of Agriculture, Natural Resources Conservation Service. National soil survey handbook, title 430-VI. [http://www.nrcs.usda.gov/wps/portal/nrcs/detail/soils/scientists/?cid=nrcs142p2\\_054242](http://www.nrcs.usda.gov/wps/portal/nrcs/detail/soils/scientists/?cid=nrcs142p2_054242)

United States Department of Agriculture, Natural Resources Conservation Service. 2006. Land resource regions and major land resource areas of the United States, the Caribbean, and the Pacific Basin. U.S. Department of Agriculture Handbook 296. [http://www.nrcs.usda.gov/wps/portal/nrcs/detail/national/soils/?cid=nrcs142p2\\_053624](http://www.nrcs.usda.gov/wps/portal/nrcs/detail/national/soils/?cid=nrcs142p2_053624)

United States Department of Agriculture, Soil Conservation Service. 1961. Land capability classification. U.S. Department of Agriculture Handbook 210. [http://www.nrcs.usda.gov/Internet/FSE\\_DOCUMENTS/nrcs142p2\\_052290.pdf](http://www.nrcs.usda.gov/Internet/FSE_DOCUMENTS/nrcs142p2_052290.pdf)



**Attachment D**

---

USFWS National Wetlands Inventory Map



U.S. Fish and Wildlife Service

## National Wetlands Inventory

## Traffic Signal at Wabash Lane and Temecula Parkway Project



February 20, 2019

### Wetlands

Estuarine and Marine Deepwater	Freshwater Emergent Wetland	Lake
Estuarine and Marine Wetland	Freshwater Forested/Shrub Wetland	Other
	Freshwater Pond	Riverine

This map is for general reference only. The US Fish and Wildlife Service is not responsible for the accuracy or currentness of the base data shown on this map. All wetlands related data should be used in accordance with the layer metadata found on the Wetlands Mapper web site.

## **Attachment E**

---

FEMA Flood Zone Maps



33°28'50.97"N



SEE FIS REPORT FOR DETAILED LEGEND AND INDEX MAP FOR FIRM PANEL LAYOUT



This map image is void if the one or more of the following map elements do not appear: basemap imagery, flood zone labels, legend, scale bar, map creation date, community identifiers, FIRM panel number, and FIRM effective date. Map images for unmapped and unmodernized areas cannot be used for regulatory purposes.

**Attachment F**

---

Site Photographs





**Photo 1.** View looking south of Drainage 1 at the northern boundary of the project site.



**Photo 2.** View looking northeast of Drainage 1 and two metal pipe culverts in the northern portion of the project site.



**Photo 3.** View looking south of surface water and drainage patterns within Drainage 1 in the northern portion of the project site.



**Photo 4.** View looking north of surface water and vegetation within Drainage 1 in the central portion of the project site.

TRAFFIC SIGNAL AT WABASH LANE AND TEMECULA PARKWAY PROJECT  
 DELINEATION OF STATE AND FEDERAL JURISDICTIONAL WATERS

## Site Photographs

Attachment F-1





**Photo 5.** View looking southwest of Drainage 1 and riparian vegetation in the central portion of the project site.



**Photo 6.** View looking southwest of Drainage 1 and riparian vegetation in the southern portion of the project site.



**Photo 7.** View looking southeast of Drainage 1 and concrete pipe culvert in the southern portion of the project site.



**Photo 8.** View looking west of Soil Pit 1 and terrace adjacent to southern bank of Drainage 1 in the southern portion of the project site.

TRAFFIC SIGNAL AT WABASH LANE AND TEMECULA PARKWAY PROJECT  
 DELINEATION OF STATE AND FEDERAL JURISDICTIONAL WATERS

## Site Photographs

Attachment F-2



## **Attachment G**

---

### **Wetland Determination Data Forms**

# WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Wabash Lane and Temecula Parkway Project City/County: Temecula/Riverside Sampling Date: 2/6/19  
 Applicant/Owner: Laura Bragg, City of Temecula State: CA Sampling Point: 1  
 Investigator(s): Josephine Lim and Tim Tidwell Section, Township, Range: S18 T8S R2W  
 Landform (hillslope, terrace, etc.): Floodplain Local relief (concave, convex, none): concave Slope (%): 1  
 Subregion (LRR): Mediterranean California Lat: 33°28'36.93"N Long: 117° 7'56.16"W Datum: WGS84  
 Soil Map Unit Name: Ramona and Buren sandy loams, 15 to 25 % slopes severely eroded NWI classification: R5UBF and R4SBC  
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes \_\_\_\_\_ No ☒ (If no, explain in Remarks.)  
 Are Vegetation \_\_\_\_\_, Soil \_\_\_\_\_, or Hydrology \_\_\_\_\_ significantly disturbed? Are "Normal Circumstances" present? Yes ☒ No \_\_\_\_\_  
 Are Vegetation \_\_\_\_\_, Soil \_\_\_\_\_, or Hydrology \_\_\_\_\_ naturally problematic? (If needed, explain any answers in Remarks.)

## SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No _____	Is the Sampled Area within a Wetland? Yes _____ No <input checked="" type="checkbox"/>
Hydric Soil Present? Yes <input checked="" type="checkbox"/> No _____	
Wetland Hydrology Present? Yes _____ No <input checked="" type="checkbox"/>	
Remarks:  There was abnormal rainfall a week prior to the delineation.	

## VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: <u>30'</u> )	Absolute % Cover	Dominant Species?	Indicator Status	<b>Dominance Test worksheet:</b> Number of Dominant Species That Are OBL, FACW, or FAC: <u>1</u> (A)  Total Number of Dominant Species Across All Strata: <u>2</u> (B)  Percent of Dominant Species That Are OBL, FACW, or FAC: <u>50</u> (A/B)
1. <u>Populus fremontii</u>	<u>30</u>	<u>yes</u>	<u>FACW</u>	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
<u>30</u> = Total Cover				<b>Prevalence Index worksheet:</b> Total % Cover of: _____ Multiply by: _____ OBL species _____ x 1 = _____ FACW species <u>1</u> x 2 = <u>2</u> FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals: _____ (A) _____ (B)  Prevalence Index = B/A = <u>2</u>
<b>Sapling/Shrub Stratum (Plot size: <u>15'</u>)</b> 1. _____ 2. _____ 3. _____ 4. _____ 5. _____ _____ = Total Cover				
<b>Herb Stratum (Plot size: <u>5'</u>)</b> 1. <u>Brassica nigra</u> <u>20</u> <u>yes</u> <u>NI</u> 2. <u>Marrubium vulgare</u> <u>2</u> <u>yes</u> <u>FACU</u> 3. <u>Bromus diandrus</u> <u>7</u> <u>no</u> <u>NI</u> 4. _____ 5. _____ 6. _____ 7. _____ 8. _____ _____ = Total Cover				
<b>Woody Vine Stratum (Plot size: _____)</b> 1. _____ 2. _____ _____ = Total Cover				
% Bare Ground in Herb Stratum <u>0</u> % Cover of Biotic Crust <u>0</u>				

**Hydrophytic Vegetation Indicators:**  
 \_\_\_ Dominance Test is >50%  
☒ Prevalence Index is ≤3.0<sup>1</sup>  
 \_\_\_ Morphological Adaptations<sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)  
 \_\_\_ Problematic Hydrophytic Vegetation<sup>1</sup> (Explain)

<sup>1</sup>Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

**Hydrophytic Vegetation Present?** Yes ☒ No \_\_\_\_\_

Remarks:  
  
Significant leaf litter covering ground.



# SOIL

Sampling Point: 1

**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>		
0-16	10YR 2.5/2	93	7.5 YR 3/4	7	C	M	SL	SL= sandy loam

<sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. <sup>2</sup>Location: PL=Pore Lining, M=Matrix.

**Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)**

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5) (**LRR C**)
- ☐ 1 cm Muck (A9) (**LRR D**)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Mucky Mineral (S1)
- ☐ Sandy Gleyed Matrix (S4)

- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☒ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)
- ☐ Vernal Pools (F9)

**Indicators for Problematic Hydric Soils<sup>3</sup>:**

- ☐ 1 cm Muck (A9) (**LRR C**)
- ☐ 2 cm Muck (A10) (**LRR B**)
- ☐ Reduced Vertic (F18)
- ☐ Red Parent Material (TF2)
- ☐ Other (Explain in Remarks)

<sup>3</sup>Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

**Restrictive Layer (if present):**

Type: N/A

Depth (inches): N/A

**Hydric Soil Present?** Yes ☒ No ☐

Remarks:

# HYDROLOGY

**Wetland Hydrology Indicators:**

Primary Indicators (minimum of one required; check all that apply)

- ☐ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1) (**Nonriverine**)
- ☐ Sediment Deposits (B2) (**Nonriverine**)
- ☐ Drift Deposits (B3) (**Nonriverine**)
- ☐ Surface Soil Cracks (B6)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Water-Stained Leaves (B9)

- ☐ Salt Crust (B11)
- ☐ Biotic Crust (B12)
- ☐ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Oxidized Rhizospheres along Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in Tilled Soils (C6)
- ☐ Thin Muck Surface (C7)
- ☐ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ☐ Water Marks (B1) (**Riverine**)
- ☐ Sediment Deposits (B2) (**Riverine**)
- ☐ Drift Deposits (B3) (**Riverine**)
- ☐ Drainage Patterns (B10)
- ☐ Dry-Season Water Table (C2)
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Shallow Aquitard (D3)
- ☐ FAC-Neutral Test (D5)

**Field Observations:**

Surface Water Present? Yes ☐ No ☒ Depth (inches):                     

Water Table Present? Yes ☐ No ☒ Depth (inches):                     

Saturation Present? Yes ☐ No ☒ Depth (inches):                       
(includes capillary fringe)

**Wetland Hydrology Present?** Yes ☐ No ☒

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: