

# **JURISDICTIONAL DELINEATION REPORT**

**Tentative Parcel Map No. 37121  
Northeast corner of Haun Road and Holland Road  
City of Menifee, California**

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First Submittal: February 2019  
Second Submittal: April 2019

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City of Menifee, California**

The undersigned certify that this report is a complete and accurate account of the findings and conclusions of a jurisdictional delineation for the above-referenced project.

**Albert A. Webb Associates**

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Autumn DeWoody, CPSWQ, Senior Environmental Analyst

First Submittal: February 2019  
Second Submittal: April 2019



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## 1.0 INTRODUCTION

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This report presents the findings of an investigation conducted by Albert A. Webb Associates (Webb) by request of JPN Corporation (Applicant), to determine the extent of jurisdictional wetland and/or non-wetland Waters of the U.S./State that may be impacted by the development of facilities proposed in Tentative Parcel Map (TPM) No. 37121, located at the northeast corner of the Haun Road and Holland Road intersection, City of Menifee, California as shown on **Figure 1 – Vicinity Map**.

The purpose of the delineation is to determine the extent of state and federal jurisdiction within the project area potentially subject to regulation by the U.S. Army Corps of Engineers (USACE) under Section 404 of the Clean Water Act (CWA), Regional Water Quality Control Board (RWQCB) under Section 401 of the CWA and Porter Cologne Water Quality Control Act, and the California Department of Fish and Wildlife (CDFW) under Section 1602 of the California Fish and Game Code.

The information provided in this report is necessary to evaluate jurisdictional impacts and permit requirements associated with the project, and can be used by the regulatory agencies to comply with state and federal regulations. This project does not include a request for the U.S. Army Corps of Engineers (USACE) to conduct an Approved Jurisdictional Determination.

The project site is an approximately 32-acre (net) rectangular property bounded by Haun Road, Interstate 215 (I-215), and Holland Road. Approximate coordinates are 33.67194 and -117.17333. The project site can be accessed from Interstate 215, exit Newport Road west, turn south onto Haun Road, and turn east onto Holland Road and the site is on the north side of Holland Road. An unnamed ditch (“Caltrans Ditch”) is located between the project site and I-215 and is within California Department of Transportation (Caltrans) right-of-way. The Paloma Wash Flood Control Channel (Paloma Wash) is located on the opposite side of Haun Road from the project site and is owned/maintained by the Riverside County Flood Control and Water Conservation District (RCFCWCD). The project proposes to construct a new offsite storm drain connection and outfall structure from the 32-acre property to outlet in the Paloma Wash. The outfall structure would be constructed during the rough grading phase along with the installation of the storm drain system. The outfall structure is designed to the same specifications as the other outlet structures along the banks of Paloma Wash, pursuant to RCFCWCD standards. It will consist of concrete along the wash bank, and a mix of rip-rap and concrete in the wash bed (**Figure 2 – Site Plan** and **Figure 2a – Engineering Plan**).

The proposed project does not propose to connect to, or otherwise impact the Caltrans Ditch; however it has been delineated herein to establish the area to avoid during grading. Future development of the individual parcels within the Applicant’s current property may require an updated delineation and mitigation of impacts, in the event that they outlet to the Caltrans Ditch. The enclosed delineation is based on one site visit by Webb staff, Autumn DeWoody and Caitlin Dawson, on December 19, 2018 to delineate the jurisdictional limits of Paloma Wash and the Caltrans Ditch. Remote sensing was not used. Representative

photographs of the study area and rainfall totals prior to and after the site visit are provided in **Appendix A**.

## 1.1 Existing Site Conditions

The project site, Caltrans Ditch, and Paloma Wash are located in a relatively flat valley with mild slope that has been used historically for cultivating field crops, as shown in **Figure 3 – USGS Topography Map**. Both the Paloma Wash and Caltrans Ditch are man-made features created to drain stormwater runoff to the north where they outlet into Salt Creek.

The Caltrans Ditch in its current alignment was created when I-215 was constructed, sometime around 1953 (EDR). Prior to that, the “Old Paloma Wash” channel meandered naturally in the same general area to convey flows from a large tributary area to the south. A remnant section of “Old Paloma Wash” is still visible along the southern border of the project site. With construction of the “new” Paloma Wash in 2008, the tributary area in the project vicinity has been significantly reduced. The Old Paloma Wash segment and part of the Caltrans Ditch have been delineated previously as part of the Holland Road Overcrossing Project and because the results of that study are still applicable, the effort was not duplicated herein and the report is provided for reference in **Appendix B**.

The RCFCWCD constructed the new Paloma Wash in 2008 in uplands where a drainage feature did not previously exist. Paloma Wash now conveys the runoff to Salt Creek that previously flowed in the “Old Paloma Wash” in addition to runoff from a large watershed to the south of the project site. The Paloma Wash is a RCFCWCD-owned and maintained flood control facility. At the time of the site visit, the low-flow channel that roughly follows the centerline of Paloma Wash showed signs of recent saturation. The Caltrans Ditch did not have evidence of recent flows.

## 1.2 Proposed Project

The project will include the construction of a storm drain system that includes a new offsite outlet structure in the bank of Paloma Wash (**Figures 2 and 2a**). The outlet structure is not a part of the RCFCWCD Master Drainage Plan for the area. Although the proposed project does not include any connections or other impacts to the Caltrans Ditch, because of its proximity to the property boundary, a delineation was conducted to identify jurisdictional limits and thus, area of avoidance. As a result of this delineation, the project grading limits were refined to avoid all impacts to the Caltrans Ditch; therefore, it will not be discussed further since no impacts will occur.

## Biology

The following biological studies have been prepared for the project, which are provided in **Appendix C**.

- *Determination of Biologically Superior or Equivalent Preservation (DBESP), Haun & Holland – TPM 37121 Project (APN 360-130-003), City of Menifee, Western Riverside County, California.* Cadre Environmental. February 2019.
- *General MSHCP Habitat Assessment/Compliance Analysis for the 37-Acre Haun & Holland Project Site, City of Menifee, California.* Cadre Environmental. February 4, 2019.
- *MSHCP Focused Burrowing Owl Surveys for the 37-Acre Haun & Holland Road Project Site, City of Menifee, California.* Cadre Environmental. March 23, 2017.

The aforementioned DBESP Report and General Habitat Assessment/Compliance Analysis both include the Paloma Wash and Caltrans Ditch.

Vegetation within the Paloma Wash channel is characterized as disturbed/ruderal vegetation, primarily dominated by non-native invasive brush and grass species. The channel is managed like a flood control channel and regularly mowed by the RCFCWCD. Species documented within the wash include red-stemmed filaree (*Erodium cicutarium*), black mustard (*Brassica nigra*), Russian thistle (*Salsola tragus*), tocalote (*Centaurea melitensis*), curly dock (*Rumex crispus*), shepherds' purse (*Capsella bursa-pastoris*), dwarf nettle (*Urtica urens*), stinking chamomile (*Anthemis cotula*), bur clover (*Medicago polymorpha*), and non-native grasses. Less common native species documented in this region include clustered tarweed (*Deinandra fasciculata*), California buckwheat (*Eriogonum fasciculatum*), common sand aster (*Corethrogyne filaginifolia*), common fiddleneck (*Amsinckia menziesii*), rough cocklebur (*Xanthium strumarium*), annual sunflower (*Helianthus annuus*), and smooth tarplant (*Centromadia pungens* ssp. *laevis*).

Curly dock, rough cocklebur, and smooth tarplant are facultative (FAC) species on the USACE's *Arid West National Wetland Plant List*, which means they could be indicators of a wetland (see Section 3.1). Smooth tarplant, a California Rare Plant Rank (CRPR) 1B.1 was documented within the Paloma Wash.<sup>1</sup> However, the Paloma Wash does not occur within a predetermined Survey Area for MSHCP narrow endemic criteria area plant species and focused surveys and/or conservation is not required (Cadre, 2019).

## Soils

According to the Soil Survey of Western Riverside County (NRCSa), and as shown on **Figure 4 – Soils Map**, the following soils are mapped within the study area:

### Paloma Wash

- HnC – Honcut sandy loam, 2-8% slopes;
- WyC2 – Wyman loam, 2-8% slopes, eroded; and
- YbC – Yokohl loam, 2-8% slopes.

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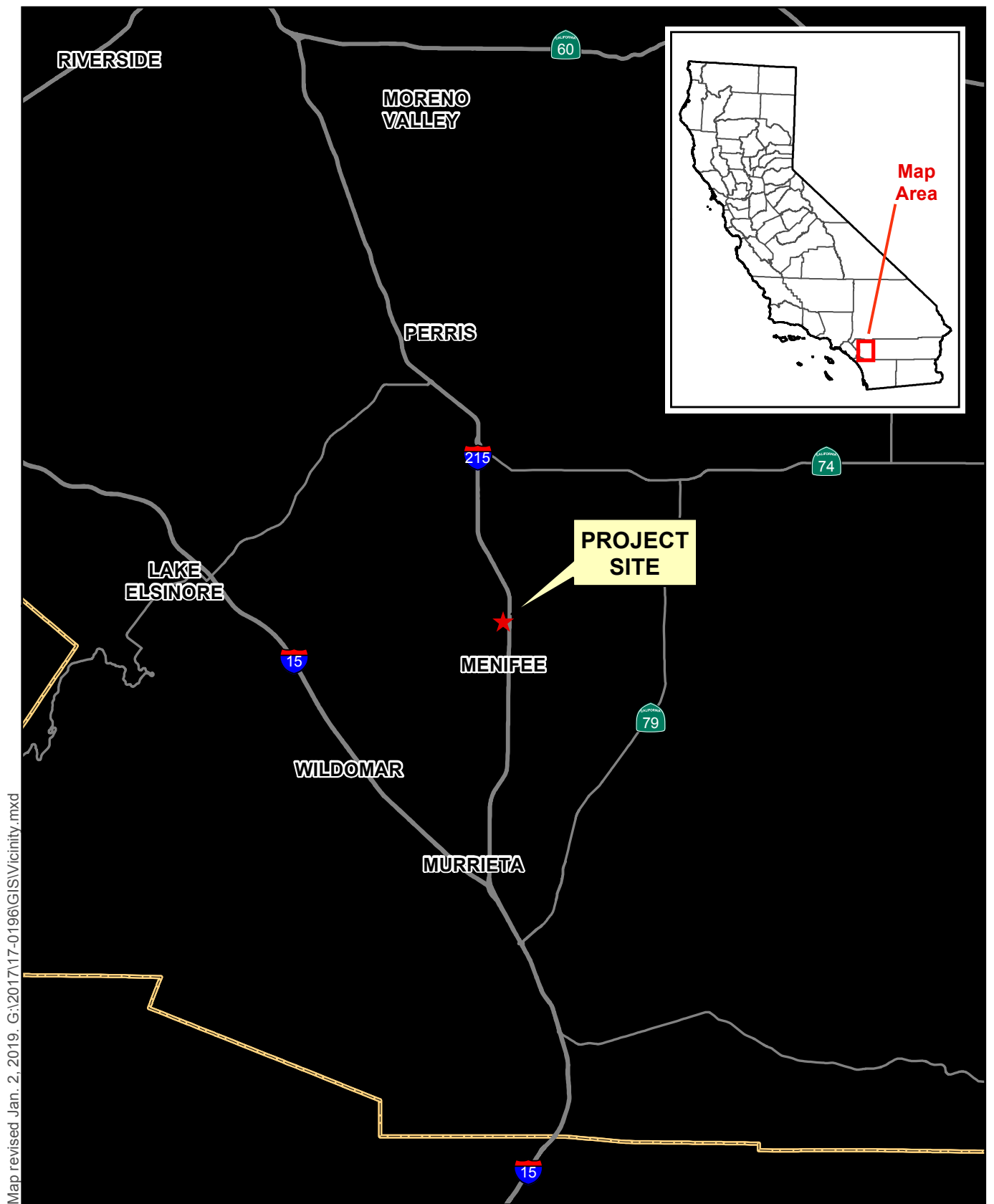
<sup>1</sup> The CRPR list is compiled by the California Native Plant Society and serves as a candidate list for listing as threatened and endangered by the CDFW. Rank 1B indicates the plant is “rare, threatened, or endangered in California and elsewhere.” The Threat Rank of 0.1 is added to Rank 1B to show it is “seriously threatened in California (over 80% of occurrences threatened/high degree and immediacy of threat).” (Cadre, 2019)

Yokohl loam (YbC), 2-8% slopes, is listed as a hydric soil on the Local Hydric Soils List (NRCSb). As shown in **Figure 4**, it is mapped in the same area as the proposed outlet structure in Paloma Wash.

### **National Wetlands Inventory**

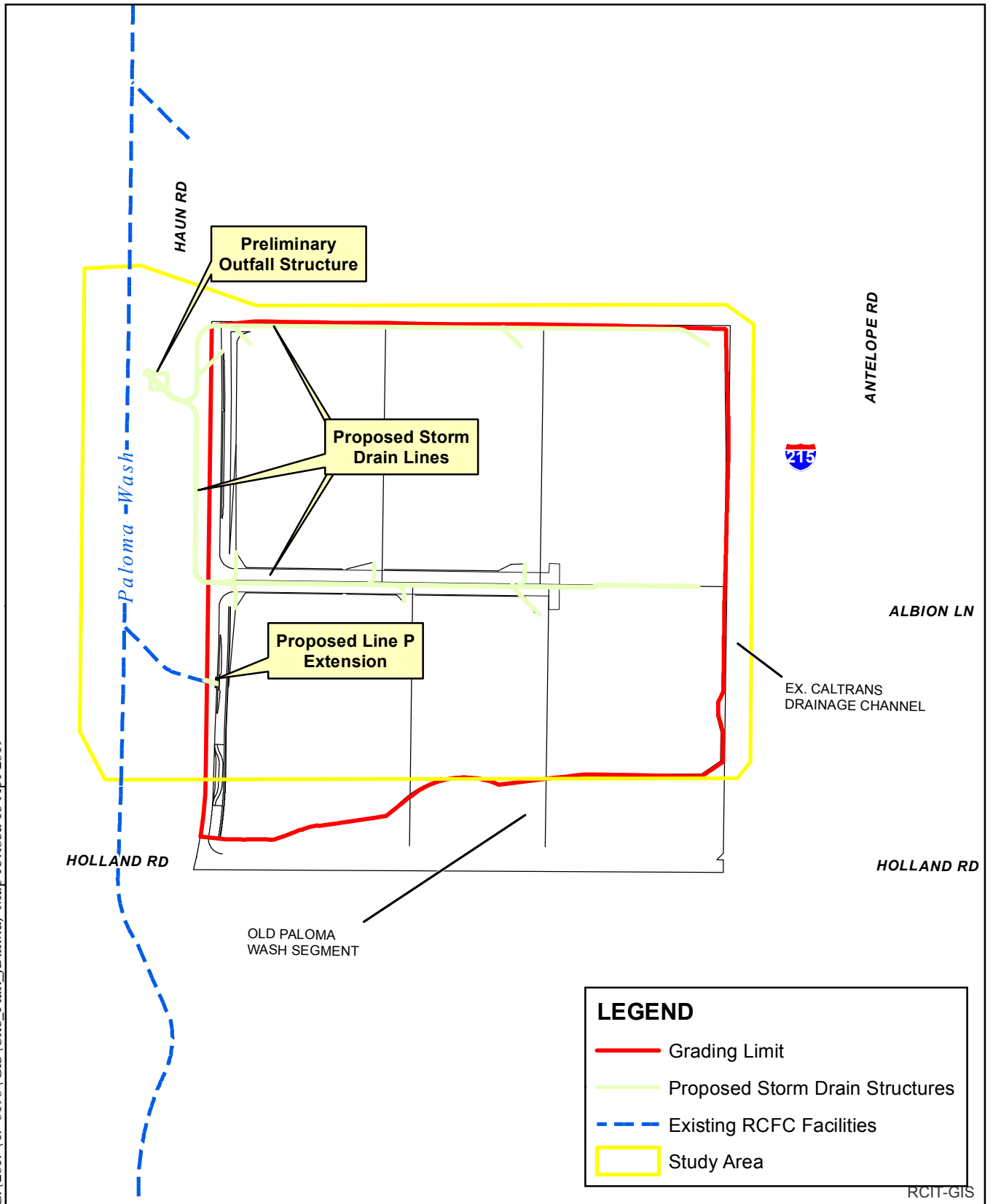
The U.S. Fish and Wildlife Service (USFWS) is the principal Federal agency that provides information to the public on the extent and status of the nation's wetlands. It has developed a series of maps, known as the "National Wetlands Inventory" (NWI) to show wetlands and deep water habitat. This geospatial information is used by Federal, State, and local agencies, academic institutions, and private industry for management, research, policy development, education, and planning activities. The NWI program was neither designed nor intended to produce legal or regulatory products; therefore, wetlands identified by the NWI program are not the same as wetlands defined by the USACE.

The NWI Mapper (USFWS, 2017) was accessed online to review mapped wetlands within the project study area. According to the NWI, the Caltrans Ditch is mapped as a Riverine wetland classified as a "riverine, intermittent system streambed class with a temporarily flooded water regime" (or "R4SBA"). The Paloma Wash is not identified as an aquatic resource on the NWI Mapper, as shown on **Figure 5 – National Wetlands Inventory**.



**Figure 1 – Vicinity Map**  
Haun and Holland Mixed Use Center

G:\2017\17-0196\GIS\Site\_Plan\_ID.mxd; Map revised 15 Apr 2019



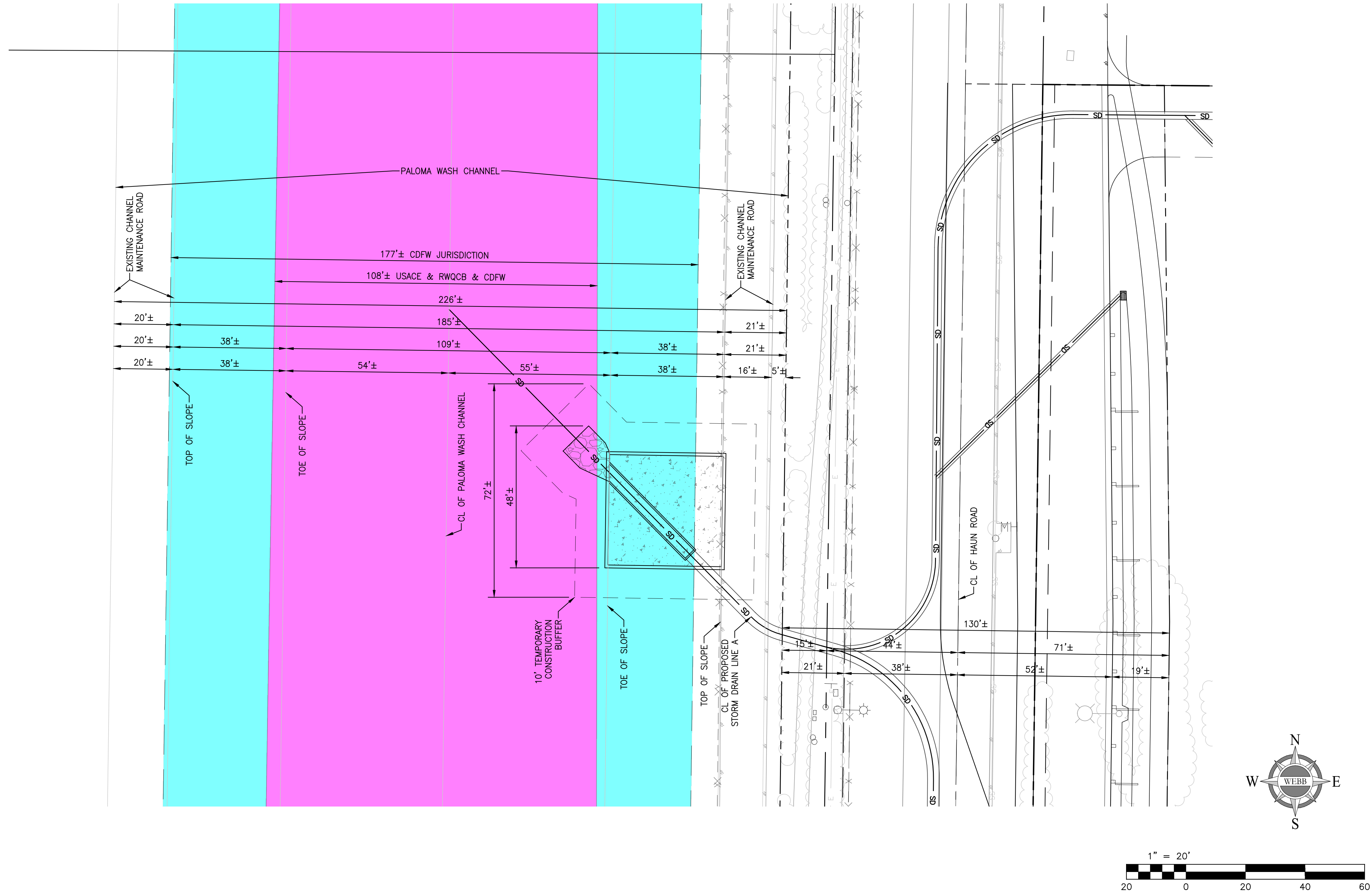
Sources: Riverside Co. GIS, 2019  
(roads) and 2016 (imagery).



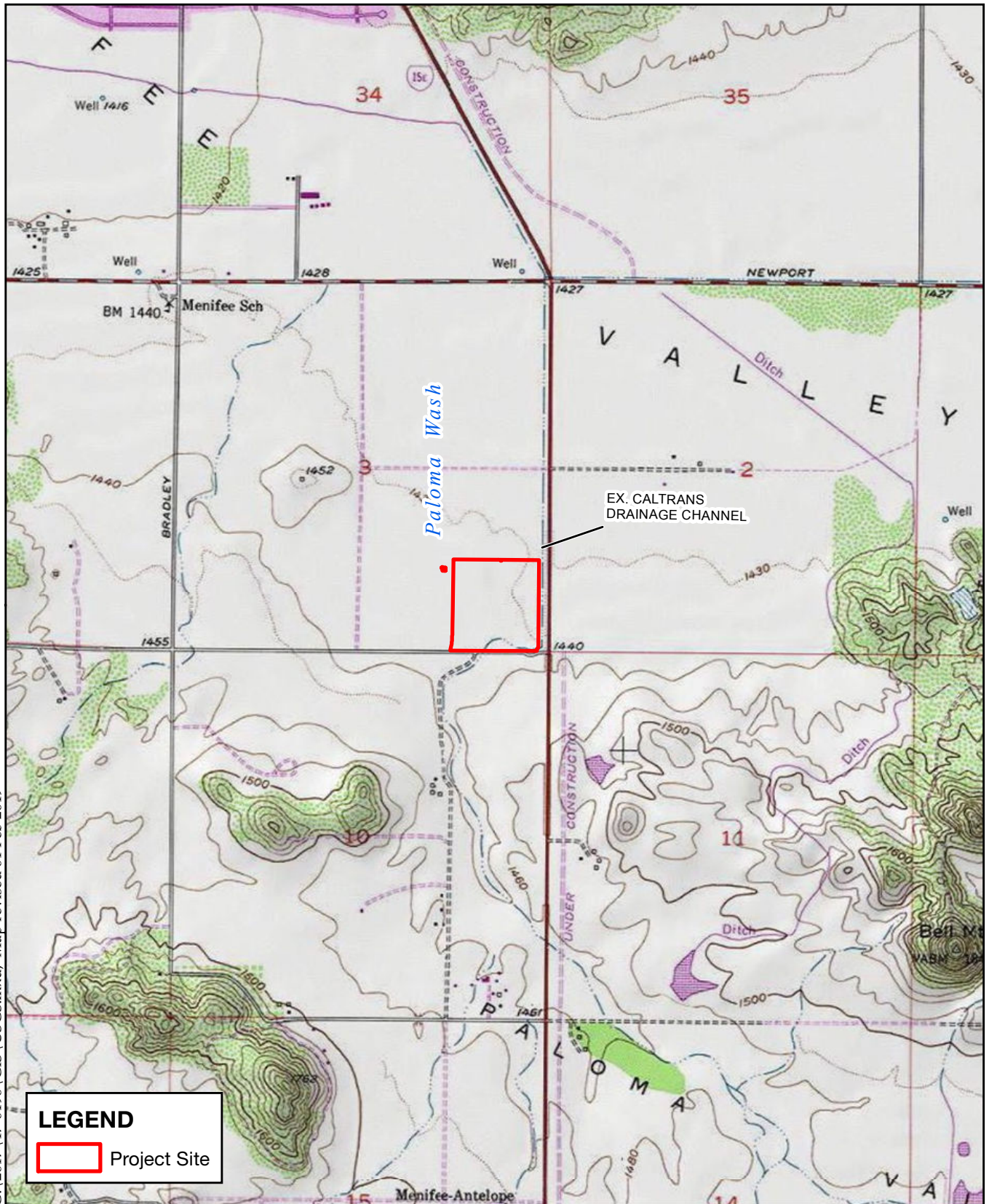
0 200 400 600  
Feet

**Figure 2 - Site Plan**  
Haun and Holland Mixed Use Center



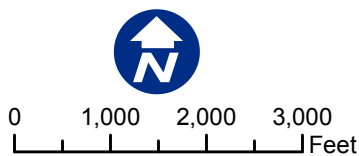


G:\2017\17-0196\GIS\USGS.mxd; Map revised 01 Feb 2019



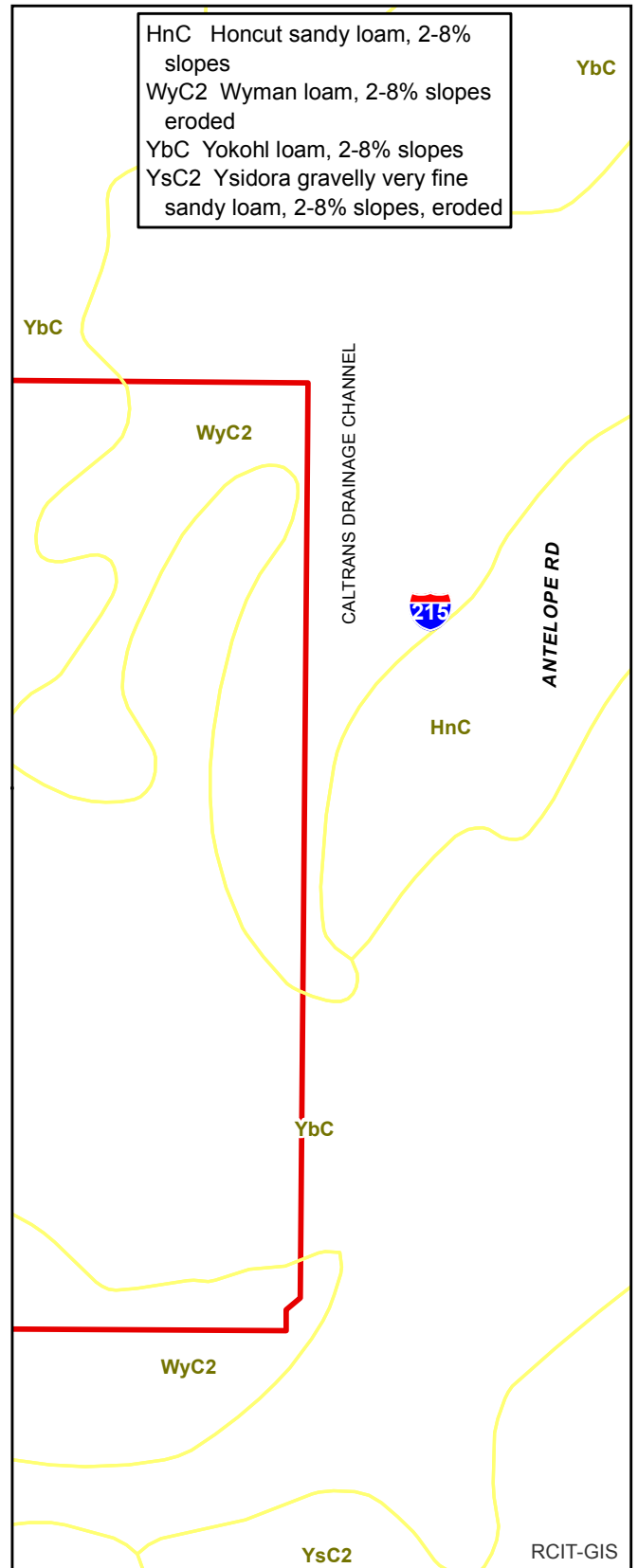
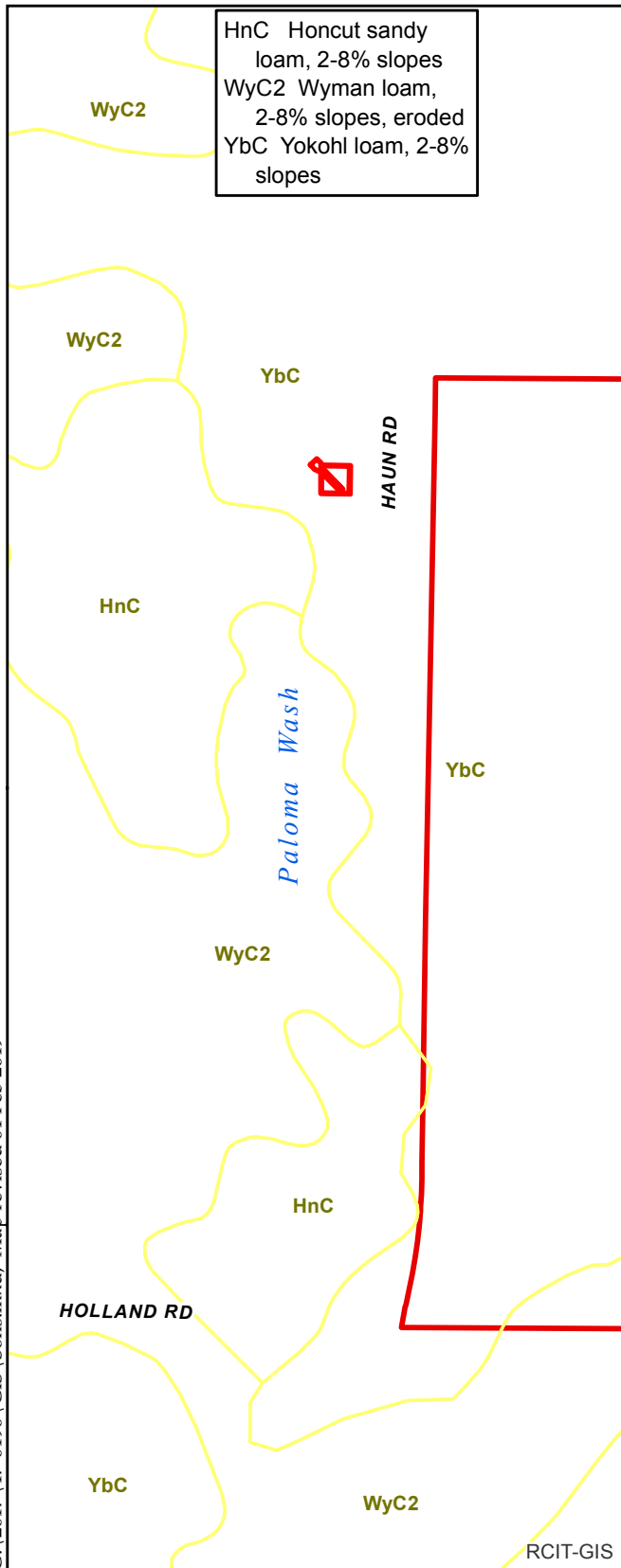
Sources: ESRI / USGS 7.5min Quad  
DRG: ROMOLAND

**Figure 3 - USGS Topography Map**  
Haun and Holland Mixed Use Center

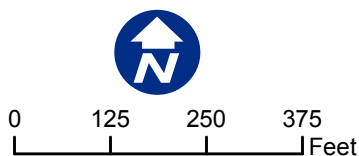




G:\2017\17-0196\GIS\Soils.mxd; Map revised 01 Feb 2019



Sources: USDA NRCS SSURGO, 2017; Riverside Co. GIS, 2019 (roads) and 2016 (imagery).

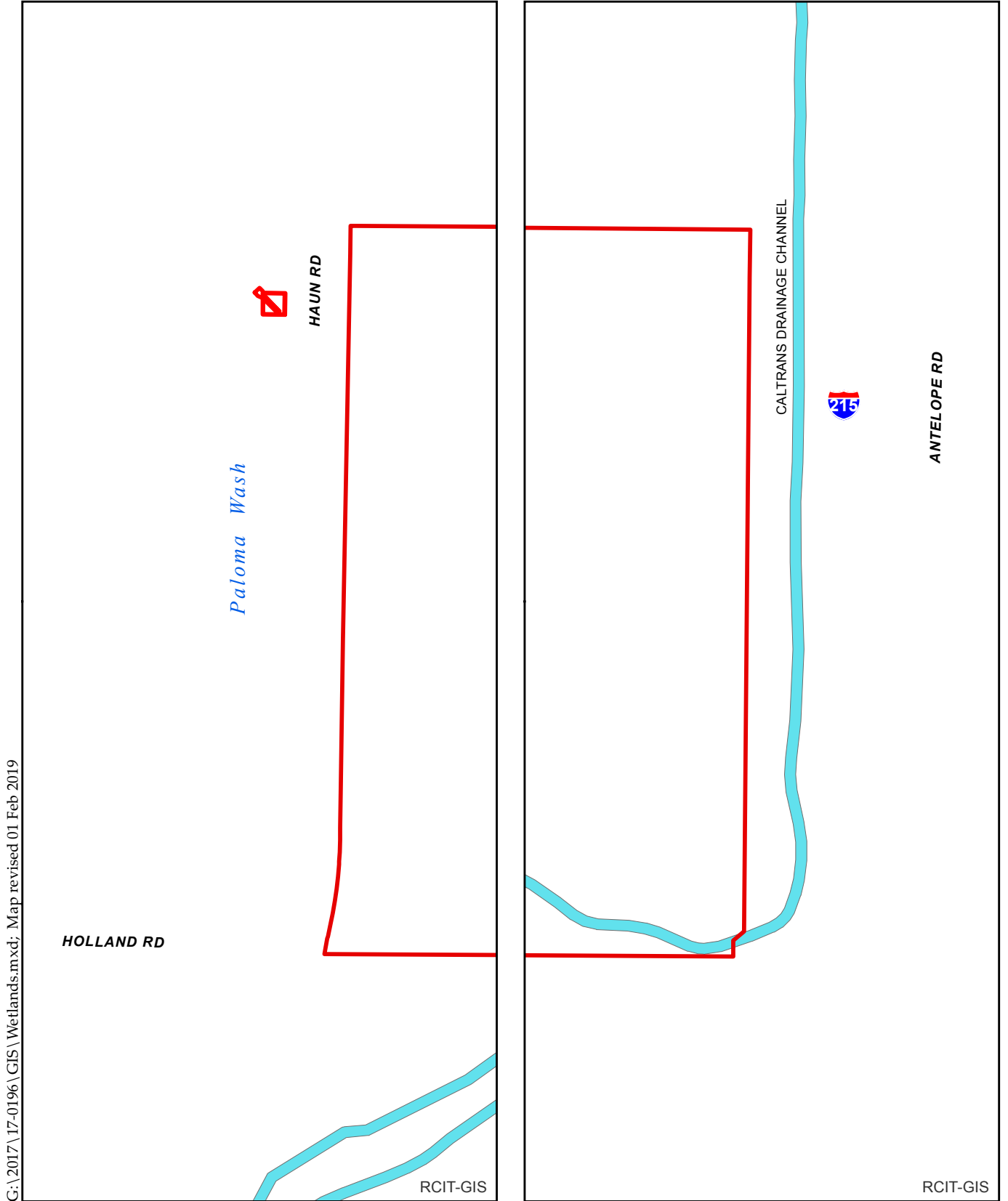


### LEGEND

- Project Site and Outfall Structure
- Soil Type Areas

**Figure 4 - Soils Map**  
Haun and Holland Mixed Use Center



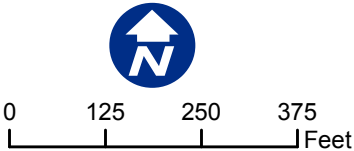


G:\2017\17-0196\GIS\Wetlands.mxd; Map revised 01 Feb 2019

Sources: USFWS NWI 2018; Riverside Co. GIS, 2019 roads) and 2016 (imagery).

**Figure 5 - National Wetlands Inventory**

Haun and Holland Mixed Use Center



- Project Site and Outfall Structure
- Riverine



## 2.0 SUMMARY OF REGULATIONS

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This section presents regulatory framework for a delineation of jurisdictional waters, wetlands, and associated riparian habitat potentially impacted by the installation of the new offsite storm drain outfall structure.

### 2.1 USACE Section 404 Permit

Section 404 of the CWA regulates the discharge of dredged material, placement of fill material, or excavation within “Waters of the U.S.” and authorizes the Secretary of the Army, through the Chief of Engineers, to issue permits for such actions.

Permits can be issued for individual projects (Individual Permits [IPs]) or for the general categories of projects (General Permits [GPs]). Nationwide permits (NWP) may be issued for certain categories of projects that have minimal impacts to Waters of the U.S.

#### 2015 Clean Water Rule

The 2015 Clean Water Rule was published by the USACE and EPA on June 29, 2015 to more clearly define the scope of aquatic resources that meet the definition of “Waters of the United States” under the CWA. The 2015 Rule went into effect in California in August of 2018. It does not establish any regulatory requirements. The agencies proposed a new definition in December of 2018 which would replace the approach in the 2015 Rule and the pre-2015 regulations. The proposed revised definition is currently going through the rule-making process.

The term, “waters of the United States” is currently defined at 33 CFR Part 328.3(a) as:

*(a) For purposes of the Clean Water Act, 33 U.S.C. 1251 et seq. and its implementing regulations, subject to the exclusions in paragraph (b) of this section, the term “waters of the United States” means:*

- (1) All waters which are currently used, or were used in the past, or may be susceptible to use in interstate or foreign commerce, including all waters which are subject to the ebb and flow of the tide;*
- (2) All interstate waters including interstate wetlands;*
- (3) The territorial seas;*
- (4) All impoundments of waters otherwise defined as waters of the United States under the definition;*
- (5) All tributaries, as defined in paragraph (c)(3) of this section, of waters identified in paragraphs (a)(1) through (3) of this section;*

- (6) *All waters adjacent to a water identified in paragraphs (a)(1) through (5) of this section, including wetlands, ponds, lakes, oxbows, impoundments, and similar waters;*
- (7) *All waters in paragraphs (a)(7)(i) through (v) of this section where they are determined, on a case-specific basis, to have a significant nexus to a water identified in paragraphs (a)(1) through (3) of this section. The waters identified in each of paragraphs (a)(7)(i) through (v) of this section are similarly situated and shall be combined, for purposes of a significant nexus analysis, in the watershed that drains to the nearest water identified in paragraphs (a)(1) through (3) of this section. Waters identified in this paragraph shall not be combined with waters identified in paragraph (a)(6) of this section when performing a significant nexus analysis. If waters identified in this paragraph are also an adjacent water under paragraph (a)(6), they are an adjacent water and no case-specific significant nexus analysis is required.*
- (i) *Prairie potholes. Prairie potholes are a complex of glacially formed wetlands, usually occurring in depressions that lack permanent natural outlets, located in the upper Midwest.*
- (ii) *Carolina bays and Delmarva bays. Carolina bays and Delmarva bays are ponded, depressional wetlands that occur along the Atlantic coastal plain.*
- (iii) *Pocosins. Pocosins are evergreen shrub and tree dominated wetlands found predominantly along the Central Atlantic coastal plain.*
- (iv) *Western vernal pools. Western vernal pools are seasonal wetlands located in parts of California and associated with topographic depression, soils with poor drainage, mild, wet winters and hot, dry summers.*
- (v) *Texas coastal prairie wetlands. Texas coastal prairie wetlands are freshwater wetlands that occur as a mosaic of depressions, ridges, intermound flats, and mima mound wetlands located along the Texas Gulf Coast.*
- (8) *All waters located within the 100-year floodplain of a water identified in paragraphs (a)(1) through (3) of this section and all waters located within 4,000 feet of the high tide line or ordinary high water mark of a water identified in paragraphs (a)(1) through (5) of this section where they are determined on a case-specific basis to have a significant nexus to a water identified in paragraphs (a)(1) through (3) of this section. For waters determined to have a significant nexus, the entire water is a water of the United States if a portion is located within the 100-year floodplain of a water identified in paragraphs (a)(1) through (3) of this section or within*

*4,000 feet of the high tide line or ordinary high water mark. Waters identified in this paragraph shall not be combined with waters identified in paragraph (a)(6) of this section when performing a significant nexus analysis. If waters identified in this paragraph are also an adjacent water under paragraph (a)(6), they are an adjacent water and no case-specific significant nexus analysis is required.*

The following are not “waters of the United States” even where they otherwise meet the terms of paragraphs (a)(4) through (8) above.

*(1) Waste treatment systems, including treatment ponds or lagoons designed to meet the requirements of the Clean Water Act.*

*(2) Prior converted cropland. Notwithstanding the determination of an area's status as prior converted cropland by any other Federal agency, for the purposes of the Clean Water Act, the final authority regarding Clean Water Act jurisdiction remains with EPA.*

*(3) The following ditches:*

*(i) Ditches with ephemeral flow that are not a relocated tributary or excavated in a tributary.*

*(ii) Ditches with intermittent flow that are not a relocated tributary, excavated in a tributary, or drain wetlands.*

*(iii) Ditches that do not flow, either directly or through another water, into a water identified in paragraphs (a)(1) through (3) of this section.*

*(4) The following features:*

*(i) Artificially irrigated areas that would revert to dry land should application of water to that area cease;*

*(ii) Artificial, constructed lakes and ponds created in dry land such as farm and stock watering ponds, irrigation ponds, settling basins, fields flooded for rice growing, log cleaning ponds, or cooling ponds;*

*(iii) Artificial reflecting pools or swimming pools created in dry land;*

*(iv) Small ornamental waters created in dry land;*

*(v) Water-filled depressions created in dry land incidental to mining or construction activity, including pits excavated for obtaining fill, sand, or gravel that fill with water;*

*(vi) Erosional features, including gullies, rills, and other ephemeral features that do not meet the definition of tributary, non-wetland swales, and lawfully constructed grassed waterways; and*

*(vii) Puddles.*

*(5) Groundwater, including groundwater drained through subsurface drainage systems.*

*(6) Stormwater control features constructed to convey, treat, or store stormwater that are created in dry land.*

*(7) Wastewater recycling structures constructed in dry land; detention and retention basins built for wastewater recycling; groundwater recharge basins; percolation ponds built for wastewater recycling; and water distributary structures built for wastewater recycling.*

The USACE delineates non-wetland waters in the Arid West Region by identifying the ordinary high water mark (OHWM) in ephemeral and intermittent channels (USACE, 2008a). The OHWM is defined in 33 CFR 328.3(e) as:

*...that line on the shore established by the fluctuations of water and indicated by physical characteristics such as clear, natural line impressed on the bank, shelving, changes in the character of soil, destruction of terrestrial vegetation, the presence of litter and debris, or other appropriate means that consider the characteristics of the surrounding areas.*

The USACE must ensure that permitted projects comply with all other applicable federal resource protection laws such as the Endangered Species Act, the National Historic Preservation Act, and the Coastal Zone Management Act. In addition, a Section 401 Water Quality Certification is needed from the RWQCB prior to issuance of a Section 404 permit to ensure that the proposed activity will comply with all applicable effluent limitations and water quality standards of Section 401 of the CWA.

### **Supreme Court Decisions: SWANCC**

On January 9, 2001, the Supreme Court of the United States issued a decision on *Solid Waste Agency of Northern Cook County v. USACE, et al.* (SWANCC) with respect to whether the USACE could assert jurisdiction over isolated waters. The ruling stated that the USACE does not have jurisdiction over “non-navigable, isolated, intrastate” waters.

### **Supreme Court Decisions: Rapanos/Carabell**

The EPA and USACE issued joint guidance on the Supreme Court’s decision in a memo dated December 2, 2008. The chart below was provided:



The agencies will assert jurisdiction over the following waters:

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

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

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

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

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

The agencies will apply the significant nexus standard as follows:

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

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

A *Corps Preliminary Jurisdictional Determination Form* may be used to concede USACE jurisdiction where all streambeds within the project area are considered USACE jurisdictional waters. The project would then be able to move forward pursuant to Corps Regulatory Guidance Letter (RGL) 08-02, issued on June 26, 2008, which allows the USACE to issue preliminary jurisdictional determinations (Preliminary JD) for a project. A Preliminary JD allows a project to move forward by setting aside/voluntarily waiving questions regarding CWA jurisdiction over drainages on site in the interest of expeditiously obtaining a Section 404 Permit. The USACE typically completes Preliminary JDs within 60 days of receipt of the request for such a determination. If the USACE project manager cannot complete the

Preliminary JD within the 60-day timeframe, they must provide their supervisor, who would also provide the applicant, with a schedule to complete the determination.

### **Nationwide Permit**

Nationwide permits (NWP) are general permits for specific categories of activities that result in minimal impacts to aquatic resources. Several NWPs may be applicable to a project. If the project does not meet the threshold(s) that are specific for each NWP for notifying the USACE, then the project may be done under a non-notifying NWP (i.e. no permit application).

NWP 12 can be used for utility lines activities including storm drain pipes and outfalls, and NWP 18 can be used for “minor discharges” of less than 10 cubic yards below the OHWM. NWP 7 can be used for outfall structures and associated intake structures, and NWP 43 can be used for stormwater management facilities including outfall structures. Projects that can be authorized by NWPs (notifying or non-notifying) must demonstrate consistency with the General Conditions associated with the NWPs, as well as the Regional Conditions issued by the Los Angeles District of the USACE. A copy of the applicable NWP should be kept on-site during construction.

Certain NWPs have been certified by the State Water Resources Control Board, which means a streamlined and less costly 401 Water Quality Certification can be obtained. For uncertified NWPs, an individual 401 Water Quality Certification from the RWQCB is appropriate.

## **2.2 RWQCB Section 401 Water Quality Certification**

Section 401 of the CWA requires that:

*Any applicant for a Federal permit for activities that involve a discharge to “Waters of the State,” shall provide the Federal permitting agency a certification from the State in which the discharge is proposed that states that the discharge will comply with the applicable provisions under the Federal Clean Water Act.*

Through the Porter-Cologne Water Quality Control Act, the RWQCB asserts jurisdiction over Waters of the State, which is generally the same as Waters of the U.S. but may also include isolated waterbodies and groundwater. Before the USACE will issue a Section 404 permit, a project applicant must obtain a Section 401 Water Quality Certification (401 Certification) from the appropriate RWQCB. The RWQCB will not issue the 401 Certification until the agency receives a final California Environmental Quality Act (CEQA) document (e.g., Notice of Determination, adopted Negative Declaration or certified EIR).

Processing of a 401 Certification generally takes 60 days after receipt of a complete application by the RWQCB (final CEQA document not required for a complete application, but must be received prior to permit issuance); however the RWQCB may receive a time extension from the USACE of up to one year. A 21-day public comment period is included in the processing of the 401 Certification. The RWQCB may add conditions to their 401

Certification to mitigate impacts to water quality. These conditions will be included as conditions in the Federal Section 404 permit. Discharging fill material into waters of the State that is not subject to the jurisdiction of the USACE pursuant to Section 404 of the CWA may require authorization pursuant to the Porter Cologne Act through application for waste discharge requirements (WDRs) or through a waiver of WDRs.

## **2.3 CDFW Lake and Streambed Alteration Agreement**

Section 1602 of the California Fish and Game Code states that no entity may, 1) substantially divert or obstruct the natural flow of a bed, channel, or bank of any river, stream or lake; 2) use materials from a streambed; or 3) dispose of debris, waste, or other material containing crumbled, flaked, or ground pavement where it can pass into any river, stream, or lake, without first notifying the CDFW of the proposed activity or project. In general, CDFW jurisdiction extends to the maximum extent or expression of a stream on the landscape ("bank-to-bank").

Notification is generally required for any project that will take place within or in the vicinity of a river, stream, lake, or their tributaries. This includes rivers or streams that flow at least periodically or permanently through a bed or channel with banks that support fish or other aquatic life and watercourses having a surface or subsurface flow that support or have supported riparian vegetation. Based on the notification materials submitted to the CDFW, they will determine if the proposed project may impact fish or wildlife resources.

If the CDFW determines that a proposed project may substantially adversely affect existing fish or wildlife resources, a Lake or Streambed Alteration (LSA) Agreement will be required. A completed CEQA document must be submitted to the CDFW before they will issue a LSA Agreement. Within 60 days of receipt of a complete notification package, the CDFW will propose measures necessary to protect the fish or wildlife that could be affected by the project. These measures may be identical to those proposed by a project applicant, and could also include additional measures proposed by the CDFW. The applicant has 30 days after receiving the CDFW's proposed measures to notify the agency in writing as to whether those measures are acceptable, unless this time period is extended by mutual agreement. The applicant may request a meeting with the CDFW within 14 days to resolve disagreements over proposed protection measures. If an agreement is not reached with the CDFW on acceptable protection measures, an arbitration panel will be established to resolve any disagreements. A panel shall be established within 14 days of the request. The arbitration panel will be composed of a representative from the CDFW, the applicant, and a mutually agreed upon third person who will act as the panel chair. The panel decision may appeal the decision to the court to confirm, correct, or vacate the decision in accordance with Section 1285 et seq., of the Code of Civil Procedure.

Once the applicant and the CDFW accept or agree on measures necessary to protect fish or wildlife resources, the CDFW will incorporate these measures into a draft LSA Agreement for review and signature.



### 3.0 SUMMARY OF WETLANDS CRITERIA

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To be considered a “wetland,” the subject area must be inundated or have saturated soil conditions resulting from permanent or periodic inundation by ground water or surface waters (wetland hydrology and hydric soil); there must also be a prevalence of vegetation that is typically adapted for life in saturated soil conditions (hydrophytic vegetation); and finally, “normal circumstances” must exist.

The USACE defines jurisdictional wetlands as areas that contain hydrophytic vegetation, hydric soils, and wetland hydrology, in accordance with the procedures established in the *USACE Wetland Delineation Manual* (1987) and *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region* (2008b). The CDFW and RWQCB follow the methods developed by the USACE to identify wetlands.

#### 3.1 Hydrophytic Vegetation

Hydrophytes are plants that grow in water or in soils that are at least periodically oxygen deficient as the result of excessive water content. Hydrophytic vegetation is present if any of the following three indicator tests are satisfied: (1) dominance test, (2) prevalence index, or (3) morphological adaptations. The dominance test, which is applied first in every wetland determination, requires more than 50% of the dominant plant species across all strata to be rated obligate (OBL), facultative wetland (FACW), or facultative (FAC). The wetland indicator status used for this report follows the National Wetland Plant List (Arid West Region) (Lichvar, 2016).

- OBL indicator status refers to plants that almost always occur in wetlands under natural conditions, but which may also occur rarely in non-wetlands;
- FACW indicator status refers to plants that usually occur in wetlands, but also occur in non-wetlands; and
- FAC indicator status refers to plants that occur in wetlands and non-wetlands.

Other wetland indicator statuses include facultative upland (FACU) which refers to plants that occur sometimes in wetlands, but occur more often in non-wetlands; upland (UPL) for species that occur rarely in wetlands but almost always in non-wetlands under natural conditions. In general, species that are not listed on the wetland plant list are assumed to be UPL species; however, if it is believed FACU or unlisted plant species are functioning as hydrophytes procedures are provided to make that determination (USACE, 2008b).

Most wetlands in the Arid West will pass the dominance test. In cases where the dominance test fails but hydric soil and wetland hydrology are present, the prevalence index is applied. The prevalence index is a weighted-average of abundance (absolute percent cover) of all plant species in the sample plot. Lastly, hydrophytic vegetation is present when certain plant morphological adaptations must be observed on more than 50% of the individuals of a FACU species living in an area where indicators of hydric soil and wetland hydrology are present (USACE, 2008b).

### **3.2 Wetland Hydrology**

An area is said to have hydrologic conditions consistent with a wetlands if that area is inundated or saturated to within 12 inches of the surface for at least five percent of the Growing Season (consecutive days) during a normal rainfall year. In the Inland Empire, the Growing Season is generally defined year-round. Hydrologic data used to determine if wetland hydrology criteria are met may be obtained by stream gaging, aerial imagery, or through regulatory agencies. Indicators that can be observed in the field include presence of saturated soil conditions, debris drift lines or racking, sediment deposits, and drainage patterns.

### **3.3 Hydric Soils**

A hydric soil is saturated, flooded, or ponded long enough during the year to develop anaerobic conditions in the upper part. Generally, there are two main categories of hydric soils:

1. Organic soils (Histosols) develop under nearly continuous saturation or inundation and are commonly called peats or mucks; and
2. Hydric mineral soils are saturated long enough to produce soil properties associated with a reducing environment. Reducing conditions are most easily assessed using soil color. Soil colors were evaluated using the Munsell Soil Color Charts (GretagMacbeth, 2000).

To determine the presence or absence of hydric soils, a sampling point is selected and a soil pit dug to a depth of approximately 20 inches (if possible). The column of soil cut out of the pit is removed carefully and the layers examined for hydric soil indicators. To determine the boundary between wetland and non-wetland area, a soil pit is dug in each landform (e.g. channel bed and channel bank).

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## 4.0 METHODS

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The entire Project site was included in the study area, but only Paloma Wash and the Caltrans Ditch contained jurisdictional features. The study area was evaluated based on a review of the following sources:

- current aerial photographs
- 7.5' USGS topographic map
- NRCS Web Soil Survey
- National Hydric Soils List 2018
- Biological studies (**Appendix C**)
- Munsell Soil Color Chart
- 1987 USACE Wetlands Delineation Manual
- 2008 USACE Arid West Supplement
- 2008 OHWM Field Guide
- 2016 National Wetland Plant List and Regional Synonymies

A field survey of the study areas was conducted by Webb staff on December 19, 2018. Surveys consisted of walking the lengths of the drainages and area around the proposed outlet. The area of the Caltrans Ditch and Old Paloma Wash that was previously delineated by ICF (see **Appendix B**) was not surveyed. Prior to conducting delineation fieldwork, aerial photographs of the project area were used to determine the potential locations of jurisdictional waters or wetlands. A USGS topographic map, USDA soil mapping data, and USFWS NWI mapping data were used to determine the presence of any mapped water features or mapped wetland features.

Because a hydric soil is mapped in the area of the proposed outlet structure in Paloma Wash, evidence of recent saturation was present and potential wetland plants were in the Paloma Wash, a wetland determination (i.e., soil pit) was conducted as part of this delineation (see field sheets in **Appendix D**). The active channel within the approximate centerline of Paloma Wash was assessed for wetland indicators by Webb staff on December 19, 2018. The study area was located in the centerline of the channel across from where the proposed outlet structure will be constructed (see data sheets in **Appendix D**). The wetland determination process was based on the *1987 USACE Wetlands Delineation Manual* and *2008 Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region (Version 2.0)*. Additional data was recorded to determine if an area fulfilled the wetland criteria parameters.

The OHWM was delineated according to the methods outlined in *A Field Guide to the Identification of the Ordinary High Water Mark (OHWM) in the Arid West Region of the Western United States* and used to determine the extent of Waters of the U.S. and therefore USACE jurisdiction within the project area. The OHWM was also used to determine Waters of the State of California, and therefore RWQCB jurisdiction within the project area. The extent of

Waters of the U.S. was determined based on indicators of an OHWM including a clear break in slope.

The proposed development plan was overlaid on the jurisdictional boundary using GIS to determine the extent of impacts to jurisdictional areas. Temporary impacts were assessed by addition an area of 10-feet beyond the permanent impacts for each outlet.

CDFW jurisdiction was delineated by measuring the elevations of land that confine the drainage features to a definite course when its waters rise to their highest level and to the extent of associated riparian vegetation.



## 5.0 RESULTS

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The study area is defined as the bed and banks of the Caltrans Ditch where it is adjacent to the project boundary, as well as the bed and banks of Paloma Wash in the area of the proposed storm drain outfall structure. As stated previously, the Project does not propose to connect to, or otherwise impact the Caltrans Ditch; however it has been delineated herein to establish the area to avoid during grading.

### ***Caltrans Ditch***

The Caltrans Ditch is an earthen, manmade, ephemeral channel, trapezoidal to rectangular in shape and originates near Holland Road and drains north along the eastern boundary of the project site. From the Project area, the ditch continues north through storm drains and open channels to ultimately outlet to Salt Creek, which connects to Canyon Lake. The OHWM indicators observed within the channel included presence of bed and bank, drift deposits, sediment deposits, and change in soil texture and vegetation cover. The depth of the ditch was four feet on average, with bank to bank width varying from 43 feet wide in the south to 15 feet wide to 23 feet bank to bank in the north where the survey ended. The low flow channel was roughly one foot in width with negligible depth that contained a sandy substrate that was noticeably different sediment texture than the rest of the channel bed. The low flow channel meandered along the channel bed and would stop and restart along the length. The low flow channel was mostly sand with little vegetation. Vegetation outside of the low flow channel and along the banks was a consistent community of London rocket (*Sisymbrium irio*), horsetweed (*Erigeron canadensis*), western ragweed (*Ambrosia psilostachya*), tocalote, common fiddleneck, red-stemmed filaree, and dead Russian thistle that had collected within the channel. Two separate mulefat (*Baccharis salicifolia*) bushes were observed in the channel. Wetland indicators were not observed and a soil test pit was not dug. There is not enough vegetation to constitute a riparian community in the Caltrans Ditch.

### ***Paloma Wash***

Paloma Wash is an earthen, engineered, trapezoidal and ephemeral flood control channel that was recently constructed in uplands to drain northerly to Salt Creek. The OHWM indicators observed within the channel included presence of bed and bank, clear break in slope, evidence of recent saturation, and change in particle size and vegetation cover. The channel banks are 37 to 38 feet long and the channel bed is approximately 110 feet wide. Bank-to-bank distance is approximately 185 feet wide, and varies little along the wash. A low flow channel is present along the centerline of the channel bed that is two to five feet wide and negligible depth. The low flow channel is approximately 50% vegetated with a consistent mix of red-stemmed filaree, curly dock, Russian thistle, shepherds purse, and non-native grasses. No riparian vegetation was observed in the Paloma Wash study area.

A Wetland Determination Sheet was completed (**Appendix D**) and a soil test pit was dug to a depth of approximately 10 inches in the middle of the Paloma Wash channel bed where evidence of recent saturation was observed. The vegetation community within a five-foot

radius of the soil pit failed the dominance test and prevalence index. No hydrophytic vegetation was present. The soil profile from 0 to 10 inches had a consistent moist matrix color of 7.5 YR 3/3, with consistent sandy texture. Some dark nodules were present in less than 5% of the sample though increasing with depth. No hydric soil indicators were observed. Two secondary wetland hydrology indicators were observed in the form of water marks and drift deposits, which suggests wetland hydrology is present. Because all three indicators were not met, a wetland is not present. Therefore additional soil pits were not warranted.

This report suggests that Paloma Wash and the Caltrans Ditch are potentially jurisdictional, as described below and in **Table 1. Potential Jurisdictional Resources**, and as shown in **Figure 6 - Jurisdictional Resources**.

**Table 1. Potential Jurisdictional Resources**

| Feature        | Area (ac) | Length (ft) | Cowardin Code | OHWM? / Average Width (ft) | Wetland Presence? | Dominant Vegetation                          | Location (lat/long) |
|----------------|-----------|-------------|---------------|----------------------------|-------------------|--|---------------------|
| Caltrans Ditch | 1,920     | 940         | R6            | Yes/2                      | No                | Patches of native & non-native ruderal scrub | 33.6727/-117.1713   |
| Paloma Wash    | 2,880     | 1,300       | R6            | Yes/3                      | No                | Patches of native & non-native ruderal scrub | 33.6733/-117.1761   |

**Notes:**

ac = acres

ft = feet

lat/long = latitude/longitude

R6 = A wetland, spring, stream, river, pond or lake that only exists for a short period.

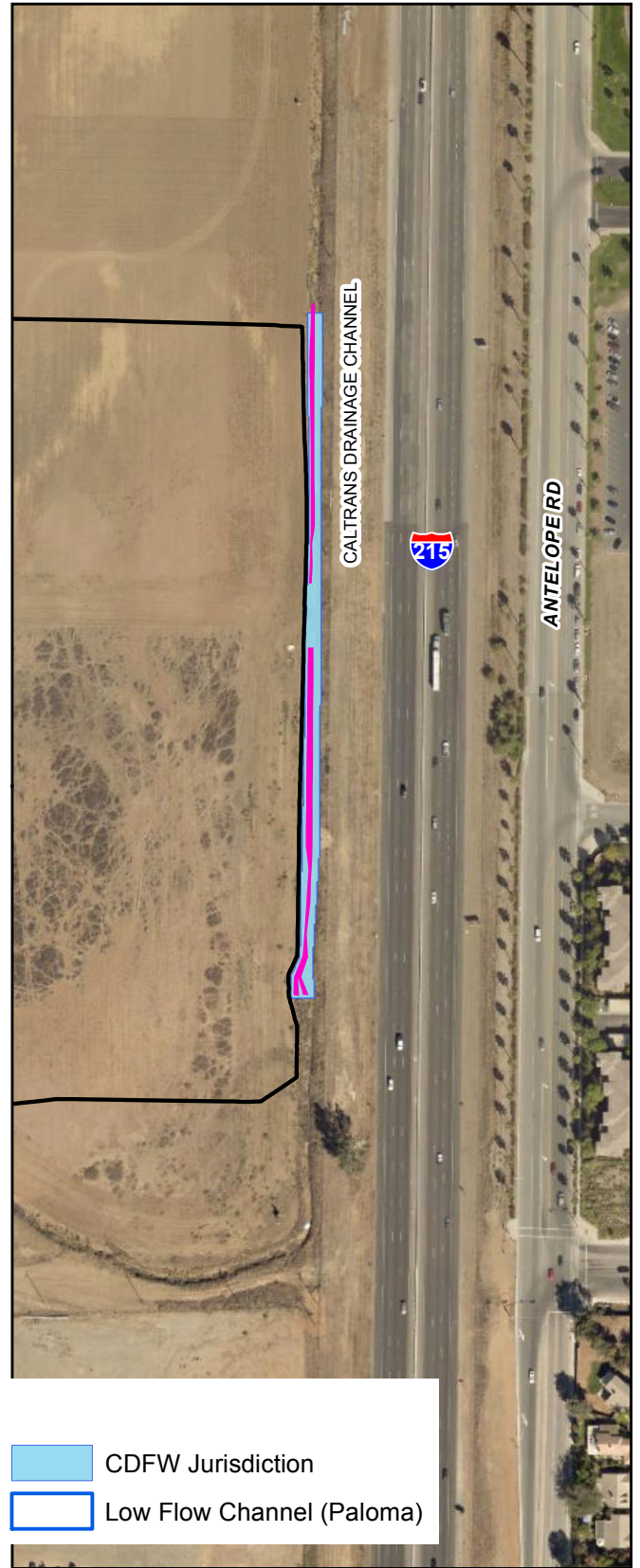
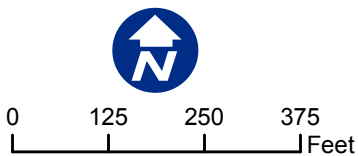
R4SB = streambed, intermittent, riverine.

The USACE is ultimately responsible for jurisdictional determinations, and this report has been prepared to provide the necessary information to assist the USACE with that determination. An Approved Jurisdictional Determination could be requested of the USACE to provide an analysis to determine if Salt Creek has a “significant nexus” to the Railroad Canyon Reservoir, and is therefore a jurisdictional Water of the U.S. Otherwise, the project proponent can request a Preliminary Jurisdictional Determination in which the USACE assumes jurisdiction over Paloma Wash, and process permits accordingly. Likewise, the RWQCB reserves the ultimate authority in making the final jurisdictional determination of waters within their regulatory authority, as well as CDFW has ultimate discretion in the determination of their jurisdiction.

G:\2017\17-0196\GIS\JD\_Resources.mxd; Map revised 07 Feb 2019



Sources: Riverside Co. GIS, 2019 (roads) and 2016 (imagery).



**Figure 6 - Jurisdictional Resources**  
Haun and Holland Mixed Use Center

## 5.1 Jurisdictional Impacts

### USACE and RWQCB

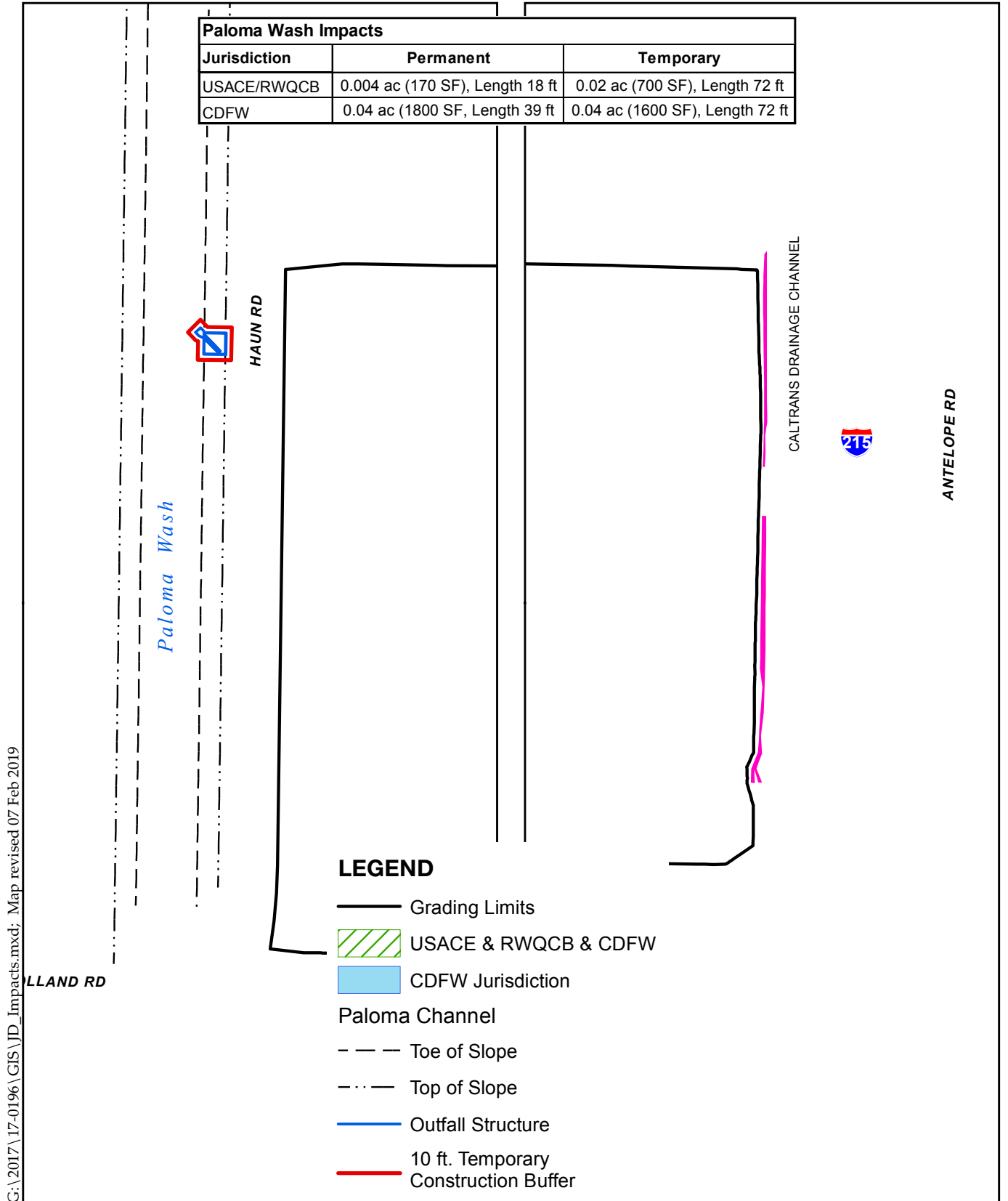
Due to the connectivity of Paloma Wash to Salt Creek, the bed of Paloma Wash is considered potentially jurisdictional waters of the U.S. Because only one of three wetland indicators was evident, a regulated wetland is not present in Paloma Wash. The delineation performed herein and the footprint of the proposed outfall structure were overlaid to determine the impacted area, with results in **Figure 7 – Impact Areas** and **Table 2. Impacts to USACE & RWQCB Jurisdiction**. As shown in **Figure 7**, the Project will not impact the low-flow channel/centerline of the wash.

**Table 2. Impacts to USACE & RWQCB Jurisdiction**

| Study Area     | Temporary Impacts (acres) | Permanent Impacts (acres) | Temporary Impact Length (feet) | Permanent Impact Length (feet) |
|----------------|---------------------------|---------------------------|--------------------------------|--------------------------------|
| Caltrans Ditch | 0                         | 0                         | 0                              | 0                              |
| Paloma Wash    | 0.02<br>(700 SF)          | 0.004<br>(170 SF)         | 72                             | 18                             |

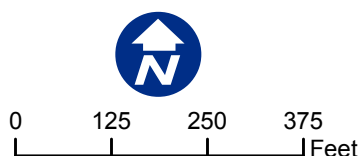
Notes: SF = square feet

| Paloma Wash Impacts |                                 |                                 |
|---------------------|---------------------------------|---------------------------------|
| Jurisdiction        | Permanent                       | Temporary                       |
| USACE/RWQCB         | 0.004 ac (170 SF), Length 18 ft | 0.02 ac (700 SF), Length 72 ft  |
| CDFW                | 0.04 ac (1800 SF, Length 39 ft  | 0.04 ac (1600 SF), Length 72 ft |



G:\2017\17-0196\GIS\JD\_Impacts.mxd; Map revised 07 Feb 2019

Sources: Riverside Co. GIS, 2019 (roads, parcels) and 2016 (imagery).



**Figure 7 - Impact Areas**  
Haun and Holland Mixed Use Center

## CDFW

The Paloma Wash is considered to be within CDFW jurisdiction based on the connectivity to Salt Creek, and our past experience with similar features. The delineation herein was overlaid with the project footprint. The project will permanently impact CDFW jurisdiction within Paloma Wash, as shown in **Figure 7** and **Table 3. Impacts to CDFW Jurisdiction**. Again, the project footprint is outside of the bank-to-bank limits of the Caltrans Ditch and no impacts will occur.

**Table 3. Impacts to CDFW Jurisdiction**

| Study Area     | Temporary Impacts (acres) | Permanent Impacts (acres) | Temporary Impact Length (feet) | Permanent Impact Length (feet) |
|----------------|---------------------------|---------------------------|--------------------------------|--------------------------------|
| Caltrans Ditch | 0                         | 0                         | 0                              | 0                              |
| Paloma Wash    | 0.04<br>(1,600 SF)        | 0.04<br>(1,800 SF)        | 72                             | 39                             |

Notes: SF = square feet

## 5.2 Conclusion and Mitigation Options

Construction of the new storm drain outfall structure proposed to serve the new development proposed for the project site, along the easterly bank of Paloma Wash will result in minimal permanent and temporary impacts to CDFW and USACE jurisdictions (**Table 2** and **Table 3**).

Construction of the proposed outfall structure will result in approximately 0.04 acre (1,800 SF) of permanent impacts to CDFW jurisdiction and 0.004 acre (170 SF) of permanent impacts to USACE jurisdiction. The additional area of temporary impacts to CDFW jurisdiction from construction of the Paloma Wash outfall is 0.04 acre (1,600 SF) and to USACE/RWQCB jurisdiction is 0.02 acre (700 square feet).

### Mitigation

Wherever temporary construction work disturbs the bed or bank of Paloma Wash, the ground surface will be returned to its pre-existing condition, hydroseeded with a native seed mix, and the applicant will perform exotic weed removal for a period of one year. The seed mix will consist of deergrass (*Muhlenbergia rigens*), foothill needlegrass (*Nassella lepida*), California brome grass (*Bromus carinatus*), purshing (*Acmispon americanus*) and alkali barley (*Hordeum depressum*). The seed will be obtained from S & S Seeds. No compensatory mitigation is proposed for temporary impacts to vegetation within Paloma Wash due to its highly disturbed condition and lack of riparian habitat.

Permanent adverse impacts (0.04 acre) to a potentially jurisdictional and generally alkaline streambed area will be mitigated in the form of rehabilitation credits purchased at the River Park Mitigation Bank in San Jacinto at a ratio of 2:1. The Applicant will request to the mitigation bank that the credits will go towards “in-kind” mitigation of impacts to alkali

streambed. The River Park Mitigation Bank proposes to re-establish (recreate former but no longer existing) and rehabilitate (repair existing but degraded) alkali plain wetland system habitat for a grand total of 583 acres of restoration of various types of alkali plain wetland system plant communities within the San Jacinto River Watershed.

Alternatively, if the River Park Mitigation Bank is not selling credits when the Applicant will need to purchase them, then the Applicant will approach the Regional Conservation Authority (RCA) to go about providing for habitat restoration of native alkali habitat within the City of Hemet's vernal pool complex (APN's 455-130-030, 455-130-036, and 455-130-046) at a higher ratio of 3:1. Restoration work at this mitigation site, which is also located within the San Jacinto River Watershed, would result in a higher quality alkali soil habitat that connects into an existing vernal pool complex; therefore increasing the function and value of riparian/riverine habitat within the same watershed as the project site.

The storm water conveyed and released into Paloma Wash by the proposed outlet structure will be in compliance with National Pollutant Discharge Elimination System (NPDES) regulations as required of the developer of the proposed project and the City of Menifee for treatment of storm water prior to discharge. Effluent will be regulated during both construction (NPDES no. CAS000002) and post-construction (NPDES no. CAS618033). Work within the channel should not occur during rain events.

## 6.0 REFERENCES

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## **APPENDIX A**

### **SITE PHOTOGRAPHS AND RAINFALL TOTALS**

G:\2017\17-0196\GIS\Pro\17-0196.aprx Map created 15 Apr 2019



Source: Riverside County 2016

## Map Key to Photo Log

Haun and Holland Mixed Use Center



0 100 200 300  
US Feet

ALBERT A.  
**WEBB**  
ASSOCIATES

**Albert A. Webb Associates  
PHOTOGRAPHIC RECORD**

**Client:** JPN Corporation

**Job Number:** 2017-0196

**Site Name:** 37-acre site Haun/Holland Roads,  
Menifee

**Location:** Paloma Wash

**Photographer:** Autumn DeWoody

**Date:** Dec, 19, 2018

**Photograph No. 1**



Photo 1: Facing east bank of Paloma Wash, approx. location of future outfall.

**Photograph No. 2**



Photo 2: Approx. centerline of Paloma Wash. Facing north (downstream).



**Albert A. Webb Associates  
PHOTOGRAPHIC RECORD**

**Client:** JPN Corporation

**Job Number:** 2017-0196

**Site Name:** 37-acre site Haun/Holland Roads,  
Menifee

**Location:** Paloma Wash

**Photographer:** Autumn DeWoody

**Date:** Dec, 19, 2018

**Photograph No. 3**



Photo 3: Approx. centerline of Paloma Wash. Facing south (upstream).

**Photograph No. 4**



Photo 4: Existing nearby outfall structure that is similar to design proposed herein. Facing west.



| Albert A. Webb Associates<br>PHOTOGRAPHIC RECORD              |                                 |
|---|---------------------------------|
| <b>Client:</b> JPN Corporation                                | <b>Job Number:</b> 2017-0196    |
| <b>Site Name:</b> 37-acre site Haun/Holland Roads,<br>Menifee | <b>Location:</b> Caltrans ditch |
| <b>Photographer:</b> Autumn DeWoody                           | <b>Date:</b> Dec, 19, 2018      |

**Photograph No. 5**



Photo 1: Southerly starting point of Caltrans ditch study area. Facing west.

**Photograph No. 6**



Photo 2: Near southerly part of Caltrans ditch study area. Facing north.



|  |                                 |
|--|---------------------------------|
| <b>Albert A. Webb Associates</b><br><b>PHOTOGRAPHIC RECORD</b>                       |                                 |
| <b>Client:</b> JPN Corporation   | <b>Job Number:</b> 2017-0196    |
| <b>Site Name:</b> 37-acre site Haun/Holland Roads,<br>Menifee                        | <b>Location:</b> Caltrans ditch |
| <b>Photographer:</b> Autumn DeWoody  | <b>Date:</b> Dec, 19, 2018      |
| <b>Photograph No. 7</b>  |                                 |
|    |                                 |
| Photo 3: Approx. mid-point of Caltrans ditch study area. Facing south.               |                                 |
| <b>Photograph No. 8</b>  |                                 |
|  |                                 |
| Photo 4: Near northeast corner of project site. Facing north.                        |                                 |

# Rainfall Totals

Riverside County Flood Control

HYDAY V129 Output 02/01/2019

Site 248 Winchester  
Variable 11.70 Rainfall in Inches, CDMA Auto Precip  
Figures are for period ending 08:00

Site 248.COMARAIN  
Year 2018/19  
Table Type Rain

| Day          | Jul  | Aug  | Sep  | Oct  | Nov  | Dec  | Jan  | Feb  | Mar | Apr | May | Jun | Day |
|--------------|------|------|------|------|------|------|------|------|-----|-----|-----|-----|-----|
| 1            |      |      |      |      |      |      | 0.13 | 0.76 | [ ] | [ ] | [ ] | [ ] | 1   |
| 2            |      |      |      |      |      |      |      | [ ]  | [ ] | [ ] | [ ] | [ ] | 2   |
| 3            |      |      |      |      |      |      |      | [ ]  | [ ] | [ ] | [ ] | [ ] | 3   |
| 4            |      |      |      |      |      |      |      | [ ]  | [ ] | [ ] | [ ] | [ ] | 4   |
| 5            |      |      |      |      |      |      |      | [ ]  | [ ] | [ ] | [ ] | [ ] | 5   |
| 6            |      |      |      |      |      | 0.37 | 0.62 | [ ]  | [ ] | [ ] | [ ] | [ ] | 6   |
| 7            |      |      |      |      |      | 1.07 | 0.01 | [ ]  | [ ] | [ ] | [ ] | [ ] | 7   |
| 8            |      |      |      |      |      | 0.02 |      | [ ]  | [ ] | [ ] | [ ] | [ ] | 8   |
| 9            |      |      |      |      |      |      |      | [ ]  | [ ] | [ ] | [ ] | [ ] | 9   |
| 10           |      |      |      |      |      |      |      | [ ]  | [ ] | [ ] | [ ] | [ ] | 10  |
| 11           |      |      |      |      |      |      |      | [ ]  | [ ] | [ ] | [ ] | [ ] | 11  |
| 12           |      |      |      |      |      |      | 0.31 | [ ]  | [ ] | [ ] | [ ] | [ ] | 12  |
| 13           |      |      |      | 0.77 |      |      | 0.02 | [ ]  | [ ] | [ ] | [ ] | [ ] | 13  |
| 14           |      |      |      | 0.35 |      |      |      | [ ]  | [ ] | [ ] | [ ] | [ ] | 14  |
| 15           |      |      |      | 0.01 |      |      | 0.31 | [ ]  | [ ] | [ ] | [ ] | [ ] | 15  |
| 16           |      |      |      |      |      |      | 0.94 | [ ]  | [ ] | [ ] | [ ] | [ ] | 16  |
| 17           |      |      |      |      |      |      | 0.16 | [ ]  | [ ] | [ ] | [ ] | [ ] | 17  |
| 18           |      |      |      |      |      |      | 0.39 | [ ]  | [ ] | [ ] | [ ] | [ ] | 18  |
| 19           |      |      |      |      |      |      |      | [ ]  | [ ] | [ ] | [ ] | [ ] | 19  |
| 20           |      |      |      |      |      |      | 0.01 | [ ]  | [ ] | [ ] | [ ] | [ ] | 20  |
| 21           |      |      |      |      |      |      |      | [ ]  | [ ] | [ ] | [ ] | [ ] | 21  |
| 22           |      |      |      |      | 0.06 |      |      | [ ]  | [ ] | [ ] | [ ] | [ ] | 22  |
| 23           |      |      |      |      | 0.01 |      |      | [ ]  | [ ] | [ ] | [ ] | [ ] | 23  |
| 24           |      |      |      |      |      |      |      | [ ]  | [ ] | [ ] | [ ] | [ ] | 24  |
| 25           |      |      |      |      |      | 0.08 |      | [ ]  | [ ] | [ ] | [ ] | [ ] | 25  |
| 26           |      |      |      |      |      | 0.02 |      | [ ]  | [ ] | [ ] | [ ] | [ ] | 26  |
| 27           |      |      |      |      |      |      |      | [ ]  | [ ] | [ ] | [ ] | [ ] | 27  |
| 28           |      |      |      |      |      |      |      | [ ]  | [ ] | [ ] | [ ] | [ ] | 28  |
| 29           |      |      |      |      | 0.13 |      |      | [ ]  | [ ] | [ ] | [ ] | [ ] | 29  |
| 30           |      |      |      |      | 1.29 |      |      | [ ]  | [ ] | [ ] | [ ] | [ ] | 30  |
| 31           |      |      |      |      |      |      |      | [ ]  | [ ] | [ ] | [ ] | [ ] | 31  |
| Mean         | 0.00 | 0.00 | 0.00 | 0.04 | 0.05 | 0.05 | 0.09 | 0.76 | [ ] | [ ] | [ ] | [ ] |     |
| Maximum      | 0.00 | 0.00 | 0.00 | 0.77 | 1.29 | 1.07 | 0.94 | 0.76 | [ ] | [ ] | [ ] | [ ] |     |
| Minimum      | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.76 | [ ] | [ ] | [ ] | [ ] |     |
| Total        | 0.00 | 0.00 | 0.00 | 1.13 | 1.48 | 1.55 | 2.89 | 0.76 | [ ] | [ ] | [ ] | [ ] |     |
| Missing Days | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 27   | 31  | 30  | 31  | 30  |     |

## Summaries

-----

Annual Mean 0.04  
Annual Total 7.81  
Missing Days 149

Daily Maximum 1.29 Minimum 0.00

----- Notes -----  
All recorded data is continuous and reliable  
except where the following tags are used...  
[ ] Data Not Recorded

## **APPENDIX B**

*Natural Environment Study for the Holland Road/Interstate 215 Overcrossing, Including Focused Studies for Special-Status Species and a Delineation of Federal and State Water Resources.* ICF International, July 2015.



# Holland Road/Interstate 215 Overcrossing

*NES*



## Natural Environment Study

Including Focused Studies for Special-Status Species and a Delineation of  
Federal and State Water Resources

City of Menifee, Riverside County, California

EA 1F980

**July 2015**

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# Holland Road/Interstate 215 Overcrossing

## Natural Environment Study

*City of Menifee, Riverside County, California*

*EA 1F980 (Project 0815000087)*

**July 2015**

CITY OF MENIFEE

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## Summary

The City of Menifee proposes to construct a new four-lane overcrossing at Holland Road that will span over the Interstate 215 (I-215) freeway and Antelope Road within the limits of the City of Menifee. The project site bisects I-215 with residential development to the east, and undeveloped land to the northwest with industrial/storage uses to the southwest. Additional project scope also includes realigning Willowood Way, re-striping Hanover Lane and Albion Lane, and constructing an access road for industrial businesses on the west side of the I-215, as well as providing and relocating essential utilities. A temporary construction laydown area is also proposed at the north and south portion of Holland Road at Haun Road. The project is being funded by the City with no federal funding involved. The City is the California Environmental Quality Act (CEQA) Lead Agency as delegated by the California Department of Transportation (Caltrans).

The proposed project is identified in the Western Riverside County Multiple Species Habitat Conservation Plan (MSHCP) as a Covered Activity (MSHCP Vol. I, Section 7.3.5) under the MSHCP. Coverage under the MSHCP shall provide an expedited process for biological resource permitting and approvals as well as compensatory mitigation under CEQA. Additional mitigation or requirements for rare plants may be needed beyond those necessitated by the MSHCP.

Habitat evaluations were performed for special status species including Narrow Endemic plant species, Riverside fairy shrimp (*Streptocephalus woottoni*), vernal pool fairy shrimp (*Branchinecta lynchi*), and burrowing owl (*Athene cunicularia*). Focused surveys for these special-status species (excluding fairy shrimp) were performed in 2013 where suitable habitat occurred. Additionally, in 2013, a review of MSHCP riparian-riverine and vernal pool resources was performed. Protocol dry season fairy shrimp surveys and analyses were performed in late 2014 and protocol wet season fairy shrimp was initiated in December 2014. The wet season survey was inconclusive due to drought conditions and a second dry season survey will be conducted in late 2015 to comply with USFWS protocol for fairy shrimp surveys. A federal and state jurisdictional water and wetland delineation was conducted in March 2015. Lastly, a field verification was performed in February 2015 to confirm potential and/or presence of previously identified biological resources and ensure consistency of biological conditions.

MSHCP riparian-riverine resources are present within the biological study area (BSA) and are proposed for removal. The Build Alternative would result in the permanent removal of 0.77 ephemeral drainages and 0.005 acre of wetlands that are MSHCP riparian-riverine resources.

The Build Alternative would result in the permanent removal of 0.22 acres (1,524 linear feet) of federally jurisdictional non-wetlands and 0.005 acre of federally jurisdictional wetlands. In addition, the Build Alternative would result in the permanent removal of 0.74 acre (1,524 linear feet) of state jurisdictional unvegetated streambeds and 0.005 acre of CDFW riparian vegetation. The proposed project would qualify for a USACE Nationwide Permit 14 under Section 404 of the Clean Water Act (CWA) because impacts to WoUS are less than 0.5 acre. In addition, a Water Quality Certification under Section 401 of the CWA would be required along with a California Department of Fish and Wildlife (CDFW) 1602 code Streambed Alteration Agreement. Refer to Section 5.3 and 5.4, respectively, for more details.

The BSA is not located within any MSHCP linkages or cores. The BSA is bisected by the I-215 and there are no features that could be used as a corridor for wildlife for movement within the BSA.

Small populations of two non-listed special status plants, paniculate tarplant (*Deinandra paniculata*), and smooth tarplant (*Centromadia pungens ssp. laevis*) were found within the BSA. Impacts are proposed for both of these species. The proposed project also provides suitable habitat for a number of other non-MSHCP special status plant species. Refer to Section 4.5.3 and 4.5.4 for details on special status plants.

Focused surveys for listed fairy shrimp (Riverside fairy shrimp, vernal pool fairy shrimp) are ongoing. Thus far, results for protocol dry season fairy shrimp surveys indicate only *Branchinecta* species were detected. The results of the protocol wet season fairy shrimp surveys were inconclusive due to drought conditions, therefore a second dry season survey will occur in late 2015. Refer to Section 4.6.1 for details.

Focused surveys were performed for burrowing owl and a total of 15 individuals were detected in the vicinity of the Build Alternative during the series of protocol surveys. The proposed Project would impact burrowing owl. Refer to Section 4.6.5 for details.

Table S-1 below summarizes the biological resources potentially affected by the build alternatives and requires avoidance, minimization, and mitigation measures. The No-Build Alternative has not been included in Table S-1 because no change from existing conditions would occur.

**Table S-1. Biological Resources Potentially Affected by Each Build Alternative and Associated Avoidance, Minimization, and Mitigation Measures**

| <b>Biological Resource</b>                      | <b>Impact</b>  | <b>Avoidance, Minimization, and/or Mitigation Measure (Appendix I)</b> |
|---|--|--|
| Waters of the United States/Waters of the State | 0.32 acre non-wetland and up to 0.005 acre wetland (both permanent)/ no temporary impacts      | <b>M-2 through M-13 and M-20</b>                                       |
| State Streambeds                                | 0.77 acre unvegetated streambed and 0.005 acre riparian (both permanent)/ no temporary impacts | <b>M-2 through M-13 and M-20</b>                                       |
| Raptor Foraging and Nesting                     | 10.00 acre permanent/1.84 acre temporary   | <b>M-1 through M-12, M-18</b>  |
| MSHCP Riparian-Riverine Resources               | 0.75 acre ephemeral, 0.005 riparian  | <b>M-1 through M-16, M-19, and M-20</b>                                |
| Fairy Shrimp                                    | Up to 5.18 acres permanent/ up to 1.25 acre temporary  | <b>M-1 through M-14, M-19, and M-20</b>                                |
| Non-listed Special Status Plants                | Up to 4.71 acres permanent/ up to 1.13 acre temporary  | <b>M-1 through M-12, M-16, and M-21</b>                                |
| Burrowing Owl                                   | 10.00 acres permanent/1.84 acre temporary  | <b>M-1 through M-12, M-16, and M-17</b>                                |
| Non-MSHCP Special Status Animals                | 4.43 acres permanent/1.13 acre temporary   | <b>M-1 through M-13 and M-16</b>                                       |

Permits, reviews, and approvals necessary for the proposed Project are listed and described in Table S-2.

**Table S-2. Permits and Approvals**

| <b>Agency</b>                              | <b>Permit/Approval</b>   | <b>Status</b>   |
|--|--|---|
| California Department of Fish and Wildlife | 1602 Agreement for Streambed Alteration                        | Application to be submitted following approval of the CEQA document |
|  | MSHCP Consistency Review for Biological Resources              | To provide request to CDFW for MSHCP Consistency                    |
| Regional Water Quality Control Board       | Porter-Cologne and CWA Section 401 Water Quality Certification | Application to be submitted following approval of the CEQA document |
| Army Corps of Engineers                    | CWA Section 404 Nationwide Permit 14                           | Application to be submitted following approval of the CEQA document |
| Regional Conservation Authority (RCA)      | MSHCP Consistency Review for Biological Resources              | To provide request to RCA for MSHCP Consistency.                    |
| U.S. Fish and Wildlife Service             | MSHCP Consistency Review for Biological Resources              | To provide request to USFWS for MSHCP Consistency                   |

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## List of Abbreviated Terms

|                  |   |
|------------------|---|
| BMPs             | best management practices   |
| BSA              | biological study area   |
| Cal-IPC          | California Invasive Plant Council                                 |
| Caltrans         | California Department of Transportation                           |
| CDFW             | California Department of Fish and Wildlife                        |
| CEQA             | California Environmental Quality                                  |
| CESA             | California Endangered Species Act                                 |
| City             | City of Menifee   |
| CNDDDB           | California Natural Diversity Database                             |
| CNPS             | California Native Plant Society                                   |
| CWA              | Clean Water Act   |
| DBESP            | Determination of Biologically Equivalent or Superior Preservation |
| ELLN             | Extra Legal Load Network  |
| FESA             | Federal Endangered Species Act                                    |
| I-215            | Interstate 215  |
| ICF              | ICF International   |
| IPaC             | Information, Planning and Conservation System                     |
| LOD              | limits of disturbance   |
| MBTA             | Migratory Bird Treaty Act   |
| MSHCP            | Multiple Species Habitat Conservation Plan                        |
| NES              | Natural Environment Study   |
| NWPs             | Nationwide Permits  |
| OHWM             | Ordinary High Water Mark  |
| PQP              | Public/Quasi-Public   |
| proposed project | Holland Road/Interstate 215 Bridge Overcrossing project           |
| RCA              | Regional Conservation Authority                                   |
| ROW              | Right of Way  |
| RWQCB            | Regional Water Quality Control Board                              |
| USACE            | U.S. Army Corps of Engineers                                      |
| USGS             | U.S. Geological Survey  |
| WoS              | waters of the State   |
| WoUS             | waters of the United States                                       |

# Chapter 1 Introduction

---

The City of Menifee (City) is proposing to construct a new overcrossing at Holland Road over Interstate 215. The Holland Road/Interstate 215 Overcrossing project (proposed project) would span over the I-215 freeway and Antelope Road along Holland Road for approximately 0.57 miles. The overcrossing will be constructed between Haun Road and Hanover Lane in the City of Menifee, Riverside County. This area of the proposed project is referred to as the limits of disturbance (LOD). Refer to Figures 1-1 and 1-2 in Appendix A for the regional location and project vicinity.

This Natural Environment Study (NES) describes the existing biological environment and how the proposed project may affect biological resources. This report contains the technical analyses that lend support to environmental documentation concerning plants, animals, natural communities, and jurisdictional water resources that may be affected by the proposed project.

## 1.1 Project Description

The alternatives considered for the proposed project include the Build Alternative and the No-Build Alternative.

### 1.1.1 Build Alternative

The Build Alternative would construct a new four-lane overcrossing at Holland Road that would span over the I-215 freeway and Antelope Road within the limits of the City of Menifee (Appendix A, Figure 1-3). The project site crosses over I-215 with residential developments to the east, and undeveloped land in the northwest and industrial/storage uses in the southwest. Additional project scope also includes realigning Willowood Way, re-striping Hanover Lane and Albion Lane, and constructing an access road for industrial businesses on the west side of the I-215, as well as providing and relocating essential utilities. A temporary construction laydown area is also proposed at the north and south portion of Holland Road at Haun Road. The project is being funded by the City with no federal funding involved. The City is the CEQA Lead Agency, as delegated by Caltrans.

### 1.1.2 No-Build Alternative

Under the No-Build Alternative, the proposed would not be implemented and the project purpose would not be achieved. This alternative does not preclude the construction of other future improvements or general maintenance to improve roadway conditions or incorporate safety enhancements.

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# Chapter 2      Study Methods

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## **2.1    Regulatory Requirements**

This NES discusses the biological environment and how the proposed project may affect biological environment and sensitive biological resources. This section provides a summary of background information regarding the applicable regulations protecting biological resources that are pertinent to the proposed project.

### **2.1.1    Federal Requirements**

#### **2.1.1.1    Clean Water Act**

The Clean Water Act (CWA) provides guidance for the restoration and maintenance of the chemical, physical, and biological integrity of the nation's waters.

#### **2.1.1.2    Clean Water Act Section 401**

Under Section 401 of the CWA, any project activities that involve a discharge to waters of the U.S. shall comply with the applicable provisions of the CWA. The Regional Water Quality Control Board (RWQCB) regulates at the state level all activities that are regulated at the federal level by USACE. Under the Porter-Cologne Water Quality Control Act, the RWQCB regulates all such activities, as well as dredging, filling, or discharging materials into waters of the State, that are not regulated by USACE due to a lack of connectivity with a navigable water body or lack of an ordinary high water mark (OHWM).

#### **2.1.1.3    Clean Water Act Section 404**

The discharge (temporary or permanent) of dredged or fill material into waters of the United States (WoUS), including wetlands, typically requires authorization from the U.S. Army Corps of Engineers (USACE) pursuant to Section 404 of the CWA.

#### **2.1.1.4    Waters of the United States**

USACE-regulated activities under Section 404 of the CWA involve the discharge of dredged or fill material, including, but not limited to, grading, placing riprap for erosion control, pouring concrete, laying sod, and stockpiling excavated material, into WoUS Activities that generally do not involve a regulated discharge (if performed specifically in a manner to avoid discharges) include driving pilings, some drainage channel maintenance activities, constructing temporary mining and farm/forest roads, and excavating without stockpiling.

### **2.1.1.5 Migratory Bird Treaty Act**

The Migratory Bird Treaty Act (MBTA) makes it unlawful at any time, by any means or in any manner, to pursue, hunt, take, capture, or kill migratory birds. The law applies to the removal of nests and the abandonment of nests occupied by migratory birds during the breeding season.

### **2.1.1.6 Federal Endangered Species Act**

This act provides guidance for the conservation of endangered and threatened species and the ecosystems upon which they depend. Section 7 of the Federal Endangered Species Act (FESA) requires federal agencies in consultation with, and with the assistance of, the Secretary of the Interior to ensure that the actions they authorize, fund, or carry out are not likely to jeopardize the continued existence of threatened or endangered species or result in the destruction or adverse modification of critical habitat for these species.

To the extent that the proposed Project is determined to affect federally listed species, compliance with Section 7 of FESA would be necessary. In addition, the proposed project must be consistent with the terms and conditions of the Western Riverside County Multiple Species Habitat Conservation Plan (MSHCP/ Plan [Dudek 2003]) and its Implementation Agreement. Any reasonable and prudent measures included under the terms and conditions of a FESA biological opinion would be consistent with the implementation measures of the MSHCP and its Implementation Agreement. Therefore, through the MSHCP consistency determination, the proposed project will satisfy all FESA requirements. If a DBESP is required, USFWS concurrence would be obtained as a part of the DBESP process.

## **2.1.2 State Requirements**

### **2.1.2.1 California Fish and Game Code Section 1600-1616**

Under current California Fish and Game Code Sections 1600–1616, CDFW has authority to regulate work that would substantially divert or obstruct the natural flow—or substantially change or use any material from the bed, channel, or bank—of any river, stream, or lake. CDFW also has authority to regulate work that would deposit or dispose of debris, water, or other material containing crumbled, flaked, or ground pavement where it may pass into any river, stream, or lake. This regulation takes the form of a requirement for a Lake or Streambed Alteration Agreement and is applicable to all projects involving state or local government discretionary approvals.

### **2.1.2.2 California Fish and Game Code (3505, 3503.5, 3505, 3800, 3801.6)**

These California Fish and Game Code sections protect all native birds, birds of prey, and nongame birds, including eggs and nests, that are not already listed as fully protected and that occur naturally in the state.



### **2.1.2.3 Porter-Cologne Water Quality Control Act**

Under the state Porter-Cologne Water Quality Control Act, the State Water Resources Control Board and regional boards assert jurisdiction over many discharges into waters of the state. Where resources are subject to both state and federal regulations, Porter-Cologne compliance is coordinated with CWA Section 401 certification. Jurisdiction includes those water features having an OHWM as well as features not regulated by USACE due to a lack of connectivity with a navigable water body or lack of an OHWM.

### **2.1.2.4 California Endangered Species Act**

The California Endangered Species Act (CESA) establishes the state's policy to conserve, protect, restore, and enhance threatened or endangered species and their habitats. CESA mandates that state agencies not approve projects that would jeopardize the continued existence of threatened or endangered species if reasonable and prudent alternatives are available that would avoid jeopardy. There are no state agency consultation procedures under CESA. For projects that affect both a state-and federal-listed species, compliance with the FESA would satisfy CESA if the CDFW determines that the federal incidental take authorization is consistent with CESA under CDFG Code Section 2080.1. For projects that would result in take of a state-only listed species, the Department must apply for a take permit under Section 2081(b).

### **2.1.2.5 California Environmental Quality Act**

The California Environmental Quality Act (CEQA) establishes state policy to prevent significant, avoidable damage to the environment by requiring changes in projects through the use of alternatives or mitigation measures. CEQA applies to actions directly undertaken, financed, or permitted by state lead agencies. Regulations for implementation are found in the state CEQA guidelines published by the state resources agency (Office of the Secretary).

## **2.1.3 Local Requirements**

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

The Western Riverside County MSHCP is a comprehensive regional habitat conservation plan adopted in June 2003. Major participants in the regional planning effort included, but were not limited to, Caltrans, CDFW, USFWS, Riverside County, Riverside County Transportation Commission, 14 cities, and interested individuals and groups. The purpose of the Plan was to develop methods and procedures to provide for development that protected environmental resources in the western Riverside County area over a 75 year period.

The City of Menifee signed the Implementation Agreement in 2009. This Plan, among other things, provides impact mitigation for future City projects on existing routes in the covered area of western Riverside County. Participation by the City is intended to streamline the environmental process for future transportation and development projects in western Riverside County by pre-mitigation and to save money over the long term. A consistency review of the proposed project with the MSHCP is provided in Appendix B.

The proposed project is an improvement to infrastructure that is a covered activity under the Plan. The project study area occurs within the Sun City/Menifee Area Plan but outside of Criteria Cells and Public/Quasi-Public (PQP) lands. The proposed project does not contain any County proposed core areas, extensions of existing core areas, linkages, constrained linkages, or non-contiguous habitat blocks. The nearest Criteria Cell is 5066, which is located 2.3 miles southeast of the proposed project.

Portions of the proposed project occur in the burrowing owl (*Athene cunicularia*) MSHCP survey area (Appendix A, Figure 2-2). The proposed project does not occur within a Narrow Endemic Plant Survey Area (Figure 2-3), Criteria Area Species Survey Area (Figure 2-4), or other MSHCP survey area. A full review of potential riparian-riverine and vernal pool resources is also required by the MSHCP.

In summary, the MSHCP requires the proposed project to fulfill the requirements presented in MSHCP Volume I Sections 6.1.2, 6.1.3, 6.1.4, 6.3.2, 7.5.1, and 7.5.3 and to follow best management practices (BMPs) in Appendix C of the Plan.

## 2.2 Studies Required

The studies required for the proposed project included an initial field reconnaissance, a delineation of jurisdictional waters/wetlands and streambeds, and habitat evaluations for vernal pools, listed fairy shrimp, special-status plants and animals, and burrowing owl, as required under the MSHCP. Following the reconnaissance work, focused surveys or studies were deemed necessary for all of these resources. The initial field reconnaissance was performed in May 2013 by Searl Biological Services (Searl 2013). Following the reconnaissance work, focused studies occurred from May to August 2013 and September 2014 to April 2015. A field verification biological survey occurred in February 2015 by ICF International (ICF). The delineation work was performed by ICF in March and April 2015.

The following subsections provide the basis for these studies and the methods used.

### 2.2.1 Report Terminology

The *biological study area* (BSA) for this report consists of the area that was surveyed for biological resources within the LOD and a 100-foot buffer (Appendix A, Figure 2-1).

The terms *proposed project*, *Build Alternative*, and *limits of disturbance* (LOD) in this report are synonymous and represent the area proposed for direct impact, including both permanent and temporary effects. The LOD used for the proposed project is based on data provided by the project engineer in February 2015 and includes temporary construction laydown areas proposed at the north and south portion of Holland Road at Haun Road. The LOD does not include the re-striping of Hanover Lane and Albion Lane because this work will occur entirely within the existing paved area.

In this report, *region* is defined as those lands that lie in the U.S. Geological Survey (USGS) 7.5-minute quadrangle maps on which the study area appears (Romoland, 1976, photo revised 1979) and surrounding quadrangle maps (Steele Peak, Perris, Lakeview, Winchester, Bachelor Mountain, Murrieta, Wildomar, and Lake Elsinore).

The term *riparian* in this document refers to the presence of water- and/or moisture-associated vegetation in the form of trees, shrubs, and herbs (including emergent vegetation) that are usually in association with drainage features (natural and artificial). The MSHCP riparian-riverine definitions are included in the term *riparian* but do not include artificial, man-made features.

### **2.2.2 Personnel and Survey Dates**

The following sections describe the general biological resource work that was performed and the focused surveys/studies performed for jurisdictional waters, rare plants, vernal pools, listed fairy shrimp, and burrowing owl.

#### **2.2.2.1 Initial Review**

Relevant reference literature, natural resource databases, and the MSHCP were reviewed to evaluate the BSA. Regionally occurring plant and animal species and natural vegetation communities with special regulatory or management status were evaluated for their potential to occur within the BSA. This evaluation included a review of the California Natural Diversity Database (CNDDDB) (CDFW 2014), California Native Plant Society (CNPS) Electronic Inventory (2014), and the USFWS Information, Planning and Conservation System (IPaC). A preliminary species list, dated March 12, 2015, identified 13 threatened or endangered species, no critical habitat within the study area. Refer to Appendix C for the preliminary USFWS species list.

A nine quadrangle search of the CNDDDB and CNPS was performed for lands, which included the 7.5-minute USGS quadrangles for Romoland, Steele Peak, Perris, Lakeview, Winchester, Bachelor Mountain, Murrieta, Wildomar, and Lake Elsinore (CNDDDB 2014). Appendix D provides the complete list of special status species (including scientific names) and natural vegetation communities that were reviewed for the project.

#### **2.2.2.2 Reconnaissance, Focused Habitat Evaluations, and Field Verification**

The initial reconnaissance of the BSA was performed by Searl Biological Services (also referred to as Searl) in 2013 to ensure the proposed project is compliant with the MSHCP. The area evaluated by Searl included the entire limits of the BSA. A pedestrian survey was performed within the BSA and a spotting scope was used to view adjacent areas out to approximately 500 feet. Vegetation mapping was done using GPS equipment. Appendix B provides the details of the biological surveys conducted by Searl.

In 2015, ICF conducted a biological review of the BSA to determine whether there were any site conditions or biological communities that changed between 2013 surveys and 2015. In addition,

a jurisdictional delineation was conducted within the BSA to determine the extent of potential federal and state jurisdictional waters.

Table 2-1 lists survey dates and personnel for the 2013 and 2015 surveys. Refer to Searl (2013) WRMSHCP Compliance Document in Appendix B for details regarding the field reconnaissance and focused habitat evaluation surveys.

**Table 2-1. Dates and Personnel for the Reconnaissance, Focused Habitat Evaluations, and Field Verification**

| Date                   | Survey Type   | Personnel                                   |
|------------------------|---|---|
| May 2013 - August 2013 | Reconnaissance survey, including vegetation mapping, focused evaluation for vernal pool resources and focused habitat evaluations for listed fairy shrimp, burrowing owl, listed riparian birds, and special-status plants. | Tim Searl (Searl Biological Services)       |
| February 6, 2015       | Coarse-level review of existing conditions and those mapped in 2013.  | Marisa Flores (ICF) and Amanda Parra (ICF). |

Natural vegetation communities were mapped and were categorized following the four broad categories used in the MSHCP (Section 2.1.3 and Table 2-1 of MSHCP Vol. 1). Of the four vegetation categories, impacts on only one are tracked by the MSHCP. The tracking provides an estimation of take of Covered Species based on potential habitat removed. For the vegetation mapping presented in this report, the minimum mapping unit was 0.05 acre.

Plant and animal species and natural communities in California that have special regulatory or management status (i.e., special-status species) were evaluated for potential to occur in the study area. Appendix D provides a complete list of the species (including scientific names) and natural communities reviewed for the proposed project. This list was developed using the CNDDDB (CDFW 2015), the CNPS Electronic Inventory (CNPS 2015), and the USFWS IPaC database (Appendix C; USFWS 2015). Specifically, the database searches were conducted for lands occurring on the USGS 7.5-minute Romoland quadrangle map on which the study area appears and surrounding quadrangles. Finally, species were added, as appropriate, based on professional knowledge and experience with prior projects in the vicinity.

### 2.2.2.3 Jurisdictional Delineation

A jurisdictional delineation of potential federal and state water resources was performed for the proposed project within the BSA. The delineation of potentially jurisdictional water features was performed by Marisa Flores and Zackry West (Table 2-2). The methods for the jurisdictional delineation are provided in Appendix E and present the full details of the jurisdictional delineation performed for this project.

**Table 2-2. Dates and Personnel for the Jurisdictional Waters and Wetlands Delineation**

| Date                                       | Survey Type  | Personnel                                 |
|--|--|---|
| March 3, 11 and 12, 2015,<br>April 2, 2015 | Delineation for federal jurisdictional waters and wetlands, CDFW streambeds, and MSHCP riparian-riverine resources | Zackry West (ICF) and Marisa Flores (ICF) |
| Source: ICF 2015 (in draft)                |  |   |

#### 2.2.2.4 Fairy Shrimp Focused Studies

There are two species of special-status fairy shrimp that could occur in the BSA based on geographic distribution. The two species are Riverside fairy shrimp and vernal pool fairy shrimp. Both of these species are federally listed and are Covered Species under the MSHCP, but require surveys when potentially suitable habitat is present. The MSHCP requires that either a wet and dry season survey occur or two wet surveys. Methods for the habitat assessment and focused surveys are presented below.

USFWS protocol dry-season sampling commenced on October 30, 2014, whereupon the soil samples were collected from the proposed project BSA. Soil samples were lab-processed in November 2014. Table 2-3 provides the dates and personnel for the fairy shrimp focused work. Refer to Appendix F for the full methodology of the dry-season survey (ICF 2014).

A USFWS protocol wet-season focused survey for fairy shrimp was initiated in winter of 2014. The results of the wet-season focused survey were inconclusive due to 2015 drought conditions; therefore, a second dry season survey will be conducted in late 2015 to ensure the protocol survey is complete.

**Table 2-3. Personnel and Dates of Listed Fairy Shrimp Habitat Evaluation and Focused Surveys**

| Date                                     | Survey Type   | Personnel   |
|--|---|---|
| May 2013                                 | Habitat Evaluation; seasonal depression mapping                         | Tim Searl (Searl Biological Services)   |
| October 30, 2014                         | Dry Season Survey – collection of soil samples                          | Dale Ritenour (ICF) (permit # TE-58888A-0) and Kimberly Davis (ICF)                 |
| November – December 2014                 | Dry Season Survey – soil sample processing<br>Cyst Rearing and Hatching | Chuck Black (permit # TE835549-6)   |
| December 15 2014 – May 2015              | Wet Season Survey   | Doug Allen (ICF) (permit #TE-837448-5)<br>Dale Ritenour (ICF) (permit #TE-58888A-0) |
| Source: ICF 2014 and ICF 2015 (in draft) |   |   |

#### 2.2.2.5 Vernal Pool Assessment

The study area for vernal pools followed the same footprint as that performed for fairy shrimp. The initial field evaluation for ponded areas occurred in 2013 by Searl Biological Services.

Ponded areas were determined using the following criteria: water marks, leaf staining, cracked soils, saline crusts, and saturated soils. Areas showing these indicators were mapped by creating polygons utilizing ArcPad and walking the perimeter of these features.

The BSA was also evaluated for potential vernal pools during the fairy shrimp survey in 2015. Table 2-4 provides the personnel and dates for the vernal pool assessment.

**Table 2-4. Personnel and Dates of Vernal Pools Habitat Assessment**

| Date  | Survey Type            | Personnel                    |
|---|------------------------|------------------------------|
| May 25, 2013  | seasonal pond mapping  | Tim Searl                    |
| December 2014 – May 2015                            | vernal pool assessment | Dale Ritenour and Doug Allen |
| Source: Searl 2013 and ICF 2015 ( <i>in draft</i> ) |                        |                              |

### 2.2.2.6 Rare Plant Focused Survey

Over 65 special-status plant species were determined to potentially occur in the study area based on regional geography (Appendix D). The BSA is not located in a MSHCP Narrow Endemic Survey Area or Criteria Area Species Survey Area. Therefore there are no survey requirements for species that are already covered under the Plan. These species are not analyzed any further beyond potential occurrence.

Other special-status plants that are not conserved by the MSHCP (non-MSHCP) have potential to occur within the BSA were also reviewed. Refer to Appendix D for a list of all the special-status plants initially reviewed for the proposed project.

### 2.2.2.7 Habitat Evaluation

Habitat assessments were conducted by Searl Biological Services in 2013 prior to the initiation of focused surveys in order to identify suitable habitat. The survey area was prepared by analyzing the relationship between soils types and vegetation communities adjacent to the LOD. The survey area encompasses a subset of the suitable habitat areas that occur on suitable soil types in the BSA. Habitat assessments consisted of identifying all vegetation communities, including areas of vernal mesic and alkaline mesic conditions within the BSA.

### 2.2.2.8 Focused Surveys

Rare plant surveys were conducted in 2013 by Searl Biological Services (refer to Table 2-5). The methods used were consistent with recommendations from CNPS (2001) and CDFW guidelines (2000). Table 2-5 provides the personnel and dates of the special-status plant work. Refer to Appendix B for a detailed methodology of the 2013 rare plant focused survey (Searl Biological Services 2013).

**Table 2-5. Personnel and Dates of Special-Status Plants Focused Study**

| Date  | Survey Type                           | Personnel |
|---|---------------------------------------|-----------|
| May 25, 2013 and June 26, 2013                      | Habitat Evaluation and Focused Survey | Tim Searl |
| June 10, 2013 and June 11, 2013                     | Rare Plant Reference Site Visit       | Tim Searl |
| Source: Searl Biological Services 2013 (Appendix B) |                                       |           |

### 2.2.2.9 Burrowing Owl Focused Studies

Burrowing owl is classified as a Covered Species under the MSHCP and most of the study area lies in the MSHCP Burrowing Owl Survey Area (Appendix A, Figure 2-2). Lands that lie in the MSHCP Burrowing Owl Survey Area need to be evaluated to determine the potential presence of suitable habitat. If potentially suitable habitat is present, a focused survey is necessary to determine whether the species is present or absent. The focused survey was conducted by Searl (2013) and followed the *Burrowing Owl Survey Instructions for the Western Riverside Multiple Species Habitat Conservation Plan Area*.

The entire BSA was assessed by initially driving and making frequent stops (i.e., windshield survey) to observe the habitat conditions within the BSA. Subsequent to performing the “windshield survey,” transects of the BSA were conducted on foot. The habitat evaluation was performed at a cursory level to identify potential habitat at a broad landscape level. Open lands that were sparsely vegetated with native or nonnative vegetation were considered potentially suitable. Agricultural farm lands were also considered potential habitat given the known occurrence of the species in such conditions. The surrounding area of the BSA out to 500-feet was also visually assessed.

The habitat assessment for burrowing owl was performed in areas that were initially determined to be potentially suitable habitat by Searl Biological Services (2013). All potential burrowing owl burrows or structures that could support burrowing owl were mapped with a Trimble Juno GPS unit. The entire BSA was physically accessed and surrounding areas out to a minimum of 500-ft were visually assessed.

Surveys were conducted during weather that was conducive to observing owls outside their burrows and detecting burrowing owl sign. All burrowing owl focused surveys were conducted between one hour before sunrise to two hours after sunrise and two hours before sunset to one hour after sunset. A systematic survey for burrows including burrowing owl sign was performed by walking transects spaced at intervals no larger than 100 feet to allow for 100% coverage within suitable habitat in the BSA. Table 2-6 lists the personnel, survey dates, and conditions for the burrowing owl habitat evaluation and focused survey.

**Table 2-6. Personnel, Dates, and Conditions of Burrowing Owl Focused Study**

| Date                                    | Start–End Time | Temperature (Start/Stop, °F) | Wind Speed (mph) | % Cloud Cover | Surveyor |
|---|----------------|------------------------------|------------------|---------------|----------|
| <b>Burrowing Owl Habitat Assessment</b> |                |                              |                  |               |          |
| 5/25/2013                               | 0630-1620      | 52 - 84                      | 1 - 3            | 0 - 10        | T. Searl |
| <b>Burrowing Owl Focused Survey</b>     |                |                              |                  |               |          |
| 5/25/2013                               | 0630 - 1000    | 52 - 84                      | 1 - 3            | 0 - 10        | T. Searl |
| 6/26/2013                               | 0500 - 1000    | 68 - 94                      | 0                | 0             | T. Searl |
| 7/26/2013                               | 0540 - 1000    | 72 - 74                      | 0                | 100           | T. Searl |
| 8/21/2013                               | 0620 - 1000    | 75 - 85                      | 0                | 20            | T. Searl |

## 2.3 Agency Coordination and Professional Contacts

- ICF Biologist, Dale Ritenour (TE-58888A-0) submitted a 15-Day Notice for Protocol Surveys for Listed Vernal Pool Branchiopods I-215/Holland Road Overcrossing on September 25, 2014 (dry surveys) and December 16, 2014 (wet surveys) to USFWS Recovery Permit Coordinator, Stacey Love.
- Searl Biological Services Biologist, Tim Searl submitted CNDDDB records of burrowing owl, paniculate tarplant, and smooth tarplant to CDFW through May 23, 2013 to August 21, 2013.

No additional agency coordination has occurred to date.

## 2.4 Limitations That May Influence Results

The biological field verification survey performed by ICF in February 2015 occurred with limited access to the BSA. Access was restricted within the property on the north side of Holland Road between Haun Road and I-215 (APN 360-130-003) until late March. It is conceivable that some biological resources were not detected as a result of the initial limited access. On April 2, 2015, this property APN 360-130-003 was accessed to delineate Feature 1 and determine whether a low spot within the floodplain may a vernal pool. It was determined that this 'low spot' was not a vernal pool and not a federal or state jurisdictional feature. In addition, site conditions documented on the parcel were the same as the initial site visit.

The wet-season survey was conducted from January 2015 to May 2015, however due to the severe 2015 drought conditions, potential fairy shrimp habitat did not pond for long enough periods that a wet sampling could be collected. Therefore, the wet-season focused survey was inconclusive. A second dry-season survey will be conducted in the fall of 2015. This will satisfy the requirements under the USFWS fairy shrimp protocol.

The 2013 rare plant survey was conducted under severe drought conditions. Salt spring checkerbloom was not found in the BSA, however this species was also not observed at the reference site locations. Therefore, this species cannot be assumed absent based on the results of the 2013 rare plant focused survey work.



## Chapter 3 Results: Environmental Setting

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The result of the environmental setting were taken from the *MSHCP Compliance Document for the Proposed Holland Road/Interstate 215 Bridge Overpass* (Appendix B; Searl Biological Services 2013) and confirmed during the ICF review of the BSA. The proposed project occurs in the cismontane region of the California Floristic Province (Baldwin et al. 2012). The region consists of agricultural lands and valley native and nonnative grasslands with portions developed for commercial and residential uses. The proposed project occurs within the Menifee Valley and Paloma Valley which is comprised of a landscape with interior valley flatlands and gently rolling hills. The historical Old Paloma Wash traverses the west half of the of the proposed project area along Holland Road and then turns north to parallel the I-215.

### 3.1 Description of the Existing Biological and Physical Conditions

The BSA has historically been farmed, including dry farming and grazing. Currently, the majority of the BSA occurs as developed areas with open lands dominated by fallow fields, dry farming, and nonnative grasslands. Refer to Appendix G for representative photographs of the BSA.

#### 3.1.1 Study Area

The BSA is comprised of a mix of agricultural/vacant land, commercial, and residential areas. The BSA is bisected by the I-215. On the east side of the I-215, there is a single-family residential community and apartment complex located between Antelope Road and Hanover Lane. A self-storage facility and empty lot for the storage of heavy construction equipment are located on the south side Holland Road west of the I-215. The remainder of the BSA is comprised of agricultural lands and nonnative grasslands. Agricultural lands are fallow and have been disked, mowed, or grazed by domestic sheep (*Ovis aries*) in recent years. At the southeast corner of the BSA, an earthen bottom basin has been created to capture runoff from surrounding developed areas. Disturbances within the BSA include traffic and vehicles parking and driving off the roadway pavement.

#### 3.1.2 Physical Conditions

The topography of the BSA is relatively flat with elevations ranging from 1430 to 1460 feet. Most of the open lands within the BSA have been mechanically disturbed through farming or disking for weed abatement.

Soils within the study area consist of mostly loams, ranging from fine sandy loams to rocky loam. Soil series within the BSA are Arbuckle, Escondido, Honcut, Wyman, Yokohl, and Ysidora (USDA/NRCS 2015). The Yokohl loam, 2 to 8 percent slopes were the only soils identified as hydric within depressional areas by the NRCS/USDA (2014). None of the other

soils within the BSA were identified as hydric. Appendix A, Figure 3-1 illustrates the distribution of soils within the BSA.

Average precipitation in Menifee is approximately 11.18 inches per year (U.S. Climate Data 2015). Table 3-1 summarizes the average precipitation for the project area.

**Table 3-1. Rainfall Data Summary for the Project Area (in inches)**

|                                     | Jan  | Feb  | Mar  | Apr  | May  | Jun  | Jul  | Aug  | Sep  | Oct  | Nov  | Dec | Total |
|-------------------------------------|------|------|------|------|------|------|------|------|------|------|------|-----|-------|
| Average                             | 2.24 | 3.31 | 1.65 | 0.91 | 0.31 | 0.04 | 0.04 | 0.24 | 0.12 | 0.43 | 0.59 | 1.3 | 11.18 |
| Data source: U.S. Climate Data 2015 |      |      |      |      |      |      |      |      |      |      |      |     |       |

### 3.1.3 Biological Conditions in the Biological Study Area

The following sections describe the vegetation and wildlife present within The BSA. Appendix H provides a complete list of the plant and animal species detected during the ICF biological review of the BSA and during surveys conducted by Searl Biological Services (2013).

#### 3.1.3.1 Natural Communities and Vegetation

There are five vegetation communities/land types within the BSA including agricultural lands, Developed, Nonnative Grassland, bare ground, and Southern Cattail (*Typha domingensis*) Wetland. These vegetation communities are depicted on Figure 3-2 in Appendix A. A complete list of the plant species detected by ICF and Searl Biological Services (2013) is available in Appendix H. A summary of the acreage of each community within the BSA and the LOD are listed in in Table 3-2.

**Table 3-2. Acreages of Vegetation Communities within the BSA and LOD**

| Vegetation Community        | Within the BSA* (acres) | Within the Project LOD (acres) |
|-----------------------------|-------------------------|--------------------------------|
| Agricultural Lands          | 8.50                    | 5.40                           |
| Developed                   | 17.80                   | 7.92                           |
| Nonnative Grassland         | 11.32                   | 5.84                           |
| Bare Ground                 | 0.60                    | 0.59                           |
| Southern Cattail Wetland    | 0.17                    | 0.02                           |
| <b>TOTAL</b>                | <b>38.40</b>            | <b>19.77</b>                   |
| *LOD plus a 100-foot buffer |                         |                                |

**Agricultural Land-** There are approximately 8.5 acres of these lands within the BSA. Generally these lands are located west of the I-215 on the north side of Holland Road and east of Hanover Lane. These lands were utilized for agricultural purposes in the past but recently disturbances to these lands include disking and grazing by domestic sheep.

**Nonnative Grasslands-** These areas within the BSA comprise 5.6 acres. Nonnative grasslands were somewhat disturbed by introduced nonnative species with a lower percentage of native plants. The dominant species observed within the nonnative grasslands are shortpod mustard

(*Hirschfeldia incana*), London rocket (*Sisymbrium irio*), prickly Russian thistle (*Salsola tragus*), ripgut brome (*Bromus diandrus*), foxtail chess (*Bromus madritensis*), black mustard (*Brassica nigra*), horseweed (*Erigeron canadensis*), Menzies' fiddleneck (*Amsinckia menziesii*), redstem filaree (*Erodium cicutarium*), California goldfields (*Lasthenia californica*), and wall barley (*Hordeum murinum*). Portions of the nonnative grasslands adjacent to Holland Road and Haun Road have been compacted due to vehicles along the ROW and exhibit low levels of vegetation.

There were two special-status plant species found in the study area during the 2013 biological studies. These are smooth tarplant (*Centromadia pungens* ssp. *laevis*) and paniculate tarplant (*Deinandra paniculata*). Details for the special-status plants within the BSA are described in Chapter 4.

**Southern Cattail Wetland-** This community occurs within 0.16 acre at the northeast corner of Hanover Lane/Holland Road. This wetland area is supported by perennial flows from urban runoff. The dominant species within southern cattail wetland are comprised of southern cattail, curly dock (*Rumex crispus*), alkali heliotrope (*Heliotropium curassavicum*), chamomile (*Chamaemelum nobile*), fringed willowherb (*Epilobium ciliatum*), Spanish false-fleabane (*Pulicaria paludosa*), and tall flat sedge (*Cyperus eragrostis*).

**Bare Ground** – Areas with bare ground (0.01 acre) are found west of the I-215 directly adjacent to Holland Road. These areas are routinely disturbed by vehicles parking on the surface, thus compacting soils. These areas provide little to no value to biological resources due to soil compaction, introduced species, and frequent human disturbances.

**Developed** - These lands include areas that have been developed for housing, commercial uses, roads, trails, vacant lots, and ornamental landscaping. These areas provide little to no value (within ornamental plantings) to biological resources due to compaction in the soils, introduced species, and frequent human disturbances. Developed lands occur within 9.68 acres of the BSA.

### 3.1.3.2 Wildlife

Over 30 wildlife species were detected in the BSA during the reconnaissance survey. The majority of species detected were birds, followed by mammals, then reptiles, and invertebrates.

The most common birds detected were mourning dove (*Zenaida macroura*), Eurasian collared-dove (*Streptopelia decaocto*), American crow (*Corvus brachyrhynchos*), California horned lark (*Eremophila alpestris actis*), European starling (*Sturnus vulgaris*), western kingbird (*Tyrannus verticalis*), black phoebe (*Sayornis nigricans*), savannah sparrow (*Passerculus sandwichensis*), and song sparrow (*Melospiza melodia*). Mammals that were detected included Botta's pocket gopher (*Thomomys bottae*) and California ground squirrel (*Spermophilus beecheyi*). Western side-blotched lizard (*Uta stansburiana elegans*) was the only reptile observed.

Burrowing owl was observed within the vicinity of the BSA during focused studies in 2013 (Searl 2013). To date, the only fairy shrimp found during the fairy shrimp focused surveys within the BSA is the versatile fairy shrimp (*Branchinecta lindahli*); however this species is not special status. Chapter 4 provides more details for special status wildlife.

### 3.1.3.3 Aquatic Resources

There are a total of six potential jurisdictional water features within the BSA (Appendix E). These features encompass 0.10 acre of USACE wetland and 0.97 acre of USACE non-wetland waters as well as 1.77 acre of CDFW unvegetated streambed and 0.14 acre CDFW riparian within the BSA.

The Old Paloma Wash (Feature 1) traverses the west side of the BSA along Holland road and is tributary to Salt Creek located approximately 1.3 miles north of the proposed project. This historical stream conveyed intermittent flows to Salt Creek. Upstream portions of Old Paloma Wash have been modified and channelized into the Paloma Wash Flood Control Channel just west of Haun road. The Paloma Wash Flood Control Channel (constructed west of Haun road) intercepts upstream flows that historically flowed into Old Paloma Wash. The Paloma Wash Flood Control Channel performs functions such as flood storage, flood flow modification, nutrient retention and transformation, sediment trapping and transport, and toxicant trapping. Thus, the hydrological regime within Old Paloma Wash within the BSA appears to have been modified such that it would only convey ephemeral flows from adjacent upland areas.

### 3.1.3.4 Invasive Species

There are 14 plant species found within the BSA that are classified as invasive by the California Invasive Plant Council (Cal-IPC) (2013). These species invade natural communities in California and out-compete native plants and animals for space and increase wildfire and flood danger. Table 3-3 provides a list of the Cal-IPC classified invasive species detected within the BSA.

**Table 3-3. Cal-IPC Invasive Plants Observed in the BSA**

| Common Name             | Scientific Name                              |
|-------------------------|--|
| Black mustard           | <i>Brassica nigra</i>                        |
| Ripgut brome            | <i>Bromus diandrus</i>                       |
| Soft brome              | <i>Bromus hordeaceus</i>                     |
| Red brome               | <i>Bromus madritensis</i> ssp. <i>rubens</i> |
| Cheat grass             | <i>Bromus tectorum</i>                       |
| Tocalote                | <i>Centaurea melitensis</i>                  |
| Redstem filaree         | <i>Erodium cicutarium</i>                    |
| Gum tree                | <i>Eucalyptus</i> sp.                        |
| Rattail fescue          | <i>Festuca myuros</i>                        |
| Shortpod mustard        | <i>Hirschfeldia incana</i>                   |
| Wall barley             | <i>Hordeum murinum</i>                       |
| Alkali mallow           | <i>Malvella leprosa</i>                      |
| Prickly Russian thistle | <i>Salsola tragus</i>                        |
| London rocket           | <i>Sisymbrium irio</i>                       |

### 3.1.3.5 Habitat Connectivity

There are no MSHCP linkages or cores that occur within the BSA. In addition, the BSA is bisected by the I-215 and there are no significant features that could provide habitat connectivity

or wildlife for movement within the BSA. These resources are not evaluated further in this document.

### **3.2 Regional Species and Habitats and Natural Communities of Concern**

More than 100 special-status species and nine depleted natural vegetation communities are known to occur in the region of the BSA. A list of these species and vegetation communities, as well as their requirements, status, and potential to occur in the BSA are provided in Appendix D. Biological issues of regional concern include raptor foraging and nesting, burrowing owl, rare plants, and potential fairy shrimp habitat.

A review of special-status species that occur in the region, depleted natural vegetation communities, aquatic resources, and other natural resources that are or may be present in the BSA is presented in Chapter 4.

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## Chapter 4      Results: Biological Resources, Discussion of Impacts, and Mitigation

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The proposed project lies within the boundaries of the MSHCP and is a covered activity under the Plan. The MSHCP provides full mitigation for impacts on the majority of biological resources that have been identified as being potentially affected by the proposed project. To ensure consistency with the MSHCP, measures are presented in this chapter, where appropriate, that follow MSHCP requirements found in Vol. I, Sections 6.1.2 through 6.1.4, 6.3, and 7.5 of the MSHCP. For compliance with the MSHCP, a consistency review of the *Western Riverside County MSHCP Compliance Document* (Searl Biological Services 2013) would need to be performed by the Regional Conservation Authority (RCA) to concur that the proposed project is consistent with the requirements of the MSHCP.

Furthermore, for compliance with FESA and CESA, this report must also be reviewed by USFWS and CDFW. Because this proposed project has a federal nexus, it is understood that ‘take’ under FESA for species not covered under the Plan would occur under Section 7 (not Section 10) and that USFWS would provide an MSHCP consistency review of the proposed Project resulting in an internal Biological Opinion. The Biological Opinion would require no more compensation than what is required to be consistent with the MSHCP. In this document, where it is stated that a consistency review with the MSHCP is required or provides compensation for impacts, it is implied that both RCA and USFWS would be involved in this review process.

Those resources that are not covered under the MSHCP include federal and state jurisdictional waters as well as several special status plants and animals. Details on these species are provided within this chapter.

### 4.1 Approach

As presented in Appendix D, over 100 special-status plants and animals and nine depleted natural vegetation communities were found to have the potential to occur in the geographic vicinity of the proposed project based on the review criteria and databases described in Chapter 2. Appendix D lists each of these species and communities along with regulatory status, species requirements, and potential for occurrence. Most of these species and vegetation communities are absent from the BSA and/or are fully Covered Species under the MSHCP. In this chapter, the discussion has been limited to those biological resources that meet the following criteria:

- MSHCP survey area species for which the MSHCP survey area overlaps the BSA;
- those species/resources that are not covered under the MSHCP but may be or are present; and
- federally and/or state-listed species that have potential to occur.

The species and vegetation communities that do not meet any of these three criteria are not discussed in this chapter but are shaded gray in Appendix D along with the rationale as to why no further discussion is warranted.

As described in Chapter 1, the proposed project consists of a Build Alternative and a No-Build Alternative. For the analysis of impacts a distinction has been made between *permanent* and *temporary* impacts within the LOD. The Build Alternative would permanently alter portions of Holland Road between Haun Road and Hanover Lane and includes both a construction and operations component. Construction activities include any activity associated with building the project until completion, including grading, building new lanes, bridge construction, signage, and restriping of lanes. Staging areas for placement of materials and equipment will consist of the temporary impacts as these areas will be returned to their original topography and condition once construction is completed. Operation of the proposed project would occur after the project is complete and include maintenance activities (i.e. weed abatement), increase in vehicles traveling along the roadway, increase in noise, and any other activity or change associated with the bridge overcrossing. The No-Build Alternative makes no changes to the existing roadway, introduces no additional potential impacts on biological resources, and thus has no impact beyond existing conditions. Because of this, no further discussion of the No-Build Alternative is presented.

Throughout this chapter, analysis of potential direct, indirect, and cumulative effects are discussed for the Build Alternative, including during construction and operation of the proposed project. *Direct impacts* are those effects that can be expected from direct removal and disturbances to the land. Examples of direct impacts include mortality of individuals and permanent loss of habitat. *Indirect impacts* are those effects that give rise to delayed, secondary effects. Examples of indirect impacts include fragmentation, increased environmental toxins, plant and wildlife dispersal interruption, increased risk of fire, and increased invasion of nonnative animals and plants that out-compete natives. Indirect impacts can safely be assumed to increase mortality, reduce productivity, and/or reduce the functions and values of natural open space for native species that inhabit it. *Cumulative effects* are those direct and indirect effects that the proposed project could contribute to in conjunction with other planned past, present, and reasonable foreseeable projects in the study area.

#### **4.1.1 Assumptions**

##### **4.1.1.1 Cumulative Effects Information**

The area used for assessing cumulative effects was correlated with the limits of the City of Menifee where the BSA occurs. Menifee is a rapidly developing city with many ongoing and anticipated residential and commercial developments. Additionally, transportation improvement projects are expected to arise due to an increase in traffic volume and congestion within the City. Most of the land within the City is developed for commercial and residential or agricultural uses. Much of the remaining natural vegetation occurs in scattered, often fragmented patches on hills throughout Menifee Valley or is in other areas not easily developed.



## 4.2 Habitats and Natural Communities of Special Concern

Depleted native vegetation communities are present within the BSA and include riparian-riverine resources (coastal and valley freshwater marsh) and vernal pools. The following sections discuss the occurrence of these vegetation communities within the study area and provide an analysis of direct and indirect effects that could occur from the proposed project.

### 4.2.1 Discussion of Riparian-Riverine Resources

Riparian-riverine resources are those that, “contain habitat dominated by trees, shrubs, persistent emergent, or emergent mosses and lichens that occur close to or depend upon soil moisture from a nearby fresh water source; also, areas with fresh water flow during all or a portion of the year” (RCA 2007). These areas are known to support a variety of special-status wildlife species, including least Bell’s vireo (*Vireo bellii pusillus*) southwestern willow flycatcher (*Empidonax traillii extimus*), and yellow warbler (*Dendroica petechia*). Vegetation associated with riparian systems is considered a depleted natural vegetation community and is afforded conservation under the MSHCP Section 6.1.2. The MSHCP has specific policies and procedures regarding the evaluation and conservation of riparian-riverine as it supports MSHCP Covered Species. Thus, the MSHCP classification of riparian-riverine includes both riparian (a depleted natural vegetation community) as well as ephemeral drainages that are natural in origin but may lack riparian vegetation. For this analysis, all non-human-made features that qualify as state streambeds were considered MSHCP riparian-riverine resources.

#### 4.2.1.1 Survey Results

The riparian/riverine resources within the BSA include naturally occurring state streambeds and depressions and human-made features that connect two or more historical natural features. Refer to Appendix A, Figure 4-1 for the location of MSHCP riparian-riverine resources.

Feature 1 (Old Paloma Wash) and 6 (Paloma Wash Flood Control Channel) are ephemeral drainages, Feature 2 is an ephemeral depression, and Feature 3 consists of both a wetland and an ephemeral drainage. The remaining features that convey water were constructed in uplands and not considered riparian-riverine. Refer to Chapter 4.3 for detailed descriptions of each feature.

Within the BSA, there are an estimated 1.53 acre of MSHCP riparian-riverine resources in the form of coast and valley freshwater marsh (southern cattail wetland) (0.10 acre) and ephemeral unvegetated drainages (1.26 acre) and depressions (0.16 acre). Old Paloma Wash (Feature 1) and Feature 3 are the only naturally occurring drainages within the BSA. Old Paloma Wash has no associated riparian vegetation associated with the portion that occurs within the BSA. Based on historical aerials, Feature 3, which contains southern cattail wetland appears to have been supported by groundwater in the past. Additionally, urban runoff from surrounding residential areas has increased the amount of water that enters this feature, and now contains water year-round. Flows within this feature spread across the adjacent agricultural field and percolate and/or evaporate.

Feature 2 is an ephemeral depression just south of Old Paloma Wash. There is no riparian vegetation associated with this feature.

Although the Paloma Wash Flood Control Channel is a constructed channel, its purpose is to divert flows from the 100-year (1-percent annual chance) flood event from the Old Paloma Wash into Salt Creek. Thereby, this ephemeral channel connects two historically occurring natural features, Old Paloma Wash and Salt Creek; therefore it is also considered an MSHCP riparian-riverine resource.

#### 4.2.1.2 Project Impacts

**Construction.** Construction of Build Alternative would result in the permanent removal of 0.75 acre of riparian-riverine resources with 0.005 acre of this being wetlands. Table 4-1 summarizes the direct impacts on riparian-riverine resources from the Build Alternative, and Appendix A, Figure 4-1 provides the locations of these resources.

**Table 4-1. Impacts to Riparian-Riverine Resources by the Build Alternative**

| Riparian-Riverine Resources   | Build Alternative  |
|---|--------------------|
|   | Permanent (acres)* |
| Ephemeral drainages   | 0.59               |
| Ephemeral depression  | 0.16               |
| Perennial Wetlands  | 0.005              |
| <b>TOTAL</b>  | <b>0.75</b>        |
| * No temporary impacts to riparian-riverine resources are proposed. |                    |

There is potential for temporary indirect impacts caused by construction activities (e.g., dust, increased fire risk, and littering) to occur to portions of the MSHCP riparian-riverine resources that are adjacent to the LOD but these are expected to be greatly reduced with implementation of the measures presented below (Section 4.2.1.3).

**Operation.** Potential indirect effects from operation would occur as a result of increased traffic causing additional pollutants from runoff into MSHCP riparian-riverine resources. In addition, the developed footprint of the bridge and modifications to surrounding roadways would increase roadbed surface area, leaving less permeable surface and increased surface flows into storm drain facilities and MSHCP riparian-riverine features.

#### 4.2.1.3 Avoidance and Minimization Efforts

A full list of avoidance and minimization measures for the proposed project that would be required under the MSHCP is provided in Appendix I. All of these measures are intended to avoid and/or minimize indirect impacts (permanent or temporary) to adjacent riparian vegetation and associated native flora and fauna within the BSA. Measures that apply to MSHCP riparian-riverine resources are **M-1** through **M-17** and **M-20** included in Appendix I.

#### **4.2.1.4 Compensatory Mitigation**

Compensation for the loss of riparian-riverine resources is addressed through the preparation of a Determination of Biologically Equivalent or Superior Preservation (DBESP) report required by the MSHCP and approved through a consistency review through RCA, USFWS, and CDFW (**M-14**). Compensatory mitigation would be determined through the DBESP process. A compensation ratio of minimum of 1:1 for impacts to wetlands and non-wetlands would provide at least equivalent preservation (**M-15**). Such compensation should be coordinated with acquisition of a state Streambed Alteration Agreement (CDFW Code 1602) and the federal Clean Water Act Sections 401 and 404 permits that would also be required for the proposed project (refer to Chapter 5).

#### **4.2.1.5 Cumulative Impacts**

Since riparian-riverine resources are declining through the region and throughout southern California, proposed impacts could make a cumulatively considerable contribution to the regional decline of riparian-riverine vegetation. Past projects in the region have removed this vegetation type, and future proposed projects are expected to remove even more. Riparian-riverine resources provide function and value that upland vegetation types cannot. Potential cumulative impacts for the Build Alternative would be fully addressed by the MSHCP through the DBESP (**M-14**) and consistency review as well as implementation of avoidance and minimization measures **M-1** through **M-17**, and **M-20** (Appendix I).

### **4.2.2 Discussion of Vernal Pools**

Vernal pool resources are provided protection under the MSHCP in Section 6.1.2, Vol. I of the Plan. The MSHCP states that “vernal pools are seasonal wetlands that occur in depression areas that have wetland indicators of all three parameters (soils, vegetation, and hydrology) during the wetter portion of the growing season but normally lack wetland indicators of hydrology and/or vegetation during the drier portion of the growing season.” Vernal pools are often dominated by obligate hydrophytes and facultative wetland plant species. The MSHCP has specific policies and procedures regarding the evaluation and conservation of vernal pools as this habitat supports many MSHCP covered species.

#### **4.2.2.1 Survey Results**

The BSA was evaluated for vernal pools by Searl in 2013 (Appendix B). Potential vernal pool features were identified by presence of standing water, topographic relief, plant species composition, and evidence of potential ponding (i.e., cracks in mud). During the 2015 fieldwork, a number of road ruts and depressional areas along Holland Road west of the I-215 were identified after they were inundated by storm events; however, none of these depressional features contained vernal pool indicator plant species. In addition, there are no clay or heavy soils mapped within the BSA that would serve as a restrictive layer that are found in vernal pools. No vernal pools are present within the BSA.

#### **4.2.2.2 Project Impacts**

**Construction.** There are no vernal pools that would be impacted by the proposed project. Project impacts to listed and non-listed special status species associated with vernal pools are discussed in subsequent sections.

**Operation.** The long-term operation of the proposed project is not anticipated to have an effect on vernal pool resources, because there were no other potential features observed adjacent to the LOD.

#### **4.2.2.3 Avoidance and Minimization Efforts**

No avoidance and minimization efforts are necessary.

#### **4.2.2.4 Compensatory Mitigation**

No compensation is required.

#### **4.2.2.5 Cumulative Impacts**

Over the course of the last decade it is expected that vernal pools have been removed within the region. In addition, the region is rapidly developing and it is expected that vernal pools and their watershed will continue to be affected. Since there are no vernal pools present within the BSA, the proposed project is not expected to contribute to cumulative impacts.

### **4.3 Jurisdictional Waters and Wetlands**

The following sections provide the results of the delineation of federal jurisdictional waters and wetland and state streambeds. Refer to Appendix E for details of the jurisdictional delineation.

#### **4.3.1 Discussion of Waters of the U.S. and State Streambeds**

##### **4.3.1.1 Survey Results**

###### ***Feature 1 (Old Paloma Wash)***

Feature 1 is an earthen ephemeral channel that originates south of Holland Road and west of the storage facility. The feature traverses to the north side of Holland Road through a 60-inch corrugated metal pipe culvert, parallels Holland Road to the east and then veers north at the I-215. The downstream portion of Feature 1 parallels the I-215 to the north, crosses under Newport Road, and continues to Salt Creek. This feature drains runoff from adjacent uplands and is tributary to Salt Creek. Historically, Feature 1 drained a much larger watershed to the south; however, in 2008/2009, the Paloma Wash Flood Control Channel was constructed (refer to Feature 6, below) and began intercepting upstream flows that historically flowed into Feature 1. Therefore, the hydrologic regime within Old Paloma Wash has been modified such that only ephemeral flows from adjacent uplands are conveyed through the channel. Feature 1 is partially

vegetated by upland species such as Menzies' fiddleneck (NI). Dead prickly Russian thistle (FACU) that had collected within the channel was also observed.

The OHWM indicators observed within the channel included presence of bed and bank, drift deposits, sediment deposits, and change in vegetation cover (Appendix B). The width of the OHWM ranged from 2 feet to 15 feet. The width of the bed and bank defining the limits of CDFW jurisdiction ranged from 3 feet to 25 feet.

The USACE and RWQCB jurisdictional areas within Feature 1 (Old Paloma Wash) within the study area totaled approximately 0.26 acre (1,755 linear feet) of non-wetland WoUS/WoS (Appendix A, Figure 4-2). In addition, there are approximately 0.61 acre (1,755 linear feet) of unvegetated streambed within the study area subject to CDFW jurisdiction (Appendix A, Figure 4-3). There are no wetlands or riparian vegetation associated with Feature 1 within the BSA.

### **Feature 2**

Feature 2 is a depression on the south side of Holland Road just north of the construction yard and was inundated during the jurisdictional delineation. Vegetation within the depression comprised of upland plants such as Menzies' fiddleneck (NI), stinknet (*Oncosiphon piluliferum*; FACU), Shepard's purse (*Capsella bursa-pastoris*; FACU), and red maids (*Callindrinia ciliata*; FACU). Soils at the west end of this feature had recently been disturbed by machinery associated with weed removal in the area. The OHWM indicators included surface water, mud cracks, and surface relief.

The USACE and RWQCB jurisdictional areas associated with Feature 2 within the study area totaled approximately 0.07 acre of non-wetland WoUS/WoS (Appendix A, Figure 4-2). In addition, there is approximately 0.16 acre of unvegetated streambed subject to CDFW jurisdiction (Appendix A, Figure 4-3). There are no wetlands or riparian vegetation associated with Feature 2.

### **Feature 3**

Feature 3 is located at the northeast corner of Hanover Lane and Holland Road. Based on historical aerials, this area appears to have been supported by groundwater in the past. In addition, urban runoff from surrounding residential areas has increased the amount of water that enters this feature, and it now receives water year-round. Flows within this feature spread across the adjacent agricultural field and lost as a result of percolation and/or evaporation. Vegetation within the Feature 3 was dominated by southern cattail (OBL), tall flatsedge (FACW), curly dock (FAC), fringed willow-herb (FACW), Spanish false fleabane (FAC), and chamomile (NI). A portion of Feature 3 met the three parameter requirements of a federal wetland. The OHWM of the non-wetland portion of Feature 3 was determined by surface soil cracks, biotic crust, and drift deposits.

The USACE and RWQCB jurisdictional areas associated with Feature 3 within the study area totaled approximately 0.22 acre of non-wetland and 0.10 acre wetland WoUS/WoS (Appendix A, Figure 4-2). In addition, there are approximately 0.28 acre of unvegetated streambed and 0.10 acre of riparian vegetation subject to CDFW jurisdiction (Appendix A, Figure 4-3).

#### **Feature 4**

Feature 4 is a retention basin at the southeast corner of Hanover Lane and Holland Road. This basin serves to catch and retain runoff water from adjacent upland areas. Soils within the basin were comprised of a sandy loam and vegetation was primarily upland species such as rigput brome (NI), Menzies's fiddleneck (NI), and shortpod mustard (NI). The OHWM indicators included sediment deposits and break in bank slope throughout various portions of the basin. In addition, a single Fremont cottonwood (*Populus fremontii*; FAC) and a single Goodding's black willow (*Salix gooddingii*; FACW) are present on the southern bank of the basin.

The USACE and RWQCB jurisdictional areas associated with Feature 4 within the study area totaled approximately 0.10 acre of non-wetland WoUS/WoS (Appendix A, Figure 4-2). In addition, there are approximately 0.23 acre of unvegetated streambed and 0.04 acre of riparian vegetation subject to CDFW jurisdiction (Appendix A, Figure 4-3).

#### **Feature 5**

Feature 5 is a small ephemeral constructed feature on the west side of the I-215 within the Caltrans ROW. Feature 5 conveys road runoff west into Feature 1. This feature was not physically accessed because of the existing freeway construction. Based on observations by Searl (2013), this feature is unvegetated and surrounded by nonnative grasslands. The width of the OHWM and top of bank each were approximately 2 feet.

The USACE and RWQCB jurisdictional areas associated with Feature 5 within the study area totaled less than 0.01 (76 linear feet) of non-wetland WoUS/WoS (Appendix A, Figure 4-2). In addition, there is less than 0.01 acre (76 linear feet) of unvegetated streambed subject to CDFW jurisdiction (Appendix A, Figure 4-3). There are no wetlands or riparian vegetation associated with Feature 5.

#### **Feature 6 (Paloma Wash Flood Control Channel)**

Feature 6 consists of the Paloma Wash Flood Control Channel at the west end of the study area. This feature conveys the upstream flows that were redirected from Paloma Wash in 2008/2009 (as described above in the discussion of Feature 1 [Old Paloma Wash]) downstream to Salt Creek. Soils within the channel are primarily sandy and vegetation consisted of upland species such as Menzies's fiddleneck (NI) and shortpod mustard (NI). In addition, one small saltcedar (*Tamarix ramosissima*; FAC) was present in the study area. OHWM indicators included drift deposits and sediment deposits.

The USACE and RWQCB jurisdictional areas associated with Feature 6 within the study area totaled approximately 0.32 acre (284 linear feet) of non-wetland WoUS/WoS (Appendix A, Figure 4-2). In addition, there is approximately 0.49 acre (284 linear feet) of unvegetated streambed subject to CDFW jurisdiction (Appendix A, Figure 4-3). There are no wetlands or CDFW riparian vegetated areas associated with Feature 6. The single tamarisk within the drainage is too small to be considered CDFW riparian.

Table 4-2 summarizes the USACE, RWQCB, and CDFW total jurisdictional waters within the study area.

**Table 4-2. Summary of Jurisdictional Delineation Results in the BSA**

| <b>Feature Name</b>   | <b>USACE/RWQCB Non-wetland WoUS/WoS (acres/linear feet)</b> | <b>USACE/RWQCB Wetland WoUS/WoS (acres)</b> | <b>CDFW Unvegetated Streambed (acres/linear feet)</b> | <b>CDFW Riparian (acres)</b> |
|---|---|---|---|------------------------------|
| Feature 1 (Old Paloma Wash)   | 0.26 acre<br>1,755 linear feet                              | 0 acre                                      | 0.61 acre<br>1,755 linear feet                        | 0 acre                       |
| Feature 2   | 0.07 acre<br>n/a  | 0 acre                                      | 0.16 acre<br>n/a                                      | 0 acre                       |
| Feature 3   | 0.22 acre<br>n/a  | 0.10 acre                                   | 0.28 acre<br>n/a                                      | 0.10 acre                    |
| Feature 4   | 0.10 acre<br>n/a  | 0 acre                                      | 0.23 acre<br>n/a                                      | 0.04 acre                    |
| Feature 5 (Inferred)  | <0.01 acre<br>76 linear feet                                | 0 acre                                      | <0.01 acre<br>76 linear feet                          | 0 acre                       |
| Feature 6 (Paloma Wash Flood Control Channel)   | 0.32 acre<br>284 linear feet                                | 0 acre                                      | 0.49 acre<br>284 linear feet                          | 0 acre                       |
| <b>TOTAL</b>  | <b>0.97 acre<br/>2,115 linear feet</b>                      | <b>0.10 acre</b>                            | <b>1.77 acres<br/>2,115 linear feet</b>               | <b>0.14 acre</b>             |
| * = Due to landowner restrictions, this property was not surveyed. It is unknown whether there are vernal pool indicator plants present or if the feature is a vernal pool. This area will be surveyed when the proposed right of way is acquired. If property access is obtained prior to approval of this report, then the information will be incorporated, as applicable. |   |   |   |                              |

#### 4.3.1.2 Project Impacts

**Construction.** The proposed project would directly affect 0.32 acres (1,871 linear feet) of non-wetland WoUS and WoS and 0.005 acre of wetland WoUS and WoS. No temporary impacts to WoUS/WoS are proposed. No temporary impacts to WoUS/WoS are proposed.

The proposed project would directly impact 0.77 acre (1,871 linear feet) of unvegetated streambeds and 0.005 acre of riparian habitat subject to CDFW jurisdiction. No temporary impacts are proposed.

Table 4-3a summarizes the proposed permanent and temporary impacts on WoUS and WoS. Table 4-3b summarizes the proposed permanent and temporary impacts on state streambeds.

**Table 4-3a. Direct Impacts on USACE and RWQCB Jurisdictional Waters**

| <b>Feature Name</b>                                       | <b>Nonwetland<br/>WoUS/WoS<br/>(acres)</b> | <b>Wetland WoUS/WoS<br/>(acres)</b> | <b>WoUS/WoS (linear feet)</b> |
|---|--|-------------------------------------|-------------------------------|
| Feature 1 (Old Paloma Wash)                               | 0.23                                       | --                                  | 1,436                         |
| Feature 2   | 0.07                                       | --                                  | 314                           |
| Feature 3   | 0.01                                       | 0.005                               | 33                            |
| Feature 4   | 0.001                                      | --                                  | 6                             |
| Feature 5   | 0.003                                      | --                                  | 76                            |
| Feature 6   | 0.005                                      | --                                  | 5                             |
| Totals  | 0.32                                       | 0.005                               | 1,871                         |
| *Totals may be off by up to 1/100th acre due to rounding. |  |                                     |                               |
| ** No temporary impacts would occur.                      |  |                                     |                               |

**Table 4-3b. Direct Impacts on CDFW Jurisdictional Waters**

| <b>Feature Name</b>                                       | <b>CDFW<br/>Unvegetated<br/>Streambed (acres)</b> | <b>CDFW Riparian (acres)</b> | <b>CDFW (linear feet)</b> |
|---|---|------------------------------|---------------------------|
| Feature 1 (Old Paloma Wash)                               | 0.55  | --                           | 1,436                     |
| Feature 2   | 0.16  | --                           | 314                       |
| Feature 3   | 0.03  | 0.005                        | 33                        |
| Feature 4   | 0.02  | --                           | 6                         |
| Feature 5   | 0.003   | --                           | 76                        |
| Feature 6   | 0.006   | --                           | 5                         |
| Totals  | 0.77  | 0.005                        | 1,871                     |
| *Totals may be off by up to 1/100th acre due to rounding. |   |                              |                           |
| ** No temporary impacts would occur.                      |   |                              |                           |

During construction, there is increased risk for indirect temporary impacts to the adjacent jurisdictional waters, but the measures **M-2** through **M-13** and **M-20** identified in Appendix I would ensure these potential indirect effects are avoided.

Encroachment into wetland and non-wetland WoUS would require authorization through a permit issued under Section 404 of the federal CWA by the USACE. The project would qualify for the authorization under Nationwide Permit 14 as permanent impacts are less than 0.5 acre. The fill of Waters of the U.S. and wetlands would also trigger the need for a CWA Section 401 Certification to be obtained from the RWQCB. Acquisition of these permits would ensure compliance with the CWA (Sections 401 and 404) and Executive Order 11990. Encroachment into state jurisdictional features triggers the need for a Streambed Alteration Agreement through notification to CDFW under Section 1600 et Seq. of the California Fish and Game.

**Operation.** The long-term operation of the proposed project is would potentially have an indirect effect to jurisdictional waters as a result of increased traffic causing additional pollutants from



runoff and into these water resources. In addition, the developed footprint of the bridge and modifications to surrounding roadways would increase roadbed surface area, leaving less permeable surface and increased surface flows into storm drain facilities and jurisdictional waters.

#### **4.3.1.3 Avoidance and Minimization Efforts**

A full list of avoidance and minimization measures for the proposed project is provided in Appendix I. Avoidance and minimization measures **M-2** through **M-13** and **M-20** would ensure full avoidance of additional or incidental direct impacts on jurisdictional waters resources adjacent to the LOD during construction.

#### **4.3.1.4 Compensatory Mitigation**

Permanent impacts to wetland WoUS associated with Feature 3 will require a minimum 1:1 replacement per the federal No-Net-Loss Policy. This replacement will consist of the creation of like resources at a minimum 1:1 ratio. In addition, compensation will also be required for the non-wetland WoUS/WoS permanently impacted by the proposed Project. This compensation would consist of a combination of enhancement, restoration, and/or payment into a permitted in-lieu fee program or accredited mitigation bank. Temporary impacts would be restored onsite. Final compensation requirements would be determined during consultation with the USACE, RWQCB, and CDFW.

#### **4.3.1.5 Cumulative Impacts**

The proposed Project would directly contribute to an incremental loss of nonwetland WoUS/WoS and state streambeds and jurisdictional riparian habitat, which would make a cumulatively considerable contribution due to the regional decline of these resources. Measures **M-2** through **M-13** and **M-20** as identified in Appendix I would be implemented to ensure protection of federal and/or state jurisdictional features adjacent to the project footprint, thereby minimizing cumulative loss of these resources.

However, as mandated by the federal No-Net-Loss Policy, proposed Project-related impacts to potential wetland WoUS/WoS would be addressed through creation of like resources at a minimum 1:1 ratio; thereby, the proposed Project would not make a cumulatively considerable contribution to the regional loss of these resources.

### **4.4 Raptor Foraging and Nesting**

#### **4.4.1 Discussion of Raptor Foraging and Nesting**

Southern California holds a diversity of birds of prey (raptors), and many of these species are in decline. For most of the declining species, foraging requirements include extensive open, undisturbed, or lightly disturbed areas, especially grasslands. This type of habitat has declined severely in the region, affecting many species, but especially raptors. A few species, such as red-

tailed hawk (*Buteo jamaicensis*) and American kestrel (*Falco sparverius*), are somewhat adaptable to low-level human disturbance and can be readily observed adjacent to neighborhoods and other types of development. These species still require appropriate foraging habitat and low levels of disturbance in the vicinity of nesting sites.

Many of the raptors that would be expected to forage and nest within western Riverside are fully Covered Species under the MSHCP with the MSHCP providing the necessary conservation of both foraging and nesting habitats. The BSA contain suitable habitat for the following Fully Covered Species: white-tailed kite (*Elanus leucurus*), northern harrier (*Circus cyaneus*), and golden eagle (*Aquila chrysaetos*). Although the BSA only has suitable nesting habitat for white-tailed kite, suitable foraging habitat is present for all three raptors. Some common raptor species (e.g., American kestrel and red-tailed hawk) are not covered by the MSHCP but are expected to be conserved with implementation of the Plan due to the parallel habitat needs with those raptors covered under the Plan.

It is important to understand that the MSHCP does not provide MBTA and Fish and Game Code take for raptors covered under the Plan.

#### 4.4.1.1 Survey Results

There is an estimated 20.42 acres of potential foraging habitat (all undeveloped vegetation communities) within the BSA. During the current survey work, two species of raptors were detected within the study area: red-tailed hawk, American kestrel, and burrowing owl (refer to Section 4.6.5 for details on burrowing owl). All of these species have potential to occur within the study area year-round in foraging and nesting roles. Other year-round species that may occur but were not observed include: Cooper's hawk (*Accipiter cooperii*), red-shouldered hawk (*Buteo lineatus*), white-tailed kite (*Elanus leucurus*), and great horned owl (*Bubo virginianus*). Other species of raptors that have potential to occur within the BSA during migration or winter include northern harrier (*Circus cyaneus*), sharp-shinned hawk (*Accipiter striatus*), ferruginous hawk (*Buteo regalis*), and Swainson's hawk (*Buteo swainsoni*). With the exception of burrowing owl (refer to Section 4.6.5), there is a single eucalyptus tree and a single cottonwood that could potentially be used as nesting habitat for raptors.

#### 4.4.1.2 Project Impacts

**Construction.** Under the Build Alternative, an approximate 10.00 acres of potential raptor foraging habitat would be directly and permanently removed. Temporary impacts would occur on 1.84 acre of lands during construction of the proposed project. No trees that are suitable for nesting would be removed. During construction, there is a potential that a raptor nesting within 300 feet of the construction zone could be indirectly impacted by noise or dust generated from equipment such that nest abandonment could occur. However, measure **M-18** ensures that any potential indirect impacts to nesting raptors during construction would be avoided.

Removal of raptor habitat is fully addressed by the MSHCP. No direct impacts to individual raptors or their nests would occur.

**Operation.** Effects from operation of the bridge would be minimal since there is already a low potential for raptors to nest in the immediate vicinity due to lack of nest habitat. No long-term operational effects on potential foraging habitat are anticipated.

#### **4.4.1.3 Avoidance and Minimization Efforts**

Measure **M-1** through **M-12** would be implemented to avoid impacts to foraging habitat adjacent to the LOD. Measure **M-18** in Appendix I would ensure that direct mortality of raptors and/or abandonment of nests with eggs and/or young would not occur; thus, MBTA and Fish and Game Code compliance would be met.

#### **4.4.1.4 Compensatory Mitigation**

No compensation is necessary.

#### **4.4.1.5 Cumulative Impacts**

The Build Alternative would permanently remove 10.00 acres of potential raptor foraging habitat. Both of these habitats are located adjacent to or near to the Interstate. Projects currently occurring and foreseeable projects are expected to further reduce potential foraging habitat as well as some nesting habitat. The removal of 10.00 acres of potential foraging habitat for raptors could make a cumulatively considerable contribution to the continuing regional decline of raptor foraging habitat, however these cumulative effects are fully addressed under the MSCHP. No impacts would occur on potential raptor nest areas.

### **4.5 Special Status Plant Species**

#### **4.5.1 MSHCP Threatened and Endangered Plant Species**

There are nine federal and/or state listed plant species known to occur within the regional vicinity of the BSA: Munz's onion (*Allium munzii*), San Diego ambrosia (*Ambrosia pumila*), San Jacinto Valley crownscale (*Atriplex coronata* var. *notatior*), thread-leaved brodiaea (*Brodiaea filifolia*), slender-horned spineflower (*Dodecahema leptoceras*), San Diego button-celery (*Eryngium aristulatum* var. *parishii*), Parish's meadowfoam (*Limnanthes alba* ssp. *parishii*), spreading navarretia (*Navarretia fossalis*), and California Orcutt grass (*Orcuttia californica*). Of these, Parish's meadowfoam and San Diego button-celery are fully covered under the MSHCP, and no further discussion is warranted.

The BSA does not occur within a Criteria Area Species Survey Area or Narrow Endemic Plant Survey Area for the remaining species; therefore, focused surveys are not required for these species. Suitable habitat is present for San Diego ambrosia, San Jacinto Valley crownscale, San Diego button-celery, and spreading navarretia, however, since the BSA is not located within MSHCP survey areas for these species, they are considered covered under the MSHCP and no further discussion is included. Appendix B provides a list of all special-status plants, including

federally and/or state-listed species, reviewed for the project, along with a summary of the habitat requirements for each species.

#### 4.5.2 MSHCP Non-listed Special-Status Plant Species

There are a total of 27 non-listed special-status plant species known to occur within the regional vicinity of the BSA (refer to Appendix B for a complete list of these species). Of these, ten non-listed special-status plant species would potentially occur within the BSA due to presence of suitable habitat. These are Jaeger's milkvetch (*Astragalus pachypus* var. *jaegeri*), Parish's brittlescale (*Atriplex parishii*), Davidson's saltscale (*Atriplex serenana* var. *davidsonii*), smooth tarplant (*Centromadia pungens* ssp. *laevis*), vernal barley (*Hordeum intercedens*), Coulter's goldfields (*Lasthenia glabrata* ssp. *coulteri*), little mousetail (*Myosurus minimus* ssp. *apus*), mud nama (*Nama stenocarpum*), prostrate vernal pool navarrettia (*Navarretia prostrata*), and Wright's trichocoronis (*Trichocoronis wrightii* var. *wrightii*). Of these, Jaeger's milkvetch and vernal barley are already fully covered by the Plan and no further discussion is warranted.

The BSA does not occur within a Criteria Area Species Survey Area or Narrow Endemic Plant Survey Area for the remaining non-listed MSHCP plant species; therefore, focused surveys are not required for these species. However, the BSA provides suitable habitat for Parish's brittlescale, Davidson's saltscale, Plummer's mariposa lily, and smooth tarplant. Since the BSA is not located within an MSHCP survey area for these species, these species are considered covered under the Plan and no further discussion is warranted. However, since smooth tarplant was found within the BSA, a discussion for this species is provided below.

#### 4.5.3 Discussion of Smooth Tarplant

Smooth tarplant is a CRPR 1B.1 species and is found within seasonally wet fallow fields, drainage ditches, and moist valley and foothill grasslands. As previously mentioned, the BSA does not occur within the Criteria Area Species Survey Area for smooth tarplant. This species is also associated with MSHCP riparian/riverine areas.

##### 4.5.3.1 Survey Results

There are approximately 11.32 acres of suitable habitat for smooth tarplant within nonnative grasslands within the BSA. During the 2013 rare plant focused survey (Searl 2013), smooth tarplant was found within non-native grassland areas west of the I-215 (Appendix A, Figure 4-4). Approximately 215 individuals were found within and adjacent to Old Paloma Wash. In addition, Searl (2013) documented thousands of individuals within the Paloma Wash Flood Control Channel. The results of the focused survey are provided in Appendix B

##### 4.5.3.2 Project Impacts

**Construction.** The proposed project would directly impact 4.71 acres of suitable and occupied habitat for smooth tarplant. There is also a potential for indirect effects from fire or dust generated by construction equipment. However, since the proposed project does not occur within

the MSHCP Criteria Area Species Survey Area for smooth tarplant, these potential impacts have already been accounted for under the MSHCP. Therefore, smooth tarplant is covered and would be addressed under the Plan.

**Operation.** Potential indirect impacts associated with the long-term operation of the proposed project is covered under the MSHCP.

#### **4.5.3.3 Avoidance and Minimization Efforts**

No avoidance and minimization efforts are provided because the proposed project occurs outside of the species MSHCP survey area; thus, smooth tarplant is covered and would be addressed for under the Plan.

#### **4.5.3.4 Compensatory Mitigation**

No compensatory mitigation is necessary.

#### **4.5.3.5 Cumulative Impacts**

Since the proposed project does not occur within MSHCP Criteria Area Species Survey Area for smooth tarplant, this species is covered and addressed by the Plan and would not contribute to cumulative effects on this species.

### **4.5.4 Non-MSHCP Special Status Plants**

Appendix B provides a list of all non-MSHCP special-status plants reviewed for the project, along with a summary of the habitat requirements for each species. Of the species reviewed that are not already covered under the Plan, the following species (and their CRPR) were determined to have a potential for occurrence within the BSA based on habitat suitability: chaparral sand-verbena (*Abronia villosa* var. *aurita*; CRPR 1B.1), Douglas' fiddleneck (*Amsinckia douglasiana*; CRPR 4.2), Catalina mariposa lily (*Calochortus catalinae*; CRPR 4.2), paniculate tarplant (*Deindandra paniculata*; CRPR 4.2), Palmer's grapplinghook (*Harpogonella palmeri*; CRPR 4.2), graceful tarplant (*Holocarpha virgata* ssp. *elongata*; CRPR 4.2), saltspring checkerbloom (*Sidalcea neomexicana*; CRPR 2.2), San Bernardino aster (*Symphyotrichum defoliatum*; CRPR 1B.2), and California screw moss (*Tortula californica*; CRPR 1B.2). Of these, paniculate tarplant was observed in the BSA. There are no federal or state listed species in Appendix B that are not already covered under the Plan or would have a potential to occur within the BSA.

### **4.5.5 Discussion of Chaparral Sand-Verbena**

#### **4.5.5.1 Survey Results**

There are approximately 11.32 acres of suitable habitat for chaparral sand-verbena within the BSA. Nonnative grasslands within the western half of the BSA provide marginally suitable habitat where sandy loam soils are present. In addition, these areas are routinely disced,

therefore, the potential for this species to occur is very low. This species was not observed during the 2013 focused survey or the 2015 fieldwork. Refer to Appendix B for the 2013 focused survey results.

#### **4.5.5.2 Project Impacts**

**Construction.** The proposed project would permanently remove up to 4.71 acres and temporarily remove 1.13 acre of suitable habitat for chaparral sand-verbena. Potential indirect effects include spread of invasive plant species, increased risk of fire, and increased dust. Implementation of the measures in Appendix I would ensure that indirect effects would be avoided and minimized. Because the potential for this species to be present is very low, potential impacts on chaparral sand-verbena would not be biologically important.

**Operation.** Potential operational effects resulting from increased traffic using the Holland Bridge Overcrossing include an increased risk of fire, spread of invasive weeds, and pollutants from runoff from the bridge. However, operational effects are not anticipated to be measurably greater than existing conditions.

#### **4.5.5.3 Avoidance and Minimization Efforts**

Measures **M-1** through **M-12**, and **M-21** in Appendix I ensure that indirect impacts to chaparral sand-verbena during construction would be minimized/avoided to the greatest extent feasible.

#### **4.5.5.4 Compensatory Mitigation**

No compensation is necessary.

#### **4.5.5.5 Cumulative Impacts**

Although the regional vicinity of the proposed project is undergoing rapid development, the long-term operation of the proposed project would not make a cumulatively considerable contribution to the regional decline of chaparral sand-verbena. This is due to the very low potential for this species to occur within the BSA. In addition, the avoidance and minimizations measures would ensure impacts from the proposed project would not be cumulatively considerable.

### **4.5.6 Discussion of Douglas' Fiddleneck**

#### **4.5.6.1 Survey Results**

There are approximately 11.32 acres of suitable habitat for Douglas' fiddleneck within the BSA. The non-native grassland within the BSA provides suitable habitat for this species. One *Amsinckia* species was observed in the study area, however this was *A. menzeisii*. Since the BSA is heavily disturbed, there is a low potential for the species to occur. This species was not observed during the 2013 focused survey or the 2015 fieldwork. Refer to Appendix B for the 2013 focused survey report.

#### **4.5.6.2 Project Impacts**

**Construction.** The proposed project would permanently remove 4.71 acres and temporarily impact 1.13 acre of nonnative grassland. Potential indirect effects include spread of invasive plant species, increased risk of fire, and increased dust. Since this species would only have a low potential to occur and it is only a CRPR 4.2 species, if it was present within the LOD, it would not occur in numbers high enough to be a constraint on the proposed project or be biologically important. The measures in Appendix I and described below would ensure potential indirect effects are avoided and minimized.

**Operation.** Potential operational effects resulting from increased traffic using the Holland Bridge Overcrossing include an increased risk of fire, spread of invasive weeds, and pollutants from runoff from the bridge. However, if the species is present, these operational effects are not anticipated to be significantly greater than existing conditions and indirect effects would not be biologically important.

#### **4.5.6.3 Avoidance and Minimization Efforts**

Measures **M-1** through **M-12** in Appendix I ensure that indirect impacts to Douglas' fiddleneck during construction would be minimized/avoided to the greatest extent feasible.

#### **4.5.6.4 Compensatory Mitigation**

No compensation is necessary.

#### **4.5.6.5 Cumulative Impacts**

Although the regional vicinity of the proposed project is undergoing rapid development, the long-term operation of the proposed project would not make a cumulatively considerable contribution to the regional decline of Douglas' fiddleneck. This is due to the low potential for occurrence and because indirect effects would not be biologically important.

### **4.5.7 Discussion of Catalina Mariposa Lily**

#### **4.5.7.1 Survey Results**

There are approximately 11.32 acres of suitable habitat for Catalina mariposa lily within the BSA. The nonnative grassland within the BSA provides suitable habitat for this species. The nearest record for this species occurs in the Lake Mathews area northwest of the BSA and in the Santa Rosa Mountains west of the BSA. This species has a low potential to occur based on most of its geographic distribution occurring on the coastal slopes. This species was not observed during the 2013 focused survey or the 2015 fieldwork. Refer to Appendix B for the 2013 focused survey report.

#### **4.5.7.2 Project Impacts**

**Construction.** The proposed project would permanently remove 4.71 acres and temporarily impact 1.13 acre of nonnative grassland. Potential indirect effects include spread of invasive plant species, increased risk of fire, and increased dust. Since this species would only have a low potential to occur and it is only a CRPR 4.2 species, if present within the LOD, it would not occur in numbers high enough to be a constraint on the proposed project or be biologically important. The measures in Appendix I and described below would ensure potential indirect effects are avoided and minimized.

**Operation.** Potential operational effects resulting from increased traffic using the Holland Bridge Overcrossing include an increased risk of fire, spread of invasive weeds, and pollutants from runoff from the bridge. However, if the species is present, these operational effects are not anticipated to be significantly greater than existing conditions and indirect effects would not be biologically important.

#### **4.5.7.3 Avoidance and Minimization Efforts**

Measures **M-1** through **M-12** in Appendix I ensure that indirect impacts to Catalina mariposa lily during construction would be minimized/avoided to the greatest extent feasible.

#### **4.5.7.4 Compensatory Mitigation**

No compensation is necessary.

#### **4.5.7.5 Cumulative Impacts**

Although the regional vicinity of the proposed project is undergoing rapid development, the long-term operation of the proposed project would not make a cumulatively considerable contribution to the regional decline of Catalina mariposa lily. This is due to the low potential for occurrence and because indirect effects would not be biologically important.

### **4.5.8 Discussion of Paniculate Tarplant**

Paniculate tarplant is a CRPR 4.2 species. It is found growing under mesic conditions in sage scrub, valley and foothill grasslands, and vernal pools. Paniculate tarplant is also tolerant of disturbed conditions and can also be found in nonnative grasslands.

#### **4.5.8.1 Survey Results**

There are approximately 11.32 acres of suitable habitat for paniculate tarplant within non-native grasslands within the BSA. Approximately 373 individuals of paniculate tarplant were found during the 2013 focused survey (Searl 2013) within the nonnative grassland within the BSA (Appendix A, Figure 4-4). The 2013 focused survey report is provided in Appendix B.



#### **4.5.8.2 Project Impacts**

**Construction.** The proposed project would directly and permanently remove 4.71 acres of suitable and occupied habitat for paniculate tarplant. In addition, 1.13 acre would only be temporarily during materials laydown and staging. There is also a potential for indirect effects from fire, spread of invasive weeds, and dust generated by construction equipment to areas adjacent to the LOD. The avoidance and minimization measures **M-1** through **M-12** would ensure that impacts to paniculate tarplant are reduced to levels that would not be biologically important.

**Operation.** Potential operational effects resulting from increased traffic using the Holland Bridge Overcrossing include an increased risk of fire, spread of invasive weeds, and pollutants from runoff from the bridge. However, these indirect effects are not expected to be substantially greater than existing conditions. In addition, this species is tolerant of these low level conditions therefore potential indirect effects are not considered biologically substantial to this species.

#### **4.5.8.3 Avoidance and Minimization Efforts**

Measures **M-1** through **M-12** in Appendix I ensure that indirect impacts to paniculate tarplant during construction would be minimized/avoided to the greatest extent feasible.

#### **4.5.8.4 Compensatory Mitigation**

No compensatory mitigation is required.

#### **4.5.8.5 Cumulative Impacts**

Although the region is undergoing rapid development, the long-term operation of the proposed project is not anticipated to make a cumulatively considerable contribution to the regional decline of the species. This is due to the species tolerance of low levels of disturbance and because the permanent loss of 4.71 acres of suitable habitat would not be biologically substantial for the species.

### **4.5.9 Discussion of Palmer's Grapplinghook**

#### **4.5.9.1 Survey Results**

There are approximately 11.32 acres of suitable habitat for Palmer's grapplinghook within the BSA. Nonnative grasslands within the western half of the BSA provide marginally suitable habitat where sandy loam soils are present. In addition, these areas are routinely disced, therefore, the potential for this species to occur is low. This species was not observed during the 2013 focused survey or the 2015 fieldwork. Refer to Appendix B for the 2013 focused survey report.

#### **4.5.9.2 Project Impacts**

**Construction.** The proposed project would permanently remove up to 4.71 acres and temporarily remove 1.13 acre of suitable habitat for Palmer's grapplehook. Potential indirect effects include spread of invasive plant species, increased risk of fire, and increased dust. Implementation of the measures in Appendix I would ensure that indirect effects would be avoided and minimized. Because the potential for this species to be present is low and it is only a CRPR 4.2 species, if it was present within the LOD, it would not occur in numbers high enough to be a constraint on the proposed project or be biologically important.

**Operation.** Potential operational effects resulting from increased traffic using the Holland Bridge Overcrossing include an increased risk of fire, spread of invasive weeds, and pollutants from runoff from the bridge. However, operational effects are not anticipated to be substantially greater than existing conditions.

#### **4.5.9.3 Avoidance and Minimization Efforts**

Measures **M-1** through **M-12** in Appendix I ensure that indirect impacts to Palmer's grapplehook during construction would be minimized/avoided to the greatest extent feasible.

#### **4.5.9.4 Compensatory Mitigation**

No compensation is necessary.

#### **4.5.9.5 Cumulative Impacts**

Although the regional vicinity of the proposed project is undergoing rapid development, the long-term operation of the proposed project would not make a cumulatively considerable contribution to the regional decline of Palmer's grapplehook. This is due to the low potential for occurrence and because indirect effects would not be biologically important.

### **4.5.10 Discussion of Graceful Tarplant**

#### **4.5.10.1 Survey Results**

There are approximately 11.32 acres of suitable habitat for graceful tarplant within nonnative grassland in the BSA. Within Riverside County, this species has only been found in the Temecula area and the Santa Rosa Plateau (Roberts et al. 2004). Although this species was not observed during the 2013 focused survey or the 2015 fieldwork, there is a moderate potential for it to occur. Refer to Appendix B for the 2013 focused survey report.

#### **4.5.10.2 Project Impacts**

**Construction.** The proposed project would permanently remove up to 4.71 acres and temporarily remove 1.13 acre of suitable habitat for graceful tarplant. Potential indirect effects include spread of invasive plant species, increased risk of fire, and increased dust.

Implementation of the measures in Appendix I would ensure that indirect effects would be avoided and minimized. Because the potential for this species to be present is low and it is only a CRPR 4.2 species, if it was present within the LOD, it would not occur in numbers high enough to be a constraint on the proposed project or be biologically important.

**Operation.** Potential operational effects resulting from increased traffic using the Holland Bridge Overcrossing include an increased risk of fire, spread of invasive weeds, and pollutants from runoff from the bridge. However, operational effects are not anticipated to be substantially greater than existing conditions.

#### **4.5.10.3 Avoidance and Minimization Efforts**

Measures **M-1** through **M-12** in Appendix I ensure that indirect impacts to graceful tarplant during construction would be minimized/avoided to the greatest extent feasible.

#### **4.5.10.4 Compensatory Mitigation**

No compensation is necessary.

#### **4.5.10.5 Cumulative Impacts**

Although the regional vicinity of the proposed project is undergoing rapid development, the long-term operation of the proposed project would not make a cumulatively considerable contribution to the regional decline of graceful tarplant. This is due to the low potential for occurrence and because indirect effects would not be biologically important.

### **4.5.11 Discussion of Saltspring Checkerbloom**

#### **4.5.11.1 Survey Results**

There are approximately 0.17 acre of suitable habitat for saltspring checkerbloom within the freshwater marsh in the eastern portion of the BSA. Although this species was not observed during the 2013 focused survey or the 2015 fieldwork, there is a moderate potential for it to occur. Reference sites were checked within the regional vicinity, however, this species was not observed blooming in 2013 (Searl 2013). Refer to Appendix B for the 2013 focused survey report.

#### **4.5.11.2 Project Impacts**

**Construction.** The proposed project would permanently remove up to 0.02 acre of suitable habitat for saltspring checkerbloom. No temporary effects are proposed. Potential indirect effects include spread of invasive plant species, increased risk of fire, and increased dust. Implementation of the measures in Appendix I would ensure that indirect effects would be avoided and minimized.

**Operation.** Potential operational effects resulting from increased traffic using the Holland Bridge Overcrossing include an increased risk of fire, spread of invasive weeds, and pollutants from runoff from the bridge. However, operational effects are not anticipated to be significantly greater than existing conditions.

#### **4.5.11.3 Avoidance and Minimization Efforts**

Measures **M-1** through **M-12** and **M-21** in Appendix I ensure that indirect impacts to saltspring checkerbloom during construction would be minimized/avoided to the greatest extent feasible.

#### **4.5.11.4 Compensatory Mitigation**

No compensation is necessary.

#### **4.5.11.5 Cumulative Impacts**

The regional vicinity of the proposed project is undergoing rapid development, and saltspring checkerbloom is rare within the area. Therefore, any impacts to this species could cumulatively contribute to the regional decline of this species. However, implementation of the avoidance and minimizations measures would ensure these impacts would not be cumulatively considerable.

### **4.5.12 Discussion of San Bernardino Aster**

#### **4.5.12.1 Survey Results**

There are approximately 0.17 acre of suitable habitat for San Bernardino aster within the freshwater marsh in the eastern portion of the BSA. Although this species was not observed during the 2013 focused survey or the 2015 fieldwork, there is a moderate potential for it to occur. Reference sites were checked within the regional vicinity, however, this species was not observed blooming in 2013 (Searl 2013) or the 2015 fieldwork. Refer to Appendix B for the 2013 focused survey report.

#### **4.5.12.2 Project Impacts**

**Construction.** The proposed project would permanently remove up to 0.02 acre of suitable habitat for San Bernardino aster. No temporary effects are proposed. Potential indirect effects include spread of invasive plant species, increased risk of fire, and increased dust. Implementation of the measures in Appendix I would ensure that indirect effects would be avoided and minimized.

**Operation.** Potential operational effects resulting from increased traffic using the Holland Bridge Overcrossing include an increased risk of fire, spread of invasive weeds, and pollutants from runoff from the bridge. However, operational effects are not anticipated to be substantially greater than existing conditions.

#### **4.5.12.3 Avoidance and Minimization Efforts**

Measures **M-1** through **M-12** and **M-21** in Appendix I ensure that indirect impacts to California screw moss during construction would be minimized/avoided to the greatest extent feasible.

#### **4.5.12.4 Compensatory Mitigation**

No compensation is necessary.

#### **4.5.12.5 Cumulative Impacts**

Although the regional vicinity of the proposed project is undergoing rapid development, the long-term operation of the proposed project would not make a cumulatively considerable contribution to the regional decline of San Bernardino aster. This is due to the limited amount of habitat present that would be impacted. In addition, the avoidance and minimizations measures would ensure impacts from the proposed project would not be cumulatively considerable.

### **4.5.13 Discussion of California Screwmoss**

#### **4.5.13.1 Survey Results**

There are approximately 11.32 acres of suitable habitat for California screw moss within the BSA. Nonnative grasslands within the western half of the BSA provide marginally suitable habitat where sandy loam soils are present. In addition, these areas are routinely disced, therefore, the potential for this species to occur is low. This species was not observed during the 2013 focused survey or the 2015 fieldwork. Refer to Appendix B for the 2013 focused survey report.

#### **4.5.13.2 Project Impacts**

**Construction.** The proposed project would permanently remove up to 4.71 acres and temporarily remove 1.13 acre of suitable habitat for California screw moss. Potential indirect effects include spread of invasive plant species, increased risk of fire, and increased dust. Implementation of the measures in Appendix I would ensure that indirect effects would be avoided and minimized. Because the potential for this species to be present is low, potential impacts on California screw moss would not be biologically important.

**Operation.** Potential operational effects resulting from increased traffic using the Holland Bridge Overcrossing include an increased risk of fire, spread of invasive weeds, and pollutants from runoff from the bridge. However, operational effects are not anticipated to be substantially greater than existing conditions.

#### **4.5.13.3 Avoidance and Minimization Efforts**

Measures **M-1** through **M-12** in Appendix I ensure that indirect impacts to California screw moss during construction would be minimized/avoided to the greatest extent feasible.

#### **4.5.13.4 Compensatory Mitigation**

No compensation is necessary.

#### **4.5.13.5 Cumulative Impacts**

Although the regional vicinity of the proposed project is undergoing rapid development, the long-term operation of the proposed project would not make a cumulatively considerable contribution to the regional decline of California screw moss. This is due to the very low potential for this species to occur within the BSA.

### **4.6 Special Status Animal Species**

#### **4.6.1 MSHCP Threatened and Endangered Animal Species**

There are twelve federal and/or state listed plant species that have been documented within the regional vicinity of the BSA: vernal pool fairy shrimp, Riverside fairy shrimp, quino Checkerspot butterfly (*Euphydryas editha quino*), California tiger salamander (*Ambystoma californiense*), arroyo toad (*Anaxyrus californicus*), California red-legged frog (*Rana aurora draytonii*), bald eagle (*Haliaeetus leucocephalus*), Swainson's hawk (*Buteo swainsoni*), western snowy plover (*Charadrius alexandrinus nivosus*), least Bell's vireo (*Vireo bellii pusillus*), coastal California gnatcatcher (*Polioptila californica californica*), and Stephens' kangaroo rat (*Dipodomys stephensi*). Of these suitable habitat is only present for vernal pool fairy shrimp, Riverside fairy shrimp, Swainson's hawk (foraging only), and Stephens' kangaroo rat. Since Swainson's hawk and Stephen's kangaroo rat are fully covered under the Plant, thus no further discussion is provided for these species. Refer to Appendix D for a list of the federally and/or state-listed species, reviewed for the project, along with a summary of the habitat requirements for each species.

#### **4.6.2 Discussion of Vernal Pool Fairy Shrimp**

The vernal pool fairy shrimp is a federally threatened species and is not listed by the state; however, it is a MSHCP riparian-riverine species.

##### **4.6.2.1 Survey Results**

A habitat evaluation for fairy shrimp was conducted in 2013 and suitable habitat was found within a basin in nonnative grassland (Searl 2013) at the southeast corner of Holland Road and Hanover Lane. Figure 10 in Appendix B illustrates potentially suitable habitat for fairy shrimp that was observed in 2013. However, suitable habitat is also present within road ruts and depressions within nonnative grassland, agricultural lands, and bare ground areas, if depressions are present that could pool water.

A dry season survey was completed in December 2014 (Appendix F). Four potential depressions were sampled within the BSA where access was permitted. There are a number of road ruts, depressions, and a basin within the BSA where water ponds after storm events, and these features are all potentially suitable for fairy shrimp. Refer to Figure 3 in Appendix F for the locations of the sampled basins. It was determined that the freshwater marsh within the BSA does not provide suitable habitat for fairy shrimp because the perennial urban run-off provides year-round ponding which is not suitable for this species. *Branchinecta* cysts were recovered from the basin southeast of Hanover Lane and Holland Road. Because differentiation of cysts among species of *Branchinecta* is not possible using a light microscope, cysts were hatched to confirm species. Versatile fairy shrimp were hatched from Feature 4 (Table 4-4). No vernal pool fairy shrimp were recovered from the cyst culturing. No cysts were recovered from any other depressions.

**Table 4-4. Number of *Branchinecta* Hatched**

| Feature | <i>Branchinecta lynchi</i> | <i>Branchinecta lindahli</i> |
|---------|----------------------------|------------------------------|
| 1       | None                       | 12                           |

The results of the hatching study show that versatile fairy shrimp are present in Feature 1. While the two species of *Branchinecta* are known to co-occur (Eriksen and Belk 1999), vernal pool fairy shrimp are rare in appropriate habitat in western Riverside County, with only three reported observations (CDFW 2014) outside of Santa Rosa Plateau (Skunk Hollow, Johnson Ranch, and south of Hemet). It is likely that all of the fairy shrimp present in Feature 1 are versatile fairy shrimp.

Due to 2015 drought conditions, suitable depressions did not pond for sufficient periods to collect samples for the wet season focused survey. Therefore the results of the wet season survey were inconclusive and could not determine whether vernal pool fairy shrimp are present. A second dry season survey will be conducted in the fall of 2015 to complete the USFWS protocol level determination for the presence or absence of vernal pool fairy shrimp. Results will be provided when these studies are completed.

#### 4.6.2.2 Project Impacts

**Construction.** The proposed project would permanently remove potentially suitable habitat for vernal pool fairy shrimp within the LOD. In addition, potential indirect effects during construction include increase in dust generated by equipment, increased risk of fire, and introduction of invasive species. Due to the disturbed nature of areas directly adjacent to the LOD (i.e. discing), it is not anticipated that indirect effects would be more than is currently present. However, **M-1** through **M-13** in Appendix I would ensure that indirect effects are avoided and/or minimized. If vernal pool fairy shrimp are determined to be present, and full avoidance is not feasible (**M-19**) impacts to this species constitutes “take” under FESA and would be significant under CEQA. If vernal pool fairy shrimp are determined to be absent, no constraint to the proposed project would exist.

**Operation.** The potential long-term operation of the proposed project resulting from increased traffic use of the Holland Road Bridge Overcrossing include an increased risk of fire, spread of invasive weeds, and pollutants from runoff from the bridge. However, these indirect effects are not expected to be substantially greater than existing conditions.

#### **4.6.2.3 Avoidance and Minimization Efforts**

Measure **M-1** through **M-13** in Appendix I would ensure indirect effects are avoided and minimized. If vernal pool fairy shrimp are determined to be present, measure **M-19** would ensure that there are no impacts.

#### **4.6.2.4 Compensatory Mitigation**

If full avoidance through measure **M-19** is not feasible within areas occupied by vernal pool fairy shrimp, a DBESP will be required (**M-14**). Refer to Section 4.2.2.4 for detailed compensatory requirements that would be implemented for loss of fairy shrimp habitat.

If no vernal pool fairy shrimp are determined to be present, then no impacts would occur and no mitigation would be required.

#### **4.6.2.5 Cumulative Effects**

If vernal pool fairy shrimp are present and would be directly impacted by the proposed project, the proposed project would make a cumulatively considerable contribution to the decline of this species within the region. This is due to the rapid development within the region and because these species are rare. Cumulative impacts on this species would be addressed through mitigation proposed as part of the DBESP process (**M-14**).

If no vernal pool fairy shrimp are determined to be present then no cumulative impacts would occur.

### **4.6.3 Discussion of Riverside Fairy Shrimp**

The Riverside fairy shrimp is a federally endangered species and is not listed by the state; however, it is a MSHCP riparian-riverine species.

#### **4.6.3.1 Survey Results**

A habitat evaluation for fairy shrimp was conducted in 2013 and suitable habitat was found within a basin in nonnative grassland (Searl 2013) at the southeast corner of Holland Road and Hanover Lane. Figure 10 in Appendix B illustrates potentially suitable habitat for fairy shrimp that was observed in 2013. However, suitable habitat is also present within road ruts and depressions within nonnative grassland, agricultural lands, and bare ground areas, if depressions are present that could pool water.



A dry season survey was completed in December 2014 (Appendix F). There are a number of road ruts, depressions, and a basin within the BSA where water ponds after storm events, and these features are all potentially suitable for fairy shrimp. As described above Section 4.6.2.1, there were four potential depressions sampled within the BSA where access was permitted. Refer to Figure 3 in Appendix F for the locations of the sampled basins. Suitable habitat for Riverside fairy shrimp occurred within the basin at the southeast corner of Holland Road and Hanover Lane. *Branchinecta* cysts were recovered from this basin (refer to Appendix A, Figure 4-2) for the location of Feature 4). *Streptocephalus* cysts can be discerned from *Branchinecta* cysts based on cyst surface characteristics. Riverside fairy shrimp is the only member of the *Streptocephalus* genus found within western Riverside County; therefore any observed *Streptocephalus* cysts are accepted as Riverside fairy shrimp. No *Streptocephalus* were found within the samples that were evaluated.

Due to 2015 drought conditions, suitable depressions did not pond for sufficient periods to collect samples for the wet season focused survey. Therefore, the results of the wet season survey were inconclusive and could not determine whether Riverside fairy shrimp are present. A second dry season survey will be conducted in the fall of 2015 to complete the USFWS protocol level determination for the presence or absence of Riverside fairy shrimp. Results will be provided when these studies are completed.

#### 4.6.3.2 Project Impacts

**Construction.** The proposed project would permanently remove potentially suitable habitat for Riverside fairy shrimp within the LOD. In addition, potential indirect effects during construction include increase in dust generated by equipment, increased risk of fire, and introduction of invasive species. Due to the disturbed nature of areas directly adjacent to the LOD (i.e. discing), it is not anticipated that indirect effects would be more than is currently present. However, **M-1** through **M-13**, and **M-20** in Appendix I would ensure that indirect effects are avoided and/or minimized. If Riverside fairy shrimp are determined to be present, and full avoidance is not feasible (**M-19**) impacts to this species constitutes “take” under FESA and be significant under CEQA. If Riverside fairy shrimp are determined to be absent, no constraint to the proposed project would exist.

**Operation.** The potential long-term operation of the proposed project resulting from increased traffic use of the Holland Road Bridge Overcrossing include an increased risk of fire, spread of invasive weeds, and pollutants from runoff from the bridge. However, these indirect effects are not expected to be substantially greater than existing conditions.

#### 4.6.3.3 Avoidance and Minimization Efforts

Measure **M-1** through **M-13** in Appendix I would ensure indirect effects are avoided and minimized. If Riverside fairy shrimp are determined to be present, measure **M-19** would ensure that there are no impacts.

#### 4.6.3.4 Compensatory Mitigation

If full avoidance through measure **M-19** is not feasible within areas occupied by Riverside fairy shrimp, a DBESP will be required (**M-14**). Refer to Section 4.2.2.4 for detailed compensatory requirements that would be implemented for loss of fairy shrimp habitat.

If no vernal pools would be impacted and no Riverside fairy shrimp are determined to be present then no impacts would occur and no mitigation would be required.

#### 4.6.3.5 Cumulative Effects

If Riverside fairy shrimp are present and would be directly impacted by the proposed project, the proposed project would make a cumulatively considerable contribution to the decline of this species within the region. This is due to the rapid development within the region and because these species are rare. Cumulative impacts on this species would be addressed through mitigation proposed as part of the DBESP process (**M-14**).

If no Riverside fairy shrimp are determined to be present then no cumulative impacts would occur.

#### 4.6.4 MSHCP Non-listed Animal Species

Appendix D provides a list of the non-listed special-status animal species known to occur within the regional vicinity of the BSA and that are covered under the MSHCP. Of these, nine MSHCP non-listed special-status animal species would potentially occur within the BSA due to presence of suitable habitat. These are Coast Range California newt (*Taricha torosa*), western spadefoot (*Spea hammondi*), white-tailed kite (*Elanus leucurus*), northern harrier (*Circus cyaneus*), loggerhead shrike (*Lanius ludovicianus*), golden eagle (*Aquila chrysaetos*), burrowing owl, San Diego black-tailed jackrabbit (*Lepus californicus bennettii*), and northwestern San Diego pocket mouse (*Chaetodipus fallax fallax*). Of these, coast range newt, loggerhead shrike, San Diego black-tailed jackrabbit, northwestern San Diego pocket mouse, and western spadefoot are already fully covered by the Plan and no further discussion is warranted. Additionally, within the BSA there is potential nesting habitat and potential foraging habitat for white-tailed kite and potential foraging habitat for northern harrier and golden eagle. Section 4.4 analyzes impacts to all raptor species, therefore no further analysis will be provided in this section.

The BSA occurs within the MSHCP Burrowing Owl Survey Area and therefore, focused surveys were required for this species. Further details are provided below.

#### 4.6.5 Discussion of Burrowing Owl

This section addresses potential effects to Burrowing Owl, a state species of special concern that is a Covered Species under the MSHCP.

#### 4.6.5.1 Survey Results

Under the MSHCP, a focused survey is required for burrowing owl within the MSHCP Burrowing Owl Survey Areas where suitable habitat is present. An estimated 20.42 acres of potential habitat occurs within the MSHCP Burrowing Owl Survey Area (Figure 4-5). Suitable habitat is present within agricultural lands and nonnative grassland. Quality of potential habitat ranges from marginal to good within the study area. Potential habitat occurs within BSA and adjacent lands surrounding the BSA.

A focused survey was performed from May to August 2013 by Searl Biological Services. Figure 4-5 depicts the burrowing owl focused survey area, potential burrowing owl burrows, occupied burrowing owl burrows, burrowing owl sign, and burrowing owl. A total of 52 potential burrows (47 California ground squirrel burrows and five burrow surrogates) were identified within the BSA. Burrowing owl sign (feathers, pellets, and whitewash) was found south of the storage unit facility during the 2013 focused survey, however this is outside of the BSA.

Fifteen individuals (ten adult/adult-like plumage and five juveniles) burrowing owl were observed during the breeding season (Figure 4-5) over the course of four protocol surveys in 2013. One individual was observed just south of the storage facility (south of the BSA) and was possibly predated between the first and second protocol survey. All other burrowing owls were observed in agricultural lands north of the BSA (APNs 364070032 and 364070031) northeast of the southern cattail wetland. The burrowing owls found outside the study area limits are expected to use the BSA for foraging.

#### 4.6.5.2 Project Impacts

**Construction.** Within the LOD, 10.00 acres of potentially suitable habitat lies within the MSHCP Burrowing Owl Survey Area and would thus be directly impacted. In addition, there would be temporary impacts to 1.84 acre. Although burrowing owls were confirmed absent within the LOD in 2013, this species is mobile and could occupy burrows within the LOD any time of the year. Measures identified below and in Appendix I, would ensure that no construction-related impacts occur to individuals nesting or wintering within the LOD. In addition, **M-17** ensure that no direct mortality of the species occurs during construction and minimizes potential indirect effects on potential habitat adjacent to the project site boundary.

**Operation.** The increase of vehicles using the bridge could potentially affect burrowing owl that are flying over the I-215 facility or traveling from agricultural fields north and south of the proposed bridge. However, these potential effects are not expected to differ from other overcrossing bridges along the I-215 facility.

#### 4.6.5.3 Avoidance and Minimization Efforts

Removal of potential burrowing owl habitat located within the MSHCP Burrowing Owl survey area triggers specific MSHCP measures. Avoidance of direct mortality is required under the MSHCP. A preconstruction survey (Measure **M-17**) for burrowing owl is required between the window of March 1- August 31 under the MSHCP prior to construction activities. This is required regardless of whether the species was found absent or present during the focused

survey. Measures **M-1** through **M-13**, and **M-16** provide additional protection to potential habitat adjacent to and/or in close vicinity to the project limits during construction. If the species is absent during the preconstruction survey, no further surveys would be required, unless work ceases for more than 30 days, in which case a preconstruction survey would be reinitiated. If the species is found during the preconstruction survey and direct impacts are anticipated, the feasibility of full avoidance would be analyzed and implemented if possible (Measure **M-17**). If full avoidance is not possible and burrowing owl is not nesting, passive relocation (Measure **M-17**) by a qualified ornithologist is allowed and necessary to ensure no direct mortality to the species. If burrowing owl is found to be nesting, then either (1) construction disturbances cannot occur within a minimum of 300 feet of the active burrow(s) until it is confirmed by a qualified ornithologist that the pair is no longer nesting and young (if present) are independently foraging or (2) active relocation by a properly permitted biologist would be performed with concurrence from CDFW and USFWS.

#### **4.6.5.4 Compensatory Mitigation**

No compensatory mitigation is necessary.

#### **4.6.5.5 Cumulative Impacts**

The proposed project would permanently remove 10.00 acres of potential MSHCP burrowing owl habitat. Over the course of the past decade, other projects have removed potential habitat and very likely some of this was occupied by the species. Development and transportation projects within Menifee will remove potential habitat for the species and may also remove occupied habitat. This species is covered by the MSHCP and there are specific measures to ensure that direct mortality does not occur; however, this species has sharply declined over the past decade regionally as well as throughout the Inland Empire. The incremental contribution of the removal of 10.00 acres of potential habitat may make a cumulatively considerable contribution to the regional decline of the species if such habitat was occupied. Such cumulative effects are fully addressed by the MSHCP through consistency with the Plan.

#### **4.6.6 Non-MSHCP Special Status Animals**

Appendix D provides a list of all non-MSHCP special-status animals reviewed for the project, along with a summary of the habitat requirements for each species. Of the species reviewed that are not already covered under the Plan, the following species were determined to have a potential for occurrence within the BSA based on habitat suitability: Western Yellow Bat (*Lasiurus xanthinus*), Dulzura Pocket Mouse (*Chaetodipus californicus femoralis*), Southern Grasshopper Mouse (*Onychomys torridus ramona*), and American Badger (*Taxidea taxus*). There are no federal or state listed species in Appendix D that are not already covered under the Plan or would have a potential to occur within the BSA.

#### **4.6.7 Discussion of Western Yellow Bat**

The western yellow bat is a state species of special concern. This species is not covered under the MSHCP.

##### **4.6.7.1 Survey Results**

The proposed project provides up to 11.32 acres of suitable foraging habitat within nonnative grasslands. There is a low potential for this species to roost within ornamental trees within the BSA. The potential for this species to occur within the LOD is judged to be low given ongoing and past land uses, including discing activities and human disturbance.

##### **4.6.7.2 Project Impacts**

**Construction.** The proposed project would permanently remove 4.71 acres and temporarily impact 1.13 acre of suitable habitat foraging habitat for western yellow bat. No trees are proposed for removal, therefore there would not direct effects to potential roosting habitat. During construction, it is conceivable that noise related to construction activities would disturb bats potentially roosting in trees adjacent to the LOD. Such effects are expected to potentially affect only a small number of individuals given existing levels of disturbances from the I-215 and residential areas.

Although this species is relatively common in the region, the number of individuals potentially affected is expected to be low. The avoidance and minimization measures identified for other special-status species above would avoid and/or greatly reduce the potential indirect effects.

**Operation.** Potential operational effects resulting from increased traffic using the Holland Bridge Overcrossing include an increased risk of fire, noise, and human disturbance. However, these operational effects are not anticipated to be significantly greater than existing conditions due to the location of existing I-215 and roadways.

##### **4.6.7.3 Avoidance and Minimization Efforts**

Measures **M-1** through **M-12** and **M-16** already identified for other resources would also provide protection to potential bat habitat adjacent to the disturbance footprint during construction.

##### **4.6.7.4 Compensatory Mitigation**

Compensation is not required.

##### **4.6.7.5 Cumulative Impacts**

As previously discussed, the proposed project would permanently remove up to 4.71 acres of suitable foraging habitat for western yellow bat. The quality of this habitat is low given the adjacency to a highly traveled highway and discing activities within the agricultural lands. The number of individuals potentially affected is expected to be low. The proposed project would not make a cumulatively considerable contribution to the regional decline of western yellow bat

given the degraded condition of existing potential foraging habitat (low quality), the limited number of individuals expected to be affected, and the relatively common status of the species within the region. This analysis also considers that potential foraging habitat has been removed by past projects and that proposed cumulative projects would remove additional potential habitat.

#### **4.6.8 Discussion of Dulzura Pocket Mouse**

Dulzura pocket mouse is a state species of special concern. This species occurs in a variety of habitats from montane hardwood, chaparral, sage scrub, and nonnative grassland. It is abundant within grasslands and chaparral.

##### **4.6.8.1 Survey Results**

The proposed project provides up to 11.32 acres of suitable habitat within nonnative grasslands. The potential for this species to occur within the LOD is judged to be low given ongoing and past land uses, including discing activities. No focused studies are required for this species.

##### **4.6.8.2 Project Impacts**

**Construction.** The proposed project would permanently remove 4.71 acres and temporarily impact 1.13 acres of suitable habitat for Dulzura pocket mouse. Since the proposed project would remove a limited amount of low quality potential habitat for Dulzura pocket mouse, the number of individuals potentially impacted is expected to be low. These potential impacts from construction are not considered biologically significant. There is a potential for indirect effects to occur during construction to habitat adjacent to the LOD. However, the avoidance and minimization measures identified for other special-status species above would avoid and/or greatly reduce the potential or severity of such effects.

**Operation.** Potential operational effects resulting from increased traffic using the Holland Bridge Overcrossing include an increased risk of fire, increase of invasive weeds, and human disturbance. However, these operational effects are not anticipated to be substantially greater than existing conditions.

##### **4.6.8.3 Avoidance and Minimization Efforts**

No specific measures are required; however, measures **M-1** through **M-12** and **M-16** provide protection of potential habitat beyond the LOD during construction.

##### **4.6.8.4 Compensatory Mitigation**

Compensation is not required.

##### **4.6.8.5 Cumulative Impacts**

There is no potential for cumulatively considerable impacts to occur to Dulzura Pocket Mouse from the proposed project. This species has a low potential for occurrence within the LOD and

only a limited amount of potential habitat (total of 5.84 acres) is proposed for removal. It is anticipated that potential habitat for this species will continue to be removed by projects within the region. However, there would be no cumulative impact to this species based on the limited amount of potential habitat proposed for removal by this project and thus the very low (if not zero) number of individuals that are likely present.

#### **4.6.9 Discussion of Southern Grasshopper Mouse**

Southern grasshopper mouse is a state species of special concern. This species occurs in a variety of dry scrub, grasslands, and woodlands.

##### **4.6.9.1 Survey Results**

The proposed project provides up to 11.32 acres of suitable habitat within nonnative grasslands. The potential for this species to occur within the LOD is judged to be low given ongoing and past land uses, including discing activities and human disturbance. No focused studies are required for this species.

##### **4.6.9.2 Project Impacts**

**Construction.** The proposed project would permanently remove 4.71 acres and temporarily impact 1.13 acre of suitable habitat for Southern grasshopper mouse. Since the proposed project would remove a limited amount of low quality potential habitat for Southern grasshopper mouse, the number of individuals potentially impacted is expected to be low. These potential impacts from construction are not considered biologically significant. There is a potential for indirect effects to occur during construction to habitat adjacent to the LOD. However, the avoidance and minimization measures identified for other special-status species above would avoid and/or greatly reduce the potential or severity of such effects.

**Operation.** Potential operational effects resulting from increased traffic using the Holland Bridge Overcrossing include an increased risk of fire, increase of invasive weeds, and human disturbance. However, these operational effects are not anticipated to be substantially greater than existing conditions.

##### **4.6.9.3 Avoidance and Minimization Efforts**

No specific measures are required; however, measures **M-1** through **M-12** and **M-16** provide protection of potential habitat beyond the LOD during construction.

##### **4.6.9.4 Compensatory Mitigation**

Compensation is not required.

#### **4.6.9.5 Cumulative Impacts**

There is no potential for cumulatively considerable impacts to occur to Southern grasshopper mouse from the proposed project. This species has a low potential for occurrence within the LOD and only a limited amount of potential habitat (a total of 5.84 acres) is proposed for removal. It is anticipated that potential habitat for this species will continue to be removed by projects within the region. However, there would be no cumulative impact to this species based on the limited amount of potential habitat proposed for removal by this project and thus the very low (if not zero) number of individuals that may be impacted.

#### **4.6.10 Discussion of American Badger**

American badger is a state species of special concern. This species occurs within large grassland and sparsely vegetated sage scrub habitat. This species is sensitive to human disturbances.

##### **4.6.10.1 Survey Results**

The proposed project provides up to 11.32 acres of suitable habitat within nonnative grasslands. The potential for this species to occur within the LOD is judged to be low given ongoing and past land uses, including discing activities and human disturbance. No focused studies are required for American badger.

##### **4.6.10.2 Project Impacts**

**Construction.** The proposed project would permanently remove 4.71 acres and temporarily impact 1.13 acre of suitable habitat for American badger. Since the proposed project would remove a limited amount of low quality potential habitat for American badger, the number of individuals potentially impacted is expected to be low. These potential impacts from construction are not considered biologically significant. There is a potential for indirect effects to occur during construction to habitat adjacent to the LOD. However, the avoidance and minimization measures identified for other special-status species above would avoid and/or greatly reduce the potential or severity of such effects.

**Operation.** Potential operational effects resulting from increased traffic using the Holland Bridge Overcrossing include an increased risk of fire, increase of invasive weeds, and human disturbance. However, these operational effects are not anticipated to be substantially greater than existing conditions.

##### **4.6.10.3 Avoidance and Minimization Efforts**

No specific measures are required; however, measures **M-1** through **M-13** and **M-16** provide protection of potential habitat beyond the LOD during construction.

##### **4.6.10.4 Compensatory Mitigation**

Compensation is not required.



#### **4.6.10.5 Cumulative Impacts**

There is no potential for cumulatively considerable impacts to occur to American badger from the proposed project. This species has a low potential for occurrence within the LOD and only a limited amount of potential habitat (a total of 5.84 acres) is proposed for removal. It is anticipated that potential habitat for this species will continue to be removed by projects within the region. However, there would be no cumulative impact to this species based on the limited amount of potential habitat proposed for removal by this project and thus the very low (if not zero) number of individuals that may be impacted.

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## Chapter 5      Conclusions and Regulatory Determinations

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### **5.1    Federal Endangered Species Act Consultation Summary**

Consultation under FESA for the proposed project is being done through the project's consistency with the MSHCP. Refer to Appendix B for the MSHCP compliance report (Searl 2013).

### **5.2    California Endangered Species Act Consultation Summary**

No consultation with CDFW has occurred to date. There are no state threatened or endangered species that could potentially occur within the BSA, that are not already covered under the MSHCP.

### **5.3    Wetlands and Other Waters Coordination Summary**

The proposed project would encroach into 0.32 acre of nonwetland WoUS and up to 0.005 acre of wetland WoUS (refer to Table 4-3a). The proposed project would qualify for the use of a Nationwide Permit acquired from USACE because impacts are less than 0.5 acre. In addition, the fill of WoUS would also trigger the need for a Section 401 CWA permit through the RWCQB. Acquisition of these permits would ensure compliance with the CWA (Section 401 and 404) and Executive Order 11990.

Consultation with USACE and RWQCB has not occurred to date.

### **5.4    California Fish and Game Code, Section 1600-1616**

Construction of the proposed project would result in encroachment into 0.77 acre of CDFW jurisdictional unvegetated streambeds and 0.005 acre of riparian vegetated state streambeds. Streambed Alteration Agreement would be necessary and acquired from CDFW. Table 4-3b summarizes the permanent and temporary impacts resulting from the Build Alternative by type of resource.

### **5.5    Migratory Bird Treaty Act**

Many species of native birds are expected to occur within the BSA. Most lack special status but all are protected under the MBTA. Colonial nesting species (i.e., cliff swallow) would potentially nest within the storm drain within the Paloma Wash Flood Control Channel. In addition, potential raptor nesting could occur within mature trees in within the BSA, however no removal

of trees is proposed. Measures **M-1, M-5, M-6, M-17, and M-18** (Appendix I) ensure compliance with the MBTA.

## **5.6 California Fish & Game Code [3503, 3503.5, 3505, 3800, 3801.6]**

There are many species of native birds that are expected to occur within the BSA. Most lack special status, but all are protected under CDFG Code. Compliance with CDFG code to protect native birds is provided through measures **M-1, M-5, M-6, M-17, and M-18** (Appendix I). No further action is necessary.

## Chapter 6      References

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|  |      |
|--|------|
| Baldwin et al. 2012.....               | 3-1  |
| Cal-IPC 2013 .....                     | 3-4  |
| CDFG 2010.....                         | 2-6  |
| CDFW 2000 .....                        | 2-8  |
| CDFW 2014 .....                        | 2-5  |
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| CNPS 2001 .....                        | 2-8  |
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| ICF 2014 .....                         | 2-7  |
| RCA 2007 .....                         | 4-3  |
| Roberts et al. 2004.....               | 4-21 |
| Romoland,1976, photo revised 1979..... | 2-4  |
| USFWS 2015 .....                       | 2-5  |
| USFWS 2015 .....                       | 2-6  |

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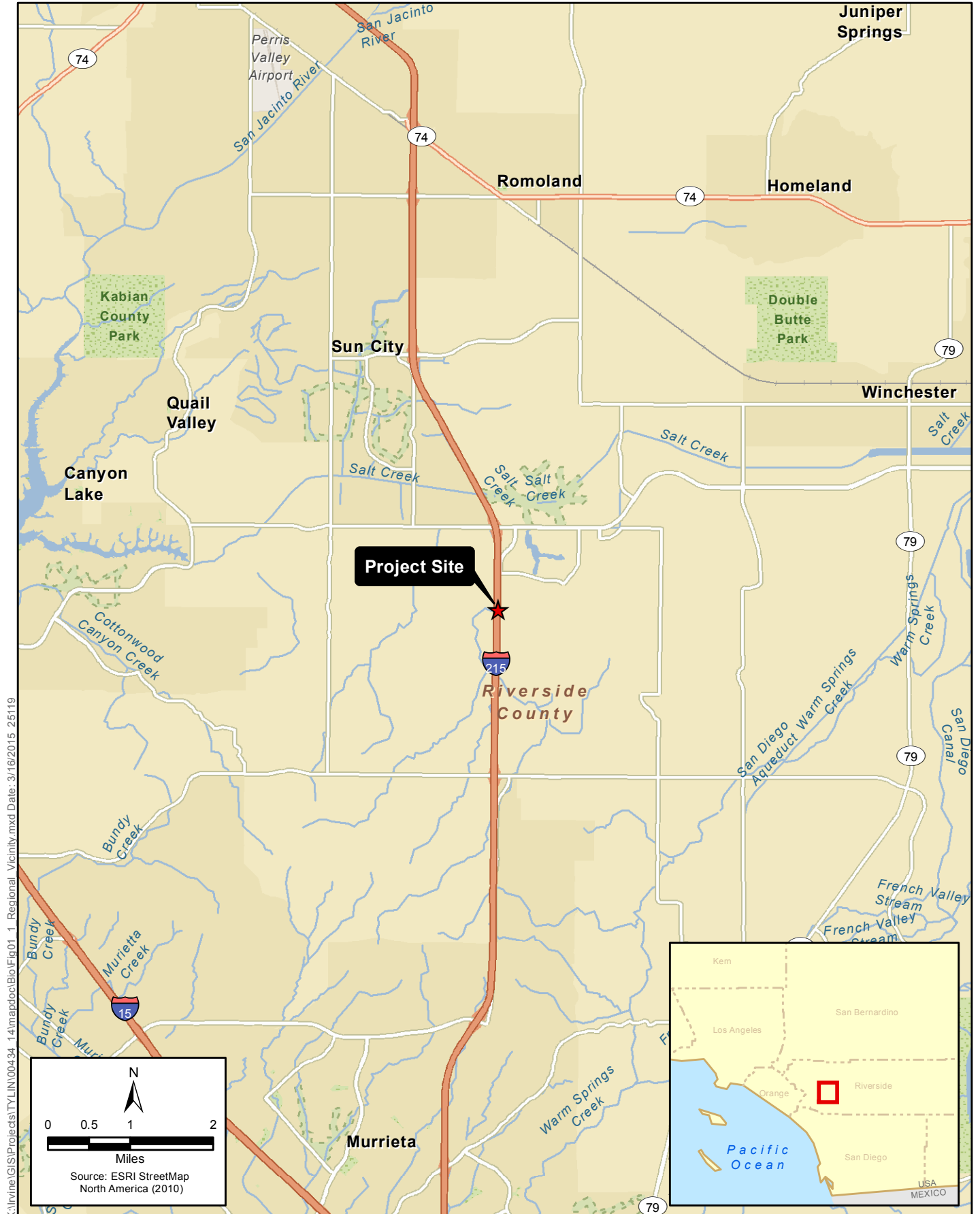
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## Appendix A Figures

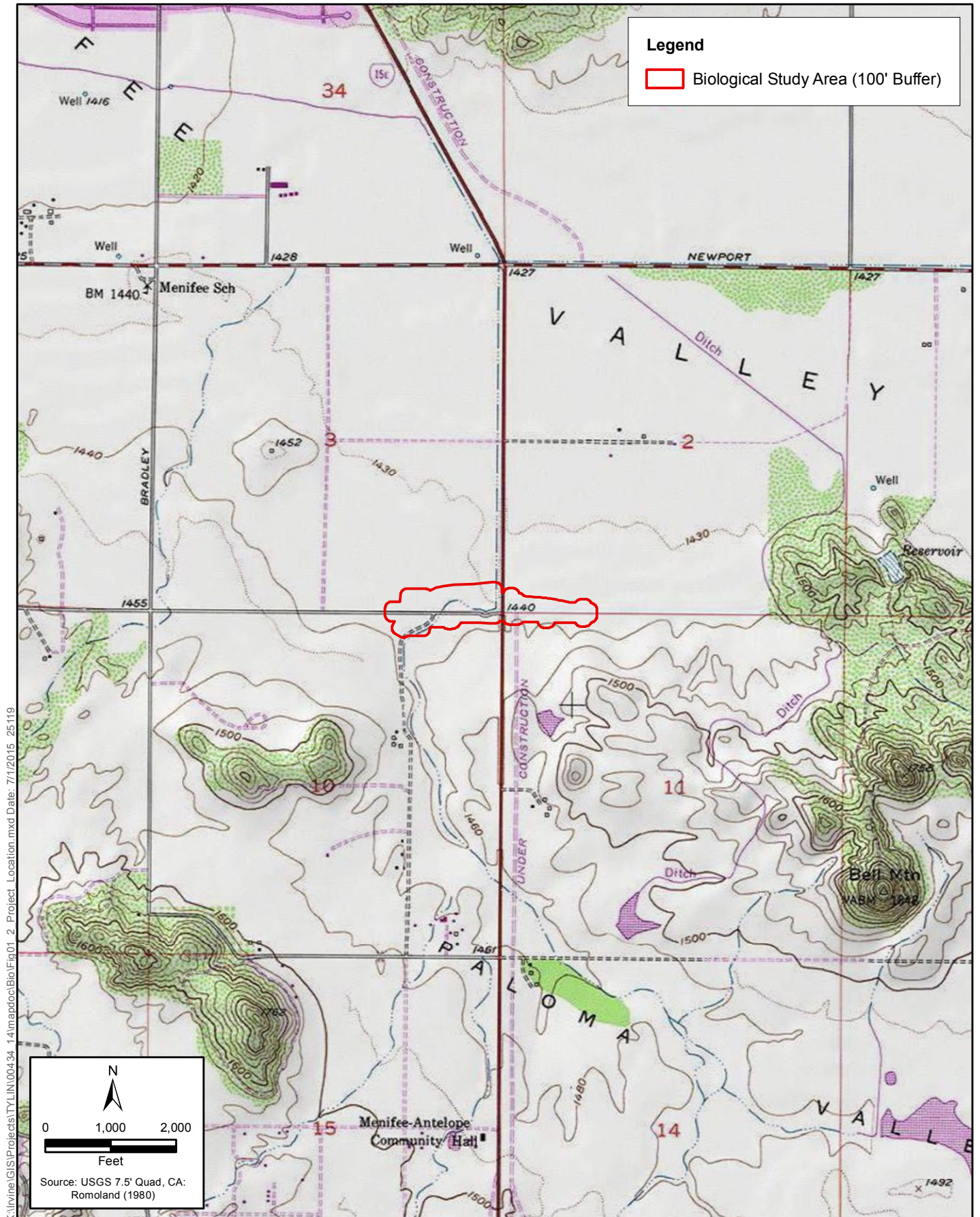
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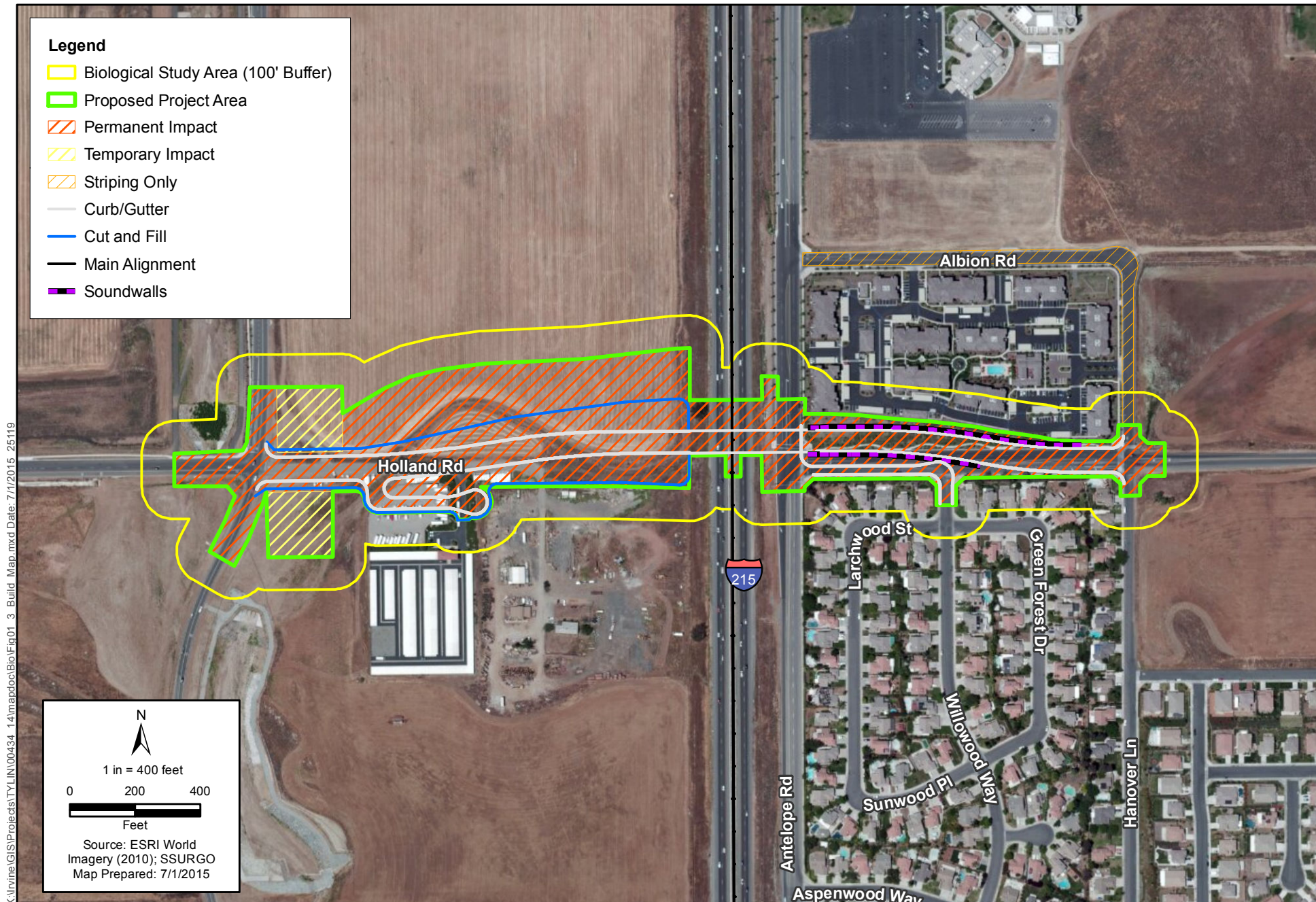


**Figure 1-1**  
**Regional Vicinity Map**  
**Holland Road/I-215 Overcrossing**



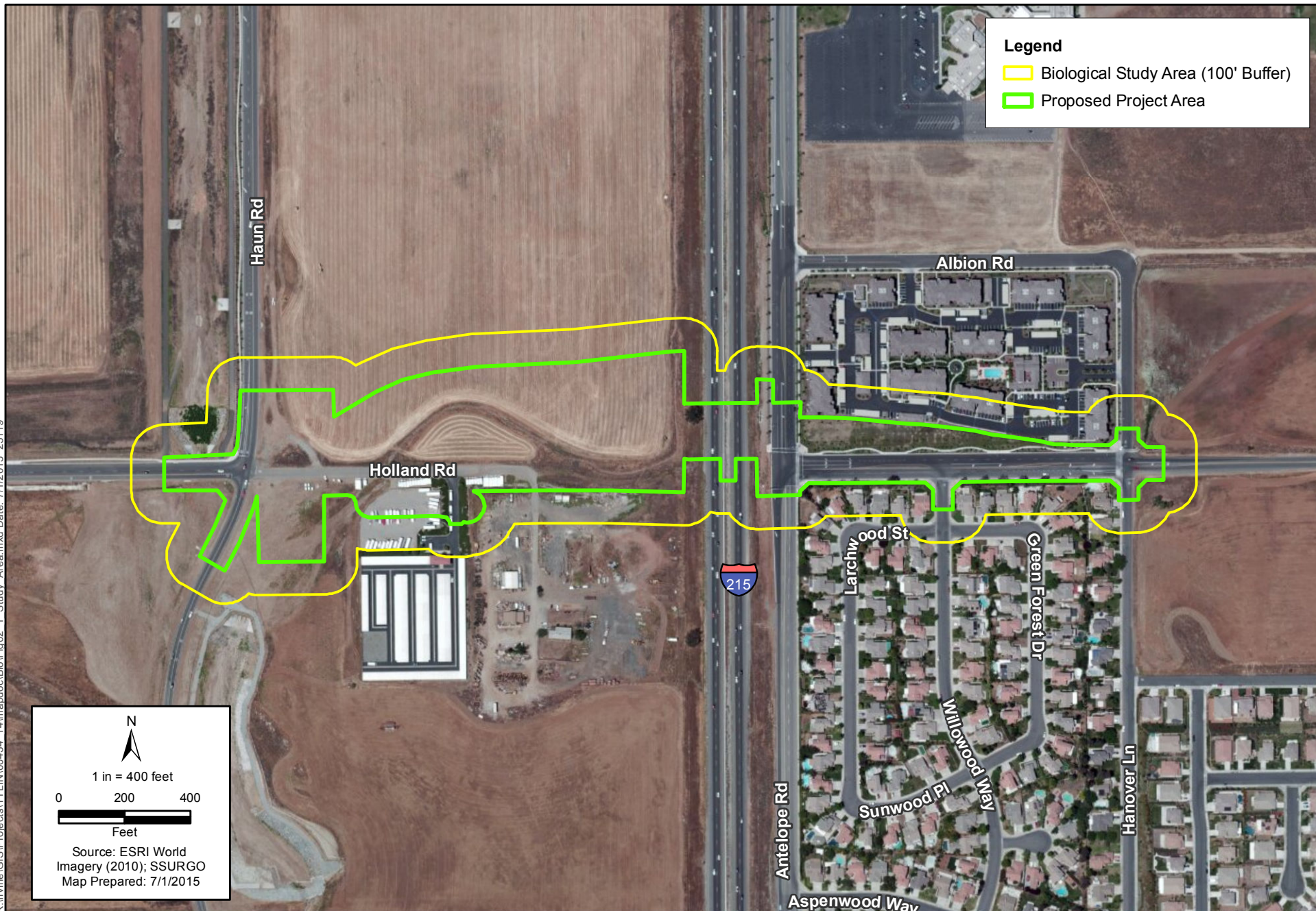
**Figure 1-2**  
**Project Location**  
**Holland Road/I-215 Bridge Overcrossing**





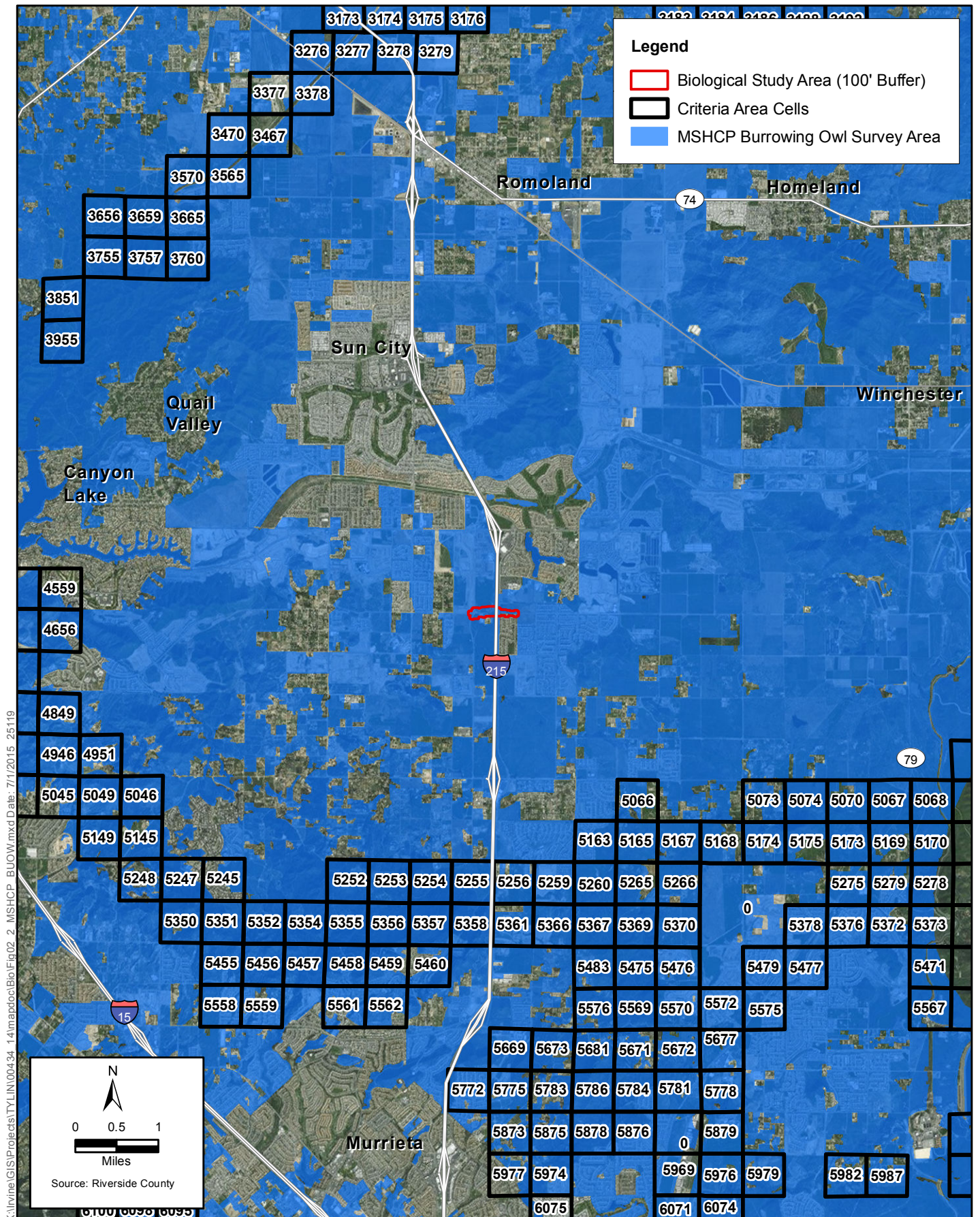
**Figure 1-3**  
**Proposed Build Map**  
**Holland Road/I-215 Bridge Overcrossing**





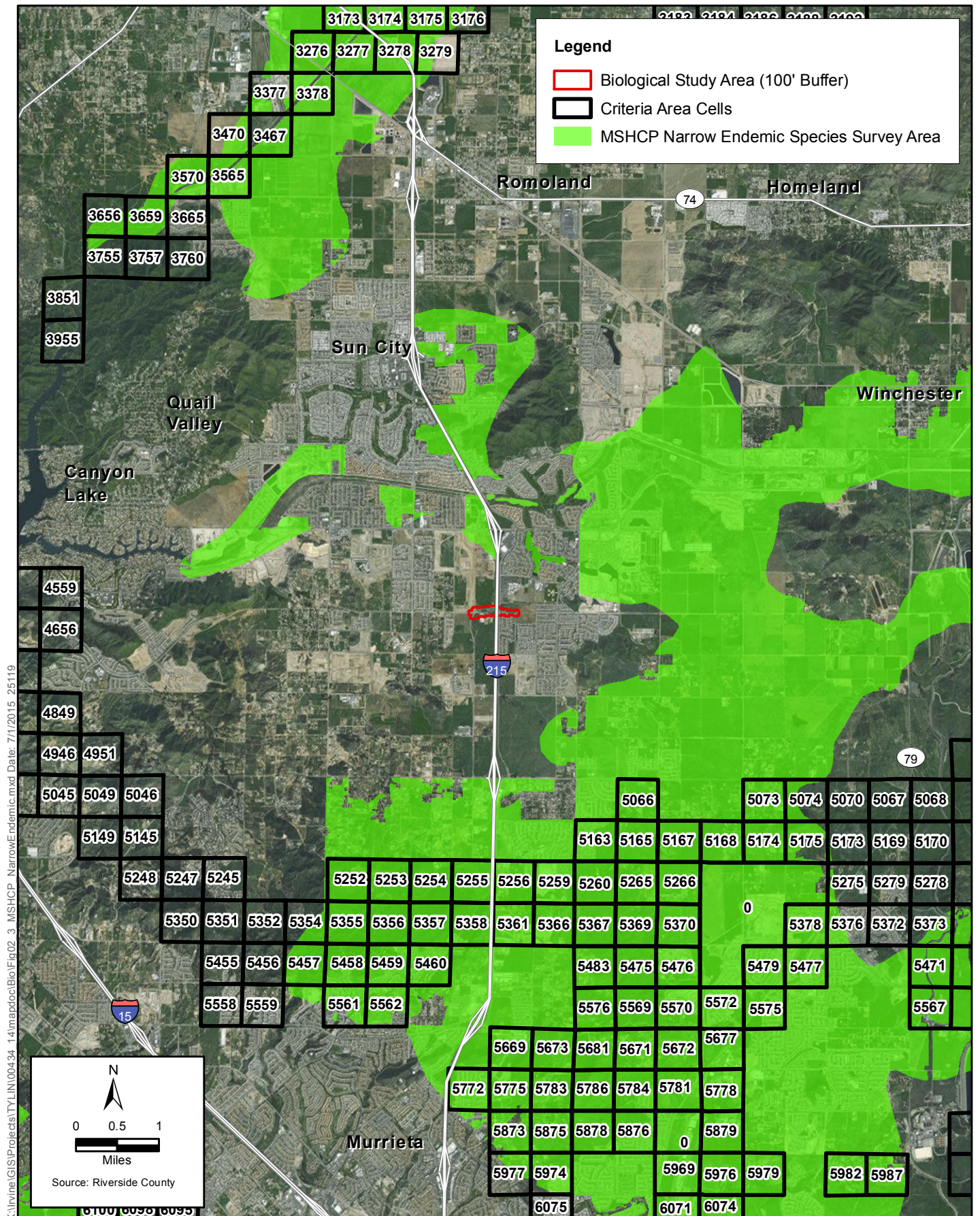
**Figure 2-1**  
**Biological Study Area**  
**Holland Road/I-215 Bridge Overcrossing**





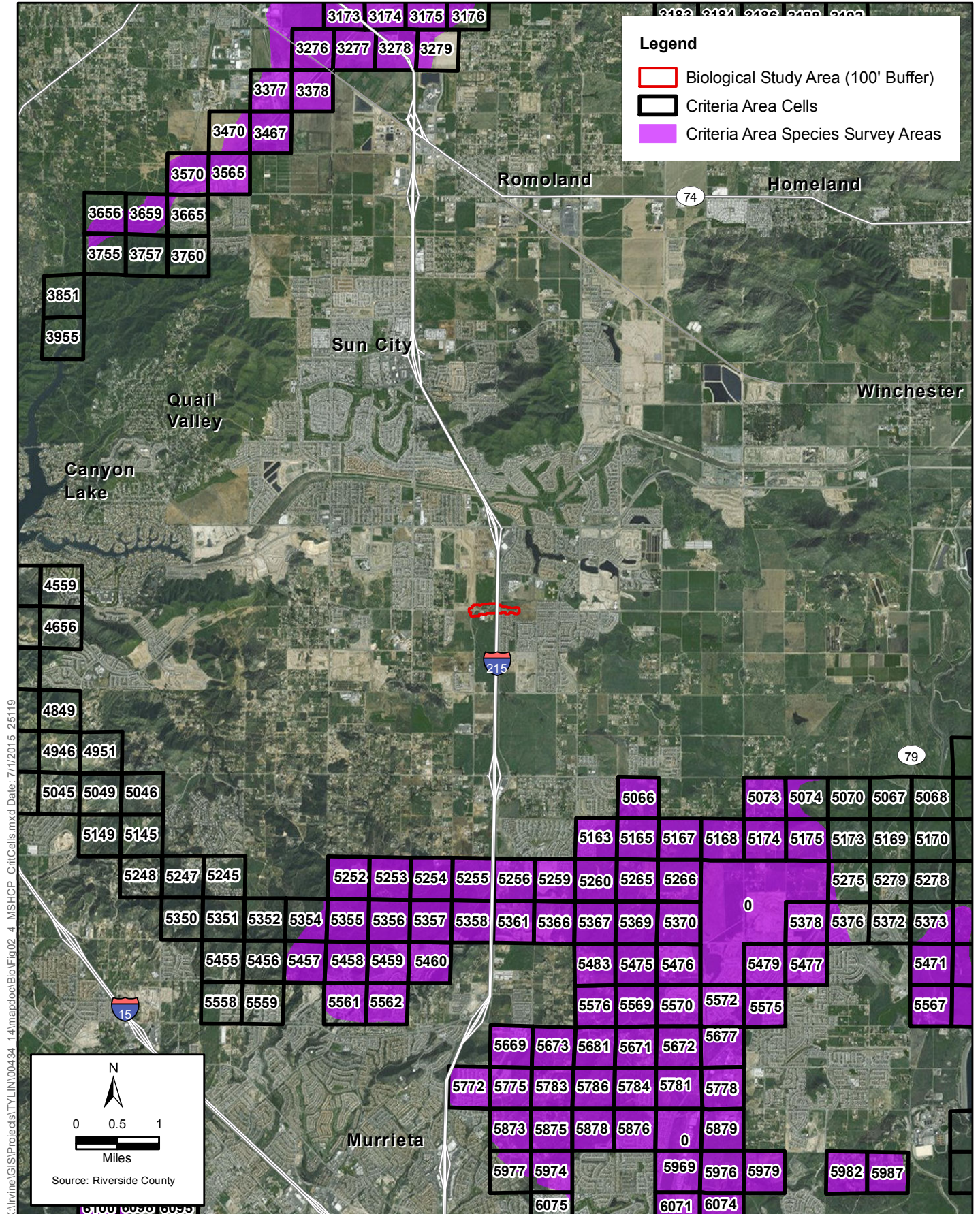
**Figure 2-2**  
**MSHCP Burrowing Owl Survey Area**  
**Holland Road/I-215 Bridge Overcrossing**





**Figure 2-3**  
**MSHCP Narrow Endemic Species Survey Area**  
**Holland Road/I-215 Bridge Overcrossing**

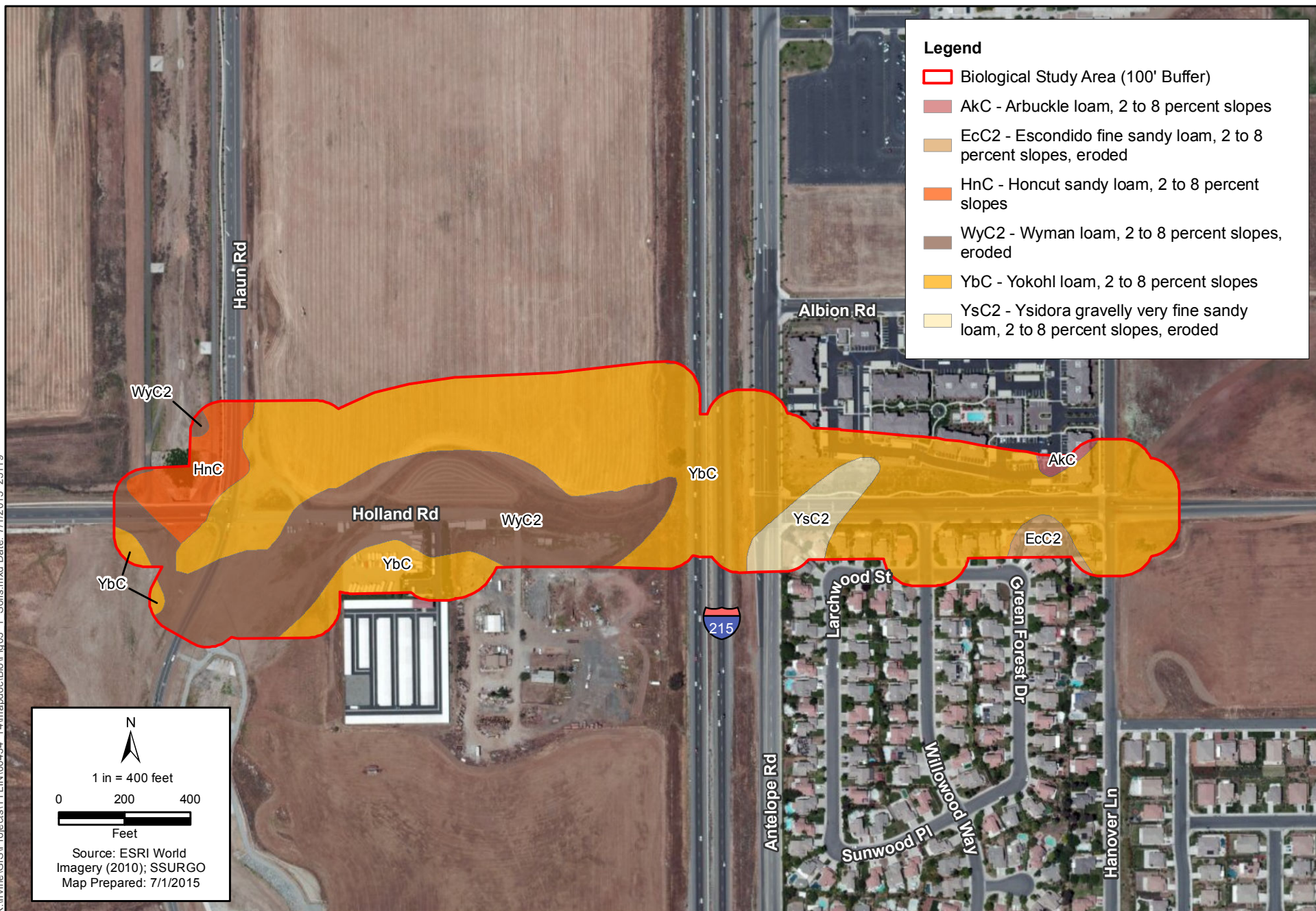




**Figure 2-4**  
**MSHCP Cells and Criteria Area Species Survey Area**  
**Holland Road/I-215 Bridge Overcrossing**

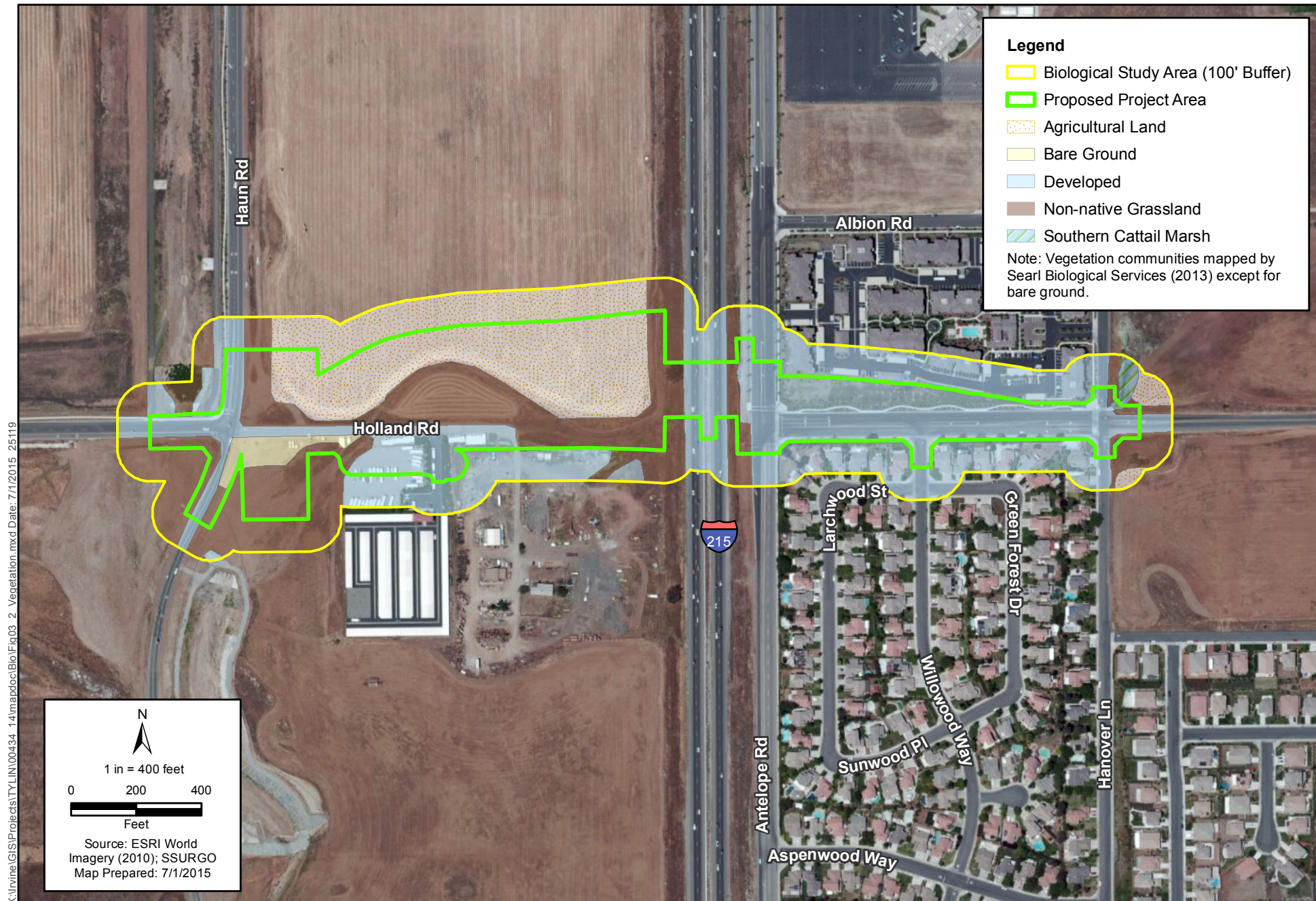


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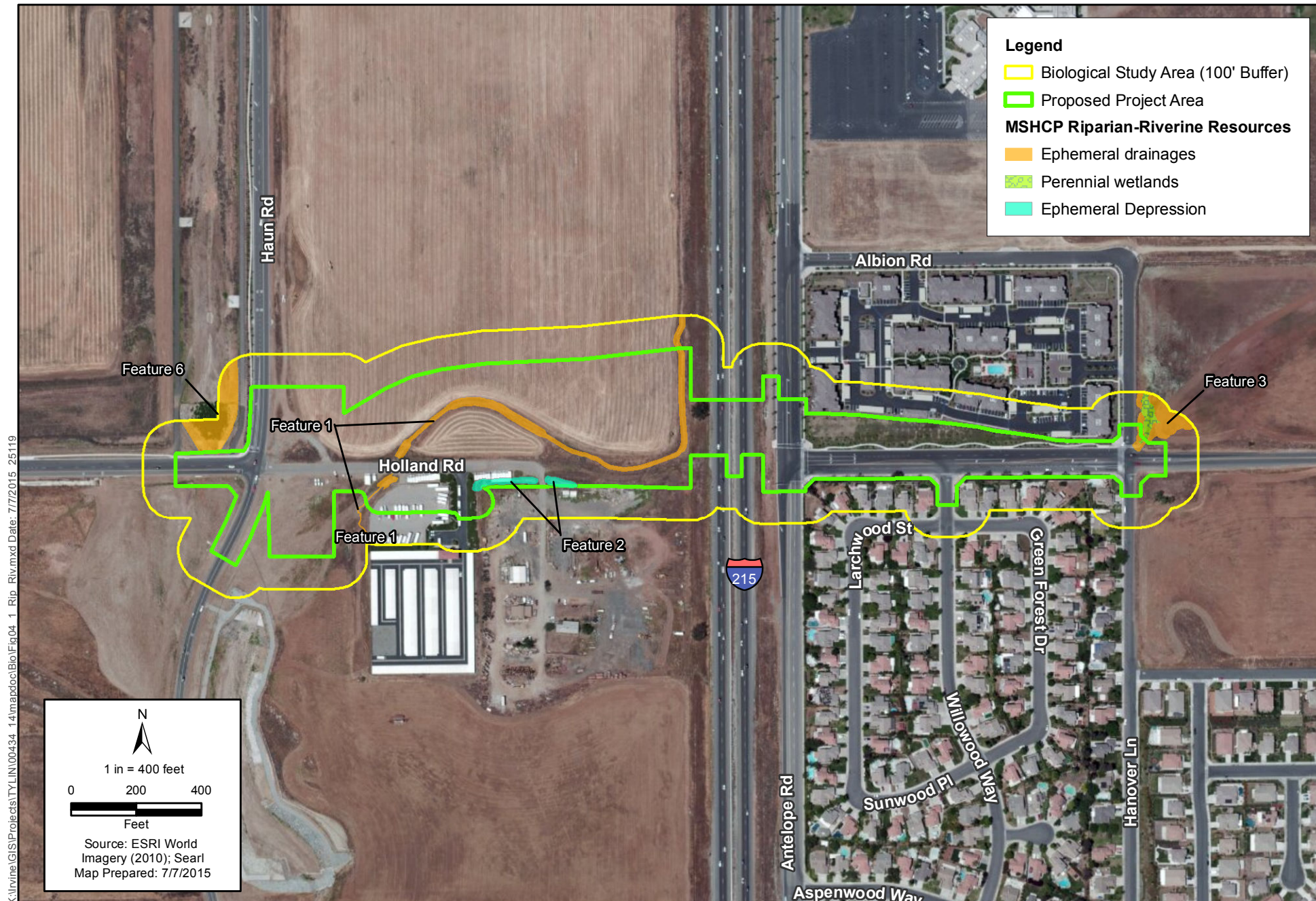
**Figure 3-1**  
**Soils**  
**Holland Road/I-215 Bridge Overcrossing**





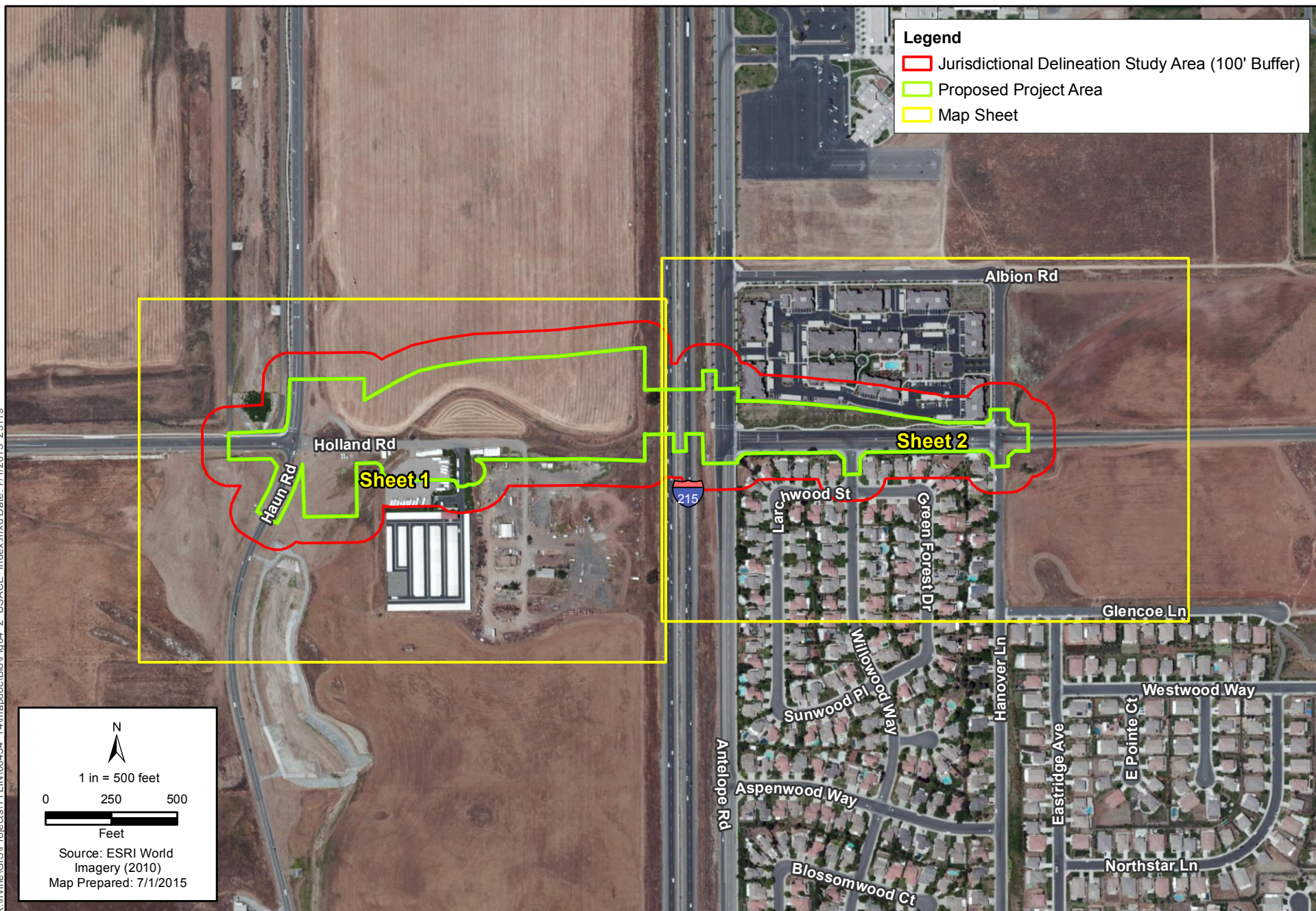
**Figure 3-2**  
**Vegetation**  
**Holland Road/I-215 Bridge Overcrossing**





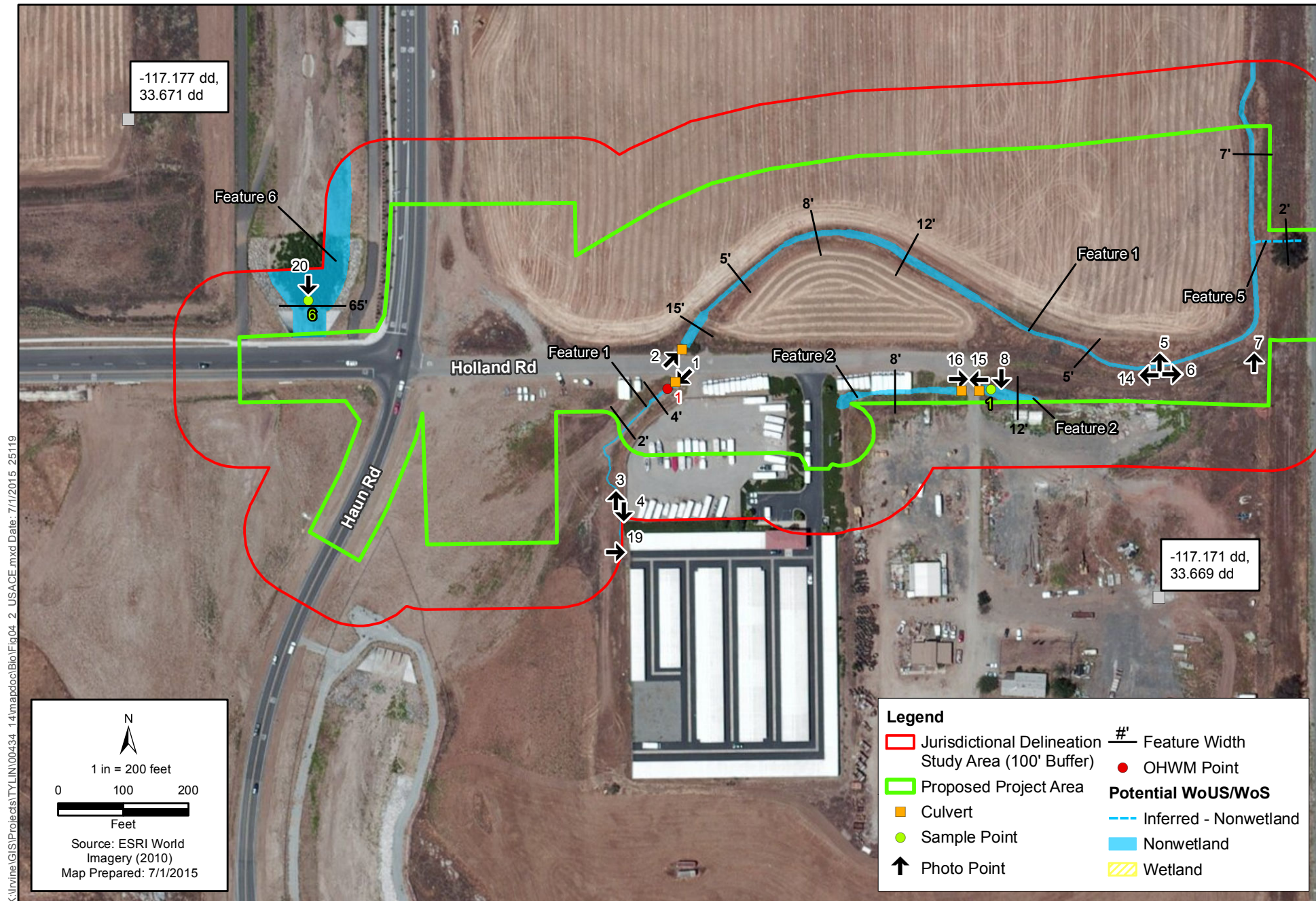
**Figure 4-1**  
**MSHCP Riparian-Riverine Resources**  
**Holland Road/I-215 Bridge Overcrossing**





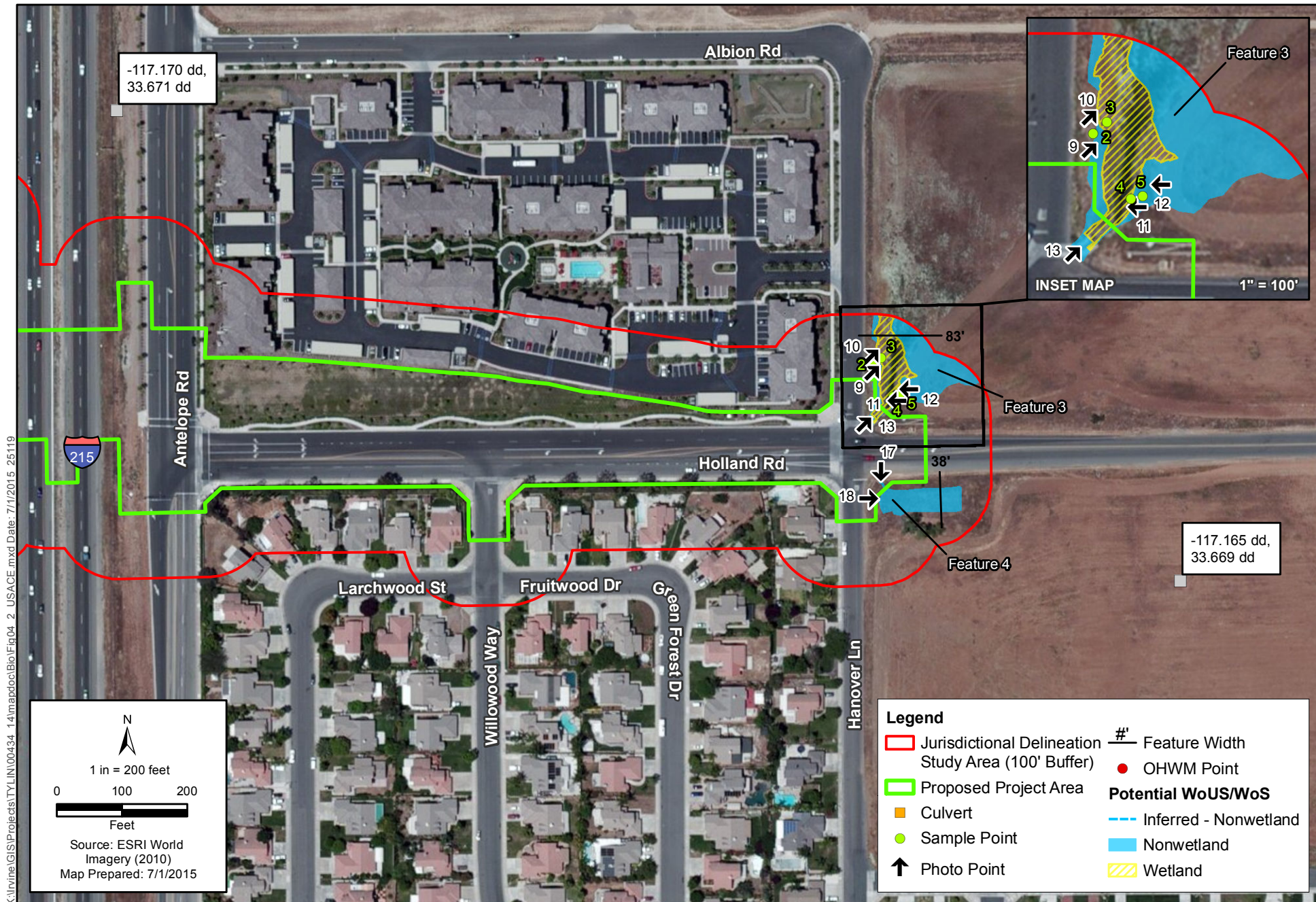
**Figure 4-2 - Index Sheet**  
**USACE/RWQCB Jurisdictional Delineation Results**  
**Holland Road/I-215 Bridge Overcrossing**





**Figure 4-2 - Sheet 1**  
**USACE/RWQCB Jurisdictional Delineation Results**  
**Holland Road/I-215 Bridge Overcrossing**

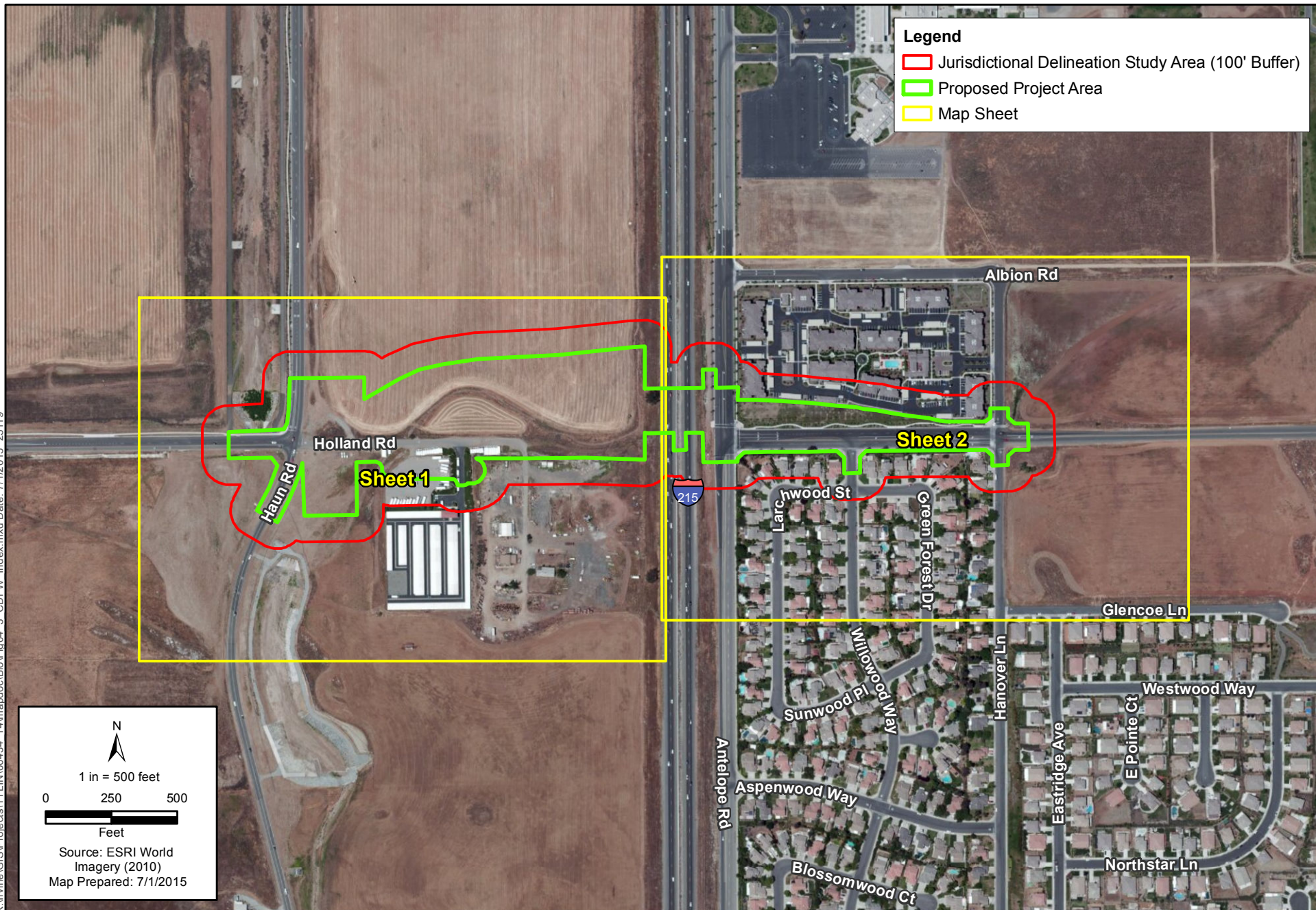




**Figure 4-2 - Sheet 2**  
**USACE/RWQCB Jurisdictional Delineation Results**  
**Holland Road/I-215 Bridge Overcrossing**



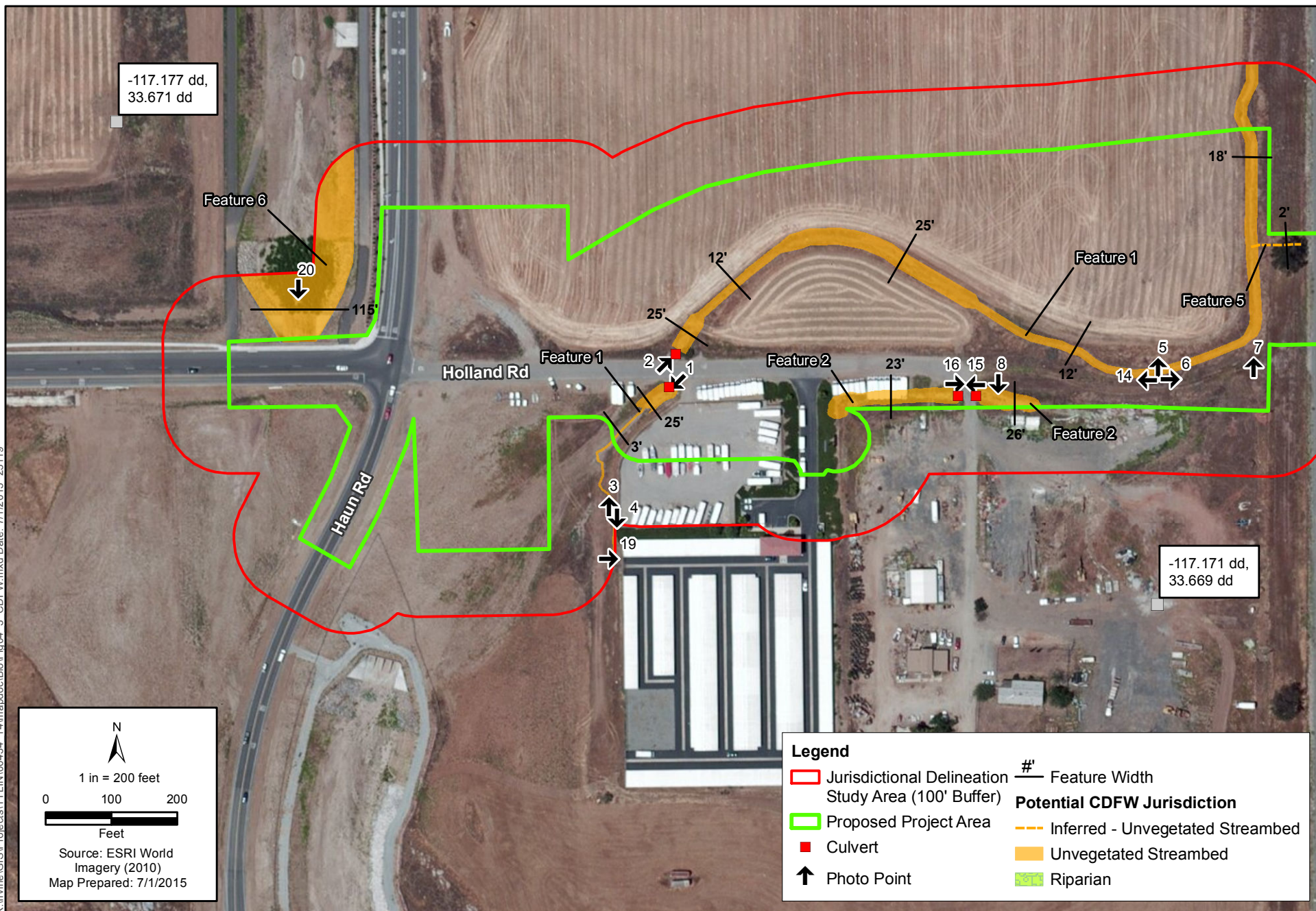
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**Figure 4-3 - Index Sheet**  
**CDFW Jurisdictional Delineation Results**  
**Holland Road/I-215 Bridge Overcrossing**

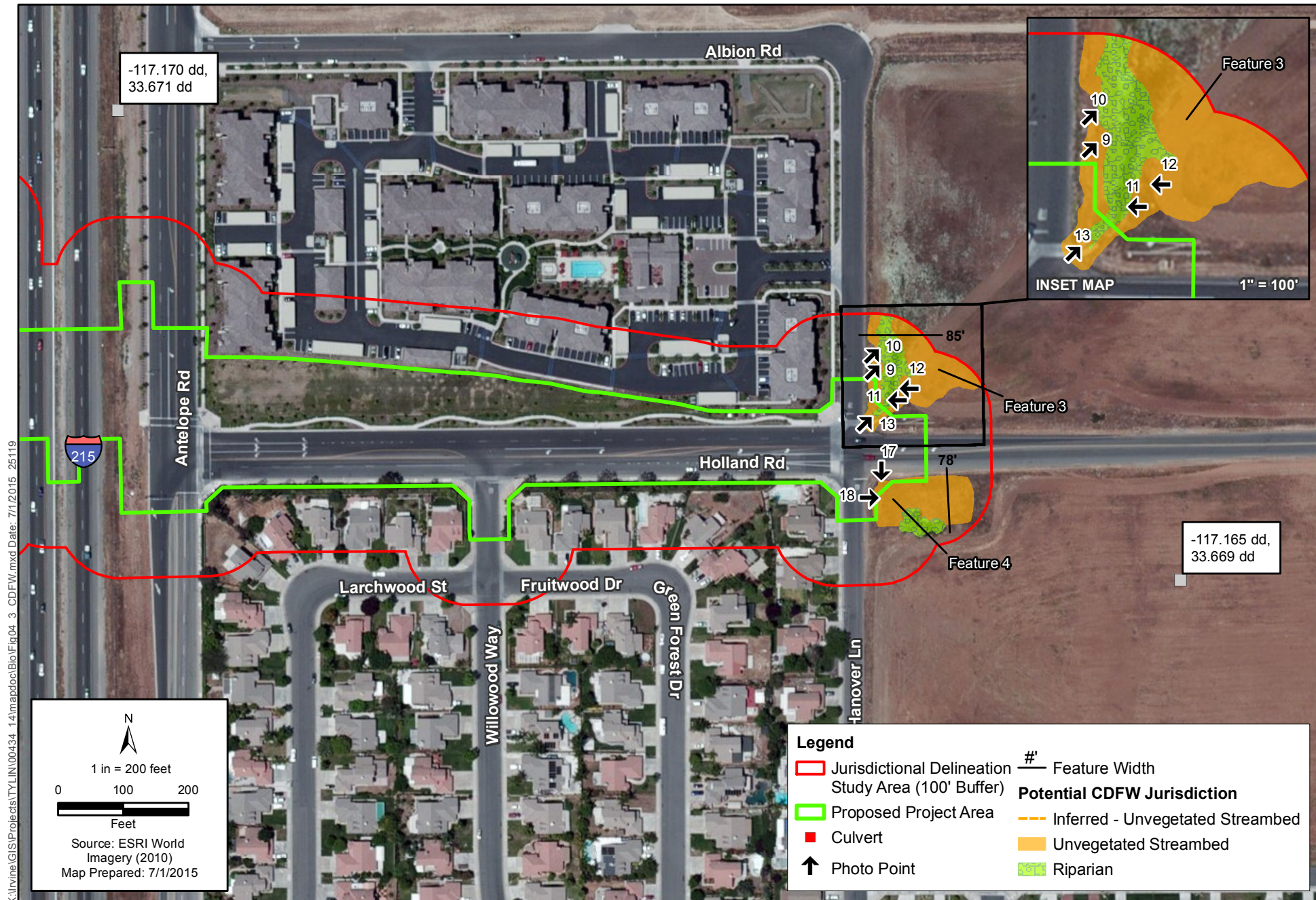


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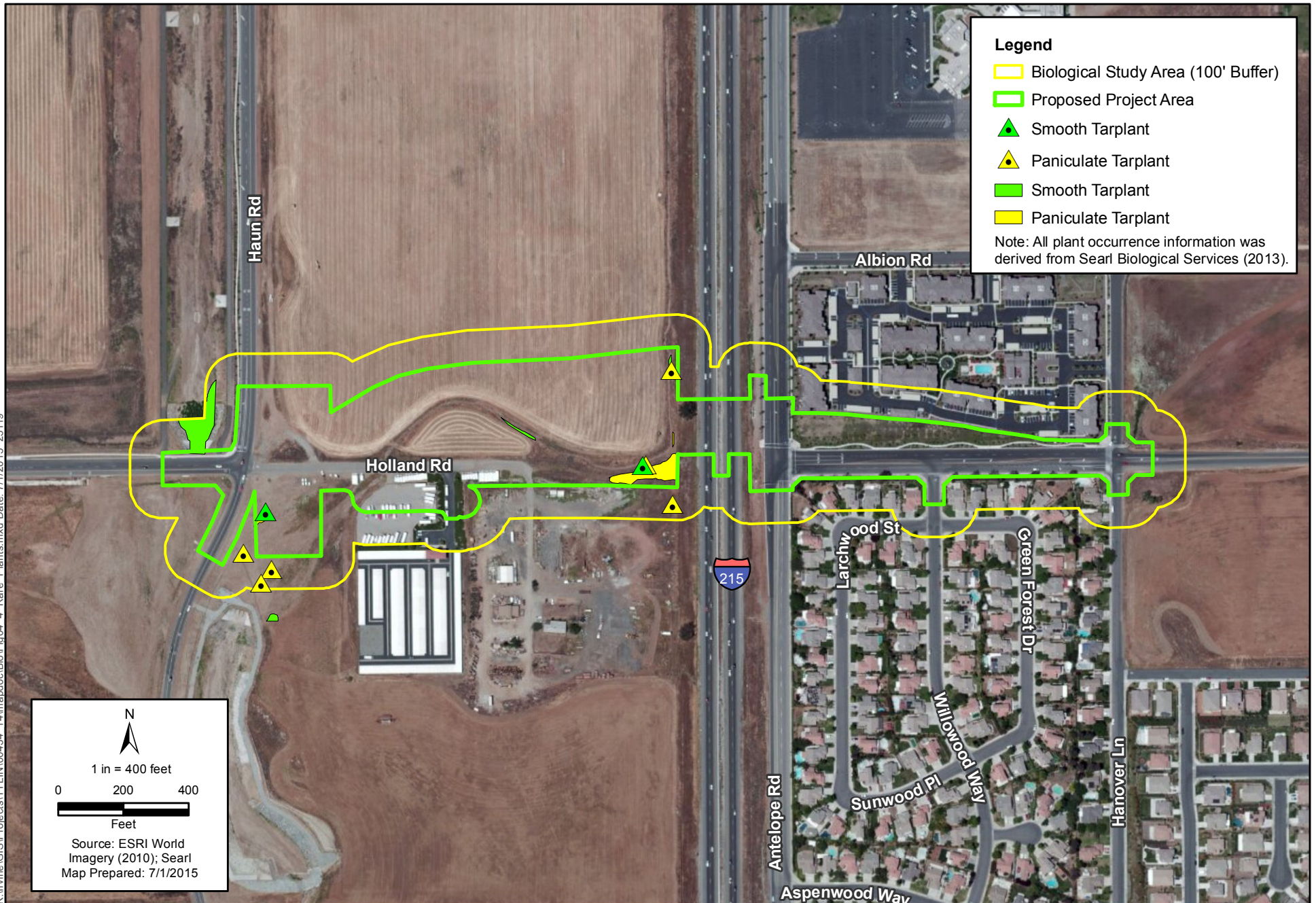
**Figure 4-3 - Sheet 1**  
**CDFW Jurisdictional Delineation Results**  
**Holland Road/I-215 Bridge Overcrossing**





**Figure 4-3 - Sheet 2**  
**CDFW Jurisdictional Delineation Results**  
**Holland Road/I-215 Bridge Overcrossing**

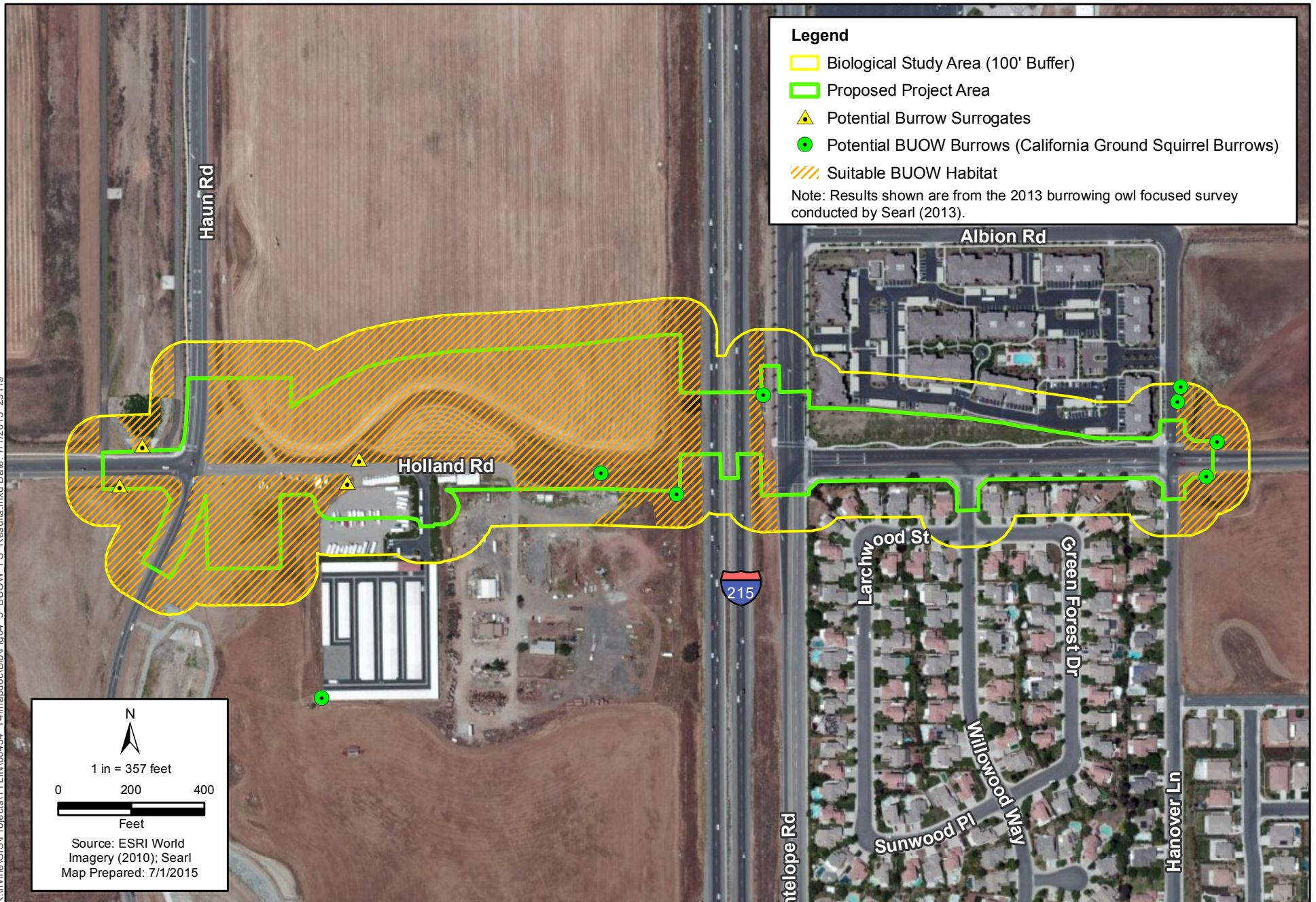




**Figure 4-4**  
**Special Status Plant Results**  
**Holland Road/I-215 Bridge Overcrossing**



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**Figure 4-5**  
**Burrowing Owl Focused Survey Results**  
**Holland Road/I-215 Bridge Overcrossing**



# Appendix B Western Riverside County MSHCP Compliance Document

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# Western Riverside County MSHCP Compliance Document

Proposed Holland Road/Interstate 215 Bridge Overpass



Prepared For:  
**City of Menifee, California (Lead Agency)**  
and  
**AECOM**

Prepared By:  
**Searl Biological Services**

Report Date:  
October 04, 2013

**WESTERN RIVERSIDE COUNTY MSHCP COMPLIANCE  
DOCUMENT FOR THE PROPOSED HOLLAND  
ROAD/INTERSTATE 215 BRIDGE OVERPASS LOCATED IN  
THE CITY OF MENIFEE, CALIFORNIA**

---

**LOCATED IN TOWNSHIP 6 SOUTH, RANGE 3 WEST,  
IN SECTIONS 2, 3, 10, AND 11 OF THE ROMOLAND  
7.5 MINUTE USGS CALIFORNIA QUADRANGLE**

Prepared for:

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**OCTOBER 04, 2013**

## EXECUTIVE SUMMARY

|                           |  |
|---------------------------|--|
| Project:                  | Proposed Holland Road/Interstate 215 Bridge Overpass   |
| Project Location:         | The Project Site was located in the City of Menifee, California on Holland Road both east and west of Interstate 215. The Project Site extends east to Hanover Lane and west to Haun Road. It was approximately 1.0 aerial mile south of the intersection of I-215 and Newport Road. |
| Field Investigation Dates | May 25, June 26, July 26, and August 21, 2013  |
| Project Representatives:  | Mr. Greg Hefter<br><b>AECOM</b>  |
| Principal Investigator:   | Tim Searl<br><b>Searl Biological Services</b>  |

This Western Riverside County MSHCP (WRMSHCP) Compliance Document represents the results of the required WRMSHCP Conservation Criteria Analysis, WRMSHCP Section 6.1.2 Protection of Species Associated with Riparian/Riverine Areas and Vernal Pools, and WRMSHCP Section 6.3.2 Additional Survey Needs and Procedures Burrowing Owl (*Athene cunicularia*) (BUOW) assessments. In addition to conducting the required WRMSHCP assessments, a California Environmental Quality Act (CEQA) rare plant assessment was conducted to determine the potential presence or absence of those plant species considered rare or endangered by CEQA that are not covered by the WRMSHCP.

The Project Site included a mix of agriculture/vacant land, commercial, and residential areas. These areas supported 12 Natural Resource Conservation Service (NRCS) soil series, and the specific land covers onsite consisted of Agricultural Land (46.62 acres), Developed/Disturbed/Ornamental (56.49 acres), Non-native Grassland (37.76 acres), and a *Typha domingensis* Herbaceous Alliance (0.20 acre). Small businesses were present west of I-215 and included a self-storage/Uhaul rental and a construction heavy equipment storage lot. Residential areas were located east of I-215 and consisted of condos and high-density housing.

The Project Site was located in the central portion of the Sun City/Menifee Valley Area Plan, and was not located within any designated Subunits of this Area Plan. The Project Site was not located within a Criteria Cell or Criteria Cell Group, and therefore, the Project Site was not targeted to be a part of the WRMSHCP Reserve System as Additional Reserve Lands.

A total of seven potential WRMSHCP Section 6.1.2 Resources, designated Features A through G, were identified within the proposed project area/100 foot buffer. Feature A, a USGS-designated intermittent stream, totaled 1,818.89 linear feet with its associated tributary, and Features B through G totaled 0.94 acre. The proposed project has the potential to impact portions of Features A, B, C, and D, and avoids impacts to Features E, F, and G.

Agricultural Land and Non-native Grassland areas of the Project Site supported 84.38 acres of suitable BUOW habitat, and consisted of a total of 52 “potential owl burrows (i.e., 47 California



ground squirrel burrows and 5 burrow surrogates). BUOW was observed on each of the four focused BUOW surveys at nine different locations. A total of 10 adults/adult-like plumage and five juveniles were observed over the course of the four protocol surveys. Only one of the detections occurred within the boundary of the Project Site, and this bird appeared to have been preyed upon between the first and second protocol survey.

Based on rare plant queries and the habitat onsite, it was determined that suitable habitat was present for two California Native Plant Society (CNPS)-Ranked (CRPR) plants that were not WRMSHCP Covered Species that may be considered rare or endangered under CEQA. This included paniculate tarplant (*Deinandra paniculata*) (CRPR 4.2) and salt spring checkerbloom (*Sidalcea neomexicana*) (CRPR 2B.2). Salt spring checkerbloom, a perennial herb, was not detected. Paniculate tarplant, an annual herb, was present onsite and was estimated at 353 plants. Additionally, smooth tarplant (*Centromadia pungens* ssp. *laevis*) (CRPR 1B.1), a WRMSHCP Covered Species, was detected onsite and consisted of approximately 215 plants. The Project Site was not located within a WRMSHCP required Section 6.1.3 Narrow Endemic or Section 6.3.2 Criteria Area plant species designated survey/planning area.

## LIST OF ACRONYMS

|          |   |
|----------|---|
| ACOE     | United States Army Corps of Engineers                             |
| AkC      | Arbuckle loam, 2 to 8 percent slopes                              |
| AOU      | American Ornithologists' Union                                    |
| APN      | Assessor's Parcel Number  |
| App      | iPhone Application  |
| ARL      | Additional Reserve Lands  |
| BUOW     | Burrowing Owl   |
| CaCode   | California Natural Community Code                                 |
| CalTrans | California Department of Transportation                           |
| CCH      | Consortium of California Herbaria                                 |
| CDFW     | California Department of Fish and Wildlife                        |
| CEQA     | California Environmental Quality Act                              |
| CESA     | California Endangered Species Act                                 |
| CNDDDB   | California Natural Diversity Database                             |
| CNPPA    | California Native Plant Protection Act                            |
| CNPS     | California Native Plant Society                                   |
| CRD      | Conceptual Reserve Design   |
| CRPR     | California Rare Plant Ranking System                              |
| DBESP    | Determination of Biologically Equivalent or Superior Preservation |
| EcC2     | Escondido fine sandy loam, 2 to 8 percent slopes, eroded          |
| EPD      | Environmental Programs Department                                 |
| ESA      | Endangered Species Act  |
| FwE2     | Friant fine sandy loam, 5 to 25 percent slopes, eroded            |
| GdA      | Garretson gravelly very fine sandy loam, 0 to 2 percent slopes    |
| GIS      | Geographic Information Systems                                    |
| GPS      | Global Positioning System   |
| HCP      | Habitat Conservation Plan   |
| HnC      | Honcut sandy loam, 2 to 8 percent slopes                          |
| LBVI     | Least Bell's Vireo  |
| LpE2     | Lodo rocky loam, 8 to 25 percent slopes, eroded                   |
| MBTA     | Migratory Bird Treaty Act   |
| MSHCP    | Western Riverside Multiple Species Habitat Conservation Plan      |
| msl      | Mean Sea Level  |
| MSJC     | Mount San Jacinto College   |
| NAD      | North American Datum  |
| NNG      | Non-native Grassland  |
| NRCS     | Natural Resources Conservation Service                            |
| PQP      | Public/Quasi-Public Lands   |
| RCFCD    | Riverside County Flood Control District                           |
| RWQCB    | California Regional Water Quality Control Board                   |

|         |  |
|---------|--|
| SBS     | Searl Biological Services  |
| SSC     | California Species of Special Concern                                |
| SWFL    | Southwestern Willow Flycatcher                                       |
| USDA    | United States Department of Agriculture                              |
| USFWS   | United States Fish and Wildlife Service                              |
| USGS    | United States Geological Survey                                      |
| UTM     | Universal Transverse Mercator  |
| VegCAMP | Vegetation Classification and Mapping Program                        |
| VsC     | Vista coarse sandy loam, 2 to 8 percent slopes                       |
| VtF2    | Vista rocky coarse sandy loam, 2 to 35 percent slopes, eroded        |
| WRMSHCP | Western Riverside Multiple Species Habitat Conservation Plan         |
| WyC2    | Wyman loam, 2 to 8 percent slopes, eroded                            |
| YbC     | Yokohl loam, 2 to 8 percent slopes                                   |
| YBCU    | Western Yellow-billed Cuckoo   |
| YbE3    | Yokohl loam, 8 to 25 percent slopes, severely eroded                 |
| YsC2    | Ysidora gravelly very fine sandy loam, 2 to 8 percent slopes, eroded |

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## 1.0 INTRODUCTION

### 1.1 Purpose

The purpose of this Western Riverside County Multiple Species Habitat Conservation Plan (WRMSHCP) compliance document was to provide an analysis for the proposed project and the project's potential "area of influence" (Project Site) regarding its location within the WRMSHCP Plan Area, and detail the results of the required WRMSHCP surveys to determine if the proposed project is consistent with the goals and objectives of the WRMSHCP. The Project Site was located within a WRMSHCP Burrowing Owl (*Athene cunicularia*) (BUOW) survey area. Additionally, a WRMSHCP Section 6.1.2 *Protection of Species Associated with Riparian/Riverine Areas and Vernal Pools* habitat assessment was required.

In addition to conducting the required WRMSHCP assessments, a California Environmental Quality Act (CEQA) rare plant assessment was conducted to determine the potential presence or absence of those plant species considered rare or endangered by CEQA that are not covered by the WRMSHCP.

### 1.2 Property Location

The Project Site was located in the City of Menifee, California on Holland Road both east and west of Interstate 215 (I-215). The Project Site extends east to Hanover Lane and west to Haun Road. It was approximately 1.0 aerial mile south of the intersection of I-215 and Newport Road. *Figure 1 - Vicinity Map* (Page 2) depicts the general location of the Project Site.

The Project Site was geographically located in Township 6 South, Range 3 West, in Sections 2, 3, 10, and 11, of the Romoland 7.5 Minute United States Geological Survey (USGS) California Quadrangle. *Figure 2 - USGS Topographic Map* (Page 3) depicts the Project Site's geographic location. The Universal Transverse Mercator (UTM) coordinates of the approximate center of the Project Site was 484109 East, 3725630 North within Zone 11 (North American Datum [NAD] 83).

### 1.3 Project Site Description

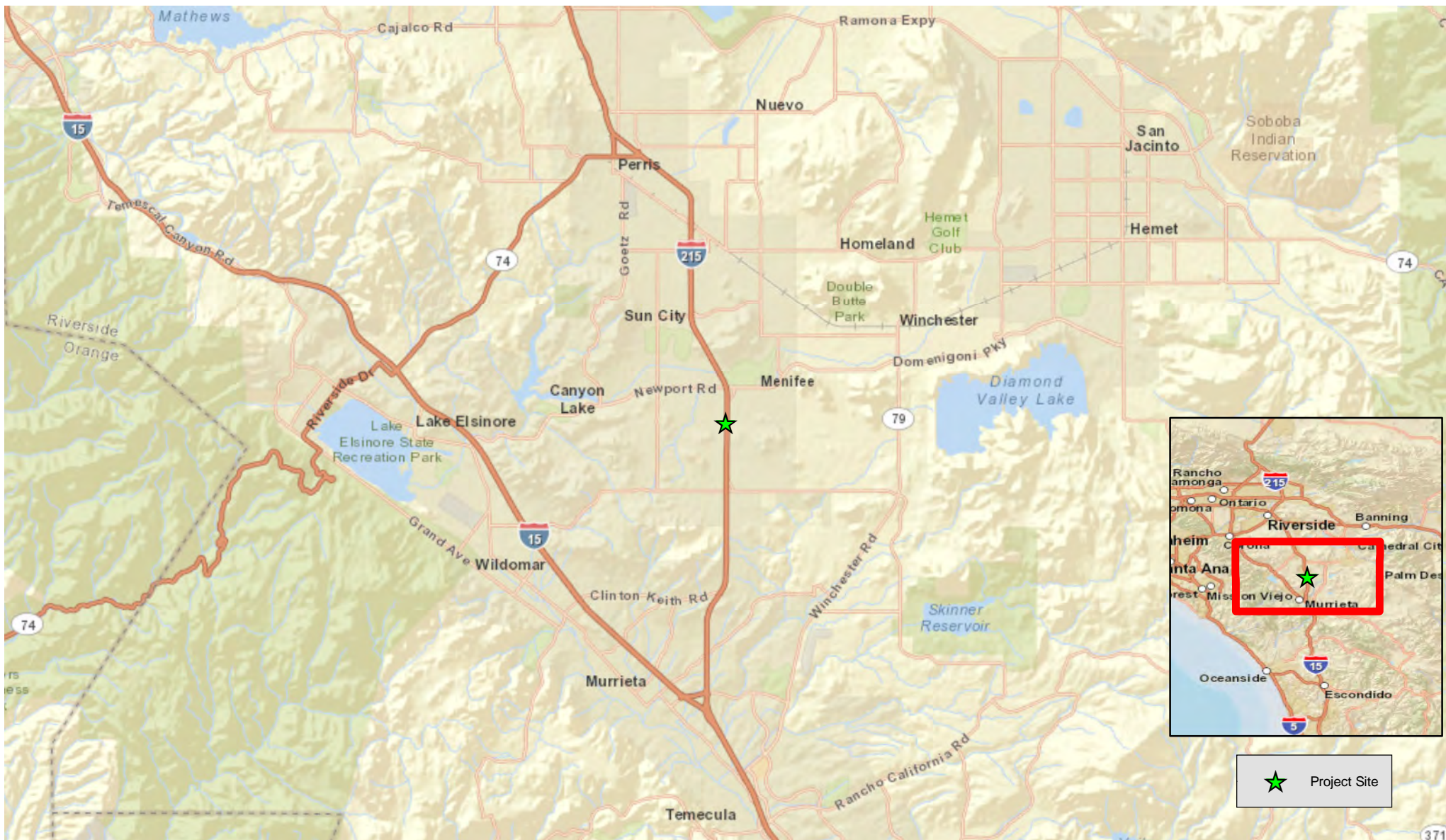
For the purpose of this analysis, the Project Site collectively refers to the proposed project area (16.26 acres), a 100 foot pedestrian survey buffer (25.39 acres), and a 500 foot binocular/spotting scope scan survey area (99.38 acres). Together these areas total approximately 141.03 acres. *Figure 3 - Aerial Photograph* (Page 4) depicts relatively current Project Site conditions.

The Project Site included a mix of agriculture/vacant land, commercial, and residential areas. Agricultural/vacant land areas did not contain crops and were either recently disked, mowed, or grazed by domestic sheep (*Ovis aries*). Small businesses were present west of I-215 and included a self-storage/Uhaul rental and a construction heavy equipment storage lot. Residential areas were located east of I-215 and consisted of condos and high-density housing.

According to Figure 2, elevations on the Project Site range from approximately 1,430 feet above mean sea level (msl) in the northern portion to approximately 1,460 feet msl in the southeast portion.



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0 2.5 5 10 Miles



DATE: 6/5/2013  
 COORDINATE SYSTEM: NAD 1983 UTM Zone 11N  
 SOURCE: ESRI World Street Map Layer

## Vicinity Map

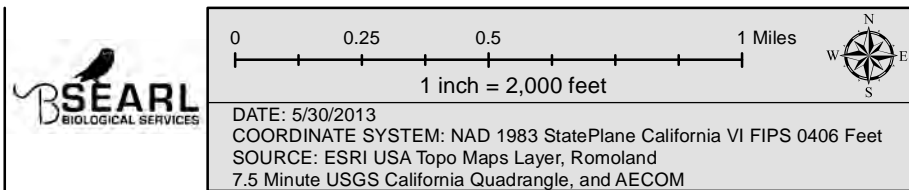
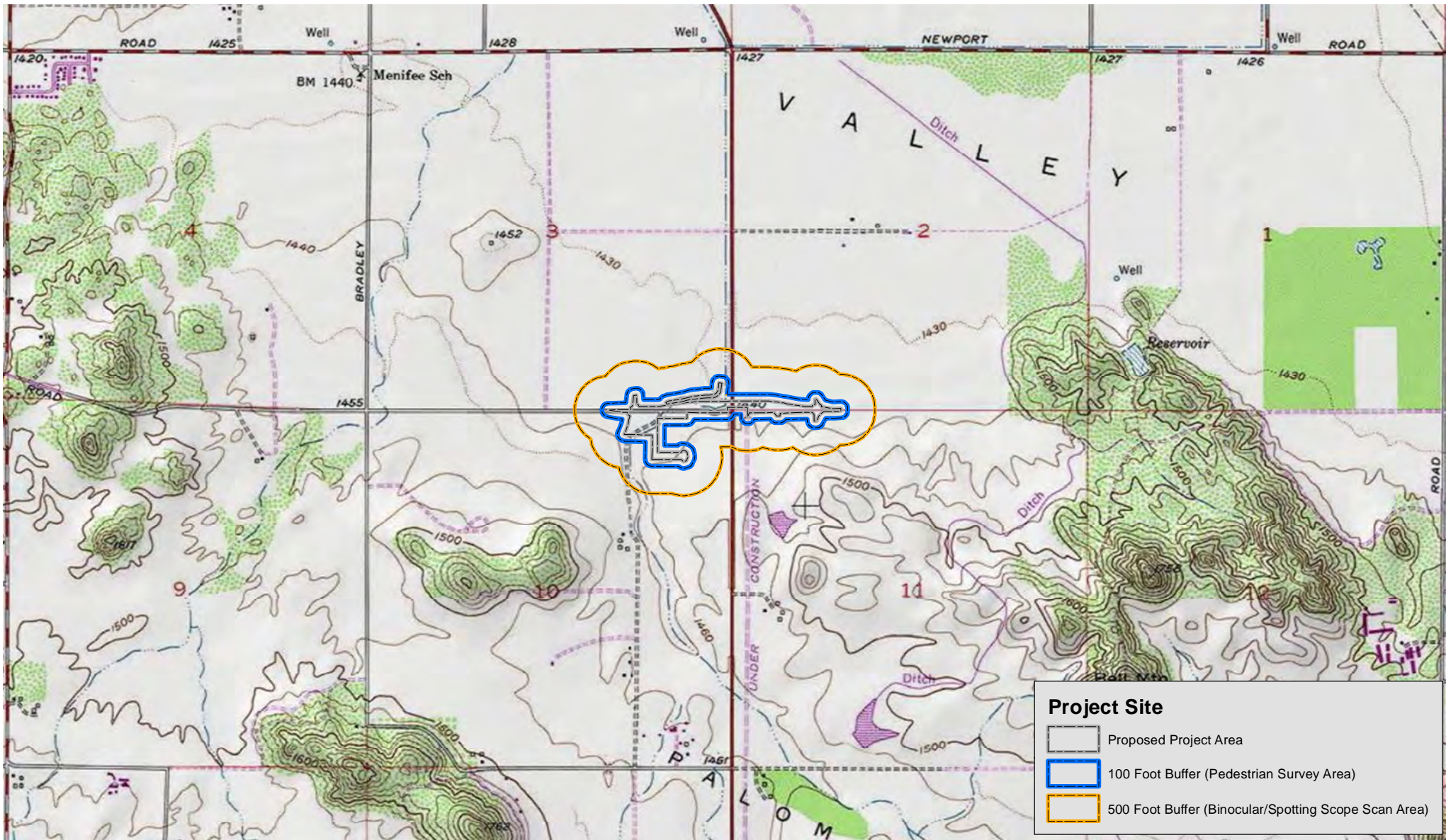
PROJECT:  
 AECOM  
 CalTrans/City of Menifee  
 Proposed Holland Road Bridge/Overpass

Figure

1







USGS Topographic Map

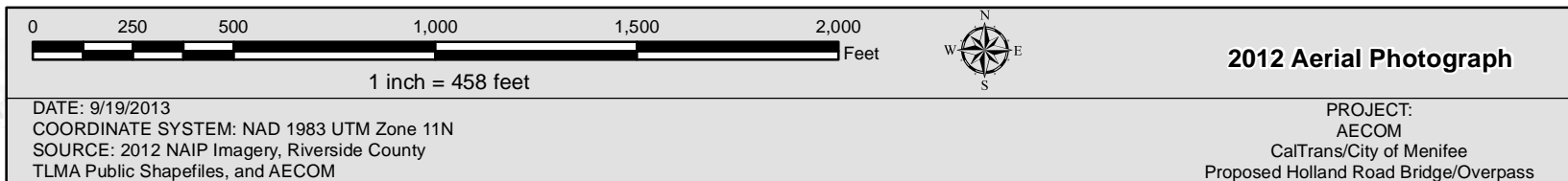
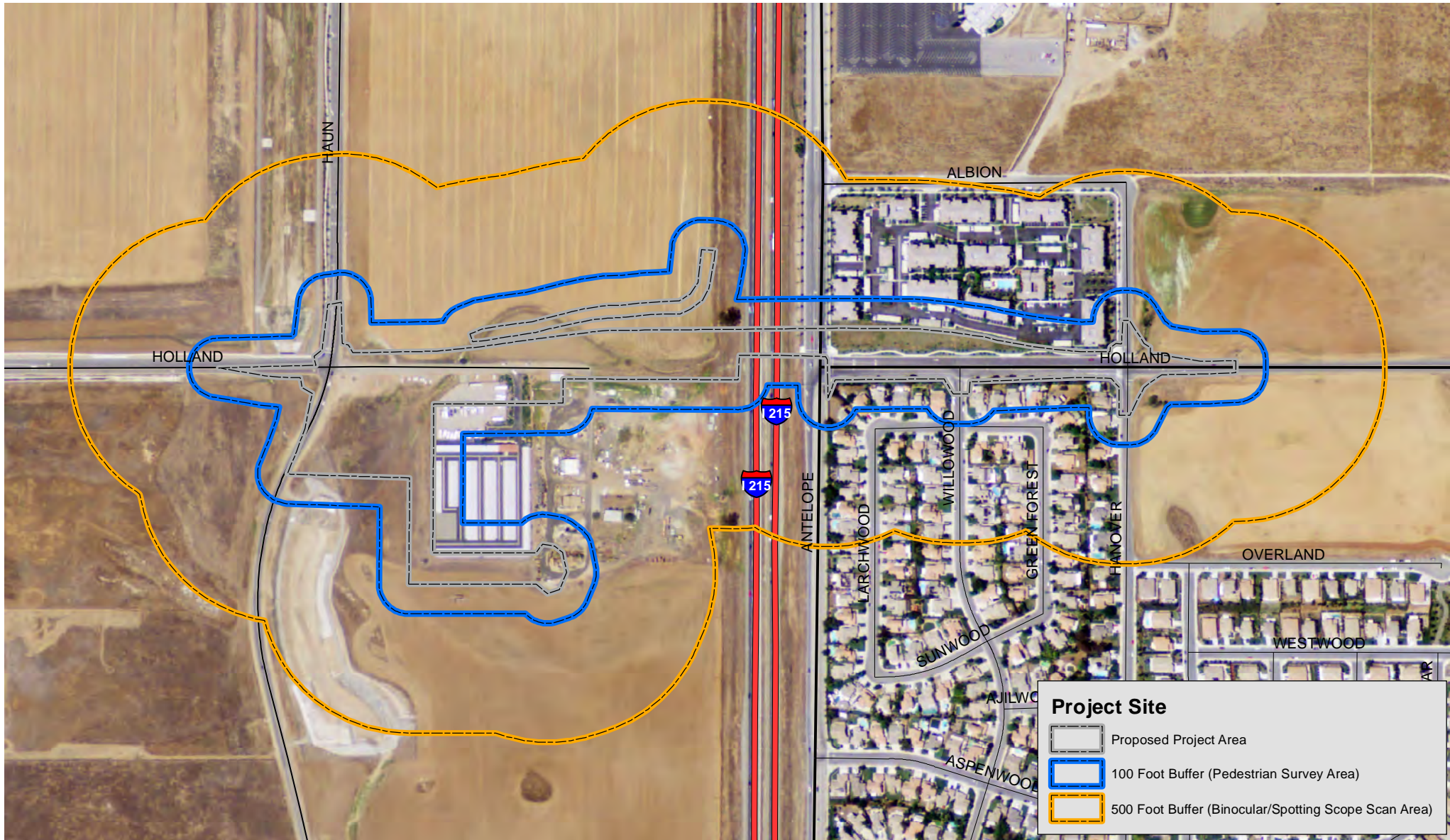
PROJECT:  
AECOM  
CalTrans/City of Menifee  
Proposed Holland Road Bridge/Overpass

Figure

2







**Figure**



### 1.3.1 Soils

The Project Site was comprised of 12 soil series. A brief description of these soils, as described by the United States Department of Agriculture (USDA) Natural Resources Conservation Service (NRCS) Web Soil Survey (United States Department of Agriculture Natural Resources Conservation Service, 2010) is presented in *Table 1 – Project Site Soils* (below).

**Table 1 – Project Site Soils**

| ACRONYM     | SOIL NAME  | SOIL DESCRIPTION   | ONSITE ACREAGE |
|-------------|--|--|----------------|
| <b>AkC</b>  | Arbuckle loam, 2 to 8 percent slopes                           | A well-drained alluvium soil derived from metasedimentary rock. The depth to the restrictive layer and the water table generally occurs at 80 inches or more.  | 8.15           |
| <b>EcC2</b> | Escondido fine sandy loam, 2 to 8 percent slopes, eroded       | EcC2 is a well-drained soil derived from metamorphic rock. The depth to lithic bedrock is typically 20 to 40 inches with the water table generally occurring at more than 80 inches.   | 12.34          |
| <b>FwE2</b> | Friant fine sandy loam, 5 to 25 percent slopes, eroded         | A well-drained residuum soil derived from weathered mica and/or schist. The depth to lithic bedrock is typically 6 to 20 inches with the water table generally occurring at more than 80 inches.                               | 4.71           |
| <b>GdA</b>  | Garretson gravelly very fine sandy loam, 0 to 2 percent slopes | GdA is a well-drained alluvium soil derived from metasedimentary rock. The depth to the restrictive layer and the water table generally occurs at 80 inches or more.   | 2.38           |
| <b>HnC</b>  | Honcut sandy loam, 2 to 8 percent slopes                       | A well-drained alluvium soil derived from igneous rock. The depth to the restrictive layer and the water table generally occurs at 80 inches or more.  | 3.69           |
| <b>LpE2</b> | Lodo rocky loam, 8 to 25 percent slopes, eroded                | LpE2 is a somewhat excessively drained metamorphosed residuum soil derived from weathered sandstone. The depth to lithic bedrock is typically 10 to 20 inches with the water table generally occurring at more than 80 inches. | 2.47           |
| <b>VsC</b>  | Vista coarse sandy loam, 2 to 8 percent slopes                 | A well-drained residuum soil derived from weathered granite and/or granodiorite. The depth to paralithic bedrock is typically 20 to 40 inches with the water table generally occurring at more than 80 inches.                 | 5.42           |
| <b>VtF2</b> | Vista rocky coarse sandy loam, 2 to 35 percent slopes, eroded  | VtF2 is a well-drained residuum soil derived from weathered granite and/or granodiorite. The depth to paralithic bedrock is typically 20 to 40 inches with the water table generally occurring at more than 80 inches.         | 1.00           |

| ACRONYM | SOIL NAME  | SOIL DESCRIPTION  | ONSITE ACREAGE |
|---------|--|---|----------------|
| WyC2    | Wyman loam, 2 to 8 percent slopes, eroded                            | A well-drained alluvium soil derived from igneous rock. The depth to the restrictive layer and the water table generally occurs at 80 inches or more.   | 26.11          |
| YbC     | Yokohl loam, 2 to 8 percent slopes                                   | YbC, the most abundant soil series present within the Project Site, is a well-drained alluvium soil derived from igneous rock. The depth to duripan is typically 10 to 20 inches with the water table generally occurring at 80 inches or more. | 65.83          |
| YbE3    | Yokohl loam, 8 to 25 percent slopes, severely eroded                 | A well-drained alluvium soil derived from igneous rock. The depth to duripan is typically 10 to 20 inches with the water table generally occurring at 80 inches or more.  | 1.62           |
| YsC2    | Ysidora gravelly very fine sandy loam, 2 to 8 percent slopes, eroded | YsC2 is a well-drained soil derived from medisedimentary rock. The depth to duripan is typically 20 to 40 inches with the water table generally occurring at more than 80 inches.   | 7.42           |

The distribution of these soil types across the Project Site is depicted on *Figure 4 - Soil Survey Map* (Page 7).

### 1.3.2 Vegetation/Land Covers

The vegetation classifications presented herein follow the California Department of Fish and Wildlife's (CDFW) Vegetation Classification and Mapping Program (VegCAMP) *List of Vegetation Alliances and Associations* (Natural Communities List) (California Department of Fish and Wildlife, 2010), *A Manual of California Vegetation* (Sawyer, et al., 2009), and/or the *Preliminary descriptions of the terrestrial natural communities of California* (Holland, 1986). Vegetation communities that did not meet the specific criteria of a vegetation community listed in the Natural Communities List or described in the *Manual of California Vegetation* were classified following Holland.

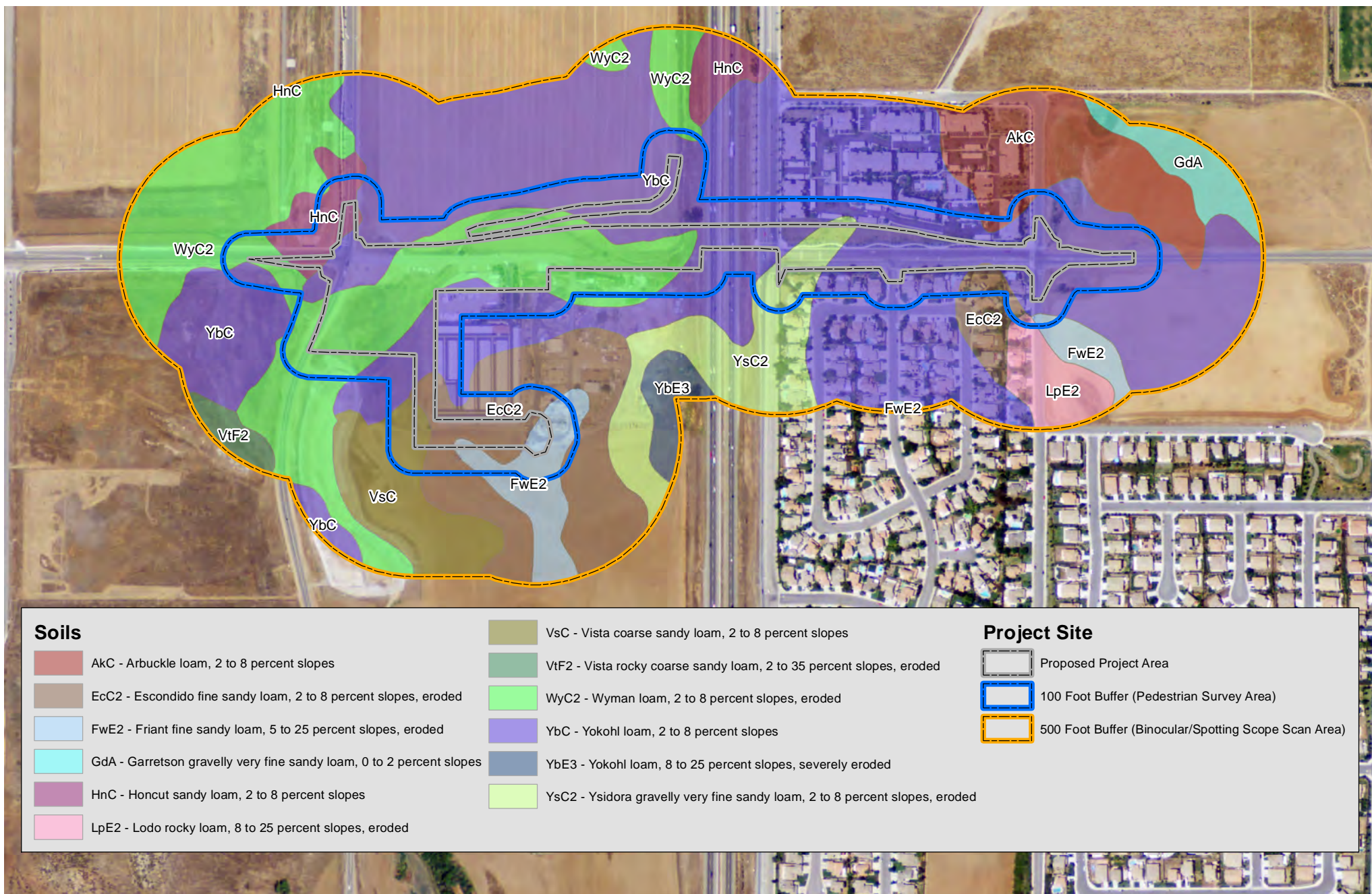
According to the Natural Communities List, no special-status or "high priority" communities were present on the Project Site. The Project Site was comprised of four vegetation communities/land covers. This included Agricultural Land, Developed/Disturbed/Ornamental, Non-native Grassland, and a Southern Cattail (*Typha domingensis*) Wetland. A description of these vegetation communities/land covers is presented below. The distribution of these areas on the Project Site is depicted on *Figure 5 - Vegetation/Land Covers Map* (Page 8).

A complete list of vascular plant species observed on the Project Site is provided in Appendix A.

#### 1.3.2.1 Agricultural Land (No Corresponding VegCAMP CaCode or Holland Code)

Agricultural Land within the Project Site consisted of five separate vacant fields that were either recently disked or grazed by domestic sheep. No active crops were present; however, these areas appeared to have been utilized for agricultural purposes in the recent past. Agricultural Land comprised 46.62 acres of the Project Site.

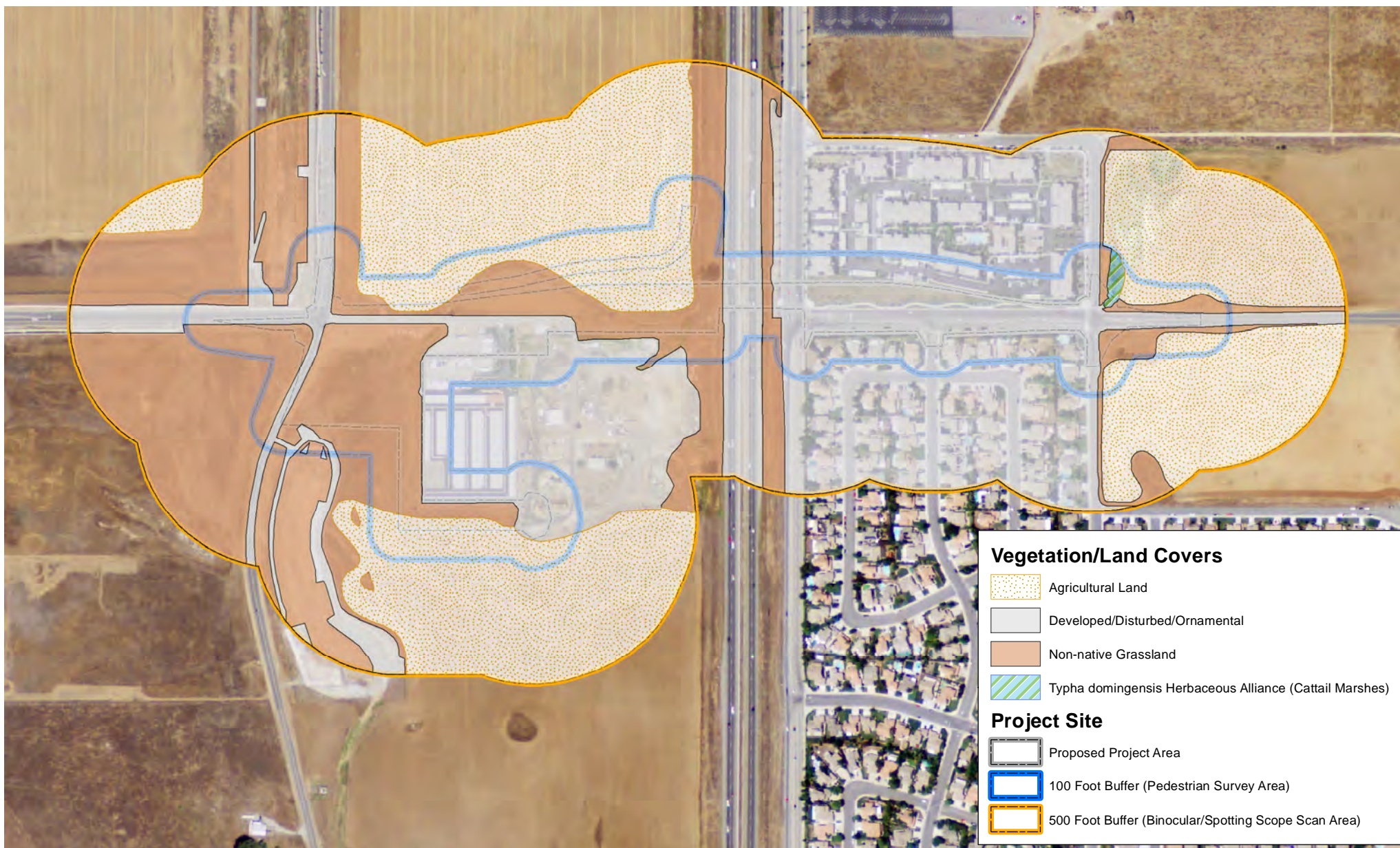




**Figure**







**Figure**



### **1.3.2.2 Developed/Disturbed/Ornamental (No Corresponding VegCAMP CaCode or Holland Code)**

Developed/Disturbed/Ornamental included housing, commercial areas, roads, trails, flood control facilities, maintained lots, and landscaped areas. Together these areas comprised 56.49 acres of the Project Site.

### **1.3.2.3 Non-Native Grassland (No Corresponding VegCAMP CaCode; Holland Code CTT42200CA)**

Non-native Grassland (NNG) were areas within the Project Site where non-native annual plant species were dominant. No quantitative surveys were conducted to determine the percent cover of these species, and therefore, the dominant plant species were not determined which led to these areas being classified generally as NNG. This notwithstanding, commonly encountered non-native plant species within this community on the Project Site included shortpod mustard (*Hirschfeldia incana*), London rocket (*Sisymbrium irio*), Russian thistle (*Salsola tragus*), ripgut grass (*Bromus diandrus*), and foxtail chess (*Bromus madritensis* subsp. *rubens*). Native plants were also present in these areas, though to a lesser degree, and included species such as western ragweed (*Ambrosia psilostachya*), horseweed (*Erigeron canadensis*), common sunflower (*Helianthus annuus*), telegraph weed (*Heterotheca grandiflora*), paniculate tarplant (*Deinandra paniculata*<sup>1</sup>), smooth tarplant (*Centromadia pungens* ssp. *laevis*<sup>2</sup>), and Dean's wirelettuce (*Stephanomeria exigua* ssp. *deanei*). NNG comprised 37.76 acres of the Project Site.

### **1.3.2.4 *Typha domingensis* Herbaceous Alliance (Cattail Marshes) (VegCAMP CaCode 52.050.03)**

*Typha domingensis* Herbaceous Alliance (Cattail Marshes) (Southern Cattail Wetland) was the only VegCAMP recognized vegetation community mapped within the Project Site. As the name implies, southern cattail was the dominant plant species observed in this small wetland which consisted of 0.20 acre. Field evidence and aerial photography indicated that this Southern Cattail Wetland is likely more expansive; however, recent agricultural disking appeared to have reduced the vegetative limits. The area was moist and standing water was observed near the terminus of the feature. The Southern Cattail Wetland was supported by a slow-flowing seep/spring. Other plant species observed included mayweed (*Anthemis cotula*), Spanish false-fleabane (*Pulicaria paludosa*), tall-flat sedge (*Cyperus eragrostis*), tall annual willow-herb (*Epilobium brachycarpum*), black willow (*Salix gooddingii*), and Fremont cottonwood (*Populus fremontii*).

## **1.4 Surrounding Area**

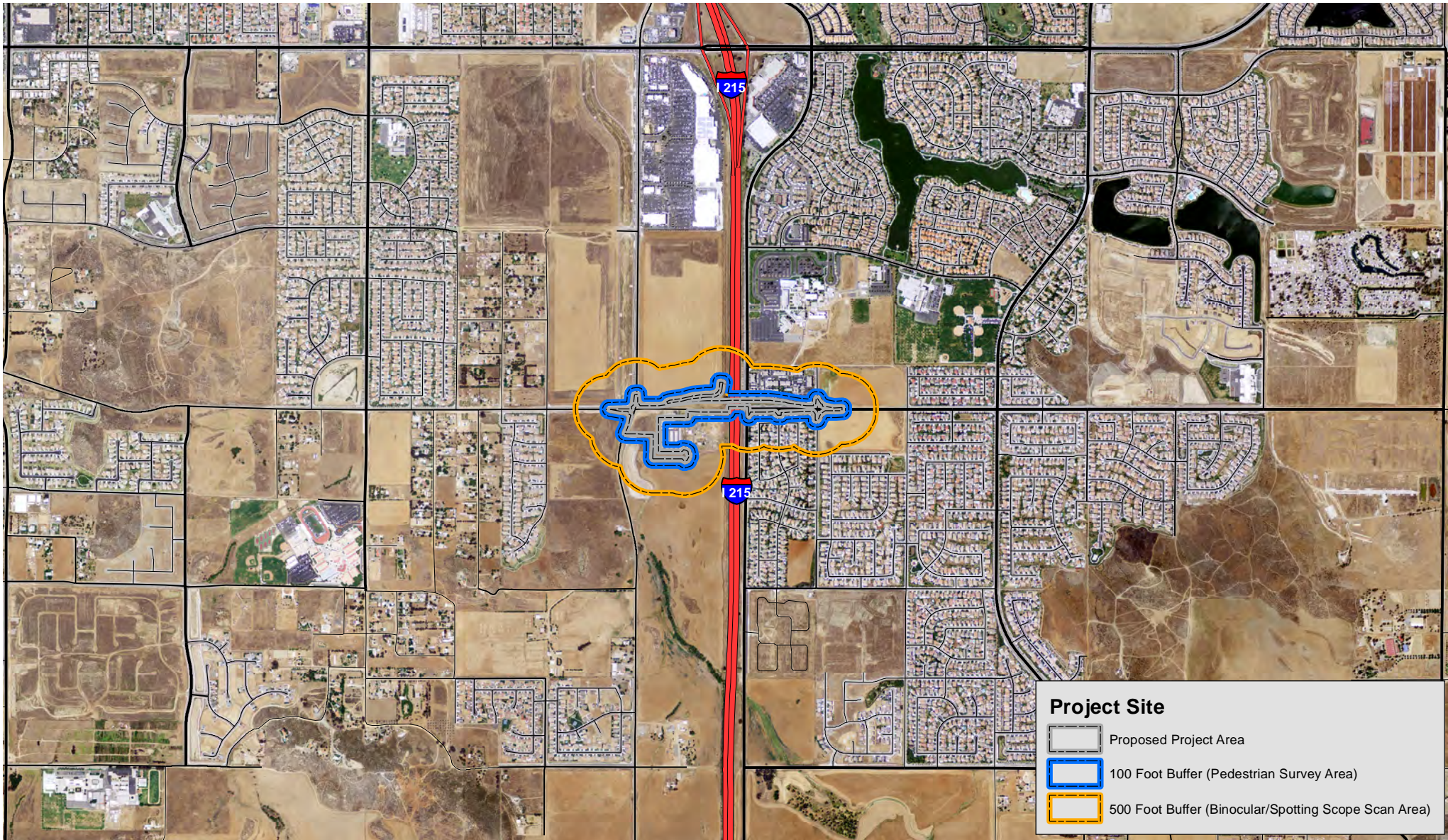
Land use in the immediate vicinity of the Project Site included a mix of agriculture/vacant land, commercial, educational, and residential areas. Agricultural/vacant land areas did not contain crops and were either recently disked, mowed, or grazed by domestic sheep. A large commercial center was present west of I-215 approximately one aerial mile north of the Project Site. Mount San Jacinto College's (MSJC) Menifee Campus was approximately 600 feet north of the Project Site east of I-215. This area of the City of Menifee is a relatively high-density residential use area with housing, apartments, and condos all in close proximity. *Figure 6 – Biogeographic Aerial Photograph* (Page 10) illustrates relatively current conditions for the surrounding area.

<sup>1</sup> CNPS-Ranked 4.2

<sup>2</sup> CNPS-Ranked 1B.1 (WRMSHCP Covered Species)

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**Figure**





## 1.5 Wildlife

All wildlife species, and their respective sign, observed over the course of the field investigations were identified and recorded in the field. Some of the species detected on or near the Project Site were California Horned Lark (*Eremophila alpestris actia*), BUOW, Red-tailed Hawk (*Buteo jamaicensis*), Cassin's Kingbird (*Tyrannus vociferans*), Rock Pigeon (*Columba livia*), California ground squirrel (*Spermophilus beecheyi*), and Botta's pocket gopher (*Thomomys bottae*).

A complete list of the wildlife species observed on and in close proximity to the Project Site is provided in Appendix B.

## 1.6 Field Surveys and Weather Data

The weather conditions encountered during surveys, the annual precipitation data to-date, and astronomical data (i.e., sunrise/sunset times and moon phase) is presented in *Table 2 – Survey Dates, Weather, and Astronomical Data* below (Page 12).

## 1.7 Proposed Project

The City of Menifee, County of Riverside, and the California Department of Transportation (CalTrans) are proposing to construct a bridge overpass to alleviate traffic congestion for the immediate area.

## 1.8 Special-Status Flora and Fauna Queries

Prior to initiating field surveys, Searl Biological Services (SBS), with the assistance of AECOM, queried the California Natural Diversity Database (CNDDDB), CNPS Rare and Endangered Plant Inventory, and Consortium of California Herbaria (CCH). A brief description and background of each database is presented below.

### 1.8.1 California Natural Diversity Database

The CNDDDB is a "natural heritage program" which is overseen by NatureServe (California Department of Fish and Wildlife, 2010). "Natural heritage programs provide location and natural history information on special status plants, animals, and natural communities to the public, other agencies, and conservation organizations." (California Department of Fish and Wildlife, 2010). This is achieved primarily through the use of the computer application RareFind. "RareFind 3 is a Windows application offering access to all CNDDDB text data. It contains about 70,000 records on more than 2,500 rare native plants, animals, and natural communities in a convenient, searchable database." (California Department of Fish and Wildlife, 2010).

A query of the Romoland 7.5 Minute USGS California Quadrangle and the surrounding eight quadrangles was conducted prior to field work. The results of the query are presented in the appropriate sections of this document.

### 1.8.2 CNPS Rare and Endangered Plant Inventory

The CNPS is a statewide non-profit organization whose mission is to "...conserve California native plants and their natural habitats, and increase understanding, appreciation, and horticultural use of native plants" (California Native Plant Society, 2013). The CNPS has created a "California Rare Plant Ranking System" (CRPR) to categorize degrees of endangerment and/or concern (California Native Plant Society, 2013). Additionally, the CNPS

**Table 2 – Survey Dates, Weather, and Astronomical Data<sup>3</sup>**

| Date   | Survey Type                  | Survey Time   |      | Sunrise/<br>Sunset <sup>4</sup> |      | Temperature<br>(°F) |     | Humidity |     | Cloud<br>Cover (%) |     | Wind<br>Speed<br>(Beaufort) <sup>5</sup> |     | Annual<br>Precipitation <sup>6</sup><br>(Inches) | Moon Phase <sup>7</sup><br>(% Illuminated) |
|--|------------------------------|---|------|---------------------------------|------|---------------------|-----|----------|-----|--------------------|-----|--|-----|--|--|
|  |                              | Start   | End  | Rise                            | Set  | Start               | End | Start    | End | Start              | End | Start                                    | End |  |  |
|  | BUOWBS,                      |   |      |                                 |      |                     |     |          |     |                    |     |  |     |  |  |
| 5/25/2013                                    | BUOWFS,<br>BUOWHA,<br>RP, RR | 0630  | 1620 | 0541                            | 1950 | 52                  | 84  | 83       | 40  | 0                  | 10  | 1  | 3   | 5.08   | Waxing Gibbous<br>(99)                     |
| 6/10/2013                                    | RPRSV                        | 1030  | 1200 | --                              | --   | --                  | --  | --       | --  | --                 | --  | --                                       | --  | --   | --   |
| 6/11/2013                                    | RPRSV                        | 0800  | 1300 | --                              | --   | --                  | --  | --       | --  | --                 | --  | --                                       | --  | --   | --   |
| 6/26/2013                                    | BUOWFS,RP                    | 0500  | 1000 | 0540                            | 2003 | 68                  | 94  | 60       | 34  | 0                  | 0   | 0  | 0   | 5.08   | Waning Gibbous<br>(83)                     |
| 7/26/2013                                    | BUOWFS                       | 0540  | 1000 | 0556                            | 1953 | 72                  | 74  | 56       | 54  | 100                | 100 | 0  | 0   | 0.01   | Waning Gibbous<br>(79)                     |
| 8/21/2013                                    | BUOWFS                       | 0620  | 1000 | 0615                            | 1928 | 75                  | 85  | 40       | 34  | 20                 | 20  | 0  | 0   | 0.05   | Full<br>(99)                               |
| BUOWBS – Burrowing Owl Focused Burrow Survey |                              | RP – Rare Plant Survey  |      |                                 |      |                     |     |          |     |                    |     |  |     |  |  |
| BUOWFS - Burrowing Owl Focused Survey        |                              | RR – WRMSHCP Section 6.1.2 Riparian/Riverine/Vernal Pool Assessment |      |                                 |      |                     |     |          |     |                    |     |  |     |  |  |
| BUOWHA - Burrowing Owl Habitat Assessment    |                              | RPRSV – Rare Plant Reference Site Visit                             |      |                                 |      |                     |     |          |     |                    |     |  |     |  |  |

<sup>3</sup> Temperature and Humidity data were collected in the field using a Kestrel 4000 handheld weather meter.

<sup>4</sup> Sunrise/Sunset data was obtained utilizing the Sunrise Sunset Lite iPhone Application (App).

<sup>5</sup> The Beaufort Wind Scale was developed by Sir Francis Beaufort of England in 1805, and is a system that contains 12 classes of wind speeds (National Oceanic and Atmospheric Administration (NOAA), 2007). Only classes 0 through 5 are described here given that most biological surveys should not be conducted during the wind speeds experienced for classes 6 through 12.

- 0 - Calm Winds (0 to <1mph): Smoke rises vertically
- 1 - Light Air (1 to 3 mph): Smoke drifts with air
- 2 - Light Breeze (4 to 7 mph): Weather vanes become active
- 3 - Gentle Breeze (8 to 12 mph): Leaves and small twigs move
- 4 - Moderate Breeze (13 to 18 mph): Small branches sway
- 5 - Fresh Breeze (19 to 24 mph): Small trees sway - Waves break

<sup>6</sup> The annual precipitation season is from July 01 to June 30. Data was obtained from the Riverside County Flood Control and Water Conservation District's (RCFCD) "Rainfall Gauge Map" webpage for the "Winchester" station; Station No. 248 (Riverside County Flood Control and Water Conservation District, 2012).

<sup>7</sup> Moon Phase data was obtained from the "Menifee, CA" [www.wunderground.com](http://www.wunderground.com) weather website (wunderground.com, 2013).

has created a "Threat Rank" which "...is an extension added onto the CRPR and designates the level of endangerment by a 1 to 3 ranking, with 1 being the most endangered and 3 being the least endangered (California Native Plant Society, 2013). The "California Rare Plant Ranking System" and "Threat Ranks" are presented below in *Table 3 – CNPS Ranking System* (below).

**Table 3 - CNPS California Rare Plant Ranking System**

| <b>CRPR</b>   |
|---|
| 1A - Plants Presumed Extirpated in California and Either Rare or Extinct Elsewhere                  |
| 1B - Plants Rare, Threatened, or Endangered in California and Elsewhere                             |
| 2A - Plants Presumed Extirpated in California, But More Common Elsewhere                            |
| 2B - Plants Rare, Threatened, or Endangered in California, But More Common Elsewhere                |
| 3 - Plants About Which More Information is Needed - A Review List                                   |
| 4 - Plants of Limited Distribution - A Watch List   |
| <b>THREAT CODES</b>   |
| 0.1-Seriously threatened in California (high degree/immediacy of threat)                            |
| 0.2-Fairly threatened in California (moderate degree/immediacy of threat)                           |
| 0.3-Not very threatened in California (low degree/immediacy of threats or no current threats known) |

A query of the Romoland 7.5 Minute USGS California Quadrangle and the surrounding eight quadrangles was conducted prior to field work (California Native Plant Society, 2013). The results of the Rare and Endangered Plant Inventory are presented in the appropriate sections of this document.

### 1.8.3 Consortium of California Herbaria

"The CCH is a gateway to information from California vascular plant specimens that are housed in participant herbaria" (The Consortium of California Herbaria, 2013). This query allows the user a wide array of search tools including, but not limited to, scientific name, geographic locality, county, geographic region, and collector. Queries produce the Herbaria data and many of the records present location data.

A query for the geographic region of the "Paloma Valley" in Riverside County was conducted prior to initiating field surveys. The Paloma Valley was located approximately 1.0 mile south of the Project Site with the Paloma Wash flowing through the Project Site. The result of the query was a potential checklist of the plants that may occur on the Project Site.

Additionally, a species-specific query was conducted for those species for which the proposed project area and 100 foot pedestrian survey buffer area supported suitable habitat. The results provide potential "reference site" data.

## 1.9 Primary Literature Review

The primary literature reviewed in preparation for this WRMSHCP compliance document included VegCAMP's *List of Vegetation Alliances and Associations* (Natural Communities List) (California Department of Fish and Wildlife, 2010), *Special Vascular Plants, Bryophytes, and Lichens List* (California Department of Fish and Wildlife, Natural Diversity Database, 2013), *A Manual of California Vegetation* (Sawyer, et al., 2009), *The Jepson Online Interchange California Floristics* (University of California, Berkeley, 2013), *The Jepson Manual Higher Plants of California* (Hickman, 1993), *Special Animals* (California Department of Fish and Wildlife, Natural Diversity Database, 2011), *Western Riverside County Multiple Species Habitat*



*Conservation Plan* (Dudek & Associates, Inc., 2003), *Burrowing Owl Survey Instructions For the Western Riverside Multiple Species Habitat Conservation Plan Area* (Environmental Programs Department, 2006), and *Staff Report on Burrowing Owl Mitigation* (California Department of Fish and Wildlife, 2012). A list of all references is provided in the References section of this document.

## **2.0 WRMSHCP CONSERVATION CRITERIA AREA ANALYSIS**

### **2.1 Background**

The WRMSHCP "...is a comprehensive, multi-jurisdictional Habitat Conservation Plan (HCP) focusing on Conservation of species and their associated Habitats in Western Riverside County" (Dudek & Associates, Inc., 2003). The WRMSHCP encompasses approximately 1.26 million acres of land that stretches from the crest of the San Jacinto Mountains west to the Orange County boundary. Ultimately, the WRMSHCP will result in the conservation of more than 500,000 acres (347,000 acres on existing Public/Quasi-Public Lands [PQP] and 153,000 of Additional Reserve Lands [ARL]) that focuses on the 146 species covered by the WRMSHCP (Dudek & Associates, Inc., 2003).

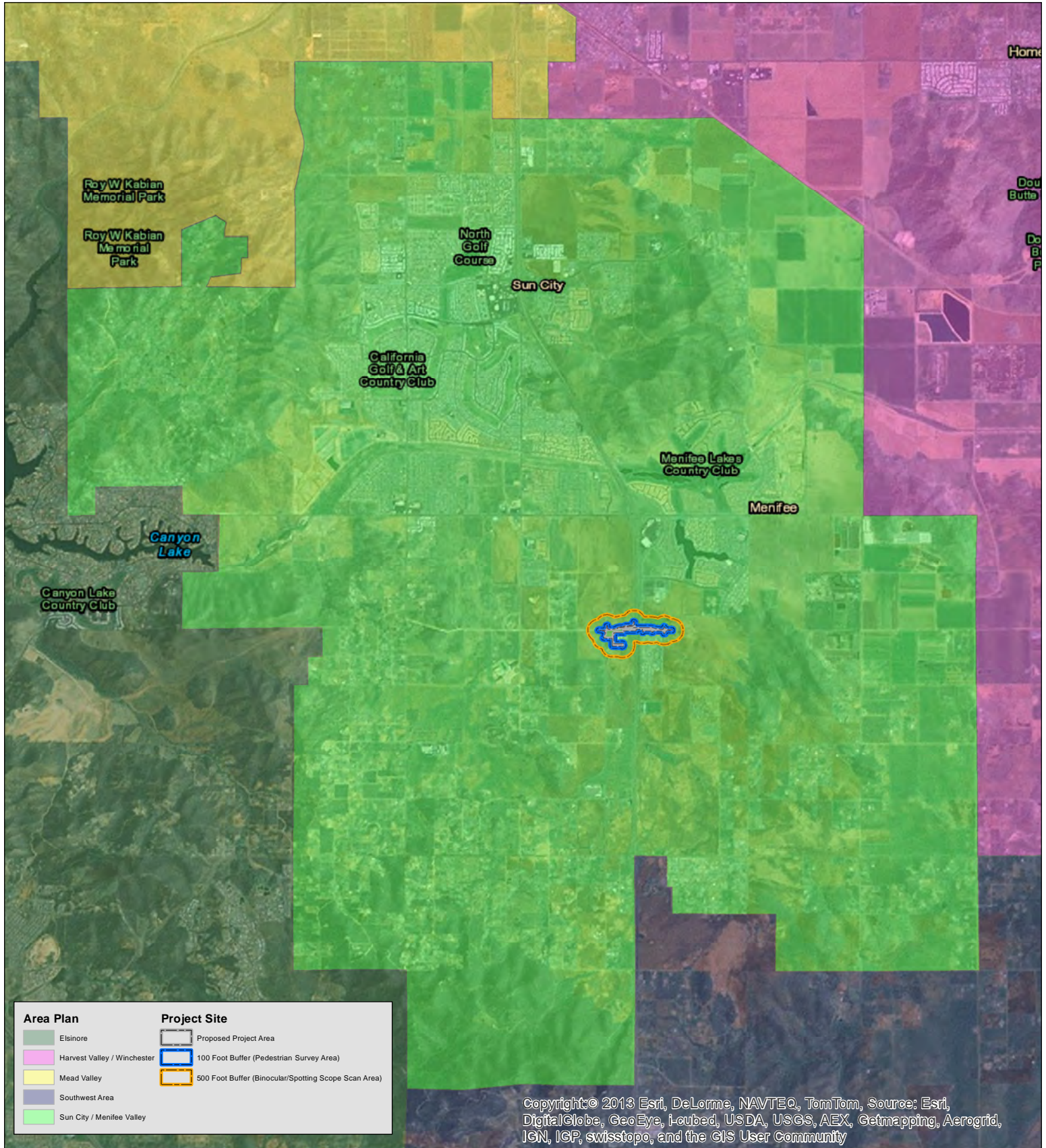
### **2.2 WRMSHCP Reserve Design**

The WRMSHCP is a criteria-based plan of which the County's General Plan Area Plan boundaries were utilized to provide the broad organizational framework for the criteria (Dudek & Associates, Inc., 2003). A Conceptual Reserve Design (CRD) was sketched for each Area Plan using vegetation, planning species occurrence data, and biological issues and considerations as the primary criteria for the CRD (Dudek & Associates, Inc., 2003). Subsequent to sketching the CRD, USGS quarter sections (i.e., approximate 160 acre cells) were then overlain on the CRD such that each "Criteria Cell" is an area in real space with a legal description (Dudek & Associates, Inc., 2003). Criteria Cells were then either aggregated into a Criteria Cell Group or retained as individual Criteria Cells based upon the level of conservation and configuration of the Criteria Cell or Criteria Cell Group (Dudek & Associates, Inc., 2003). Criteria Cells were assigned an identification number and each Criteria Cell Group was assigned a letter code. Conservation Criteria was drafted for each Criteria Cell or Criteria Cell Group to provide an explicit description of the areas to be targeted for conservation (Dudek & Associates, Inc., 2003). Those areas located outside of the designated Criteria Cells and/or Criteria Cell Groups are not targeted to be included within the 153,000 acres of ARL.

### **2.3 Sun City/Meniffee Valley Area Plan Criteria**

The Project Site was located in the central portion of the Sun City/Meniffee Valley Area Plan as depicted by *Figure 7 - WRMSHCP Area Plan Map* (Page 15). The Sun City/Meniffee Valley Area Plan was approximately 30,600 acres.

The target conservation acreage for the Sun City/Meniffee Valley Area Plan was between 1,545 acres and 2,010 acres (Dudek & Associates, Inc., 2003). The target acreage was composed of 425 acres of existing PQP lands with a range of 1,120 acres to 1,585 acres of ARL being targeted for conservation within this Area Plan (Dudek & Associates, Inc., 2003).







### 2.3.1 Sun City/Menifee Valley Area Plan Subunits

The Sun City/Menifee Valley Area Plan consisted of two Subunits, Warm Springs Creek/French Valley Area and Lower Sedco Hills. The Project Site was located outside of these Subunits as depicted by *Figure 8 – Sun City/Menifee Valley Area Plan Subunit Map* (Page 17).

### 2.3.2 Conservation Criteria Cell Location

The Project Site was not located within a Criteria Cell or Criteria Cell Group, and therefore, the Project Site was not targeted to be a part of the WRMSHCP Reserve System as ARL. The nearest Criteria Cell was 5066, which was located approximately 2.30 miles southeast of the Project Site as depicted by *Figure 9 - WRMSHCP Criteria Cell and Cell Group Map* (Page 18).

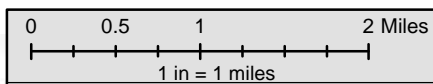
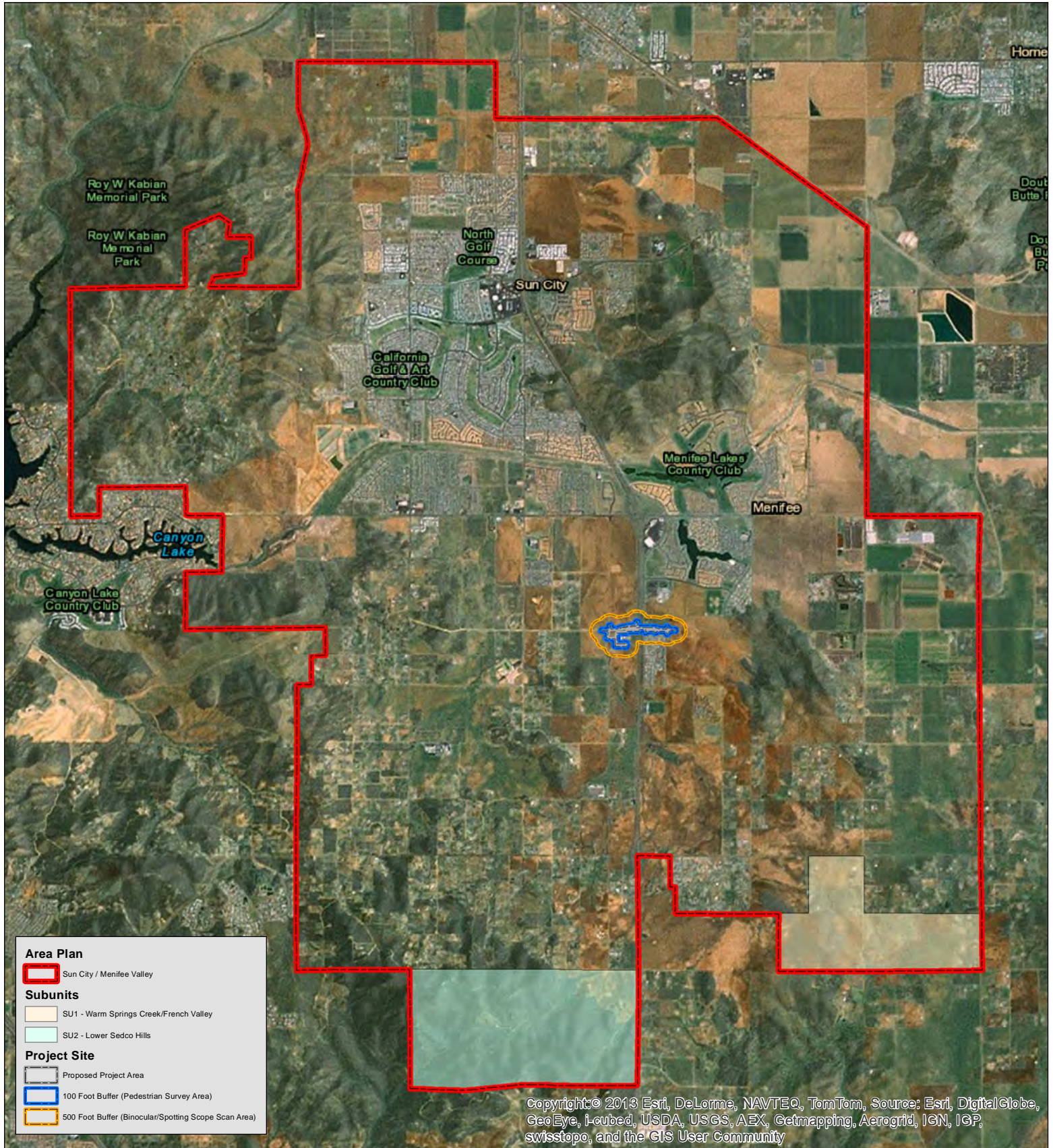
## 3.0 SECTION 6.1.2 PROTECTION OF SPECIES ASSOCIATED WITH RIPARIAN/RIVERINE AREAS AND VERNAL POOLS

### 3.1 Background and Planning Species

Section 6.1.2 *Protection of Species Associated with Riparian/Riverine Areas and Vernal Pools* (WRMSHCP Section 6.1.2) of the WRMSHCP requires all subject properties under the jurisdiction of the WRMSHCP Area Plan that are proposing a land use change to conduct a WRMSHCP Section 6.1.2 assessment. This includes a habitat assessment for Riparian/Riverine areas, Vernal Pools, three fairy shrimp species; 1) Riverside fairy shrimp (*Streptocephalus woottoni*), 2) vernal pool fairy shrimp (*Branchinecta lynchi*), and 3) Santa Rosa Plateau fairy shrimp (*Linderiella santarosae*), and three bird species; 1) Least Bell's Vireo (*Vireo bellii pusillus*) (LBVI), 2) Southwestern Willow Flycatcher (*Empidonax traillii extimus*) (SWFL), and 3) Western Yellow-billed Cuckoo (*Coccyzus americanus occidentalis*) (YBCU). If the assessment identifies suitable habitat for any of the six species associated with riparian/riverine areas and vernal pools listed above, and the proposed project design does not incorporate avoidance of the identified habitat, focused surveys would be required, and avoidance and minimization measures will be implemented in accordance with the WRMSHCP's species-specific objectives for these species. The long-term conservation of WRMSHCP Section 6.1.2 resources is important for the protection of the planning species presented in *Table 4 - Section 6.1.2 Planning Species* (Page 19).

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# Sun City/Menfee Valley Area Plan Subunit Map

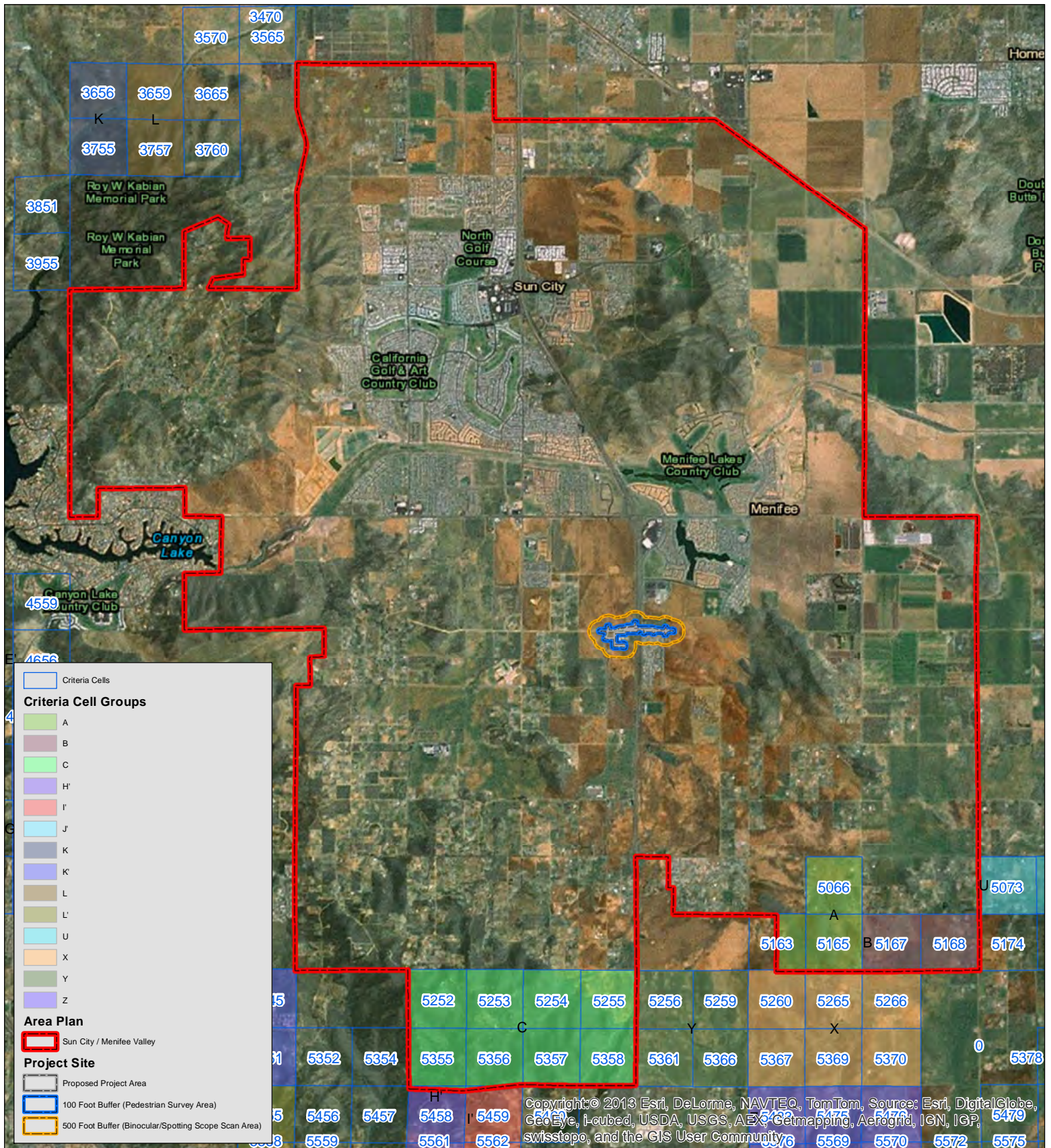
DATE: 7/4/2013  
 COORDINATE SYSTEM: NAD 1983 UTM Zone 11N  
 SOURCE: ESRI Imagery Layer, AECOM, and County of Riverside  
 County Wide Data (CWDData)

PROJECT:  
 AECOM  
 CalTrans/City of Menfee  
 Proposed Holland Road Bridge/Overpass

Figure







0 0.5 1 2 Miles  
1 in = 1 miles

DATE: 7/4/2013  
COORDINATE SYSTEM: NAD 1983 UTM Zone 11N  
SOURCE: ESRI Imagery Layer, AECOM, and County of Riverside County Wide Data (CWDData)

# WRMSHCP Criteria Cell and Cell Group Map

PROJECT:  
AECOM  
CalTrans/City of Menifee  
Proposed Holland Road Bridge/Overpass

Figure





**Table 4 – WRMSHCP Section 6.1.2 Planning Species**

| COMMON NAME   | SCIENTIFIC NAME                                    |
|---|--|
| <b>AMPHIBIANS</b>   |  |
| Arroyo Toad   | <i>Anaxyrus californicus</i>                       |
| Sierra Madre Yellow-legged Frog<br>(Formerly - Mountain Yellow-legged Frog) | <i>Rana muscosa</i>                                |
| California Red-legged Frog  | <i>Rana draytonii</i>                              |
| <b>BIRDS</b>  |  |
| Bald Eagle  | <i>Haliaeetus leucocephalus</i>                    |
| Least Bell's Vireo  | <i>Vireo bellii pusillus</i>                       |
| Peregrine Falcon  | <i>Falco peregrinus</i>                            |
| Southwestern Willow Flycatcher  | <i>Empidonax traillii extimus</i>                  |
| Western Yellow-billed Cuckoo  | <i>Coccyzus americanus occidentalis</i>            |
| <b>INVERTEBRATES-CRUSTACEANS</b>  |  |
| Riverside fairy shrimp  | <i>Streptocephalus woottoni</i>                    |
| vernal pool fairy shrimp  | <i>Branchinecta lynchi</i>                         |
| <b>PLANTS</b>   |  |
| Brand's phacelia  | <i>Phacelia stellaris</i>                          |
| California Orcutt grass   | <i>Orcuttia californica</i>                        |
| California black walnut   | <i>Juglans californica</i>                         |
| Coulter's matilija poppy  | <i>Romneya coulteri</i>                            |
| Engelmann oak   | <i>Quercus engelmannii</i>                         |
| Fish's milkwort   | <i>Polygala cornuta</i> var. <i>fishiae</i>        |
| graceful tarplant   | <i>Holocarpha virgata</i> ssp. <i>elongata</i>     |
| lemon lily  | <i>Lilium parryi</i>                               |
| Mojave tarplant   | <i>Deinandra mohavensis</i>                        |
| mud nama  | <i>Nama stenocarpum</i>                            |
| ocellated Humboldt lily   | <i>Lilium humboldtii</i> ssp. <i>ocellatum</i>     |
| Orcutt's brodiaea   | <i>Brodiaea orcuttii</i>                           |
| Parish's meadowfoam   | <i>Limnanthes gracilis</i> var. <i>parishii</i>    |
| prostrate navarretia  | <i>Navarretia prostrata</i>                        |
| San Diego button-celery   | <i>Eryngium aristulatum</i> var. <i>parishii</i>   |
| San Jacinto Valley crownscale   | <i>Atriplex coronata</i> var. <i>notatior</i>      |
| San Miguel savory   | <i>Satureja chandleri</i>                          |
| Santa Ana River woolly-star   | <i>Eriastrum densifolium</i> ssp. <i>sanctorum</i> |
| slender-horned spine flower   | <i>Dodecahema leptoceras</i>                       |
| smooth tarplant   | <i>Centromadia pungens</i>                         |
| spreading navarretia  | <i>Navarretia fossalis</i>                         |
| thread-leaved brodiaea  | <i>Brodiaea filifolia</i>                          |
| vernal barley   | <i>Hordeum intercedens</i>                         |

### 3.2 WRMSHCP Section 6.1.2 Resources

The WRMSHCP defines Riparian/Riverine, Vernal Pools, and Fairy Shrimp habitat as follows:

*"Riparian/Riverine Areas are lands which contain Habitat dominated by tress [trees], shrubs, persistent emergents, or emergent mosses and lichens, which occur close to or which depend upon soil moisture from a nearby fresh water source; or areas with fresh water flow during all or a portion of the year."*  
(Dudek & Associates, Inc., 2003).



*"Vernal pools are seasonal wetlands that occur in depression areas that have wetlands indicators of all three parameters (soils, vegetation and hydrology) during the wetter portion of the growing season but normally lack wetlands indicators of hydrology and/or vegetation during the drier portion of the growing season. Obligate hydrophytes and facultative wetlands plant species are normally dominant during the wetter portion of the growing season, while upland species (annuals) may be dominant during the drier portion of the growing season. The determination that an area exhibits vernal pool characteristics, and the definition of the watershed supporting vernal pool hydrology, must be made on a case-by-case basis. Such determinations should consider the length of the time the area exhibits upland and wetland characteristics and the manner in which the area fits into the overall ecological system as a wetland. Evidence concerning the persistence of an area's wetness can be obtained from its history, vegetation, soils, and drainage characteristics, uses to which it has been subjected, and weather and hydrologic records." (Dudek & Associates, Inc., 2003).*

*"Fairy Shrimp. For Riverside, vernal pool and Santa Rosa fairy shrimp, mapping of stock ponds, ephemeral pools and other features shall also be undertaken as determined appropriate by a qualified biologist." (Dudek & Associates, Inc., 2003).*

WRMSHCP Section 6.1.2 further states that:

*"With the exception of wetlands created for the purpose of providing wetlands Habitat or resulting from human actions to create open waters or from the alteration of natural stream courses, areas demonstrating characteristics as described above which are artificially created are not included in these definitions." (Dudek & Associates, Inc., 2003).*

### **3.3 CNDDDB Query Results**

According to the results of the Romoland query, four WRMSHCP Section 6.1.2 Planning Species, totaling 16 records, have been reported within five miles of the Project Site. These included California Orcutt grass (four records; date range 1922-2009), smooth tarplant (seven records; date range 1996-2010), spreading navarretia (four records; date range 1922-2009), and Riverside fairy shrimp (one record; date 2002).

### **3.4 Survey Methods**

Those areas potentially meeting the criteria of a WRMSHCP Section 6.1.2 resource were identified and mapped in the field utilizing ArcPad 10.0 installed on a Trimble Juno Global Positioning System (GPS) unit. Field determinations were based on WRMSHCP Section 6.1.2 criteria, existing conditions, historic aerial photography and recent aerial photography reviewed on Google Earth, and review of the Romoland USGS 7.5 Minute California Quadrangle.

#### **3.4.1 Riparian/Riverine**

A potential Riparian/Riverine feature was walked beginning in the downstream portion and ending at the upstream end. Either a "polyline" or "polygon," depending on the Riparian/Riverine habitat type (i.e., stream vs. wetland), GIS shapefile was created in the field

utilizing ArcPad while walking the approximate length of the potential feature within the proposed project footprint and 100 foot transect buffer boundary. Data collected while walking the potential Riparian/Riverine feature included characteristics and functions such as hydrology, soils/substrates, dominant plant species/vegetation community, functions and values, presence/absence regarding the species listed above in Table 4, habitat suitability for LBVI, SWFL, YBCU, , and whether or not the feature potentially affects downstream resources for WRMSHCP Section 6.1.2 Planning Species.

### **3.4.2 Potential Vernal Pools/Fairy Shrimp Habitat**

The perimeter of a potential Vernal Pool/Fairy Shrimp Habitat feature was walked and mapped by creating a “polygon” GIS shapefile utilizing ArcPad. Data collected while walking each potential Vernal Pool/Fairy Shrimp feature included plant species composition, presence/absence of standing water, evidence of potential ponding (i.e., cracked mud), functions and values, presence/absence regarding the species listed above in Table 4, and habitat suitability for Riverside fairy shrimp, Santa Rosa Plateau fairy shrimp, and/or vernal pool fairy shrimp.

## **3.5 Habitat Assessment Field Visits**

Tim Searl, biologist for SBS, conducted the WRMSHCP Section 6.1.2 habitat assessment on May 25, 2013. The results are presented below.

## **3.6 Habitat Assessment Results**

A total of seven features, designated A through G, were identified within the project area/100 foot buffer area that potentially meet the criteria of a WRMSHCP Section 6.1.2 resource. Feature A, a USGS-designated intermittent stream, totaled 1,818.89 linear feet with its associated tributary, and Features B through G totaled 0.94 acre. *Figure 10 - Potential WRMSHCP Section 6.1.2 Resources* (Page 22) depicts the location of these features and the locations of the photographs presented in Figures 11 and 12. *Figure 11 - Potential WRMSHCP Section 6.1.2 Resource Photographs – Features A - D* (Page 23), and *Figure 12 - Potential WRMSHCP Section 6.1.2 Resource Photographs – Features E - G* (Page 24) present a collection of representative photographs of these potential WRMSHCP Section 6.1.2 resources. A description of each feature is presented below.

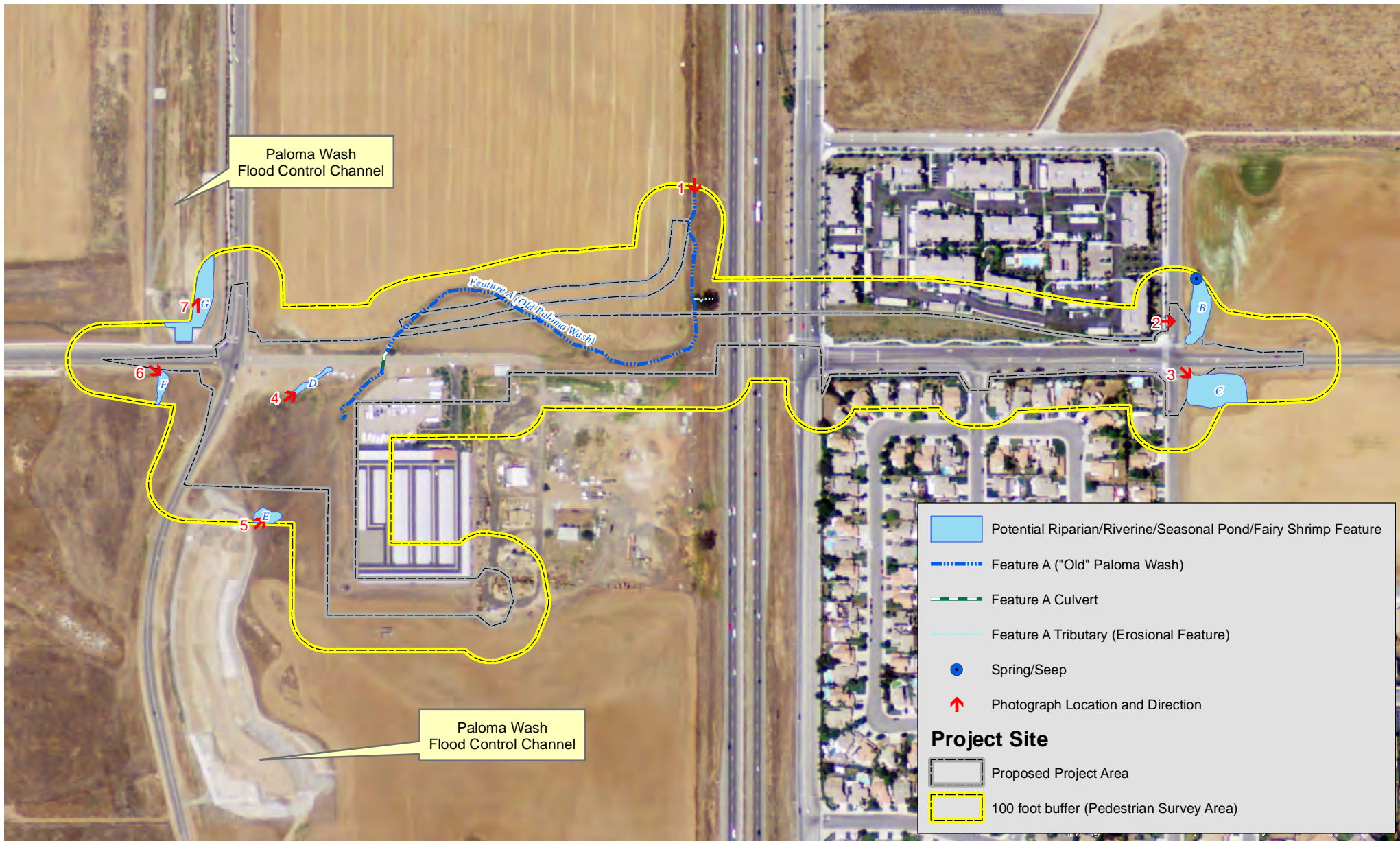
### **3.6.1 Feature A**

Feature A was a USGS-designated intermittent stream (see Figure 2), and was historically considered as a portion of the Paloma Wash. Sometime in 2008/2009, construction of the Paloma Wash Flood Control Channel extended the human-created channel south from Newport Road to approximately 1,300 feet south of the Holland Road/Haun Road intersection. This newly constructed flood control channel now intercepts upstream flows that historically flowed into Feature A, thus isolating Feature A from the upstream watershed.

Feature A was 1,757.21 feet in length. A small erosional feature (61.68 feet in length) was tributary to Feature A and is depicted on the previously referenced Figure 10. The erosional feature’s characteristics were similar to Feature A.

Surface hydrology was not present throughout Feature A. The bed of the feature consisted primarily of bare ground with sandy to sandy/loam substrates. The banks of the feature were densely vegetated in some areas with non-native grassland species such as ripgut grass, and bare

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**Figure**







PHOTOGRAPH 1 - Feature A



PHOTOGRAPH 2 - Feature B



PHOTOGRAPH 3 - Feature C



PHOTOGRAPH 4 - Feature D







PHOTOGRAPH 5 - Feature E



PHOTOGRAPH 6 - Feature F



PHOTOGRAPH 7 - Feature G



ground in others composed of loam substrates. According to the NRCS, Feature A consists of WyC2 and YbC soils. The dominant plant species observed throughout the feature included rigput grass, shortpod mustard, Dean's wirelettuce, and common sunflower. Approximately 78 smooth tarplant, a WRMSHCP Section 6.1.2 Planning Species, was detected within Feature A.

No other WRMSHCP Section 6.1.2 Planning Species were detected within Feature A, nor did the drainage support suitable habitat for LBVI, SWFL, YBCU, or the covered fairy shrimp species. Feature A exhibited characteristics and functions typical of an upland drainage such as flood storage, flood flow modification, nutrient retention and transformation, sediment trapping and transport, and toxicant trapping.

Historically, the functions of Feature A potentially affected the values relating to the conservation of WRMSHCP covered species in downstream resources within Salt Creek and ultimately Lake Elsinore; however, it is now unlikely given that the feature was isolated from the upstream watershed by the construction of the Paloma Wash Flood Control Channel.

### **3.6.2 Feature B**

Feature B was the Southern Cattail Wetland described above in Section 1.3.2.4 of this document. It was 0.20 acre in size at the time of the field investigation. Surface hydrology was present near the downstream terminus with soils being saturated to moist between the downstream and upstream terminus. According to the NRCS, Feature B consists of YbC soils. The dominant plant observed throughout the feature was southern cattail.

No WRMSHCP Section 6.1.2 Planning Species were detected within Feature B, nor did the small wetland support suitable habitat for LBVI, SWFL, YBCU, or the covered fairy shrimp species. Feature B may perform functions such as nutrient retention and transformation, and toxicant trapping from urban/agricultural runoff.

Feature B does not appear to affect the values relating to the conservation of WRMSHCP covered species in downstream resources.

### **3.6.3 Feature C**

Feature C was a human-created detention basin that was 0.33 acre in size. No surface hydrology was present within the feature, but cracked mud was observed near the center indicating the area potentially ponds. According to the NRCS, Feature B consists of YbC soils. The dominant plant species observed throughout the feature was shortpod mustard, mayweed, and rigput grass. A single Fremont cottonwood and black willow were present on the southern bank of the feature.

No WRMSHCP Section 6.1.2 Planning Species were detected within Feature C, nor did the feature support suitable habitat for LBVI, SWFL, or YBCU. Feature C may be considered suitable for the covered fairy shrimp species, particularly Riverside fairy shrimp which can often occur in more disturbed-type seasonal pond features including human-created stock ponds and detention basins. Feature C potentially performs functions such as nutrient retention and transformation, and toxicant trapping from urban/agricultural runoff.

Feature C does not appear to affect the values relating to the conservation of WRMSHCP covered species in downstream resources.



### 3.6.4 Feature D

Feature D was a depression area that was 0.04 acre in size. This feature was located in an area where Western Spadefoot (*Spea hammondi*), a CDFW-designated Species of Special Concern (SSC) and WRMSHCP Covered Species, larvae were detected in March 2005 according to the CNDDDB. The CNDDDB record also states that the “habitat consists of a vernal pool” (California Department of Fish and Wildlife, 2013). However, similar to Feature A, this feature was isolated from the upstream watershed between 2008/2009 with the construction of the Paloma Wash Flood Control Channel, and may no longer support ponding.

No surface hydrology was present within the feature. Field evidence for ponding was weak. The two primary indicators of the area potentially supporting ponding was high-vegetation density compared to the immediate surrounding area, and the slightly depressed topography of the feature. According to the NRCS, Feature D consists of WyC2 soils. The dominant plant species observed throughout the feature was shortpod mustard, common sunflower, alkali heliotrope (*Heliotropium curassavicum* var. *oculatum*), alkali mallow (*Malvella leprosa*), and tumbleweed (*Amaranthus albus*).

No WRMSHCP Section 6.1.2 Planning Species were detected within Feature D, nor did the feature support suitable habitat for LBVI, SWFL, or YBCU. If Feature D ponds, it may support suitable habitat for the covered fairy shrimp species, particularly Riverside and vernal pool fairy shrimp. Feature D potentially performs functions such as nutrient retention and transformation, and toxicant trapping from urban/agricultural runoff.

Feature D does not appear to affect the values relating to the conservation of WRMSHCP covered species in downstream resources.

### 3.6.5 Feature E

Feature E was similar in structure and habitat type to Feature D and was 0.06 acre in size. This feature was located in the same general vicinity where Western Spadefoot and the vernal pool habitat were reported in March 2005. Feature E was also isolated from the upstream watershed due to the construction of the Paloma Wash Flood Control Channel.

Field indicators and evidence were similar to Feature D. According to the NRCS, Feature E consists of WyC2 and YbC soils. The dominant plant species observed throughout the feature was London rocket, shortpod mustard, and alkali heliotrope.

Approximately 35 smooth tarplant, a WRMSHCP Section 6.1.2 Planning Species, was detected within Feature E. The feature did not support suitable habitat for LBVI, SWFL, or YBCU. If Feature E ponds, it may support suitable habitat for covered fairy shrimp species, particularly Riverside and vernal pool fairy shrimp. Feature E potentially performs functions such as nutrient retention and transformation, and toxicant trapping from urban/agricultural runoff.

Feature E does not appear to affect the values relating to the conservation of WRMSHCP covered species in downstream resources.

### 3.6.6 Feature F

Feature F was the backflow area of a cement box culvert and encompassed 0.04 acre. This potential seasonal pond feature was likely caused by the culvert being clogged with sediment and/or debris, thus blocking and slowing storm flows potentially resulting in a backflow pond.

Field evidence of ponding was weak and the potential for ponding was based on plant species composition and a “lighter” color soil compared to the immediate area. According to the NRCS, Feature F consists of WyC2 soils. The dominant plant species observed throughout the feature was alkali heliotrope, rancher’s fireweed (*Amsinckia intermedia*), foxtail chess, and Russian thistle. Emergent mule fat (*Baccharis salicifolia* subsp. *salicifolia*) was also present.

No WRMSHCP Section 6.1.2 Planning Species were detected within Feature F, nor did the feature support suitable habitat for LBVI, SWFL, or YBCU. If Feature F ponds, it may support suitable habitat for the covered fairy shrimp species, particularly Riverside and vernal pool fairy shrimp. Feature F potentially performs functions such as flood storage, flood flow modification, nutrient retention and transformation, sediment trapping and transport, and potentially toxicant trapping.

Feature E does not appear to affect the values relating to the conservation of WRMSHCP covered species in downstream resources.

### 3.6.7 Feature G

Feature G was the portion of the Paloma Wash Flood Control Channel within the 100 foot buffer area of the Project Site and totaled 0.27 acre. This recently constructed flood control channel was connected to the Paloma Wash just south of the Project Site and receives flows from the upstream watershed.

According to the NRCS, Feature G consists of HnC soils. The co-dominant plant species observed within the feature was smooth tarplant and shortpod mustard. Approximately 60 smooth tarplant were detected within the pedestrian survey area with 100s more observed within visual distance.

The channel did not support suitable habitat for LBVI, SWFL, or YBCU, or the covered fairy shrimp species. Feature G performs functions such as flood storage, flood flow modification, nutrient retention and transformation, sediment trapping and transport, and toxicant trapping.

The functions of Feature G likely affect the values relating to the conservation of WRMSHCP covered species in downstream resources.

## 3.7 Potential WRMSHCP Section 6.1.2 Resource Impacts

The proposed project has the potential to impact portions of Features A, B, C, and D. It avoids impacts to Features E, F, and G. If it’s confirmed by the City of Menifee as the Lead Agency, and the County of Riverside that Features A, B, C, and D do meet the criteria of a WRMSHCP Section 6.1.2 Resource, and those resources are directly impacted by the project, then a WRMSHCP *Determination of Biologically Equivalent or Superior Preservation* (DBESP) report may be required. The potential length/area impacted is presented in *Table 5 – Potential WRMSHCP Section 6.1.2 Resource Impacts* (Page 29), and those areas affected are depicted on *Figure 13 - Potential WRMSHCP Section 6.1.2 Resource Impacts* (Page 28).

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**Figure**





**Table 5 - Potential WRMSHCP Section 6.1.2 Resource Impacts**

| FEATURE | TOTAL AREA/LENGTH | POTENTIAL IMPACT | PERCENT IMPACT |
|---------|-------------------|------------------|----------------|
| A       | 1,818.89 feet     | 1,022.89 feet    | 56%            |
| B       | 0.20 acre         | 0.03 acre        | 15%            |
| C       | 0.33 acre         | 0.03 acre        | 9%             |
| D       | 0.04 acre         | 0.04 acre        | 100%           |

## 4.0 WRMSHCP SECTION 6.3.2 ADDITIONAL SURVEY NEEDS AND PROCEDURES - BURROWING OWL

### 4.1 WRMSHCP Background and Objectives

The WRMSHCP covers 146 species of plants and animals of which 40 species have specific survey requirements (Dudek & Associates, Inc., 2003). 34 of the 40 species have an associated survey area map that designates areas where surveys may be required if suitable habitat is present (Dudek & Associates, Inc., 2003). This includes the BUOW.

BUOW is covered under section 6.3.2 *Additional Survey Needs and Procedures* of the WRMSHCP. The purpose of this section is to provide coverage under the WRMSHCP for those species for which existing available information was not sufficient, and therefore, survey requirements are incorporated in the WRMSHCP to provide the level of information necessary for these species to receive coverage (Dudek & Associates, Inc., 2003). Section 6.3.2 states the following regarding locations where survey results are positive for species covered under this section:

*"For locations with positive survey results, 90% of those portions of the property that provide for long-term conservation value for the identified species shall be avoided until it is demonstrated that conservation goals for the particular species are met. Avoidance shall not be considered to be Conservation contributing to Reserve Assembly unless the avoided populations are acquired and managed as Additional Reserve Lands."* (Dudek & Associates, Inc., 2003).

The objectives for the BUOW as outlined by the WRMSHCP are presented below. These seven objectives are presented in the WRMSHCP in both Appendix E and the Burrowing Owl Species Account (Dudek & Associates, Inc., 2003).

#### ***"Objective 1***

*Include within the MSHCP Conservation Area at least 27,470 acres of suitable primary habitat for the burrowing owl including grasslands.*

#### ***Objective 2***

*Include within the MSHCP Conservation Area at least 5 Core Areas and interconnecting linkages. Core areas may include the following: (1) Lake Skinner/Diamond Valley Lake area (Existing Core C plus Proposed Extension of Existing Cores 5, 6, 7; 29,060 acres); (2) playa west of Hemet (Proposed*

*Noncontiguous Habitat Block 7; 1,250 acres); (3) San Jacinto Wildlife Area/Mystic Lake area including Lake Perris area (Existing Core H; 17,470 acres); (4) Lake Mathews (Existing Core C plus Proposed Extension of Existing Cores 2; 23,710 acres); and (5) along the Santa Ana River (9,670 acres). The Core Areas should support a combined total breeding population of approximately 120 burrowing owls with no fewer than five pairs in any one Core area.*

### **Objective 3**

*Include within the MSHCP Conservation Area at least 22,120 acres of suitable secondary habitat for the burrowing owl including playas and vernal pools, and agriculture outside of the Core Areas identified above. Areas where additional suitable habitat could be conserved include west of the Jurupa Mountains, near Temescal Wash (i.e., vicinity of Alberhill), near Temecula Creek, within the Lakeview Mountains, Banning, the Badlands, Gavilan Hills, and Quail Valley.*

### **Objective 4**

*Include within the MSHCP Conservation Area the known nesting locations of the burrowing owl at Lake Perris, Mystic Lake/San Jacinto Wildlife area, Lake Skinner area, the area around Diamond Valley Lake, playa west of Hemet, Lakeview Mountains, Lake Mathews/Estelle Mountain Reserve and Sycamore Canyon Regional Park.*

### **Objective 5**

*Surveys for burrowing owl will be conducted as part of the project review process for public and private projects within the burrowing owl survey area where suitable habitat is present (see Burrowing Owl Survey Area Map, Figure 6-4 of the MSHCP, Volume I). The locations of this species determined as a result of survey efforts shall be conserved in accordance with procedures described within Section 6.3.2, MSHCP, Volume I and the guidance provided below:*

*Burrowing owl surveys shall be conducted utilizing accepted protocols as follows. If burrowing owls are detected on the project site then the action(s) taken will be as follows:*

*If the site is within the Criteria Area, then at least 90 percent of the area with long-term conservation value will be included in the MSHCP Conservation Area. Otherwise:*

- 1. If the site contains, or is part of an area supporting less than 35 acres of suitable habitat or the survey reveals that the site and the surrounding area supports fewer than 3 pairs of burrowing owls, then the on-site burrowing owls will be passively or actively relocated following accepted protocols.*
- 2. If the site (including adjacent areas) supports three or more pairs of burrowing owls, supports greater than 35 acres of suitable habitat and is non-contiguous*

*with MSHCP Conservation Area lands, at least 90 percent of the area with long-term conservation value and burrowing owl pairs will be conserved onsite.*

*The survey and conservation requirements stated in this objective will be eliminated when it is demonstrated that Objectives 1 – 4 have been met.*

#### **Objective 6**

*Pre-construction presence/absence surveys for burrowing owl within the survey area where suitable habitat is present will be conducted for all Covered Activities through the life of the permit. Surveys will be conducted within 30 days prior to disturbance. Take of active nests will be avoided. Passive relocation (use of one way doors and collapse of burrows) will occur when owls are present outside the nesting season.*

#### **Objective 7**

*Translocation sites for the burrowing owl will be created in the MSHCP Conservation Area for the establishment of new colonies. Translocation sites will be identified, taking into consideration unoccupied habitat areas, presence of burrowing mammals to provide suitable burrow sites, existing colonies and effects to other Covered Species. Reserve Managers will consult with the Wildlife Agencies regarding site selection prior to translocation site development." (Dudek & Associates, Inc., 2003)*

## **4.2 Species Account**

The BUOW is a priority 2 California Species of Special Concern (SSC) (Gervais, 2008), and is a planning species under the WRMSHCP. In California, the BUOW is a year-round resident throughout much of the state (Gervais, 2008); however, migrants from other regions of western North America may augment resident lowland populations in winter (Gervais, 2008). Habitat for the BUOW primarily consists of open grasslands, but it also occurs in some human-altered landscapes such as agricultural environments (Gervais, 2008). Nest and roost burrows of the BUOW are most commonly dug by the California ground squirrel in California, but it will also utilize burrows and dens constructed by the American badger (*Taxidea taxus*), coyote (*Canis latrans*), and fox species (*Urocyon* sp. and *Vulpes* sp.) (Gervais, 2008).

The diet of the BUOW consists primarily of insects (i.e., centipedes, spiders, beetles, crickets, and grasshoppers) (Gervais, 2008), but it will also take small mammals, reptiles, birds, and carrion (i.e., dead flesh) (Polite, 1999). BUOW hunt from a perch, hover, hawk, dive, and hop after prey on the ground (Polite, 1999). Although insects dominate the BUOW diet numerically, recent research has suggested that in California, rodent populations, particularly those of the California vole (*Microtus californicus*), may greatly influence BUOW survival and reproductive success (Gervais, 2008).

The BUOW breeding season is typically March through August with peak breeding activity occurring in April and May (Polite, 1999). Male BUOW give courtship displays and notes in front of the burrow (Polite, 1999). Clutch size is relatively large with a range of two to ten eggs

and a mean of five to six eggs per clutch (Polite, 1999). Young BUOW emerge from the burrow at about two weeks old and are able to fly by about four weeks old (Polite, 1999).

### **4.3 Burrowing Owl Survey Protocols**

Habitat assessments and focused surveys for BUOW in the WRMSHCP Plan Area are conducted in accordance with the *Burrowing Owl Survey Instructions for the Western Riverside Multiple Species Habitat Conservation Plan Area* (Environmental Programs Department, 2006) (BUOW Survey Instructions). These instructions detail the steps necessary and the methods to be employed in order to sufficiently assess a specified location for the presence or absence of BUOW. The WRMSHCP references the California Burrowing Owl Consortium's *Burrowing Owl Survey Protocol and Mitigation Guidelines* (California Burrowing Owl Consortium, 1993), which was adopted by CDFW in 1995. On March 7, 2012, CDFW provided a revised *Staff Report on Burrowing Owl Mitigation* (California Department of Fish and Wildlife, 2012) that provides more current scientific methods. The survey methods described in the BUOW Survey Instructions and CDFW's revised staff report are similar. However, the BUOW Survey Instructions provide additional detail to ensure consistency with specific conservation requirements of the MSHCP. Surveys will be conducted with an attempt to incorporate CDFW guidance, where appropriate. The BUOW Survey Instructions are detailed below.

#### **4.3.1 Step I: Habitat Assessment**

The BUOW Survey Instructions describe Step I as follows:

*"The first step in the assessment process is to walk the property to identify the presence of burrowing owl habitat on the project site. If habitat is found on the site, then walk a 150-meter (approximately 500 feet) buffer zone around the project boundary. If permission to access the buffer area cannot be obtained, do not trespass on adjacent property but visually inspect the adjacent habitat areas with binoculars and/or spotting scopes."* (Environmental Programs Department, 2006).

If a habitat assessment reveals that BUOW habitat occurs on a site, then, in the least, a *Step II Part A: Focused Burrow Surveys* and *Pre-construction Surveys* are required. If BUOW habitat is not present, then no further surveys are required.

#### **4.3.2 Step II: Locating Burrows and Burrowing Owls**

Step II surveys consist of two parts; *Part A: Focused Burrow Surveys* and *Part B: Focused Burrowing Owl Surveys*. All Step II surveys must be conducted during the BUOW breeding season (March 1 to August 31), between the hours of one hour before sunrise and two hours after sunrise, and/or two hours before sunset and one hour after sunset. Further, Step II surveys cannot be conducted within five days of rain, during rain, high winds (>20mph), dense fog, or temperatures exceeding 90 °F.

##### **4.3.2.1 Part A: Focused Burrow Surveys**

Part A surveys are conducted in an effort to detect natural potential BUOW burrows (i.e., California ground squirrel burrows), suitable human-created structures (i.e., culverts), and/or occupied BUOW burrows. The BUOW Survey Instructions describe the methods for conducting a Part A survey and those are presented below.

"1. A systematic survey for burrows including burrowing owl sign should be conducted by walking through suitable habitat over the entire survey area (i.e. the project site and within 150 meters). Pedestrian survey transects need to be spaced to allow 100% visual coverage of the ground surface. The distance between transect center lines should be no more than 30 meters (approximately 100 ft.) and should be reduced to account for differences in terrain, vegetation density, and ground surface visibility. To efficiently survey projects larger than 100 acres, it is recommended that two or more qualified surveyors conduct concurrent surveys." (Environmental Programs Department, 2006).

"2. The location of all suitable burrowing owl habitat, potential owl burrows, burrowing owl sign, and any owls observed should be recorded and mapped, including GPS coordinates. If the survey area contains natural or man-made structures that could potentially support burrowing owls, or owls are observed during the burrow surveys, the systematic surveys should continue as prescribed in Part B. If no potential burrows are detected, no further surveys are required. A written report including photographs of the project site, location of burrowing owl habitat surveyed, location of transects, and burrow survey methods should be prepared. If the report indicates further surveys are not required, then the report should state the reason(s) why further focused burrowing owl surveys are not necessary." (Environmental Programs Department, 2006).

#### **4.3.2.2 Part B: Focused Burrowing Owl Surveys**

Part B surveys are conducted on four separate field survey dates, and the first survey may be conducted concurrent with the Part A survey. These four focused surveys are conducted to adequately determine the presence or absence of BUOW when those structures or features it inhabits, as described above, are present on a subject property. The BUOW Survey Instructions describe the methods for conducting Part B surveys and those are presented below.

"1. Upon arrival at the survey area and prior to initiating the walking surveys, surveyors using binoculars and/or spotting scopes should scan all suitable habitat, location of mapped burrows, owl sign, and owls, including perch locations to ascertain owl presence. This is particularly important if access has not been granted for adjacent areas with suitable habitat." (Environmental Programs Department, 2006).

"2. A survey for owls and owl sign should then be conducted by walking through suitable habitat over the entire project site and within the adjacent 150 m (approx. 500 feet). These "pedestrian surveys" should follow transects (i.e. Survey transects that are spaced to allow 100% visual coverage of the ground surface. The distance between transect center lines should be no more than 30 meters (approx 100 feet.) and should be reduced to account for differences in terrain, vegetation density, and ground surface visibility. To efficiently survey projects larger than 100 acres, it is recommended that two or more qualified surveyors conduct concurrent surveys.) It is important to minimize disturbance near occupied burrows during all seasons." (Environmental Programs Department, 2006).



*"3. If access is not obtained, then the area adjacent to the project site shall also be surveyed using binoculars and/or spotting scopes to determine if owls are present in areas adjacent to project site. This 150-meter buffer zone is included to fully characterize the population. If the site is determined not to be occupied, no further surveys are required until 30 days prior to grading (see Pre-construction Surveys below)." (Environmental Programs Department, 2006).*

#### **4.3.3 Reporting Requirements**

Subsequent to the completion of the proper surveys, a final report shall be submitted to the appropriate Lead Agency (i.e., City or County). The final report shall contain and discuss the necessary information (i.e., survey methods, transect widths, duration, conditions, results, etc.), and the appropriate maps (i.e., transect location map, burrow location map, etc.).

#### **4.3.4 Pre-Construction Surveys**

All subject properties containing suitable habitat and/or potential BUOW burrows and structures must conduct a Pre-Construction Survey within 30 days prior to ground disturbance. This includes sites where BUOW were determined to be absent.

#### **4.4 Soil Suitability**

The soils that comprise the Project Site were suitable for BUOW and other fossorial (i.e., burrowing) organisms.

#### **4.5 CNDDDB Query Results**

According to the results of the CNDDDB GIS query, 49 records for BUOW have been reported within five miles of the Project Site. Dates of these sightings range from 1998 to 2007. A record from June 18, 2007 reported two breeding adult BUOW within the Project Site near the western boundary (California Department of Fish and Wildlife, 2013).

#### **4.6 Field Visits**

Tim Searl conducted the *Step I: Habitat Assessment, Step II Part A: Focused Burrow Survey*, and the initial *Step II Part B: Focused Burrowing Owl Survey* on May 25, 2013. The remaining Step II Part B surveys were conducted on June 26, July 26, and August 21, 2013.

#### **4.7 Survey Methods**

The habitat assessment and focused surveys were performed according to the protocols described above. The methods employed are detailed below.

##### **4.7.1 Step I: Habitat Assessment**

Initially, the Project Site was observed from a vehicle while driving and making frequent stops (i.e., windshield survey) to observe the Project Site's general habitat conditions. Subsequent to performing the "windshield survey," a walkover of the proposed project area and 100 foot buffer pedestrian survey area was conducted. Field observations such as plant communities, vegetation height and density, topography, soil suitability, etc. were noted.

##### **4.7.2 Step II Part A: Focused Burrow Surveys**

Pedestrian surveys with transects spaced at approximately 100 feet (30 meters) were conducted to allow for 100% visual coverage of the proposed project area and 100 foot buffer pedestrian

survey area. Upon detecting a potential BUOW burrow (i.e., California ground squirrel burrow), or burrow surrogate (i.e., culvert, pipe, etc.) UTM coordinates were recorded utilizing a Trimble Juno GPS unit equipped with ArcPad 10.0. Data for each potential BUOW burrow point included total burrows or burrow surrogates observed, presence/absence of BUOW sign, and general ecological notes. Focused burrow surveys were conducted on each subsequent field investigation; however, data was only collected if the status of a particular burrow changed and/or if new burrows were detected.

#### **4.7.3 Step II Part B: Focused Burrowing Owl Surveys**

Upon arrival, the entire Project Site was scanned utilizing 10x42 binoculars and a 20-60x spotting scope. The initial scan focused on known potential BUOW burrow locations, suitable perch locations (i.e., fence posts, etc.), and areas where California ground squirrel was observed. Pedestrian surveys, at transects spaced at approximately 100 feet, were conducted on the Project Site subsequent to the initial scan. Data collected on each survey date included weather, habitat description, BUOW presence/absence, and general notes.

### **4.8 Survey Results**

The results of the habitat assessment, focused burrow survey, and focused BUOW surveys are detailed below. The pedestrian transects and vehicle route employed during surveys are depicted on *Figure 14 - Transect Location Map* (Page 36).

#### **4.8.1 Step I: Habitat Assessment**

Agricultural Land and NNG areas of the Project Site supported suitable BUOW habitat. Suitable areas comprised 84.38 acres, and are depicted on *Figure 15 – Suitable BUOW Habitat* (Page 37).

#### **4.8.2 Step II Part A: Focused Burrow Survey Results**

A total of 47 California ground squirrel burrows, and 5 burrow surrogates (i.e., metal corrugated, cement, and/or box culverts) were detected during the focused burrow survey. The number of California ground squirrel burrows detected per burrow complex ranged from a single burrow to nine. An adult BUOW was flushed from a burrow entrance located along a north-facing 2:1 manufactured slope near the southeast corner of the self-storage lot on May 25, 2013. This complex of two burrows, as depicted by *Figure 16 – Potential BUOW Burrows* (Page 38), contained sign of regular BUOW use (i.e., feathers, pellets, wash). A more detailed description of this sighting is presented in Sub-Section 4.8.3.1 below.

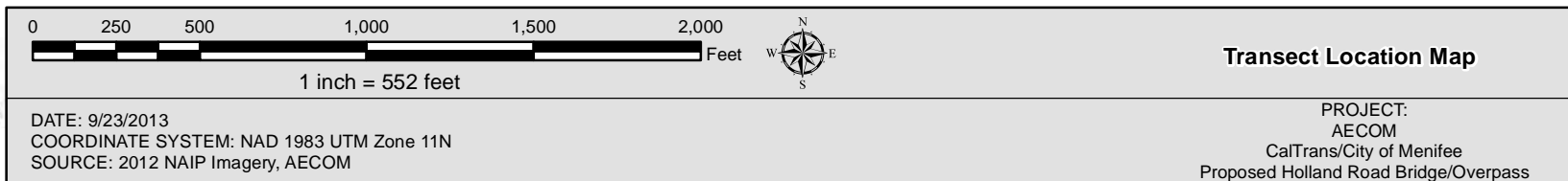
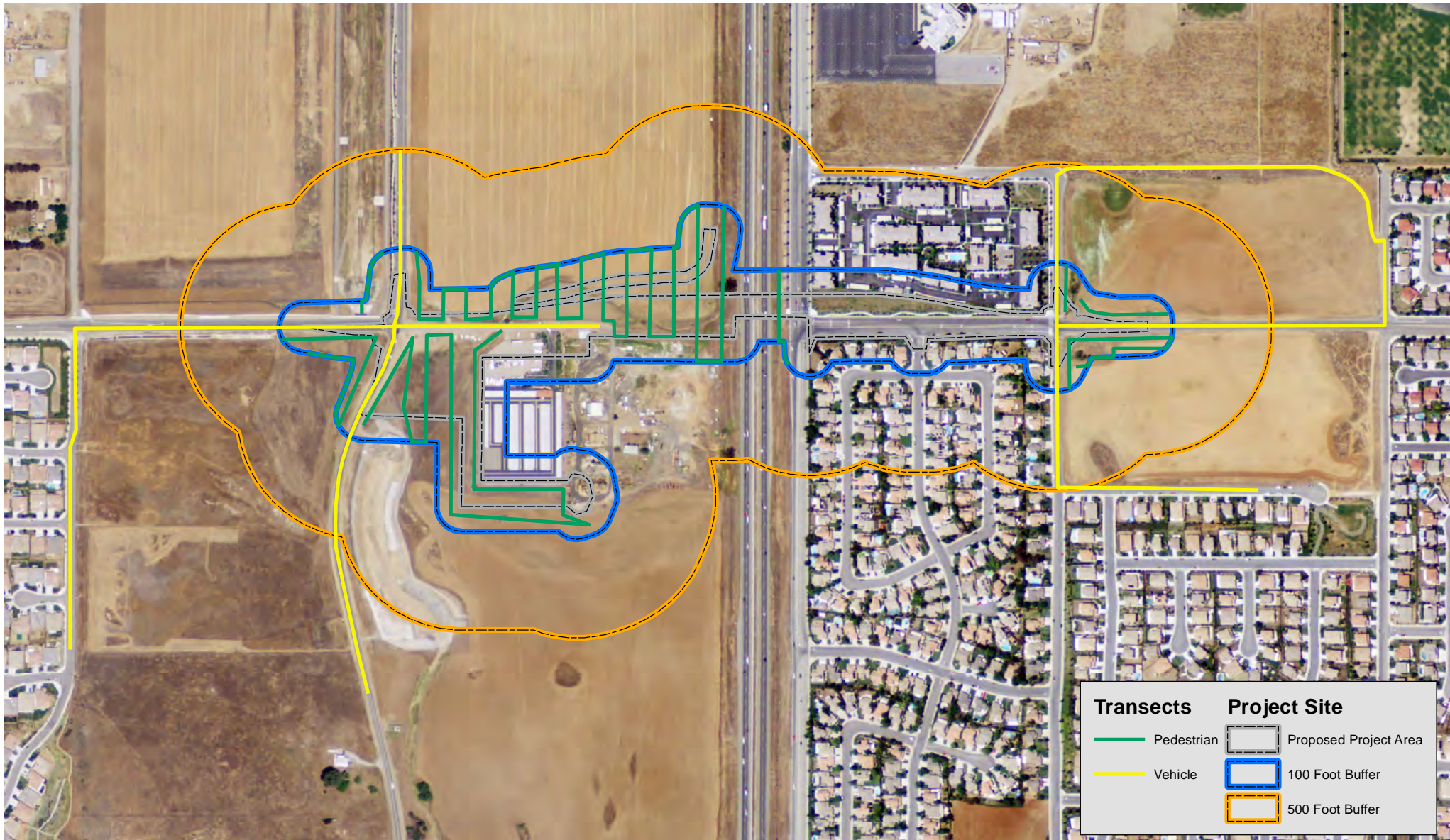
#### **4.8.3 Step II Part B: Focused Burrowing Owl Survey Results**

BUOW was observed on each of the four focused BUOW surveys at nine different locations. A total of 10 adults/adult-like plumage and five juveniles were observed over the course of the four protocol surveys. Only one of the detections occurred within the boundary of the Project Site. As depicted by *Figure 17 – BUOW Detection Locations* (Page 39), the majority of the observations occurred in a mowed NNG, vacant lot northeast of the Project Site. Representative photographs of the BUOW Detections were selected and are presented in *Figure 18 – BUOW Detection Photographs* (Page 40). Also, a CNDDDB *California Native Species Field Survey Form* was completed for each BUOW Detection and has been included as Appendix C.

A description of the BUOW detections is described below.

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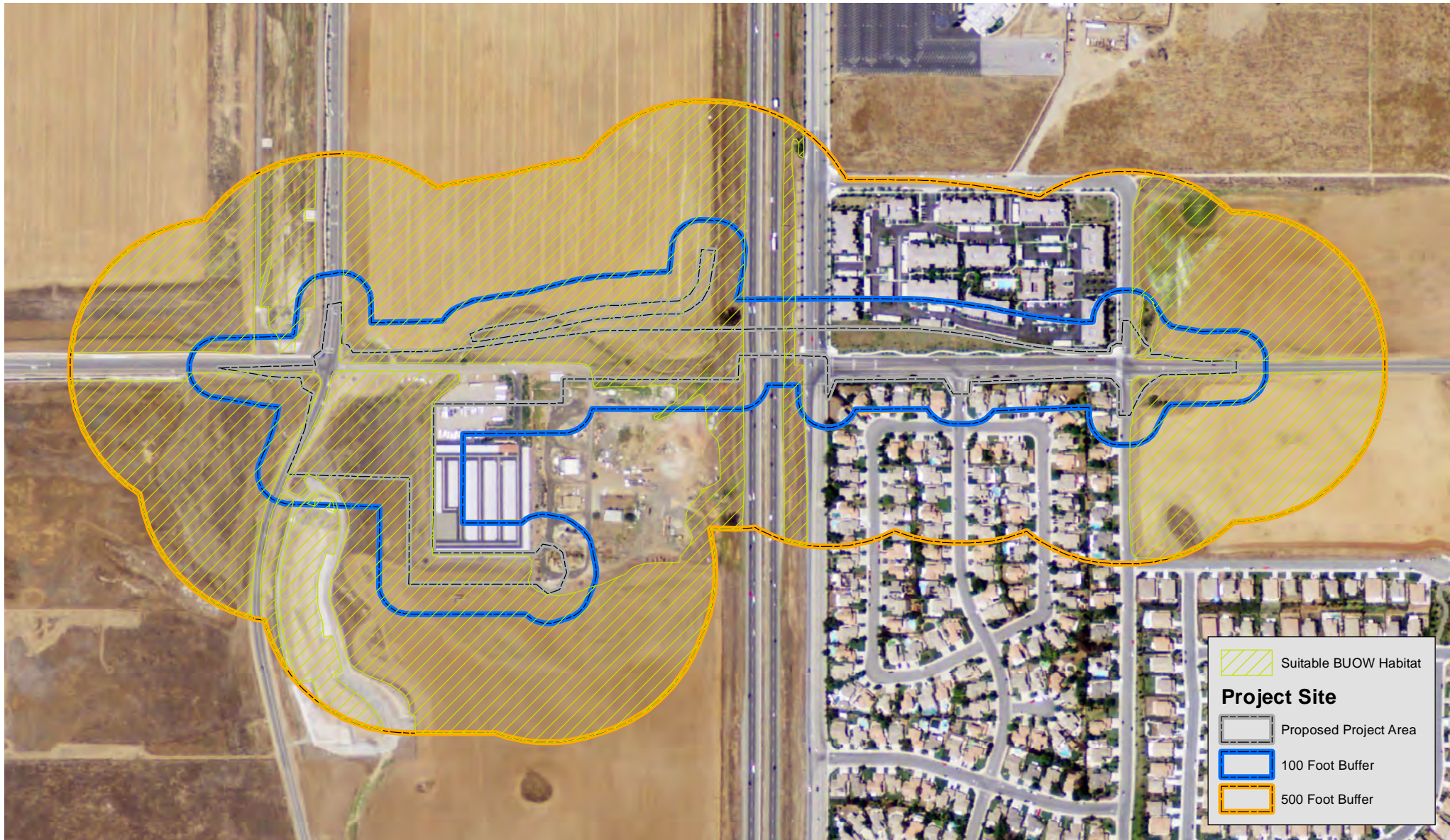




**Figure**



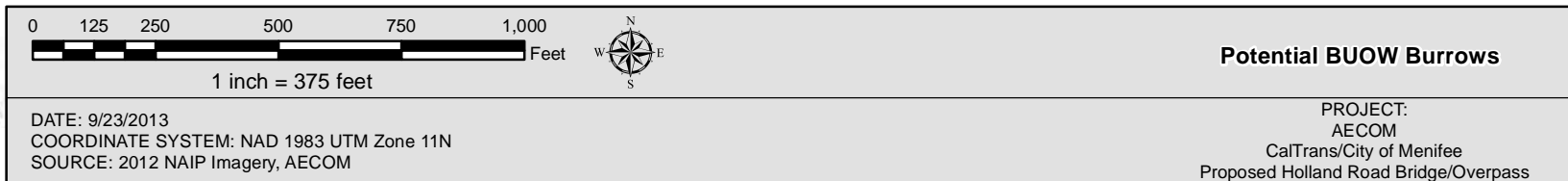
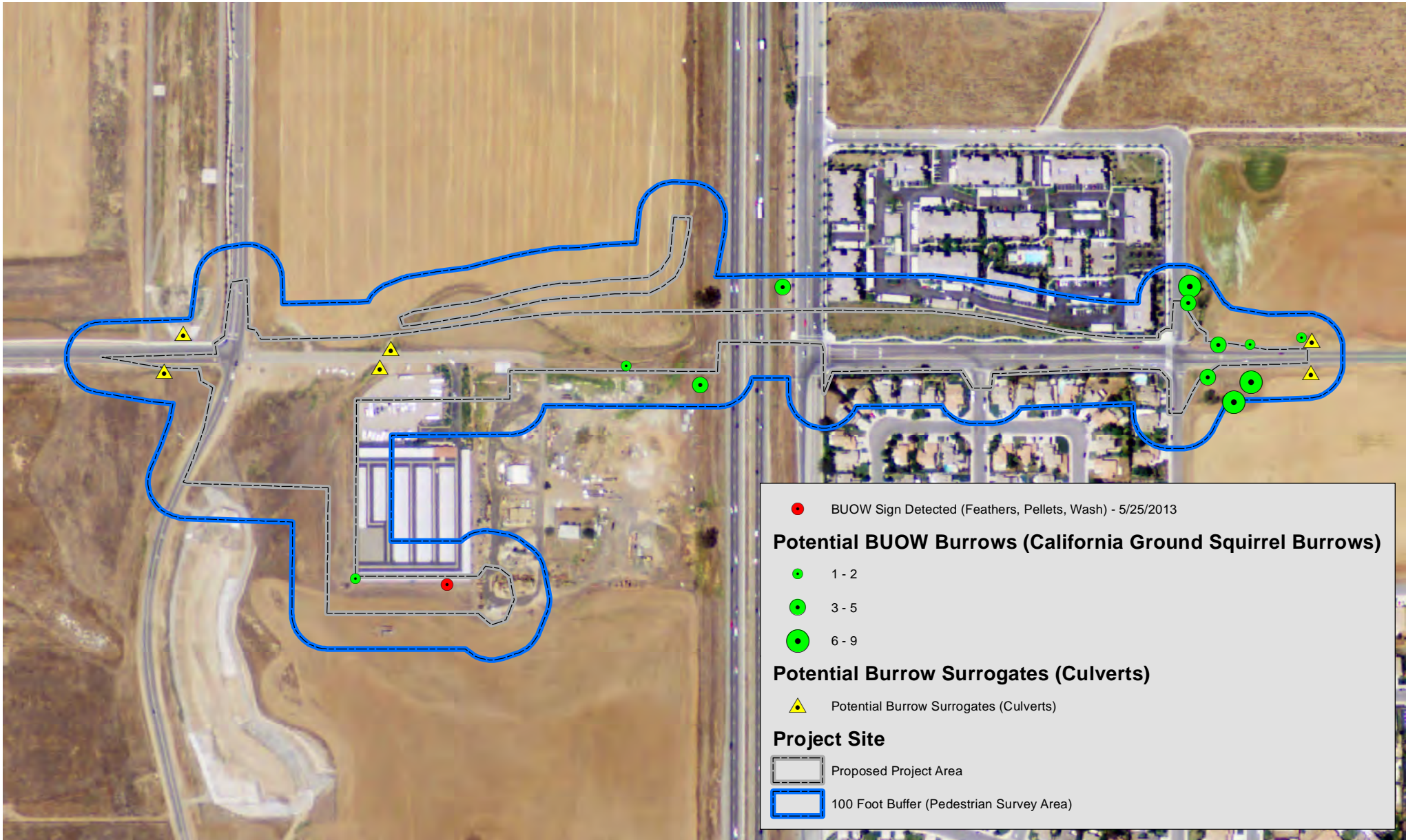




**Figure**



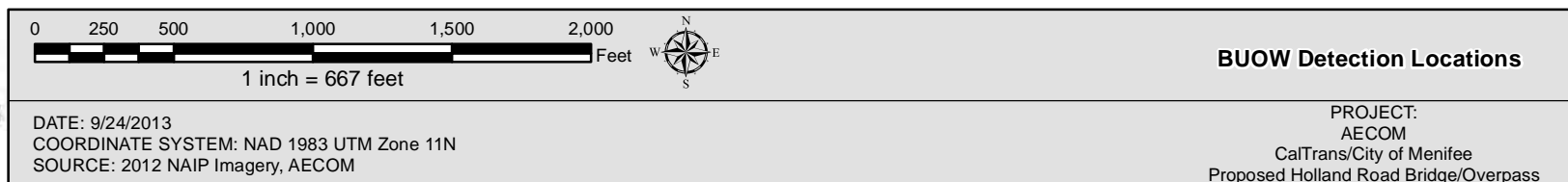
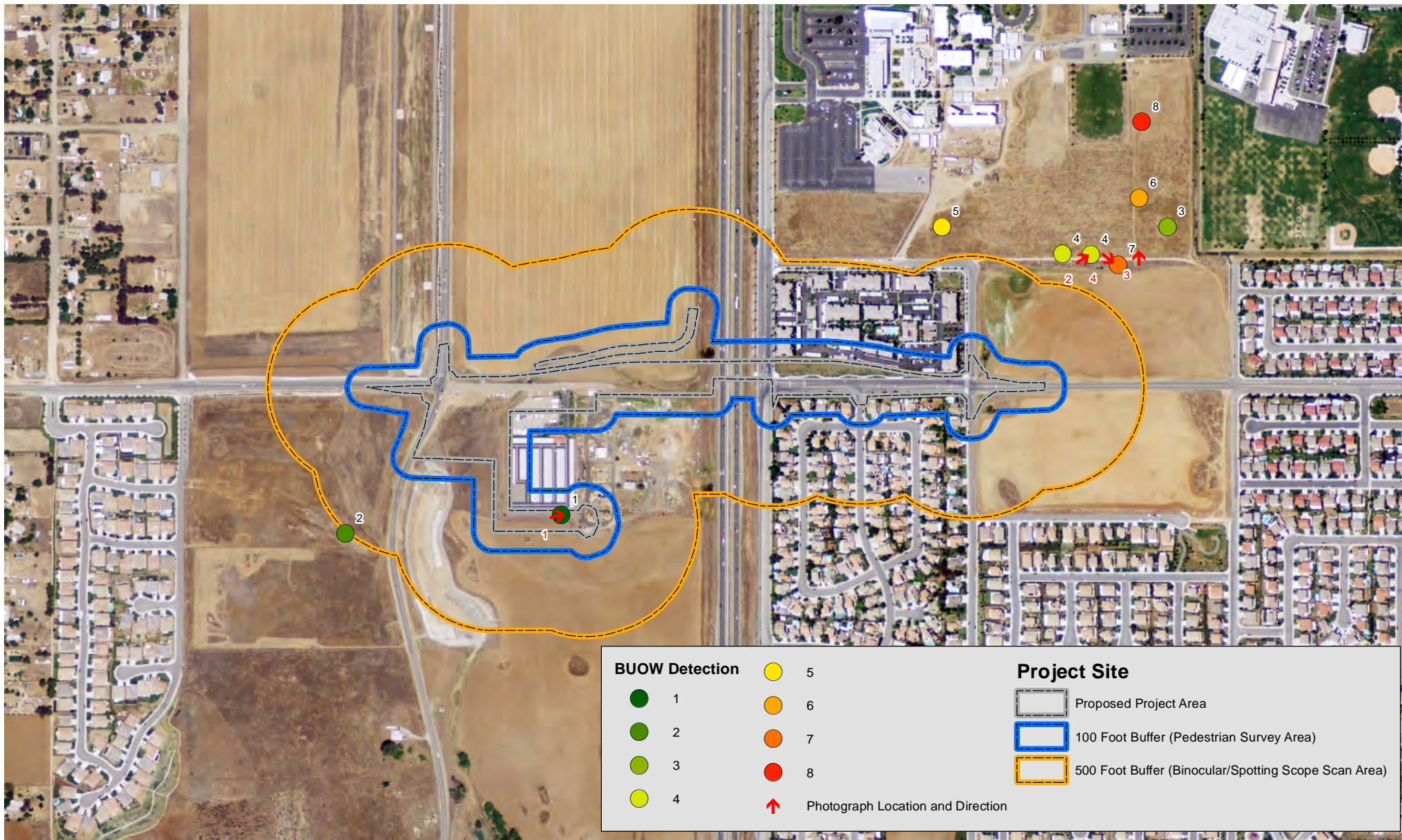




Figure







**Figure**







PHOTOGRAPH 1 - (Taken June 26, 2013) BUOW Detection 1 pile of feathers from possible predation.



PHOTOGRAPH 2 - (Taken July 26, 2013) BUOW Detection 4 adult and juvenile at burrow entrance.



PHOTOGRAPH 3 - (Taken July 26, 2013) BUOW Detection 6 family group at burrow complex.



PHOTOGRAPH 4 - (Taken August 21, 2013) BUOW Detection 7 single adult at burrow entrance.



**4.8.3.1 BUOW Detection 1**

A single adult BUOW, likely male, was flushed from a burrow entrance while performing the pedestrian survey during protocol survey 1 of 4 on May 25, 2013. It flew and perched on top of the self-storage lot's wall at the southeast corner. During protocol survey 2 of 4 on June 26, 2013, no BUOW was detected at this location. A pile of feathers and some bones were observed at the burrow entrance indicating that the BUOW had likely been preyed upon. No BUOW was observed at this location on subsequent protocol survey visits.

**4.8.3.2 BUOW Detection 2**

A single adult BUOW was observed on protocol survey 2 of 4 perched atop a large granite boulder. This rock outcrop area was located just outside the Project Site. No BUOW was observed at or near this location during the other three protocol surveys.

**4.8.3.3 BUOW Detection 3/Detection 6**

A family group of two adults and three fledglings/juveniles were observed at a burrow complex during protocol survey 2 of 4. On protocol survey 3 of 4 (July 26, 2013), no BUOW were observed at that same burrow complex; however, the same number and adult to juvenile ratio of BUOW were observed at a burrow complex at detection location 6 depicted by Figure 17. It was suspected that both detections were the same family group. During protocol survey 4 of 4 (August 21, 2013), four BUOW were observed at this location and all were showing adult-like plumage.

**4.8.3.4 BUOW Detection 4**

BUOW Detection 4 was a family group of two adults and two fledglings/juveniles. The female and two juveniles were observed at the eastern burrow entrance on protocol surveys 2 of 4 and 3 of 4, whereas the adult male was perched at a burrow approximately 145 feet to the west on these dates. No BUOW were observed at this location on protocol survey 4 of 4. Similar to BUOW Detection 1, a pile of feathers was detected near the eastern burrow entrance.

**4.8.3.5 BUOW Detection 5**

A single adult BUOW was observed at a burrow entrance during protocol survey 3 of 4. No BUOW was observed at this location during protocol surveys 1, 2, or 4.

**4.8.3.6 BUOW Detection 7**

A single adult BUOW was observed at a burrow entrance at the top of a dirt berm during the last protocol survey on August 21, 2013. This BUOW may have potentially been from the family group of BUOW Detection 4 and displaced following a potential predation event.

**4.8.3.7 BUOW Detection 8**

Two BUOW with adult-like plumage were observed perched at a burrow complex during protocol survey 4 of 4. No BUOW were detected at this location on previous protocol survey visits.



## 5.0 CEQA RARE PLANT ASSESSMENT

### 5.1 Background and Regulatory Requirements

The WRMSHCP specifically lists 63 rare plant species (i.e., Narrow Endemic and Criteria Area plant species WRMSHCP Sections 6.1.3 & 6.3.2) that through the implementation of the species-specific objectives outlined by the WRMSHCP are, or will be sufficiently covered by the WRMSHCP and thus compliant with CEQA. However, there are many special-status plant species that occur or potentially occur within the WRMSHCP Area Plan boundary that are not covered by the WRMSHCP, and therefore, are subject to the CEQA environmental review process as if there is no adopted WRMSHCP.

#### 5.1.1 CEQA Rare Plant Review Requirements

“CEQA is a law that requires public agencies to analyze and publicly disclose the environmental impacts from projects they approve, and adopt feasible alternatives and mitigation measures to mitigate for the significant impacts they identify” (California Department of Fish and Wildlife, 2013). This includes all plant species protected under the federal Endangered Species Act (ESA), California Endangered Species Act (CESA), California Native Plant Protection Act (CNPPA), and those that may meet the definition of rare or endangered under CEQA which states that a plant species is:

- *"Endangered" when its survival and reproduction in the wild are in immediate jeopardy from one or more causes, including loss of habitat, change in habitat, overexploitation, predation, competition, disease, or other factors; or*
- *"Rare" when either:*
  - *Although not presently threatened with extinction, the species is existing in such small numbers throughout all or a significant portion of its range that it may become endangered if its environment worsens; or*
  - *The species is likely to become endangered within the foreseeable future throughout all or a significant portion of its range and may be considered "threatened" as that term is used in the Federal Endangered Species Act (California Department of Fish and Wildlife - CERES, 2005).*

The CDFW's *Protocols for Surveying and Evaluating Impacts to Special Status Native Plant Populations and Natural Communities* (California Department of Fish and Wildlife, 2009) states further that a plant species meeting one of the criteria below may meet the definition of rare or endangered:

- *Species considered by the CNPS to be "rare, threatened or endangered in California" (Lists 1A, 1B and 2[A and 2B]);*
- *Species that may warrant consideration on the basis of local significance or recent biological information;*
- *Some species included on the CNDDB's Special Plants, Bryophytes, and Lichens List.*

Although not specifically described above, the CNPS “strongly recommends” that all CRPR 3 and 4 plant species “...be evaluated for consideration during preparation of environmental



documents relating to CEQA (California Native Plant Society, 2013). This is primarily based upon a plant species potentially being “locally significant.”

## **5.2 Rare Plant Assessment Protocol**

Rare plant assessments are conducted in accordance with the aforementioned *Protocols for Surveying and Evaluating Impacts to Special Status Native Plant Populations and Natural Communities* (Rare Plant Assessment Protocol). This protocol provides methods to facilitate a consistent and systematic approach so that reliable information is produced and the potential of detecting a special-status plant or natural community is maximized (California Department of Fish and Wildlife, 2009). The Rare Plant Assessment Protocol details the process by describing survey preparation, survey timing and number of visits, field methods, and reference sites. Additionally, the Rare Plant Assessment Protocol describes the reporting process.

### **5.2.1 Survey Preparation**

Survey preparation includes consulting the queries presented in Section 1.8 of this document, conducting a GIS soils analysis utilizing the NRCS soil series’ shapefile layers, and compiling a list of potential special-status species based on the information attained from the queries, GIS analysis, and a site’s potential habitat.

### **5.2.2 Survey Timing and Number of Visits**

Focused rare plant surveys are conducted to coincide with species’ blooming and/or fruiting periods. This is generally required to accurately identify potential special-status plant species. In southern California, typically the optimal time to conduct focused surveys for rare plants is throughout the spring. Often, multiple site visits are required to capture a site’s floristic diversity (California Department of Fish and Wildlife, 2009). Generally, an early, mid, and late season (i.e., March, April-May, and June) site visit are conducted.

### **5.2.3 Field Methods**

Field transects are conducted to ensure 100% visual coverage in all habitats of a site. All rare plant surveys are “floristic in nature, meaning that every plant taxon that occur onsite is identified to the taxonomic level necessary to determine rarity and listing status” (California Department of Fish and Wildlife, 2009). Many plant specimens are collected in the field and taken to the UCR Herbarium or other CCH-approved herbaria to be vouchered. This process provides evidence to confirm a plant’s identity, and to prove it was found in a particular location, thus substantially increasing the validity of the survey results.

Though not specifically described in the Rare Plant Assessment Protocol, all rare plant detections are recorded in the field utilizing a Trimble Juno GPS unit equipped with ArcPad 10.0. Either a GIS “point” or “polygon” shapefile is created depending on the extent of the rare plant detection. Data recorded for each rare plant detection mirrors that of the CNDDDB’s *California Native Species Field Survey Form*, and includes information such as total number of individual, plant phenology (i.e., vegetative, flowering, fruiting), habitat description, and site information.

### **5.2.4 Reference Sites**

Reference sites are those sites where rare plants have been documented to occur. These sites are visited prior to or concurrently while conducting focused surveys on a property to determine if a particular plant species is viable and identifiable.

### 5.3 Field Visits

The proposed project area and 100 foot pedestrian survey buffer area were surveyed for rare plants by Tim Searl on May 25 and June 26, 2013. Reference sites were visited by Tim Searl on June 10 and 11, 2013.

### 5.4 Query Results

The results of the three queries (i.e., CNDDDB, CNPS, and CCH) produced extensive lists of potential rare plants. These lists were combined and filtered to produce a list of rare plants that:

- were not covered by the WRMSHCP;
- could potentially occur on the soils present within the proposed project area and 100 foot pedestrian survey buffer area; and
- could potentially occur on the habitats present within the proposed project area and 100 foot pedestrian survey buffer area.

The resulting list of “potential CEQA rare plant species” consisted of two species; paniculate tarplant and salt spring checkerbloom (*Sidalcea neomexicana*).

### 5.5 Potential CEQA Rare Plant Species

A brief background, including the regulatory-status and life history for each species is provided below in *Table 6 – Potential CEQA Rare Plant Species* (below).

**Table 6 - Potential CEQA Rare Plant Species**

| SPECIES   | REGULATORY-STATUS   | LIFE HISTORY   |
|---|---|--|
| paniculate tarplant<br>( <i>Deinandra paniculata</i> )      | CRPR 4.2<br>This species has no formal state or federal listing status  | Paniculate tarplant is a member of the Asteraceae Family (Sunflower Family). It is an annual herb that generally occurs in dry foothills comprised of coastal sage scrub and valley and foothill grasslands. It also occurs in vernal mesic sites and disturbed areas. It blooms from April to November. (California Native Plant Society, 2013) |
| salt spring checkerbloom<br>( <i>Sidalcea neomexicana</i> ) | CRPR 2B.2<br>This species has no formal state or federal listing status | Salt spring checkerbloom is a member of the Malvaceae Family (Mallow Family). It is a perennial herb that generally occurs in alkaline mesic areas. It blooms from March to June. (California Native Plant Society, 2013)  |

### 5.6 Reference Site Visits

Four reference sites were visited on June 10 and June 11, 2013. Two of the sites were recorded locations of salt spring checkerbloom from 1966 located off of the Ramona Expressway in San Jacinto, California. These two sites were fenced and in active agriculture; therefore, the areas were not investigated.

The other two locations were located in west Hemet, CA off of California Avenue and Stetson Avenue and, according to numerous CCH records, supported an abundance of alkaline/vernal-reliant rare plant species. Although paniculate tarplant and salt spring checkerbloom were not reported at these locations, these areas were inspected to determine which annual plant species were present and viable given the extreme drought experienced during the 2012/2013 annual precipitation season. Only San Jacinto Valley crownscale (*Atriplex coronata* var. *notatior*) was detected, other rare plant species heavily reliant upon “normal” annual rainfall reported for these

locations such as California Orcutt grass (*Orcuttia californica*), little mousetail (*Myosurus minimus* subsp. *apus*), and spreading navarretia (*Navarretia fossalis*) were not observed.

Reference sites were not visited for paniculate tarplant due to the principal investigator, Tim Searl, observing this species on other sites.

The reference sites are depicted on *Figure 19 – Reference Site Locations* (Page 46).

## **5.7 Focused Survey Results**

Paniculate tarplant and smooth tarplant were detected during focused surveys. Salt spring checkerbloom, a perennial, was not observed. Although smooth tarplant was not specifically targeted given its coverage under the WRMSHCP, data was collected for each detection location. Additionally, smooth tarplant is a WRMSHCP Section 6.1.2 Planning Species, and therefore, those areas where smooth tarplant was detected that may also meet the criteria of a WRMSHCP Section 6.1.2 Resource may be afforded special consideration during the environmental review process. *Figure 20 – Rare Plant Detection Locations* (Page 47) depicts the locations of these two plant species, and the locations and direction of the photographs presented in *Figure 21*. Representative photographs of the rare plant detections were selected and are presented in *Figure 21 – Rare Plant Detection Photographs* (Page 48). A CNDDDB *California Native Species Field Survey Form* was completed for each of the rare plant detections and has been included as Appendix D.

A description of the rare plant occurrences is presented below.

### **5.7.1 Paniculate Tarplant**

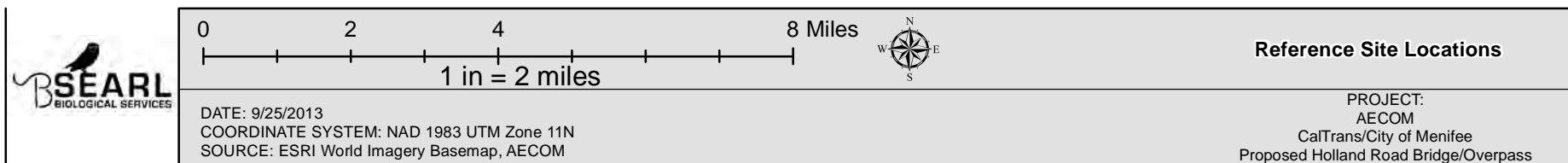
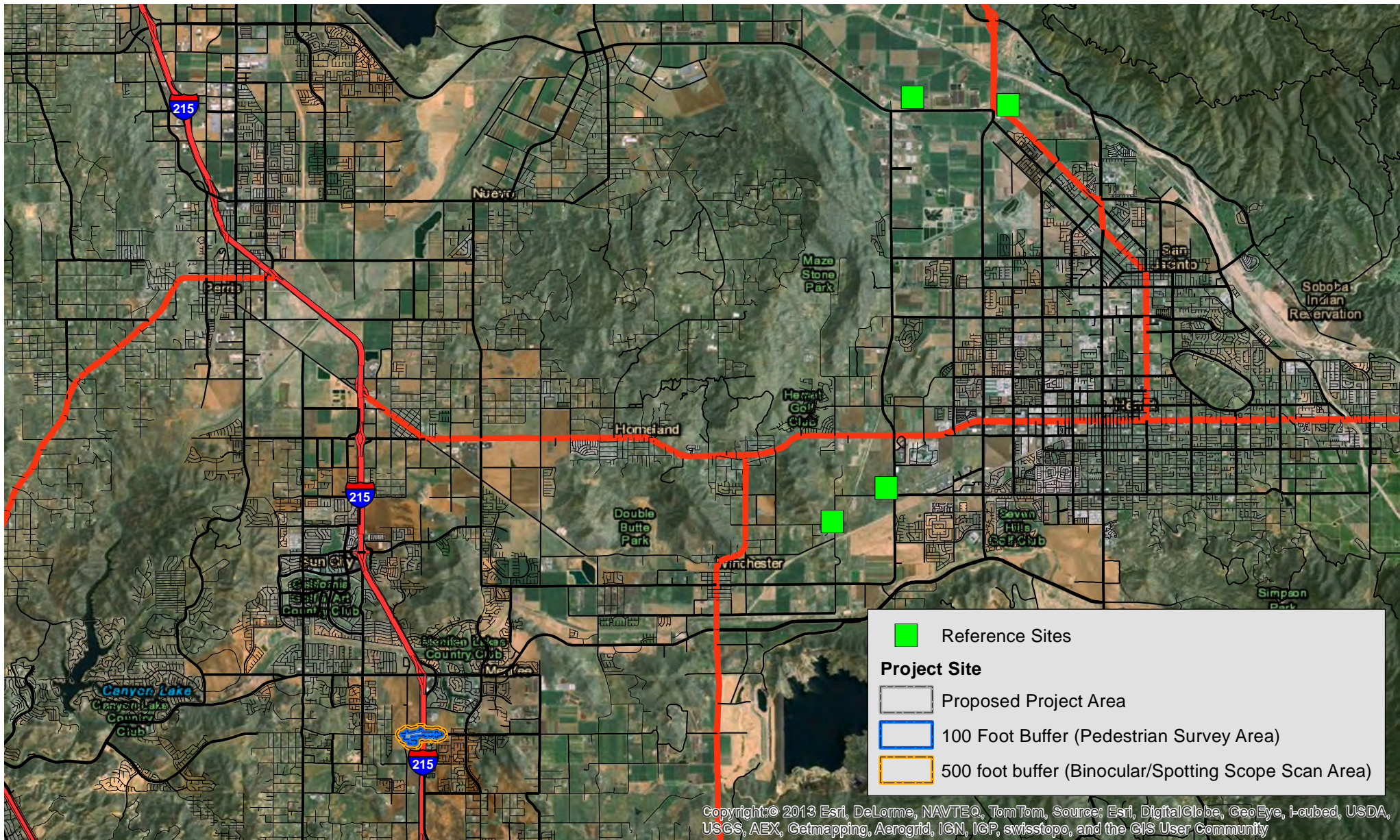
Paniculate tarplant was detected at nine different locations and was estimated to total 373 plants. NNG was the vegetation community for all the locations. Dominant plant species associated with the detection locations were similar and included species such as shortpod mustard, rancher's fireweed, horseweed, foxtail chess, common sand-aster (*Corethrogyne filaginifolia*), and redstem storksbill (*Erodium cicutarium*). Paniculate tarplant occurred on loam to sandy-loam soils (WyC2 and YbC soils according to the NRCS) in areas with a nearly flat slope.

### **5.7.2 Smooth Tarplant**

Smooth tarplant, a CRPR 1B.1, was detected at seven different locations and was estimated to total 215 individuals. Five of the detection locations with approximately 173 individuals were associated with areas that potentially meet the criteria of a WRMSHCP Section 6.1.2 Resource (i.e., Feature A, E, and G). One detection location occurred in a disturbed lot just south of the 100 foot buffer area, and was observed with 10x42 binoculars and estimated at approximately 40 plants. NNG was the vegetation community for all the locations other than the disturbed area. Dominant plant species associated with the detection locations were similar and included species such as shortpod mustard, rancher's fireweed, horseweed, foxtail chess, London rocket, and Russian thistle. Smooth tarplant occurred on loam to sandy-loam soils (HnC, WyC2, and YbC according to the NRCS) in areas with a nearly flat slope. Thousands of plants were estimated within the Paloma Wash Flood Control Channel adjacent to the area mapped within the 100 foot pedestrian survey buffer area.

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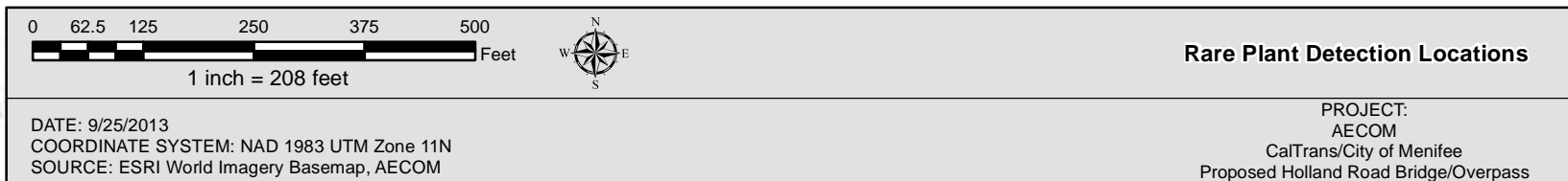
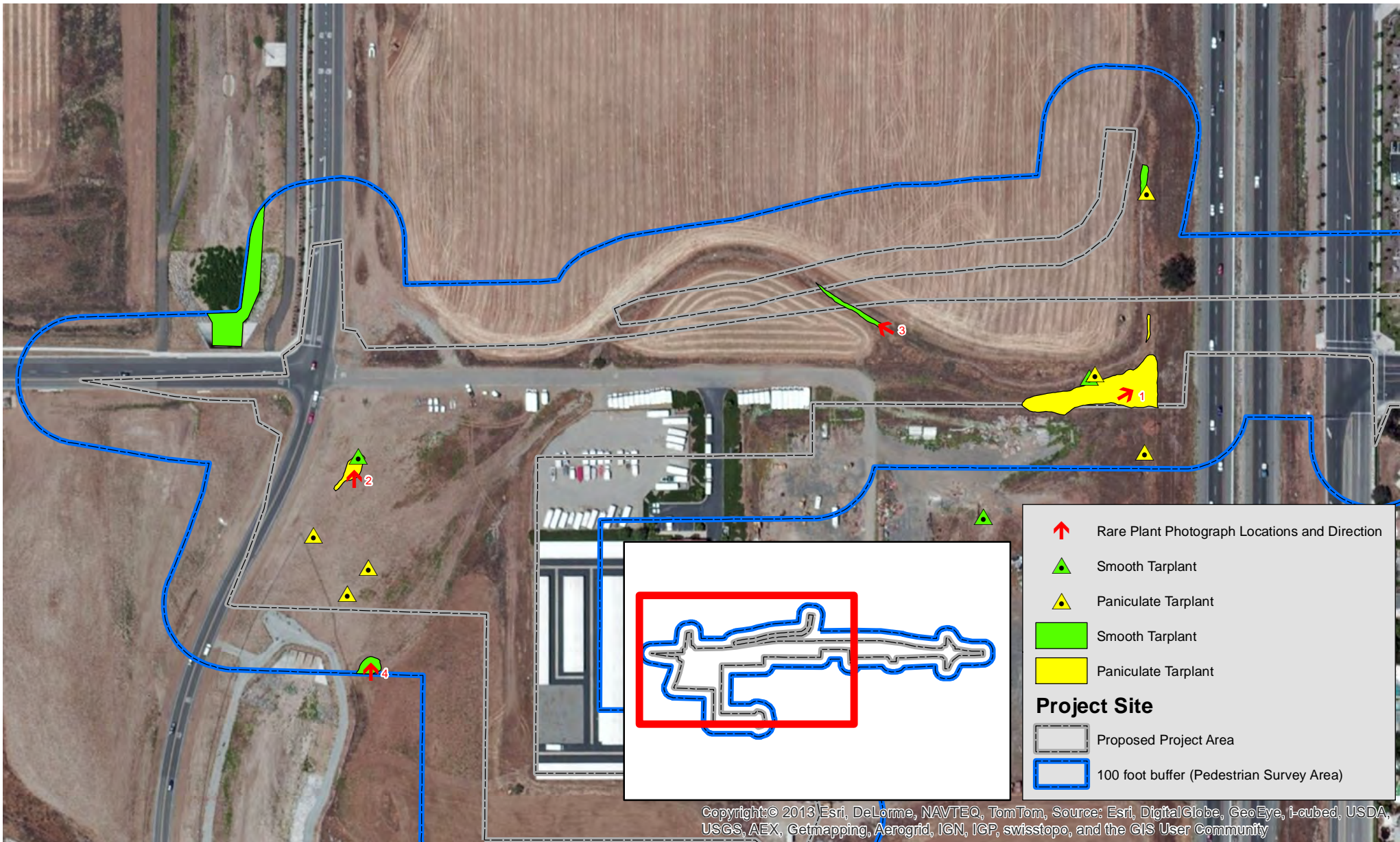




**Figure**







Figure







PHOTOGRAPH 1 - Paniculate Tarplant



PHOTOGRAPH 2 - Paniculate Tarplant



PHOTOGRAPH 3 - Smooth Tarplant located in bed of Feature A



PHOTOGRAPH 4 - Smooth Tarplant





### **5.8 Potential Rare Plant Impacts**

A total of seven paniculate tarplant locations with approximately 318 plants have the potential to be directly affected by the proposed project. A total of three smooth tarplant locations with an estimated 72 individuals have the potential to be affected by the proposed project. Two of the three smooth tarplant locations were associated with potential WRMSHCP Section 6.1.2 Resource Feature A and supported an estimated 71 plants. *Figure 22 – Potential Rare Plant Impacts* (Page 50) depicts the rare plant locations with the potential to be directly affected by the proposed project.

## **6.0 DISCUSSION AND RECOMMENDATIONS**

### **6.1 WRMSHCP Criteria Requirements**

The Project Site is not located in a Criteria Cell or Criteria Cell Group; therefore, the Project Site is not targeted as ARL.

### **6.2 Potential Section 6.1.2 Resources**

The proposed project area and 100 foot pedestrian survey buffer area support seven features that potentially meet the criteria of a WRMSHCP Section 6.1.2 Resource. This included a USGS-designated intermittent stream (“old” Paloma Wash), southern cattail wetland, the Paloma Wash Flood Control Channel, and four potential seasonal pond features. A total of four of the seven features have the potential to be directly affected by the proposed project with potential impacts totaling 1,022.89 linear feet (Feature A) and 0.10 acre (Features B, C, and D).

#### **6.2.1 Recommendations**

- It’s recommended that a qualified, U. S. Fish and Wildlife Service (USFWS)-10a permitted fairy shrimp biologist conduct an assessment of Features C, D, E, and F to conclusively determine whether these features are suitable to support fairy shrimp, and if so, to conduct protocol-level focused surveys prior to construction activities.
- If it’s determined that Features A, B, C, and D meet the criteria of a WRMSHCP Section 6.1.2 Resource, and the proposed project directly impacts these feature, then it’s recommended that a DBESP report be prepared.
- Some of the potential WRMSHCP Section 6.1.2 Resources identified onsite may be subject to other regulatory jurisdiction such as the U. S. Army Corps of Engineers (ACOE), CDFW, and/or California Regional Water Quality Control Board (RWQCB). A jurisdictional assessment should be conducted prior to construction activities.

### **6.3 Burrowing Owl**

The Project Site is situated in a high-concentration area of BUOW occupation and use. Though no BUOW occupied the area within the Project Site boundary as of the last protocol survey, these areas could potentially become occupied given the suitability of the habitat and evidenced by BUOW occupying a burrow within the Project Site until likely being preyed upon.

#### **6.3.1 Recommendations**

- A 30-day pre-construction survey is required by the WRMSHCP prior to any ground disturbance activities.

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DATE: 9/25/2013  
 COORDINATE SYSTEM: NAD 1983 UTM Zone 11N  
 SOURCE: ESRI World Imagery Basemap, AECOM

### Potential Rare Plant Impacts

PROJECT:  
 AECOM  
 CalTrans/City of Menifee  
 Proposed Holland Road Bridge/Overpass

Figure





- It's recommended, if feasible, that all construction activities occur outside of the BUOW nesting season (i.e., March 1 to August 31).
  - If construction activities must occur during the BUOW breeding season, and occupied burrows are located during the 30-day pre-construction survey, these active burrows shall have a 500 foot "no disturbance" buffer.
- If active burrows are located within a construction zone during the non-breeding season (i.e., September 1 to February 28 (29)), then these BUOW will be excluded using one-way doors and the burrows excavated following the guidelines in the WRMSHCP and *Staff Report on Burrowing Owl Mitigation* (California Department of Fish and Wildlife, 2012).
- A biological monitor, despite the time of year of construction activities, should be onsite during all construction activities.

## 6.4 CEQA Rare Plants

Paniculate tarplant (CRPR 4.2) and smooth tarplant (CRPR 1B.1) were detected over the course of the rare plant surveys. Paniculate tarplant is not a WRMSHCP Covered Species, and therefore, may potentially be subject to the CEQA review process based on the CNPS "strongly recommending" CEQA review for CRPR 4 plants.

Smooth tarplant is a WRMSHCP *Section 6.3.2 Additional Survey Needs and Procedures* Criteria Area Covered Plant Species with designated required assessment areas and species objectives. However, smooth tarplant is also a WRMSHCP Section 6.1.2 Planning Species, and therefore, those areas that meet the criteria of WRMSHCP Section 6.1.2 Resource where smooth tarplant is confirmed present may be afforded special consideration during the environmental review process.

### 6.4.1 Recommendations

- Seeds from paniculate tarplant and smooth tarplant occurring onsite should be collected and utilized in the revegetation of landscaped areas and/or unaffected natural areas where feasible.
  - If the collection of seeds from onsite plants is unfeasible, seeds of these two species should be purchased from an accredited seed collection/propagation company (i.e., S & S Seeds).
- The project proponent should participate in the mitigation, monitoring, and maintenance of the Paloma Wash Flood Control Channel to improve the habitat characteristics by seeding with the aforementioned plant species and assisting in weed abatement.

## 6.5 Other General Recommendations

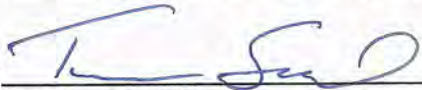
- As noted above, a biological monitor should be onsite during all construction activities.
- If project activities occur during the bird nesting season, a pre-construction nesting bird survey should be performed to avoid direct impacts to nests and thus ensure compliance with the Migratory Bird Treaty Act (MBTA).

## 6.6 WRMSHCP Consistency Determination

A project at this location would be consistent with the goals and objectives of the WRMSHCP following the recommendations above.

## 7.0 CERTIFICATION

**CERTIFICATION:** I hereby certify that the statements furnished above, the associated figures, and the attached appendices present data and information required for this biological evaluation, and that the facts, statements, and information presented are true and correct to the best of my knowledge and belief.

Date: 10/4/2013 Signed:   
Tim Searl, Biologist

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# Appendix A

## *Vascular Plants Observed*

The plants listed below were detected within the proposed project area and 100 foot pedestrian survey buffer area during field investigations conducted during spring and summer 2013. Some plants were collected in the field and taken to the UCR Herbarium to be vouchered by botanists Andrew Sanders and Teresa Salvato. Nomenclature follows *The Jepson Online Interchange* (University of California, Berkeley, 2010). Introduced species are indicated with an (I).

| SCIENTIFIC NAME  | COMMON NAME             |
|--|-------------------------|
| <b>Amaranthaceae</b>                                       | <b>Amaranth Family</b>  |
| <i>Amaranthus albus</i> (I)                                | tumbleweed              |
| <b>Asteraceae</b>  | <b>Sunflower Family</b> |
| <i>Ambrosia psilostachya</i>                               | western ragweed         |
| <i>Anthemis cotula</i> (I)                                 | mayweed                 |
| <i>Baccharis salicifolia</i> subsp. <i>salicifolia</i>     | mule fat                |
| <i>Centaurea melitensis</i> (I)                            | totalote                |
| <i>Centromadia pungens</i> ssp. <i>laevis</i> <sup>1</sup> | smooth tarplant         |
| <i>Cirsium vulgare</i> (I)                                 | bull thistle            |
| <i>Corethrogyne filaginifolia</i>                          | common sand-aster       |
| <i>Deinandra paniculata</i> <sup>2</sup>                   | paniculate tarplant     |
| <i>Erigeron canadensis</i>                                 | horseweed               |
| <i>Helianthus annuus</i>                                   | common sunflower        |
| <i>Heterotheca grandiflora</i>                             | telegraph weed          |
| <i>Lactuca serriola</i> (I)                                | prickly lettuce         |
| <i>Matricaria discoidea</i> (I)                            | pineapple weed          |
| <i>Pulicaria paludosa</i> (I)                              | Spanish false-fleabane  |
| <i>Stephanomeria exigua</i> ssp. <i>deanei</i>             | Dean's wirelettuce      |
| <b>Boraginaceae</b>  | <b>Borage Family</b>    |
| <i>Amsinckia intermedia</i>                                | rancher's fireweed      |
| <i>Heliotropium curassavicum</i> var. <i>oculatum</i>      | alkali heliotrope       |
| <b>Brassicaceae</b>  | <b>Mustard Family</b>   |
| <i>Hirschfeldia incana</i> (I)                             | shortpod mustard        |
| <i>Raphanus sativus</i> (I)                                | radish                  |
| <i>Sysimbrium irio</i> (I)                                 | London rocket           |

<sup>1</sup> CRPR 1B.1

<sup>2</sup> CRPR 4.2

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| SCIENTIFIC NAME                                    | COMMON NAME                    |
|--|--------------------------------|
| <b>Chenopodiaceae</b>                              | <b>Goosefoot Family</b>        |
| <i>Atriplex suberecta</i> (I)                      | sprawling saltbush             |
| <i>Chenopodium album</i> (I)                       | lamb's quarters                |
| <i>Salsola tragus</i> (I)                          | tumbleweed                     |
| <b>Convolvulaceae</b>                              | <b>Morning-Glory Family</b>    |
| <i>Calystegia macrostegia</i>                      | morning glory                  |
| <b>Cyperaceae</b>                                  | <b>Sedge Family</b>            |
| <i>Cyperus eragrostis</i>                          | tall flat-sedge                |
| <b>Euphorbiaceae</b>                               | <b>Spurge Family</b>           |
| <i>Euphorbia albomarginata</i>                     | rattlesnake weed               |
| <b>Fabaceae</b>                                    | <b>Legume Family</b>           |
| <i>Acmispon americanus</i>                         | Spanish clover                 |
| <i>Melilotus albus</i> (I)                         | white sweetclover              |
| <b>Geraniaceae</b>                                 | <b>Geranium Family</b>         |
| <i>Erodium botrys</i> (I)                          | storksbill                     |
| <i>Erodium cicutarium</i> (I)                      | redstem storksbill             |
| <b>Malvaceae</b>                                   | <b>Mallow Family</b>           |
| <i>Malva parviflora</i> (I)                        | cheeseweed                     |
| <i>Malvella leprosa</i>                            | alkali mallow                  |
| <b>Myrsinaceae</b>                                 | <b>Myrsine Family</b>          |
| <i>Anagallis arvensis</i> (I)                      | scarlet pimpernel              |
| <b>Myrtaceae</b>                                   | <b>Myrtle Family</b>           |
| <i>Eucalyptus</i> spp. (I)                         | gum tree                       |
| <b>Onagraceae</b>                                  | <b>Evening-Primrose Family</b> |
| <i>Epilobium brachycarpum</i>                      | tall annual willow-herb        |
| <i>Epilobium ciliatum</i>                          | ciliate willow-herb            |
| <b>Poaceae</b>                                     | <b>Grass Family</b>            |
| <i>Bromus diandrus</i> (I)                         | ripgut grass                   |
| <i>Bromus hordeaceus</i> (I)                       | soft chess                     |
| <i>Bromus madritensis</i> subsp. <i>rubens</i> (I) | foxtail chess                  |
| <i>Bromus tectorum</i> (I)                         | cheatgrass                     |
| <i>Digitaria</i> spp. (I)                          | crab grass                     |
| <i>Festuca myuros</i> (I)                          | rattail sixweeks grass         |
| <i>Hordeum murinum</i> (I)                         | bulbous barley                 |



| SCIENTIFIC NAME                    | COMMON NAME              |
|------------------------------------|--------------------------|
| <i>Muhlenbergia rigens</i>         | deer grass               |
| <i>Polypogon monspeliensis</i> (I) | rabbitfoot grass         |
| <b>Polygonaceae</b>                | <b>Buckwheat Family</b>  |
| <i>Eriogonum fasciculatum</i>      | California buckwheat     |
| <i>Rumex crispus</i> (I)           | curly dock               |
| <b>Salicaceae</b>                  | <b>Willow Family</b>     |
| <i>Populus fremontii</i>           | Fremont cottonwood       |
| <i>Salix gooddingii</i>            | black willow             |
| <b>Solanaceae</b>                  | <b>Nightshade Family</b> |
| <i>Datura wrightii</i>             | Jimson weed              |
| <i>Nicotiana glauca</i> (I)        | tree tobacco             |
| <i>Nicotiana quadrivalvis</i>      | large-flowered tobacco   |
| <b>Tamaricaceae</b>                | <b>Tamarisk Family</b>   |
| <i>Tamarix ramosissima</i> (I)     | salt cedar               |
| <b>Typhaceae</b>                   | <b>Cattail Family</b>    |
| <i>Typha domingensis</i>           | southern cattail         |
| <b>Zygophyllaceae</b>              | <b>Caltrop Family</b>    |
| <i>Tribulus terrestris</i> (I)     | puncture vine            |

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# Appendix B

## Wildlife Observed

### Birds

The bird species/subspecies listed below were detected either on, or near the Project Site during field investigations conducted during the spring and summer 2013. The list below is presented in taxonomic order. The Order (i.e., Accipitriformes), Family (i.e., Accipitridae), Scientific Name (i.e., *Buteo jamaicensis*), and Common Name (i.e., Red-tailed Hawk) nomenclature follow the *Official California Checklist by the California Bird Records Committee* (California Birds Record Committee, 2013), and The American Ornithologists' Union (AOU) *Check-list of North American Birds* (The American Ornithologists' Union, 2013). Introduced species are indicated with an (I).

| SCIENTIFIC NAME  | COMMON NAME     |
|--|-----------------|
| <b>Accipitriformes - Hawks, Kites, Eagles and Allies</b>     |                 |
| <b>Accipitridae - Hawks, Kites, Eagles and Allies</b>        |                 |
| <i>Buteo jamaicensis</i>                                     | Red-tailed Hawk |
| <b>Charadriiformes - Shorebirds, Gulls, Auks, and Allies</b> |                 |
| <b>Charadriidae - Lapwings and Plovers</b>                   |                 |
| <i>Charadrius vociferus</i>                                  | Killdeer        |
| <b>Columbiformes - Pigeons and Doves</b>                     |                 |
| <b>Columbidae - Pigeons and Doves</b>                        |                 |
| <i>Columba livia</i> (I)                                     | Rock Pigeon     |
| <i>Zenaida macroura</i>                                      | Mourning Dove   |

| SCIENTIFIC NAME                                | COMMON NAME            |
|--|------------------------|
| <b>Strigiformes - Owls</b>                     |                        |
| <b>Strigidae - Typical Owls</b>                |                        |
| <i>Athene cunicularia</i> <sup>1</sup>         | Burrowing Owl          |
| <b>Falconiformes - Caracaras and Falcons</b>   |                        |
| <b>Falconidae - Caracaras and Falcons</b>      |                        |
| <i>Falco sparverius</i>                        | American Kestrel       |
| <b>Passeriformes - Passerine Birds</b>         |                        |
| <b>Tyrannidae - Tyrant Flycatchers</b>         |                        |
| <i>Sayornis nigricans</i>                      | Black Phoebe           |
| <i>Sayornis saya</i>                           | Say's Phoebe           |
| <i>Tyrannus vociferans</i>                     | Cassin's Kingbird      |
| <i>Tyrannus verticalis</i>                     | Western Kingbird       |
| <b>Corvidae - Crows and Jays</b>               |                        |
| <i>Corvus corax</i>                            | Common Raven           |
| <b>Alaudidae - Larks</b>                       |                        |
| <i>Eremophila alpestris actia</i> <sup>2</sup> | California Horned Lark |
| <b>Hirundinidae - Swallows</b>                 |                        |
| <i>Petrochelidon pyrrhonota</i>                | Cliff Swallow          |
| <i>Hirundo rustica</i>                         | Barn Swallow           |
| <b>Mimidae - Mockingbirds and Thrashers</b>    |                        |
| <i>Mimus polyglottos</i>                       | Northern Mockingbird   |
| <b>Sturnidae - Starlings</b>                   |                        |
| <i>Sturnus vulgaris</i> (I)                    | European Starling      |

<sup>1</sup> CDFW Species of Special Concern (SSC)<sup>2</sup> CDFW Watch List Bird Species (WL)



| SCIENTIFIC NAME                        | COMMON NAME         |
|--|---------------------|
| <b>Parulidae - Wood-Warblers</b>       |                     |
| <i>Geothlypis trichas</i>              | Common Yellowthroat |
| <b>Icteridae - Blackbirds</b>          |                     |
| <i>Sturnella neglecta</i>              | Western Meadowlark  |
| <i>Euphagus cyanocephalus</i>          | Brewer's Blackbird  |
| <b>Passeridae – Old World Sparrows</b> |                     |
| <i>Passer domesticus</i> (I)           | House Sparrow       |

## Mammals

The mammals listed below were observed on or near the Project Site through sign and/or physical sightings during field investigations conducted in spring and summer 2013. The list below is presented in taxonomic order. The Order (i.e., Rodentia), Family (i.e., Sciuridae), Scientific Name (i.e., *Spermophilus beecheyi*), and Common Name (i.e., California ground squirrel) nomenclature follow *Wilson & Reeder's Mammal Species of the World* (Wilson, et al., 2005).

| SCIENTIFIC NAME                               | COMMON NAME                |
|---|----------------------------|
| <b>Rodentia - Rodents</b>                     |                            |
| <b>Sciuridae - Squirrels</b>                  |                            |
| <i>Spermophilus beecheyi</i>                  | California ground squirrel |
| <b>Geomyidae - Pocket Gophers</b>             |                            |
| <i>Thomomys bottae</i>                        | Botta's pocket gopher      |
| <b>Lagomorpha - Hares, Pikas, and Rabbits</b> |                            |
| <b>Leporidae - Hares and Rabbits</b>          |                            |
| <i>Sylvilagus audubonii</i>                   | desert cottontail          |

## Reptiles

The reptiles listed below were observed on or near the Project Site during field surveys conducted in the spring and summer 2013. The Order (i.e., Squamata), Family (i.e., Phrynosomatidae), Scientific Name (i.e., *Uta stansburiana elegans*), and Common Name (i.e., Western Side-blotched Lizard) nomenclature follow the *Scientific and Standard English Names of Amphibians and Reptiles of North America North of Mexico* (de Quieroz, et al., 2008).

| SCIENTIFIC NAME                                       | COMMON NAME                  |
|---|------------------------------|
| <b>Squamata - Lizards and Snakes</b>                  |                              |
| <b>Phrynosomatidae - North American Spiny Lizards</b> |                              |
| <i>Uta stansburiana elegans</i>                       | Western Side-blotched Lizard |

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# Appendix C

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*CNDDB California Native Species Field Survey Forms – Burrowing Owl*



For Office Use Only

Source Code \_\_\_\_\_ Quad Code \_\_\_\_\_  
Elm Code \_\_\_\_\_ Occ. No. \_\_\_\_\_  
EO Index No. \_\_\_\_\_ Map Index No. \_\_\_\_\_

Date of Field Work (mm/dd/yyyy): 05/25/2013

Reset

California Native Species Field Survey Form

Send Form

Scientific Name: *Athene cunicularia*

Common Name: Burrowing Owl

Species Found? ☒ Yes ☐ No If not, why? \_\_\_\_\_

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

Is this an existing NDDDB occurrence? ☒ no ☐ unk.  
Yes, Occ. # \_\_\_\_\_

Collection? If yes: \_\_\_\_\_  
Number Museum / Herbarium

Reporter: Tim Searl (Searl Biological Services)

Address: 5834 Nectar Ave.

Hemet, CA 92544

E-mail Address: tsearl@searlbio.com

Phone: (951) 805-2028

Plant Information

Phenology: \_\_\_\_\_% vegetative \_\_\_\_\_% flowering \_\_\_\_\_% fruiting

Animal Information

1  
# adults # juveniles # larvae # egg masses # unknown  
☐ wintering ☐ breeding ☐ nesting ☐ rookery ☒ burrow site ☐ other

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

County: Riverside Landowner / Mgr.: Private

Quad Name: Romoland Elevation: 1440 feet

T<sub>6s</sub> R<sub>3w</sub> Sec 10, NE ¼ of NE ¼, Meridian: H ☐ M ☐ S ☒ Source of Coordinates (GPS, topo. map & type): ArcMap 10

T \_\_\_\_\_ R \_\_\_\_\_ Sec \_\_\_\_\_, \_\_\_\_\_ ¼ of \_\_\_\_\_ ¼, Meridian: H ☐ M ☐ S ☐ GPS Make & Model N/A

DATUM: NAD27 ☐ NAD83 ☒ WGS84 ☐ Horizontal Accuracy N/A \_\_\_\_\_ meters/feet

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

Coordinates: 483894E, 3725435N

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

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

Habitat was sparse, non-native annual grassland with the burrow site located near the top of a 2:1 manufactured dirt slope. A single adult BUOW, likely male, was flushed from a burrow entrance while performing transects during protocol survey 1 of 4 on May 25, 2013. It flew and perched on top of a self-storage lot's wall at the southeast corner. During protocol survey 2 of 4 on June 26, 2013, no BUOW was detected at this location. A pile of feathers and some bones were observed at the burrow entrance indicating that the BUOW had likely been preyed upon. No BUOW was observed at this location on subsequent protocol survey visits.

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

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

Immediate AND surrounding land use: Vacant lot, agriculture, commercial, and major roadways (i.e., Interstate 215)

Visible disturbances: Area is on the edge of an agricultural field and commercial lot that is both mowed and disked for weed abatement.

Threats: Weed abatement, vehicle strikes, domestic dogs/cats

Comments: BUOW was preyed upon by an unknown predator.

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

- ☐ Keyed (cite reference): \_\_\_\_\_  
☐ Compared with specimen housed at: \_\_\_\_\_  
☐ Compared with photo / drawing in: \_\_\_\_\_  
☐ By another person (name): \_\_\_\_\_  
☒ Other: Sight ID

Photographs: (check one or more)

|                    | Slide                    | Print                    | Digital                             |
|--------------------|--------------------------|--------------------------|-------------------------------------|
| Plant / animal     | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/>            |
| Habitat            | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| Diagnostic feature | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/>            |

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

For Office Use Only

Source Code \_\_\_\_\_ Quad Code \_\_\_\_\_  
Elm Code \_\_\_\_\_ Occ. No. \_\_\_\_\_  
EO Index No. \_\_\_\_\_ Map Index No. \_\_\_\_\_

Date of Field Work (mm/dd/yyyy): 06/26/2013

Reset

California Native Species Field Survey Form

Send Form

Scientific Name: *Athene cunicularia*

Common Name: Burrowing Owl

Species Found? ☒ Yes ☐ No If not, why? \_\_\_\_\_

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

Is this an existing NDDDB occurrence? ☒ no ☐ unk.  
Yes, Occ. # \_\_\_\_\_

Collection? If yes: \_\_\_\_\_  
Number Museum / Herbarium

Reporter: Tim Searl (Searl Biological Services)

Address: 5834 Nectar Ave.

Hemet, CA 92544

E-mail Address: tsearl@searlbio.com

Phone: (951) 805-2028

Plant Information

Phenology: \_\_\_\_\_% vegetative \_\_\_\_\_% flowering \_\_\_\_\_% fruiting

Animal Information

1  
# adults # juveniles # larvae # egg masses # unknown  
☐ wintering ☐ breeding ☐ nesting ☐ rookery ☐ burrow site ☒ other

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

County: Riverside Landowner / Mgr.: Private

Quad Name: Romoland Elevation: 1440 feet

T<sub>6s</sub> R<sub>3w</sub> Sec 10, NW ¼ of NE ¼, Meridian: H ☐ M ☐ S ☒ Source of Coordinates (GPS, topo. map & type): ArcMap 10

T \_\_\_\_\_ R \_\_\_\_\_ Sec \_\_\_\_\_, \_\_\_\_\_ ¼ of \_\_\_\_\_ ¼, Meridian: H ☐ M ☐ S ☐ GPS Make & Model N/A

DATUM: NAD27 ☐ NAD83 ☒ WGS84 ☐ Horizontal Accuracy N/A \_\_\_\_\_ meters/feet

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

Coordinates: 483562E, 3725407N

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

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

Habitat was a granite rock outcrop with sparse, non-native annual grassland comprising the immediate surrounding area. A single adult BUOW was observed on protocol survey 2 of 4 perched atop a large granite boulder. No BUOW was observed at or near this location during the other three protocol surveys.

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

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

Immediate AND surrounding land use: Vacant lot, agriculture, commercial, residential and major roadways (i.e., Haun Road)

Visible disturbances: Immediate area around the rock outcrop is maintained for weed abatement.

Threats: Weed abatement, vehicle strikes, domestic dogs/cats

Comments:

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

- ☐ Keyed (cite reference): \_\_\_\_\_  
☐ Compared with specimen housed at: \_\_\_\_\_  
☐ Compared with photo / drawing in: \_\_\_\_\_  
☐ By another person (name): \_\_\_\_\_  
☐ Other: Sight ID

Photographs: (check one or more)

|                    | Slide                    | Print                    | Digital                  |
|--------------------|--------------------------|--------------------------|--------------------------|
| Plant / animal     | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Habitat            | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Diagnostic feature | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |

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

For Office Use Only

Source Code \_\_\_\_\_ Quad Code \_\_\_\_\_  
Elm Code \_\_\_\_\_ Occ. No. \_\_\_\_\_  
EO Index No. \_\_\_\_\_ Map Index No. \_\_\_\_\_

Date of Field Work (mm/dd/yyyy): 08/21/2013

Reset

California Native Species Field Survey Form

Send Form

Scientific Name: *Athene cunicularia*

Common Name: Burrowing Owl

Species Found? ☒ Yes ☐ No If not, why? \_\_\_\_\_  
Total No. Individuals 5 Subsequent Visit? ☒ yes ☐ no  
Is this an existing NDDDB occurrence? ☒ no ☐ unk.  
Yes, Occ. # \_\_\_\_\_  
Collection? If yes: \_\_\_\_\_  
Number \_\_\_\_\_ Museum / Herbarium \_\_\_\_\_

Reporter: Tim Searl (Searl Biological Services)

Address: 5834 Nectar Ave.

Hemet, CA 92544

E-mail Address: tsearl@searlbio.com

Phone: (951) 805-2028

Plant Information

Phenology: \_\_\_\_\_% vegetative \_\_\_\_\_% flowering \_\_\_\_\_% fruiting

Animal Information

# adults 2 # juveniles 3 # larvae \_\_\_\_\_ # egg masses \_\_\_\_\_ # unknown \_\_\_\_\_  
☐ wintering ☐ breeding ☒ nesting ☐ rookery ☒ burrow site ☐ other

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

County: Riverside Landowner / Mgr.: Private  
Quad Name: Romoland Elevation: 1440 feet  
T<sub>6s</sub> R<sub>3w</sub> Sec 2, SE ¼ of SW ¼, Meridian: H ☐ M ☐ S ☒ Source of Coordinates (GPS, topo. map & type): ArcMap 10  
T \_\_\_\_\_ R \_\_\_\_\_ Sec \_\_\_\_\_, \_\_\_\_\_ ¼ of \_\_\_\_\_ ¼, Meridian: H ☐ M ☐ S ☐ GPS Make & Model N/A  
DATUM: NAD27 ☐ NAD83 ☒ WGS84 ☐ Horizontal Accuracy N/A \_\_\_\_\_ meters/feet  
Coordinate System: UTM Zone 10 ☐ UTM Zone 11 ☒ OR Geographic (Latitude & Longitude) ☐  
Coordinates: (A) 484826E, 3725878N  
(B) 484782E, 3725922N

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

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

Habitat was a mowed non-native annual grassland. A family group of two adults and three fledglings/juveniles were observed at a burrow complex (A) during protocol survey 2 of 4 (June 26, 2013). On protocol survey 3 of 4 (July 26, 2013), no BUOW were observed at that same burrow complex; however, the same number and adult to juvenile ratio of BUOW were observed at a burrow complex (B) approximately 200 feet to the northwest. It was suspected that both detections were the same family group. During protocol survey 4 of 4 (August 21, 2013), four BUOW were observed at this location and all were showing adult-like plumage.

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

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

Immediate AND surrounding land use: Vacant lot, agriculture, commercial, and residential.

Visible disturbances: Area is mowed for weed abatement purposes. Tire tracks were observed indicating some off-road vehicle use.

Threats: Weed abatement, vehicle strikes, domestic dogs/cats

Comments: This mowed field supported numerous BUOW with a total of 13 (8 adults/5 juveniles) observed. Separate CNDDDB field forms have been submitted.

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

- ☐ Keyed (cite reference): \_\_\_\_\_  
☐ Compared with specimen housed at: \_\_\_\_\_  
☐ Compared with photo / drawing in: \_\_\_\_\_  
☐ By another person (name): \_\_\_\_\_  
☐ Other: Sight ID

Photographs: (check one or more)

|                    | Slide                    | Print                    | Digital                             |
|--------------------|--------------------------|--------------------------|-------------------------------------|
| Plant / animal     | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| Habitat            | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| Diagnostic feature | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/>            |

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

For Office Use Only

Source Code \_\_\_\_\_ Quad Code \_\_\_\_\_  
Elm Code \_\_\_\_\_ Occ. No. \_\_\_\_\_  
EO Index No. \_\_\_\_\_ Map Index No. \_\_\_\_\_

Date of Field Work (mm/dd/yyyy): 07/26/2013

Reset

California Native Species Field Survey Form

Send Form

Scientific Name: *Athene cunicularia*

Common Name: Burrowing Owl

Species Found? ☒ Yes ☐ No If not, why? \_\_\_\_\_

Total No. Individuals 4 Subsequent Visit? ☒ yes ☐ no

Is this an existing NDDDB occurrence? ☒ no ☐ unk.  
Yes, Occ. # \_\_\_\_\_

Collection? If yes: \_\_\_\_\_  
Number \_\_\_\_\_ Museum / Herbarium \_\_\_\_\_

Reporter: Tim Searl (Searl Biological Services)

Address: 5834 Nectar Ave.

Hemet, CA 92544

E-mail Address: tsearl@searlbio.com

Phone: (951) 805-2028

Plant Information

Phenology: \_\_\_\_\_% vegetative \_\_\_\_\_% flowering \_\_\_\_\_% fruiting

Animal Information

# adults 2 # juveniles 2 # larvae \_\_\_\_\_ # egg masses \_\_\_\_\_ # unknown \_\_\_\_\_  
☐ wintering ☐ breeding ☒ nesting ☐ rookery ☒ burrow site ☐ other

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

County: Riverside Landowner / Mgr.: Private

Quad Name: Romoland Elevation: 1440 feet

T<sub>6s</sub> R<sub>3w</sub> Sec 2, SE ¼ of SW ¼, Meridian: H ☐ M ☐ S ☒ Source of Coordinates (GPS, topo. map & type): ArcMap 10

T \_\_\_\_\_ R \_\_\_\_\_ Sec \_\_\_\_\_, \_\_\_\_\_ ¼ of \_\_\_\_\_ ¼, Meridian: H ☐ M ☐ S ☐ GPS Make & Model N/A

DATUM: NAD27 ☐ NAD83 ☒ WGS84 ☐ Horizontal Accuracy N/A \_\_\_\_\_ meters/feet

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

Coordinates: (A) 484708E, 3725836N  
(B) 484664E, 3725836N

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

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

Habitat was a mowed non-native annual grassland. This detection was a family group of two adults and two fledglings/juveniles. The female and two juveniles were observed at a separate burrow entrance (A) on protocol surveys 2 of 4 (June 26, 2013) and 3 of 4 (July 26, 2013), than the adult male which was perched at a burrow (B) approximately 145 feet to the west on these dates. No BUOW were observed at this location on protocol survey 4 of 4 (August 21, 2013). A pile of feathers was detected near the eastern burrow entrance indicating a possible predation event.

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

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

Immediate AND surrounding land use: Vacant lot, agriculture, commercial, and residential.

Visible disturbances: Area is mowed for weed abatement purposes. Tire tracks were observed indicating some off-road vehicle use.

Threats: Weed abatement, vehicle strikes, domestic dogs/cats

Comments: This mowed field supported numerous BUOW with a total of 13 (8 adults/5 juveniles) observed. Separate CNDDDB field forms have been submitted.

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

- ☐ Keyed (cite reference): \_\_\_\_\_  
☐ Compared with specimen housed at: \_\_\_\_\_  
☐ Compared with photo / drawing in: \_\_\_\_\_  
☐ By another person (name): \_\_\_\_\_  
☐ Other: Sight ID

Photographs: (check one or more)

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

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

For Office Use Only

Source Code \_\_\_\_\_ Quad Code \_\_\_\_\_  
Elm Code \_\_\_\_\_ Occ. No. \_\_\_\_\_  
EO Index No. \_\_\_\_\_ Map Index No. \_\_\_\_\_

Date of Field Work (mm/dd/yyyy): 07/26/2013

Reset

California Native Species Field Survey Form

Send Form

Scientific Name: *Athene cunicularia*

Common Name: Burrowing Owl

Species Found? ☒ Yes ☐ No If not, why? \_\_\_\_\_

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

Is this an existing NDDDB occurrence? ☒ no ☐ unk.  
Yes, Occ. # \_\_\_\_\_

Collection? If yes: \_\_\_\_\_  
Number Museum / Herbarium

Reporter: Tim Searl (Searl Biological Services)

Address: 5834 Nectar Ave.

Hemet, CA 92544

E-mail Address: tsearl@searlbio.com

Phone: (951) 805-2028

Plant Information

Phenology: \_\_\_\_\_% vegetative \_\_\_\_\_% flowering \_\_\_\_\_% fruiting

Animal Information

1  
# adults # juveniles # larvae # egg masses # unknown  
☐ wintering ☐ breeding ☐ nesting ☐ rookery ☒ burrow site ☐ other

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

County: Riverside Landowner / Mgr.: Private

Quad Name: Romoland Elevation: 1440 feet

T<sub>6s</sub> R<sub>3w</sub> Sec 2, SE ¼ of SW ¼, Meridian: H ☐ M ☐ S ☒ Source of Coordinates (GPS, topo. map & type): ArcMap 10

T \_\_\_\_\_ R \_\_\_\_\_ Sec \_\_\_\_\_, \_\_\_\_\_ ¼ of \_\_\_\_\_ ¼, Meridian: H ☐ M ☐ S ☐ GPS Make & Model N/A

DATUM: NAD27 ☐ NAD83 ☒ WGS84 ☐ Horizontal Accuracy N/A \_\_\_\_\_ meters/feet

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

Coordinates: 484479E, 3725878N

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

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

Habitat was a mowed non-native annual grassland. A single adult BUOW was observed at a burrow entrance during protocol survey 3 of 4 (July 26, 2013). No BUOW was observed at this location during protocol surveys conducted on May 25, June 26, or August 21, 2013.

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

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

Immediate AND surrounding land use: Vacant lot, agriculture, commercial, and residential.

Visible disturbances: Area is mowed for weed abatement purposes. Tire tracks were observed indicating some off-road vehicle use.

Threats: Weed abatement, vehicle strikes, domestic dogs/cats

Comments: This mowed field supported numerous BUOW with a total of 13 (8 adults/5 juveniles) observed. Separate CNDDDB field forms have been submitted.

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

- ☐ Keyed (cite reference): \_\_\_\_\_  
☐ Compared with specimen housed at: \_\_\_\_\_  
☐ Compared with photo / drawing in: \_\_\_\_\_  
☐ By another person (name): \_\_\_\_\_  
☐ Other: Sight ID

Photographs: (check one or more)

|                    | Slide                    | Print                    | Digital                             |
|--------------------|--------------------------|--------------------------|-------------------------------------|
| Plant / animal     | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| Habitat            | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| Diagnostic feature | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/>            |

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



For Office Use Only

Source Code \_\_\_\_\_ Quad Code \_\_\_\_\_  
Elm Code \_\_\_\_\_ Occ. No. \_\_\_\_\_  
EO Index No. \_\_\_\_\_ Map Index No. \_\_\_\_\_

Date of Field Work (mm/dd/yyyy): 08/21/2013

Reset

California Native Species Field Survey Form

Send Form

Scientific Name: *Athene cunicularia*

Common Name: Burrowing Owl

Species Found? ☒ Yes ☐ No If not, why? \_\_\_\_\_

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

Is this an existing NDDDB occurrence? ☒ no ☐ unk.  
Yes, Occ. # \_\_\_\_\_

Collection? If yes: \_\_\_\_\_  
Number Museum / Herbarium

Reporter: Tim Searl (Searl Biological Services)

Address: 5834 Nectar Ave.

Hemet, CA 92544

E-mail Address: tsearl@searlbio.com

Phone: (951) 805-2028

Plant Information

Phenology: \_\_\_\_\_% vegetative \_\_\_\_\_% flowering \_\_\_\_\_% fruiting

Animal Information

1  
# adults # juveniles # larvae # egg masses # unknown  
☐ wintering ☐ breeding ☐ nesting ☐ rookery ☒ burrow site ☐ other

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

County: Riverside Landowner / Mgr.: Private

Quad Name: Romoland Elevation: 1440 feet

T<sub>6s</sub> R<sub>3w</sub> Sec 2, SE ¼ of SW ¼, Meridian: H ☐ M ☐ S ☒ Source of Coordinates (GPS, topo. map & type): ArcMap 10

T \_\_\_\_\_ R \_\_\_\_\_ Sec \_\_\_\_\_, \_\_\_\_\_ ¼ of \_\_\_\_\_ ¼, Meridian: H ☐ M ☐ S ☐ GPS Make & Model N/A

DATUM: NAD27 ☐ NAD83 ☒ WGS84 ☐ Horizontal Accuracy N/A \_\_\_\_\_ meters/feet

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

Coordinates: 484750E, 3725820N

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

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

Habitat was a mowed non-native annual grassland. A single adult BUOW was observed at a burrow entrance near the top of a south-facing dirt berm during the last protocol survey on August 21, 2013. No BUOW was observed at this location during protocol surveys conducted on May 25, June 26, or July 26, 2013.

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

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

Immediate AND surrounding land use: Vacant lot, agriculture, commercial, and residential.

Visible disturbances: Area is mowed for weed abatement purposes. Tire tracks were observed indicating some off-road vehicle use.

Threats: Weed abatement, vehicle strikes, domestic dogs/cats

Comments: This mowed field supported numerous BUOW with a total of 13 (8 adults/5 juveniles) observed. Separate CNDDDB field forms have been submitted.

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

- ☐ Keyed (cite reference): \_\_\_\_\_  
☐ Compared with specimen housed at: \_\_\_\_\_  
☐ Compared with photo / drawing in: \_\_\_\_\_  
☐ By another person (name): \_\_\_\_\_  
☐ Other: Sight ID

Photographs: (check one or more)

|                    | Slide                    | Print                    | Digital                             |
|--------------------|--------------------------|--------------------------|-------------------------------------|
| Plant / animal     | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| Habitat            | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| Diagnostic feature | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/>            |

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

For Office Use Only

Source Code \_\_\_\_\_ Quad Code \_\_\_\_\_  
Elm Code \_\_\_\_\_ Occ. No. \_\_\_\_\_  
EO Index No. \_\_\_\_\_ Map Index No. \_\_\_\_\_

Date of Field Work (mm/dd/yyyy): 08/21/2013

Reset

California Native Species Field Survey Form

Send Form

Scientific Name: *Athene cunicularia*

Common Name: Burrowing Owl

Species Found? ☒ Yes ☐ No If not, why? \_\_\_\_\_

Total No. Individuals 2 Subsequent Visit? ☒ yes ☐ no

Is this an existing NDDDB occurrence? ☒ no ☐ unk.  
Yes, Occ. # \_\_\_\_\_

Collection? If yes: \_\_\_\_\_  
Number Museum / Herbarium

Reporter: Tim Searl (Searl Biological Services)

Address: 5834 Nectar Ave.

Hemet, CA 92544

E-mail Address: tsearl@searlbio.com

Phone: (951) 805-2028

Plant Information

Phenology: \_\_\_\_\_% vegetative \_\_\_\_\_% flowering \_\_\_\_\_% fruiting

Animal Information

2  
# adults # juveniles # larvae # egg masses # unknown  
☐ wintering ☐ breeding ☐ nesting ☐ rookery ☒ burrow site ☐ other

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

County: Riverside Landowner / Mgr.: Private

Quad Name: Romoland Elevation: 1440 feet

T<sub>6s</sub> R<sub>3w</sub> Sec 2, SE ¼ of SW ¼, Meridian: H ☐ M ☐ S ☒ Source of Coordinates (GPS, topo. map & type): ArcMap 10

T \_\_\_\_\_ R \_\_\_\_\_ Sec \_\_\_\_\_, \_\_\_\_\_ ¼ of \_\_\_\_\_ ¼, Meridian: H ☐ M ☐ S ☐ GPS Make & Model N/A

DATUM: NAD27 ☐ NAD83 ☒ WGS84 ☐ Horizontal Accuracy N/A \_\_\_\_\_ meters/feet

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

Coordinates: 484786E, 3726039N

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

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

Habitat was a mowed non-native annual grassland. Two BUOW with adult-like plumage were observed perched at a burrow complex during protocol survey 4 of 4 (August 21, 2013). No BUOW was observed at this location during protocol surveys conducted on May 25, June 26, or July 26, 2013.

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

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

Immediate AND surrounding land use: Vacant lot, agriculture, commercial, and residential.

Visible disturbances: Area is mowed for weed abatement purposes. Tire tracks were observed indicating some off-road vehicle use.

Threats: Weed abatement, vehicle strikes, domestic dogs/cats

Comments: This mowed field supported numerous BUOW with a total of 13 (8 adults/5 juveniles) observed. Separate CNDDDB field forms have been submitted.

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

- ☐ Keyed (cite reference): \_\_\_\_\_  
☐ Compared with specimen housed at: \_\_\_\_\_  
☐ Compared with photo / drawing in: \_\_\_\_\_  
☐ By another person (name): \_\_\_\_\_  
☐ Other: Sight ID

Photographs: (check one or more)

|                    | Slide                    | Print                    | Digital                             |
|--------------------|--------------------------|--------------------------|-------------------------------------|
| Plant / animal     | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/>            |
| Habitat            | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| Diagnostic feature | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/>            |

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

# Appendix D

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*CNDDDB California Native Species Field Survey Forms – Rare Plants*

For Office Use Only

Source Code \_\_\_\_\_ Quad Code \_\_\_\_\_  
Elm Code \_\_\_\_\_ Occ. No. \_\_\_\_\_  
EO Index No. \_\_\_\_\_ Map Index No. \_\_\_\_\_

Date of Field Work (mm/dd/yyyy): 05/25/2013

Reset

California Native Species Field Survey Form

Send Form

Scientific Name: *Deinandra paniculata*

Common Name: paniculate tarplant

Species Found? ☒ Yes ☐ No If not, why? \_\_\_\_\_

Total No. Individuals 373 Subsequent Visit? ☐ yes ☒ no

Is this an existing NDDDB occurrence? ☒ no ☐ unk. Yes, Occ. # \_\_\_\_\_

Collection? If yes: \_\_\_\_\_ Number \_\_\_\_\_ Museum / Herbarium \_\_\_\_\_

Reporter: Tim Searl (Searl Biological Services)

Address: 5834 Nectar Ave.

Hemet, CA 92544

E-mail Address: tsearl@searlbio.com

Phone: (951) 805-2028

Plant Information

Phenology: 40% vegetative 60% flowering 0% fruiting

Animal Information

# adults # juveniles # larvae # egg masses # unknown  
☐ wintering ☐ breeding ☐ nesting ☐ rookery ☐ burrow site ☐ other

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

Please see attached map and description below.

County: Riverside Landowner / Mgr.: Private

Quad Name: Romoland Elevation: 1440 feet

T<sub>6s</sub> R<sub>3w</sub> Sec 3, SE ¼ of SE ¼, Meridian: H ☐ M ☐ S ☒ Source of Coordinates (GPS, topo. map & type): ArcMap 10

T<sub>6s</sub> R<sub>3w</sub> Sec 10, NE ¼ of NE ¼, Meridian: H ☐ M ☐ S ☒ GPS Make & Model N/A

DATUM: NAD27 ☐ NAD83 ☒ WGS84 ☐ Horizontal Accuracy N/A meters/feet

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

Coordinates: 484103E, 3725655N  
483724E, 3725564N

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

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

Non-native grassland was the dominant vegetation community. Dominant/associated plant species included species such as shorthpod mustard (*Hirschfeldia incana*), rancher's fireweed (*Amsinckia intermedia*), smooth tarplant (*Centromadia pungens* subsp. *laevis*), horseweed (*Erigeron canadensis*), foxtail chess (*Bromus madritensis* subsp. *rubens*), common sand-aster (*Corethrogyne filaginifolia*), and redstem storksbill (*Erodium cicutarium*). Paniculate tarplant occurred on loam to sandy-loam soils (WyC2 and YbC soils according to the NRCS) in areas with a nearly flat slope.

Please fill out separate form for other rare taxa seen at this site. smooth tarplant, Burrowing Owl

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

Immediate AND surrounding land use: Vacant lot, agriculture, commercial, and residential.

Visible disturbances: Area is mowed/disked/grazed for weed abatement purposes.

Threats: Weed abatement, grazing, future development

Comments: Located in the general area where a March 2005 Western Spadefoot (*Spea hammondi*) CNDDDB record states the habitat consists of a "vernal pool." Field indicators weak for a vernal pool likely due to the construction of the Paloma Wash Flood Control Channel isolating the area from upstream flows and two years of drought.

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

- ☐ Keyed (cite reference): \_\_\_\_\_  
☐ Compared with specimen housed at: \_\_\_\_\_  
☐ Compared with photo / drawing in: \_\_\_\_\_  
☒ By another person (name): Specimen submitted to UCR Herbarium (Andy Sanders)  
☒ Other: Sight ID

Photographs: (check one or more)

|                    | Slide                    | Print                    | Digital                             |
|--------------------|--------------------------|--------------------------|-------------------------------------|
| Plant / animal     | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| Habitat            | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| Diagnostic feature | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |

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

For Office Use Only

Source Code \_\_\_\_\_ Quad Code \_\_\_\_\_  
Elm Code \_\_\_\_\_ Occ. No. \_\_\_\_\_  
EO Index No. \_\_\_\_\_ Map Index No. \_\_\_\_\_

Date of Field Work (mm/dd/yyyy): 05/25/2013

Reset

California Native Species Field Survey Form

Send Form

Scientific Name: *Centromadia pungens laevis*

Common Name: smooth tarplant

Species Found? ☒ Yes ☐ No If not, why? \_\_\_\_\_

Total No. Individuals 215 Subsequent Visit? ☐ yes ☒ no

Is this an existing NDDDB occurrence? ☒ no ☐ unk.  
Yes, Occ. # \_\_\_\_\_

Collection? If yes: \_\_\_\_\_  
Number Museum / Herbarium

Reporter: Tim Searl (Searl Biological Services)

Address: 5834 Nectar Ave.

Hemet, CA 92544

E-mail Address: tsearl@searlbio.com

Phone: (951) 805-2028

Plant Information

Phenology: 5% vegetative 85% flowering 10% fruiting

Animal Information

# adults # juveniles # larvae # egg masses # unknown  
☐ wintering ☐ breeding ☐ nesting ☐ rookery ☐ burrow site ☐ other

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

Please see attached map and description below.

County: Riverside

Landowner / Mgr.: Private

Quad Name: Romoland

Elevation: 1440 feet

T<sub>6s</sub> R<sub>3w</sub> Sec 3, SE ¼ of SE ¼, Meridian: H ☐ M ☐ S ☒

Source of Coordinates (GPS, topo. map & type): ArcMap 10

T<sub>6s</sub> R<sub>3w</sub> Sec 10, NE ¼ of NE ¼, Meridian: H ☐ M ☐ S ☒

GPS Make & Model N/A

DATUM: NAD27 ☐ NAD83 ☒ WGS84 ☐

Horizontal Accuracy N/A meters/feet

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

Coordinates: 484103E, 3725655N; 483724E, 3725564N; 483675E, 3725673N

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

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

Non-native grassland was the dominant vegetation community. Dominant plant species associated with the detection locations included species such as shortpod mustard (*Hirschfeldia incana*), paniculate tarplant (*Deinandra paniculata*), rancher's fireweed (*Amsinckia intermedia*), horseweed (*Erigeron canadensis*), foxtail chess (*Bromus madritensis* subsp. *rubens*), London rocket (*Sisymbrium irio*), and Russian thistle (*Salsola tragus*). Smooth tarplant occurred on loam to sandy-loam soils (HnC, WyC2, and YbC according to the NRCS) in areas with a nearly flat slope. Thousands of plants were estimated within the Paloma Wash Flood Control Channel outside of authorized survey area.

Please fill out separate form for other rare taxa seen at this site. paniculate tarplant, Burrowing Owl

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

Immediate AND surrounding land use: Vacant lot, agriculture, commercial, and residential.

Visible disturbances: Area is mowed/disked/grazed for weed abatement purposes.

Threats: Weed abatement, grazing, future development

Comments: Located in the general area where a March 2005 Western Spadefoot (*Spea hammondi*) CNDDDB record states the habitat consists of a "vernal pool." Field indicators weak for a vernal pool likely due to the construction of the Paloma Wash Flood Control Channel isolating the area from upstream flows and two years of drought.

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

- ☐ Keyed (cite reference): \_\_\_\_\_  
☐ Compared with specimen housed at: \_\_\_\_\_  
☐ Compared with photo / drawing in: \_\_\_\_\_  
☒ By another person (name): Specimen submitted to UCR Herbarium (Andy Sanders)  
☒ Other: Sight ID

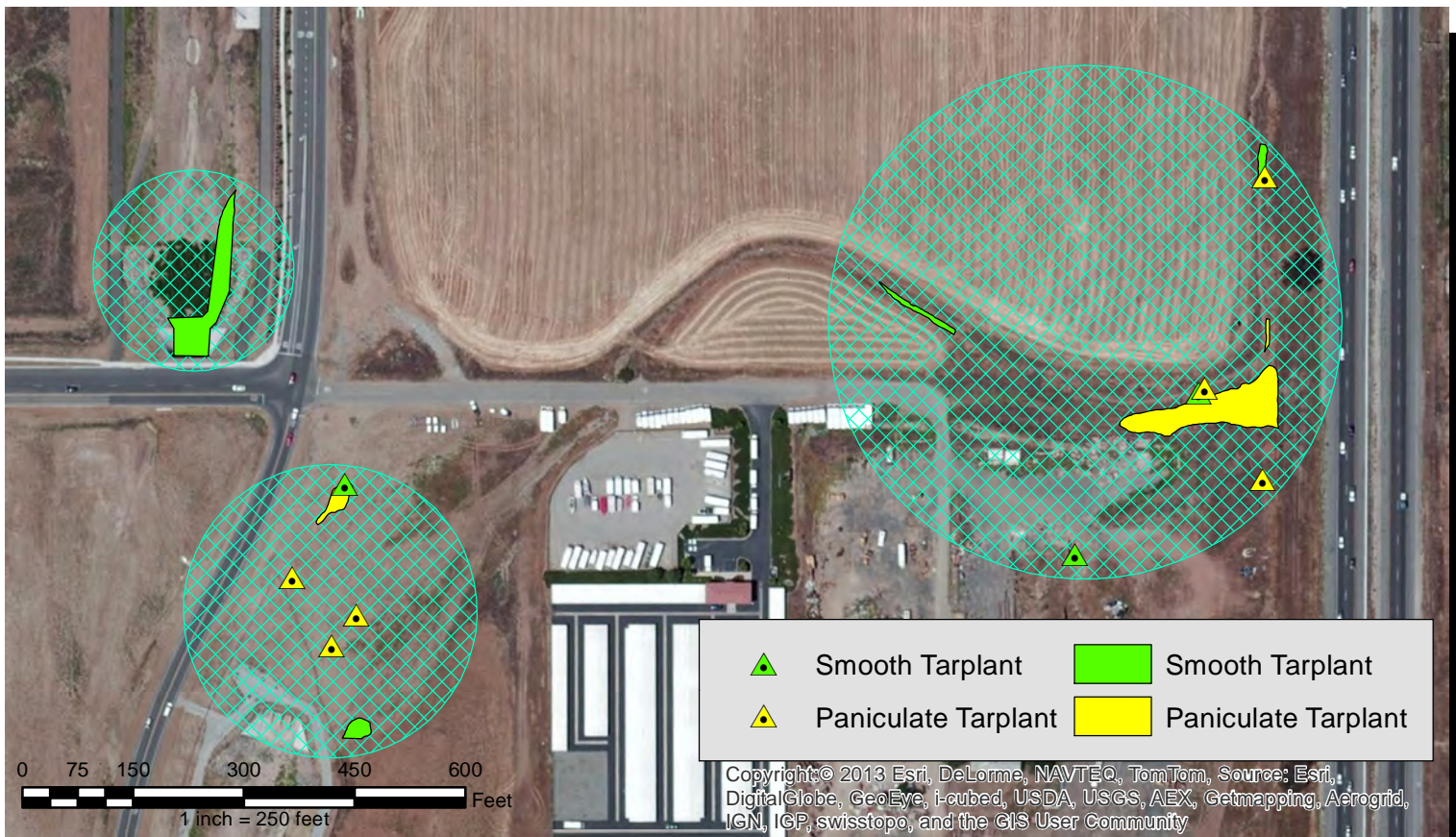
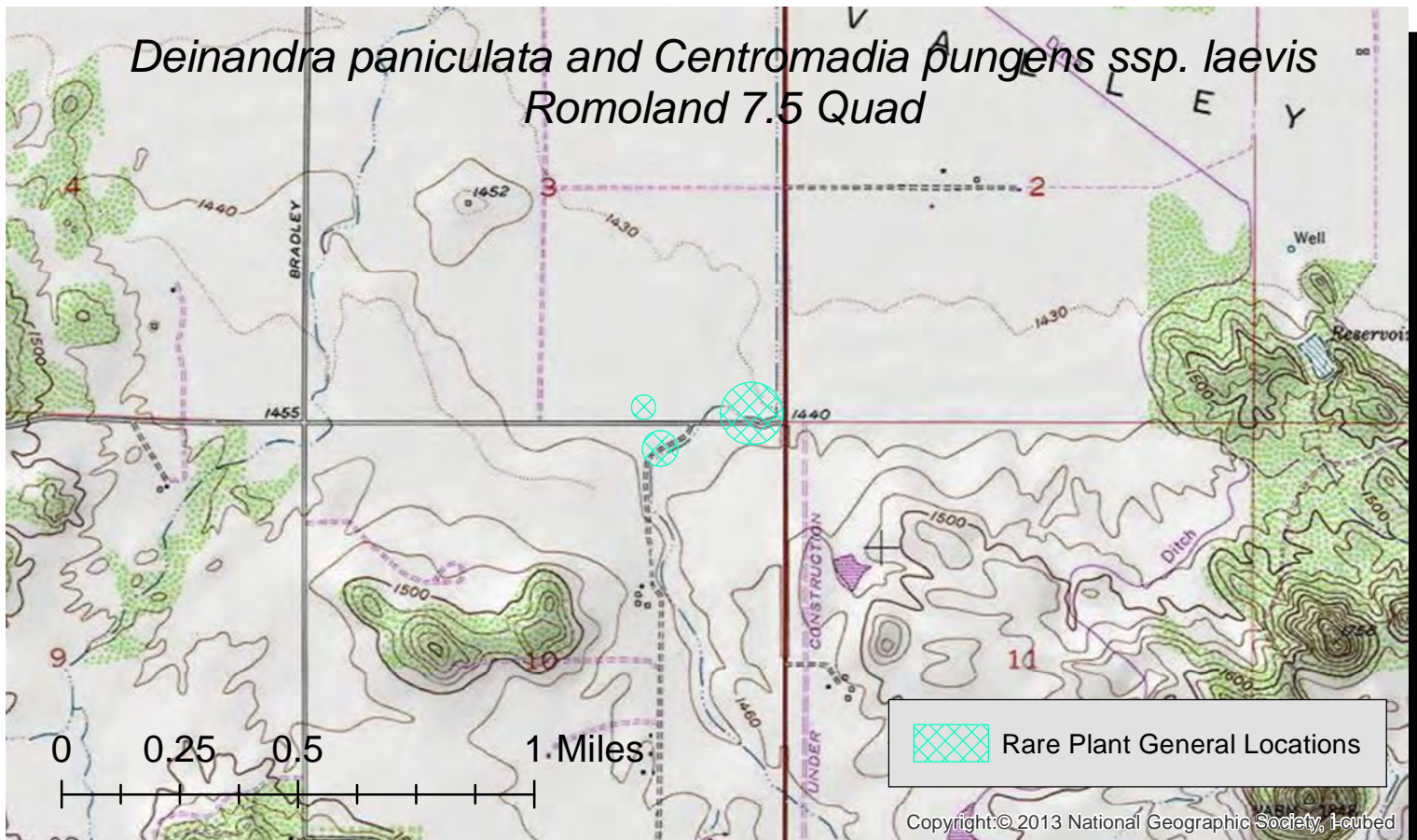
Photographs: (check one or more)

|                    | Slide                    | Print                    | Digital                             |
|--------------------|--------------------------|--------------------------|-------------------------------------|
| Plant / animal     | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| Habitat            | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| Diagnostic feature | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/>            |

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



# *Deinandra paniculata* and *Centromadia pungens* ssp. *laevis* Romoland 7.5 Quad



# Appendix E

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*Biological Report Summary Sheet (Riverside County Attachment E-3)*

## BIOLOGICAL REPORT SUMMARY SHEET

(Submit two copies to the County)

**Applicant Name:** The City of Menifee, California

**Assessor's Parcel Number (APN):** N/A (Please see Appendix G)

**APN cont. :** N/A

**Site Location: Section:** 2, 3, 10, 11 **Township:** 6 South **Range:** 3 West

**Site Address:** Holland Road from approximately Haun Road to Hanover Lane

**Related Case Number(s):** N/A. Proposed Holland Bridge I215 Overpass **PDB Number:** N/A

| CHECK SPECIES SURVEYED FOR | SPECIES or ENVIRONMENTAL ISSUE OF CONCERN | (Circle Yes, No or N/A regarding species findings on the referenced site) |      |       |
|----------------------------|---|---|------|-------|
|                            | Arroyo Southwestern Toad                  | Yes   | No   | (N/A) |
| ✓                          | Blueline Stream(s)                        | (Yes)   | No   | N/A   |
|                            | Coachella Valley Fringed-Toed Lizard      | Yes   | No   | (N/A) |
|                            | Coastal California Gnatcatcher            | Yes   | No   | (N/A) |
| ✓                          | Coastal Sage Scrub                        | Yes   | (No) | N/A   |
|                            | Delhi Sands Flower-Loving Fly             | Yes   | No   | (N/A) |
|                            | Desert Pupfish                            | Yes   | No   | (N/A) |
|                            | Desert Slender Salamander                 | Yes   | No   | (N/A) |
|                            | Desert Tortoise                           | Yes   | No   | (N/A) |
|                            | Flat-Tailed Horned Lizard                 | Yes   | No   | (N/A) |
|                            | Least Bell's Vireo                        | Yes   | No   | (N/A) |
| ✓                          | Oak Woodlands                             | Yes   | (No) | N/A   |
|                            | Quino Checkerspot Butterfly               | Yes   | No   | (N/A) |
|                            | Riverside Fairy Shrimp                    | Yes   | No   | (N/A) |
|                            | Santa Ana River Woollystar                | Yes   | No   | (N/A) |
|                            | San Bernardino Kangaroo Rat               | Yes   | No   | (N/A) |
|                            | Slender Horned Spineflower                | Yes   | No   | (N/A) |
|                            | Stephen's Kangaroo Rat                    | Yes   | No   | (N/A) |
| ✓                          | Vernal Pools                              | (Yes)   | No   | N/A   |
| ✓                          | Wetlands                                  | (Yes)   | No   | N/A   |

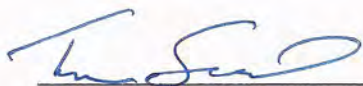


| CHECK SPECIES SURVEYED FOR | SPECIES or ENVIRONMENTAL ISSUE OF CONCERN | (Circle Yes, No or N/A regarding species findings on the referenced site) |    |     |
|----------------------------|---|---|----|-----|
| ✓                          | Other Riparian/Riverine                   | Yes   | No | N/A |
| ✓                          | Other Burrowing Owl                       | Yes   | No | N/A |
|                            | Other Southwestern Willow Flycatcher      | Yes   | No | N/A |
|                            | Other Western Yellow-billed Cuckoo        | Yes   | No | N/A |
|                            | Other Vernal Pool Fairy Shrimp            | Yes   | No | N/A |
|                            | Other Santa Rosa Plateau Fairy Shrimp     | Yes   | No | N/A |
| ✓                          | Other paniculate tarplant                 | Yes   | No | N/A |
| ✓                          | Other smooth tarplant                     | Yes   | No | N/A |
| ✓                          | Other salt spring checkerbloom            | Yes   | No | N/A |
|                            | Other                                     | Yes   | No | N/A |
|                            | Other                                     | Yes   | No | N/A |
|                            | Other                                     | Yes   | No | N/A |

\*Vernal pools and Riparian/Riverine areas need to be confirmed. Focused surveys were not conducted for fairy shrimp, but potentially suitable habitat may be present.

Species of concern shall be any unique, rare, endangered, or threatened species. It shall include species used to delineate wetlands and riparian corridors. It shall also include any hosts, perching, or food plants used by any animals listed as rare, endangered, threatened or candidate species by either State, or Federal regulations, or for Riverside County as listed by the California Department of Fish and Game Natural Diversity Data Base (NDDDB).

I declare under penalty of perjury that the information provided on this summary sheet is in accordance with the information provided in the biological report.



Searl Biological Services

10/04/2013

Signature and Company Name

Report Date

N/A

N/A

10(a) Permit Number (if applicable)

Permit Expiration Date

*County Use Only*

Received by: \_\_\_\_\_ Date: \_\_\_\_\_

PD-B# \_\_\_\_\_

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# Appendix F

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*CEQA Level of Significance Checklist – Biological  
(Riverside County Attachment E-4)*

**LEVEL OF SIGNIFICANCE CHECKLIST**  
For Biological Resources  
(Submit Two Copies)

Case Number: N/A. Proposed  
Holland Road I215  
Bridge Lot/Parcel No. N/A (Please see Appendix G) EA Number N/A

**Wildlife & Vegetation**

|             |  |                       |  |             |  |        |
|-------------|--|-----------------------|--|-------------|--|--------|
| Potentially |  | Less than Significant |  | Less than   |  | No     |
| Significant |  | with Mitigation       |  | Significant |  | Impact |
| Impact      |  | Incorporated          |  | Impact      |  |        |

(Check the level of impact the applies to the following questions)

a) Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Conservation Community Plan, or other approved local, regional, or state conservation plan?

☐ ☒ ☐ ☐

b) Have a substantial adverse effect, either directly or through habitat modifications, on any endangered, or threatened species, as listed in Title 14 of the California Code of Regulations (Sections 670.2 or 670.5) or in Title 50, Code of Federal Regulations (Sections 17.11 or 17.12)?

☐ ☐ ☐ ☒

c) Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U. S. Wildlife Service?

☐ ☒ ☐ ☐

d) Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident migratory wildlife corridors, or impede the use of native wildlife nursery sites?

☐ ☐ ☐ ☒

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

☐ ☒ ☐ ☐

f) Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?

☐ ☒ ☐ ☐

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

☐ ☐ ☐ ☒

Source: CGP Fig. VI.36-VI.40

Findings of Fact:

Please refer to the associated MSHCP Compliance Document

Proposed Mitigation:

Please refer to the associated MSHCP Compliance Document

Monitoring Recommended:

Please refer to the associated MSHCP  
Compliance Document


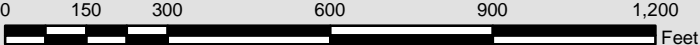
# Appendix G

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*Potential Affected Assessor's Parcel Numbers (APNs)*

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|  |  |   |
|--|--|---|
|  |  <p>1 inch = 354 feet</p> | <p><b>Potential Affected APNs</b></p>                                     |
|  | <p>DATE: 10/04/2013</p>  | <p>PROJECT:</p>   |
|  | <p>COORDINATE SYSTEM: NAD 1983 UTM Zone 11N</p>  | <p>AECOM</p>  |
|  | <p>SOURCE: 2012 NAIP Imagery, AECOM</p>  | <p>CalTrans/City of Menifee<br/>Proposed Holland Road Bridge/Overpass</p> |







| NUMBER | APN               |
|--------|-------------------|
| 1      | 360-130-003       |
| 2      | 360-230-002       |
| 3      | 360-230-003       |
| 4      | 360-230-007       |
| 5      | 360-230-008       |
| 6      | 360-230-009       |
| 7      | 360-230-010       |
| 8      | 364-070-047       |
| 9      | 364-070-048       |
| 10     | 372-011-012       |
| 11     | 372-011-013       |
| 12     | 372-011-017       |
| 13     | 372-014-001       |
| 14     | 372-040-043       |
| 15     | RW (Right-of-Way) |

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## Appendix C USFWS Species List

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U.S. Fish and Wildlife Service

## Trust Resources List

**This resource list is to be used for planning purposes only — it is not an official species list.**

**Endangered Species Act species list information for your project is available online and listed below for the following FWS Field Offices:**

**Carlsbad Fish and Wildlife Office**  
2177 SALK AVENUE - SUITE 250  
CARLSBAD, CA 92008  
(760) 431-9440  
<http://www.fws.gov/carlsbad/>

***Project Name:***

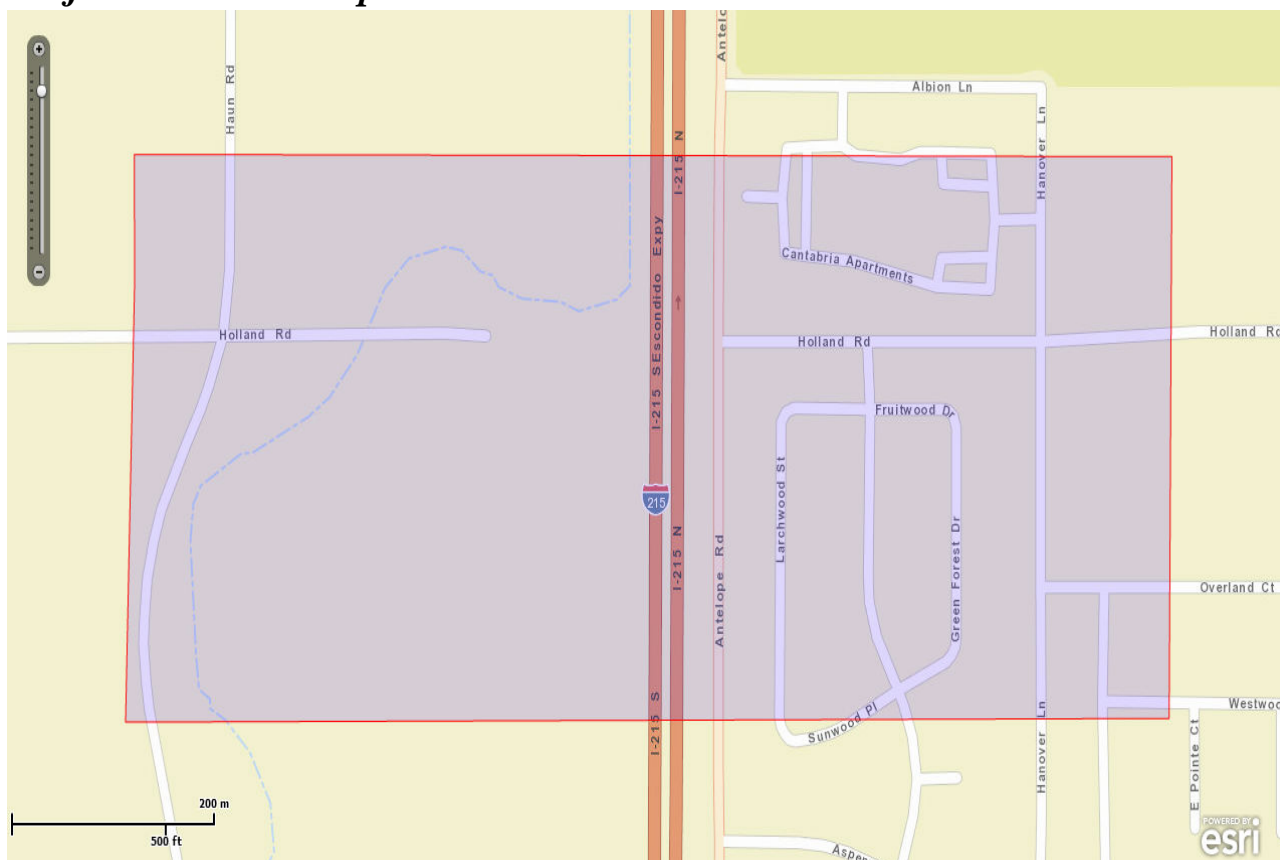
Holland Road Overcrossing



U.S. Fish and Wildlife Service

## Trust Resources List

### *Project Location Map:*



### *Project Counties:*

Riverside, CA

### *Geographic coordinates (Open Geospatial Consortium Well-Known Text, NAD83):*

MULTIPOLYGON (((-117.1766162 33.670788, -117.1766183 33.6717032, -117.1655392 33.6716885, -117.1655676 33.6677079, -117.1767127 33.6676807, -117.1766162 33.670788)))

### *Project Type:*

Transportation



## Trust Resources List

### ***Endangered Species Act Species List (USFWS Endangered Species Program).***

There are a total of 13 threatened or endangered species on your species list. Species on this list should be considered in an effects analysis for your project and could include species that exist in another geographic area. For example, certain fishes may appear on the species list because a project could cause downstream effects on the species. Critical habitats listed under the **Has Critical Habitat** column may or may not lie within your project area. See the **Critical habitats within your project area** section below for critical habitat that lies within your project area. Please contact the designated FWS office if you have questions.

#### **Species that should be considered in an effects analysis for your project:**

| Birds   | Status     |                              | Has Critical Habitat                              | Contact                           |
|---|------------|------------------------------|---|-----------------------------------|
| Coastal California gnatcatcher<br>( <i>Polioptila californica californica</i> )<br>Population: Entire | Threatened | <a href="#">species info</a> | <a href="#">Final designated critical habitat</a> | Carlsbad Fish And Wildlife Office |
| Least Bell's vireo<br>( <i>Vireo bellii pusillus</i> )<br>Population: Entire                          | Endangered | <a href="#">species info</a> | <a href="#">Final designated critical habitat</a> | Carlsbad Fish And Wildlife Office |
| Southwestern Willow flycatcher<br>( <i>Empidonax traillii extimus</i> )<br>Population: Entire         | Endangered | <a href="#">species info</a> | <a href="#">Final designated critical habitat</a> | Carlsbad Fish And Wildlife Office |
| Crustaceans   |            |                              |   |                                   |
| Riverside fairy shrimp<br>( <i>Streptocephalus woottoni</i> )<br>Population: Entire                   | Endangered | <a href="#">species info</a> | <a href="#">Final designated critical habitat</a> | Carlsbad Fish And Wildlife Office |
| Vernal Pool fairy shrimp<br>( <i>Branchinecta lynchi</i> )<br>Population: Entire                      | Threatened | <a href="#">species info</a> | <a href="#">Final designated critical habitat</a> | Carlsbad Fish And Wildlife Office |
| Flowering Plants  |            |                              |   |                                   |
| California Orcutt grass<br>( <i>Orcuttia californica</i> )  | Endangered | <a href="#">species info</a> |   | Carlsbad Fish And Wildlife Office |
| Munz's onion<br>( <i>Allium munzii</i> )  | Endangered | <a href="#">species info</a> | <a href="#">Final designated critical habitat</a> | Carlsbad Fish And Wildlife Office |



## Trust Resources List

|  |            |                              |   |                                   |
|--|------------|------------------------------|---|-----------------------------------|
| San Jacinto Valley crownscale<br>( <i>Atriplex coronata</i> var. <i>notatior</i> )                               | Endangered | <a href="#">species info</a> |   | Carlsbad Fish And Wildlife Office |
| Spreading navarretia<br>( <i>Navarretia fossalis</i> )   | Threatened | <a href="#">species info</a> | <a href="#">Final designated critical habitat</a> | Carlsbad Fish And Wildlife Office |
| Thread-Leaved brodiaea<br>( <i>Brodiaea filifolia</i> )  | Threatened | <a href="#">species info</a> | <a href="#">Final designated critical habitat</a> | Carlsbad Fish And Wildlife Office |
| Insects  |            |                              |   |                                   |
| Quino Checkerspot butterfly<br>( <i>Euphydryas editha quino</i> (= <i>e. e. wrighti</i> ))<br>Population: Entire | Endangered | <a href="#">species info</a> | <a href="#">Final designated critical habitat</a> | Carlsbad Fish And Wildlife Office |
| Mammals  |            |                              |   |                                   |
| San Bernardino Merriam's kangaroo rat<br>( <i>Dipodomys merriami parvus</i> )<br>Population: Entire              | Endangered | <a href="#">species info</a> | <a href="#">Final designated critical habitat</a> | Carlsbad Fish And Wildlife Office |
| Stephens' kangaroo rat<br>( <i>Dipodomys stephensi</i> )<br>Population: Entire                                   | Endangered | <a href="#">species info</a> |   | Carlsbad Fish And Wildlife Office |

### Critical habitats within your project area:

*There are no critical habitats within your project area.*

### ***FWS National Wildlife Refuges*** ([\*\*\*USFWS National Wildlife Refuges Program\*\*\*](#)).

*There are no refuges found within the vicinity of your project.*



## Trust Resources List

### ***FWS Migratory Birds ([USFWS Migratory Bird Program](#)).***

The protection of birds is regulated by the Migratory Bird Treaty Act (MBTA) and the Bald and Golden Eagle Protection Act (BGEPA). Any activity, intentional or unintentional, resulting in take of migratory birds, including eagles, is prohibited unless otherwise permitted by the U.S. Fish and Wildlife Service (50 C.F.R. Sec. 10.12 and 16 U.S.C. Sec. 668(a)). The MBTA has no provision for allowing take of migratory birds that may be unintentionally killed or injured by otherwise lawful activities. For more information regarding these Acts see: <http://www.fws.gov/migratorybirds/RegulationsandPolicies.html>.

All project proponents are responsible for complying with the appropriate regulations protecting birds when planning and developing a project. To meet these conservation obligations, proponents should identify potential or existing project-related impacts to migratory birds and their habitat and develop and implement conservation measures that avoid, minimize, or compensate for these impacts. The Service's Birds of Conservation Concern (2008) report identifies species, subspecies, and populations of all migratory nongame birds that, without additional conservation actions, are likely to become listed under the Endangered Species Act as amended (16 U.S.C 1531 et seq.).

For information about Birds of Conservation Concern, go to:

<http://www.fws.gov/migratorybirds/CurrentBirdIssues/Management/BCC.html>.

To search and view summaries of year-round bird occurrence data within your project area, go to the Avian Knowledge Network Histogram Tool links in the Bird Conservation Tools section at: <http://www.fws.gov/migratorybirds/CCMB2.htm>.

For information about conservation measures that help avoid or minimize impacts to birds, please visit:

<http://www.fws.gov/migratorybirds/CCMB2.htm>.

### **Migratory birds of concern that may be affected by your project:**

There are **22** birds on your Migratory birds of concern list. The underlying data layers used to generate the migratory bird list of concern will continue to be updated regularly as new and better information is obtained. User feedback is one method of identifying any needed improvements. Therefore, users are encouraged to submit comments about any questions regarding species ranges (e.g., a bird on the USFWS BCC list you know does not occur in the specified location appears on the list, or a BCC species that you know does occur there is not appearing on the list). Comments should be sent to [the ECOS Help Desk](#).

| Species Name                                   | Bird of Conservation Concern (BCC) | Species Profile              | Seasonal Occurrence in Project Area |
|--|------------------------------------|------------------------------|-------------------------------------|
| Bald eagle ( <i>Haliaeetus leucocephalus</i> ) | Yes                                | <a href="#">species info</a> | Wintering                           |
| Brewer's Sparrow ( <i>Spizella breweri</i> )   | Yes                                | <a href="#">species info</a> | Year-round                          |





## Trust Resources List

|   |     |                              |                      |
|---|-----|------------------------------|----------------------|
| Burrowing Owl ( <i>Athene cunicularia</i> )                       | Yes | <a href="#">species info</a> | Year-round           |
| California spotted Owl ( <i>Strix occidentalis occidentalis</i> ) | Yes | <a href="#">species info</a> | Year-round           |
| Cassin's Finch ( <i>Carpodacus cassinii</i> )                     | Yes | <a href="#">species info</a> | Year-round           |
| Costa's Hummingbird ( <i>Calypte costae</i> )                     | Yes | <a href="#">species info</a> | Breeding             |
| Flammulated owl ( <i>Otus flammeolus</i> )                        | Yes | <a href="#">species info</a> | Breeding             |
| Fox Sparrow ( <i>Passerella liaca</i> )                           | Yes | <a href="#">species info</a> | Year-round           |
| Green-tailed Towhee ( <i>Pipilo chlorurus</i> )                   | Yes | <a href="#">species info</a> | Breeding             |
| Gull-billed Tern ( <i>Gelochelidon nilotica</i> )                 | Yes | <a href="#">species info</a> | Breeding             |
| Lawrence's Goldfinch ( <i>Carduelis lawrencei</i> )               | Yes | <a href="#">species info</a> | Year-round           |
| Least Bittern ( <i>Ixobrychus exilis</i> )                        | Yes | <a href="#">species info</a> | Breeding, Year-round |
| Lewis's Woodpecker ( <i>Melanerpes lewis</i> )                    | Yes | <a href="#">species info</a> | Wintering            |
| Loggerhead Shrike ( <i>Lanius ludovicianus</i> )                  | Yes | <a href="#">species info</a> | Year-round           |
| Mountain plover ( <i>Charadrius montanus</i> )                    | Yes | <a href="#">species info</a> | Wintering            |
| Nuttall's Woodpecker ( <i>Picoides nuttallii</i> )                | Yes | <a href="#">species info</a> | Year-round           |
| Oak Titmouse ( <i>Baeolophus inornatus</i> )                      | Yes | <a href="#">species info</a> | Year-round           |
| Olive-Sided flycatcher ( <i>Contopus cooperi</i> )                | Yes | <a href="#">species info</a> | Breeding             |
| Peregrine Falcon ( <i>Falco peregrinus</i> )                      | Yes | <a href="#">species info</a> | Wintering            |
| Short-eared Owl ( <i>Asio flammeus</i> )                          | Yes | <a href="#">species info</a> | Wintering            |
| tricolored blackbird ( <i>Agelaius tricolor</i> )                 | Yes | <a href="#">species info</a> | Year-round           |



## Trust Resources List

|  |     |                              |           |
|--|-----|------------------------------|-----------|
| Williamson's Sapsucker ( <i>Sphyrapicus thyroideus</i> ) | Yes | <a href="#">species info</a> | Wintering |
|--|-----|------------------------------|-----------|

### ***NWI Wetlands ([USFWS National Wetlands Inventory](#)).***

The U.S. Fish and Wildlife Service is the principal Federal agency that provides information on the extent and status of wetlands in the U.S., via the National Wetlands Inventory Program (NWI). In addition to impacts to wetlands within your immediate project area, wetlands outside of your project area may need to be considered in any evaluation of project impacts, due to the hydrologic nature of wetlands (for example, project activities may affect local hydrology within, and outside of, your immediate project area). It may be helpful to refer to the USFWS National Wetland Inventory website. The designated FWS office can also assist you. Impacts to wetlands and other aquatic habitats from your project may be subject to regulation under Section 404 of the Clean Water Act, or other State/Federal Statutes. Project Proponents should discuss the relationship of these requirements to their project with the Regulatory Program of the appropriate [U.S. Army Corps of Engineers District](#).

#### **Data Limitations, Exclusions and Precautions**

The Service's objective of mapping wetlands and deepwater habitats is to produce reconnaissance level information on the location, type and size of these resources. The maps are prepared from the analysis of high altitude imagery. Wetlands are identified based on vegetation, visible hydrology and geography. A margin of error is inherent in the use of imagery; thus, detailed on-the-ground inspection of any particular site may result in revision of the wetland boundaries or classification established through image analysis.

The accuracy of image interpretation depends on the quality of the imagery, the experience of the image analysts, the amount and quality of the collateral data and the amount of ground truth verification work conducted. Metadata should be consulted to determine the date of the source imagery used and any mapping problems.

Wetlands or other mapped features may have changed since the date of the imagery and/or field work. There may be occasional differences in polygon boundaries or classifications between the information depicted on the map and the actual conditions on site.

**Exclusions** - Certain wetland habitats are excluded from the National mapping program because of the limitations of aerial imagery as the primary data source used to detect wetlands. These habitats include seagrasses or submerged aquatic vegetation that are found in the intertidal and subtidal zones of estuaries and nearshore coastal waters. Some deepwater reef communities (coral or tubercid worm reefs) have also been excluded from the inventory. These habitats, because of their depth, go undetected by aerial imagery.



U.S. Fish and Wildlife Service

## Trust Resources List

**Precautions** - Federal, state, and local regulatory agencies with jurisdiction over wetlands may define and describe wetlands in a different manner than that used in this inventory. There is no attempt, in either the design or products of this inventory, to define the limits of proprietary jurisdiction of any Federal, state, or local government or to establish the geographical scope of the regulatory programs of government agencies. Persons intending to engage in activities involving modifications within or adjacent to wetland areas should seek the advice of appropriate federal, state, or local agencies concerning specified agency regulatory programs and proprietary jurisdictions that may affect such activities.

*IPaC is unable to display wetland information at this time.*

## Appendix D Special-Status Species Likelihood of Occurrence

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Table D-1. Regional Species and Habitats of Concern

| COMMON/SCIENTIFIC NAME   | STATUS <sup>a</sup><br>FED/STATE/<br>CNPS/ MSHCP | SPECIES REQUIREMENTS   | SPECIFIC HABITAT <sup>b</sup><br>PRESENT/<br>ABSENT | RATIONALE   |
|--|--|--|---|---|
| <b>PLANTS</b>  |  |  |   |   |
| Chaparral Sand-Verbena<br>( <i>Abronia villosa</i> var.<br><i>aurita</i> ) | -/-/1B.1/-                                       | Found in sandy soil within coastal scrub and mostly broad alluvial fans and benches. Known to occur in northern Orange County, western Riverside County, San Diego County and southern Imperial County. It blooms from January to August at elevations from 262 feet (ft.) to 5,248 ft.  | HP  | Grasslands within the western portion of the BSA contain soils mapped as sandy loam, and provide marginally suitable habitat for this species, which has a very low potential to occur. |
| Munz's Onion<br>( <i>Allium munzii</i> )                                   | E/T/1B.1/<br>MSHCP(b)                            | Found on mesic exposures or seasonally moist microsites in grassy openings in coastal sage scrub, chaparral, juniper woodland, valley, and foothill grasslands in clay soils. Associated with a special "clay soil flora" found in southwestern Riverside County. At least one population (Bachelor Mountain) is reported to be associated with pyroxenite outcrops instead of clay.   | HA  | BSA lacks clay or suitable soils. Species is not expected to occur.   |
| San Diego Ambrosia<br>( <i>Ambrosia pumila</i> )                           | E/-/1B.1/<br>MSHCP(b)                            | Occurs in open floodplain terraces or in the watershed margins of vernal pools. This species occurs in a variety of associations that are dominated by sparse nonnative grasslands or ruderal habitat in association with river terraces, vernal pools, and alkali playas. San Diego ambrosia generally occurs at low elevations generally less than 1,600 ft. in the Riverside populations and less than 600 ft. in San Diego County. | HP  | Suitable habitat is present within the potential vernal pool located within the western portion of the BSA. This species has moderate potential to occur.                               |
| Douglas' Fiddleneck<br>( <i>Amsinckia douglasiana</i> )                    | -/-/4.2/-  | An endemic annual herb of California, it is found in cismontane woodland and valley/foothill grassland vegetation communities. The blooming period for   | HP  | Grassland within the BSA provide suitable habitat for this species. One <i>Amsinckia</i>  |

| COMMON/SCIENTIFIC NAME   | STATUS <sup>a</sup><br>FED/STATE/<br>CNPS/ MSHCP | SPECIES REQUIREMENTS  | SPECIFIC HABITAT <sup>b</sup><br>PRESENT/<br>ABSENT | RATIONALE   |
|--|--|---|---|---|
|  |  | species is March to May. The species is distributed at elevations ranging from sea level to 6,398 feet.   |   | species was observed in the study area, however this was <i>A. menzeisii</i> . Since the BSA is heavily disturbed, there is a low potential for the species to occur.   |
| Rainbow Manzanita<br>( <i>Arctostaphylos rainbowensis</i> )                        | -/-/1B.1/MSHCP(e)                                | An evergreen shrub found in chaparral. Blooming period is from December to March, and it is found at elevations from 673 to 2,198 feet.   | HA  | Suitable habitat is absent from the BSA. In addition, this species would be detectable year-round and it was not observed during the 2013 focused survey or the 2015 biological review of the BSA.  |
| Jaeger's Milkvetch<br>( <i>Astragalus pachypus</i> var. <i>jaegeri</i> )           | -/-/1B.1/MSHCP                                   | An herb that occurs in chaparral, cismontane woodland, coastal scrub, and valley and foothill grasslands. Often within sandy or rocky soils. Occurs at elevations from 1,198 to 3,002 feet. Blooms from December to June.   | HP  | Suitable habitat is present within nonnative grasslands. Sandy soils are confined to sandy loam, which is mapped within the extreme western portion of the BSA, and is apparently subject to ongoing human disturbance. Species has a low potential to occur. |
| San Jacinto Valley Crownscale<br>( <i>Atriplex coronata</i> var. <i>notatior</i> ) | E/-/1B.1/MSHCP(d)                                | Occurs primarily in floodplains (seasonal wetlands) dominated by alkaline scrub, playas, vernal pools, and to a lesser extent, alkaline grasslands. Restricted to highly alkaline, silty-clay soils in association with the Traver-Domino-Willows soil association; the majority (approximately 80 %) of the populations are associated with the Willows soil series. | HA  | The BSA lacks suitable silty-clay soils and does not occur within Traver-Domino-Willow soil associations. This species is not expected to occur.  |

| COMMON/SCIENTIFIC NAME  | STATUS <sup>a</sup><br>FED/STATE/<br>CNPS/ MSHCP | SPECIES REQUIREMENTS  | SPECIFIC HABITAT <sup>b</sup><br>PRESENT/<br>ABSENT | RATIONALE   |
|---|--|---|---|---|
| South Coast Saltscale<br>( <i>Atriplex pacifica</i> )                       | -/-/1B.2/-                                       | An annual herb that occurs on coastal bluff scrub, coastal dunes, coastal scrub, and playas. It is found at elevations ranging from 0 to 459 feet and blooms from March to October. Records of this species within Riverside County were misidentified and are actually <i>Atriplex davidsonii</i> (Roberts et al. 2004). | HA  | BSA lacks suitable habitat for this species and the species is not known to occur within the region. This species is not expected to occur.   |
| Parish's Britblescale<br>( <i>Atriplex parishii</i> )                       | -/-/1B.1/ MSHCP(d)                               | Habitats where species is found include chenopod scrub, alkaline vernal pools and playas. Blooms from June to October and ranges from 82 to 6,232 feet in elevation.  | HP  | There is a potential for this species to occur within the potential vernal pool located in the western portion of the BSA. As a result of ongoing disturbance to the potential vernal pool in the form of discing, this species has a low potential to occur. |
| Davidson's Saltscale<br>( <i>Atriplex serenana</i> var. <i>davidsonii</i> ) | -/-/1B.2/ MSHCP(d)                               | Found in alkaline soils in coastal bluff scrub and coastal sage scrub from 10 ft. to 820 ft. Within Riverside county; uncommon on alkaline flats along the San Jacinto River, and west of Hemet (Roberts et al., 2004).   | HP  | There is a potential for this species to occur within the potential vernal pool located in the western portion of the BSA. As a result of ongoing disturbance to the potential vernal pool in the form of discing, this species has a low potential to occur. |
| California Ayenia<br>( <i>Ayenia compacta</i> )                             | -/-/2B.3/-                                       | Perennial herb / low shrub in dry, desert scrub within rocky canyons and desert arroyos. Restricted to desert regions except for an almost certainly erroneous 1929 record for, "near Elsinore", Riverside County. Occurs from 500 to 3,593 feet elevation.   | HA  | Suitable habitat for this species is absent within the BSA, thus it is not expected to occur.   |

| COMMON/SCIENTIFIC NAME                                       | STATUS <sup>a</sup><br>FED/STATE/<br>CNPS/ MSHCP | SPECIES REQUIREMENTS   | SPECIFIC HABITAT <sup>b</sup><br>PRESENT/<br>ABSENT | RATIONALE  |
|--|--|--|---|--|
| Thread-leaved Brodiaea<br>( <i>Brodiaea filifolia</i> )      | T/E/1B.1/<br>MSHCP(d)                            | Found in heavy soils (e.g., clay) in coastal sage scrub, chaparral, cismontane woodland, and vernal pools from 1,575 ft – 4,000 ft. Within western Riverside County found in southern Santa Ana Mountains, Santa Rosa Plateau, and alkali flats of the San Jacinto River flood plain and west of Hemet (Roberts et al., 2004).   | HA  | The BSA lacks the heavy clay soils required by species. It is not expected to occur in the BSA.                                      |
| Orcutt's Brodiaea<br>( <i>Brodiaea orcuttii</i> )            | -/-/1B.1/MSHCP                                   | Occurs in clay soils in mesic native grasslands often associating with vernal pools. This plant is also known to occur in moist meadows and along stream courses at higher elevations. Within western Riverside County occurrences are scattered but often locally abundant where found; found in southern Santa Ana Mountain and Santa Rosa Plateau (Roberts et al., 2004).     | HA  | Although grassland habitat is present, the BSA lacks clay soils required by this species. Thus, it is not expected to occur.         |
| Santa Rosa Basalt Brodiaea<br>( <i>Brodiaea santarosae</i> ) | -/-/1B.2/-                                       | The species has only recently been discovered (Chester et al. 2007) and is restricted to basaltic soils of the Santa Rosa Plateau, typically within the valley and foothill grasslands.  | HA  | The BSA occurs outside of this species geographic range and lacks suitable soils, thus it is not expected to occur.                  |
| Round-leaved Filaree<br>( <i>California macrophylla</i> )    | -/-/1B.1/ MSHCP(d)                               | Restricted to open cismontane woodland and valley and foothill grassland habitats on very friable deep clay soils between about 50 and 6,560 ft. Within western Riverside County, two of the mapped localities occur on Bosanko clay soils. Records reviewed for this species indicate that this species tends to be associated primarily with Wild Oats ( <i>Avena fatua</i> ). | HA  | Although grasslands are present, there are no clay soils within the BSA. Thus, this species is not expected to occur.                |
| Catalina Mariposa Lily<br>( <i>Calochortus catalinae</i> )   | -/-/4.2/-  | A perennial bulbiferous herb found in chaparral, cismontane woodland, coastal scrub, and valley and foothill grassland. It occurs from 49 to 2,297 feet in elevation. This species blooms from February to June  | HP  | The nearest record for this species occurs in the Lake Mathews area northwest of the BSA and in the Santa Rosa Mountains west of the |

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|   |  | and it is threatened by development.  |   | BSA. This species has a low potential to occur based on most of its geographic distribution occurring on the coastal slopes.   |
| Plummer's Mariposa Lily<br>( <i>Calochortus plummerae</i> )                         | -/-/1B.2/ MSHCP(e)                               | Found on rocky and sandy areas with granitic or alluvial material in coastal sage scrub, chaparral, and valley and foothill grasslands from 295 ft to 5,280 ft.   | HP  | Suitable habitat is present in the grasslands containing mapped sandy loam soils in the extreme western portion of the BSA. Local records occur in the foothills, and the suitable habitat in the BSA appears to be subject to on-going disturbance, thus this species has a low potential to occur. |
| Intermediate Mariposa Lily<br>( <i>Calochortus weedii</i> var. <i>intermedius</i> ) | -/-/1B.2/ MSHCP                                  | The typical blooming period extends from May to July, and the plant is a perennial. This species is known to occur in dry chaparral, valley grassland and coastal sage scrub. It is often on sandstone outcrops in areas from elevation 590 to 2,805 ft. Soil affinities include sandy or clay soils. | HP  | Suitable habitat is present in the grasslands containing mapped sandy loam soils in the extreme western portion of the BSA. Local records occur in the foothills, and the suitable habitat in the BSA appears to be subject to on-going disturbance, thus this species has a low potential to occur. |
| Buxbaum's Sedge<br>( <i>Carex buxbaumii</i> )                                       | -/-/4.2/-  | A perennial herb. Occurs in bogs and fens, meadows and seeps (mesic), marshes and swamps. Inflorescences present from March to August. Found at elevations  | HP  | Although suitable habitat is present within marsh at northeast corner of BSA, this   |



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|  |  | from sea level to 10,827 feet.  |   | species is only known from records in northern California, therefore the BSA occurs outside of the species range. CNPS (2015) shows a species record in the Lake Elsinore 7.5' quadrangle; however, this record cannot be verified in other credible source records such as Consortium of California Herbaria. Thus, this species is not expected to occur. |
| Payson's Jewelflower<br>( <i>Caulanthus simulans</i> )               | -/-4.2/MSHCP                                     | Occurs within chaparral and coastal sage scrub in sandy/granitic rock. Fairly tolerant of lands disturbed by fire. Blooms between February and June and has been recorded at elevations between 300 to 7,225 ft.  | HA  | The BSA lacks chaparral or coastal sage scrub habitats. Since suitable habitat is absent, this species is not expected to occur.  |
| Smooth Tarplant<br>( <i>Centromadia pungens</i> ssp. <i>laevis</i> ) | -/-1B.1/ MSHCP(d)                                | Found in fine or alkaline soils of seasonally wet chenopod scrub, meadows and seeps, playas, riparian woodland, fallow fields, drainage ditches, and moist situations within valley and foothill grasslands below about 1,575 ft elevation. Tolerant of rural and agricultural land use. Found primarily in southwestern Riverside County, but also a few sites in the interior valleys of San Bernardino, Los Angeles, and San Diego Counties. | P   | The species was found during the 2013 focused survey (Searle 2013) along Holland Road west of the I-215.  |
| Peninsular Spineflower<br>( <i>Chorizanthe leptotheca</i> )          | -/-4.2/MSHCP(e)                                  | This annual herb occurs in chaparral, coastal scrub, and lower montane coniferous forest associated with alluvial fans and granitic soils. Found at elevations  | HA  | Suitable habitat for this species is absent from the BSA. This species is not   |

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|   |  | from 984 to 6,234 feet.   |   | expected to occur.  |
| Parry's Spineflower<br>( <i>Chorizanthe parryi</i> var. <i>parryi</i> )               | -/-/1B.1/ MSHCP(e)                               | Found on dry sandy soils on slopes and flats, within coastal sage scrub and chaparral.  | HA  | The BSA lacks chaparral or coastal sage scrub. Since suitable habitat is absent, this species is not expected to occur.   |
| Long-spined Spineflower<br>( <i>Chorizanthe polygonoides</i> var. <i>longispina</i> ) | -/-/1B.2/MSHCP                                   | Associated primarily with heavy, often rocky, clay soils in southern needlegrass grassland, and openings in coastal sage scrub and chaparral. The species has been described as occurring on sandy and gravelly soil but this appears to be infrequently the case.  | HA  | Nonnative grassland within the BSA is not suitable for this species, as densities are much greater than suitable southern needlegrass grassland. In addition, there are no clay soils present. Thus, this species is not expected to occur. |
| San Miguel Savory<br>( <i>Clinopodium chandleri</i> )                                 | -/-/1B.2/ MSHCP(b)                               | Associated with rocky, gabbroic and metavolcanic substrates in coastal sage scrub, chaparral, cismontane woodland, and riparian woodland.   | HA  | The BSA lacks suitable habitat, therefore this species is not expected to occur.  |
| Small-flowered Morning Glory<br>( <i>Convolvulus simulans</i> )                       | -/-/4.2/-  | Annual herb on open, friable to crumbling clay soils and serpentine seeps in openings within chaparral, sage scrub, and grasslands from Baja California, Mexico north to central California. Vulnerable to competition from nonnative plants. Not associated with alkaline or saline conditions. Found at elevations from 100 to 2300 feet. | HA  | The BSA lacks suitable clay soils for this species and it is not expected to occur.   |
| Wiggins' Cryptantha<br>( <i>Cryptantha wigginsii</i> )                                | -/-/1B.2/-                                       | Annual herb in coastal scrub, often on clay soils; Santa Catalina Island, Carlsbad area, San Diego County, and Bachelor Mountain area, Riverside County.  | HA  | There are no clay soils or scrub habitat within the BSA. This species is not expected   |

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|   |  | Discovered in California in 2010 and status poorly known. Occurs from elevations of 67 to 900 feet.  |   | to occur.  |
| Paniculate Tarplant<br>( <i>Deinandra paniculata</i> )                          | -/-/4.2/-  | This annual herb has a limited distribution with the species known from Orange, western Riverside, southwestern San Bernardino, and southwestern San Diego counties. It regularly grows in mesic conditions within sage scrub, valley and foothill grassland, and vernal pools but can also occur in dry nonnative grasslands. Blooming period is April thru November. | P   | The species was found during the 2013 focused survey (Searle 2013) along Holland Road on the west side of the I-215.   |
| Slender-horned Spineflower<br>( <i>Dodecahema leptoceras</i> )                  | E/E/1B.1/<br>MSHCP(b)                            | Found on flood deposited fine sand terraces and washes in Riversidian alluvial fan sage scrub from 656 to 2,493 ft. Also associated with cismontane woodland and chaparral having suitable hydrology and fine sands.   | HA  | There is no suitable habitat within the BSA and it lacks alluvial terraces. This species is not expected to occur.   |
| Many-stemmed Dudleya<br>( <i>Dudleya multicaulis</i> )                          | -/-/1B.2/ MSHCP(b)                               | Found on the coastal slopes of southern California from Los Angeles and San Bernardino counties south, from about 50 ft to 2,600 ft in elevation. It usually grows on poor soils, often on clay or at the margins of gabbroic rock outcrops in coastal sage scrub and grassland communities.   | HA  | This species primarily occurs on the western edge of Riverside County (Roberts et al. 2004). Soils within BSA are not suitable for the species and it is not expected to occur.  |
| San Diego Button-celery<br>( <i>Eryngium aristulatum</i> var. <i>parishii</i> ) | E/E/1B.1/MSHCP                                   | Occurs only in vernal pools with clay soils. Within western Riverside County very local to Santa Rosa Plateau (Roberts et al., 2004).  | HP  | Suitable habitat may be present within the potential vernal pool located within the western portion of the BSA. Due to apparent ongoing disturbance associated with discing activities, this species has a low potential to occur. |

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|---|--|---|---|---|
| Campbell's Liverwort<br>( <i>Geothallus tuberosus</i> )                 | -/-/1B.1/-                                       | Occurs in undisturbed, mesic environments of coastal scrub and vernal pool margins at elevations between 32 and 1,968 ft.   | HA  | Although a potential vernal pool is located within the western portion of the BSA, this species is not expected to occur due to apparent ongoing disturbance associated with discing activities.  |
| Palmer's Grapplinghook<br>( <i>Harpagonella palmeri</i> )               | -/-/4.2/-  | Found within chaparral, coastal scrub, and valley and foothill grasslands. Often associated with clay soils. Occurs at elevations of 65 to just over 3,130 feet. Blooming period begins in March and ends in May.   | HP  | Marginal quality suitable habitat is located within valley and foothill grasslands containing sandy loam soils within the western portion of the BSA. This species has a low potential to occur.  |
| Tecate Cypress<br>( <i>Hesperocyparis forbesii</i> )                    | -/-/1B.1/-                                       | A perennial evergreen tree found within closed-cone coniferous forest and chaparral. Elevation range of 427 to 4921 ft.   | A   | There is no suitable habitat within the BSA and it would have been detectable during 2013 and 2015 survey work.   |
| Graceful Tarplant<br>( <i>Holocarpha virgata</i> ssp. <i>elongata</i> ) | -/-/4.2/-  | Annual herb in comparatively level, open grasslands and grassy openings within other upland, natural plant communities; San Diego, Orange, and western Riverside counties. Tolerates moderate disturbance and grazing. Not associated with clay or alkaline/saline soils. Occurs from 200 to 3600 feet elevation. | HP  | Suitable habitat is present within nonnative grasslands. Within Riverside County, this species has only been found in the Temecula area and the Santa Rosa Plateau (Roberts et al. 2004). Although this species was not documented during the 2013 or 2015 survey work, there is a moderate potential for it to |

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|---|--|---|---|--|
|   |  |   |   | occur.   |
| Vernal Barley<br>( <i>Hordeum intercedens</i> )                           | -/-/3.2/MSHCP                                    | Associated with mesic grasslands, vernal pools, and large saline flats or depressions. In Riverside County, found in the Domino, Willows and Traver soils series and is associated with alkali flats and flood plains within the alkali vernal plains community. Within this community vernal barley is primarily associated with alkali annual grasslands and vernal pools and to a lesser extent alkali scrub and alkali playa. | HA  | The BSA does not occur within Domino, Willows, or Traver soils associations. Locally occurs in association with the San Jacinto River floodplain and upper Salt Creek drainage (Dudek 2003). Due to lack of suitable soils, this species is not expected to occur. |
| Mesa Horkelia<br>( <i>Horkelia cuneata</i> ssp. <i>puberula</i> )         | -/-/1B.1/-                                       | This perennial herb blooms from February until September. It grows in sandy and gravelly soils in chaparral, cismontane woodland, or coastal scrub at elevations from 230 to 2,657 feet.  | HA  | The BSA lacks suitable habitat and soils for this species, thus it is not expected to occur.   |
| Southern California Black Walnut<br>( <i>Juglans californica</i> )        | -/-/4.2/MSHCP                                    | This deciduous tree blooms from March to May in alluvial soils of cismontane woodland, chaparral, coastal scrub, riparian scrub, and walnut-oak woodland from about 164 to 2952 feet elevation.   | A   | This species would have been observed, if present, because it is a conspicuous tree. This species was not observed during the focused survey in 2013 (Searle 2013) or during the 2015 biological review of the BSA.  |
| Southwestern Spiny Rush<br>( <i>Juncus acutus</i> ssp. <i>leopoldii</i> ) | -/-/4.2/-  | Species is a perennial herb and occurs in mesic coastal dunes, meadows and seeps (alkaline), and marshes and swamps. Inflorescences are present March through June. Found from sea level to 2,953 feet.   | A   | Although suitable habitat is present, this species is conspicuous and was not observed during the focused survey in 2013 (Searle 2013) or during the 2015 biological   |



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|  |  |  |   | review of the BSA.   |
| Santa Lucia Dwarf Rush<br>( <i>Juncus luciensis</i> )                            | -/-/1B.2/-                                       | This annual herb is found in chaparral, great basin scrub, lower montane coniferous forest, meadows and seeps, and vernal pools. It blooms from April to July and is found only in California but from Modoc to central San Diego County. Known elevation range is 960 to 6,500 feet.  | HA  | Within the Riverside County, this species has only been found on the Santa Rosa Plateau; the BSA occurs outside of the species geographic range. In addition, this species is conspicuous and was not observed during the focused survey in 2013 (Searle 2013) or during the 2015 biological review of the BSA. It is not expected to occur. |
| Coulter's Goldfields<br>( <i>Lasthenia glabrata</i> ssp. <i>coulteri</i> )       | -/-/1B.1/ MSHCP(d)                               | Wide-ranging herb in southern California, with known occurrences including Los Angeles, Orange, Riverside, San Bernardino, and San Diego and other counties. This is an annual herb, blooming from February through June in saline places such as coastal saltmarsh, inland playas, and vernal pools below about 4,002 foot elevation. | HP  | There is a potential for this species to occur in the potential vernal pool located within the western portion of the BSA. This species has a moderate potential to occur.   |
| Heart-leaved Pitcher Sage<br>( <i>Lepechinia cardiophylla</i> )                  | -/-/1B.2/-                                       | Species is a perennial shrub and occurs in closed-cone coniferous forest, chaparral, and cismontane woodland. Species occurs at elevations ranging from 1280-4199 ft and blooms from April to July.  | HA  | The BSA lacks suitable habitat for this species; it is not expected to occur.  |
| Robinson's Pepper-Grass<br>( <i>Lepidium virginicum</i> var. <i>robinsonii</i> ) | -/-/1B.2/-                                       | Found in dry, exposed soils in chaparral and coastal sage scrub up to 3,100 foot elevation.  | HA  | The BSA lacks scrub habitat and openings that this species typically occurs. Therefore,  |

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|   |  |  |   | this species is not expected.   |
| Lemon Lily<br>( <i>Lillium parryi</i> )   | -/-/1B.2/MSHCP(f)                                | Occurs in montane coniferous forest, meadows and seeps, riparian forest, and upper montane coniferous forest. Also in mesic soils. Elevation ranges from 4003 ft to 9006 ft.   | HA  | The BSA occurs well outside of the species elevation range, thus it is not expected to occur.                 |
| Parish's meadowfoam<br>( <i>Limnanthes alba</i> ssp. <i>parishii</i> )              | -/E/1B.2/MSHCP                                   | Occurs on gentle slopes or in swales, in forest glades, among mima mounds and in areas likely to be inundated. Limited to ephemeral wetlands in southern California mountains at elevations between 3609 ft and 5577 ft. This species is thought to exist mostly in sandy loam soils. Within Riverside County, known from a single vernal pool on the Santa Rosa Plateau (Roberts et al., 2004). | HA  | The BSA occurs outside of the species known geographic and elevation range; thus it is not expected to occur. |
| Small-flowered Microseris<br>( <i>Microseris douglasii</i> ssp. <i>platycarpa</i> ) | -/-/4.2/MSHCP(e)                                 | Found in heavy clay soils in grassland habitat (Roberts et al. 2004)   | HA  | No clay soils occur within the BSA. This species is not expected to occur.                                    |
| Palomar Monkeyflower<br>( <i>Mimulus diffusus</i> )                                 | -/-/4.3/MSHCP                                    | Known to occur in chaparral and lower montane coniferous forests, in sandy or gravelly soils. Within Riverside County, only known from the Santa Ana and Agua Tibia Mountains.   | HA  | No suitable habitat is present and this species is not expected to occur.                                     |
| Intermediate Monardella<br>( <i>Monardella hypoleuca</i> ssp. <i>intermedia</i> )   | -/-/1B.3/-                                       | This perennial herb can be found within the understory of chaparral, cismontane woodland, and less frequently in lower montane coniferous forests. It occurs at elevations ranging from 984 – 3510 ft. The species is in bloom from June to August.  | HA  | The BSA lacks suitable habitat for this species, thus it is not expected to occur.                            |
| Little Mouseltail<br>( <i>Myosurus minimus</i> ssp.)                                | -/-/3.1/   | Occurs in association with vernal pools and within the alkali vernal pools and alkali annual grassland   | HP  | There is a potential for this species to occur in the   |

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| <i>apus</i> )   | MSHCP(d)   | components of alkali vernal plains. Little Mousetail is found in areas that have semiregular inundation. Within Riverside County species is locally common in the alkaline vernal pools near Hemet; otherwise scarce and local in Perris Basin and Santa Rosa Plateau (Roberts et al., 2004).   |   | potential vernal pool located within the western portion of the BSA. This species has a low potential to occur.   |
| Mud Nama<br>( <i>Nama stenocarpum</i> )                             | -/-2.2/ MSHCP(d)                                 | This herb blooms from January to July. It inhabits marshes and swamps, such as at lake margins and riverbanks, and grows at elevations ranging from 16 to 1,640 feet. Within Riverside County only known from the northern shores of Mystic Lake (Roberts et al., 2004).  | HP  | Suitable habitat is present along the margins of the freshwater marsh located within the eastern portion of the BSA; however, this species is not expected to occur within the BSA due the limited nature of its geographic distribution within the region. |
| Spreading Navarretia<br>( <i>Navarretia fossalis</i> )              | T/-/1B.1/<br>MSHCP(b)                            | Associated with vernal pools and depressions and ditches in areas that once supported vernal pools. In western Riverside County, Spreading Navarretia has been found in relatively undisturbed and moderately disturbed vernal pools, within larger vernal floodplains dominated by annual alkali grassland or alkali playa. The alkali vernal playa/pool habitat found in the Hemet area is based primarily on silty clay soils in the Willows and Travers series. These soils are usually saline-alkaline in nature and reliably pond water for long durations. | HA  | There are no Willows or Travers associated soils or clay soils within the BSA. Thus, this species is not expected to occur.   |
| Prostrate Vernal Pool<br>Navarretia ( <i>Navarretia prostrata</i> ) | -/-/1B.1/ MSHCP(d)                               | This annual herb is found in mesic environments such as vernal pools, meadows, seeps, and alkaline grasslands. Within Riverside County local to Santa   | HA  | The BSA occurs outside of the Criteria Area Species Survey Area for this species.   |

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|   |  | Rosa Plateau (Roberts et al., 2004)   |   | Although suitable habitat is present, the species is primarily known from the Santa Rosa Plateau. Thus BSA occurs outside of the known range, and it is not expected to occur.               |
| California Orcutt Grass<br>( <i>Orcuttia californica</i> )        | E/E/1B.1/<br>MSHCP(b)                            | Restricted to the deeper portions of undisturbed vernal pools. In Riverside County, this species is found in southern basaltic claypan vernal pools at the Santa Rosa Plateau and alkaline vernal pools as at Skunk Hollow and at Salt Creek west of Hemet.   | HA  | There are no clay soils or deep vernal pools within the BSA, thus this species is not expected to occur.   |
| Fish's Milkwort ( <i>Polygala cornuta</i> var. <i>fishiae</i> )   | -/-/4.3/ MSHCP(e)                                | This deciduous shrub blooms from May to August in oak woodland, chaparral, cismontane woodland, and riparian woodland habitats from about 328 to 3608 foot elevation. It is known from occurrences in Los Angeles, Orange, Riverside, Santa Barbara, San Diego, and Ventura counties and from Baja California, Mexico.  | HA  | There is no suitable habitat within the BSA for this species, thus it is not expected to occur.  |
| White Rabbit-tobacco<br>( <i>Pseudognaphalium leucocephalum</i> ) | -/-/2.2/-  | This perennial herb is found in dry, sandy creek bottoms within chaparral, cismontane woodland, coastal scrub, and riparian woodland habitats; often on sandy or gravelly soils; in San Timoteo Canyon and Santa Ana Mountains; appears restricted to the sandy margins of washes or with debris cones feeding from steep canyons, and natural, seasonal hydrology. | HA  | While a flood control channel occurs within the extreme western portion of the BSA, this species is not expected to occur due to disturbance associated with ongoing maintenance activities. |
| Engelmann Oak<br>( <i>Quercus engelmannii</i> )                   | -/-/4.2/-  | Species is a perennial, semi-deciduous tree in chaparral, cismontane woodland, riparian woodland, and valley and foothill grassland.  | A   | Although suitable habitat is present within grassland areas of the BSA, this species   |

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|   |  |   |   | would have been identifiable during 2013 and 2015 field surveys. No oak trees were present in the BSA, thus this species is considered absent from the BSA.   |
| Coulter's Matilija Poppy<br>( <i>Romneya coulteri</i> )                                   | -/-/4.2/MSHCP(e)                                 | Species is a perennial rhizomatous herb often found in burns within chaparral and sage scrub. Blooming period is March through July. Locally common along eastern margins of the Santa Ana mountains.   | HA  | BSA lacks suitable habitat for this species, thus it is not expected to occur.  |
| Southern Mountains Skullcap<br>( <i>Scutellaria bolanderi</i> var. <i>austromontana</i> ) | -/-/1B.2/-/                                      | Found in mesic conditions within cismontane woodland, lower montane coniferous forest, and chaparral from 1,400 to 6,500 ft. Within Riverside County species is scarce.   | HA  | BSA lacks suitable habitat for this species, thus it is not expected to occur.  |
| Hammitt's Clay-cress<br>( <i>Sibaropsis hammittii</i> )                                   | -/-/1B.2/ MSHCP(b)                               | This species occurs in openings in chaparral and valley and foothill grassland habitat. This species is associated with clay soils.   | HA  | Although grasslands are present, there are no associated clay soils, thus the BSA is not suitable for the species. It is not expected to occur.   |
| Salt Spring Checkerbloom<br>( <i>Sidalcea neomexicana</i> )                               | -/-/2.2/-  | Found thinly scattered through southern California, including the counties of Los Angeles, Ventura, Orange, and Riverside as well as Baja California. The documented elevation range in California is 49 to 5,018 ft. This species is associated with alkaline meadows and is typically found associated with Salt Grass ( <i>Distichlis spicata</i> ). Within Riverside County, species is scarce and tied to alkaline seeps and springs; perhaps extirpated (Roberts et al., 2004). | HP  | Marginally suitable habitat is present within the marsh area located within the eastern portion of the BSA. This species has a moderate potential to occur; however, this species was not detected during the 2013 focused surveys. |



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|--|--|---|---|---|
| Bottle Liverwort<br>( <i>Sphaerocarpos drewei</i> )          | -/-/1B.1/-                                       | This species occurs in chaparral and coastal scrub openings with low disturbance.   | HA  | There is no suitable habitat within the BSA for this species. In addition, there are high levels of disturbance within the BSA that the species is not expected to tolerate. Therefore, this species is not expected to occur.  |
| San Bernardino Aster<br>( <i>Symphyotrichum defoliatum</i> ) | -/-/1B.2/-                                       | Found in cismontane woodland, coastal scrub, lower montane coniferous forest, meadows and seeps, marshes and swamps, and valley and foothill grassland. Also near ditches and stream springs. Blooms from July to November at elevations from 6 to 6700 ft. | HP  | There is suitable habitat for this species within the non-native grasslands and freshwater marsh that is located within the eastern portion of the BSA. This species was not detected during the 2013 focused survey (Searle 2013) and 2015 biological review of the BSA. |
| Woven-spored Lichen<br>( <i>Texosporium sancti-jacobi</i> )  | -/-/3/-  | This species is restricted to occurring on biotic crusts in arid and semi-arid habitats, such as chaparral or on decaying organic matter. Occurs at elevations from 951 to 2,165 feet. Intolerant of disturbed sites (USDA Forest Service 2007).            | HA  | The study area is highly disturbed and does not provide conditions suitable for this species of lichen. This species is not expected to occur.  |
| California Screw Moss<br>( <i>Tortula californica</i> )      | -/-/1B.2/-                                       | This moss occurs in sandy soil in chenopod scrub and valley and foothill grassland. Elevation range of 33-4790 ft.  | HP  | There is marginally suitable habitat for this species within the non-native grasslands with mapped sandy loam   |

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|---|--|--|---|---|
|   |  |  |   | soils in the extreme western portion of the BSA. This species has a low potential to occur.   |
| Wright's Trichocoronis<br>( <i>Trichocoronis wrightii</i><br>var. <i>wrightii</i> ) | -/-/2.1/MSHCP(b)                                 | In western Riverside County, found in the alkali vernal plains and associated with alkali playa, alkali annual grassland, and alkali vernal pool habitats. This species occupies the more mesic portions of these habitats.  | HP  | There is a potential for this species to occur in the potential vernal pool located within the western portion of the BSA. This species has a low potential to occur as a result of apparent ongoing disturbance related to discing activities. |
| San Diego County Viguiera<br>( <i>Viguiera lacinata</i> )                           | -/-/4.2/-  | Perennial shrub in chaparral and sage scrub from central San Diego County south to Baja California and Sonora, Mexico; used heavily in restoration and as an ornamental in native range and northward, with nonnatives recorded north to Santa Clara County. Elevation range about 200 to 2460 ft. | HA  | The BSA lacks suitable chaparral and sage scrub habitats for this species, thus it is not expected to occur.  |
| <b>INVERTEBRATES</b>  |  |  |   |   |
| Vernal Pool Fairy Shrimp<br>( <i>Branchinecta lynchi</i> )                          | T/-/MSHCP(a)                                     | Restricted to seasonal vernal pools. The vernal pool fairy shrimp prefers cool-water pools that have low to moderate dissolved solids, which are unpredictable, and often short-lived.   | HP  | Seasonal ponding occurs in the BSA and could potentially be suitable for this species.  |
| Riverside Fairy Shrimp<br>( <i>Streptocephalus woottoni</i> )                       | E/-/MSHCP(a)                                     | Restricted to deep seasonal vernal pools, vernal pool like ephemeral ponds, and stock ponds and other human modified depressions. Species prefers warm-water pools that have low to moderate dissolved solids,   | HP  | Potentially suitable habitat occurs within the basin at the southeast corner of the BSA.  |

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|   |  | which are less predictable, and remain filled for extended periods of time. 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. All known habitat lies within annual grasslands, which may be interspersed through chaparral or coastal sage scrub vegetation. In Riverside County, found in pools formed over the following soils: Murrieta stony clay loams, Las Posas series, Wyman clay loam, and Willows soils.   |   |  |
| Quino Checkerspot Butterfly<br>( <i>Euphydryas editha quino</i> ) | E/-/-/MSHCP                                      | Habitat associations seem to be tied to both host plant species and topography. Larvae feed on <i>Plantago erecta</i> , <i>Plantago patagonia</i> , <i>Antirrhinum coulterianum</i> , <i>Cordylanthus rigidus</i> (and possibly other <i>Plantago</i> species), <i>Collinsia concolor</i> , and <i>Castilleja exserta</i> . Adults nectar mostly on small annuals; often occur on open or sparsely vegetated rounded hilltops, ridgelines, and occasionally rocky outcrops. Habitat components have been found in association with, but not restricted to vernal pools, sage scrub, chaparral, native and nonnative grassland, and open oak and juniper woodland communities. The key component seems to be open-canopied habitats. | HA  | While located within the historic range for this species, the BSA lacks host plants for larvae and is largely disjoined from suitable habitat by development; therefore, the species is not expected to occur. |
| <b>FISH</b>   |  |   |   |  |
| Arroyo Chub<br>( <i>Gila orcuttii</i> )                           | -/CSC/-/MSHCP                                    | Occur within warm, fluctuating streams and found within slow moving sections of stream containing sandy or muddy bottoms. In Riverside County, occurs within the Santa Ana and Santa Margarita River tributaries.   | A   | There are no streams within the BSA, thus this species has no potential to occur.  |

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| <b>AMPHIBIANS</b>   |  |   |   |  |
| Coast Range California Newt<br>( <i>Taricha torosa</i> )          | -/CSC/-/MSHCP                                    | Species frequent terrestrial habitats, but breed in ponds, reservoirs, and slow-moving streams. Limited information on movement between wetland sites hampers characterization of requirements at this potentially critical period in the life cycle. Loss of wetland habitats and introduction of nonnative predators, including crayfishes, appear to be the main causes of declines. | HP  | While a freshwater marsh is located within the eastern portion the BSA, suitable cover required by this species such as fallen logs and tree limbs are absent from this habitat. Therefore, there is a very low potential for the species to be present. |
| California Tiger Salamander<br>( <i>Ambystoma californiense</i> ) | T/T/CSC/-  | Occurs in grassland, oak savanna, edges of mixed woodland and low elevation coniferous forests. Often found in vernal pools. Distributed in central and northern California. There is one record of this species in Riverside County from 1892 (CNDDDB 2015), however there are no other records for this species in the region. It is believed to be extirpated.                       | HA  | Although there is a potential vernal pool within the western portion of the BSA, the BSA occurs outside of the species range. This species is not expected to occur within the BSA.  |
| Western Spadefoot<br>( <i>Spea hammondi</i> )                     | -/CSC/-/MSHCP                                    | Found primarily in grassland habitats, but can be found in valley-foothill hardwood woodlands. Vernal pools and seasonal ponds are essential for breeding and egg laying. It is found at sea level to 4,500 ft. in elevation.   | HP  | Habitat present. This species has a low potential to occur throughout the BSA due to ongoing human-induced disturbance such as discing and maintenance of existing flood control facilities.   |
| Arroyo Toad<br>( <i>Anaxyrus californicus</i> )                   | E/CSC/-/MSHCP(c)                                 | Found in slow-moving channels of rivers and streams, often with an associated riparian vegetation community component. This species requires waters with a low level of dissolved solids and a sandy/fine-to-medium gravelly substrate with very low levels of fine   | HA  | The BSA lacks suitable habitat for this species, thus the species is not expected to occur.  |

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|  |  | sediments for egg deposition and maturation of larvae.  |   |  |
| California Red-legged Frog<br>( <i>Rana aurora draytonii</i> ) | T/CSC/-/MSHCP(c)                                 | This large frog inhabits the quiet pools of streams, marshes, and ponds up to about 4,920 foot elevation. Adults feed on aquatic and terrestrial insects, snails, and a wide variety of other aquatic prey, and will also move up to a mile through riparian communities under wet conditions, such as rainfall. It prefers shorelines with extensive vegetation, and is probably very vulnerable to the introduction of exotic competitors such as Bullfrogs ( <i>Rana catesbeiana</i> ), crayfishes, and a variety of nonnative fishes. | HA  | Although a freshwater marsh located within the eastern portion of the BSA, this feature would not provide suitable habitat for this species due to its lack of connection to an associated freshwater stream and relatively shallow depth. Therefore, this species is not expected to occur. |
| <b>REPTILES</b>  |  |   |   |  |
| Western Pond Turtle<br>( <i>Emys marmorata</i> )               | -/CSC/-/MSHCP                                    | Found in association with permanent or nearly permanent water in a fairly wide variety of habitat types. It is omnivorous, taking a wide variety of plant and animal food. The pond turtle requires basking sites such as partially submerged logs, rocks, mats of floating vegetation, or open mud banks.  | HA  | While a freshwater marsh is located within the eastern portion of the BSA, it is not suitable for this species because it is isolated, heavily disturbed, and densely vegetated with cattails. This species is not expected to occur.  |
| Coast Horned Lizard<br>( <i>Phrynosoma blainvillei</i> )       | -/CSC /-/MSHCP                                   | Found in arid and semi-arid climate conditions in chaparral, coastal sage scrub, primarily below 2,000 ft in elevation. Critical factors are the presence of loose soils with a high sand fraction; an abundance of native ants or other insects, especially harvester ants ( <i>Pogonomyrmex</i> spp.); and the availability of both sunny basking spots and dense cover for refuge.   | HA  | No suitable habitat for this species is present within the BSA, thus this species is not expected to occur.  |



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| Belding's Orange-throated Whiptail<br>( <i>Aspidocelis hyperythrus beldingi</i> ) | -/ CSC/-/MSHCP                                   | Most California populations occur on or adjacent to floodplains or the terraces of streams, in or by open sage scrub and chaparral communities. The presence of perennial shrubs appears to be important, with the most strongly associated species being California Buckwheat ( <i>Eriogonum fasciculatum</i> ), Chamise ( <i>Adenostoma fasciculatum</i> ), White Sage ( <i>Salvia apiana</i> ), and Black Sage ( <i>S. mellifera</i> ). Termites are reported to constitute 57 - 95% of the diet, and foraging microsites are primarily under shrubs in leaf litter (Brattstrom 2000). | HA  | No suitable habitat for this species is present within the BSA, thus this species is not expected to occur.   |
| Coast Western Patch-nosed Snake<br>( <i>Salvadora hexalepis virgultea</i> )       | -/CSC/-/-  | Mostly restricted to habitats with a strong but broken shrub component, especially somewhat open chaparral and black sage ( <i>Salvia mellifera</i> ) or relatively mature, dense coastal sage scrub (personal communication, W. E. Haas, Varanus Biological Services), and may require ground burrows of unknown characteristics for overwintering and refuge.   | HA  | No suitable scrub habitat within the BSA. This species is not expected to occur.  |
| Two-striped Garter Snake<br>( <i>Thamnophis hammondi</i> )                        | -/CSC/-/-  | It is often in water and rarely found far from it, though it is also known to inhabit intermittent streams having rocky beds bordered by willow thickets or other dense vegetation. They will also inhabit large riverbeds if riparian vegetation is available, and even occur in artificial impoundments if both aquatic vegetation and suitable prey items (small amphibians and fish) are present (Jennings and Hayes 1994).   | HA  | The marsh in the northeast corner of the BSA is not suitable because it is isolated, heavily disturbed, and densely vegetated with cattails. This species is not expected to occur. |
| Northern Red Diamond Rattlesnake<br>( <i>Crotalus ruber ruber</i> )               | -/CSC/-/MSHCP                                    | As far north as Puente Hills in Yorba Linda and southwest San Bernardino County, and occurs south to Loreto, Baja California, Mexico; known elevation range is sea level to just under 15,000 feet, but   | HA  | The BSA lacks suitable densely vegetated scrub habitat or rock outcrops for shelter. This species is not  |

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|  |  | apparently rare above about 3,940 feet; greatest frequency in areas of heavy brush, such as Chamise chaparral, but also in open areas at lower densities; boulders and rocky outcrops.  |   | expected to occur.  |
| <b>BIRDS</b>                                 |  |   |   |   |
| White-tailed Kite ( <i>Elanus leucurus</i> ) | -/CFP/-/MSHCP                                    | Species hunts in open country. This is a strongly lowland species, apparently rare anywhere in California above 2,000 ft. Nests are flimsy and are located low in trees and large shrubs near foraging areas in savannahs and at edges between open habitat and woodland or forest areas. Its diet is largely restricted to small mammals such as voles and mice. | Foraging: HP<br>Breeding: HP                        | There is a potential for this species to forage within undeveloped portions of the BSA. In addition, a small stand of trees is located near the basin in the eastern portion of the BSA, which could potentially provide suitable nesting habitat; however, this is unlikely due to the large amount of ongoing human activity associated with the adjacent neighborhood. Therefore, there is a moderate potential for this species to forage and a very low potential for this species to nest within the BSA. |

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|--|--|---|---|---|
| Northern Harrier ( <i>Circus cyaneus</i> )     | -/CSC/-/MSHCP                                    | Species hunts low to the ground mostly in open country, nesting on the ground. Prey diversity is high, though small mammals are most commonly taken. It was formerly a fairly common breeder in much of coastal southern California, but now is nearly extirpated in this role due to loss of native open habitats, especially marshes. It remains fairly common in open country with low human disturbance during migration and in winter. | Foraging: HP<br>Breeding: HA                        | There is a potential for migrants to forage within undeveloped portions of the BSA. This species is believed not to breed within the region, thus breeding individuals would not occur.                   |
| Golden Eagle ( <i>Aquila chrysaetos</i> )      | -/CFP /-/MSHCP                                   | Forages in grassland and open savannah of many types. It tolerates considerable variation in topography and elevation. It prefers to hunt moderate-sized prey, especially California Ground Squirrels ( <i>Spermophilus beecheyi</i> ) and rabbits, but will occasionally take larger prey, such as Mule Deer ( <i>Odocoileus hemionus</i> ) fawns. It is very sensitive to human disturbance, especially near nest sites.                  | Foraging: HP<br>Breeding: HA                        | There is a potential to forage within undeveloped portions of the BSA. Nesting activity is not expected to occur within the BSA due to a lack of suitable nesting habitat, and continuous human activity. |
| Bald Eagle ( <i>Haliaeetus leucocephalus</i> ) | D/E,CFP/-/MSHCP                                  | Primarily in or near seacoasts, rivers, swamps, and large lakes. Eats mainly fish and carrion, and formerly nested locally along the coast of southern California. This species is a localized winter resident and rare migrant, with only very rare breeding efforts in coastal southern California (e.g., Lake Skinner, Riverside County).  | Foraging: HA<br>Breeding: HA                        | This species would not forage or nest within the BSA, as there are no large water bodies in the vicinity.   |
| Swainson's Hawk ( <i>Buteo swainsonii</i> )    | -/T/-/MSHCP                                      | Only occurs as a migrant in So. California; can occur in a group, foraging over recently disced agricultural fields.  | Foraging: HP<br>Breeding: HA                        | Suitable foraging habitat is present within the BSA for migrants. There is no potential for this species to breed due to the BSA occurring outside of the   |

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|  |  |   |   | species breeding range.  |
| Western Snowy Plover<br>( <i>Charadrius alexandrinus nivosus</i> ) | T/CSC/-/-  | Requires open, relatively flat areas with little or no vegetation, including undisturbed beaches, salt flats, playas, dredge spoils, levees, and river bars. Winter distribution is more coastal, and may include sewage treatment ponds and agricultural wastewater sites.   | HA  | Continuous human disturbances and lack of open or unvegetated areas within the BSA preclude this species presence. It is not expected to occur.  |
| Burrowing Owl ( <i>Athene cunicularia</i> )                        | -/ CSC /-<br>/MSHCP(c)                           | Inhabits open, dry, nearly or quite level, grassland; prairie; desert floor; shrubland should be considered potential habitat if shrub cover is below 30% (CBOC 1997). In coastal southern California, a substantial fraction of birds are found in microhabitats highly altered by man, including flood control and irrigation basins, dikes, and banks, abandoned fields surrounded by agriculture, and road cuts and margins. Strong association between Burrowing Owls and burrowing mammals, especially ground squirrels ( <i>Spermophilus</i> spp.); however they will also occupy man-made niches such as banks and ditches, piles of broken concrete, and even abandoned structures (Haug et al. 1993). | P   | Suitable habitat for nesting and foraging is present within the BSA. This species was documented within the vicinity of the BSA during focused surveys in 2013.  |
| Long-eared Owl ( <i>Asio otus</i> )                                | -/CSC/-/-  | In southern California, the species breeds and roosts in riparian and oak forests, and hunts small mammals at night in adjacent open habitats; known to breed at several dozen locales in San Diego and Orange counties (Bloom 1994; personal communication, W. E. Haas), and probably do so in smaller numbers in other coastal Southern California counties as well. Species is relatively intolerant to man-made disturbances and in particular night lighting. Foraging lands need to be rodent rich and relatively close to roosting and/or  | HA  | There are no forest habitats within or adjacent to the BSA. In addition continuous human disturbance would serve as a factor to preclude this disturbance-sensitive species from occurring within the BSA, thus this species is not expected to occur. |

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|   |  | nesting habitat.  |   |  |
| Loggerhead Shrike<br>( <i>Lanius ludovicianus</i> )                             | -/ CSC /-/MSHCP                                  | Found as a common resident and winter visitor throughout California in lowland and foothill habitats, where it frequents open areas with sparse shrubs and trees.   | HP  | There is a low potential for this species to occur within the BSA.   |
| Least Bell's Vireo<br>( <i>Vireo bellii pusillus</i> )                          | E/E/-/MSHCP(a)                                   | Found as a summer resident of southern California where it inhabits low riparian growth in the vicinity of water or in dry river bottoms below 2,000 ft. Species selects dense vegetation low in riparian zones for nesting; most frequently located in riparian stands between 5 and 10 years old; when mature riparian woodland is selected, vireos nest in areas with a substantial robust understory of willows as well as other plant species (Goldwasser 1981). | HA  | The BSA lacks riparian scrub./woodland habitat required by this species. It is not expected to occur.                                  |
| Coastal Cactus Wren<br>( <i>Campylorhynchus brunneicapillus sandiegensis</i> )  | -/CSC/-/MSHCP                                    | Non-migratory, obligate resident within a subset of coastal sage scrub habitats; require the presence of, but are not entirely restricted within, relatively arborescent (over 3 feet tall) stands of several species of cactus ( <i>Opuntia</i> spp.)  | HA  | The BSA lacks sage scrub habitat and cactus stands, therefore his species is not expected to occur.                                    |
| Coastal California Gnatcatcher<br>( <i>Polioptila californica californica</i> ) | T/CSC/-/MSHCP                                    | Year-round obligate, permanent resident of sage scrub habitat.  | HA  | The BSA lacks sage scrub habitat, therefore this species is not expected to occur.   |
| Tricolored Blackbird<br>( <i>Agelaius tricolor</i> )                            | -/CSC/-/MSHCP                                    | Nests in dense colonies in marshes and occasionally in moist thickets, agricultural fields, or sewage treatment plants.   | HA  | The marsh within the BSA is not of an adequate size (only comprises 0.16 acre) to support tricolored blackbird breeding activity. This |



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|   |  |   |   | species is not expected to occur.  |
| <b>MAMMALS</b>  |  |   |   |  |
| Western Yellow Bat<br>( <i>Lasiurus xanthinus</i> )             | -/-/CSC/-  | Occurs from southern California and western Arizona south into Mexico. Apparently non-colonial and non-hibernating. Roosts primarily in the untrimmed, dead fronds of fan palms (native and nonnative) but will also use other trees including cottonwoods. California movement data not yet clear, with indications both of some seasonal movement and year-round residence. Foraging is associated with open water (also lawns, orchards, and riparian vegetation) in grassy and scrub landscapes; feeds on varied insects. No specific threats known apart from cosmetic trimming of dead fronds on ornamentally planted palms. Vulnerable to widespread or intensive use of chemicals such as pesticides. Data indicates range expansion in California in recent decades, perhaps due to increase planting of ornamental palms, but knowledge regarding status and trends is limited. | HP  | There is a low potential for the species to roost in the BSA within ornamental trees and forage over grasslands. |
| Pocketed Free-tailed Bat<br>( <i>Nyctinomops femorosaccus</i> ) | -/CSC/-/-  | Found rarely in southwestern California; found in southeastern deserts of California, with portions of western Riverside County apparently on the periphery of their range. Species roost in high rock crevices, bridges, roofs, buildings, and cliffs, and forage primarily on large moths, especially over open water. Habitats are arid.   | HA  | There is no suitable habitat for roosting or foraging within the BA. This species is not expected to occur.      |
| San Diego Black-tailed  | -/CSC/-/MSHCP                                    | Common throughout state except at high elevations in  | HP  | There is a low potential for   |

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| Jackrabbit ( <i>Lepus californicus bennettii</i> )                       |  | herbaceous and desert shrub areas, sage scrub, grasslands, open chaparral and woodland/forest areas; relatively disturbance tolerant.   |   | this species to occur due to low availability of cover.   |
| Northwestern San Diego Pocket Mouse ( <i>Chaetodipus fallax fallax</i> ) | -/CSC/-/MSHCP                                    | Sandy herbaceous areas, usually in association with rocks and coarse gravel in southwest California; coastal and desert border areas in San Bernardino, Riverside, & San Diego counties. Elevation ranges from sea level to 6,000 ft. Vegetation community preferences include sage scrub, chamise-redshank chaparral, mixed chaparral, sage brush, desert wash, desert scrub, desert succulent scrub, pinyon-juniper, annual grassland.  | HP  | There is a low potential for this species to occur due to low availability of cover and high level of continuous human disturbance.   |
| Dulzura Pocket Mouse ( <i>Chaetodipus californicus femoralis</i> )       | -/CSC/-/-  | Occupies a wide variety of habitats year-round within its range. These include montane hardwood, valley foothill hardwood-conifer, valley foothill hardwood, annual grassland, sagebrush, chamise-redshank and montane chaparral, and coastal scrub. This species occurs in greatest abundance in habitats where grassland and chaparral are in close proximity. Found primarily at moderate elevations.  | HP  | Potentially suitable habitat occurs within the nonnative grassland within the BSA. There is only a low potential to occur due to lack of scrub habitat adjacent to the BSA and high level of continuous human disturbance.                                      |
| Stephens' Kangaroo Rat ( <i>Dipodomys stephensi</i> )                    | E/T/-/MSHCP                                      | The Stephens' kangaroo rat is found almost exclusively in open grasslands or sparse shrublands with cover of less than 50 % during the summer. Species avoids dense grasses (for example, nonnative bromes [ <i>Bromus</i> spp.]) and are more likely to inhabit areas where the annual forbs disarticulate in the summer and leave more open areas.<br><br>Soil type also is an important habitat factor. As a fossorial (burrowing) animal, the species typically is found in sandy and sandy loam soils with a low clay to | HP  | Suitable habitat is present within grasslands in the BSA. This species has a low potential to occur based on a high density of non-native grasses and forbes within the grasslands located throughout the BSA and a high level of continuous human disturbance. |

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|   |  | gravel content, although there are exceptions where they can utilize the burrows of Botta's Pocket Gopher ( <i>Thomomys bottae</i> ) and California Ground Squirrel ( <i>Spermophilus beecheyi</i> ). Tends to avoid rocky soils.<br><br>Slope is a factor in occupation; tends to use flatter slopes (i.e., < 30 %), but may be found on steeper slopes in trace densities (i.e., < 1 individual per hectare). Furthermore, the species may use steeper slopes for foraging, but not for burrows. In general, the highest abundances of species occur on gentle slopes less than 15 percent. |   |  |
| Los Angeles Pocket Mouse<br>( <i>Perognathus longimembris brevinasus</i> )  | -/CSC/-/MSHCP(c)                                 | Habitat requirements for this subspecies are poorly known; it inhabits areas of open ground, prefers fine sandy soils (for burrowing), but is also found commonly on gravel washes and on stony soils, within brush and woodland habitats. It is rarely found on sites with a high cover of rocks.  | HA  | The BSA does not occur within the MSHCP survey area for this species. In addition, there is not suitable habitat present. This species is not expected to occur. |
| Jacumba Pocket Mouse<br>( <i>Perognathus longimembris internationalis</i> ) | -/CSC/-/-  | Subspecies found in sparsely vegetated desert scrub, on sandy or gravelly soils in San Diego County. Also found in dry grassland and coastal sage scrub.  | HA  | There is no suitable habitat for this species within the BSA and it is not expected to occur within the geographic region of the BSA.                            |

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|--|--|--|---|--|
| San Diego Desert Woodrat<br>( <i>Neotoma lepida intermedia</i> ) | -/CSC/-/MSHCP                                    | Dry and/or sunny shrublands, favoring (but not requiring) areas with cacti and abundant rocks and crevices. Does not require a source of drinking water. Sage scrub communities are frequently occupied. | HA  | No scrub habitats are present within the BSA. In addition, this species is identifiable by conspicuous middens, which were not observed within the BSA during the 2013 biological survey or the 2015 biological review of the BSA. |
| Southern Grasshopper Mouse ( <i>Onychomys torridus ramona</i> )  | -/CSC/-/-  | Wide variety of dry to moderately dry scrub, grassland and woodland habitats across southern California, exclusive of the more mesic coastal areas from Ventura County north.                            | HP  | Suitable habitat is present within grasslands in the BSA. There is a low potential for occurrence due to continuous human disturbances.  |
| American Badger ( <i>Taxidea taxus</i> )                         | -/CSC/-/-  | Associated with large grassland and sparse sage scrub habitats. Occupies large dens/burrows and forages on small mammals (e.g. ground squirrels, rabbits), snakes, birds, and insects.                   | HP  | Suitable habitat is present within grasslands in the BSA. There is a low potential for occurrence of this disturbance-sensitive species due to continuous human disturbances.  |
| <b>Habitats of Concern (Depleted Natural Communities)</b>        |  |  |   |  |
| Coastal and Valley Freshwater Marsh                              | CNDDDB   | n/a  | P   | There is a small marsh located on the northeast corner of the BSA.   |
| Southern Coast Live Oak Riparian Forest                          | CNDDDB   | n/a  | A   | This community is absent from the BSA.   |
| Southern Cottonwood  | CNDDDB   | n/a  | A   | This community is absent   |

| COMMON/SCIENTIFIC NAME                    | STATUS <sup>a</sup><br>FED/STATE/<br>CNPS/ MSHCP | SPECIES REQUIREMENTS | SPECIFIC HABITAT <sup>b</sup><br>PRESENT/<br>ABSENT | RATIONALE   |
|---|--|----------------------|---|---|
| Willow Riparian Forest                    |  |                      |   | from the BSA.   |
| Southern Interior Basalt Flow Vernal Pool | CNDDB  | n/a                  | A   | This community is absent from the BSA.  |
| Southern Riparian Scrub                   | CNDDB  | n/a                  | A   | This community is absent from the BSA.  |
| Southern Sycamore Alder Riparian Woodland | CNDDB  | n/a                  | A   | This community is absent from the BSA.  |
| Valley Needlegrass Grassland              | CNDDB  | n/a                  | A   | This community is absent from the BSA.  |
| Riversidian Sage Scrub                    | CNDDB  | n/a                  | A   | This community is absent from the BSA.  |
| Vernal Pool                               | MSHCP  | n/a                  | P   | There is a depression north of Holland Road that could potentially be a vernal pool. This depression was not accessible during biological studies; therefore the status of this feature as a vernal pool is to date inconclusive. This feature will be further analyzed upon receipt of physical access right of entry. |



| COMMON/SCIENTIFIC NAME  | STATUS <sup>a</sup><br>FED/STATE/<br>CNPS/ MSHCP | SPECIES REQUIREMENTS   | SPECIFIC HABITAT <sup>b</sup><br>PRESENT/<br>ABSENT  | RATIONALE |
|---|--|--|--|-----------|
| <sup>a</sup> <u>Status Codes</u><br>Federal<br>E = Federally listed; Endangered<br>PE = Proposed Endangered<br>T = Federally listed; Threatened<br>FC = Federal Candidate for Listing<br>FSC = Federal Species of Concern<br>D = Delisted<br><br>State<br>T = State listed; Endangered<br>E = State listed; Threatened<br>SC = State Candidate for Listing<br>R = Rare (Native Plant Protection Act)<br>CSC = California Species of Special Concern<br>CFP = California Fully Protected Species |  | MSHCP<br>MSHCP = No additional action necessary<br>MSHCP(a) = Surveys may be required as part of wetlands mapping<br>MSHCP(b) = Surveys may be required within the Narrow Endemic Plant Species survey area<br>MSHCP(c) = Surveys may be required within locations shown on survey maps<br>MSHCP(d) = Surveys may be required within Criteria Area<br>MSHCP(e) = Conservation requirements identified in species-specific conservation objectives need to be met before classified as a Covered Species<br>MSHCP(f) = Covered species when a Memorandum of Understanding is executed with the Forest Service Land<br><br>Habitat <sup>b</sup> Presence/Absence Codes<br>P= The species is present.<br>HP=Habitat is or may be present. The species may be present.<br>HA= No habitat present and no further work needed.<br>A= This species is absent.<br>N/A=Not applicable as species is fully covered under MSHCP | CNPS<br>1A = Plants presumed extinct in California<br>1B = Plants rare, threatened, or endangered in California and elsewhere<br>2B = Plants rare, threatened, or endangered in California, but more common elsewhere<br>3 = Plants about which we need more information<br>4 = Limited distribution (Watch List)<br>0.1 = Seriously threatened in California<br>0.2 = Moderately threatened in California<br>0.3 = Not very threatened in California<br>CNDDDB = Vegetation communities classified as depleted by the California Department of Fish and Wildlife<br><br>Shading = Species or natural vegetation communities for which further study is not needed per the MSHCP (covered species) or for which have no potential for occurrence and impact. |           |

## Appendix E Jurisdictional Delineation Report

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# **JURISDICTIONAL DELINEATION REPORT HOLLAND ROAD/INTERSTATE 215 OVERCROSSING PROJECT MENIFEE, CALIFORNIA**

## **PREPARED FOR:**

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**July 2015**

ICF International. 2015. Jurisdictional Delineation Report for Holland Road/Interstate 215 Overcrossing Project, Menifee, California. July. (ICF 00434.14.) Riverside, CA. Prepared for City of Menifee, Menifee, CA.



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## Acronyms and Abbreviations

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|                    |   |
|--------------------|---|
| AMSL               | above mean sea level                                    |
| Caltrans           | California Department of Transportation                 |
| CDFW               | California Department of Fish and Wildlife              |
| CFR                | Code of Federal Regulations                             |
| City               | City of Menifee   |
| CWA                | Clean Water Act   |
| ELLN               | Extra Legal Load Network                                |
| EPA                | Environmental Protection Agency                         |
| FAC                | facultative   |
| FACW               | facultative wetland                                     |
| FEMA               | Federal Emergency Management Agency                     |
| GPS                | global positioning system                               |
| HU                 | hydrologic unit   |
| I-215              | Interstate 215  |
| ICF                | ICF International                                       |
| JD                 | Jurisdictional Determination                            |
| LOD                | limits of disturbance                                   |
| NHD                | National Hydrography Dataset                            |
| NI                 | no indicator  |
| NO                 | no occurrence   |
| NRCS               | Natural Resources Conservation Service                  |
| NRCS               | Natural Resource Conservation Service                   |
| NWI                | National Wetlands Inventory                             |
| OBL                | obligate  |
| OHWM               | Ordinary High Water Mark                                |
| Porter-Cologne Act | Porter-Cologne Water Quality Control Act                |
| project            | Holland Road/Interstate 215 Bridge Overcrossing Project |



|        |  |
|--------|--|
| RGL    | Regulatory Guidance Letter                 |
| ROW    | Right of Way                               |
| RPWs   | relatively permanent waters                |
| RWQCB  | Regional Water Quality Control Board       |
| SSURGO | Soil Survey Geographic                     |
| SWANCC | Solid Waste Agency of Northern Cook County |
| SWRCB  | State Water Resources Control Board        |
| TNW    | Traditional navigable water                |
| USACE  | U.S. Army Corps of Engineers               |
| USDA   | U.S. Department of Agriculture             |
| USGS   | U.S. Geological Survey                     |
| WoS    | Waters of the State                        |
| WoUS   | waters of the United States                |

# Chapter 1

## Introduction

---

On March 3, 2015, ICF International (ICF) conducted a routine-level delineation of jurisdictional waters and wetlands along Holland Road between Haun Road to Hanover Lane for the City of Menifee (City), as part of the federal and state regulatory permitting process for construction of the Holland Road/Interstate 215 (I-215) Overcrossing Project (project). The purpose of this delineation was to identify the extent of federal and state jurisdiction within and adjacent to the project site to support the resource-agency permitting process under Sections 401 and 404 of the Clean Water Act (CWA), Section 13260 of the Porter-Cologne Water Quality Control Act (Porter-Cologne Act), and Section 1602 of the California Fish and Game Code.

Section 404 of the CWA covers waters of the United States (WoUS) as well as federal wetlands and is regulated by the U.S. Army Corps of Engineers (USACE). Under Section 401 of the CWA, the Regional Water Quality Control Board (RWQCB) and the U.S. Environmental Protection Agency (EPA) regulate at the state level all activities that are regulated at the federal level by the USACE. The RWQCB/State Water Resources Control Board (SWRCB) may also regulate activities affecting non-federal waters and wetlands (e.g., isolated features) under the Porter-Cologne Act. Section 1600 of the California Fish and Game Code is regulated by the California Department of Fish and Wildlife (CDFW) and covers aquatic features, which may include lakes or streambeds with a defined bed and bank, plus any adjacent riparian vegetation. If a proposed project may affect waters or wetlands, the project site must be evaluated to determine the presence of jurisdictional waters. Permits for the proposed activity must be sought from each applicable resource agency. Details regarding each of these resource agencies as well as their regulatory authority, jurisdiction, permits, and regulatory processes are provided in Chapter 2, "Regulatory Background."

The information and results presented herein document the investigation, best professional judgment, and conclusions of ICF. It is correct and complete to the best of our knowledge. However, all jurisdictional determinations should be considered preliminary until reviewed and approved by the regulatory agencies.

## 1.1 Project Description

The City of Menifee is proposing the construct a new overcrossing at Holland Road over Interstate 215 (I-215). The proposed project would construct a new four-lane overcrossing at Holland Road that would span over the I-215 freeway and Antelope Road within the limits of the City of Menifee. The project site crosses I-215 with undeveloped land to the northwest, industrial/storage uses to the southwest, and residential development to the east. The project would also include realigning Willowood Way, re-striping Hanover Lane and Albion Lane, and constructing an access road for industrial businesses on the west side of the I-215, as well as providing and relocating essential utilities. A temporary construction laydown area is also proposed at the north and south portion of Holland Road at Haun Road. The project is being funded by the City with no federal funding involved. The City is the California Environmental Quality Act (CEQA) Lead Agency as delegated by Caltrans.

## 1.2 Project Location

The proposed project is located along Holland Road between Hanover Lane and Haun Road in the City of Menifee, Riverside County, California (Appendix A, Figure 1). It extends approximately 2,815 feet (0.05 mile) along Holland Road. The project site is mapped on the Romoland U.S. Geological Survey (USGS) 7.5-minute topographic quadrangle map (USGS 1953) along the boundaries of sections 2, 3, 10, and 11 of Township 6 south and range 3 west (Appendix A, Figure 2).

The following sections summarize the regulations imposed on each type of jurisdictional feature potentially present within the project area.

## 2.1 U.S. Army Corps of Engineers Regulated Activities

Pursuant to Section 404 of the CWA, the USACE regulates the discharge (temporary or permanent) of dredged or fill material into WoUS, including wetlands. A discharge of fill material includes, but is not limited to, grading, placing riprap for erosion control, pouring concrete, laying sod, and stockpiling excavated material into WoUS. Activities that generally do not involve a regulated discharge (if performed specifically in a manner to avoid discharges) include driving pilings, performing certain drainage channel maintenance activities, constructing temporary mining and farm/forest roads, and excavating without stockpiling.

### 2.1.1 Waters of the United States

WoUS, as defined in Code of Federal Regulations (CFR) title 33, section 328.3, include the following.

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

the purposes of the Clean Water Act, the final authority regarding Clean Water Act jurisdiction remains with EPA.

Waste treatment systems, including treatment ponds or lagoons designed to meet the requirements of CWA (other than cooling ponds as defined in 40 CFR 423.11(m) which also meet the criteria of this definition) are not waters of the United States.

The limit of USACE jurisdiction, excluding wetlands and tidal waters, is delineated using the Ordinary High Water Mark (OHWM), defined in CFR 328.3(e) as:

...that line on the shore established by the fluctuations of water and indicated by physical characteristics such as [a] clear, natural line impressed on the bank, shelving, changes in the character of soil, destruction of terrestrial vegetation, the presence of litter and debris, or other appropriate means that consider the characteristics of the surrounding areas.

## 2.1.2 Wetlands

Normally, three criteria must be satisfied to classify an area as a jurisdictional wetland: (1) a predominance of plant life that is adapted to life in wet conditions (hydrophytic vegetation); (2) soils that saturate, flood, or pond long enough during the growing season to develop anaerobic conditions in the upper part (hydric soils); and (3) permanent or periodic inundation or soils saturation, at least seasonally (wetland hydrology) (Environmental Laboratory 1987).

## 2.1.3 *Solid Waste Agency of Northern Cook County v. United States Army Corps of Engineers*

In 1986, in an attempt to clarify the reach of its jurisdiction, USACE stated that Section 404(a) extends to intrastate waters that:

...(a) are or would be used as habitat by birds protected by migratory bird treaties, or (b) are or would be used as habitat by other migratory birds which cross state lines, or (c) are or would be used as habitat for endangered species, or (d) used to irrigate crops sold in interstate commerce.” (51 Federal Register 41217).

As a result of the 2001 *Solid Waste Agency of Northern Cook County (SWANCC)* case, the U.S. Supreme Court held that USACE may not rely on the Migratory Bird Rule to establish a significant nexus to interstate or foreign commerce. Although no formal guidance was issued by USACE interpreting the extent to which the *SWANCC* decision would limit jurisdictional determinations, in practice, USACE considers intrastate waters as WoUS where there is an appropriate connection to a navigable water or other clear interstate commerce connection. Therefore, WoUS, including jurisdictional wetlands, must show connectivity with (be tributary to) a navigable WoUS to be subject to the USACE under Section 404 of the CWA.

## 2.1.4 *Rapanos v. United States and Carabell v. United States Army Corps of Engineers*

In 2006, the U.S. Supreme Court issued an opinion regarding the extent of USACE jurisdiction over certain waters under Section 404 of the CWA. The *Rapanos-Carabell* consolidated decisions addressed the question of jurisdiction over attenuated tributaries to WoUS, as well as wetlands adjacent to those tributaries.



On June 5, 2007, the USACE and the EPA issued guidance related to the *Rapanos* decision, with clarifying guidance issued on December 2, 2008. The guidance identifies those waters over which the agencies (USACE and EPA) will assert jurisdiction categorically and on a case-by-case basis. To summarize, USACE will continue to assert jurisdiction over the following features.

- Traditional navigable waters (TNWs) and their adjacent wetlands.
- Non-navigable tributaries of TNWs that are relatively permanent waters (RPWs) (e.g., tributaries that typically flow year-round or have a continuous flow at least seasonally [i.e., typically 3 months]) and wetlands that directly abut such tributaries (i.e., not separated by uplands, berm, dike, or similar feature).

For non-RPWs, the agencies will determine whether a “significant nexus” exists with a TNW using the data found in an Approved Jurisdictional Determination (JD) Form. The purpose of the significant nexus evaluation is to determine whether the existing functions of a tributary affect the chemical, physical, and/or biological integrity of a downstream TNW. Tributary characteristics that are considered when evaluating whether a significant nexus exists include volume, duration, and frequency of flow; proximity to a TNW; and hydrologic and ecologic functions performed by the tributary and all of its adjacent wetlands. Based on that information, the agencies may assert jurisdiction over the following features.

- Non-navigable tributaries that do not typically flow year-round or have continuous flow at least seasonally.
- Wetlands adjacent to such tributaries.
- Wetlands adjacent to but not directly abutting a relatively permanent non-navigable tributary.

The agencies will typically not assert jurisdiction over the following features.

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

#### **2.1.4.1 Approved Jurisdictional Determinations**

An Approved JD is an official USACE jurisdictional determination, is valid for 5 years, can be used and relied upon in a CWA citizen’s lawsuit if its legitimacy is challenged (except under extraordinary circumstances), and can be immediately appealed (33 CFR 331). Approved JDs are documented in accordance with Regulatory Guidance Letter (RGL) No. 07-01 and require the use of the Approved JD Form. Approved JDs are evaluated by the USACE and EPA.

Under the *Rapanos* guidance, an Approved JD is required for determinations for all “isolated” waters or wetlands, and is subject to review by the USACE and EPA.

#### **2.1.4.2 Preliminary Jurisdictional Determinations**

The USACE issued RGL No. 08-02 on June 26, 2008, allowing the USACE to issue Preliminary JDs for a project. A Preliminary JD is a non-binding written indication that there may be WoUS, including wetlands, on a project site and identifies the approximate location of these features. Preliminary JDs are used when a landowner, permit applicant, or other affected party elects to voluntarily waive or

set aside questions regarding CWA jurisdiction over a particular site, usually in the interest of allowing the landowner to move ahead expeditiously to obtain Section 404 authorization where the party determines that it is in his or her best interest to do so. A Preliminary JD is not an official determination regarding the jurisdictional status of potentially jurisdictional features and has no bearing on Approved JDs. A Preliminary JD cannot be used to confirm the absence of jurisdictional waters or wetlands, is advisory in nature, and cannot be appealed. It is considered “preliminary” because a recipient can later request an Approved JD if one is necessary or appropriate.

A Preliminary JD is documented using the Preliminary Jurisdictional Determination Form. For purposes of impact calculations, compensatory mitigation requirements, and other resource protection measures, a permit decision made on the basis of a Preliminary JD treats all waters and wetlands that would be affected in any way, except by the permitted activity, as if they are jurisdictional. Although a Preliminary JD may be chosen by the applicant, the district engineer reserves the right to use an Approved JD where warranted.

### 2.1.4.3 2011 Draft Clean Water Act Guidance

On April 27, 2011, the USACE and EPA issued draft guidance for determining jurisdiction under the CWA (USACE/EPA 2011). The guidance supersedes the previous guidance from 2003 regarding SWANCC (68 Federal Register 1991–1995) and 2007–2008 *Rapanos* guidance. This document reiterated the guidance issued under the *Rapanos* decision, asserting that the following waters are protected by the CWA:

- traditional navigable waters;
- interstate waters;
- wetlands adjacent to either traditional navigable waters or interstate waters;
- non-navigable tributaries to traditional navigable waters that are relatively permanent (meaning they contain water at least seasonally); and
- wetlands that directly abut relatively permanent waters.

The guidance further clarifies the criteria for defining TNWs, primarily consistent with previous guidance. In addition, a significant nexus evaluation is required for the “other waters” category of the regulations (see item 3 in Section 2.1.1, “Waters of the United States,” above). The guidance divides these waters into two categories—those that are physically proximate to other jurisdictional waters and those that are not—and discusses how each category should be evaluated.

Finally, the guidance reiterated that certain aquatic areas are generally not considered WoUS.

- Wet areas that are not tributaries or open waters and do not meet the agencies’ regulatory definition of “wetlands.”
- Waters excluded from coverage under the CWA by existing regulations.
- Waters that lack a “significant nexus” where one is required for a water to be protected by the CWA.
- Artificially irrigated areas that would revert to upland should irrigation cease.
- Artificial lakes or ponds created by excavating and/or diking dry land and used exclusively for such purposes as stock watering, irrigation, settling basins, or rice growing.

- Artificial reflecting pools or swimming pools created by excavating and/or diking dry land.
- Small ornamental waters created by excavating and/or diking dry land for primarily aesthetic reasons.
- Water-filled depressions created incidental to construction activity.
- Groundwater drained through subsurface drainage systems.
- Erosional features (gullies and rills) and swales and ditches that are not tributaries or wetlands.

## 2.2 State Regulated Activities

### 2.2.1 Section 401 of the Clean Water Act

A federal permit or license cannot be issued that may result in a discharge to WoUS unless certification under Section 401 of the CWA is granted or waived by the EPA, state, or tribe where the discharge would originate (EPA 2010). Within the proposed project area, the ability to grant, grant with conditions, deny, or waive certification falls to three separate parties: the RWQCB or SWRCB, and the EPA.

Pursuant to Section 401 of the CWA:

...any applicant for a federal permit for activities that involve a discharge to waters of the United States shall provide the federal permitting agency a certification from the state in which the discharge is proposed that states that the discharge will comply with the applicable provisions under the federal Clean Water Act.

Therefore, before USACE will issue a Section 404 permit, applicants must apply for and receive a Section 401 water quality certification or waiver, as applicable. Under Section 401 of the CWA, all activities that are regulated at the federal level by USACE are also regulated at the state level. Therefore, state jurisdiction usually includes all waters or tributaries to waters that are determined to be WoUS and, similar to WoUS, are typically delineated at the OHWM.

However, if waters are determined not to be WoUS, they may still be subject to state jurisdiction based on the Porter-Cologne Act.

### 2.2.2 Porter-Cologne Water Quality Control Act

The state also regulates activities that would involve “discharging waste, or proposing to discharge waste, within any region that could affect waters of the state” (California Water Code 13260[a]), pursuant to provisions of the Porter-Cologne Act. Waters of the State (WoS) are defined as “any surface water or groundwater, including saline waters, within the boundaries of the state” (California Water Code 13050 [e]). Such waters may include waters not subject to regulation under Section 404 (i.e., isolated features). These waters may include isolated vernal pools, isolated wetlands, or other aquatic habitats not normally subject to federal regulation under Section 404 of the CWA.

### 2.2.3 State Water Resources Control Board/Regional Water Quality Control Boards

In California, the SWRCB and nine RWQCBs regulate activities within state and federal waters under Section 401 of the CWA and the Porter-Cologne Act. The SWRCB is responsible for setting statewide policy, coordinating and supporting RWQCB efforts, and reviewing petitions that contest RWQCB actions. Each semi-autonomous RWQCB sets water quality standards, issues Section 401 certifications and waste discharge requirements, and takes enforcement action for projects occurring within its boundary. However, when a project crosses multiple RWQCB jurisdictional boundaries, the SWRCB becomes the regulating agency and issues project permits.

## 2.3 California Department of Fish and Wildlife Regulated Activities

Pursuant to Sections 1600–1616 of the California Fish and Game Code, CDFW regulates any activity that will substantially divert or obstruct the natural flow—or substantially change or use any material from the bed, channel, or bank—of any river, stream, or lake. CDFW also regulates any activity that will deposit or dispose of debris, wastewater, or other material containing crumbled, flaked, or ground pavement that may pass into any river, stream, or lake. The applicant must notify CDFW prior to such activities and obtain a Lake or Streambed Alteration Agreement.

### 2.3.1 California Department of Fish and Wildlife Jurisdiction

CDFW jurisdiction includes ephemeral, intermittent, and perennial watercourses (including dry washes) and lakes characterized by the presence of: (1) definable bed and banks, and (2) existing fish or wildlife resources. Furthermore, CDFW jurisdiction often extends to habitats adjacent to watercourses, such as oak woodlands in canyon bottoms or willow woodlands that support hydrologic functions within the riparian system. CDFW jurisdiction typically does not include features without a discernible bed and bank, such as swales, vernal pools, or wet meadows.

### 2.3.2 California Fish and Game Code Section 1602

The California Fish and Game Code mandates that:

...it is unlawful for any person to substantially divert or obstruct the natural flow or substantially change the bed, channel, or bank of any river, stream, or lake designated by the department, or use any material from the streambeds, without first notifying the department of such activity.

Historical court cases have further extended CDFW jurisdiction to include watercourses that seemingly disappear but re-emerge elsewhere. Under the CDFW definition, a watercourse need not exhibit evidence of an OHWM to be claimed as jurisdictional.

Water features such as vernal pools and other seasonal swales—where the defined bed and bank are absent, and the feature is not contiguous or closely adjacent to other jurisdictional features—are generally not asserted to fall within state jurisdiction under Section 1602. CDFW generally does not assert jurisdiction over human-made water bodies unless they are located where such natural features were previously located or (importantly) where they are contiguous with existing or prior natural jurisdictional areas.

### 3.1 Project Research

Prior to the field visit, a 200-foot-scale (1 inch = 200 feet) aerial photograph of the site was obtained and compared with USGS 7.5-minute topographic quadrangles to identify drainage features within the study area, as indicated by vegetation types, topographic changes, or visible drainage patterns. National Wetlands Inventory (NWI) (USFWS 2015) (Appendix A, Figure 3) and National Hydrography Dataset (NHD) (Appendix A, Figure 4) data for the study area (USGS 2014) were referenced to identify any mapped features such as streams and wetlands. The 100-year (1-percent annual chance) floodplain (Appendix A, Figure 5) designated by the Federal Emergency Management Agency (FEMA) was also examined. The U.S. Department of Agriculture (USDA), Natural Resources Conservation Service (NRCS) Soil Survey Geographic (SSURGO) database (USDA/NRCS 2006) was reviewed to identify the soil series that occur in the study area. Finally, the study area was carefully reviewed in Google Earth (Google Inc. 2014) in various scales, and potential jurisdictional features were marked on field maps.

The *Western Riverside County MSHCP Compliance Document* (Searl 2013) was reviewed to identify previously documented potential riparian/riverine features within the study area.

### 3.2 Field Investigation

ICF senior regulatory specialist/biologist Zackry West and biologist Marisa Flores conducted the jurisdictional waters and wetland delineation on March 3, 2015. The site was revisited on March 10, 2015, and March 11, 2015, to delineate and photograph additional areas due to adjustments in the study area. During the initial site visits, parcel 360-130-003 was not accessible, therefore this parcel was accessed and delineated on April 2, 2015 once access was granted. The jurisdictional delineation study area (study area) was defined as the proposed project's limits of disturbance (LOD) plus a 100-foot buffer. The study area was surveyed on foot (where access was permitted), and jurisdictional limits were recorded using a Trimble Yuma global positioning system (GPS) unit with a Trimble Pro XT receiver, providing sub-meter accuracy.

Common plant species observed were identified by visual characteristics and morphology in the field. Taxonomic nomenclature for plants follows the *Jepson Manual: Vascular Plants of California*, 2<sup>nd</sup> edition (Baldwin et al. 2012).

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

Potential WoUS and wetlands were delineated using methods established in the *Wetland Delineation Manual* (Environmental Laboratory 1987), the *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region* (USACE 2008a), *A Field Guide to the Identification of the Ordinary High Water Mark (OHWM) in the Arid West Region of the Western United States* (USACE 2008b), 2007 and 2008 *Rapanos* Guidance (USACE and EPA 2007 and 2008), and *Draft Guidance on Identifying Waters Protected by the Clean Water Act* (USACE/EPA 2011). Non-wetland waters were



delineated based on the presence of OHWM indicators. In addition, an OHWM data sheet was recorded for each feature and is attached in Appendix B. At each evaluation area, several parameters were considered to determine whether the sample point was within a wetland. Three criteria normally must be fulfilled in order to classify an area as a jurisdictional USACE wetland: (1) a predominance of hydrophytic vegetation, (2) the presence of hydric soils, and (3) the presence of wetland hydrology. Details of the application of these techniques are described below.

- Hydrophytic Vegetation:** The hydrophytic vegetation criterion is satisfied at a location if greater than 50 percent of all the dominant species present within the vegetation unit have a wetland indicator status of obligate (OBL), facultative wetland (FACW), or facultative (FAC) (Environmental Laboratory 1987). An OBL indicator status refers to plants that have a 99 percent probability of occurring in wetlands under natural conditions. A FACW indicator status refers to plants that usually occur in wetlands (67 to 99 percent probability) but are occasionally found elsewhere. A FAC indicator status refers to plants that are equally likely to occur in wetlands or elsewhere (estimated probability 34 to 66 percent for each). An NI (no indicator) status designates that insufficient information was available to determine an indicator status. An NO (no occurrence) status indicates that the species does not occur in the region. When a plant with an NO status is found within a region, it usually indicates that the plant is ornamental. The wetland indicator status used for this report follows the *Arid West 2014 Regional Wetland Plant List* (Lichvar et. al. 2014).
- Hydric Soils:** The definition of a hydric soil is a soil that formed under conditions of saturation, flooding, or ponding long enough during the growing season to develop anaerobic conditions in the upper part (USDA/NRCS 1994). This determination is made based on various field indicators detailed in the *Arid West Supplement* and the *Field Indicators of Hydric Soils in the United States (Version 7.0)* (USDA/NRCS 2010).
- Wetland Hydrology:** Wetland hydrology is determined using indicators of inundation or saturation (flooding, ponding, or tidally influenced) detailed in the *Wetland Delineation Manual* and the *Arid West Supplement*.

According to Section 5, Problem Areas, of the *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region*, vegetated sand/gravel bars are considered hydric problem area soils. Vegetated sand/gravel bars can be identified by the presence of coarse soils on a vegetated bar above the bottom elevation of the active channel of rivers or streams. These soils typically lack hydric soil indicators due to the deposition of new soil, thus not existing in place for the duration required for anaerobic activity to produce hydric soil indicators. Areas meeting the definition of vegetated sand/gravel bars were delineated as USACE jurisdictional wetlands to the outer extent of the combination of the following three parameters: predominance of hydrophytic vegetation, wetland hydrology, and recently deposited coarse soils on a vegetated bar above the bottom elevation of the active channel of the associated feature.

### 3.2.2 State Jurisdiction

Evaluation of state jurisdiction followed guidance from Section 401 of the CWA and typically follows the same jurisdictional areas as USACE. In addition, the study area was evaluated for resources potentially regulated under the Porter-Cologne Act (i.e., isolated features).

### **3.2.3 California Department of Fish and Wildlife Jurisdiction**

CDFW jurisdiction typically includes water features with a defined bed and bank. Evaluation of potentially jurisdictional areas followed the guidance of relevant standard practices by CDFW personnel. Briefly, CDFW jurisdiction was delineated by measuring the outer width and length boundaries of potentially jurisdictional areas, consisting of the greater of either the top of bank measurement or the extent of associated riparian or wetland vegetation.

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## Chapter 4

# Environmental Setting

This chapter describes the topography, land use, hydrology, vegetation characteristics, and soils associated with the study area.

### 4.1 Topography

The study area is located in the Menifee Valley of Southern California. General topography follows a gentle slope from west to east and is relatively flat. Elevation within the study area ranges from approximately 1,430 feet above mean sea level (AMSL) in the northern portion to approximately 1,460 feet AMSL in the southeast portion.

### 4.2 Land Use

The study area contains a mix of agriculture/vacant lands, commercial areas, and residential communities. Agricultural lands account for approximately 1/3 of the study area and are currently covered in non-native grasses and weeds. Soil disturbance (i.e., discing) regularly occurs at these locations. Commercial areas occur west of the I-215 and consist of a self-storage/Uhaul business and a construction heavy equipment storage lot. Residential areas occur east of I-215 and consist of Cantabria Apartment Homes and a single-family housing community south of Holland Road.

### 4.3 Hydrology

#### 4.3.1 Precipitation

Average precipitation in Menifee is approximately 11.18 inches per year (U.S. Climate Data 2015). Table 4-1 summarizes the average precipitation for the project area.

**Table 4-1. Rainfall Data Summary for the Project Area (in inches)**

|                                      | Jan  | Feb  | Mar  | Apr  | May  | Jun  | Jul  | Aug  | Sep  | Oct  | Nov  | Dec | Total |
|--------------------------------------|------|------|------|------|------|------|------|------|------|------|------|-----|-------|
| Average                              | 2.24 | 3.31 | 1.65 | 0.91 | 0.31 | 0.04 | 0.04 | 0.24 | 0.12 | 0.43 | 0.59 | 1.3 | 11.18 |
| *Data source: U.S. Climate Data 2015 |      |      |      |      |      |      |      |      |      |      |      |     |       |

#### 4.3.2 Hydrologic Unit

The study area is located within the Lower San Jacinto hydrologic unit (HU) (Appendix A, Figures 6a and 6b). The Lower San Jacinto HU drains into the San Jacinto River and eventually discharges at Mystic Lake. Many of the existing drainages within this watershed are ephemeral or intermittent, and some are manipulated and/or channelized within urban concrete channels.

## 4.4 Soils

The Natural Resource Conservation Service (NRCS) has mapped the soil series listed below as occurring within the study area (Appendix A, Figure 7). The mapping is based on SSURGO data within the Web Soil Survey (USDA/NRCS 2015) database.

- Arbuckle loam, 2 to 8 percent slopes
- Escondido fine sandy loam, 2 to 8 percent slopes, eroded
- Honcut sandy loam, 2 to 8 percent slopes
- Wyman loam, 2 to 8 percent slopes, eroded
- Yokohl loam, 2 to 8 percent slopes
- Ysidora gravelly very fine sandy loam, 2 to 8 percent slopes, eroded

### 4.4.1 Arbuckle Series

Arbuckle soils are very deep, well drained soils that are formed in alluvial materials from conglomerate and metasedimentary rocks. The Arbuckle series typically occur on low terraces between elevations of 90 to 2,000 feet and have slopes from 0 to 75 percent. The soils exhibit negligible to high run off and have moderately slow to slow permeability. Arbuckle loam, 2 to 8 percent slopes occurs within the study area (USDA/NRCS 2003).

### 4.4.2 Escondido Series

Escondido soils are well-drained soils that typically occur on gently rolling to hilly topography in foothills between elevations of 400 to 2,800 feet. The soils exhibit medium run off and have moderate permeability. Escondido fine sandy loam, 2 to 8 percent slopes, eroded occurs within the study area (USDA/NRCS 1998).

### 4.4.3 Honcut Series

The Honcut soil series consists of very deep, well drained soils that formed in alluvium dominantly from basic rocks, but are derived from acid igneous rocks in some places. The series occurs on floodplains and alluvial fans at elevations less than 2,000 feet. It has slow to medium runoff, moderately rapid permeability, and slopes are 0 to 9 percent. Honcut sandy loam, 2 to 8 percent slopes occurs within the study area (USDA/NRCS 2003).

### 4.4.4 Wyman Series

The Wyman soil series consists of deep, well drained soils that formed in alluvium from andesitic and basaltic rocks. The series occurs on old stream terraces and old alluvial fans at elevations of 300 to 2,500 feet. It has slow to medium runoff, moderately slow permeability, and slopes are 0 to 15 percent. Wyman loam, 2 to 8 percent slopes, eroded occurs within the study area (USDA/NRCS 2003).

#### **4.4.5 Yokohl Series**

The Yokohl soil series consists of well drained soils that developed on alluvium from basic igneous rocks. These soils are found on gentle sloping old fans and terraces at elevations less than 500 feet. The Yokohl series soils have very slow to rapid runoff and slow to very slow permeability. Within the study area, the series is mapped as Yokohl loam, 2 to 8 percent slopes. The Yokohl soils would be considered hydric if they occur in depression areas (USDA/NRCS 1997).

#### **4.4.6 Ysidora Series**

Soils within the Ysidora series are moderately well drained soils that occur on gently to strongly sloping alluvial fans and terraces at elevations of about 500 to 2,500 feet. These soils have medium runoff and very slow permeability. Ysidora gravelly very fine sandy, 2 to 8 percent slopes, eroded occurs within the study area (USDA/NRCS 2003).



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## Chapter 5

# Jurisdictional Delineation Results

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This chapter describes the delineated features and expected jurisdictional status within the study area. This report documents existing conditions within the study area. An impact analysis is not included as a part of this report.

Figures 8a and 8b depict the results of the jurisdictional delineation (Appendix A). OHWM datasheets (USACE 2010) are provided in Appendix B, wetland determination data forms are provided in Appendix C, site photographs are provided in Appendix D, and a preliminary jurisdictional determination form is included in Appendix E.

The information and results included herein document the investigation, best professional judgment, and conclusions of ICF. It is correct and complete to the best of our knowledge. However, all jurisdictional determinations should be considered preliminary until reviewed and approved by the regulatory agencies.

## 5.1 Delineated Feature Descriptions

Six features were observed and documented within the study area and included USACE jurisdictional wetlands and areas of CDFW jurisdictional vegetation (Table 5-1)(Appendix A, Figures 8a and 8b). These potentially jurisdictional features within the study area were delineated with the understanding that a request for a Preliminary JD would be submitted to the USACE for the project. As such, all features are considered USACE jurisdictional WoUS and subject to RWQCB jurisdiction. In addition, all features identified were determined to be subject to CDFW jurisdiction based on the presence of bed and bank.

### 5.1.1 Feature 1 (Old Paloma Wash)

Feature 1 is an earthen ephemeral channel that originates south of Holland Road and west of the storage facility. The feature traverses to the north side of Holland Road through a 60-inch corrugated metal pipe culvert, parallels Holland Road to the east and then veers north at the I-215. The downstream portion of Feature 1 parallels the I-215 to the north, crosses under Newport Road, and continues to Salt Creek. This feature drains runoff from adjacent uplands and is tributary to Salt Creek. Historically, Feature 1 drained a much larger watershed to the south; however, in 2008/2009, the Paloma Wash Flood Control Channel was constructed (refer to Feature 6, below) and began intercepting upstream flows that historically flowed into Feature 1. Therefore, the hydrologic regime within Old Paloma Wash has been modified such that only ephemeral flows from adjacent uplands are conveyed through the channel. Feature 1 is partially vegetated by upland species such as Menzies's fiddleneck (*Amsinckia menzeisii*; NI). Dead prickly Russian thistle (*Salsola tragus*; FACU) that had collected within the channel was also observed.

The OHWM indicators observed within the channel included presence of bed and bank, drift deposits, sediment deposits, and change in vegetation cover (Appendix B). The width of the OHWM ranged from 2 feet to 15 feet. The width of the bed and bank defining the limits of CDFW jurisdiction ranged from 3 feet to 25 feet.

The USACE and RWQCB jurisdictional areas within Feature 1 (Old Paloma Wash) within the study area totaled approximately 0.26 acre (1,755 linear feet) of non-wetland WoUS/WoS (Appendix A, Figure 8a). In addition, there are approximately 0.61 acre (1,755 linear feet) of unvegetated streambed within the study area that are subject to CDFW jurisdiction (Appendix A, Figure 8b). There are no wetlands or riparian vegetation associated with Feature 1 within the BSA.

## 5.1.2 Feature 2

Feature 2 is a depression on the south side of Holland Road just north of the construction yard and was inundated during the jurisdictional delineation. Vegetation within the depression comprised of upland plants such as Menzies's fiddleneck (NI), stinknet (*Oncosiphon piluliferum*; FACU), Shepard's purse (*Capsella bursa-pastoris*; FACU), and red maids (*Callindrinia ciliata*; FACU). Soils at the west end of this feature had recently been disturbed by machinery associated with weed removal in the area. The OHWM indicators included surface water, mud cracks, and surface relief.

The USACE and RWQCB jurisdictional areas associated with Feature 2 within the study area totaled approximately 0.07 acre of non-wetland WoUS/WoS (Appendix A, Figure 8a). In addition, there are approximately 0.16 acre of unvegetated streambed subject to CDFW jurisdiction (Appendix A, Figure 8b). There are no wetlands or riparian vegetation associated with Feature 2.

## 5.1.3 Feature 3

Feature 3 is located at the northeast corner of Hanover Lane and Holland Road. Based on historical aeriels, this area appears to have been supported by groundwater in the past. In addition, urban runoff from surrounding residential areas has increased the amount of water that enters this feature, and it now receives water year-round. Flows within this feature spread across the adjacent agricultural field and lost as a result of percolation and/or evaporation. Vegetation within the Feature 3 was dominated by southern cattail (*Typha domingensis*; OBL), tall flatsedge (*Cyperus eragrostis*; FACW), curly dock (*Rumex crispus*; FAC), fringed willowherb (*Epilobium ciliatum*; FACW), Spanish false fleabane (*Pulicaria paludosa*; FAC), and chamomile (*Chamaemelum nobile*; NI). A portion of Feature 3 met the three parameter requirements of a federal wetland (Appendix C, SP-3 and SP-4). The OHWM of the non-wetland portion of Feature 3 was determined by surface soil cracks, biotic crust, and drift deposits.

The USACE and RWQCB jurisdictional areas associated with Feature 3 within the study area totaled approximately 0.22 acre of non-wetland and 0.10 acre wetland WoUS/WoS (Appendix A, Figure 8a). In addition, there are approximately 0.28 acre of unvegetated streambed and 0.105 acre of riparian vegetation subject to CDFW jurisdiction (Appendix A, Figure 8b).

## 5.1.4 Feature 4

Feature 4 is a retention basin at the southeast corner of Hanover Lane and Holland Road. This basin serves to catch and retain runoff water from adjacent upland areas. Soils within the basin were comprised of a sandy loam and vegetation was primarily upland species such as ripgut brome (*Bromus diandrus*; NI), Menzies's fiddleneck (NI), and shortpod mustard (NI). The OHWM indicators included sediment deposits and break in bank slope throughout various portions of the basin. In addition, a single Fremont cottonwood (*Populus fremontii*; FAC) and a single Goodding's black willow (*Salix gooddingii*; FACW) are present on the southern bank of the basin.

The USACE and RWQCB jurisdictional areas associated with Feature 4 within the study area totaled approximately 0.10 acre of non-wetland WoUS/WoS (Appendix A, Figure 8a). In addition, there are approximately 0.23 acre of unvegetated streambed and 0.04 acre of riparian vegetation subject to CDFW jurisdiction (Appendix A, Figure 8b).

### 5.1.5 Feature 5

Feature 5 is a small ephemeral constructed feature on the west side of the I-215 within the Caltrans ROW. Feature 5 conveys road runoff west into Feature 1. This feature was not physically accessed because of the existing freeway construction. Based on observations by Searl (2013), this feature is unvegetated and surrounded by nonnative grasslands. The width of the OHWM and top of bank each were approximately 2 feet.

The USACE and RWQCB jurisdictional areas associated with Feature 5 within the study area totaled less than 0.01 acre (76 linear feet) of non-wetland WoUS/WoS (Appendix A, Figure 8a). In addition, there are less than 0.01 acre (76 linear feet) of unvegetated streambed subject to CDFW jurisdiction (Appendix A, Figure 8b). There are no wetlands or riparian vegetation associated with Feature 5.

### 5.1.6 Feature 6 (Paloma Wash Flood Control Channel)

Feature 6 consists of the Paloma Wash Flood Control Channel at the west end of the study area. This feature conveys the upstream flows that were redirected from Paloma Wash in 2008/2009 (as described above in the discussion of Feature 1 [Old Paloma Wash]) downstream to Salt Creek. Soils within the channel are primarily sandy and vegetation consisted of upland species such as Menzies's fiddleneck (NI) and shortpod mustard (NI). In addition, one small saltcedar (*Tamarix ramosissima*; FAC) was present in the study area. OHWM indicators included drift deposits and sediment deposits.

The USACE and RWQCB jurisdictional areas associated with Feature 6 within the study area totaled approximately 0.32 acre (284 linear feet) of non-wetland WoUS/WoS (Appendix A, Figure 8a). In addition, there are approximately 0.49 acre (284 linear feet) of unvegetated streambed subject to CDFW jurisdiction (Appendix A, Figure 8b). There are no wetlands or CDFW riparian vegetated areas associated with Feature 6. The single tamarisk within the drainage is too small to be considered CDFW riparian.

## 5.2 Delineation Results Summary

Within the entire project study area, six features potentially subject to the jurisdiction of the USACE, RWQCB, and CDFW were delineated. Only one feature, Feature 3, supported areas that met the three-parameter criteria for USACE jurisdictional wetlands and supported riparian habitat at the time the delineation was conducted. Table 5-1 summarizes the USACE, RWQCB, and CDFW total jurisdictional waters within the study area.

**Table 5-1. Summary of Jurisdictional Delineation Results in Study Area**

| <b>Feature</b>                                  | <b>USACE/RWQCB<br/>Non-Wetland WoUS<br/>(acres/linear feet)</b> | <b>USACE/RWQCB<br/>Wetland WoUS<br/>(acres)</b> | <b>CDFW Unvegetated<br/>Streambed<br/>(acres/linear feet)</b> | <b>CDFW<br/>Riparian<br/>(acres)</b> |
|---|---|---|---|--------------------------------------|
| Feature 1 (Old Paloma Wash)                     | 0.26 acre<br>1,755 linear feet                                  | 0 acre  | 0.61acre<br>1,755 linear feet                                 | 0 acre                               |
| Feature 2                                       | 0.07 acre<br>N/a  | 0 acre  | 0.16 acre<br>N/a  | 0 acre                               |
| Feature 3                                       | 0.22 acre<br>N/a  | 0.10 acre                                       | 0.28 acre<br>N/a  | 0.10 acre                            |
| Feature 4                                       | 0.10 acre<br>N/a  | 0 acre  | 0.23 acre<br>N/a  | 0.04 acre                            |
| Feature 5 - Inferred                            | <1/100 <sup>th</sup> acre<br>76 linear feet                     | 0 acre  | <1/100 <sup>th</sup> acre<br>76 linear feet                   | 0 acre                               |
| Feature 6 (Paloma Wash Flood Control Channel)   | 0.32 acre<br>284 linear feet                                    | 0 acre  | 0.49 acre<br>284 linear feet                                  | 0 acre                               |
| <b>TOTAL</b>                                    | <b>0.97 acre<br/>2,115 linear feet</b>                          | <b>0.10 acre</b>                                | <b>1.77 acres<br/>2,115 linear feet</b>                       | <b>0.14 acre</b>                     |
| Note: Acreages are rounded to the nearest 0.01. |   |   |   |                                      |

## 5.3 List of Delineators and Report Preparers/Reviewer

Zackry West, Southern California Transportation Biology Manager/Senior Regulatory Specialist/Biologist—Delineator/Report Reviewer

Megan Jameson, Senior Regulatory Specialist – Report Reviewer

Marisa Flores, Associate Biologist –Delineator

Amanda Parra, Biologist – Report Preparer

Brittany Buscombe—GIS Specialist

Mindy Farnsworth—Technical Editor

## Chapter 6

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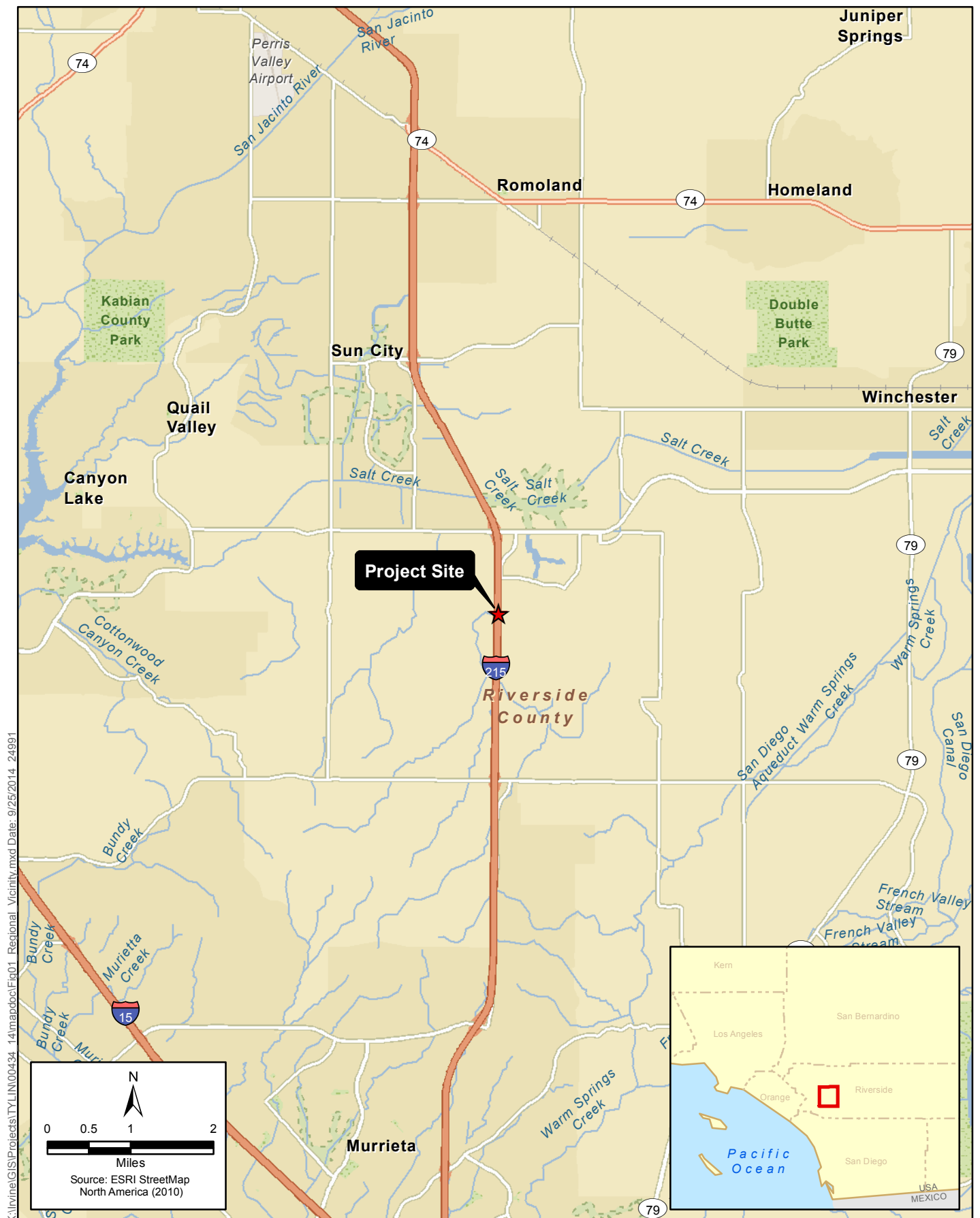
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- U.S. Geological Survey in cooperation with U.S. Environmental Protection Agency, USDA Forest Service, and other federal, state and local partners. 2015. National Hydrography Dataset website. Available: <ftp://nhdftp.usgs.gov/DataSets/Staged/States/>. Accessed: March 2015.

## Appendix A

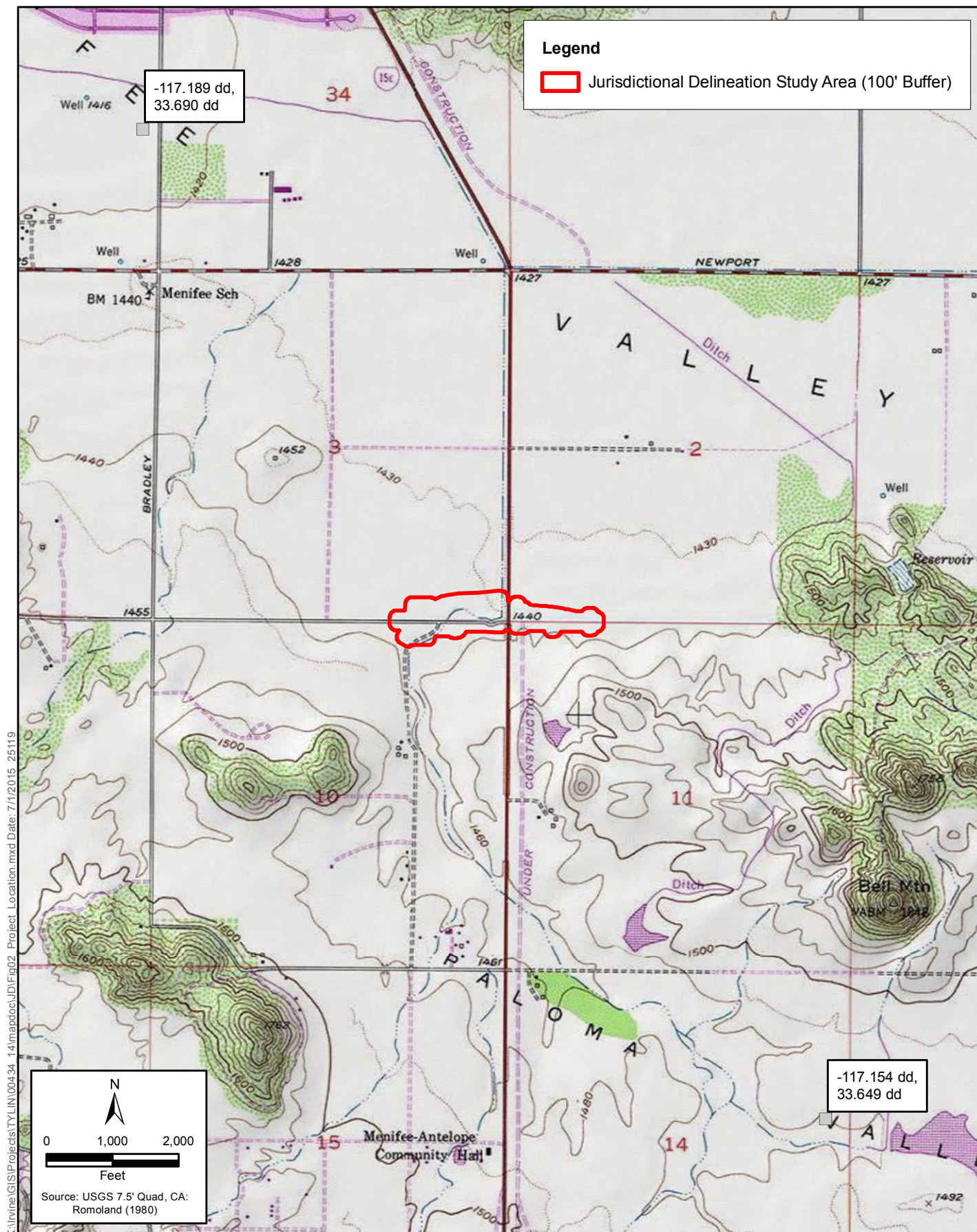
### **Figures**

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**Figure 1**  
**Regional Vicinity Map**  
**Holland Road/I215 Bridge Overcrossing**



**Figure 2**  
**Project Location**  
**Holland Road/I-215 Bridge Overcrossing**





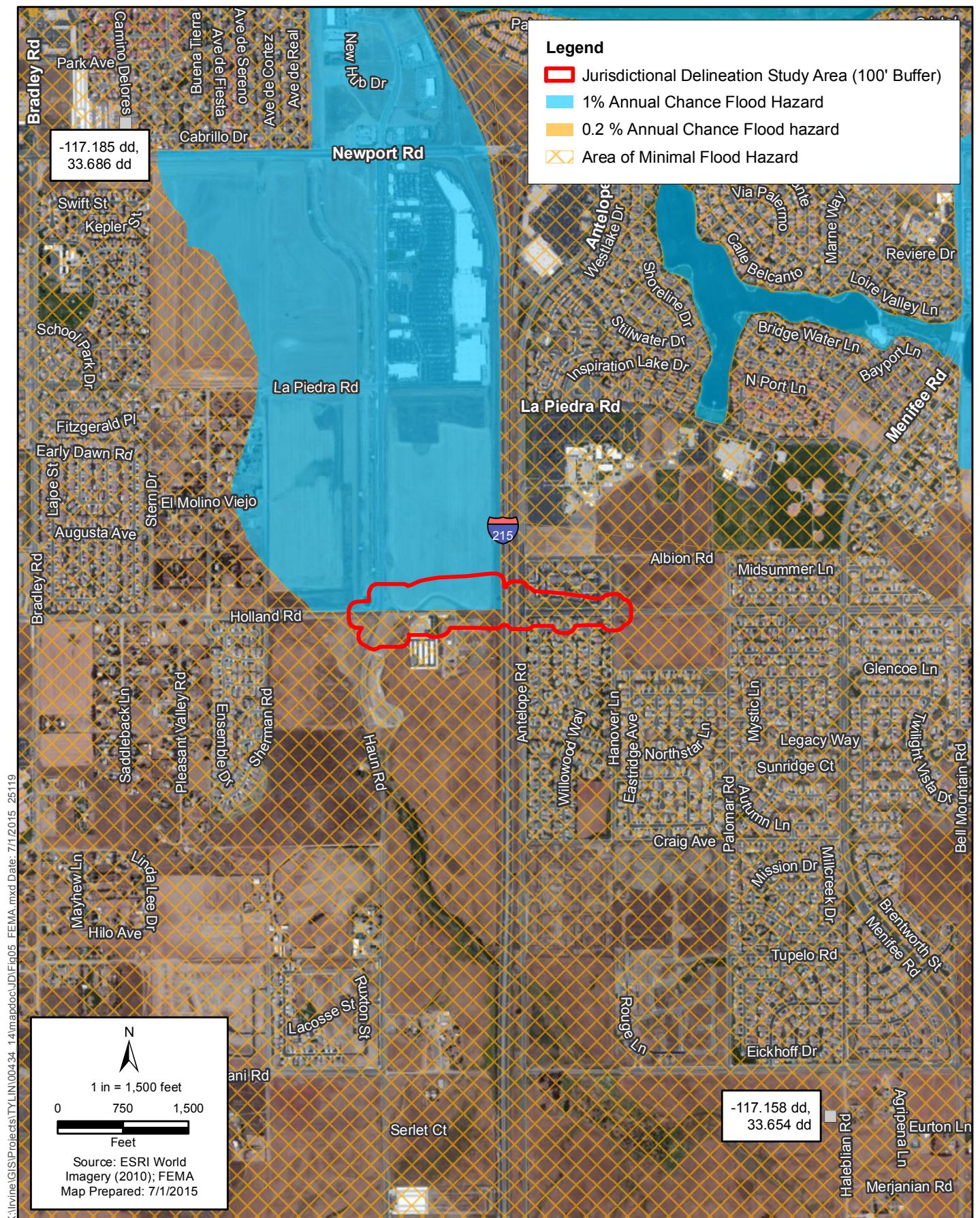
**Figure 3**  
**National Wetlands Inventory Map**  
**Holland Road/I-215 Bridge Overcrossing**





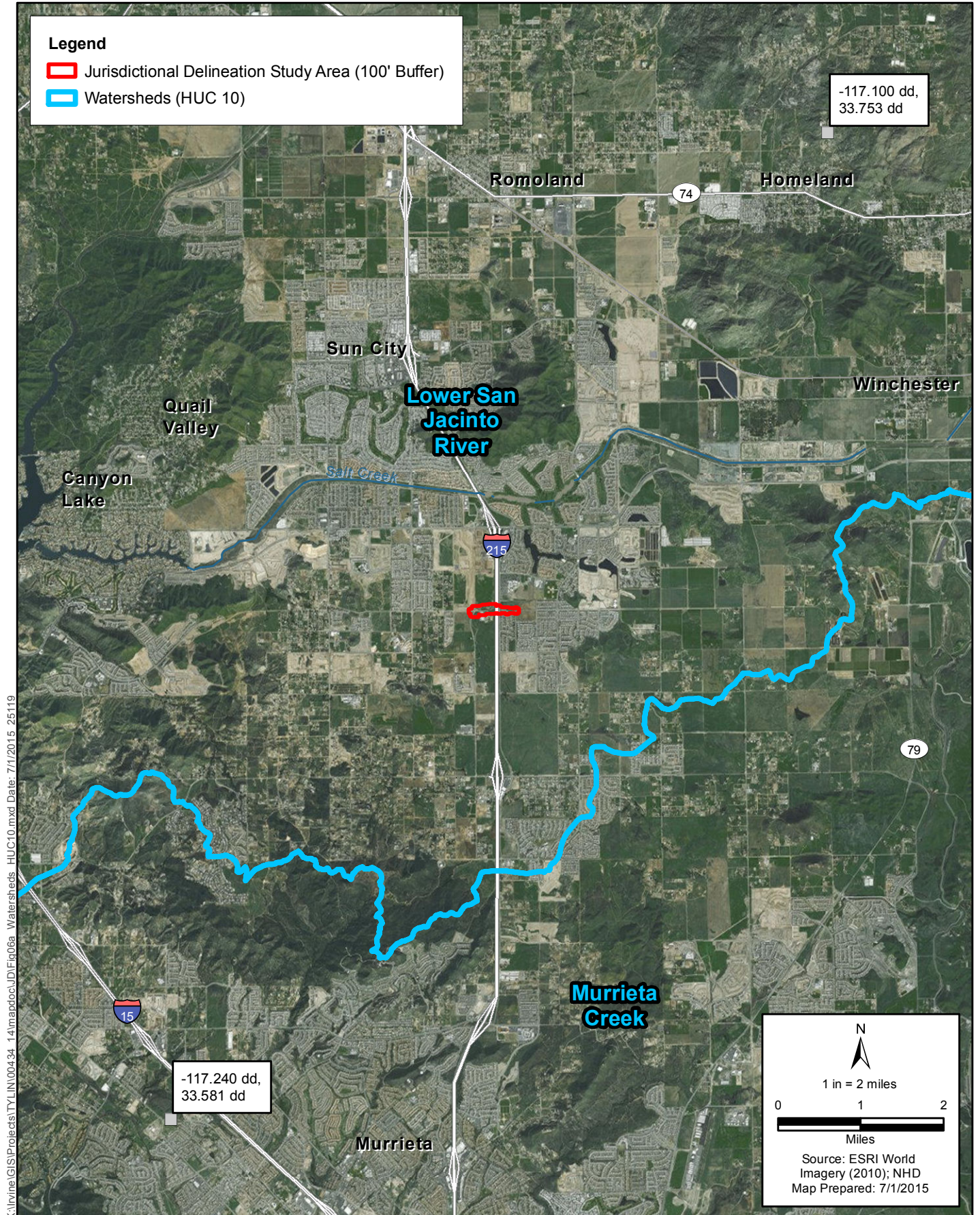
**Figure 4**  
**National Hydrography Dataset Map**  
**Holland Road/I-215 Bridge Overcrossing**





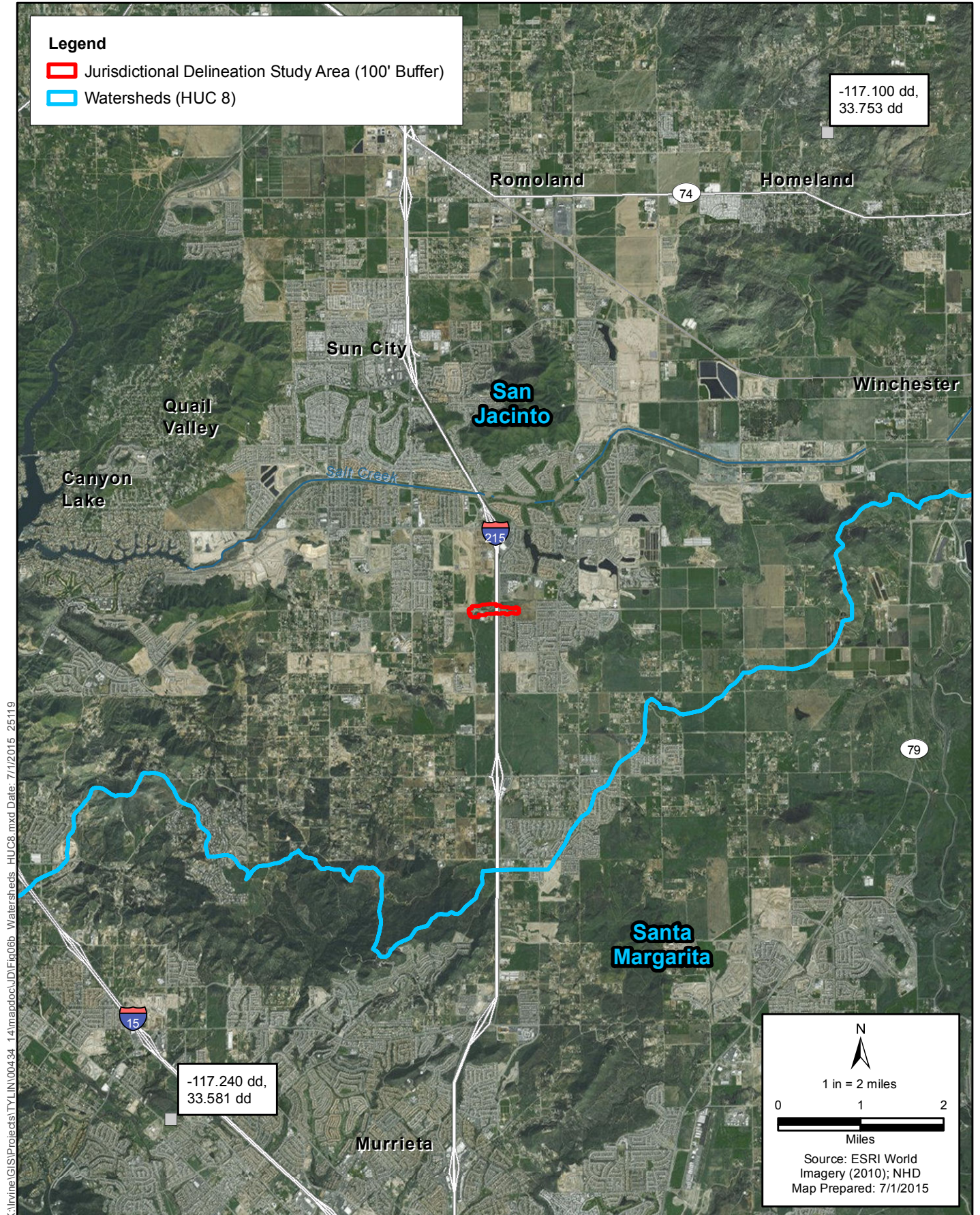
**Figure 5**  
**FEMA 100-Year Floodplain Map**  
**Holland Road/I-215 Bridge Overcrossing**





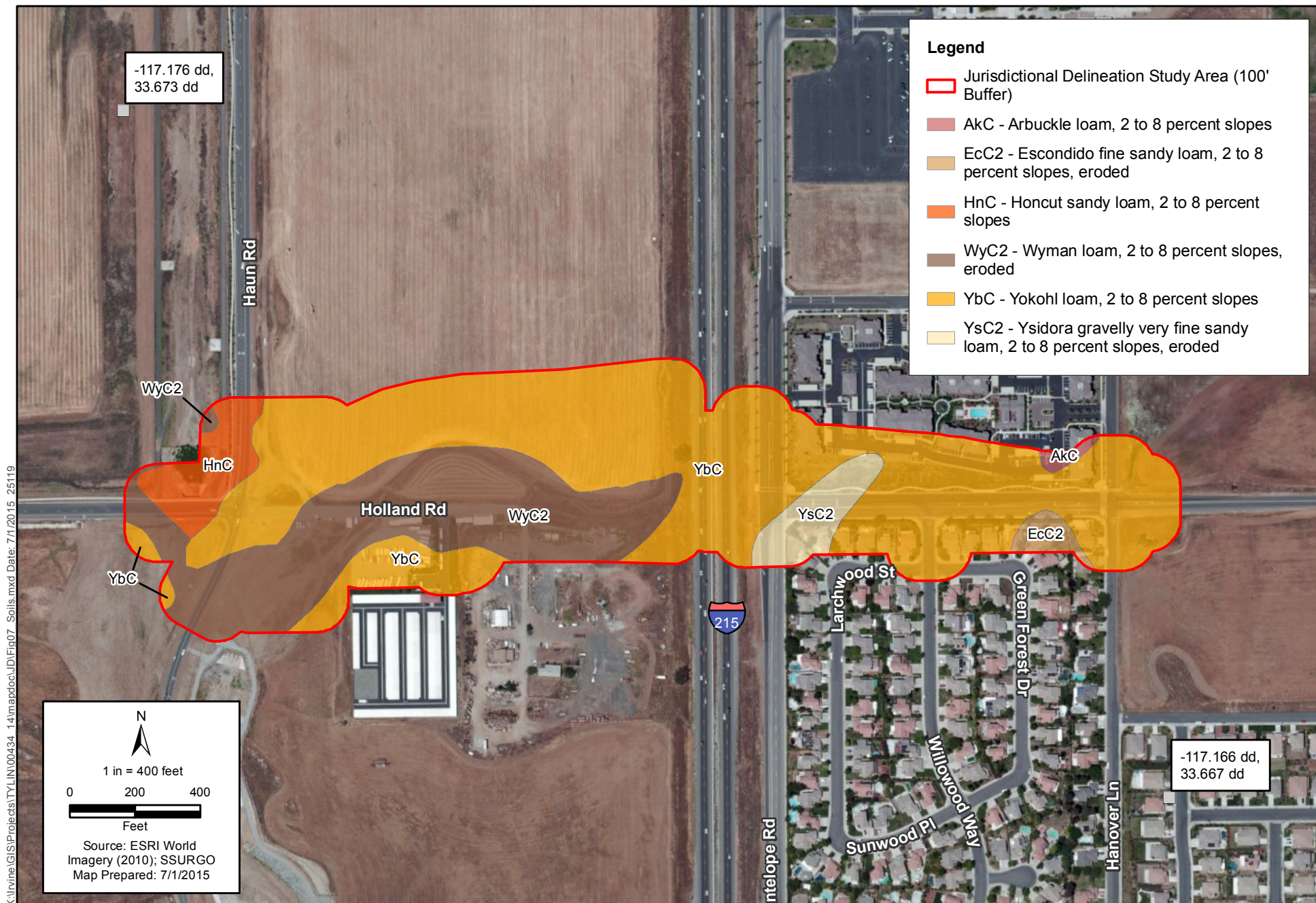
**Figure 6a**  
**Watersheds - HUC 10**  
**Holland Road/I-215 Bridge Overcrossing**





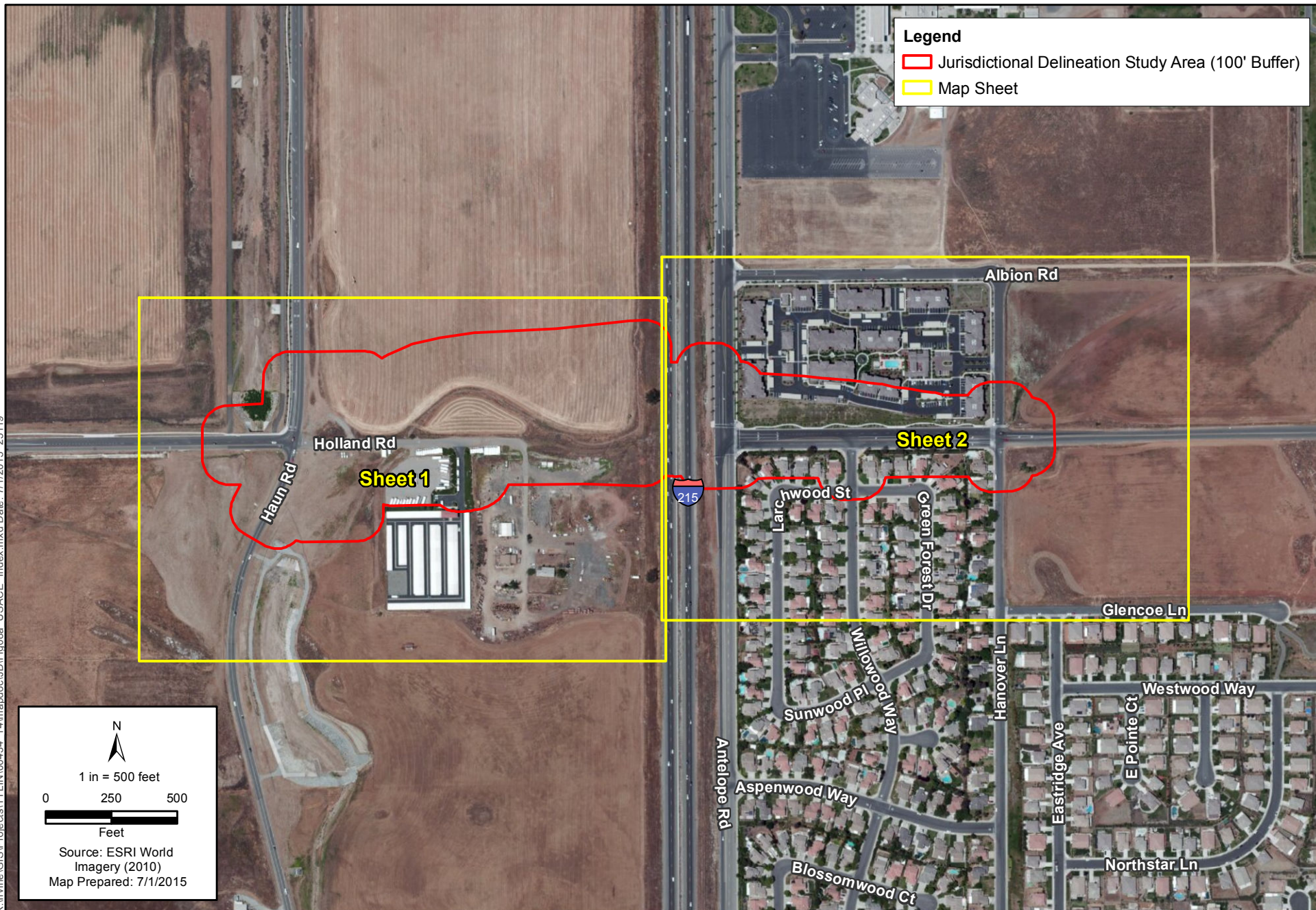
**Figure 6b**  
**Watersheds - HUC 8**  
**Holland Road/I-215 Bridge Overcrossing**





**Figure 7**  
**NRCS Soils Survey Map**  
**Holland Road/I-215 Bridge Overcrossing**





**Figure 8a - Index Sheet**  
**USACE/RWQCB Jurisdictional Delineation Results**  
**Holland Road/I-215 Bridge Overcrossing**



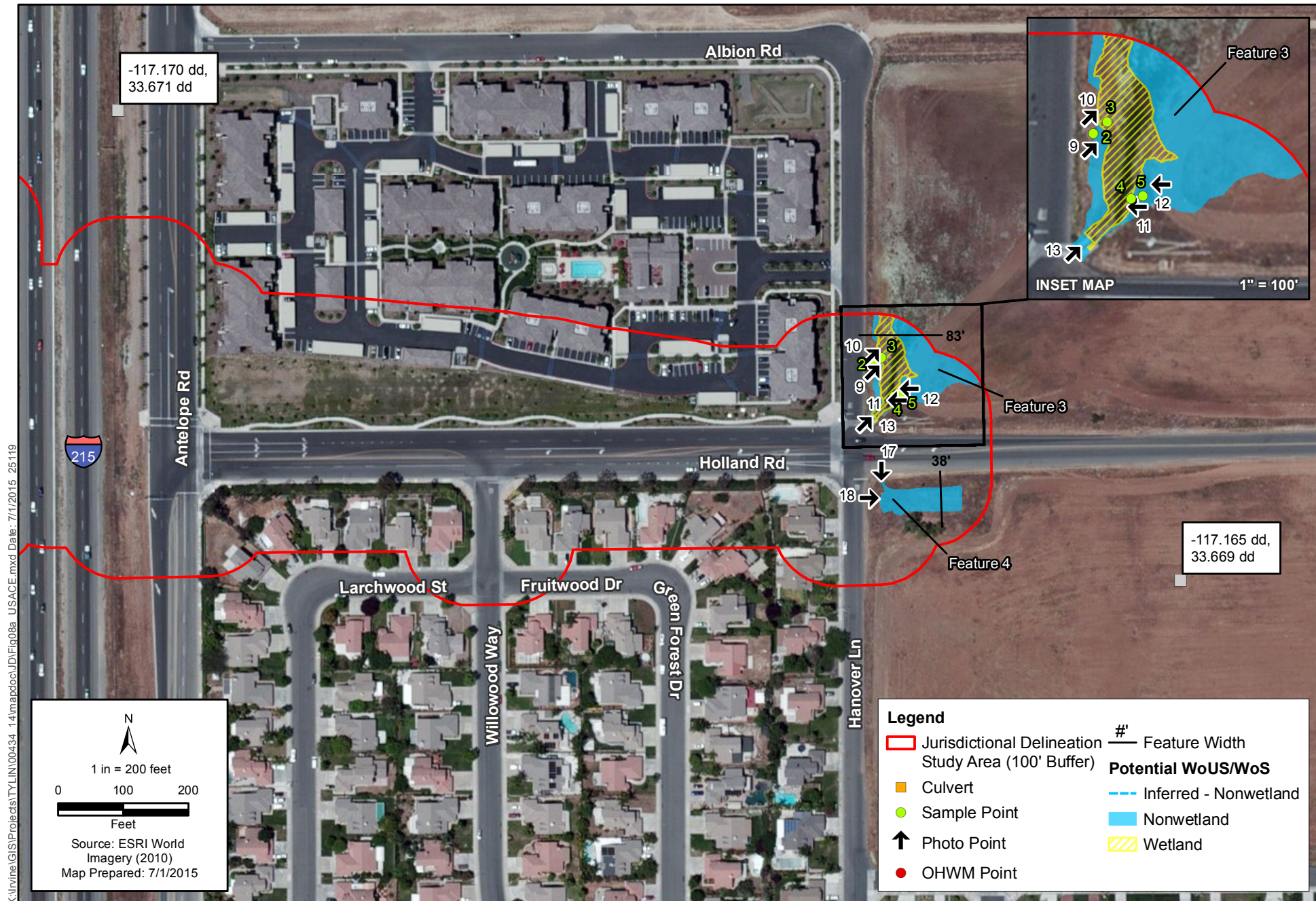




**Figure 8a - Sheet 1**  
**USACE/RWQCB Jurisdictional Delineation Results**  
**Holland Road/I-215 Bridge Overcrossing**



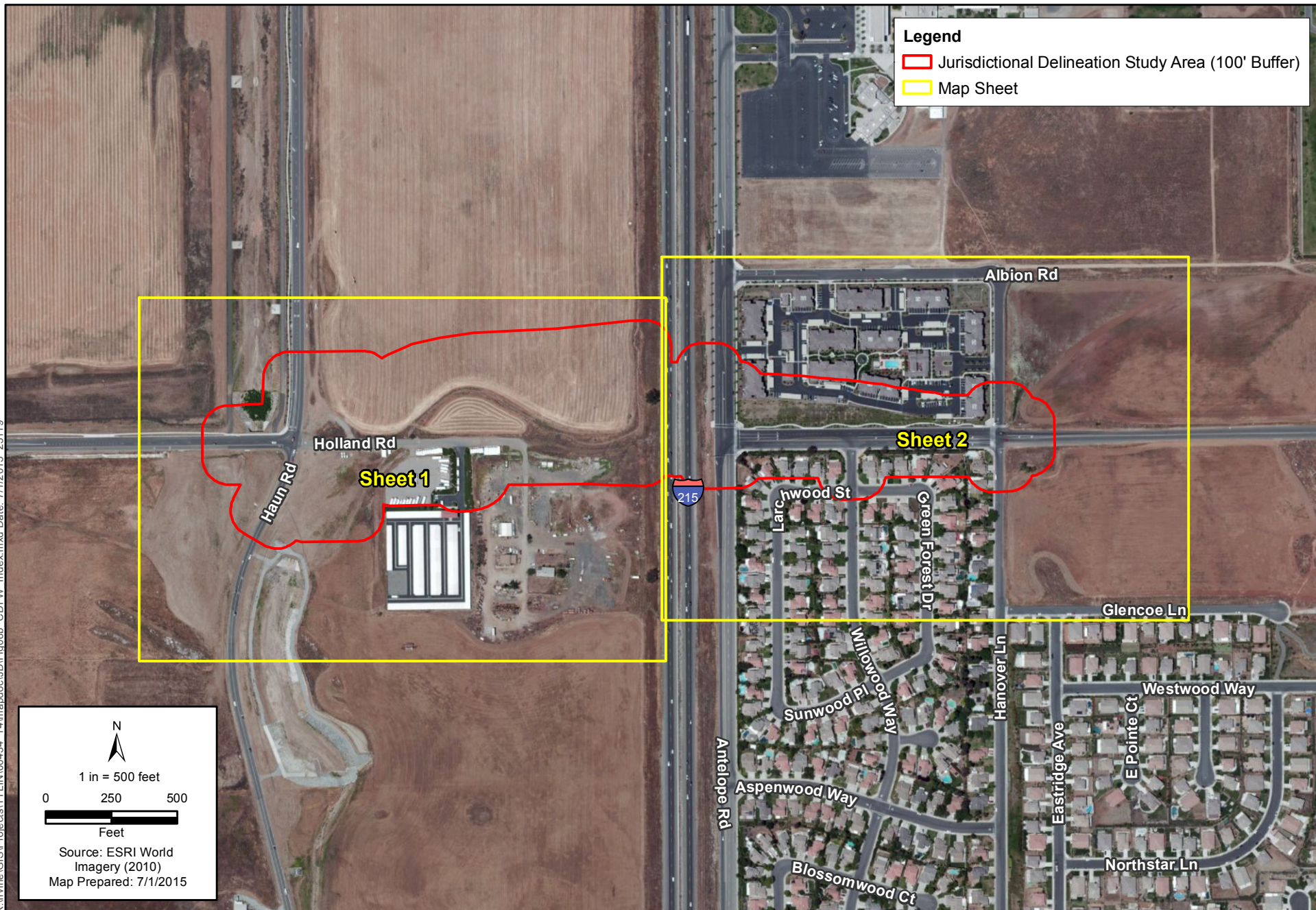




**Figure 8a - Sheet 2**  
**USACE/RWQCB Jurisdictional Delineation Results**  
**Holland Road/I-215 Bridge Overcrossing**



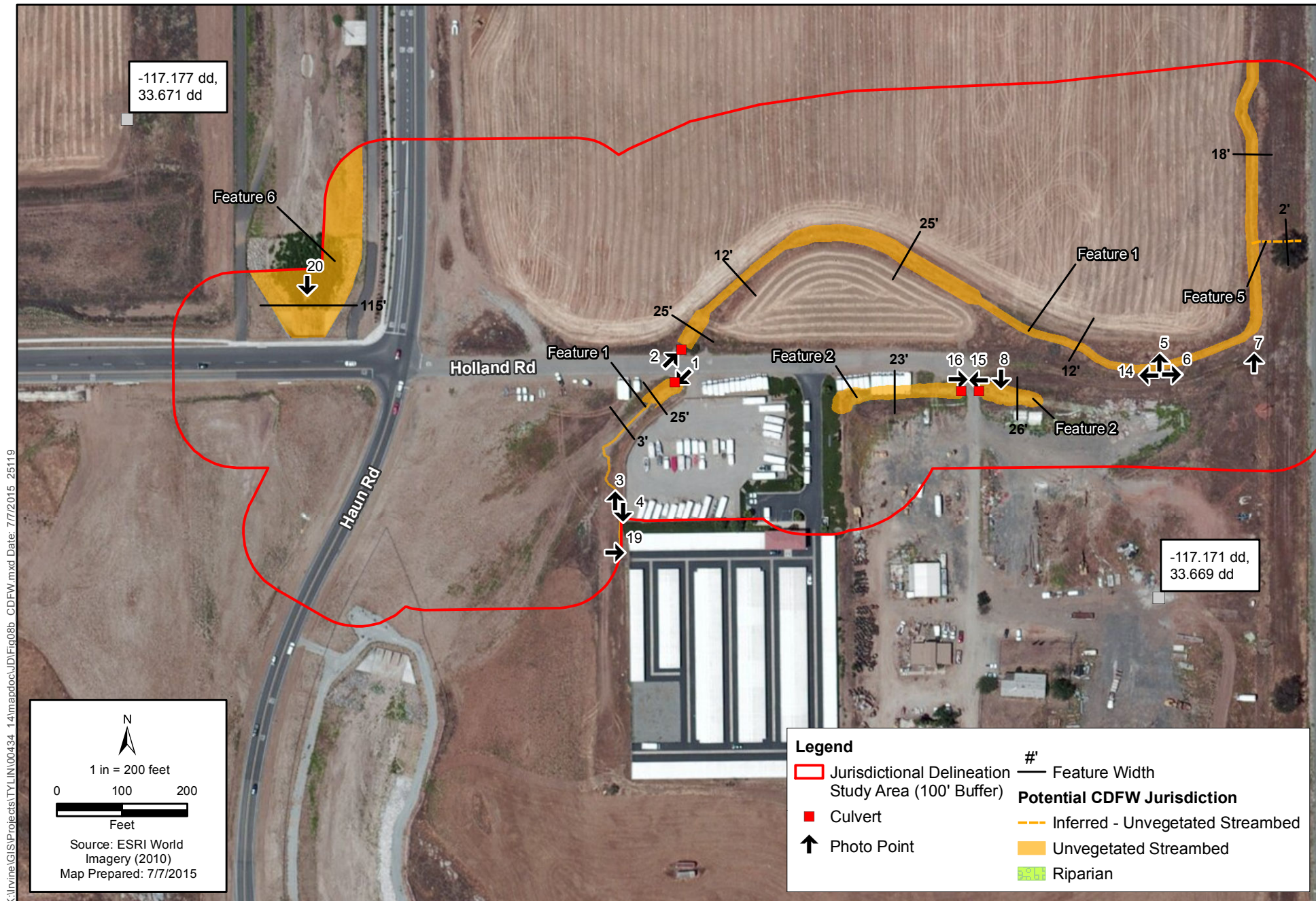




**Figure 8b - Index Sheet**  
**CDFW Jurisdictional Delineation Results**  
**Holland Road/I-215 Bridge Overcrossing**



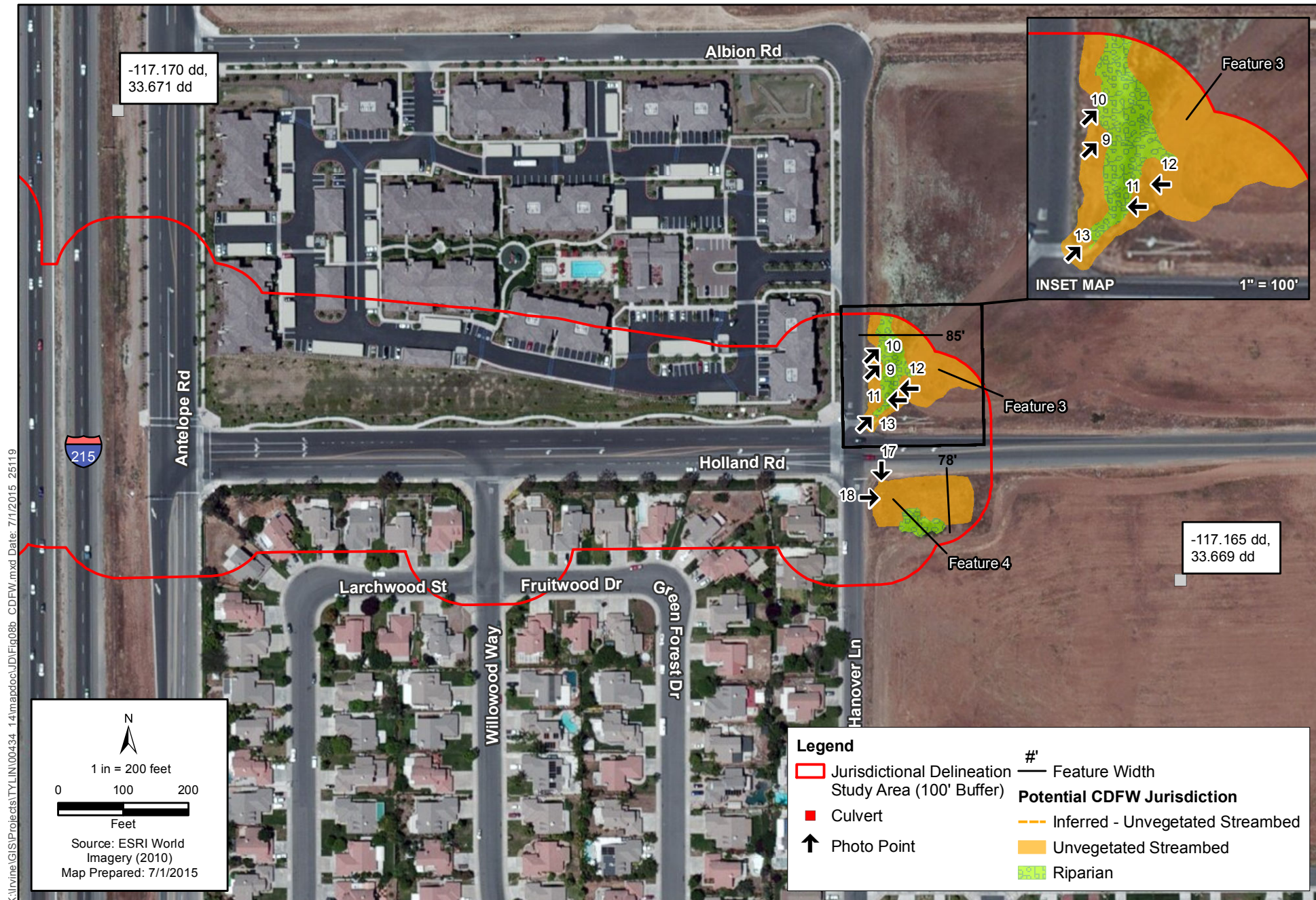




**Figure 8b - Sheet 1**  
**CDFW Jurisdictional Delineation Results**  
**Holland Road/I-215 Bridge Overcrossing**







**Figure 8b - Sheet 2**  
**CDFW Jurisdictional Delineation Results**  
**Holland Road/I-215 Bridge Overcrossing**





## Ordinary High Water Mark Data Sheets

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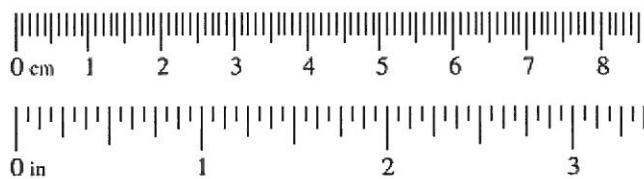
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## Arid West Ephemeral and Intermittent Streams OHWM Datasheet

|   |  |  |  |   |  |
|---|--|--|--|---|--|
| <b>Project:</b> HOLLAND RD. OVERCROSSING<br><b>Project Number:</b> 434.14<br><b>Stream:</b> Feature 1 - Old Paloma Wash<br><b>Investigator(s):</b> Z. WEST, M. FLORES                 |  | <b>Date:</b> 3/3/15<br><b>Town:</b> MENIFEE<br><b>Photo begin file#:</b>   |  | <b>Time:</b> 0800 - 1400<br><b>State:</b> CA<br><b>Photo end file#:</b> |  |
| Y <input checked="" type="checkbox"/> / N <input type="checkbox"/> Do normal circumstances exist on the site?   |  | <b>Location Details:</b> South of Holland  |  |   |  |
| Y <input type="checkbox"/> / N <input checked="" type="checkbox"/> Is the site significantly disturbed?   |  | <b>Projection:</b>   |  | <b>Datum:</b> NAD83   |  |
| <b>Potential anthropogenic influences on the channel system:</b><br>Trash, cigarette butts; Paloma Wash has been channelized upstream + altered hydrology in this portion of channel. |  |  |  |   |  |
| <b>Brief site description:</b> Old Paloma wash.   |  |  |  |   |  |
| <b>Checklist of resources (if available):</b>   |  |  |  |   |  |
| <input checked="" type="checkbox"/> Aerial photography<br>Dates: 4/27/14 (GOOGLE)   |  | <input type="checkbox"/> Stream gage data<br>Gage number:  |  |   |  |
| <input checked="" type="checkbox"/> Topographic maps  |  | Period of record:  |  |   |  |
| <input type="checkbox"/> Geologic maps  |  | <input type="checkbox"/> History of recent effective discharges  |  |   |  |
| <input checked="" type="checkbox"/> Vegetation maps   |  | <input type="checkbox"/> Results of flood frequency analysis   |  |   |  |
| <input checked="" type="checkbox"/> Soils maps  |  | <input type="checkbox"/> Most recent shift-adjusted rating   |  |   |  |
| <input type="checkbox"/> Rainfall/precipitation maps  |  | <input type="checkbox"/> Gage heights for 2-, 5-, 10-, and 25-year events and the most recent event exceeding a 5-year event |  |   |  |
| <input type="checkbox"/> Existing delineation(s) for site   |  |  |  |   |  |
| <input type="checkbox"/> Global positioning system (GPS)  |  |  |  |   |  |
| <input type="checkbox"/> Other studies  |  |  |  |   |  |
| <b>Hydrogeomorphic Floodplain Units</b>   |  |  |  |   |  |
|   |  |  |  |   |  |
| <b>Procedure for identifying and characterizing the floodplain units to assist in identifying the OHWM:</b>   |  |  |  |   |  |
| 1. Walk the channel and floodplain within the study area to get an impression of the geomorphology and vegetation present at the site.  |  |  |  |   |  |
| 2. Select a representative cross section across the channel. Draw the cross section and label the floodplain units.   |  |  |  |   |  |
| 3. Determine a point on the cross section that is characteristic of one of the hydrogeomorphic floodplain units.  |  |  |  |   |  |
| a) Record the floodplain unit and GPS position.   |  |  |  |   |  |
| b) Describe the sediment texture (using the Wentworth class size) and the vegetation characteristics of the floodplain unit.  |  |  |  |   |  |
| c) Identify any indicators present at the location.   |  |  |  |   |  |
| 4. Repeat for other points in different hydrogeomorphic floodplain units across the cross section.  |  |  |  |   |  |
| 5. Identify the OHWM and record the indicators. Record the OHWM position via:   |  |  |  |   |  |
| <input checked="" type="checkbox"/> Mapping on aerial photograph  |  | <input checked="" type="checkbox"/> GPS  |  |   |  |
| <input type="checkbox"/> Digitized on computer  |  | <input type="checkbox"/> Other:  |  |   |  |

**Wentworth Size Classes**

| Millimeters (mm) | Inches (in) | Wentworth size class |        |
|------------------|-------------|----------------------|--------|
| 10.08            | 256         | Boulder              | Gravel |
| 2.56             | 64          | Cobble               |        |
| 0.157            | 4           | Pebble               |        |
| 0.079            | 2.00        | Granule              |        |
| 0.039            | 1.00        | Very coarse sand     | Sand   |
| 0.020            | 0.50        | Coarse sand          |        |
| 1/2 0.0098       | 0.25        | Medium sand          |        |
| 1/4 0.005        | 0.125       | Fine sand            |        |
| 1/8 0.0025       | 0.0625      | Very fine sand       |        |
| 1/16 0.0012      | 0.031       | Coarse silt          | Silt   |
| 1/32 0.00061     | 0.0156      | Medium silt          |        |
| 1/64 0.00031     | 0.0078      | Fine silt            |        |
| 1/128 0.00015    | 0.0039      | Very fine silt       |        |
|                  |             | Clay                 | Mud    |





Project ID: 434.14 Cross section ID: <sup>feature 1</sup> OTHM 1 Date: 3/31/5 Time: 0800-1400

**Floodplain unit:** ☐ Low-Flow Channel ☒ Active Floodplain ☐ Low Terrace

GPS point: 07W/M 1

### Characteristics of the floodplain unit:

Average sediment texture: very fine sand

Total veg cover: 5 % Tree: 0 % Shrub: 0 % Herb: 5 %

Community successional stage:

- ☐ NA
 ☐ Mid (herbaceous, shrubs, saplings)
- ☒ Early (herbaceous & seedlings)
 ☐ Late (herbaceous, shrubs, mature trees)

### Indicators:

- |   |  |
|---|--|
| <input type="checkbox"/> Mudcracks                      | <input type="checkbox"/> Soil development        |
| <input type="checkbox"/> Ripples                        | <input type="checkbox"/> Surface relief          |
| <input checked="" type="checkbox"/> Drift and/or debris | <input checked="" type="checkbox"/> Other: _____ |
| <input type="checkbox"/> Presence of bed and bank       | <input type="checkbox"/> Other: _____            |
| <input type="checkbox"/> Benches                        | <input type="checkbox"/> Other: _____            |

**Comments:**

**Floodplain unit:**    ☐ Low-Flow Channel    ☐ Active Floodplain    ☒ Low Terrace

GPS point: on other

### Characteristics of the floodplain unit:

Average sediment texture: *fine sand*

Total veg cover: 10 % Tree: 0 % Shrub: 0 % Herb: 5 %

Community successional stage:

- ☐ NA ☐ Mid (herbaceous, shrubs, saplings)
- ☐ Early (herbaceous & seedlings) ☐ Late (herbaceous, shrubs, mature trees)

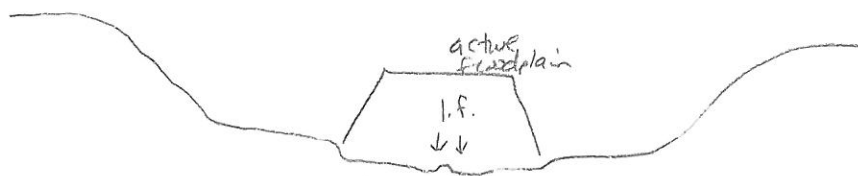
### Indicators:

- |  |  |
|--|--|
| <input type="checkbox"/> Mudcracks                           | <input checked="" type="checkbox"/> Soil development |
| <input type="checkbox"/> Ripples                             | <input type="checkbox"/> Surface relief              |
| <input type="checkbox"/> Drift and/or debris                 | <input type="checkbox"/> Other: _____                |
| <input checked="" type="checkbox"/> Presence of bed and bank | <input type="checkbox"/> Other: _____                |
| <input type="checkbox"/> Benches                             | <input type="checkbox"/> Other: _____                |

**Comments:**

Project ID: 434.14 Cross section ID: <sup>Feature 1</sup> OHUM1 Date: 3/3/15 Time: 0800-1400

**Cross section drawing:**



**OHWM**

GPS point: OHUM 1

**Indicators:**

- |  |   |
|--|---|
| <input checked="" type="checkbox"/> Change in average sediment texture | <input type="checkbox"/> Break in bank slope                    |
| <input type="checkbox"/> Change in vegetation species                  | <input checked="" type="checkbox"/> Other: <u>Flow patterns</u> |
| <input type="checkbox"/> Change in vegetation cover                    | <input type="checkbox"/> Other: _____                           |

**Comments:**

Hydrology of Old Paloma Wash has been altered by the Paloma Wash Flood control Channel upstream. Measurable precipitation on 3/2/2015.

**Floodplain unit:**

- ☒ Low-Flow Channel ☐ Active Floodplain ☐ Low Terrace

GPS point: OHUM 1

**Characteristics of the floodplain unit:**

Average sediment texture: very fine sand

Total veg cover: 2 % Tree: 0 % Shrub: 0 % Herb: 2 %

Community successional stage:

- |  |  |
|--|--|
| <input type="checkbox"/> NA  | <input type="checkbox"/> Mid (herbaceous, shrubs, saplings)      |
| <input checked="" type="checkbox"/> Early (herbaceous & seedlings) | <input type="checkbox"/> Late (herbaceous, shrubs, mature trees) |

**Indicators:**

- |   |   |
|---|---|
| <input type="checkbox"/> Mudcracks                      | <input type="checkbox"/> Soil development   |
| <input type="checkbox"/> Ripples                        | <input type="checkbox"/> Surface relief   |
| <input checked="" type="checkbox"/> Drift and/or debris | <input checked="" type="checkbox"/> Other: <u>Destruction of terrestrial vegetation</u> |
| <input type="checkbox"/> Presence of bed and bank       | <input checked="" type="checkbox"/> Other: _____  |
| <input type="checkbox"/> Benches                        | <input type="checkbox"/> Other: _____   |

**Comments:**

## **Wetland Determination Data Forms**

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# WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Holland Rd Overcrossing City/County: Menifee, Riverside Co Sampling Date: 3/3/15  
 Applicant/Owner: City of Menifee State: CA Sampling Point: SP-1  
 Investigator(s): Z. WEST, M. FLORES Section, Township, Range: Section 10, T10S, R3W  
 Landform (hillslope, terrace, etc.): Depression Local relief (concave, convex, none): CONCAVE Slope (%): <1  
 Subregion (LRR): C Lat: \_\_\_\_\_ Long: \_\_\_\_\_ Datum: \_\_\_\_\_  
 Soil Map Unit Name: Wyman loam, 2 to 8 percent slopes, eroded NWI classification: \_\_\_\_\_

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No \_\_\_\_\_ (If no, explain in Remarks.)  
 Are Vegetation N, Soil N, or Hydrology N significantly disturbed? Are "Normal Circumstances" present? Yes X No \_\_\_\_\_  
 Are Vegetation N, Soil N, or Hydrology N 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 _____ No <u>X</u> | Is the Sampled Area within a Wetland? Yes _____ No <u>X</u> |
| Hydric Soil Present? Yes _____ No <u>X</u>            |   |
| Wetland Hydrology Present? Yes <u>X</u> No _____      |   |
| Remarks:  |   |

## VEGETATION – Use scientific names of plants.

| Tree Stratum (Plot size: <u>30'</u> )   | Absolute % Cover | Dominant Species? | Indicator Status | <b>Dominance Test worksheet:</b><br>Number of Dominant Species That Are OBL, FACW, or FAC: <u>0</u> (A)<br>Total Number of Dominant Species Across All Strata: <u>2</u> (B)<br>Percent of Dominant Species That Are OBL, FACW, or FAC: <u>0</u> (A/B)   |
|---|------------------|-------------------|------------------|---|
| 1. _____  |                  |                   |                  |   |
| 2. _____  |                  |                   |                  |   |
| 3. _____  |                  |                   |                  |   |
| 4. _____  |                  |                   |                  |   |
| <b>Sapling/Shrub Stratum (Plot size: <u>10'</u>)</b>                                  |                  |                   |                  | <b>Prevalence Index worksheet:</b><br>Total % Cover of: _____ Multiply by:<br>OBL species _____ x 1 = _____<br>FACW species _____ x 2 = _____<br>FAC species _____ x 3 = _____<br>FACU species <u>40</u> x 4 = <u>160</u><br>UPL species <u>20</u> x 5 = <u>100</u><br>Column Totals: <u>60</u> (A) <u>260</u> (B)<br>Prevalence Index = B/A = <u>4.33</u>  |
| 1. _____  |                  |                   |                  |   |
| 2. _____  |                  |                   |                  |   |
| 3. _____  |                  |                   |                  |   |
| 4. _____  |                  |                   |                  |   |
| <b>Herb Stratum (Plot size: <u>5'</u>)</b>  |                  |                   |                  | <b>Hydrophytic Vegetation Indicators:</b><br>_____ Dominance Test is >50%<br>_____ Prevalence Index is ≤3.0 <sup>1</sup><br>_____ Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)<br>_____ Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)<br><br><sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic. |
| 1. <u>Arisaema menziesii</u>  | <u>15</u>        | <u>X</u>          | <u>NI</u>        |   |
| 2. <u>Oenothera piluliferum</u>   | <u>20</u>        | <u>X</u>          | <u>FACU</u>      |   |
| 3. <u>Capsella bursa-pastoris</u>   | <u>10</u>        | <u>N</u>          | <u>FACU</u>      |   |
| 4. <u>Callandrinia ciliata</u>  | <u>10</u>        | <u>N</u>          | <u>FACU</u>      |   |
| 5. <u>Erodium cicutarium</u>  | <u>5</u>         | <u>N</u>          | <u>NI</u>        |   |
| 6. _____  |                  |                   |                  |   |
| 7. _____  |                  |                   |                  |   |
| 8. _____  |                  |                   |                  |   |
| <b>Woody Vine Stratum (Plot size: <u>30'</u>)</b>                                     |                  |                   |                  |   |
| 1. _____  |                  |                   |                  | <b>Hydrophytic Vegetation Present?</b> Yes _____ No <u>X</u>  |
| 2. _____  |                  |                   |                  |   |
| <b>% Bare Ground in Herb Stratum</b> <u>↓</u> <b>% Cover of Biotic Crust</b> <u>Ø</u> |                  |                   |                  |   |
| Remarks: <u>Open water 40% in herb stratum.</u>                                       |                  |                   |                  |   |



SOIL Sampling Point: SP-1

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

<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.)

- ### Indicators for Problematic Hydric Soils<sup>3</sup>:

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

## Restrictive Layer (if present):

Depth (inches): \_\_\_\_\_

Hydric Soil Present? Yes No ☒

Remarks:

No hydric soil indicators observed.

| Wetland Hydrology Indicators:   |  |  |
|---|--|--|
| Primary Indicators (minimum of one required; check all that apply)  |  | Secondary Indicators (2 or more required)  |
| <input checked="" type="checkbox"/> Surface Water (A1)  | <input type="checkbox"/> Salt Crust (B11)                              | <input checked="" type="checkbox"/> Water Marks (B1) (Riverine)                                |
| <input type="checkbox"/> High Water Table (A2)  | <input type="checkbox"/> Biotic Crust (B12)                            | <input type="checkbox"/> Sediment Deposits (B2) (Riverine)                                     |
| <input type="checkbox"/> Saturation (A3)  | <input type="checkbox"/> Aquatic Invertebrates (B13)                   | <input checked="" type="checkbox"/> Drift Deposits (B3) (Riverine)                             |
| <input type="checkbox"/> Water Marks (B1) (Nonriverine)   | <input type="checkbox"/> Hydrogen Sulfide Odor (C1)                    | <input type="checkbox"/> Drainage Patterns (B10)   |
| <input type="checkbox"/> Sediment Deposits (B2) (Nonriverine)   | <input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3) | <input type="checkbox"/> Dry-Season Water Table (C2)   |
| <input type="checkbox"/> Drift Deposits (B3) (Nonriverine)  | <input type="checkbox"/> Presence of Reduced Iron (C4)                 | <input type="checkbox"/> Crayfish Burrows (C8)   |
| <input type="checkbox"/> Surface Soil Cracks (B6)   | <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)    | <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)                             |
| <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)  | <input type="checkbox"/> Thin Muck Surface (C7)                        | <input type="checkbox"/> Shallow Aquitard (D3)   |
| <input type="checkbox"/> Water-Stained Leaves (B9)  | <input type="checkbox"/> Other (Explain in Remarks)                    | <input type="checkbox"/> FAC-Neutral Test (D5)   |
| <b>Field Observations:</b><br>Surface Water Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Depth (inches): <u>4</u><br>Water Table Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Depth (inches): <u>Surface</u><br>Saturation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Depth (inches): <u>Surface</u><br>(includes capillary fringe) |  | Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> |
| Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:  |  |  |
| Remarks:  |  |  |

## Wetland Hydrology Indicators:

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

- |  |  |
|--|--|
| <input checked="" type="checkbox"/> Surface Water (A1)                 | <input type="checkbox"/> Salt Crust (B11)                              |
| <input type="checkbox"/> High Water Table (A2)                         | <input type="checkbox"/> Biotic Crust (B12)                            |
| <input type="checkbox"/> Saturation (A3)                               | <input type="checkbox"/> Aquatic Invertebrates (B13)                   |
| <input type="checkbox"/> Water Marks (B1) ( <b>Nonriverine</b> )       | <input type="checkbox"/> Hydrogen Sulfide Odor (C1)                    |
| <input type="checkbox"/> Sediment Deposits (B2) ( <b>Nonriverine</b> ) | <input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3) |
| <input type="checkbox"/> Drift Deposits (B3) ( <b>Nonriverine</b> )    | <input type="checkbox"/> Presence of Reduced Iron (C4)                 |
| <input type="checkbox"/> Surface Soil Cracks (B6)                      | <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)    |
| <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)     | <input type="checkbox"/> Thin Muck Surface (C7)                        |
| <input type="checkbox"/> Water-Stained Leaves (B9)                     | <input type="checkbox"/> 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 X No      Depth (inches): 4  
Water Table Present? Yes X No      Depth (inches): Surface  
Saturation Present? Yes X No      Depth (inches): Surface  
(includes capillary fringe)

Wetland Hydrology Present? Yes ☒ No ☐

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

Remarks:

# WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Holland Rd City/County: Menifee/Riverside Sampling Date: 3/3/15  
 Applicant/Owner: City of Menifee State: CA Sampling Point: SP-2  
 Investigator(s): M. Flores, Z. West Section, Township, Range: Section 2, T10S, R3W  
 Landform (hillslope, terrace, etc.): DEPRESSION Local relief (concave, convex, none): CONCAVE Slope (%): <1  
 Subregion (LRR): C Lat: \_\_\_\_\_ Long: \_\_\_\_\_ Datum: \_\_\_\_\_  
 Soil Map Unit Name: Yokohl loam, 2 to 8 percent slopes NWI classification: \_\_\_\_\_

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ☒ No \_\_\_\_\_ (If no, explain in Remarks.)  
 Are Vegetation N, Soil N, or Hydrology N significantly disturbed? Are "Normal Circumstances" present? Yes ☒ No \_\_\_\_\_  
 Are Vegetation N, Soil N, or Hydrology Y 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 _____ No <u>X</u>             | Is the Sampled Area within a Wetland? Yes _____ No <u>X</u> |
| Hydric Soil Present? Yes <u>X</u> No _____                        |   |
| Wetland Hydrology Present? Yes <u>X</u> No _____                  |   |
| Remarks: <u>Water source from urban runoff, isolated feature.</u> |   |

## VEGETATION – Use scientific names of plants.

| Tree Stratum (Plot size: <u>30'</u> )                                     | Absolute % Cover | Dominant Species? | Indicator Status | <b>Dominance Test worksheet:</b><br>Number of Dominant Species That Are OBL, FACW, or FAC: <u>1</u> (A)<br><br>Total Number of Dominant Species Across All Strata: <u>4</u> (B)<br><br>Percent of Dominant Species That Are OBL, FACW, or FAC: <u>1/4 = 25%</u> (A/B)   |
|---|------------------|-------------------|------------------|---|
| 1. _____  | _____            | _____             | _____            |   |
| 2. _____  | _____            | _____             | _____            |   |
| 3. _____  | _____            | _____             | _____            |   |
| 4. _____  | _____            | _____             | _____            |   |
| <u>0</u> = Total Cover  |                  |                   |                  | <b>Prevalence Index worksheet:</b><br>Total % Cover of: _____ Multiply by: _____<br>OBL species <u>0</u> x 1 = <u>0</u><br>FACW species <u>0</u> x 2 = <u>0</u><br>FAC species <u>12</u> x 3 = <u>36</u><br>FACU species <u>20</u> x 4 = <u>80</u><br>UPL species <u>40</u> x 5 = <u>200</u><br>Column Totals: <u>72</u> (A) <u>316</u> (B)<br><br>Prevalence Index = B/A = <u>4.39</u> |
| <b>Sapling/Shrub Stratum (Plot size: <u>10'</u>)</b>                      |                  |                   |                  |   |
| 1. <u>Rumex crispus</u>   | <u>10</u>        | <u>Y</u>          | <u>FAC</u>       |   |
| 2. <u>Eriogonum bdnariensis</u>   | <u>5</u>         | <u>Y</u>          | <u>FACU</u>      |   |
| 3. <u>Pulicaria paludosa</u>  | <u>2</u>         | <u>N</u>          | <u>FAC</u>       |   |
| <u>17</u> = Total Cover   |                  |                   |                  |   |
| <b>Herb Stratum (Plot size: <u>5'</u>)</b>                                |                  |                   |                  | <b>Hydrophytic Vegetation Indicators:</b><br>_____ Dominance Test is >50%<br>_____ Prevalence Index is ≤3.0 <sup>1</sup><br>_____ Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)<br>_____ Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)   |
| 1. <u>Chamaemelum nobile</u>  | <u>35</u>        | <u>Y</u>          | <u>NI</u>        |   |
| 2. <u>Bromus madritensis</u>  | <u>40</u>        | <u>Y</u>          | <u>UPL</u>       |   |
| 3. <u>Melilotus indicus</u>   | <u>10</u>        | <u>N</u>          | <u>FACU</u>      |   |
| 4. <u>Hordeum murinum</u>   | <u>5</u>         | <u>N</u>          | <u>FACU</u>      |   |
| <u>90</u> = Total Cover   |                  |                   |                  |   |
| <b>Woody Vine Stratum (Plot size: <u>30'</u>)</b>                         |                  |                   |                  | <b>Hydrophytic Vegetation Present?</b> Yes _____ No <u>X</u>  |
| 1. _____  | _____            | _____             | _____            |   |
| 2. _____  | _____            | _____             | _____            |   |
| <u>0</u> = Total Cover  |                  |                   |                  |   |
| % Bare Ground in Herb Stratum <u>10</u> % Cover of Biotic Crust <u>10</u> |                  |                   |                  |   |
| Remarks: _____  |                  |                   |                  |   |

Rumex chamaemelum nobile

SOIL

Sampling Point: SP-2

[illegible]

## HYDROLOGY

| Wetland Hydrology Indicators:   |   |                                     | Primary Indicators (minimum of one required; check all that apply) |                          | Secondary Indicators (2 or more required)  |  |
|---|---|-------------------------------------|--|--------------------------|--|--|
| <input type="checkbox"/>  | Surface Water (A1)  | <input type="checkbox"/>            | Salt Crust (B11)   | <input type="checkbox"/> | Water Marks (B1) (Riverine)  |  |
| <input type="checkbox"/>  | High Water Table (A2)   | <input checked="" type="checkbox"/> | Biotic Crust (B12)   | <input type="checkbox"/> | Sediment Deposits (B2) (Riverine)  |  |
| <input checked="" type="checkbox"/>   | Saturation (A3)   | <input type="checkbox"/>            | Aquatic Invertebrates (B13)  | <input type="checkbox"/> | Drift Deposits (B3) (Riverine)   |  |
| <input type="checkbox"/>  | Water Marks (B1) (Nonriverine)                                      | <input type="checkbox"/>            | Hydrogen Sulfide Odor (C1)   | <input type="checkbox"/> | Drainage Patterns (B10)  |  |
| <input type="checkbox"/>  | Sediment Deposits (B2) (Nonriverine)                                | <input type="checkbox"/>            | Oxidized Rhizospheres along Living Roots (C3)                      | <input type="checkbox"/> | Dry-Season Water Table (C2)  |  |
| <input checked="" type="checkbox"/>   | Drift Deposits (B3) (Nonriverine)                                   | <input type="checkbox"/>            | Presence of Reduced Iron (C4)                                      | <input type="checkbox"/> | Crayfish Burrows (C8)  |  |
| <input type="checkbox"/>  | Surface Soil Cracks (B6)  | <input type="checkbox"/>            | Recent Iron Reduction in Tilled Soils (C6)                         | <input type="checkbox"/> | Saturation Visible on Aerial Imagery (C9)  |  |
| <input type="checkbox"/>  | Inundation Visible on Aerial Imagery (B7)                           | <input type="checkbox"/>            | Thin Muck Surface (C7)   | <input type="checkbox"/> | Shallow Aquitard (D3)  |  |
| <input type="checkbox"/>  | Water-Stained Leaves (B9)   | <input type="checkbox"/>            | Other (Explain in Remarks)   | <input type="checkbox"/> | FAC-Neutral Test (D5)  |  |
| Field Observations:   |   |                                     |  |                          |  |  |
| Surface Water Present?  | Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> | Depth (inches):                     |  |                          |  |  |
| Water Table Present?  | Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> | Depth (inches):                     |  |                          |  |  |
| Saturation Present?<br>(includes capillary fringe)  | Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> | Depth (inches):                     | SURFACE  |                          | Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> |  |
| Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:  |   |                                     |  |                          |  |  |
| Remarks:<br>Saturation only @ surface. Measurable precipitation received on March 2, 2015. Saturation w/in upper 1 inch of soil surface, clay/loam appears to slow percolation causing saturation to stay near surface. |   |                                     |  |                          |  |  |

# WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Holland Rd Overcrossing City/County: Menifee/Riverside Sampling Date: 3/3/15  
 Applicant/Owner: City of Menifee State: CA Sampling Point: SP-3  
 Investigator(s): M. Flores, J. West Section, Township, Range: Section 2 T6S, R3W  
 Landform (hillslope, terrace, etc.): DEPRESSION Local relief (concave, convex, none): CONCAVE Slope (%): 21  
 Subregion (LRR): C Lat: \_\_\_\_\_ Long: \_\_\_\_\_ Datum: \_\_\_\_\_  
 Soil Map Unit Name: Yokohl loam, 2 to 8 percent slopes NWI classification: \_\_\_\_\_

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No \_\_\_\_\_ (If no, explain in Remarks.)  
 Are Vegetation N, Soil N, or Hydrology N significantly disturbed? Are "Normal Circumstances" present? Yes X No \_\_\_\_\_  
 Are Vegetation N, Soil N, or Hydrology Y 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 <u>X</u> No _____       | Is the Sampled Area within a Wetland? Yes <u>X</u> No _____ |
| Hydric Soil Present? Yes <u>X</u> No _____                  |   |
| Wetland Hydrology Present? Yes <u>X</u> No _____            |   |
| Remarks: <u>Receives consistent flow from urban runoff.</u> |   |

## VEGETATION – Use scientific names of plants.

| Tree Stratum (Plot size: <u>30'</u> )          | Absolute % Cover | Dominant Species? | Indicator Status | Dominance Test worksheet:<br>Number of Dominant Species That Are OBL, FACW, or FAC: <u>4</u> (A)<br><br>Total Number of Dominant Species Across All Strata: <u>4</u> (B)<br><br>Percent of Dominant Species That Are OBL, FACW, or FAC: <u>4/4 = 100%</u> (A/B)                      |
|--|------------------|-------------------|------------------|--|
| 1. _____                                       |                  |                   |                  |  |
| 2. _____                                       |                  |                   |                  |  |
| 3. _____                                       |                  |                   |                  |  |
| 4. _____                                       |                  |                   |                  |  |
| Sapling/Shrub Stratum (Plot size: <u>10'</u> ) |                  |                   |                  | Prevalence Index = B/A = _____   |
| 1. <u>Pulicaria paludosus</u>                  | <u>7</u>         | <u>Y</u>          | <u>FAC</u>       |  |
| 2. <u>Pumex crispus</u>                        | <u>3</u>         | <u>Y</u>          | <u>FAC</u>       |  |
| 3. _____                                       |                  |                   |                  |  |
| Herb Stratum (Plot size: <u>5'</u> )           |                  |                   |                  | Hydrophytic Vegetation Indicators:<br><u>X</u> Dominance Test is >50%<br>____ Prevalence Index is ≤3.0'<br>____ Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)<br>____ Problematic Hydrophytic Vegetation <sup>1</sup> (Explain) |
| 1. <u>Cyperus eragrostus</u>                   | <u>20</u>        | <u>Y</u>          | <u>FACW</u>      |  |
| 2. <u>Chamaemelum nobile</u>                   | <u>10</u>        | <u>N</u>          | <u>NI</u>        |  |
| 3. <u>Typha domingensis</u>                    | <u>35</u>        | <u>Y</u>          | <u>OBL</u>       |  |
| 4. <u>Epilobium ciliatum</u>                   | <u>7</u>         | <u>N</u>          | <u>FACW</u>      | <sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.   |
| 5. <u>Arnica arvensis</u>                      | <u>2</u>         | <u>N</u>          | <u>NI</u>        |  |
| 6. <u>Melilotus indicus</u>                    | <u>3</u>         | <u>N</u>          | <u>FACU</u>      |  |
| 7. _____                                       |                  |                   |                  |  |
| Woody Vine Stratum (Plot size: <u>30'</u> )    |                  |                   |                  | Hydrophytic Vegetation Present? Yes <u>X</u> No _____  |
| 1. _____                                       |                  |                   |                  |  |
| Remarks:                                       |                  |                   |                  |  |

## SOIL

Sampling Point: SP-3

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

| Depth<br>(inches) | Matrix        |    | Redox Features |   |                   |                  | Texture   | Remarks |
|-------------------|---------------|----|----------------|---|-------------------|------------------|-----------|---------|
|                   | Color (moist) | %  | Color (moist)  | % | Type <sup>1</sup> | Loc <sup>2</sup> |           |         |
| 0-8               | 10YR 4/4      |    |                |   |                   |                  | clay loam |         |
| 8-15              | 10YR 4/3      | 95 |                |   |                   |                  | clay loam |         |
| 8-15              | 7.5YR 4/6     | 5  |                |   |                   |                  | clay loam |         |
| 15-22             | 10YR 4/3      | 60 |                |   |                   |                  | clay loam |         |
| 15-22             | 7.5YR 4/6     | 40 |                |   |                   |                  | clay 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: \_\_\_\_\_

Depth (inches): \_\_\_\_\_

Hydric Soil Present? Yes ☒ No ☐

Remarks:

no redox, Newly formed wetland. (problem soils)

## 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): SURFACE  
(includes capillary fringe)Wetland Hydrology Present? Yes ☒ No ☐

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

Remarks:

Measurable precipitation received on March 2, 2015. Clay loam appears to slow percolation causing saturation to stay near surface.



# WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Holland Rd Overcrossing City/County: MENIFEE, RN. CO Sampling Date: 3/3/15  
 Applicant/Owner: City of Menifee State: CA Sampling Point: SP 4  
 Investigator(s): M Flores, Z West Section, Township, Range: Section 2, T10S, R3W  
 Landform (hillslope, terrace, etc.): DEPRESSION Local relief (concave, convex, none): CONCAVE Slope (%): <1  
 Subregion (LRR): C Lat: \_\_\_\_\_ Long: \_\_\_\_\_ Datum: \_\_\_\_\_  
 Soil Map Unit Name: YOKOH LOAM 2 to 8 PERCENT SLOPES NWI classification: \_\_\_\_\_

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No \_\_\_\_\_ (If no, explain in Remarks.)  
 Are Vegetation N, Soil N, or Hydrology N significantly disturbed? Are "Normal Circumstances" present? Yes X No \_\_\_\_\_  
 Are Vegetation N, Soil N, or Hydrology Y 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 <u>X</u> No _____       | Is the Sampled Area within a Wetland? Yes <u>X</u> No _____ |
| Hydric Soil Present? Yes <u>X</u> No _____                  |   |
| Wetland Hydrology Present? Yes <u>X</u> No _____            |   |
| Remarks: <u>Receives consistent flow from urban runoff.</u> |   |

## VEGETATION – Use scientific names of plants.

| Tree Stratum (Plot size: <u>30'</u> )                                    | Absolute % Cover | Dominant Species? | Indicator Status | Dominance Test worksheet:<br>Number of Dominant Species That Are OBL, FACW, or FAC: <u>1</u> (A)<br>Total Number of Dominant Species Across All Strata: <u>1</u> (B)<br>Percent of Dominant Species That Are OBL, FACW, or FAC: <u>1/1 = 100%</u> (A/B)  |
|--|------------------|-------------------|------------------|--|
| 1. _____   | _____            | _____             | _____            |  |
| 2. _____   | _____            | _____             | _____            |  |
| 3. _____   | _____            | _____             | _____            |  |
| 4. _____   | _____            | _____             | _____            |  |
| Sapling/Shrub Stratum (Plot size: <u>10'</u> )                           |                  |                   |                  | Prevalence Index = B/A = _____   |
| 1. _____   | _____            | _____             | _____            |  |
| 2. _____   | _____            | _____             | _____            |  |
| 3. _____   | _____            | _____             | _____            |  |
| Herb Stratum (Plot size: <u>5'</u> )                                     |                  |                   |                  | Hydrophytic Vegetation Indicators:<br><u>X</u> Dominance Test is >50%<br>____ Prevalence Index is ≤3.0 <sup>1</sup><br>____ Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)<br>____ Problematic Hydrophytic Vegetation <sup>1</sup> (Explain) |
| 1. <u>Typha domingensis</u>  | <u>40</u>        | <u>Y</u>          | <u>OBL</u>       |  |
| 2. <u>Epilobium ciliatum</u>   | <u>5</u>         | <u>N</u>          | <u>FACW</u>      |  |
| 3. <u>Chromolaena nobile</u>   | <u>1</u>         | <u>N</u>          | <u>NI</u>        |  |
| 4. <u>Viola myuros</u>   | <u>2</u>         | <u>N</u>          | <u>FACU</u>      | <sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.   |
| 5. <u>Cirsium vulgare</u>  | <u>7</u>         | <u>N</u>          | <u>FACU</u>      |  |
| 6. _____   | _____            | _____             | _____            |  |
| 7. _____   | _____            | _____             | _____            |  |
| Woody Vine Stratum (Plot size: <u>30'</u> )                              |                  |                   |                  | Hydrophytic Vegetation Present? Yes <u>X</u> No _____  |
| 1. _____   | _____            | _____             | _____            |  |
| 2. _____   | _____            | _____             | _____            |  |
| % Bare Ground in Herb Stratum <u>45</u> % Cover of Biotic Crust <u>0</u> |                  |                   |                  |  |

Remarks:

Sampling Point: SP 4

[illegible]

## HYDROLOGY

| Wetland Hydrology Indicators:   |  |   |
|---|--|---|
| Primary Indicators (minimum of one required; check all that apply)  |  | Secondary Indicators (2 or more required)   |
| <input type="checkbox"/> Surface Water (A1)   | <input type="checkbox"/> Salt Crust (B11)                              | <input type="checkbox"/> Water Marks (B1) (Riverine)  |
| <input type="checkbox"/> High Water Table (A2)  | <input type="checkbox"/> Biotic Crust (B12)                            | <input type="checkbox"/> Sediment Deposits (B2) (Riverine)  |
| <input checked="" type="checkbox"/> Saturation (A3)   | <input type="checkbox"/> Aquatic Invertebrates (B13)                   | <input type="checkbox"/> Drift Deposits (B3) (Riverine)   |
| <input type="checkbox"/> Water Marks (B1) (Nonriverine)   | <input checked="" type="checkbox"/> Hydrogen Sulfide Odor (C1)         | <input type="checkbox"/> Drainage Patterns (B10)  |
| <input type="checkbox"/> Sediment Deposits (B2) (Nonriverine)   | <input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3) | <input type="checkbox"/> Dry-Season Water Table (C2)  |
| <input type="checkbox"/> Drift Deposits (B3) (Nonriverine)  | <input type="checkbox"/> Presence of Reduced Iron (C4)                 | <input type="checkbox"/> Crayfish Burrows (C8)  |
| <input type="checkbox"/> Surface Soil Cracks (B6)   | <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)    | <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)                                    |
| <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)  | <input type="checkbox"/> Thin Muck Surface (C7)                        | <input type="checkbox"/> Shallow Aquitard (D3)  |
| <input type="checkbox"/> Water-Stained Leaves (B9)  | <input type="checkbox"/> Other (Explain in Remarks)                    | <input type="checkbox"/> FAC-Neutral Test (D5)  |
| <b>Field Observations:</b><br>Surface Water Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____<br>Water Table Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____<br>Saturation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Depth (inches): <u>SURFACE</u><br>(includes capillary fringe) |  | <b>Wetland Hydrology Present?</b> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> |
| Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:  |  |   |
| Remarks:  |  |   |

# WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Holland Rd Overcrossing City/County: Menifee, Riv. Co. Sampling Date: 3/3/15  
 Applicant/Owner: City of Menifee State: CA Sampling Point: SP 5  
 Investigator(s): Z. West, M. Flores Section, Township, Range: Section 2, T6S, R3W  
 Landform (hillslope, terrace, etc.): DEPRESSION Local relief (concave, convex, none): CONCAVE Slope (%): 41  
 Subregion (LRR): C Lat: \_\_\_\_\_ Long: \_\_\_\_\_ Datum: \_\_\_\_\_  
 Soil Map Unit Name: Yokohl loam, 2 to 8 percent slopes NWI classification: \_\_\_\_\_

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No \_\_\_\_\_ (If no, explain in Remarks.)  
 Are Vegetation N, Soil N, or Hydrology N significantly disturbed? Are "Normal Circumstances" present? Yes X No \_\_\_\_\_  
 Are Vegetation N, Soil N, or Hydrology Y 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 _____ No <u>X</u> | Is the Sampled Area<br>within a Wetland? Yes _____ No <u>X</u> |
| Hydric Soil Present?            | Yes _____ No <u>X</u> |  |
| Wetland Hydrology Present?      | Yes <u>X</u> No _____ |  |
| Remarks:                        |                       |  |

## VEGETATION – Use scientific names of plants.

| Tree Stratum (Plot size: <u>30'</u> )  | Absolute % Cover | Dominant Species? | Indicator Status | <b>Dominance Test worksheet:</b><br>Number of Dominant Species That Are OBL, FACW, or FAC: <u>0</u> (A)<br>Total Number of Dominant Species Across All Strata: <u>2</u> (B)<br>Percent of Dominant Species That Are OBL, FACW, or FAC: <u>0</u> (A/B)   |
|--|------------------|-------------------|------------------|---|
| 1. _____   | _____            | _____             | _____            |   |
| 2. _____   | _____            | _____             | _____            |   |
| 3. _____   | _____            | _____             | _____            |   |
| 4. _____   | _____            | _____             | _____            |   |
| _____ = Total Cover  |                  |                   |                  | <b>Prevalence Index worksheet:</b><br>Total % Cover of: _____ Multiply by:<br>OBL species _____ x 1 = _____<br>FACW species _____ x 2 = _____<br>FAC species _____ x 3 = _____<br>FACU species _____ x 4 = _____<br>UPL species _____ x 5 = _____<br>Column Totals: _____ (A) _____ (B)<br>Prevalence Index = B/A = _____ |
| <b>Sapling/Shrub Stratum (Plot size: <u>10'</u>)</b><br>1. _____<br>2. _____<br>3. _____<br>4. _____<br>5. _____<br>_____ = Total Cover  |                  |                   |                  |   |
| <b>Herb Stratum (Plot size: <u>5'</u>)</b><br>1. <u>Hirschfeldia incana</u> <u>5</u> <u>N</u> <u>NI</u><br>2. <u>Chamemilum nobile</u> <u>20</u> <u>Y</u> <u>NI</u><br>3. <u>Erodium cicutarium</u> <u>3</u> <u>N</u> <u>FACU</u><br>4. <u>Amsinckia menziesii</u> <u>3</u> <u>N</u> <u>NI</u><br>5. <u>Hordeum murinum</u> <u>3</u> <u>N</u> <u>FACU</u><br>6. <u>Bromus madritensis</u> <u>10</u> <u>N</u> <u>UPL</u><br>7. <u>Melilotus indica</u> <u>5</u> <u>N</u> <u>FACU</u><br>8. <u>Vulpia myuros</u> <u>15</u> <u>Y</u> <u>FACU</u><br>_____ = Total Cover |                  |                   |                  |   |
| <b>Woody Vine Stratum (Plot size: <u>30'</u>)</b><br>1. _____<br>2. _____<br>_____ = Total Cover   |                  |                   |                  |   |
| % Bare Ground in Herb Stratum <u>35</u> % Cover of Biotic Crust <u>0</u>   |                  |                   |                  |   |

Remarks:

Sampling Point: SP-5

| HYDROLOGY  |  |  |  |
|--|--|--|--|
| Wetland Hydrology Indicators:  |  |  |  |
| Primary Indicators (minimum of one required; check all that apply)   |  | Secondary Indicators (2 or more required)  |  |
| <input type="checkbox"/> Surface Water (A1)  | <input type="checkbox"/> Salt Crust (B11)                              | <input type="checkbox"/> Water Marks (B1) ( <b>Riverine</b> )                                  |  |
| <input type="checkbox"/> High Water Table (A2)   | <input type="checkbox"/> Biotic Crust (B12)                            | <input type="checkbox"/> Sediment Deposits (B2) ( <b>Riverine</b> )                            |  |
| <input type="checkbox"/> Saturation (A3)   | <input type="checkbox"/> Aquatic Invertebrates (B13)                   | <input type="checkbox"/> Drift Deposits (B3) ( <b>Riverine</b> )                               |  |
| <input type="checkbox"/> Water Marks (B1) ( <b>Nonriverine</b> )   | <input type="checkbox"/> Hydrogen Sulfide Odor (C1)                    | <input type="checkbox"/> Drainage Patterns (B10)   |  |
| <input type="checkbox"/> Sediment Deposits (B2) ( <b>Nonriverine</b> )                                     | <input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3) | <input type="checkbox"/> Dry-Season Water Table (C2)   |  |
| <input checked="" type="checkbox"/> Drift Deposits (B3) ( <b>Nonriverine</b> )                             | <input type="checkbox"/> Presence of Reduced Iron (C4)                 | <input type="checkbox"/> Crayfish Burrows (C8)   |  |
| <input type="checkbox"/> Surface Soil Cracks (B6)  | <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)    | <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)                             |  |
| <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)   | <input type="checkbox"/> Thin Muck Surface (C7)                        | <input type="checkbox"/> Shallow Aquitard (D3)   |  |
| <input type="checkbox"/> Water-Stained Leaves (B9)   | <input type="checkbox"/> Other (Explain in Remarks)                    | <input type="checkbox"/> FAC-Neutral Test (D5)   |  |
| <b>Field Observations:</b>   |  |  |  |
| Surface Water Present?   | Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>    | Depth (inches):  |  |
| Water Table Present?   | Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>    | Depth (inches):  |  |
| Saturation Present?  | Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>    | Depth (inches):  |  |
| (includes capillary fringe)  |  | Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> |  |
| Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: |  |  |  |
| Remarks: Saturated soils w/in a foot of sample pt.   |  |  |  |

# WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Holland Rd Overcrossing City/County: Menifee/Riverside Sampling Date: 3/11/15  
 Applicant/Owner: City of Menifee State: CA Sampling Point: SP-6  
 Investigator(s): M. Flores, Kolby Olson Section, Township, Range: Sec 40-19 T 6 S, R 3 W  
 Landform (hillslope, terrace, etc.): channel Local relief (concave, convex, none): none Slope (%): 0  
 Subregion (LRR): C Lat: \_\_\_\_\_ Long: \_\_\_\_\_ Datum: \_\_\_\_\_  
 Soil Map Unit Name: Honcut Sandy loam, 2 to 8 percent NWI classification: \_\_\_\_\_

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No \_\_\_\_\_ (If no, explain in Remarks.)  
 Are Vegetation N, Soil N, or Hydrology N significantly disturbed? Are "Normal Circumstances" present? Yes X No \_\_\_\_\_  
 Are Vegetation N, Soil N, or Hydrology N 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 _____ No <u>X</u> | Is the Sampled Area<br>within a Wetland? Yes _____ No <u>X</u> |
| Hydric Soil Present?                              | Yes _____ No <u>X</u> |  |
| Wetland Hydrology Present?                        | Yes <u>X</u> No _____ |  |
| Remarks: <u>Paloma Wash Flood Control Channel</u> |                       |  |

## VEGETATION – Use scientific names of plants.

| Tree Stratum (Plot size: <u>30'</u> )                                    | Absolute % Cover | Dominant Species? | Indicator Status | Dominance Test worksheet:<br>Number of Dominant Species That Are OBL, FACW, or FAC: <u>1</u> (A)<br>Total Number of Dominant Species Across All Strata: <u>2</u> (B)<br>Percent of Dominant Species That Are OBL, FACW, or FAC: <u>50</u> (A/B) |
|--|------------------|-------------------|------------------|---|
| 1. _____   | _____            | _____             | _____            |   |
| 2. _____   | _____            | _____             | _____            |   |
| 3. _____   | _____            | _____             | _____            |   |
| 4. _____   | _____            | _____             | _____            |   |
| _____ = Total Cover  |                  |                   |                  |   |
| Sapling/Shrub Stratum (Plot size: <u>10'</u> )                           |                  |                   |                  |   |
| 1. <u>Tamarix ramosissima</u>  | <u>15</u>        | <u>Y</u>          | <u>FAC</u>       |   |
| 2. _____   | _____            | _____             | _____            |   |
| 3. _____   | _____            | _____             | _____            |   |
| 4. _____   | _____            | _____             | _____            |   |
| 5. _____   | _____            | _____             | _____            |   |
| _____ = Total Cover  |                  |                   |                  |   |
| Herb Stratum (Plot size: <u>5'</u> )                                     |                  |                   |                  |   |
| 1. <u>Sisymbrium irio</u>  | <u>2</u>         | <u>N</u>          | <u>NI</u>        |   |
| 2. <u>Hirschfeldia incana</u>  | <u>2</u>         | <u>N</u>          | <u>NI</u>        |   |
| 3. <u>Amarantus Menziesii</u>  | <u>7</u>         | <u>Y</u>          | <u>NI</u>        |   |
| 4. _____   | _____            | _____             | _____            |   |
| 5. _____   | _____            | _____             | _____            |   |
| 6. _____   | _____            | _____             | _____            |   |
| 7. _____   | _____            | _____             | _____            |   |
| 8. _____   | _____            | _____             | _____            |   |
| _____ = Total Cover  |                  |                   |                  |   |
| Woody Vine Stratum (Plot size: <u>30'</u> )                              |                  |                   |                  |   |
| 1. _____   | _____            | _____             | _____            |   |
| 2. _____   | _____            | _____             | _____            |   |
| _____ = Total Cover  |                  |                   |                  |   |
| % Bare Ground in Herb Stratum <u>89</u> % Cover of Biotic Crust <u>0</u> |                  |                   |                  |   |

Remarks: Entire channel comprised of bare ground (sand) and mostly upland (nonnative grassland) plants.



## SOIL

Sampling Point: SP6

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

| Depth<br>(inches) | Matrix        |     | Redox Features |   |                   | Loc <sup>2</sup> | Texture | Remarks |
|-------------------|---------------|-----|----------------|---|-------------------|------------------|---------|---------|
|                   | Color (moist) | %   | Color (moist)  | % | Type <sup>1</sup> |                  |         |         |
| 0 - 6             | 10YR 2/2      | 100 |                |   |                   |                  | loam    |         |
| 6-20              | 10YR 2/2      | 60  |                |   |                   |                  | loam    |         |
| 6-20              | 10YR 3/4      | 40  |                |   |                   |                  | sand    |         |
|                   |               |     |                |   |                   |                  |         |         |
|                   |               |     |                |   |                   |                  |         |         |
|                   |               |     |                |   |                   |                  |         |         |
|                   |               |     |                |   |                   |                  |         |         |
|                   |               |     |                |   |                   |                  |         |         |
|                   |               |     |                |   |                   |                  |         |         |
|                   |               |     |                |   |                   |                  |         |         |

<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.)

- |  |   |
|--|---|
| <input type="checkbox"/> Histosol (A1)                     | <input type="checkbox"/> Sandy Redox (S5)           |
| <input type="checkbox"/> Histic Epipedon (A2)              | <input type="checkbox"/> Stripped Matrix (S6)       |
| <input type="checkbox"/> Black Histic (A3)                 | <input type="checkbox"/> Loamy Mucky Mineral (F1)   |
| <input type="checkbox"/> Hydrogen Sulfide (A4)             | <input type="checkbox"/> Loamy Gleyed Matrix (F2)   |
| <input type="checkbox"/> Stratified Layers (A5) (LRR C)    | <input type="checkbox"/> Depleted Matrix (F3)       |
| <input type="checkbox"/> 1 cm Muck (A9) (LRR D)            | <input type="checkbox"/> Redox Dark Surface (F6)    |
| <input type="checkbox"/> Depleted Below Dark Surface (A11) | <input type="checkbox"/> Depleted Dark Surface (F7) |
| <input type="checkbox"/> Thick Dark Surface (A12)          | <input type="checkbox"/> Redox Depressions (F8)     |
| <input type="checkbox"/> Sandy Mucky Mineral (S1)          | <input type="checkbox"/> Vernal Pools (F9)          |
| <input type="checkbox"/> Sandy Gleyed Matrix (S4)          |   |

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: \_\_\_\_\_

Depth (inches): \_\_\_\_\_

Hydric Soil Present? Yes \_\_\_\_\_ No X

Remarks:

Soils in the wash are mostly sandy. Sample point taken within the only area that had differing soils.

## HYDROLOGY

Wetland Hydrology Indicators:

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

- |  |  |
|--|--|
| <input type="checkbox"/> Surface Water (A1)                        | <input type="checkbox"/> Salt Crust (B11)                              |
| <input type="checkbox"/> High Water Table (A2)                     | <input type="checkbox"/> Biotic Crust (B12)                            |
| <input type="checkbox"/> Saturation (A3)                           | <input type="checkbox"/> Aquatic Invertebrates (B13)                   |
| <input type="checkbox"/> Water Marks (B1) (Nonriverine)            | <input type="checkbox"/> Hydrogen Sulfide Odor (C1)                    |
| <input type="checkbox"/> Sediment Deposits (B2) (Nonriverine)      | <input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3) |
| <input type="checkbox"/> Drift Deposits (B3) (Nonriverine)         | <input type="checkbox"/> Presence of Reduced Iron (C4)                 |
| <input type="checkbox"/> Surface Soil Cracks (B6)                  | <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)    |
| <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) | <input type="checkbox"/> Thin Muck Surface (C7)                        |
| <input type="checkbox"/> Water-Stained Leaves (B9)                 | <input type="checkbox"/> 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 X No \_\_\_\_\_

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

Remarks:

Appendix D

## Site Photographs

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**Appendix D. Site Photographs**  
**Holland Road/Interstate 215 Bridge Overcrossing Project**

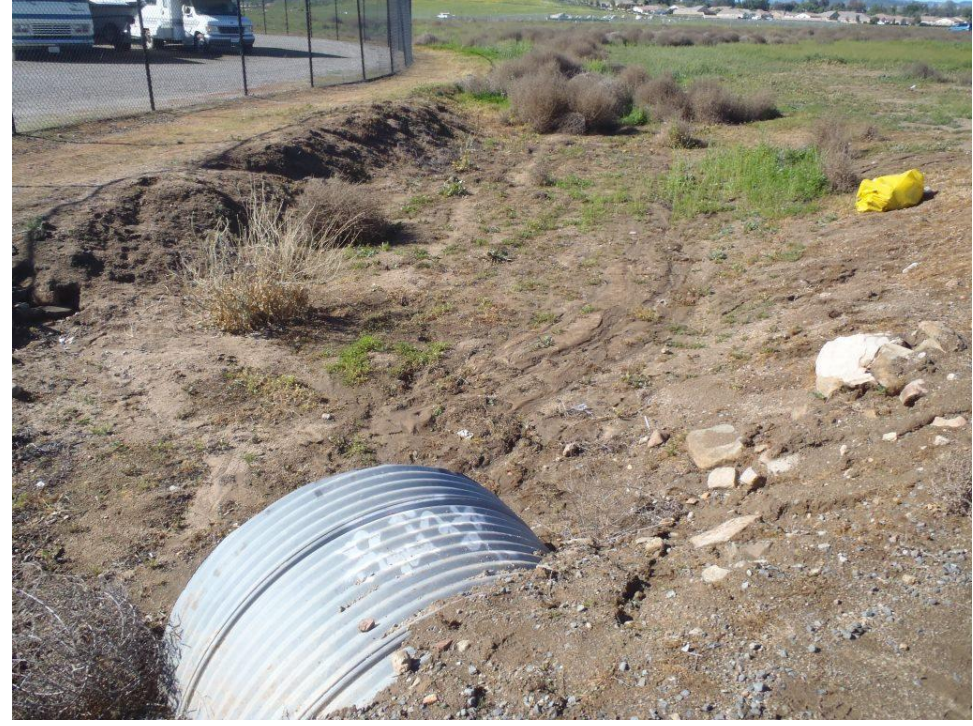

|   |   |
|---|---|
|   | <p>Photo 1</p> <p>Date: 03-03-2015</p> <p>Direction: Southwest</p> <p>Feature: 1 (Old Paloma Wash)</p> <p>Description: View upstream of Old Paloma Wash.</p>  |
|  | <p>Photo 2</p> <p>Date: 03-03-2015</p> <p>Direction: Northeast</p> <p>Feature: 1 (Old Paloma Wash)</p> <p>Description: View downstream of Old Paloma Wash. This feature was not accessible during the jurisdictional delineation.</p> |





Photo 3

Date: 03-03-2015

Direction: North

Feature: 1 (Old Paloma Wash)

Description: View of OHWM.



Photo 4



Date: 03-03-2015

Direction: South



Feature: 1 (Old Paloma Wash)

Description: View of OHWM.



|   |  |
|---|--|
|   | <p>Photo 5</p> <p>Date: 03-03-2015</p> <p>Direction: North</p> <p>Feature: Depression 1</p> <p>Description: View of Depression 1 within area covered by yellow vegetation.</p> |
|  | <p>Photo 6</p> <p>Date: 03-03-2015</p> <p>Direction: West</p> <p>Feature: 1 (Old Paloma Wash)</p> <p>Description: View of Old Paloma Wash from Holland Road.</p>               |



|   |   |
|---|---|
|   | <p>Photo 7</p> <p>Date: 03-03-2015</p> <p>Direction: North</p> <p>Feature: 1 (Old Paloma Wash)</p> <p>Description: View of Old Paloma Wash from Holland Road.</p> |
|  | <p>Photo 8</p> <p>Date: 03-03-2015</p> <p>Direction: South</p> <p>Feature: 2</p> <p>Description: Non-wetland; Sample Point 1.</p>                                 |





|   |   |
|---|---|
|   | <p>Photo 9</p> <p>Date: 03-03-2015</p> <p>Direction: Northeast</p> <p>Feature: 3</p> <p>Description: Non-wetland; Sample Point 2.</p> |
|  | <p>Photo 10</p> <p>Date: 03-03-2015</p> <p>Direction: Northeast</p> <p>Feature: 3</p> <p>Description: Wetland; Sample Point 3.</p>    |





Photo 11

Date: 03-03-2015

Direction: North

Feature: 3

Description:  
Wetland; Sample  
Point 5.

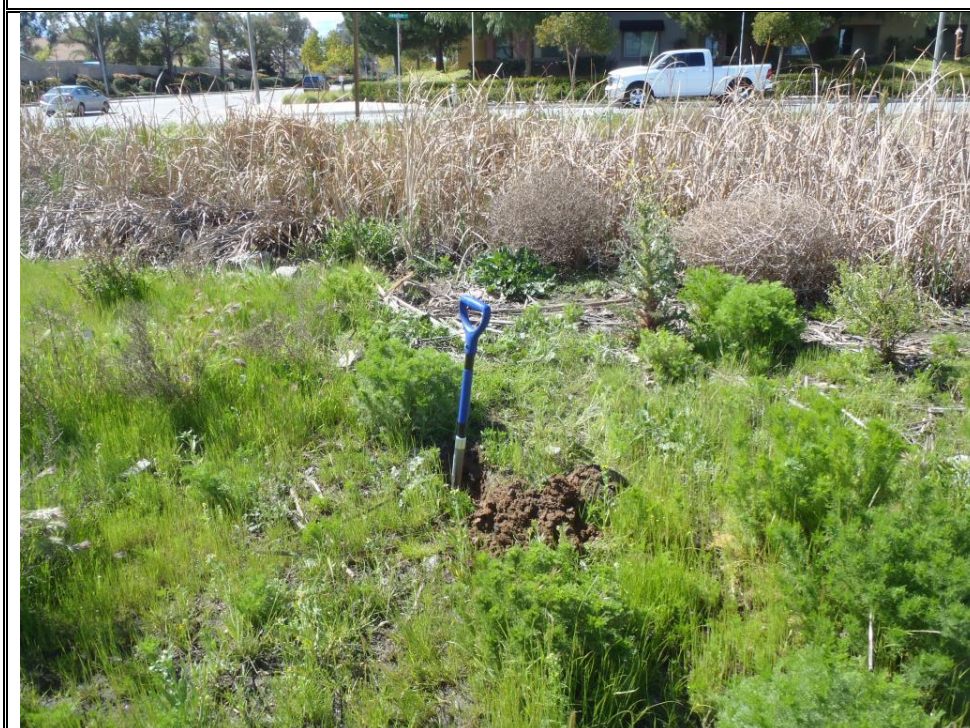


Photo 12

Date: 03-03-2015

Direction: West

Feature: 3

Description: Non-  
wetland; Sample  
Point 5.





Photo 13

Date: 03-03-2015

Direction: Northeast

Feature: 3

Description: Wetland area at the northwest corner of Hanover Lane and Holland Road.



Photo 14

Date: 03-03-2015

Direction: West

Feature: 1 (Old Paloma Wash)

Description: View of Old Paloma Wash just north of Holland Road.





Photo 15

Date: 03-03-2015

Direction: West

Feature: 2

Description: Ponded area after storm on March 2, 2015.



Photo 16

Date: 03-03-2015

Direction: East

Feature: 2

Description: Ponded area after storm on March 2, 2015.





Photo 17

Date: 03-03-2015

Direction: South

Feature: 4

Description:  
Retention basin  
southwest of  
Hanover Lane and  
Holland Road  
intersection.



Photo 18

Date: 03-03-2015

Direction: East

Feature: 4

Description:  
Retention basin  
southwest of  
Hanover Lane and  
Holland Road  
intersection.





Photo 19

Date: 03-10-2015

Direction: East

Feature: 1

Description: View of Feature 1 where it drains off of storage facility.



Photo 20

Date: 03-11-2015

Direction: South

Feature: 6 (Paloma Wash Flood Control Channel)

Description: Non-wetland; Sample Point 6. View of Paloma Wash Flood Control Channel.

## **Preliminary Jurisdictional Determination Form**

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## PRELIMINARY JURISDICTIONAL DETERMINATION FORM

This preliminary JD finds that there "may be" waters of the United States on the subject project site, and identifies all aquatic features on the site that could be affected by the proposed activity, based on the following information:

|   |                                |             |  |                                       |   |
|---|--------------------------------|-------------|--|---------------------------------------|---|
| District Office   | Los Angeles District           | File/ORM #  |  | PJD Date:                             | Mar 9, 2015   |
| State   | CA                             | City/County | Menifee/Riverside  | Name/Address of Person Requesting PJD | City of Menifee<br>29714 Haun Road<br>Menifee, CA 92586<br>Contact: Jonathan G. Smith, P.E.<br>Director of Public Works/Engineering |
| Nearest Waterbody:  | Salt Creek                     |             |  |                                       |   |
| Location: TRS, LatLong or UTM:  | 33.670703° N<br>-117.170952° W |             |  |                                       |   |
| Identify (Estimate) Amount of Waters in the Review Area:                                    |                                |             | Name of Any Water Bodies Tidal: _____<br>on the Site Identified as Section 10 Waters: Non-Tidal: _____   |                                       |   |
| Non-Wetland Waters: _____ Stream Flow: _____<br>2115 linear ft width 0.9714 acres Ephemeral |                                |             |  |                                       |   |
| Wetlands: 0.1048 acre(s) Cowardin Class: Riverine   |                                |             | <input type="checkbox"/> Office (Desk) Determination<br><input checked="" type="checkbox"/> Field Determination: Date of Field Trip: Mar 3, 2015 |                                       |   |

**SUPPORTING DATA: Data reviewed for preliminary JD (check all that apply - checked items should be included in case file and, where checked and requested, appropriately reference sources below):**

- ☒ Maps, plans, plots or plat submitted by or on behalf of the applicant/consultant: \_\_\_\_\_
- ☒ Data sheets prepared/submitted by or on behalf of the applicant/consultant.
  - ☐ Office concurs with data sheets/delineation report.
  - ☐ Office does not concur with data sheets/delineation report.
- ☐ Data sheets prepared by the Corps \_\_\_\_\_
- ☐ Corps navigable waters' study: \_\_\_\_\_
- ☐ U.S. Geological Survey Hydrologic Atlas:
  - ☐ USGS NHD data.
  - ☐ USGS 8 and 12 digit HUC maps.
- ☒ U.S. Geological Survey map(s). Cite quad name: Barstow
- ☐ USDA Natural Resources Conservation Service Soil Survey. Citation: \_\_\_\_\_
- ☐ National wetlands inventory map(s). Cite name: \_\_\_\_\_
- ☐ State/Local wetland inventory map(s): \_\_\_\_\_
- ☐ FEMA/FIRM maps: \_\_\_\_\_
- ☐ 100-year Floodplain Elevation is: \_\_\_\_\_
- ☒ Photographs: ☒ Aerial (Name & Date): ESRI Street Map North America (2008)
  - ☐ Other (Name & Date): \_\_\_\_\_
- ☐ Previous determination(s). File no. and date of response letter: \_\_\_\_\_
- ☐ Other information (please specify): \_\_\_\_\_

**IMPORTANT NOTE: The information recorded on this form has not necessarily been verified by the Corps and should not be relied upon for later jurisdictional determinations.**

\_\_\_\_\_  
Signature and Date of Regulatory Project Manager  
(REQUIRED)

\_\_\_\_\_  
Signature and Date of Person Requesting Preliminary JD  
(REQUIRED, unless obtaining the signature is impracticable)

### EXPLANATION OF PRELIMINARY AND APPROVED JURISDICTIONAL DETERMINATIONS:

1. The Corps of Engineers believes that there may be jurisdictional waters of the United States on the subject site, and the permit applicant or other affected party who requested this preliminary JD is hereby advised of his or her option to request and obtain an approved jurisdictional determination (JD) for that site. Nevertheless, the permit applicant or other person who requested this preliminary JD has declined to exercise the option to obtain an approved JD in this instance and at this time.

2. In any circumstance where a permit applicant obtains an individual permit, or a Nationwide General Permit (NWP) or other general permit verification requiring "preconstruction notification" (PCN), or requests verification for a non-reporting NWP or other general permit, and the permit applicant has not requested an approved JD for the activity, the permit applicant is hereby made aware of the following: (1) the permit applicant has elected to seek a permit authorization based on a preliminary JD, which does not make an official determination of jurisdictional waters; (2) that the applicant has the option to request an approved JD before accepting the terms and conditions of the permit authorization, and that basing a permit authorization on an approved JD could possibly result in less compensatory mitigation being required or different special conditions; (3) that the applicant has the right to request an individual permit rather than accepting the terms and conditions of the NWP or other general permit authorization; (4) that the applicant can accept a permit authorization and thereby agree to comply with all the terms and conditions of that permit, including whatever mitigation requirements the Corps has determined to be necessary; (5) that undertaking any activity in reliance upon the subject permit authorization without requesting an approved JD constitutes the applicant's acceptance of the use of the preliminary JD, but that either form of JD will be processed as soon as is practicable; (6) accepting a permit authorization (e.g., signing a proffered individual permit) or undertaking any activity in reliance on any form of Corps permit authorization based on a preliminary JD constitutes agreement that all wetlands and other water bodies on the site affected in any way by that activity are jurisdictional waters of the United States, and precludes any challenge to such jurisdiction in any administrative or judicial compliance or enforcement action, or in any administrative appeal or in any Federal court; and (7) whether the applicant elects to use either an approved JD or a preliminary JD, that JD will be processed as soon as is practicable. Further, an approved JD, a proffered individual permit (and all terms and conditions contained therein), or individual permit denial can be administratively appealed pursuant to 33 C.F.R. Part 331, and that in any administrative appeal, jurisdictional issues can be raised (see 33 C.F.R. 331.5(a)(2)). If, during that administrative appeal, it becomes necessary to make an official determination whether CWA jurisdiction exists over a site, or to provide an official delineation of jurisdictional waters on the site, the Corps will provide an approved JD to accomplish that result, as soon as is practicable.



## PRELIMINARY JURISDICTIONAL DETERMINATION FORM

This preliminary JD finds that there "may be" waters of the United States on the subject project site, and identifies all aquatic features on the site that could be affected by the proposed activity, based on the following information:

### Appendix A - Sites

District Office  File/ORM #  PJD Date:   
State  City/County  Person Requesting PJD

| Site Number | Latitude     | Longitude      | Cowardin Class | Est. Amount of Aquatic Resource in Review Area | Class of Aquatic Resource  |
|-------------|--------------|----------------|----------------|--|----------------------------|
| 1           | 33.670989° N | -117.173470° W | Riverine       | 0.2570   | Non-Section 10 non-wetland |
| 2           | 33.670347° N | -117.172878° W | Riverine       | 0.0659   | Non-Section 10 non-wetland |
| 3           | 33.670700° N | -117.166754° W | n/a            | 0.2223   | Non-Section 10 non-wetland |
| 3           | 33.670700° N | -117.166754° W | n/a            | 0.1048   | Non-Section 10 wetland     |
| 4           | 33.670240° N | -117.166573° W | n/a            | 0.1036   | Non-Section 10 non-wetland |
| 5           | 33.670952° N | -117.161329° W | Riverine       | 0.0033   | Non-Section 10 non-wetland |

#### Notes:

Site 6- 33.670760° N, -117.176209° W, Riverine, 0.3193 acres, Non-Section 10 Non-wetland

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## Appendix F   2014 Dry Season Fairy Shrimp Survey

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# **HOLLAND ROAD OVERCROSSING - 2014 DRY SEASON FAIRY SHRIMP SURVEY, MENIFEE, CALIFORNIA**

## **PREPARED FOR:**

T.Y. Lin International  
404 Camino del Rio South, Suite 700  
San Diego, CA 92108

## **PREPARED BY:**

ICF International  
9775 Businesspark Avenue, Suite 200  
San Diego, California 92131

**December 2014**

ICF International. 2014. Holland Road Overcrossing -2014 Dry Season Fairy Shrimp Surveys, San Diego, California. December.

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# 1.0 Introduction

This report presents the findings of the dry season fairy shrimp survey and supplemental hatching conducted for the Holland Road Overcrossing project located in Menifee, Riverside County, California (Figures 1 and 2).

## Site description

The City of Menifee is looking at the feasibility of extending Holland Road over Interstate 215 (I-215). This overcrossing of I-215 would provide additional east-west connection across the freeway. This overcrossing site is located south of Newport Road in the City of Menifee. ICF International (ICF), assisted by Ecological Restoration Services (ERS), conducted a focused dry season protocol survey for fairy shrimp to determine the presence/absence of federally-listed Riverside fairy shrimp (*Streptocephalus woottoni*) and/or vernal pool fairy shrimp (*Branchinecta lynchi*) within the project footprint or within a 100-foot buffer from the footprint (study area)

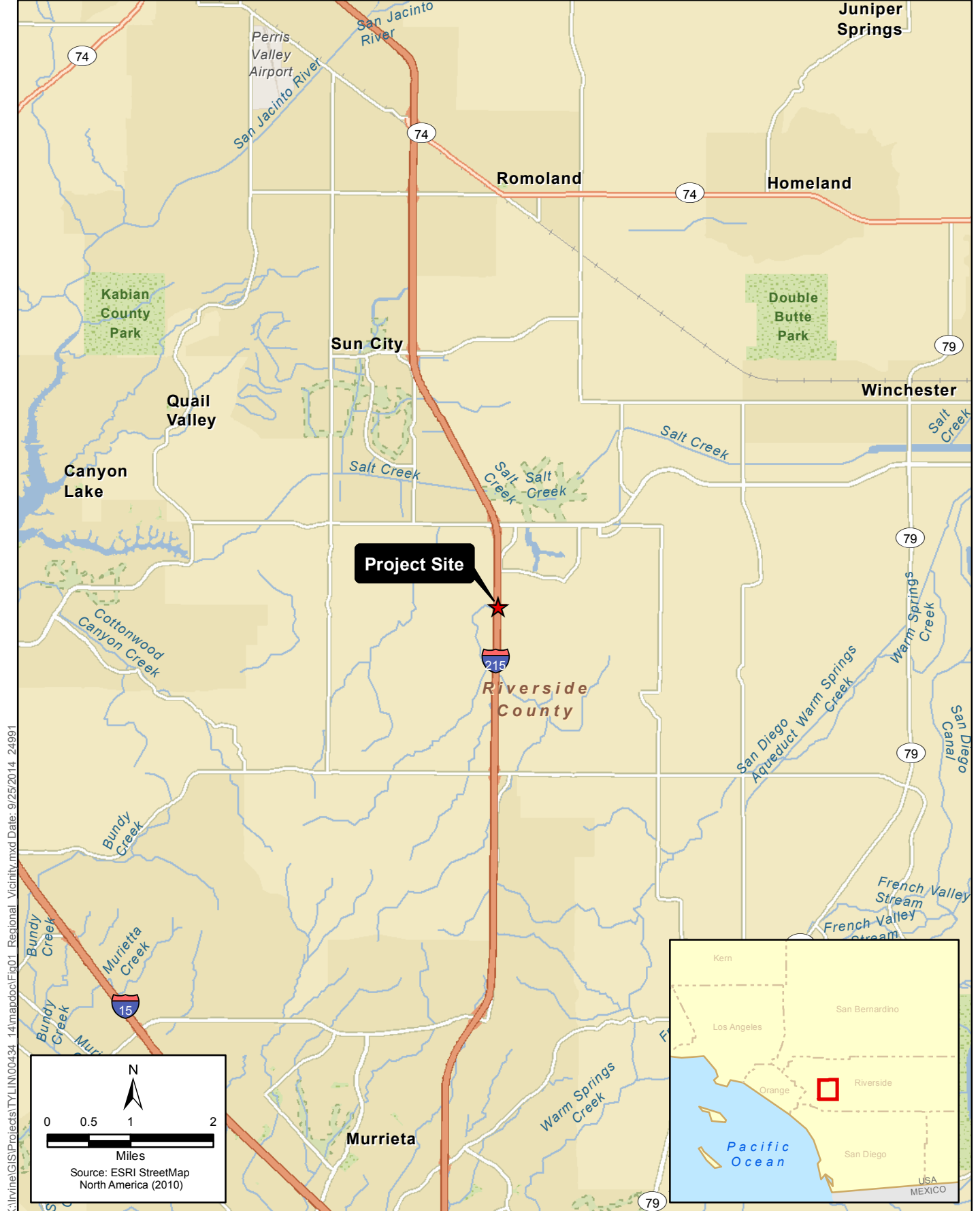
The study area is located along Holland Road on the east and west sides of I-215, extending from Hanover Lane on the east to Haun Road on the west (Figure 3). The study area is in Sections 2, 3, 10, and 11, Township 6 South, Range 3 West as shown on the U.S. Geological Survey 7.5-minute Romoland quadrangle map (Figure 2).

The study area is generally flat with an elevation of approximately 1,440 feet above mean sea level. Land use within the study area includes residential, commercial, agriculture, and pasture. Vegetation communities in the study area include agriculture (row crops), disturbed habitat, non-native grassland, ornamental, and freshwater marsh.

## Species Information

The Riverside fairy shrimp occurs in Riverside, Orange, and San Diego counties as well as northern Baja California, Mexico. This species is typically found in deeper vernal pools, detention basins, and other ephemeral basins that hold water for long periods of time (30 or more days) (Eriksen and Belk 1999). The vernal pool fairy shrimp occurs throughout the San Joaquin Valley and in several disjunct populations in Riverside County (CDFW 2014). This species is found in a variety of vernal pools and other shallow ephemeral basins.

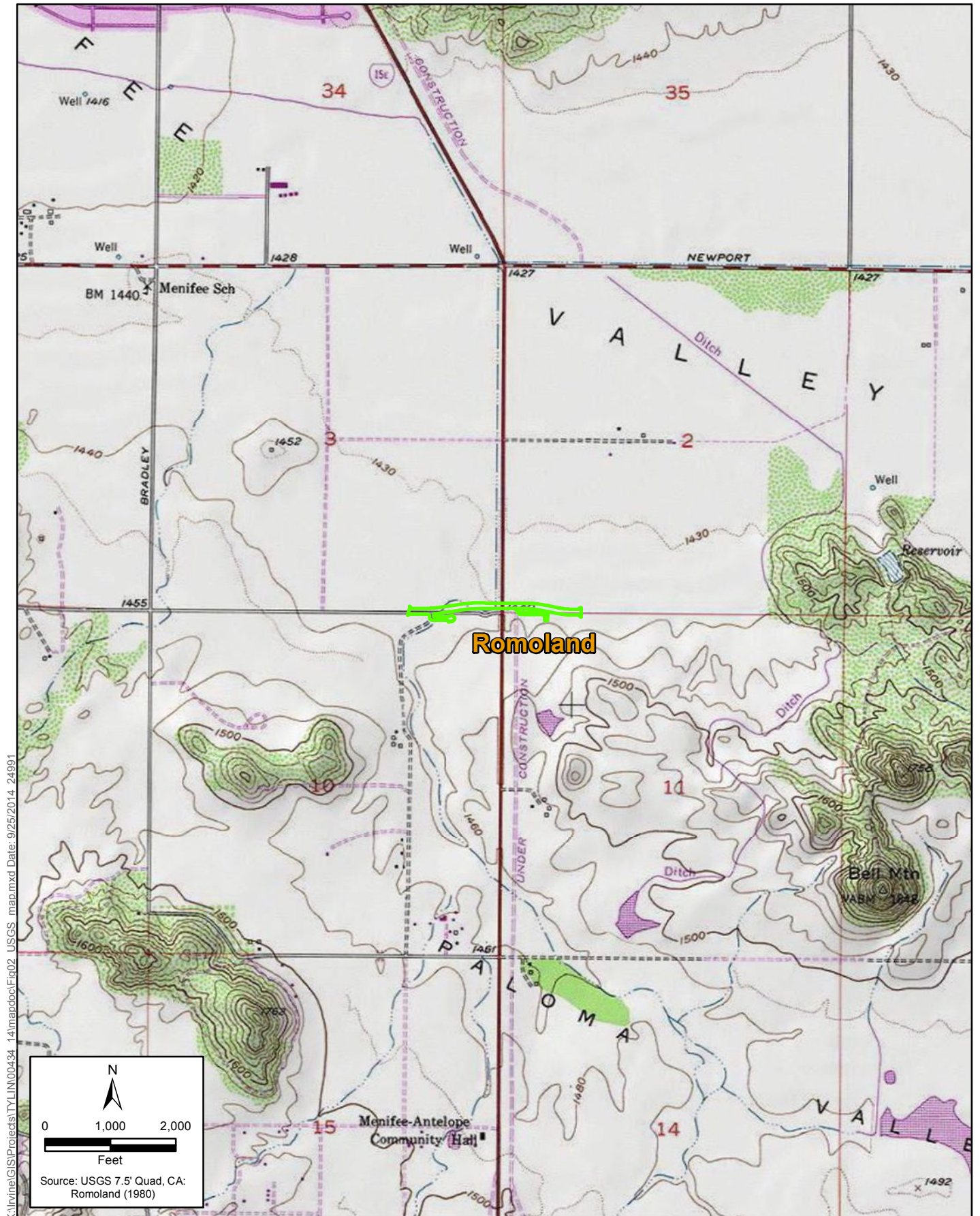
Fairy shrimp are adapted for variable and uncertain rainfall patterns. When fertilized by males of their species, female fairy shrimp produce “resting eggs” called cysts that are dormant embryos surrounded by hard-shelled membranes capable of remaining viable in the soil for long periods of time. The surface characteristics of these cysts can be used to differentiate the genus and potentially the species of fairy shrimp. Dry season fairy shrimp surveys are designed to detect, collect, and identify cysts present in the soil



**Figure 1**  
**Regional Vicinity Map**  
**Holland Road Overcrossing**



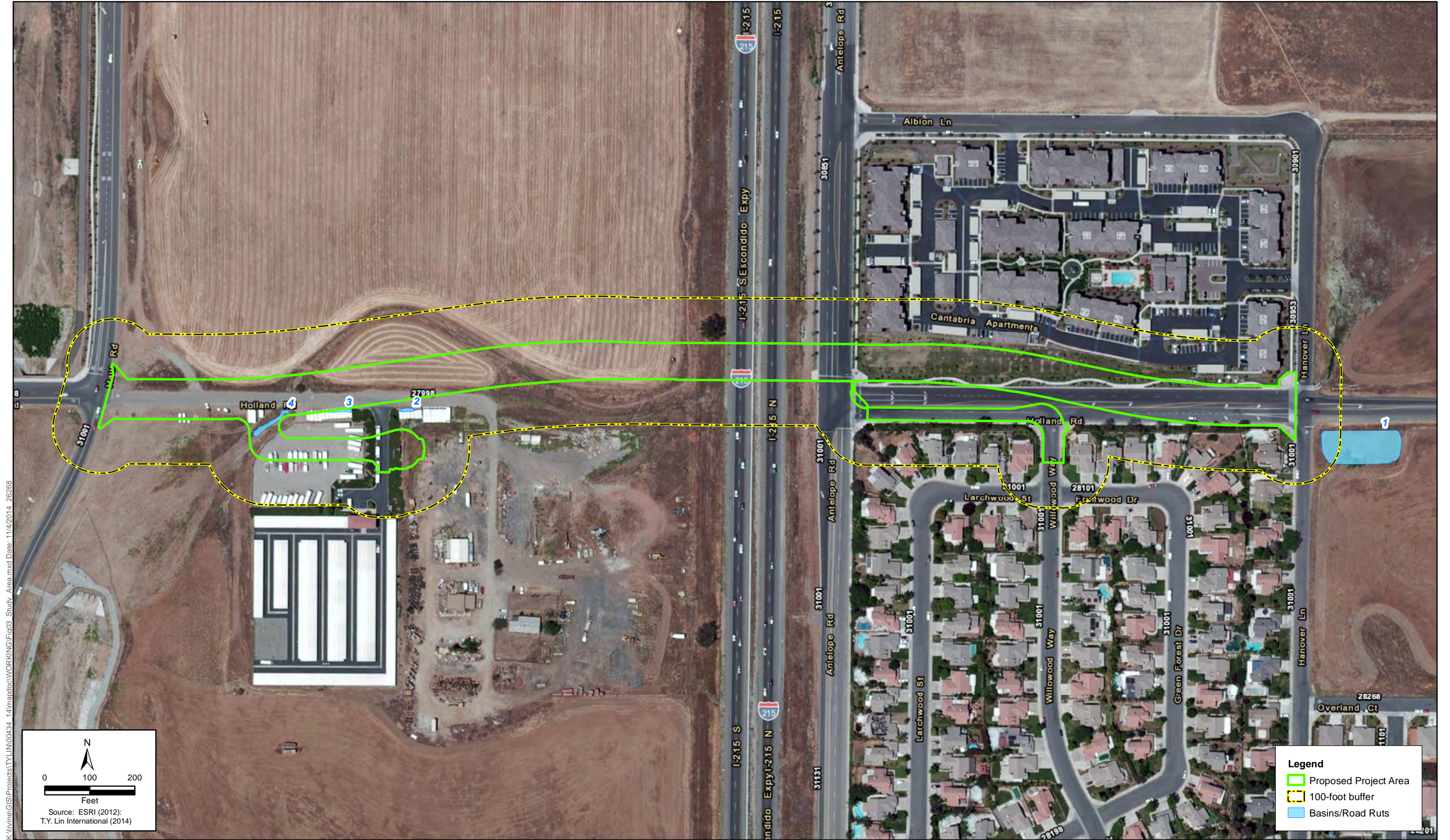




**Figure 2**  
**Project Location**  
**Holland Road Overcrossing**







**Figure 3**  
**Sampled Basins**  
**Holland Road Overcrossing**







## 2.0 Methods

ICF conducted a protocol dry season survey on four basins with the study area. Survey methodology follows the Interim Survey Guidelines to Permittees for Recovery Permits under Section 10(a)(1)(A) of the Endangered Species Act for the Listed Vernal Pool Branchiopods (Guidelines; USFWS 1996). Prior to initiating the surveys, a 15-day pre-notification letter was sent to the U.S. Fish and Wildlife Service (Service) Carlsbad Field Office informing intent to conduct a protocol dry season survey for the presence or absence of listed fairy shrimp (Appendix A).

Service-approved listed-branchiopod cyst identifier Charles Black, PhD (TE-835549-6) conducted the processing and analyzation of soil samples, and provided a letter report (Appendix B).

### 2.1 Soil Collection

On October 30, 2014, ICF fairy shrimp biologist Dale Ritenour (TE Permit# 58888A-0), assisted by ICF biologist Kimberly Davis, collected soil samples for the dry season survey. Soil samples were collected when vernal pools were dry. A hand trowel was used to collect soil samples from the top 1-3 centimeters of pool soil in accordance with the Service Guidelines. Whenever possible, soil samples were collected in chunks and the trowel was used to pry up intact chunks of sediment. Loosening the soil by raking or shoveling was avoided as such methods can damage cysts. Ten 100-mililiter soil samples were collected at larger basins, with no more than one liter of soil taken from the basin. Ten 50-mililiter soil samples were collected from the smaller basin. Each soil sample was labeled, stored, and analyzed individually. Each label included information necessary to identify the specific collection location for each sample. A photograph of each basin is included as Appendix C.

### 2.2 Soil Processing and Analysis

Soil samples were processed and analyzed by Dr. Black. The ten soil samples were measured into individual plastic containers. These samples were hydrated in tap water then washed through a set of sieves. Material passing through a Number 45 (355 micrometer) USA Standard Testing Sieve, A.S.T.M.E.-11 specification was caught on a Number 70 (212 micrometer) Sieve. The sample was rinsed into a container with a saturated brine solution to float organic material, including fairy shrimp cysts. The material floating on the brine was decanted onto a paper filter on a Buchner funnel. The organic material collected on the paper was examined under a stereo zoom microscope. Distinctive fairy shrimp cysts, if present, were counted. Fairy shrimp cysts were identified to the genus level through microscope examination.

Cyst density information for each soil sample location was be calculated by dividing the total number of cysts recovered by the total amount of soil collected from that soil sample location. Total cyst density information for each soil sample location would be reported for each species in terms of: none; 1-25 cysts/100 milliliters of soil; 26-50 cysts/100 milliliters of soil; 51-100 cysts/100 milliliters of soil; 101-199 cysts/100 milliliters of soil; or more than 200 cysts/100 milliliters of soil (Appendix C).

## 2.3 Hatching

*Streptocephalus* cysts can be discerned from *Branchinecta* cysts based on cyst surface characteristics. Riverside fairy shrimp is the only member of the *Streptocephalus* genus found within western Riverside County; therefore any observed *Streptocephalus* cysts are accepted as Riverside fairy shrimp. Two species of *Branchinecta* are known from western Riverside County: vernal pool fairy shrimp and versatile fairy shrimp (*Branchinecta lindahli*), and have cysts that are not reliably discernable from each other. Dr. Black conducted a hatching study to gain additional information about the potential species of *Branchinecta* found. However, vernal pool fairy shrimp are uncommon throughout their range and co-occur with other species (Eriksen and Belk 1999), so a wet season survey is still necessary to reliably determine the species of *Branchinecta* present, per the Guidelines. Hatching methods were designed to replicate natural field conditions required for fairy shrimp hatching.

## 3.0 Results

### Dry Season

Four potential basins were sampled from the study area. Basin 1, southeast of the intersection of Holland Road and Hanover Lane, is a detention basin on the edge of an agricultural parcel. The detention basin receives drainage from Holland Road, but has a berm separating it from the remainder of the agricultural site. This basin is primarily vegetated by non-native grasses (*Hordeum murinum*, *Bromus madritensis* ssp. *rubens*) but has a low cover of wetland species, including curly dock (*Rumex crispus*). Basins 2 and 3 are unvegetated road ruts on the shoulder of Holland road. Basin 4 is a sandy alluvium against a culvert, vegetated with tumbleweed (*Salsola tragus*), that may not pond.

Northeast of the intersection of Hanover Lane and Holland Road is a flat, marshy area that appears to receive perennial urban run-off and is vegetated with cattails (*Typha* sp.) and nutsedge (*Cyperus eragrostis*); this area does not have appropriate ponding for fairy shrimp. The parcel northeast of the intersection of Haun Road and Holland Road has a drainage stream that does not have basins that could support fairy shrimp.

No Riverside fairy shrimp cysts were recovered from any basin. *Branchinecta* cysts were recovered from Basin 1 (Table 1).

**Table 1. Number of *Branchinecta* cysts per soil sample**

| Basin | Sample Number |    |    |    |    |    |    |    |   |    |
|-------|---------------|----|----|----|----|----|----|----|---|----|
|       | 1             | 2  | 3  | 4  | 5  | 6  | 7  | 8  | 9 | 10 |
| 1     | 15            | 22 | 48 | 69 | 48 | 22 | 15 | 18 | 3 | 7  |
| 2     | None          |    |    |    |    |    |    |    |   |    |
| 3     | None          |    |    |    |    |    |    |    |   |    |
| 4     | None          |    |    |    |    |    |    |    |   |    |

## Hatching

Versatile fairy shrimp were hatched from Basin 1 (Table 2). No vernal pool fairy shrimp were recovered from the cyst culturing. Methods are included in the soil analyzation and cyst hatching letter (Appendix B).

**Table 2. Number of *Branchinecta* hatched**

| Basin | <i>Branchinecta lynchi</i> | <i>Branchinecta lindahli</i> |
|-------|----------------------------|------------------------------|
| 1     | none                       | 12                           |

## 4.0 Discussion

The results of the hatching study show that versatile fairy shrimp are present in Basin 1. While the two species of *Branchinecta* are known to co-occur (Eriksen and Belk 1999), vernal pool fairy shrimp are rare in appropriate habitat in western Riverside County, with only three reported observations (CDFW 2014) outside of Santa Rosa Plateau (Skunk Hollow, Johnson Ranch, and south of Hemet). It is likely that all of the fairy shrimp present in Basin 1 are versatile fairy shrimp. A wet season survey is necessary to confirm these data and make a determination on presence/absence.

## 5.0 References

- California Department of Fish and Wildlife (CDFW). 2014. California Natural Diversity Data Base (CNDDB) GIS data dated November 1, 2014.
- Eriksen, C.H. and D. Belk. 1999. Fairy Shrimps of California's Puddles, Pools and Playas. Mad River Press, Inc. 196 pp.
- U.S. Fish and Wildlife Service (USFWS). 1996. Interim Survey Guidelines to Permittees for Recovery Permits under Section 10(a)(1)(A) of the Endangered Species Act for the Listed Vernal Pool Branchiopods. April 19.

## 6.0 Certification

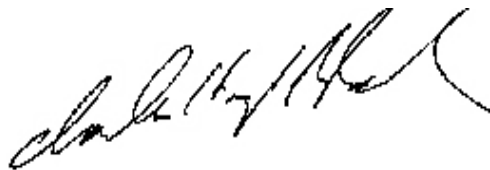
I certify that the information in this survey report and attached exhibits fully and accurately represent my work.



Dale Ritenour (Permit No. TE-58888A-0)  
Vernal Pool Biologist  
*Author and Surveys*

December 11, 2014

Date



Dr. Chuck Black (Permit No. TE-835549-6)  
Vernal Pool Biologist  
*Service Approved Cyst Identification*

December 11, 2014

Date

## **Appendix A**

### **USFWS Notification**

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September 25, 2014

Ms. Stacey Love  
Recovery Permit Coordinator  
Carlsbad Fish and Wildlife Office  
2177 Salk Avenue, Suite 250  
Carlsbad, CA 92008

RE: 15-Day Notice for Protocol Surveys for Listed Vernal Pool Branchiopods  
I-215/Holland Road Overcrossing

Dear Ms. Love:

ICF International (ICF) is planning on conducting a protocol dry season survey for listed vernal pool branchiopods for the proposed I-215/Holland Road overcrossing in Menifee, CA (Figures 1 and 2). The proposed project area and a 100-foot buffer will be inspected for potential fairy shrimp habitat. Four basins in the vicinity were identified during previous biological surveys and will be sampled for fairy shrimp cysts; any additional potential habitat will also be sampled (Figure 3). I will collect soil samples following the terms and conditions of section 5 of my TE permit, in accordance with the 1996 Interim Survey Guidelines issued by the Service. Service-approved listed branchiopod cyst identifier Chuck Black (TE-835549-6) will conduct the processing and analyzation of dry season soil samples. All dry season efforts will follow the 1996 Interim Survey Guidelines.

Please do not hesitate to contact me with any questions or comments.

Sincerely,

A handwritten signature in blue ink, appearing to read "Dale Ritenour". The signature is fluid and cursive, with a long horizontal stroke at the end.

Dale Ritenour  
TE-58888A-0  
(858) 444-3958  
[Dale.Ritenour@icfi.com](mailto:Dale.Ritenour@icfi.com)



## **Appendix B**

### **Soil Processing Letter**

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# **Examination of Soil Samples from the Holland Road Overcrossing site, Riverside Co., California, for Fairy Shrimp Cysts and Fairy Shrimp Species Determination**

**26 November, 2014**

Chuck Black  
Ecological Restoration Service  
San Diego, CA 92103  
(619) 944-1964

10(a)(1)(A) permit  
TE835549-6  
Effective to 3/9/2015

## **Introduction**

Ecological Restoration Service was contracted in September 2014 by ICF, San Diego, CA for determination of the presence of fairy shrimp cysts, and for culturing of *Branchinecta* cysts for identification to the species level of any cysts found for dry samples from 4 potential basins collected at the Holland Road Overcrossing Site.

## **Methods**

### **Soil Processing for Cyst Presence**

Ten approximately 100 ml dry soil samples per basin for 3 basins, and ten approximately 50 ml samples for one basin, collected by Dale Ritenour [10(a)(1)(A) permit TE-58888A-0] were delivered to ERS in November 2014. The samples were processed per the U.S. Fish and Wildlife Service (USFWS) April 19, 1996 Interim Survey Guidelines to Permittees for Recovery Permits under Section 10(a)(1)(A) of the Endangered Species Act for the Listed Vernal Pool Branchiopods, modified by Ecological Restoration Service as described below. Charles Black of Ecological Restoration Service is authorized by the U.S. fish and Wildlife Service to process dry samples for the presence of fairy shrimp cysts and to culture cysts to identify to species level as special conditions of his 10(a)(1)(A) permit. These samples were hydrated for approximately 1-2 hours in tap water, then washed through a set of sieves. Material passing through a Number 45 (.0139") USA Standard Testing Sieve, A.S.T.M.E.-11 specification and caught on a Number 70 (.0083") Sieve was rinsed into a container with approximately 50 ml of a saturated brine solution to float organic material, including fairy shrimp cysts. The material floating on the brine was decanted onto a paper filter on a filter funnel, and water was removed through the filter paper by vacuum suction. The material left on the paper was examined under a 6.3-570x power Olympus SZX9 Zoom Stereo Microscope. Distinctive fairy shrimp cysts, if present, were individually counted (if less than approximately 50) or estimated (for larger numbers) by examining ¼ or ½ subsections of the filter and multiplying the subset by the appropriate factor. The presences of ostracod shells and cladoceran ephippia were also noted in samples.

## Results

### Cyst Presence

Distinctive *Branchinecta* cysts were present in moderate numbers in samples from Basin 1 (Table 1). No *Streptocephalus* cysts were found.

| Table 1 - Aquatic invertebrate structures found in samples |        |                       |           |          |  |
|--|--------|-----------------------|-----------|----------|--|
| Pool   | sample | Branchinecta<br>cysts | ostracods | ephippia |  |
| 1  | 1      | 15                    | 10s       | 10s      |  |
|  | 2      | 22                    | 10s       | 10s      |  |
|  | 3      | 48                    | 10s       | 10s      |  |
|  | 4      | 69                    | 10s       | 100s     |  |
|  | 5      | 48                    | 10s       | 100s     |  |
|  | 6      | 22                    | 10s       | 10s      |  |
|  | 7      | 15                    | 10s       | 10s      |  |
|  | 8      | 18                    | 10s       | 10s      |  |
|  | 9      | 3                     | 1s        | 10s      |  |
|  | 10     | 7                     | 1s        | 10s      |  |
| 2  | 1      | *                     |           |          |  |
|  | 2      |                       |           |          |  |
|  | 3      |                       |           |          |  |
|  | 4      |                       |           |          |  |
|  | 5      |                       |           |          |  |
|  | 6      |                       |           |          |  |
|  | 7      |                       |           |          |  |
|  | 8      |                       |           |          |  |
|  | 9      |                       |           |          |  |
|  | 10     |                       |           |          |  |
| 3  | 1      |                       |           |          |  |
|  | 2      |                       |           |          |  |
|  | 3      |                       |           |          |  |
|  | 4      |                       |           |          |  |
|  | 5      |                       |           |          |  |
|  | 6      |                       |           |          |  |
|  | 7      |                       |           |          |  |
|  | 8      |                       |           |          |  |
|  | 9      |                       |           |          |  |
|  | 10     |                       |           |          |  |
| 4  | 1      |                       |           |          |  |
|  | 2      |                       |           |          |  |
|  | 3      |                       |           |          |  |
|  | 4      |                       |           |          |  |
|  | 5      |                       |           |          |  |
|  | 6      |                       |           |          |  |
|  | 7      |                       |           |          |  |
|  | 8      |                       |           |          |  |
|  | 9      |                       |           |          |  |
|  | 10     |                       |           |          |  |

\*no structures were found in samples where entries are blank

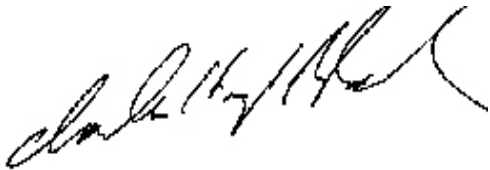
## Other Aquatic Invertebrates

Ostracod shells and cladoceran ephippia were found in moderate numbers in Basin 1 (Table 1).

## Culturing of Cysts

Cysts recovered from sampling were combined by pool and were placed in a plastic containers with approximately four liters of Arrowhead Mountain Spring Water. The container was held at 55 degrees F night/approximately 70 degrees F day for three weeks. Cysts hatched after approximately five days, and cultures were fed approximately 30 ml of a bakers yeast/aquarium fish fry food mixture twice daily. Mature fairy shrimp were removed and identified after approximately 10 days. Six male and six female *Branchinecta lindahli* individuals were identified.

I certify that the information in this survey report and attached exhibits fully and accurately represent my work.

A handwritten signature in black ink, appearing to read "Charles H. H. H.", is written in a cursive style.

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## **Appendix C**

### **Basin Photographs**

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Holland Road Overcrossing - 2014 Dry Season Fairy Shrimp Survey  
Appendix C – Basin Photographs



Photo 1. Basin 1, facing east



Photo 2. Basin 2, facing east



Holland Road Overcrossing - 2014 Dry Season Fairy Shrimp Survey  
Appendix C – Basin Photographs



Photo 3. Basin 3, facing southeast



Photo 4. Basin 4, facing northeast

**Appendix D**  
**USFWS Dry Season Data Sheets**

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U.S. Fish and Wildlife Service Vernal Pool Data Sheet Dry Season Survey

Note: Please fill out the required information completely for each site visit.

This form is being submitted to serve as part of the 90-day report: \_\_\_\_\_ no X yes

Required color slides and/or photographs for the project site are included: \_\_\_\_\_ no X yes

Date: 10/31/14 Time: 1400 County: Riverside Quad: Romoland

Collector(s): Dale Ritenour / Kimberly Davis Permit #: TE-58888A-0

Site/Project Name: Holland Road Overcrossing Pool #: 1

Township: 6S Range: 3W Section: 11 32.670244 lat. -117.166555 long.

Habitat Condition: (circle where appropriate)

- undisturbed ungrazed disturbed: tire tracks garbage discing/plowing Detention basin  
grazed: cattle horses sheep other \_\_\_\_\_  
light moderate heavy

- land use of habitat: Row crops - dryland

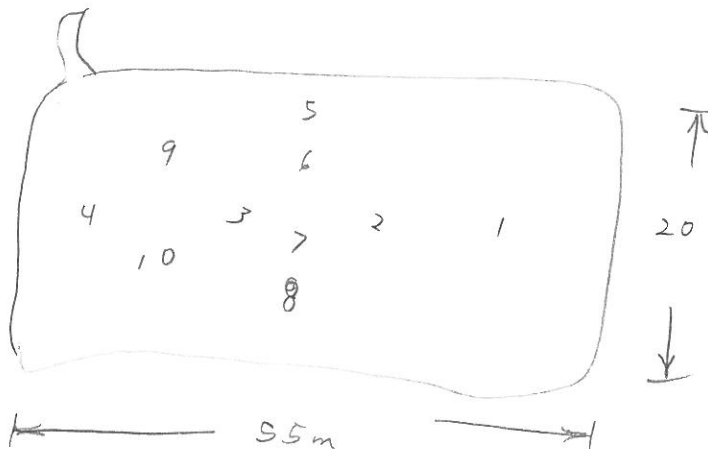
Pool Bottom Surface: (circle where appropriate)

hardpan claypan cobbly/rocky lava flow other \_\_\_\_\_

Pool Depth: 50 cm (estimated maximum) Surface Area: 1100 m<sup>2</sup> (estimated maximum)

Sketch of pool and transects showing:

- scale
- indication of North
- sampling locations



U.S Fish and Wildlife Service Vernal Pool Data Sheet  
Dry Season Survey  
Soil Analysis

Note: Please fill out the required information completely for each site visit.

| Sample ID | Sample Volume(ml) | Genus (/species) | # Cysts (or None) | Cyst Density (#/100ml) |
|-----------|-------------------|------------------|-------------------|------------------------|
| 1         | 100               | Branchinecta sp. | 15                | 1-25                   |
| 2         |                   | Branchinecta     | 22                | 1-25                   |
| 3         |                   | Branchinecta     | 48                | 26-50                  |
| 4         |                   | Branchinecta     | 69                | 51-100                 |
| 5         |                   | Branchinecta     | 48                | 26-50                  |
| 6         |                   | Branchinecta     | 22                | 1-25                   |
| 7         |                   | Branchinecta     | 15                | 1-25                   |
| 8         |                   | Branchinecta     | 18                | 1-25                   |
| 9         |                   | Branchinecta     | 3                 | 1-25                   |
| 10        | 100               | Branchinecta     | 7                 | 1-25                   |

Voucher Specimens  
Cysts shall be stored dry and shall be preserved according to the standards of the institution in which they will be accessioned.

|                         |                |                            |               |
|-------------------------|----------------|----------------------------|---------------|
| <u>Genus (/species)</u> | <u># Cysts</u> | <u>Catalog/Accession #</u> | <u>Pool #</u> |
|-------------------------|----------------|----------------------------|---------------|

U.S. Fish and Wildlife Service Vernal Pool Data Sheet Dry Season Survey

Note: Please fill out the required information completely for each site visit.

This form is being submitted to serve as part of the 90-day report: \_\_\_\_\_ no X yes

Required color slides and/or photographs for the project site are included: \_\_\_\_\_ no X yes

Date: 10/31/14 Time: 1445 County: Riverside Quad: Romoland

Collector(s): Dale Ritenour / Kimberly Davis Permit #: TE-58888A-0

Site/Project Name: Holland Road Overcrossing Pool #: 2

Township: 6S Range: 3W Section: 10 33.670424 -117.173429  
lat. \_\_\_\_\_ long.

Habitat Condition: (circle where appropriate)

- undisturbed disturbed: tire tracks garbage discing/plowing  
- ungrazed grazed: cattle horses sheep other \_\_\_\_\_  
light moderate heavy  
- land use of habitat: rut on road shoulder

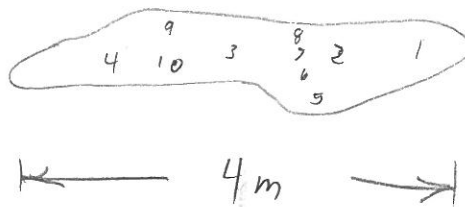
Pool Bottom Surface: (circle where appropriate)

hardpan claypan cobbly/rocky lava flow other \_\_\_\_\_

Pool Depth: 15 cm (estimated maximum) Surface Area: 10 m<sup>2</sup> (estimated maximum)

Sketch of pool and transects showing:

- scale
- indication of North
- sampling locations



Note: Please fill out the required information completely for each site visit.

| Voucher   | Specimens |
|---|-----------|
| Cysts shall be stored dry and shall be preserved according to the standards of the institution in which they will be accessioned. |           |

Pool #

U.S. Fish and Wildlife Service Vernal Pool Data Sheet Dry Season Survey

Note: Please fill out the required information completely for each site visit.

This form is being submitted to serve as part of the 90-day report: \_\_\_\_\_ no X yes

Required color slides and/or photographs for the project site are included: \_\_\_\_\_ no X yes

Date: 10/31/14 Time: 1515 County: Riverside Quad: Romoland

Collector(s): Dale Ritenour / Kimberly Davis Permit #: TE-58888A-0

Site/Project Name: Holland Road Overcrossing Pool #: 3

Township: 6S Range: 3W Section: 10 33.670389 lat. -117.174134 long.

Habitat Condition: (circle where appropriate)

- undisturbed ungrazed disturbed: tire tracks garbage discing/plowing  
grazed: cattle horses sheep other \_\_\_\_\_  
light moderate heavy  
- land use of habitat: rut on road shoulder

Pool Bottom Surface: (circle where appropriate)

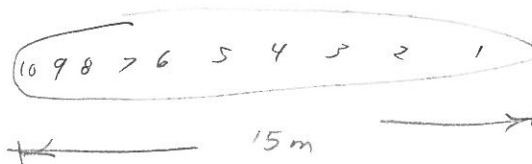
hardpan claypan cobbly/rocky lava flow other \_\_\_\_\_

Pool Depth: 10 cm (estimated maximum) Surface Area: 20 m<sup>2</sup> (estimated maximum)

Sketch of pool and transects showing:

- scale
- indication of North
- sampling locations

N ↑





U.S Fish and Wildlife Service Vernal Pool Data Sheet  
Dry Season Survey  
Soil Analysis

Note: Please fill out the required information completely for each site visit.

| Sample ID | Sample Volume(ml) | Genus (/species) | # Cysts (or None) | Cyst Density (#/100ml) |
|-----------|-------------------|------------------|-------------------|------------------------|
| 1         | 100               | None             | None              |                        |
| 2         |                   |                  |                   |                        |
| 3         |                   |                  |                   |                        |
| 4         |                   |                  |                   |                        |
| 5         |                   |                  |                   |                        |
| 6         |                   |                  |                   |                        |
| 7         |                   |                  |                   |                        |
| 8         |                   |                  |                   |                        |
| 9         |                   |                  |                   |                        |
| 10        |                   |                  |                   |                        |

Voucher

Specimens

Cysts shall be stored dry and shall be preserved according to the standards of the institution in which they will be accessioned.

Genus (/species)

# Cysts

Catalog/Accession #

Pool #

Note: Please fill out the required information completely for each site visit.

Required color slides and/or photographs for the project site are included: no ☒ yes

Collector(s): Dale Ritenour / Kimberly Davis Permit #: TE-58888A-0


Township: 65 Range: 3W Section: 10 <sup>33.670320</sup> lat. <sup>-117.174462</sup> long.

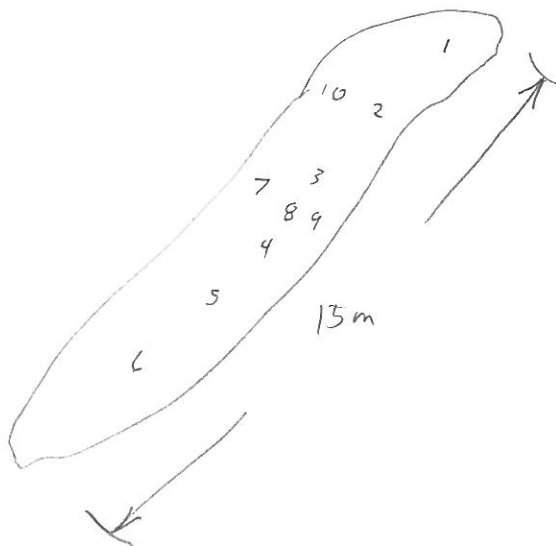
- undisturbed      disturbed: tire tracks    garbage    discing/plowing  
- ungrazed      grazed: cattle    horses    sheep    other \_\_\_\_\_  
   light    moderate    heavy

- land use of habitat:

hardpan claypan cobbly/rocky lava flow other \_\_\_\_\_

Pool Depth: 15 cm (estimated maximum) Surface Area: 80 m<sup>2</sup> (estimated maximum)

- scale
- indication of North 
- sampling locations



**U.S Fish and Wildlife Service Vernal Pool Data Sheet**  
**Dry Season Survey**  
**Soil Analysis**

Note: Please fill out the required information completely for each site visit.

| Sample ID | Sample Volume(ml) | Genus (/species) | # Cysts (or None) | Cyst Density (#/100ml) |
|-----------|-------------------|------------------|-------------------|------------------------|
| 1         | 100               | None             | None              |                        |
| 2         | 1                 |                  |                   |                        |
| 3         | 1                 |                  |                   |                        |
| 4         | 1                 |                  |                   |                        |
| 5         | 1                 |                  |                   |                        |
| 6         | 1                 |                  |                   |                        |
| 7         | 1                 |                  |                   |                        |
| 8         | 1                 |                  |                   |                        |
| 9         | 1                 |                  |                   |                        |
| 10        | 1                 |                  |                   |                        |

Voucher \_\_\_\_\_ Specimens  
 Cysts shall be stored dry and shall be preserved according to the standards of the institution in which they will be accessioned.

Genus (/species)                      # Cysts                      Catalog/Accession #                      Pool #

## Appendix G Site Photographs

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## Appendix G. Site Photographs



|  |   |
|--|---|
|  A photograph showing a paved road in the foreground. In the background, there is a parking lot with several vehicles, including a yellow U-Haul truck and a white U-Haul van. Beyond the parking lot, there are mountains under a clear blue sky.                           | <p>Photo 1</p> <p>Date: 02-06-2015</p> <p>Direction: East</p> <p>Description: Photo of southeast corner of Haun Road and Holland Road.</p>  |
|  A photograph showing a wide, flat, green field with some yellow wildflowers. In the background, there are mountains and a clear blue sky. A red arrow points to a small, dark, rectangular area in the middle of the field, which is described as a potential vernal pool. | <p>Photo 2</p> <p>Date: 02-06-2015</p> <p>Direction: North</p> <p>Description: View from Holland Road from just south of Old Paloma Wash. No access was permitted on this parcel, however there appeared to be a depression area that could be a potential vernal pool.</p> |



Photo 3

Date: 02-06-2015

Direction: North

Description: Photo from the northeast corner of Haun Road and Holland Road intersection.



Photo 4

Date: 02-06-2015

Direction: East

Description: Photo of non-native grassland and disturbed area along the north side of Holland Road.





Photo 5

Date: 02-06-2015

Direction: North

Description: Photo of channel and culvert within non-native grassland north of Holland Road.



Photo 6

Date: 02-06-2015

Direction: Southwest

Description: View of portion of Old Paloma Creek on the south side of Holland Road.





Photo 7

Date: 02-06-2015

Direction: East

Description: View along undeveloped portion of Holland Road.



Photo 8

Date: 02-06-2015

Direction: East

Description: View of Old Paloma Creek just on the north side of Holland Road.





Photo 9

Date: 02-06-2015

Direction: North

Description: View of the Interstate 215 ROW.



Photo 10

Date: 02-06-2015

Direction: West

Description: View of undeveloped portion of Holland Road and Old Paloma Creek channel from just west of the .





Photo 11

Date: 02-06-2015

Direction: South

Description: Photo of basin at southeast corner of Hanover Lane and Holland Road.



Photo 12

Date: 02-06-2015

Direction: West

Description: Photo from the east end of BSA. Nonnative grassland and southern cattail marsh visible in the foreground.





Photo 13

Date: 02-06-2015

Direction: South

Description: Photo of ground squirrel burrows north of Holland Road.



Photo 14

Date: 02-06-2015

Direction: Northeast

Description: Photo of southern cattail marsh at the northeast corner of Holland Road and Hanover Lane.





Photo 15

Date: 02-06-2015

Direction: Southwest

Description: View of southern cattail marsh from the northeast corner of BSA.



Photo 16

Date: 02-06-2015

Direction: South

Description: Photo of non-native grassland west of Antelope Road at Holland Road.



Photo 17

Date: 03-11-2015

Direction: East

Description: View along Holland Road from east of Antelope Road.



Photo 18

Date: 03-11-2015

Direction: North

Description: View of the intersection of Antelope Road and Holland Road.





Photo 19

Date: 03-11-2015

Direction: East

Description: View of nonnative grassland from Haun Road near east end of BSA.



Photo 20

Date: 03-11-2015

Direction: West

Description: View of Paloma Wash Flood Control Channel.



## Appendix H Plant and Animal Species Observed/Detected

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Appendix H  
Table H-1. Plant Species Detected

| Scientific Name                                | Common Name            | Special Status |
|--|------------------------|----------------|
| <b>EUDICOTS</b>                                |                        |                |
| <b>Amaranthaceae - Amaranth family</b>         |                        |                |
| * <i>Amaranthus albus</i>                      | Tumbleweed             |                |
| <b>Asteraceae - Sunflower family</b>           |                        |                |
| <i>Ambrosia psilostachya</i>                   | Western ragweed        |                |
| * <i>Anthemis cotula</i>                       | Mayweed                |                |
| <i>Baccharis salicifolia</i>                   | Mule fat               |                |
| * <i>Centaurea melitensis</i>                  | Tocalote               |                |
| <i>Centromadia pungens ssp. laevis</i>         | Smooth tarplant        | CRPR 1B.1      |
| * <i>Chamaemelum nobile</i>                    | Chamomile              |                |
| * <i>Cirsium vulgare</i>                       | Bull thistle           |                |
| <i>Corethrogyne filaginifolia</i>              | Common sand aster      |                |
| <i>Deinandra paniculata</i>                    | Paniculate tarplant    | CRPR 4.2       |
| * <i>Erigeron bonariensis</i>                  | Flax-leaved horseweed  |                |
| <i>Erigeron canadensis</i>                     | Horseweed              |                |
| <i>Helianthus annuus</i>                       | Annual sunflower       |                |
| <i>Heterotheca grandiflora</i>                 | Telegraph weed         |                |
| * <i>Lactuca serriola</i>                      | Prickly lettuce        |                |
| <i>Lasthenia californica</i>                   | California goldfields  |                |
| * <i>Matricaria discoidea</i>                  | Pineapple weed         |                |
| * <i>Oncosiphon piluliferum</i>                | Stinknet               |                |
| * <i>Pulicaria paludosa</i>                    | Spanish false fleabane |                |
| * <i>Sonchus asper ssp. asper</i>              | Prickly sow thistle    |                |
| <i>Stephanomeria exigua</i>                    | Deane's wire-lettuce   |                |
| <b>Boraginaceae - Borage family</b>            |                        |                |
| <i>Amsinckia menziesii</i>                     | Menzies's fiddleneck   |                |
| <i>Heliotropium curassavicum var. oculatum</i> | Alkali heliotrope      |                |
| <i>Pectocarya sp.</i>                          | Pectocarya             |                |
| <b>Brassicaceae - Mustard family</b>           |                        |                |
| * <i>Brassica nigra</i>                        | Black mustard          |                |
| * <i>Capsella bursa-pastoris</i>               | Shepherd's purse       |                |
| * <i>Hirschfeldia incana</i>                   | Shortpod mustard       |                |
| <i>Lepidium virginicum ssp. virginicum</i>     | Virginia pepper-grass  |                |

| Scientific Name                              | Common Name             | Special Status |
|--|-------------------------|----------------|
| * <i>Raphanus sativus</i>                    | Radish                  |                |
| * <i>Sisymbrium irio</i>                     | London rocket           |                |
| <b>Chenopodiaceae - Goosefoot family</b>     |                         |                |
| * <i>Atriplex suberecta</i>                  | Sprawling saltbush      |                |
| * <i>Chenopodium album</i>                   | Lamb's quarters         |                |
| * <i>Chenopodium murale</i>                  | Nettleleaf goosefoot    |                |
| * <i>Salsola tragus</i>                      | Prickly Russian thistle |                |
| <b>Convolvulaceae - Morning-glory family</b> |                         |                |
| <i>Calystegia macrostegia</i>                | Coast morning-glory     |                |
| <b>Crassulaceae - Stonecrop family</b>       |                         |                |
| <i>Crassula sp.</i>                          | Pygmyweed               |                |
| <b>Euphorbiaceae - Spurge family</b>         |                         |                |
| <i>Croton setigerus</i>                      | Doveweed                |                |
| <i>Euphorbia albomarginata</i>               | White margin spurge     |                |
| <b>Fabaceae - Legume family</b>              |                         |                |
| <i>Acmispon americanus var. americanus</i>   | Spanish-Clover          |                |
| <i>Lupinus bicolor</i>                       | Miniature lupine        |                |
| * <i>Melilotus albus</i>                     | White sweetclover       |                |
| * <i>Melilotus indicus</i>                   | Indian sweetclover      |                |
| <b>Geraniaceae - Geranium family</b>         |                         |                |
| * <i>Erodium botrys</i>                      | Longbeak filaree        |                |
| * <i>Erodium cicutarium</i>                  | Redstem filaree         |                |
| <b>Malvaceae - Mallow family</b>             |                         |                |
| * <i>Malva parviflora</i>                    | Cheeseweed              |                |
| <i>Malvella leprosa</i>                      | Alkali mallow           |                |
| <b>Montiaceae - Purslane family</b>          |                         |                |
| <i>Calandrinia ciliata</i>                   | Red maids               |                |
| <b>Myrsinaceae - Myrsine family</b>          |                         |                |
| * <i>Anagallis arvensis</i>                  | Scarlet pimpernel       |                |
| <b>Myrtaceae - Myrtle family</b>             |                         |                |
| * <i>Eucalyptus sp.</i>                      | Gum tree                |                |
| <b>Onagraceae - Evening Primrose family</b>  |                         |                |
| <i>Epilobium brachycarpum</i>                | Tall annual willowherb  |                |
| <i>Epilobium ciliatum</i>                    | Fringed willowherb      |                |
| <b>Polygonaceae - Buckwheat family</b>       |                         |                |
| <i>Eriogonum fasciculatum</i>                | California buckwheat    |                |

| Scientific Name                         | Common Name             | Special Status |
|---|-------------------------|----------------|
| * <i>Rumex crispus</i>                  | Curly dock              |                |
| <b>Salicaceae - Willow family</b>       |                         |                |
| <i>Populus fremontii</i>                | Fremont cottonwood      |                |
| <i>Salix gooddingii</i>                 | Goodding's black willow |                |
| <b>Solanaceae - Nightshade family</b>   |                         |                |
| <i>Datura wrightii</i>                  | Wright's jimsonweed     |                |
| * <i>Nicotiana glauca</i>               | Tree tobacco            |                |
| <i>Nicotiana quadrivalvis</i>           | Indian tobacco          |                |
| <b>Tamaricaceae - Tamarisk family</b>   |                         |                |
| * <i>Tamarix ramosissima</i>            | Saltcedar               |                |
| <b>Zygophyllaceae - Caltrop family</b>  |                         |                |
| * <i>Tribulus terrestris</i>            | Puncturevine            |                |
| <b>MONOCOTS</b>                         |                         |                |
| <b>Arecaceae - Palm family</b>          |                         |                |
| * <i>Washingtonia robusta</i>           | Mexican fan palm        |                |
| <b>Cyperaceae - Sedge family</b>        |                         |                |
| * <i>Cyperus difformis</i>              | Variable flatsedge      |                |
| <i>Cyperus eragrostis</i>               | Tall flatsedge          |                |
| <b>Poaceae - Grass family</b>           |                         |                |
| * <i>Bromus diandrus</i>                | Ripgut brome            |                |
| * <i>Bromus hordeaceus</i>              | Soft brome              |                |
| * <i>Bromus madritensis ssp. rubens</i> | Red brome               |                |
| * <i>Bromus tectorum</i>                | Cheat grass             |                |
| <i>Digitaria sp.</i>                    | Cottontop               |                |
| <i>Elymus condensatus</i>               | Giant wildrye           |                |
| * <i>Festuca myuros</i>                 | Rattail fescue          |                |
| * <i>Hordeum murinum</i>                | Wall barley             |                |
| <i>Muhlenbergia rigens</i>              | Deer grass              |                |
| * <i>Poa annua</i>                      | Annual blue grass       |                |
| * <i>Polypogon monspeliensis</i>        | Rabbit foot beard grass |                |
| <b>Typhaceae - Cattail family</b>       |                         |                |
| <i>Typha domingensis</i>                | Southern cattail        |                |



| Scientific Name                                    | Common Name | Special Status |
|--|-------------|----------------|
| <b>Legend</b>                                      |             |                |
| *= Non-native or invasive species                  |             |                |
| Special Status:                                    |             |                |
| CRPR – California Rare Plant Rank                  |             |                |
| 1B. Rare or Endangered in California and elsewhere |             |                |
| 4. Plants of limited distribution - Watch list     |             |                |
| Threat Ranks                                       |             |                |
| .1 - Seriously endangered in California            |             |                |
| .2 – Fairly endangered in California               |             |                |

**Table H-2.** Wildlife Species Detected

| Scientific Name  | Common Name                  | Special Status |
|--|------------------------------|----------------|
| <b>INVERTEBRATES</b>                                       |                              |                |
| <b>Branchiopods</b>  |                              |                |
| <b>Branchinectidae - Branchinectid Fairy Shrimp Family</b> |                              |                |
| <i>Branchinecta lindahli</i>                               | Versatile Fairy Shrimp       |                |
| <b>VERTEBRATES</b>   |                              |                |
| <b>Reptiles</b>  |                              |                |
| <b>Phrynosomatidae - Spiny Lizard Family</b>               |                              |                |
| <i>Uta stansburiana elegans</i>                            | Western Side-blotched Lizard |                |
| <b>Birds</b>   |                              |                |
| <b>Accipitridae - Hawk Family</b>                          |                              |                |
| <i>Buteo jamaicensis</i>                                   | Red-tailed Hawk              |                |
| <b>Charadriidae - Plover Family</b>                        |                              |                |
| <i>Charadrius vociferus</i>                                | Killdeer                     |                |
| <b>Columbidae - Pigeon and Dove Family</b>                 |                              |                |
| * <i>Columba livia</i>                                     | Rock Pigeon                  |                |
| * <i>Streptopelia decaocto</i>                             | Eurasian Collared-Dove       |                |
| <i>Zenaida macroura</i>                                    | Mourning Dove                |                |
| <b>Strigidae - Typical Owl Family</b>                      |                              |                |
| <i>Athene cunicularia</i>                                  | Burrowing Owl                | CSC            |
| <b>Falconidae - Falcon Family</b>                          |                              |                |
| <i>Falco sparverius</i>                                    | American Kestrel             |                |
| <b>Tyrannidae - Tyrant Flycatcher Family</b>               |                              |                |
| <i>Sayornis nigricans</i>                                  | Black Phoebe                 |                |
| <i>Sayornis saya</i>                                       | Say's Phoebe                 |                |
| <i>Tyrannus vociferans</i>                                 | Cassin's Kingbird            |                |
| <i>Tyrannus verticalis</i>                                 | Western Kingbird             |                |
| <b>Corvidae - Jay and Crow Family</b>                      |                              |                |
| <i>Corvus brachyrhynchos</i>                               | American Crow                |                |
| <i>Corvus corax</i>  | Common Raven                 |                |
| <b>Alaudidae - Lark Family</b>                             |                              |                |
| <i>Eremophila alpestris actis</i>                          | California Horned Lark       |                |
| <b>Hirundinidae - Swallow Family</b>                       |                              |                |
| <i>Petrochelidon pyrrhonota</i>                            | Cliff Swallow                |                |
| <i>Hirundo rustica</i>                                     | Barn Swallow                 |                |

| Scientific Name   | Common Name                | Special Status |
|---|----------------------------|----------------|
| <b>Aegithalidae - Bushtit Family</b>                    |                            |                |
| <i>Psaltiriparus minimus</i>                            | Bushtit                    |                |
| <b>Mimidae - Thrasher Family</b>                        |                            |                |
| <i>Mimus polyglottos</i>                                | Northern Mockingbird       |                |
| <b>Sturnidae - Starling Family</b>                      |                            |                |
| <i>*Sturnus vulgaris</i>                                | European Starling          |                |
| <b>Parulidae - Wood-Warbler Family</b>                  |                            |                |
| <i>Geothlypis trichas</i>                               | Common Yellowthroat        |                |
| <b>Emberizidae - Sparrow Family</b>                     |                            |                |
| <i>Passerculus sandwichensis</i>                        | Savannah Sparrow           |                |
| <i>Melospiza melodia</i>                                | Song Sparrow               |                |
| <i>Zonotrichia leucophrys</i>                           | White-crowned Sparrow      |                |
| <b>Icteridae - Blackbird, Cowbird and Oriole Family</b> |                            |                |
| <i>Sturnella neglecta</i>                               | Western Meadowlark         |                |
| <i>Euphagus cyanocephalus</i>                           | Brewer's Blackbird         |                |
| <b>Fringillidae - Finch Family</b>                      |                            |                |
| <i>Haemorhous mexicanus</i>                             | House Finch                |                |
| <b>Passeridae - Old World Sparrow Family</b>            |                            |                |
| <i>*Passer domesticus</i>                               | House Sparrow              |                |
| <b>Mammals</b>  |                            |                |
| <b>Leporidae - Hare and Rabbit Family</b>               |                            |                |
| <i>Sylvilagus audubonii</i>                             | Desert Cottontail          |                |
| <b>Sciuridae - Squirrel Family</b>                      |                            |                |
| <i>Spermophilus beecheyi</i>                            | California Ground Squirrel |                |
| <b>Geomyidae - Pocket Gopher Family</b>                 |                            |                |
| <i>Thomomys bottae</i>                                  | Botta's Pocket Gopher      |                |

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### Legend

\*= Non-native or invasive species

Special Status:

CSC = California Species of Special Concern

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## Appendix I      Avoidance and Minimization Measures

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## Appendix I. Avoidance and Minimization Measures

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Minimization and avoidance, as well as compensatory measures, are presented throughout this report. Unless otherwise noted, the measures shown are avoidance and/or minimization measures. The following is a list of these measures.

**M-1 Vegetation Clearing.** Clearing of natural vegetation will be performed outside of the active breeding season for birds, as defined in the MSHCP (March 1 through June 30) (MSHCP Volume I, Section 7.5.3). If clearing of vegetation needs to occur, a preconstruction nesting bird survey will need to be performed (refer to measure **M-18** for the nesting bird survey requirements).

**M-2 Dust Control.** Active construction areas will be watered regularly to control dust and thus minimize impacts on adjacent vegetation (MSHCP Volume I, Section 7.5.3).

**M-3 Firefighting Equipment and Preparation.** When work is conducted during the fire season (as identified by the Riverside County Fire Department) appropriate fire-fighting equipment (e.g., extinguishers, shovels, water tankers) will be available on the project site during all phases of project construction to help minimize the chance of human-caused wildfires. Shields, protective mats, and/or other fire preventative methods will be used during grinding, welding, and other spark-inducing activities. Personnel trained in fire hazards, preventative actions, and responses to fires will advise contractors regarding fire risk from all construction-related activities (MSHCP Volume I, Section 7.5.3).

**M-4 Environmental Training.** A qualified biologist will conduct a training session for project and construction personnel (MSHCP Volume I, Section 7.5.3) prior to grading. The training will include a description of the species of concern and their habitats, the general provisions of the Endangered Species Acts (FESA and CESA) and the MSHCP, the need to adhere to the provisions of the acts and the MSHCP, the penalties associated with violating the provisions of the acts, the general measures that are being implemented to conserve the species of concern as they relate to the proposed project, and the access routes to and project site boundaries within which the project activities must be accomplished (MSHCP Volume I, Appendix C). All sensitive areas will be fenced as presented in measure **M-6**, below.

**M-5 Construction Monitoring.** The qualified project biologist will monitor construction activities for the duration of the proposed project to ensure that practicable measures are being employed and avoid incidental disturbance of habitat and species of concern outside the project footprint (MSHCP Volume I, Section 7.5.3). Special attention will be provided to ensure that the environmentally sensitive area (ESA) fencing required in **M-6** is maintained daily. Additionally,

ongoing monitoring and reporting will occur for the duration of the construction activity to ensure implementation of best management practices (BMPs). This will be done in concert with **M-6**, below, which includes the fencing of sensitive areas.

**M-6 Installation of ESA Fencing.** Construction personnel will strictly limit their activities, vehicles, equipment, and construction materials to the proposed project footprint and designated staging areas and routes of travel. The construction area(s) will be the minimal area necessary to complete the proposed project and will be specified in the construction plans. Construction limits adjacent to sensitive resource areas will be demarcated using ESA fencing (e.g., orange snow screen). The ESA fencing will be reviewed at least weekly by the biological monitor (as indicated in **M-5**) until the completion of all construction activities. Employees will be instructed that their activities are restricted to the construction areas (MSHCP Volume I, Appendix C). Access to sites will be from pre-existing access routes to the greatest extent possible (MSHCP Volume I, Section 7.5.3, and MSHCP Volume I, Appendix C). ESA exclusionary fencing will be installed by construction personnel under supervision of a biological monitoring. ESA exclusion fencing will be placed no more than five days prior to the initiation of construction and will be removed within five days of the completion of construction activities.

**M-7 Removal of Exotic Plant Species.** Exotic plant species removed during construction will be properly handled to prevent sprouting or regrowth (MSHCP Volume I, Section 7.5.3).

**M-8 Clean Construction Equipment of Mud and Debris.** Construction equipment will be cleaned of mud or other debris that may contain invasive plants and/or seeds and inspected to reduce the potential of spreading noxious weeds before mobilizing to the site and before leaving the site during the course of construction. Cleaning of equipment will occur at least 300 feet from ESA fencing in a designated area.

**M-9 Guidance on Removal and Disposal of Vegetation.** Vegetation will be covered while being carried on trucks, and vegetation materials removed from the site will be disposed of in accordance with applicable laws and regulations.

**M-10 Hydro-seeding.** Post-construction, any disturbed areas remaining as bare ground will be hydro-seeded with a Caltrans-approved seed mix.

**M-11 Site Access.** The Permittee (in this case, City of Menifee) will have the right to access and inspect any sites of approved projects for compliance with project approval conditions, including BMPs (MSHCP Volume I, Appendix C).

**M-12 Best Management Practices for Erosion Control and Water Pollution.** Plans for water pollution and erosion control will be prepared. The plans will describe sediment and hazardous materials control, dewatering or diversion structures, fueling and equipment management practices, and use of plant material for erosion control. Plans will be reviewed and approved by the City of Menifee and Caltrans prior to construction (MSHCP Volume I, Section 7.5.3). The following measures will be provided:

- Water pollution and erosion control plans will be developed and implemented in accordance with RWQCB requirements (MSHCP Volume I, Appendix C) and will ensure that no fluids or sediment from construction will enter into the ESA fenced areas.
- New surface flows will be treated prior to reaching waterways.
- Sediment and erosion control measures will be implemented until such time soils are determined to be successfully stabilized (MSHCP Volume I, Section 7.5.3).
- No erodible materials will be deposited into watercourses or areas demarcated with ESA fencing. Brush, loose soils, or other debris material will not be stockpiled within stream channels or on adjacent banks (MSHCP Volume I, Section 7.5.3, and MSHCP Volume I, Appendix C).
- If streamflows must be diverted, the diversions will be conducted using sandbags or other methods requiring minimal instream impacts. Silt fencing or other sediment trapping materials will be installed at the downstream end of construction activity to minimize the transport of sediments off-site. Settling ponds where sediment is collected will be cleaned out in a manner that prevents the sediment from reentering the stream. Care will be exercised when removing silt fences, as feasible, to prevent debris or sediment from returning to the stream (MSHCP Volume I, Section 7.5.3, MSHCP Volume I, Appendix C). Short-term diversions will consider effects on wildlife (MSHCP Volume I, Section 7.5.3).
- Equipment storage, fueling, and staging areas will be located on non-sensitive upland sites with minimal risks of direct drainage into riparian areas or other sensitive habitats (MSHCP Volume I, Section 7.5.3, and MSHCP Volume I, Appendix C). These designated areas will be located in such a manner as to prevent any runoff from entering sensitive habitat. Necessary precautions will be taken to prevent the release of cement or other toxic substances into surface waters. Project-related spills of hazardous materials will be reported to appropriate entities, including, but not limited to, the applicable jurisdictional city, USFWS, CDFW, and the RWQCB, and will be cleaned up immediately and contaminated soils removed to approved disposal areas (MSHCP Volume I, Appendix C).

- All equipment maintenance, staging, and dispensing of fuel, oil, coolant, or any other toxic substances will occur only in designated areas within the proposed grading limits of the project site. These designated areas will be clearly marked and located in such a manner as to contain runoff (MSHCP Volume I, Section 7.5.3).

**M-13 Demarcating Jurisdictional Features for Avoidance.** The limits of disturbance, including the upstream, downstream, and lateral extents on either side of any stream (jurisdictional feature) adjacent to the project impact footprint, will be clearly defined and marked in the field. Monitoring personnel (biology) will review the limits of disturbance prior to initiation of construction activities (MSHCP Volume I, Section 7.5.3, and MSHCP Volume I, Appendix C). The upstream and downstream limits of project disturbance plus the lateral limits of disturbance on either side of the stream (jurisdictional feature) will be clearly defined and marked in the field, including ESA fencing installed during construction to ensure avoidance of jurisdictional areas and marsh habitat. Monitoring personnel will review the limits of disturbance prior to initiation of construction activities.

**M-14 Determination of Biological or Environmentally Superior Preservation.** The DBESP addresses riparian-riverine resources. A DBESP report that provides analysis of direct and indirect impacts, avoidance, minimization, and compensatory mitigation, along with the functions and values of the resources being affected as related to MSHCP covered species will be prepared and submitted to RCA, USFWS, and CDFW for review.

**M-15 Mitigation for Riparian-Riverine Resources.** Compensation of permanent impacts on riparian-riverine resources would occur at a minimum 1:1 for riparian and ephemeral drainages. The compensation can be a combination of enhancement, restoration, and/or creation as long as there is no net loss of riparian-riverine resources. This means that at the very least the amount of riparian-riverine removed and the amount being created must be at a 1:1 ratio. The remaining compensation can occur as enhancement and restoration. Compensatory mitigation should be coordinated with CWA 401 and 404 permitting and CDFW 1602 Streambed Alteration Agreement acquisition to ensure efficiencies with the mitigation effort. Details of this compensation will be provided in the DBESP (measure **M-14**). Final mitigation ratios will be determined after consultation with USACE, RWQCB, USFWS, and CDFW. The Permittee may purchase mitigation bank credits through the Riverside-Corona Resources Conservation District In-lieu Fee Program, Santa Ana Watershed Association, and/or creation of riparian-riverine resources, including federal and state jurisdictional water resources within the proposed project's watershed.

**M-16 Disposal of Trash.** To avoid attracting predators of the special-status species, the project site will be kept as clean of debris as possible. All food related trash items will be enclosed in sealed containers and regularly removed from the site(s) (MSHCP Volume I, Appendix C).

**M-17 Burrowing Owl Preconstruction Survey.** A burrowing owl preconstruction survey will be performed within 30 days prior to ground disturbance. The preconstruction survey area will consist of the LOD and a 300-ft, where accessible.

If burrowing owl are found, an avoidance buffer of a minimum 200-ft during the nonbreeding season and 300-ft buffer during the breeding season would be established around the occupied burrow. On-going burrow monitoring will occur to ensure the established buffers are adequate to avoid disturbance to the species and can be increased if needed. Continued monitoring will occur until the burrow is determined to be inactive. If feasible, passive relocation by a qualified ornithologist may occur after coordination with RCA and CDFW.

**M-18 Preconstruction Survey for Nesting Bird.** If construction commences during the bird breeding season (defined as March 15 through September 15), a preconstruction survey will occur within three days prior to construction activities by an experienced ornithologist. The survey will occur within all suitable nesting habitat within the LOD and a 300-foot buffer, as access is allowed. If nesting birds are found, a 100-foot (or a width determined through coordination with the wildlife agencies) avoidance area will be established around the nest until a qualified ornithologist has determined that young have fledged or nesting activities have ceased. If nesting listed species are detected, the wildlife agencies will be contacted and a 500-foot (or a width determined through coordination with the wildlife agencies) avoidance area will be established around the nest until a qualified ornithologist has determined that young have fledged or nesting activities have ceased.

**M-19 Fairy Shrimp Habitat Avoidance.** If it is determined that listed fairy shrimp are present within the LOD, all suitable fairy shrimp habitat must be fully avoided during construction. All suitable fairy shrimp habitat areas will be fenced as presented in **M-6**. If full avoidance is not feasible **M-14** must be satisfied.

**M-20 Equipment Placement Restrictions.** During construction, the placement of equipment within a stream or on adjacent banks or adjacent upland habitats occupied by MSHCP covered species that are outside of the project footprint will be avoided (MSHCP Volume I, Section 7.5.3, and MSHCP Volume I, Appendix C).

**M-21 Preconstruction Survey for Rare Plants and Avoidance.** A preconstruction survey will occur for rare plants within the LOD and a 50-foot buffer prior to the staging or ground disturbance



activities. Specifically the qualified biologist will survey for chaparral sand-verbena, saltspring checkerbloom, and San Bernardino aster. If any of these are found and full avoidance is feasible, ESA fencing (**M-6**) will be placed around the plant population. If avoidance is not feasible, the population will be mapped and seeds will be collected by CDFW prior to any ground disturbance.

## **APPENDIX C**

### **BIOLOGICAL STUDIES**

## INFORMATION SUMMARY



- A. Report Date: April 12<sup>th</sup>, 2019.
- B. Report Title: General MSHCP Habitat Assessment/Compliance Analysis for the 37.06 Acre Haun & Holland Project Site, City of Menifee, California.
- C. Case #: Riverside County Planning Department ME00135
- D. APN#: 360-130-003
- E. Project Location: USGS 7.5' series Romoland Quadrangle, Riverside County, Township 6 South, Range 3 West, Section 3, Extending northeast of Haun and Holland Roads Intersection, including portion of Paloma Wash Channel
- F. Applicant: JPN Corporation, Inc.  
P.O. Box 27240  
San Diego, CA 92198  
Contact: Mr. Jim Nelson (619)-985-8220
- G. MOU Principal: Cadre Environmental  
701 Palomar Airport Road, Suite 300  
Carlsbad, CA. 92011  
Contact: Ruben S. Ramirez, Jr. (949) 300-0212  
USFWS permit #TE780566-14, CDFW 002243
- H. Date of Surveys: April 26<sup>th</sup> 2016 and January 31<sup>st</sup>, 2019.
- I. Summary: The 37.06-acre project site is dominated by non-native grassland/ruderal, field croplands, developed/disturbed habitats and a 0.51-acre offsite study area located within the Paloma Wash channel. The project site is located within the Western Riverside County Multiple Species Habitat Conservation Plan (MSHCP) Sun City/Menifee Valley Area Plan. The project site and offsite study area are not located within a MSHCP criteria area cell, group, or linkage area. Therefore, no Habitat Evaluation and Acquisition Negotiation Strategy (HANS) or Joint Project Review (JPR) are required.

The MSHCP has determined that all of the sensitive species potentially occurring onsite have been adequately covered (MSHCP Table 2-2 Species Considered for Conservation Under the MSHCP

Since 1999, 2004). However, additional surveys may be required for narrow endemic plants, criteria area species, and specific wildlife species if suitable habitat is documented onsite and/or if the property is located within a predetermined “Survey Area” (MSHCP 2004).

The project site and offsite study area do not occur within a predetermined Survey Area for narrow endemic or criteria area plant species. (RCA GIS Data Downloads 2019). The project site and offsite study area do not occur within a predetermined Survey Area for amphibians or mammals (RCA GIS Data Downloads 2019). No additional surveys are required.

The project site and offsite study area occur completely within a predetermined Survey Area for the burrowing owl. Suitable burrowing owl burrows potentially utilized for refugia and/or nesting were documented within and adjacent to the property including foraging habitat documented within and adjacent to the project site. No burrowing owl were detected within the project site during focused MSHCP burrowing owl surveys (Cadre Environmental 2017). A 30-day preconstruction survey will be required immediately prior to the initiation of construction onsite and within the offsite study area to ensure protection for this species and compliance with the conservation goals as outlined in the MSHCP.

The disturbed/ruderal vegetation documented within the onsite agricultural ditch and offsite Paloma Wash channel study area do not represent suitable habitat for the southwestern willow flycatcher, least Bell's vireo or western yellow-billed cuckoo. No additional surveys are required.

Prior to 2009, a blueline stream bisected the southern region of the project site and extended north along the eastern boundary of the property (Caltrans ditch). However, following construction of a sediment basin located south of the project site in 2009, the drainage was redirected to flow west of Haun Road where it now discharges into the Paloma Wash flood control channel. The onsite feature, now characterized as an agricultural ditch did not exhibit any sign of flow, was dominated by ruderal non-native species, had no wetland or riparian vegetation and is expected to be isolated and non-functional in its current altered state. This onsite feature does not provide function or onsite/downstream resources for target MSHCP Section 6.1.2 species. This features no longer represents an MSHCP 6.1.2 riparian or riverine feature.

The offsite study area is located partially within the Paloma Wash channel which represents an MSHCP 6.1.2 riverine resource. Temporary and permanent impacts proposed to occur within the

Paloma Wash channel as a result of constructing an outfall structure will impact an MSHCP 6.1.2 riverine resource. Development of a MSHCP Determination of Biological Equivalent or Superior Preservation (DBESP) is required.

No vernal pools or seasonal depressions were documented onsite or within the offsite study area. No additional surveys are required.



## **SUBJECT**

### **General MSHCP Habitat Assessment/Compliance Analysis for the 37.06-Acre Haun and Holland Road Project Site, City of Menifee, California.**

This report presents the findings of a general biological habitat assessment and compliance analysis for the 37.06-acre project site ("Project Site") and 0.51-acre offsite study area located within the City of Menifee, California. Specifically, the Project Site is located within APN 360-130-003 extending northeast of the Haun and Holland Roads intersection and the offsite study area extends west into the Paloma Wash channel (Figure 1, *Regional Location Map* and Figure 2, *Vicinity Map*). The purpose of this study, conducted by Cadre Environmental, is to document the existing biological resources, identify general vegetation types, and assess the potential biological and regulatory constraints associated with the proposed development as outlined by the Western Riverside County Multiple Species Habitat Conservation Plan (MSHCP) (Figure 3, *Biological Resources Map*, Figures 4 to 6, *Current Project Site Photographs*).

The Project Site and offsite study area are located in Western Riverside County, located on the U.S. Geological Survey (USGS) 7.5' series Romoland Quadrangle, Township 6 South, Range 3 West, Section 3. Specifically, the Project Site and offsite study area are located within the Western Riverside County MSHCP Sun City/Menifee Valley Plan Area and are not located within a MSHCP Criteria Cell, Group, or Linkage Area.

The proposed project, Tentative Parcel Map (TPM) No. 37121 includes a total of six (6) commercial parcels accessed by a private drive aisle extending east from Haun Road. The proposed project also included offsite drainage improvements to the Paloma Wash Channel.

This report incorporates the findings of an extensive literature review, compilation of existing documentation, and field reconnaissance conducted on April 26<sup>th</sup>, 2016 and January 31<sup>st</sup>, 2019. This documentation is consistent with accepted scientific and technical standards, the requirements of the United States Fish and Wildlife Service (USFWS), and the California Department of Fish and Wildlife (CDFW). When appropriate, general biological resources are described in summary form in an effort to provide the reader with adequate background information. However, the report focuses on documenting those resources considered to be significant and/or sensitive as outlined by the California Environmental Quality Act (CEQA) and the Western Riverside County MSHCP.

The following report provides a summary of topographic features, soils and habitats observed onsite and within the offsite study area. Onsite and offsite resources were also analyzed to determine which if any are subject to the United States Army Corps of Engineers (USACE) jurisdiction pursuant to Section 404 of the Clean Water Act, CDFW jurisdiction pursuant to Division 2, Chapter 6, Section 1600 of the Fish and Game Code, the Santa Ana Regional Water Quality Control Board (RWQCB) 401 certification/Waste Discharge Requirements (WDR's), and MSHCP jurisdiction pursuant to section 6.1.2

(MSHCP 2004) as shown in Figure 7, *MSHCP Riverine (Section 6.1.2) Onsite Assessment Map*, and Figure 8, *MSHCP Riverine (Section 6.1.2) Resources Impact Map*.

Accordingly, this report provides an overview of potential USACE, RWQCB, CDFW, MSHCP riparian/riverine/vernal pool jurisdictional resources and a habitat assessment for species that may require additional focused surveys as outlined by the MSHCP.

## **METHODS OF STUDY**

### **APPROACH**

Prior to visiting the Project Site, a review of all available and relevant data on the biological characteristics, sensitive habitats, and species potentially present on or adjacent to the Project Site was conducted. Additionally, aerial photography, and USGS topographic map were examined. After reviewing the available information, Cadre Environmental conducted a physical site assessment.

As required by the MSHCP, and during the initial property assessment process, all Project Site APN's were searched using the Regional Conservation Authority (RCA) online database to determine if the property falls within a "Criteria Area" and if additional surveys for narrow endemic/criteria area plant species or wildlife not adequately covered by the MSHCP may be required.

During the initial and updated survey, the Project Site's habitat was characterized, preliminary vegetative communities and primary topographic features potentially subject to USACE/CDFW/RWQCB jurisdiction mapped, and the potential to support sensitive species as required by the guidelines of the MSHCP evaluated. Data, which contain digital images derived from aerial photography with orthographic projection properties, were used in conjunction with Cadre Environmental's in-house geographic information system (GIS) database as an important base layer to identify vegetation communities, drainage features, and USFWS designated critical habitat boundaries. Vegetation communities were then "ground-truthed" during field observations to obtain characteristic descriptions.

### **LITERATURE REVIEW**

The study was initiated with a review of relevant literature on the biological resources of the Project Site and vicinity. The MSHCP list of covered species potentially occurring onsite was also examined (MSHCP Table 2-2 Species Considered for Conservation Under the MSHCP Since 1999, 2004). In addition, federal register listings, protocols, and species data provided by USFWS were reviewed in conjunction with anticipated federally listed species potentially occurring at the Project Site. The California Natural Diversity Database (CNDDB),<sup>1</sup> a review of the California Native Plant Society sixth inventory (Tibor 2001), and Roberts et al. (2004) were also reviewed for pertinent information regarding

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<sup>1</sup> California Natural Diversity Data Base, Department of Fish and Game. January 2019. Natural Heritage Program: RareFind, Romoland Quadrangle.

the location of known occurrences of sensitive species in the vicinity of the property. In addition, numerous regional floral and faunal field guides were utilized in the identification of species and suitable habitats. Documents consulted regarding potential onsite biological conditions are listed in the references section at the end of this report.

## **FIELD INVESTIGATION**

The Project Site was initially surveyed on April 26<sup>th</sup>, 2016 and an updated survey was conducted on January 31<sup>st</sup>, 2019 to assess the offsite study area associated with constructing an outfall structure extending within the Paloma Wash channel. The survey included complete coverage of the Project Site and offsite study area, with special attention focused toward sensitive species or those habitats potentially supporting sensitive flora or fauna that would be essential to efficiently implementing the terms and conditions of the Western Riverside County MSHCP, and features potentially subject to USACE, CDFW, RWQCB and MSHCP jurisdiction. Aerial photography of the Project Site and offsite study area was utilized to accurately locate and survey the property. General plant communities were preliminarily mapped directly on the aerial photo using visible landmarks in the field, which are depicted in Figure 3, *Biological Resources Map*. Representative photographs of the Project Site's natural resources were taken during the initial as well as updated field surveys (Figures 4 to 6, *Current Project Site Photographs*).

### **Plant Community/Habitat Classification and Mapping**

Plant communities were preliminarily mapped with the aid of an aerial photograph using the MSHCP uncollapsed vegetation communities classification system when appropriate. When a vegetation community could not be accurately characterized using this information, an updated community classification code was developed to more accurately represent onsite habitat types.

### **General Plant Inventory**

All plants observed during the survey efforts were either identified in the field or collected and later identified using taxonomic keys. Plant taxonomy and nomenclatural changes follow Baldwin et al. (2012) or the Jepson Flora Project (2015). Common names used in this report generally follow Roberts et al. (2004) or Baldwin et al. (2012). Scientific names are included only at the first mention of a species; thereafter, common names alone are used.

### **General Wildlife Inventory**

General wildlife surveys were not conducted during the general biological habitat assessment. However, animals identified during the reconnaissance survey by sight, call, tracks, nests, scat, remains, or other signs were recorded in field notes. All wildlife was identified in the field with the aid of binoculars and taxonomic keys (if applicable). Vertebrate taxonomy followed in this report is according to the Center of North American Herpetology (2016, 2018) for amphibians and reptiles, the American Ornithologists' Union (1998 and supplemental) for birds, and Bradley et al. (2014) for mammals. Scientific

names are used during the first mention of a species; common names only are used in the remainder of the text (if applicable).

### **Burrowing Owl Habitat Assessment and Focused Surveys**

The Project Site occurs within a MSHCP burrowing owl survey area and a habitat assessment and focused survey was conducted to ensure compliance with MSHCP guidelines as summarized below.

In accordance with the MSHCP Burrowing Owl Survey Instructions (2006), survey protocol consists of two steps, Step I – Habitat Assessment and Step II – Locating Burrows and Burrowing Owls. Step II is comprised of two parts, Part A: Focused Burrow Surveys and Part B: Focused Burrowing Owl Surveys.

Each step is briefly outlined below, followed by the methodology and results of each survey conducted within the Project Site. All initial habitat assessment, burrow and focused surveys were conducted by Ruben Ramirez.

Surveys were conducted during weather that is conducive to observing owls outside their burrows and detecting burrowing owl sign. Surveys were not conducted during rain, high winds (> 20 mph), dense fog, or temperatures over 90 °F. None of the surveys were conducted within five (5) days of measurable precipitation.

In addition to the MSHCP guidelines, field notes were taken daily. These notes recorded the date, location, animal species observed, and general habitat characteristics of each area and habitat examined that day.

#### **Step I – Habitat Assessment**

Step 1 of the MSHCP habitat assessment for burrowing owl consists of a walking survey to determine if suitable habitat is present onsite. Cadre Environmental conducted the habitat assessment on April 26<sup>th</sup>, 2016 (Cadre Environmental 2016). Upon arrival at the Project Site, and prior to initiating the assessment survey, Cadre Environmental used binoculars to scan all suitable habitats on and adjacent to the property, including perch locations, to ascertain owl presence.

All suitable areas of the Project Site were surveyed on foot by walking slowly and methodically while recording/mapping areas that may represent suitable owl habitat onsite. Primary indicators of suitable burrowing owl habitat in western Riverside County include, but are not limited to, native and non-native grassland, interstitial grassland within shrub lands, shrub lands with low density shrub cover, golf courses, drainage ditches, earthen berms, unpaved airfields, pastureland, dairies, fallow fields, and agricultural use areas. Burrowing owls typically use burrows made by fossorial mammals, such as ground squirrels (*Otospermophilus beecheyi*) or badgers (*Taxidea taxus*), but they often utilize man-made structures, such as earthen berms, cement culverts, cement, asphalt, rock, wood debris piles, openings beneath cement or asphalt pavement. Burrowing owls are often found within, under, or in close proximity to man-made structures.

According to the MSHCP guidelines, if suitable habitat is present, the biologist should also walk the perimeter of the property, which consists of a 150-meter (approximately 500 feet) buffer zone around the Project Site boundary. If permission to access the buffer area cannot be obtained, the biologist shall not trespass, but visually inspect adjacent habitats with binoculars. In addition to surveying the entire Project Site all bordering natural habitats located immediately adjacent to the Project Site were assessed including the Caltrans easement located immediately east of the property.

Results from the habitat assessment indicate that suitable resources for burrowing owl are present throughout the Project Site. Accordingly, if suitable habitat is documented onsite or within adjacent habitats, both Step II, focused surveys and the 30-day pre-construction surveys are required in order to comply with the MSHCP guidelines.

## **Step II – Locating Burrows and Burrowing Owls**

Concurrent with the initial habitat assessment, a detailed focused burrow survey was conducted and included documentation of appropriately sized natural burrows or suitable man-made structures that may be utilized by burrowing owl - as part of the MSHCP protocol, which is described below under Part A. Focused Burrow Survey

### **Part A: Focused Burrow Survey**

A systematic survey for burrows, including burrowing owl sign, was conducted by walking across and adjacent to all suitable habitats mapped within the Project Site on April 26<sup>th</sup>, 2016 and March 2<sup>nd</sup>, 2017.

All observations of suitable burrows or dens, natural or man-made, or sightings of burrowing owl, were recorded and mapped during the survey (Cadre Environmental 2016).

### **Part B: Focused Burrowing Owl Surveys**

Four (4) focused burrowing owl surveys (in addition to the initial focused burrow survey – Step II, Part A) were conducted on March 2<sup>nd</sup>, 8<sup>th</sup>, 15<sup>th</sup>, and 20<sup>th</sup>, 2017, from one hour before sunrise to two hours after sunrise. Pedestrian survey transects were spaced to allow 100% visual coverage of the ground surface. The distances between transect centerlines were no more than 20 meters (approximately 66 ft.) apart, and owing to the terrain, often much smaller. During visual surveys, all potentially suitable burrow or structure entrances were investigated for signs of owl occupation, such as feathers, tracks, or pellets, and carefully observed to determine if burrowing owls utilize these features, when present. All burrows are monitored at a short distance from the entrance, and at a location that would not interfere with potential owl behavior, when present.



## Regional Connectivity/Wildlife Movement Corridor Assessment

The analysis of wildlife movement corridors associated with the Project Site and its immediate vicinity is based on information compiled from literature, analysis of the aerial photograph, and direct observations made in the field during the site visit.

A literature review was conducted that included documents on island biogeography (studies of fragmented and isolated habitat “islands”), reports on wildlife home range sizes and migration patterns, and studies on wildlife dispersal. Wildlife movement studies conducted in southern California were also reviewed. Use of field-verified digital aerial data, in conjunction with the GIS database, allowed proper identification of vegetation communities and drainage features. This information was crucial to assessing the relationship of the property to large open space areas in the immediate vicinity and was also evaluated in terms of connectivity and habitat linkages. Relative to corridor issues, the discussions in this report are intended to focus on wildlife movement associated with the property and the immediate vicinity.

## EXISTING CONDITIONS

The generally flat Project Site is characterized as non-native grassland/ruderal and field croplands with an elevation ranging between 1,440 feet above mean sea level (AMSL) and 1,435 AMSL. The offsite study area located west of the Project Site includes the west facing slope of the Paloma Wash channel which is characterized as disturbed as shown in Figure 3, *Biological Resources Map* and summarized in Table 1, *Vegetation Communities Acreage*. Representative photographs of the Project Site and offsite study area natural resources were taken during the initial as well as updated field surveys (Figures 4 to 6, *Current Project Site Photographs*).

**Table 1 – Vegetation Communities Acreage**

| <b>Vegetation Community</b>  | <b>Project Site<br/>(Onsite)<br/>Acres</b> | <b>Study Area<br/>(Offsite)<br/>Acres</b> | <b>Total<br/>Acreages</b> |
|------------------------------|--|---|---------------------------|
| Non-native grassland/ruderal | 21.38                                      | 0.01                                      | 21.39                     |
| Field Croplands              | 11.18                                      | 0.01                                      | 11.19                     |
| Disturbed                    | 3.90                                       | 0.02                                      | 3.92                      |
| Developed                    | 0.34                                       | 0.39                                      | 0.73                      |
| Agricultural Ditch           | 0.26                                       | --  | 0.26                      |
| Paloma Wash Channel          | --   | 0.08                                      | 0.08                      |
| <b>TOTAL</b>                 | <b>37.06</b>                               | <b>0.51</b>                               | <b>37.57</b>              |

## SOILS

The Soil Survey of Western Riverside Area has classified the Project Site as Honcut sandy loam, 2 to 8 percent slopes (HnC), Gr Wyman loam, 2 to 8 percent slopes, eroded (WyC2), and Yokohl loam, 2 to 8 percent slopes (YbC). All soils documented onsite within the Project Site are characterized as being well drained (drainage class) as shown in

Figure 9, *Soil Associations Map*. This is consistent with conditions observed onsite and lack of inundation documented during a review of historical aerals for years of above average rainfall.

## **Plant Community/Habitat Classification**

### **Non-native Grassland/Ruderal**

The non-native grassland/ruderal vegetation community located in the southern region is expected to have been historically dry farmed similar to the northern region of the Project Site. However, this region is now dominated by non-native ruderal species including wild oat (*Avena fatua*), false barley (*Hordeum murinum*), London rockets (*Sisymbrium irio*), Russian thistle (*Salsola tragus*), and cheeseweed (*Malva parviflora*). The native common fiddleneck (*Amsinckia menziesii*) was also documented in this habitat type.

### **Field Croplands**

The northern region of the Project Site is characterized as field croplands based on the on-going cultivation of wheat (*Triticum aestivum*). Other less common non-native species documented in this region include London rockets, cheeseweed and false barley.

### **Disturbed**

The disturbed southern region of the Project Site has been recently disked and is expected to be dominated by the same non-native species presented in the non-native grassland/ruderal classification above as well as those present in the agricultural ditch as presented below.

### **Developed**

The developed region of the Project Site is represented by the asphalt paved portion of Holland Road and Haun Road located along the southern and western boundaries.

### **Agricultural Ditch**

The agricultural ditch did not exhibit any sign of inundation, flow and did not possess native/riparian or wetland vegetation communities within or adjacent to the active channel which ranged between 4 to 8 feet wide. Dominant plant species documented within the ditch include Russian thistle, London rocket, horseweed (*Conyza canadensis*), western ragweed (*Ambrosia psilostachya*), black mustard (*Brassica nigra*), tocalote (*Centaurea melitensis*), red-stemmed filaree (*Erodium cicutarium*), white-stemmed filaree (*Erodium moschatum*), stinknet (*Oncosiphon piluliferum*), prickly lettuce (*Lactuca serriola*), salt heliotrope (*Heliotropium curassavicum*), common goldfields (*Lasthenia californica*), annual sunflower (*Helianthus annuus*), salt grass (*Distichlis spicata*), clustered tarweed (*Deinandra fasciculata*), Jimsonweed (*Datura wrightii*), and non-native grasses.

## Paloma Wash Channel

The offsite study area where an outfall structure is proposed extends west of the Project Site and includes a small region of the Paloma Wash channel. The study area located within the Paloma Wash channel is characterized as disturbed/ruderal vegetation, primarily dominated by non-native invasive species. Common non-native species documented within and in the region of the study area include red-stemmed filaree, black mustard, Russian thistle, tocalote, curly dock (*Rumex crispus*), shepherds' purse (*Capsella bursa-pastoris*), dwarf nettle (*Urtica urens*), stinking chamomile (*Anthemis cotula*), bur clover (*Medicago polymorpha*), and non-native grasses. Less common native species documented in this region include clustered tarweed, California buckwheat (*Eriogonum fasciculatum*), common sand aster (*Corethrogyne filaginifolia*), common fiddleneck, rough cocklebur (*Xanthium strumarium*), and annual sunflower.

Representative distribution and photographs of these habitat types are illustrated in Figure 3, *Biological Resources Map* and Figures 4 to 6, *Current Project Site Photographs*.

## WILDLIFE POPULATIONS

General wildlife species documented onsite or within the vicinity during the site visits include turkey vulture (*Cathartes aura*), killdeer (*Charadrius vociferous*), rock dove (*Columba livia*), northern mockingbird (*Mimus polyglottos*), mourning dove (*Zenaida macroura*), black phoebe (*Sayornis nigricans*), western kingbird (*Tyrannus verticalis*), cliff swallow (*Petrochelidon pyrrhonota*), western meadowlark (*Sturnella neglecta*), European starling (*Sturnus vulgaris*), house finch (*Carpodacus mexicanus*), house sparrow (*Passer domesticus*), and California ground squirrel (*Otospermophilus beecheyi*). An active red-tailed hawk (*Buteo jamaicensis*) nest was documented within a Eucalyptus tree located immediately adjacent to the southeast Project Boundary as shown in Figure 3, *Biological Resources Map*.

## REGIONAL CONNECTIVITY/WILDLIFE MOVEMENT

### Overview

Wildlife corridors link together areas of suitable habitat that are otherwise separated by rugged terrain, changes in vegetation, or human disturbance. The fragmentation of open space areas by urbanization creates isolated “islands” of wildlife habitat. In the absence of habitat linkages that allow movement to adjoining open space areas, various studies have concluded that some wildlife species, especially the larger and more mobile mammals, will not likely persist over time in fragmented or isolated habitat areas because they prohibit the infusion of new individuals and genetic information (MacArthur and Wilson 1967, Soule 1987, Harris and Gallagher 1989, Bennett 1990). Corridors effectively act as links between different populations of a species. A group of smaller populations (termed “demes”) linked together via a system of corridors is termed a “metapopulation.” The long-term health of each deme within the metapopulation is dependent upon its size and the frequency of interchange of individuals (immigration vs. emigration). The smaller the deme, the more important immigration becomes, because prolonged inbreeding with

the same individuals can reduce genetic variability. Immigrant individuals that move into the deme from adjoining demes mate with individuals and supply that deme with new genes and gene combinations that increases overall genetic diversity. An increase in a population's genetic variability is generally associated with an increase in a population's health.

Corridors mitigate the effects of habitat fragmentation by (1) allowing animals to move between remaining habitats, which allows depleted populations to be replenished and promotes genetic diversity; (2) providing escape routes from fire, predators, and human disturbances, thus reducing the risk that catastrophic events (such as fires or disease) will result in population or local species extinction; and (3) serving as travel routes for individual animals as they move within their home ranges in search of food, water, mates, and other needs (Noss 1983, Fahrig and Merriam 1985, Simberloff and Cox 1987, Harris and Gallagher 1989). Wildlife movement activities usually fall into one of three movement categories: (1) dispersal (e.g., juvenile animals from natal areas, individuals extending range distributions); (2) seasonal migration; and (3) movements related to home range activities (foraging for food or water, defending territories, searching for mates, breeding areas, or cover). A number of terms have been used in various wildlife movement studies, such as "wildlife corridor", "travel route", "habitat linkage", and "wildlife crossing" to refer to areas in which wildlife moves from one area to another. To clarify the meaning of these terms and facilitate the discussion on wildlife movement in this study, these terms are defined as follows:

**Travel Route:** A landscape feature (such as a ridge line, drainage, canyon, or riparian strip) within a larger natural habitat area that is used frequently by animals to facilitate movement and provide access to necessary resources (e.g., water, food, cover, den sites). The travel route is generally preferred because it provides the least amount of topographic resistance in moving from one area to another; it contains adequate food, water, and/or cover while moving between habitat areas; and provides a relatively direct link between target habitat areas.

**Wildlife Corridor:** A piece of habitat, usually linear in nature, that connects two or more habitat patches that would otherwise be fragmented or isolated from one another. Wildlife corridors are usually bounded by urban land areas or other areas unsuitable for wildlife. The corridor generally contains suitable cover, food, and/or water to support species and facilitate movement while in the corridor. Larger, landscape-level corridors (often referred to as "habitat or landscape linkages") can provide both transitory and resident habitat for a variety of species.

**Wildlife Crossing:** A small, narrow area, relatively short in length and generally constricted in nature, that allows wildlife to pass under or through an obstacle or barrier that otherwise hinders or prevents movement. Crossings typically are manmade and include culverts, underpasses, drainage pipes, and tunnels to provide access across or under roads, highways, pipelines, or other physical obstacles. These are often "choke points" along a movement corridor.

## **Wildlife Movement within the Project Site**

The Project Site and offsite study area are not located adjacent to extensive native open space habitats and does not represent a wildlife travel route, crossing or regional movement corridor between large open space habitats. The Project Site is bordered on the western boundary by Haun Road, east by Interstate 215, north by field croplands and extensive multi-use development. The southern boundary is adjacent to Holland road, industrial development and undeveloped disturbed lands. The Project Site and offsite study area are not located within a MSHCP designated core, extension of existing core, non-contiguous habitat block, constrained linkage, or linkage area.

## **SENSITIVE BIOLOGICAL RESOURCES**

### **OVERVIEW OF CLASSIFICATIONS**

The following discussion describes the plant and wildlife species present, or potentially present, within the property boundaries, that have been afforded special recognition by federal, state, or local resource conservation agencies and organizations, principally due to the species' declining or limited population sizes, usually resulting from habitat loss. Also discussed are habitats that are unique, of relatively limited distribution, or of particular value to wildlife. Protected sensitive species are classified by either state or federal resource management agencies, or both, as threatened or endangered under provisions of the state and federal Endangered Species Acts. Vulnerable or "at-risk" species that are proposed for listing as threatened or endangered are categorized administratively as "candidates" by the USFWS. The CDFW uses various terminology and classifications to describe vulnerable species. There are additional sensitive species classifications applicable in California. These are described below.

Sensitive biological resources are habitats or individual species that have special recognition by federal, state, or local conservation agencies and organizations as endangered, threatened, or rare. The CDFW, the USFWS, and special groups like the California Native Plant Society (CNPS) maintain watch lists of such resources. For the purpose of this assessment, sources used to determine the sensitive status of biological resources are:

**Plants:** USFWS (2018), CNDDDB (CDFW 2018a), CDFW (2018c), CNPS (2019), and Skinner and Pavlik (1994),

**Wildlife:** California Wildlife Habitat Relationships (2008), USFWS (2018), CNDDDB (CDFW 2018a), and CDFW (2018d, 2017e).

**Habitats:** CNDDDB (CDFW 2018f).

### **Federal Protection and Classifications**

The Federal Endangered Species Act of 1973 (FESA) defines an endangered species as "any species that is in danger of extinction throughout all or a significant portion of its



range.” Threatened species are defined as “any species which is likely to become an endangered species within the foreseeable future throughout all or a significant portion of its range.” Under provisions of Section 9(a)(1)(B) of the FESA, it is unlawful to “take” any listed species. “Take” is defined as follows in Section 3(18) of the FESA: “...harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such conduct.” Further, the USFWS, through regulation, has interpreted the terms “harm” and “harass” to include certain types of habitat modification as forms of a “take.” These interpretations, however, are generally considered and applied on a case-by-case basis and often vary from species to species. In a case where a property owner seeks permission from a federal agency for an action that could affect a federally listed plant and animal species, the property owner and agency are required to consult with the USFWS. Section 9(a)(2)(b) of the FESA addresses the protections afforded to listed plants. Recently, the USFWS instituted changes in the listing status of former candidate species. Former C1 (candidate) species are now simply referred to as candidate species and represent the only candidates for listing. Former C2 species (for which the USFWS had insufficient evidence to warrant listing at this time) and C3 species (either extinct, no longer a valid taxon, or more abundant than was formerly believed) are no longer considered as candidate species. Therefore, these species are no longer maintained in list form by the USFWS, nor are they formally protected. However, some USFWS field offices have issued memoranda stating that former C2 species are henceforth to be considered Federal Species of Concern. This term is employed in this document, but carries no official protections. All references to federally protected species in this report (whether listed, proposed for listing, or a candidate) include the most current published status or candidate category to which each species has been assigned by the USFWS. For purposes of this assessment, the following acronyms are used for federal status species:

|     |                               |
|-----|-------------------------------|
| FE  | Federal Endangered            |
| FT  | Federal Threatened            |
| FPE | Federal Proposed Endangered   |
| FPT | Federal Proposed Threatened   |
| FC  | Federal Candidate for Listing |

## State of California Protection and Classifications

The California Endangered Species Act (CESA) defines an endangered species as “...a native species or subspecies of a bird, mammal, fish, amphibian, reptile, or plant which is in serious danger of becoming extinct throughout all, or a significant portion, of its range due to one or more causes, including loss of habitat, change in habitat, overexploitation, predation, competition, or disease.” The State defines a threatened species as “...a native species or subspecies of a bird, mammal, fish, amphibian, reptile, or plant that, although not presently threatened with extinction, is likely to become an endangered species in the foreseeable future in the absence of the special protection and management efforts required by this chapter. Any animal determined by the commission as rare on or before January 1, 1985 is a threatened species.” Candidate species are defined as “...a native

species or subspecies of a bird, mammal, fish, amphibian, reptile, or plant that the commission has formally noticed as being under review by the department for addition to either the list of endangered species or the list of threatened species, or a species for which the commission has published a notice of proposed regulation to add the species to either list.” Candidate species may be afforded temporary protection as though they were already listed as threatened or endangered at the discretion of the Fish and Game Commission. Unlike the federal FESA, the CESA does not include listing provisions for invertebrate species.

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

Additionally, some sensitive mammals and birds are protected by the State as Fully Protected Mammals or Fully Protected Birds, as described in the California Fish and Game Code, sections 4700 and 3511, respectively. California Species of Special Concern (“special” animals and plants) listings include special status species, including all state and federal protected and candidate taxa, Bureau of Land Management and U.S. Forest Service sensitive species, species considered to be declining or rare by the CNPS or National Audubon Society, and a selection of species that are considered to be under population stress but are not formally proposed for listing. This list is primarily a working document for the CDFW CNDDDB project. Informally listed taxa are not protected per se, but warrant consideration in the preparation of biotic assessments. For some species, the CNDDDB is only concerned with specific portions of the life history, such as roosts, rookeries, or nest sites. For the purposes of this assessment, the following acronyms are used for state status species:

|     |                                       |
|-----|---------------------------------------|
| SE  | State Endangered                      |
| ST  | State Threatened                      |
| SCE | State Candidate Endangered            |
| SCT | State Candidate Threatened            |
| SFP | State Fully Protected                 |
| SP  | State Protected                       |
| SR  | State Rare                            |
| CSC | California Species of Special Concern |
| WL  | California Watch List                 |

## California Native Plant Society

The CNPS is a private plant conservation organization dedicated to the monitoring and protection of sensitive species in the state. This organization has compiled an inventory comprised of the information focusing upon geographic distribution and qualitative characterization of rare, threatened, or endangered vascular plant species of California (Tibor 2001). The list serves as the candidate list for listing as threatened and endangered by the CDFW. The CNPS has developed five categories of rarity (California Rare Plant Rank [CRPR]):

|         |   |
|---------|---|
| CRPR 1A | Plants presumed extirpated in California and either rare or extinct elsewhere   |
| CRPR 1B | Plants rare, threatened, or endangered in California and elsewhere  |
| CRPR 2A | Plants presumed extirpated in California but common elsewhere   |
| CRPR 2B | Plants rare, threatened, or endangered in California but more common elsewhere  |
| CRPR 3  | Plants about which we need more information – a review list   |
| CRPR 4  | Species of limited distribution in California (i.e., naturally rare in the wild), but whose existence does not appear to be susceptible to threat |

As stated by the CNPS:

Threat Rank is an extension added onto the California Rare Plant Rank and designates the level of endangerment by a 1 to 3 ranking with 1 being the most endangered and 3 being the least endangered. A Threat Rank is present for all California Rare Plant Rank 1B, 2, 4, and the majority of California Rare Plant Rank 3. California Rare Plant Rank 4 plants are seldom assigned a Threat Rank of 0.1, as they generally have large enough populations to not have significant threats to their continued existence in California; however, certain conditions exist to make the plant a species of concern and hence be assigned a California Rare Plant Rank. In addition, all California Rare Plant Rank 1A (presumed extinct in California), and some California Rare Plant Rank 3 (need more information) plants, which lack threat information, do not have a Threat Rank extension (CNPS 2012).

|     |  |
|-----|--|
| 0.1 | Seriously threatened in California (over 80 percent of occurrences threatened/high degree and immediacy of threat)                       |
| 0.2 | Fairly threatened in California (20-80 percent occurrences threatened/moderate degree and immediacy of threat)                           |
| 0.3 | Not very threatened in California (<20 percent of occurrences threatened/low degree and immediacy of threat or no current threats known) |

## POTENTIALLY SENSITIVE SPECIES/RESOURCES

Determinations of MSHCP sensitive species that could potentially occur on the Project Site are based on one or both of the following: (1) a record reported in the CNDDDB or CNPS inventory and; (2) the Project Site is within the known distribution of a species and contains suitable habitat or species documented onsite.

### Sensitive Plant Communities

As stated by CDFG:

*“One purpose of the vegetation classification is to assist in determining the level of rarity and imperilment of vegetation types. Ranking of alliances according to their degree of imperilment (as measured by rarity, trends, and threats) follows NatureServe’s Heritage Methodology, in which all alliances are listed with a G (global) and S (state) rank. For alliances with State ranks of S1-S3, all associations within them are also considered to be highly imperiled” (CDFG 2012)*

No sensitive plant communities were documented onsite. However, the project applicant shall pay MSHCP Local Development Mitigation fees as established and implemented by the City of Menifee (**BIO-CM1**, MSHCP Local Development Mitigation Fee).

### Sensitive Plant Species

The MSHCP has determined that all of the sensitive species potentially occurring onsite have been adequately covered (MSHCP Table 2-2 Species Considered for Conservation Under the MSHCP Since 1999, 2004). However, additional surveys may be required for narrow endemic plants and/or criteria area species if suitable habitat is documented onsite and/or if the property is located within a predetermined “Survey Area” (MSHCP 2004).

Smooth tarplant (*Centromadia pungens* ssp. *laevis*), CRPR 1B.1 was documented within the region of the offsite impact area (Paloma Wash Channel). However, the Project Site and offsite study area do not occur within a predetermined Survey Area for MSHCP narrow endemic or criteria area plant species and focused surveys and/or conservation is not required.

### Oak Tree and Plant Protection and Management

No oak or mature trees were documented within or adjacent to the Project Site.

### Sensitive Wildlife Species

Two (2) MSHCP covered sensitive bird species including the grasshopper sparrow (*Ammodramus savannarum*), CSC, and California horned lark (*Eremophila alpestris actia*) – WL were documented onsite.

The MSHCP has determined that all of the sensitive species potentially occurring onsite have been adequately covered (MSHCP Table 2-2 Species Considered for Conservation Under the MSHCP Since 1999, 2004). However, additional surveys may be required for criteria area species and specific wildlife species if suitable habitat is documented onsite and/or if the property is located within a predetermined “Survey Area” (MSHCP 2004).

The Project Site and offsite study area do not occur within a predetermined Survey Area for amphibians or mammals (RCA GIS Data Downloads 2019).

No suitable habitat for the least Bell’s vireo (*Vireo bellii pusillus*), southwestern willow flycatcher (*Empidonax traillii extimus*) or western yellow-billed cuckoo (*Coccyzus americanus*) was detected within or adjacent to the Project Site or offsite study area.

The Project Site and offsite study area occur completely within a predetermined Survey Area for the burrowing owl. Suitable burrowing owl burrows potentially utilized for refugia and/or nesting were documented within and adjacent to the property including foraging habitat documented within and adjacent to the Project Site. Based on the presence of suitable habitat and known occurrences of the species in close proximity to the property, focused MSHCP burrowing owl surveys were conducted to determine the presence, absence and status of the species within and adjacent to the Project Site. No burrowing owl were detected within the Project Site during focused MSHCP burrowing owl surveys (Cadre Environmental 2017). A 30-day preconstruction survey will be required immediately prior to the initiation of construction to ensure protection for this species and compliance with the conservation goals as outlined in the MSHCP (**BIO-CM2**, MSHCP 30-Day Burrowing Owl Preconstruction Surveys).

The Project Site falls within the Stephens’ kangaroo rat (*Dipodomys stephensi*, SKR) Fee Area outlined in the Riverside County SKR Habitat Conservation Plan (HCP). The project applicant shall pay the fees pursuant to County Ordinance 663.10 for the SKR HCP Fee Assessment Area as established and implemented by the County of Riverside. (**BIO-CM3**, SKR Fee Area)

### **Nesting Bird Habitat**

The non-native vegetation documented within the Project Site and offsite study area represent potential habitat for ground nesting bird species including burrowing owl and kill deer (documented onsite). Potential direct/indirect impacts to regulated nesting birds will require compliance with the federal Migratory Bird Treaty Act (MBTA) (**BIO-CM4**, Federal Migratory Bird Treaty Act).

### **MSHCP Riparian, Riverine, Vernal Pool Resources**

Prior to 2009, a blueline stream bisected the southern region of the Project Site and extended north along the eastern boundary (Caltrans ditch) of the property as shown in Figure 7, *MSHCP Riverine (Section 6.1.2) Onsite Assessment Map*. However, as shown in Figure 7, following construction of a sediment basin located south of the Project Site in 2009, the drainage was redirected to flow west of Haun Road where it currently



discharges into the Paloma Wash flood control channel. The onsite feature, now characterized as an agricultural ditch did not exhibit any sign of flow, was characterized by ruderal non-native species, had no wetland or riparian vegetation and is expected to be isolated and non-functional in its current altered state. This onsite feature does not provide function or onsite/downstream resources for target MSHCP Section 6.1.2 species. This features no longer represents a MSHCP 6.1.2 riparian or riverine feature

The offsite study area is located partially within the Paloma Wash channel which represents an MSHCP 6.1.2 riverine resource as show in Figure 8, *MSHCP Riverine (Section 6.1.2) Resources Impact Map*. Temporary and permanent impacts proposed to occur within the Paloma Wash channel as a result of constructing an outfall structure will impact an MSHCP 6.1.2 riverine resource. Development of a MSHCP Determination of Biological Equivalent or Superior Preservation (DBESP) is required (**BIO-CM5**, Determination of Biological Equivalent or Superior Preservation).

No vernal pools or seasonal depressions were documented onsite.

### **Jurisdictional Resources**

Although not an MSHCP requirement, a formal jurisdictional delineation should be conducted of the onsite agricultural ditch and study area located within the Paloma Wash channel to determine if they would be regulated by the Santa Ana Regional Water Quality Control Board, California Department of Fish and Wildlife and/or United States Army Corps of Engineers. If the onsite and/or offsite features are regulated by any of these agencies, appropriate permits will need to be acquired.

### **SUMMARY OF COMPLIANCE WITH MSHCP POLICIES**

The purpose of this report is to document the existing biological resources, identify general vegetation types, and assess the potential biological and regulatory constraints and impacts associated with the proposed development within the Project Site as outlined by the Western Riverside County Multiple Species Habitat Conservation Plan (MSHCP). Specifically, the report is intended to assist the City of Menifee during project review and compliance with MSHCP and regulatory requirements.

The following analysis of compliance with MSHCP polies is based on the assumption that all 37.06-acres of onsite resources will be permanently impacted. The analysis also addresses a total of 0.08-acre of offsite impacts (0.04-acre temporary and 0.04-acre permanent). The following sections summarize the Project Site's relationship to MSHCP criteria areas and MSHCP compliance guidelines.

### **CRITERIA AREAS**

The 37.06-acre Project Site and offsite study area are located within the Western Riverside County MSHCP Sun City/Menifee Valley Area Plan and are not located within a Criteria Area and no onsite conservation is required or proposed.

The following outline summarizes the MSHCP conservation goals respective of MSHCP regulated resources.

### **CRITERIA AREA SPECIES SURVEY AREA**

The Project Site and offsite study area do not occur within a predetermined Survey Area for criteria area plant species; therefore, no surveys are required (RCA GIS Data Downloads 2019).

Smooth tarplant, CRPR 1B.1 was documented within the region of the offsite study area (Paloma Wash Channel). However, the Project Site and offsite study area do not occur within a predetermined Survey Area for MSHCP criteria area plant species and focused surveys and/or conservation is not required.

The project is consistent with MSHCP Section 6.3.2.

### **NARROW ENDEMIC PLANT SPECIES SURVEY AREA**

The Project Site and offsite study area do not occur within a predetermined Survey Area for narrow endemic plant species; therefore, no surveys are required (RCA GIS Data Downloads 2019).

The project is consistent with MSHCP Section 6.1.3

### **AMPHIBIAN SPECIES SURVEY AREA**

The Project Site and offsite study area do not occur within the Amphibian Species Survey Area; therefore, no surveys are required (RCA GIS Data Downloads 2019).

The project is consistent with MSHCP Section 6.3.2.

### **MAMMAL SPECIES SURVEY AREA**

The Project Site and offsite study area do not occur within the Mammal Species Survey Area; therefore, no surveys are required (RCA GIS Data Downloads 2019).

The project is consistent with MSHCP Section 6.3.2.

### **BURROWING OWL SURVEY AREA**

The Project Site and offsite study area occur completely within a predetermined Survey Area for the burrowing owl. Suitable burrowing owl burrows potentially utilized for refugia and/or nesting were documented within and adjacent to the property including foraging habitat documented within and adjacent to the Project Site. Based on the presence of suitable habitat and known occurrences of the species in close proximity to the property, focused MSHCP burrowing owl surveys were conducted to determine the presence, absence and status of the species within and adjacent to the Project Site. No burrowing

owl were detected within the Project Site during focused MSHCP burrowing owl surveys (Cadre Environmental 2017). A 30-day preconstruction survey will be required immediately prior to the initiation of construction to ensure protection for this species and compliance with the conservation goals as outlined in the MSHCP

Following submittal, review and approval of the burrowing owl 30-day preconstruction survey report by the City of Menifee and Riverside County Environmental Programs Division and compliance with all species-specific conservation goals, if detected within or adjacent to the Project Site and/or offsite study area, the project will be consistent with MSHCP Section 6.3.2.

## **MSHCP RIPARIAN/RIVERINE AREAS AND VERNAL POOLS**

Prior to 2009, a blueline stream bisected the southern region of the Project Site and extended north along the eastern boundary (Caltrans ditch) of the property as shown in Figure 4, *MSHCP Riverine (Section 6.1.2) Map*. However, as shown in the Figure, following construction of a sediment basin located south of the Project Site in 2009, the drainage was redirected to flow west of Haun Road where it currently discharges into the Paloma Wash flood control channel. The onsite feature, now characterized as an agricultural ditch did not exhibit any sign of flow, was characterized by ruderal non-native species, had no wetland or riparian vegetation and is expected to be isolated and non-functional in its current altered state. This onsite feature does not provide function or onsite/downstream resources for target MSHCP Section 6.1.2 species. This feature no longer represents a MSHCP 6.1.2 riparian or riverine feature.

The offsite study area is located partially within the Paloma Wash channel which represents an MSHCP 6.1.2 riverine resource as shown in Figure 8, *MSHCP Riverine (Section 6.1.2) Resources Impact Map*. Temporary and permanent impacts proposed to occur within the Paloma Wash channel as a result of constructing an outfall structure will impact an MSHCP 6.1.2 riverine resource. Development of a MSHCP DBESP is required.

No vernal pools or seasonal depressions were documented onsite.

Following submittal, review and approval of the DBESP by the City of Menifee and MSHCP wildlife agencies, the project will be consistent with MSHCP Section 6.1.2.

## **URBAN/WILDLANDS INTERFACE**

The MSHCP Urban/Wildlands Interface guidelines presented in Section 6.1.4 are intended to address indirect effects associated with locating commercial, mixed uses and residential developments in proximity to a MSHCP Conservation Area. The Project Site and offsite study area are not located adjacent to an existing or proposed MSHCP Conservation Area. No mitigation proposed.

The project is consistent with MSHCP Section 6.1.4.

## **FUELS MANAGEMENT**

The fuels management guidelines presented in Section 6.4 of the MSHCP are intended to address brush management activities around new development within or adjacent to MSHCP Conservation Areas. The Project Site and offsite study area are not located adjacent to an existing or proposed MSHCP Conservation Area. No mitigation proposed.

The project is consistent with MSHCP Section 6.4.

## **MSHCP COMPLIANCE MEASURES**

Implementation of Mitigation Measures BIO-CM1 through BIO-CM5 and complying with the Recommendation Section below would reduce all potential significant unavoidable impacts on biological resources below a level of significance, thereby ensuring compliance with CEQA and MSHCP guidelines.

### **BIO-CM 1 MSHCP Local Development Mitigation Fee**

The project applicant shall pay MSHCP Local Development Mitigation fees as established and implemented by the City of Menifee.

### **BIO-CM 2 30-Day Burrowing Owl Preconstruction Surveys**

A 30-day burrowing owl preconstruction survey will be conducted immediately prior to the initiation of ground-disturbing construction to ensure protection for this species and compliance with the conservation goals as outlined in the MSHCP. The survey will be conducted in compliance with both MSHCP and CDFW guidelines (MSHCP 2006, CDFW 2012). A report of the findings prepared by a qualified biologist shall be submitted to the City of Menifee and County Environmental Programs Division for review and approval prior to any permit or ground disturbing activities.

If burrowing owls are detected onsite during the 30-day preconstruction survey, during the breeding season (February 1<sup>st</sup> to August 31<sup>st</sup>) then construction activities shall be limited to beyond 300 feet of the active burrows until a qualified biologist has confirmed that nesting efforts are completed or not initiated. In addition to monitoring breeding activity, if construction is proposed to be initiated during the breeding season or active relocation is proposed, a burrowing owl mitigation plan will be developed based on the County of Riverside Environmental Programs Division, CDFW and USFWS requirements for the relocation of individuals to the Lake Mathews Preserve.

### **BIO-CM 3 SKR Fee Area**

The Project Site falls within the SKR Fee Area outlined in the Riverside County SKR HCP. The project applicant shall pay the fees pursuant to County Ordinance 663.10 for the SKR HCP Fee Assessment Area as established and implemented by the County of Riverside.

#### **BIO-CM 4 Federal Migratory Bird Treaty Act**

Mitigation for potential direct/indirect impacts to common and MSHCP covered sensitive bird and raptor species will require compliance with the federal Migratory Bird Treaty Act (MBTA). Construction outside the nesting season (between September 16<sup>th</sup> and January 31<sup>st</sup>) do not require pre-removal nesting bird surveys. If construction is proposed between February 1<sup>st</sup> and September 15<sup>th</sup>, a qualified biologist must conduct a nesting bird survey(s) no more than three (3) days prior to initiation of grading to document the presence or absence of nesting birds within or directly adjacent (100 feet) to the Project Site and offsite study area.

The survey(s) would focus on identifying any bird or raptor nests that would be directly or indirectly affected by construction activities. If active nests are documented, species-specific measures shall be prepared by a qualified biologist and implemented to prevent abandonment of the active nest. At a minimum, grading in the vicinity of a nest shall be deterred until the young birds have fledged. A minimum exclusion buffer of 100 feet shall be maintained during construction, depending on the species and location. The perimeter of the nest setback zone shall be fenced or adequately demarcated with stakes and flagging at 20-foot intervals, and construction personnel and activities restricted from the area. A survey report by a qualified biologist verifying that no active nests are present, or that the young have fledged, shall be submitted to the City of Menifee and County Environmental Programs Division for review and approval prior to initiation of grading in the nest-setback zone. The qualified biologist shall serve as a construction monitor during those periods when construction activities occur near active nest areas to ensure that no inadvertent impacts on these nests occur. A report of the findings prepared by a qualified biologist shall be submitted to the City of Menifee and County Environmental Programs Division for review and approval prior to construction that has the potential to disturb any active nests during the nesting season.

Any nest permanently vacated for the season would not warrant protection pursuant to the MBTA.

#### **BIO-CM 5 Determination of Biological Equivalent or Superior Preservation**

The offsite study area is located within the Paloma Wash channel and represents an MSHCP Section 6.1.2 riverine resource. To meet the criteria of a biologically equivalent or superior alternative, the applicant will offset impacts to any MSHCP riverine habitat as directed by the City of Menifee. Specifically, an MSHCP DBESP will be prepared and submitted to the City of Menifee for review and approval. As stated by Cadre Environmental:

*“The proposed Haun and Holland Road Tentative Parcel Map (TPM) 37121 project will require the construction of an offsite outfall structure within the Paloma Wash flood control channel (Western Riverside County Multiple Species Habitat Conservation Plan “MSHCP” section 6.1.2 riverine resource) located west of the project site (“Project Site”) and Haun Road. A total of 0.08-acre of impacts (0.04-acre permanent and 0.04-acre*



*temporary) will occur within the Paloma Wash channel, an MSHCP section 6.1.2 riverine resource as a result of project initiation.*

*To meet the criteria of a biologically equivalent or superior alternative, the applicant will offset temporary and permanent impacts to 0.08-acre of MSHCP Section 6.1.2 riverine resources located within the Paloma Wash channel (disturbed habitat) by:*

1) *Restoring temporary impact area (0.04 acre) by hydroseeding with a native seed mix, and the applicant will perform exotic weed removal for a period of one year. The seed mix will consist of deer grass (Muhlenbergia rigens), foothill needlegrass (Nassella lepida), California bromegrass (Bromus carinatus), Spanish clover (Acmispon americanus) and alkali barley (Hordeum depressum). The seed will be obtained from S & S Seeds, and;*

2) *Purchasing 0.08 acre of rehabilitation credits (2:1) at the Riverpark Mitigation Bank. If the River Park Mitigation Bank is not selling credits when the applicant will need to purchase them, then the applicant will provide for habitat restoration of native alkali habitat within the City of Hemet's vernal pool complex located within Regional Conservation Authority (RCA) lands (APN's 455-130-030, 455-130-036, and 455-130-046) at a higher ratio of 3:1." (Cadre Environmental 2019)*

## **RECOMMENDATION**

### **USACE/CDFW/RWQCB Permits**

Prior to issuance of a grading permit, the project applicant will conduct a formal jurisdictional delineation to determine if the agricultural ditch and offsite study area located within the Paloma Wash channel are regulated by the USACE, CDFW, or RWQCB. If the agricultural ditch and/or offsite study area located within the Paloma Wash channel are determined to be jurisdictional, the project applicant will be required to obtain all applicable permits which may include, 404 Nationwide Permit from the USACE, 1602 Streambed Alteration Agreement from CDFW, and a 401 Certification issued by the RWQCB pursuant to the California Water Code Section 13260.

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- 1 – Regional Location Map
- 2 – Vicinity Map
- 3 – Biological Resources Map
- 4 – Current Project Site Photographs
- 5 – Current Project Site Photographs
- 6 – Current Offsite Study Area Photographs
- 7 – MSHCP Riverine (Section 6.1.2) Onsite Assessment Map
- 8 – MSHCP Riverine (Section 6.1.2) Resources Impact Map

## **Certification**

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

Author:  Date: April 12<sup>th</sup>, 2019

Fieldwork Performed by:  Date: April 12<sup>th</sup>, 2019



APN 360-130-003

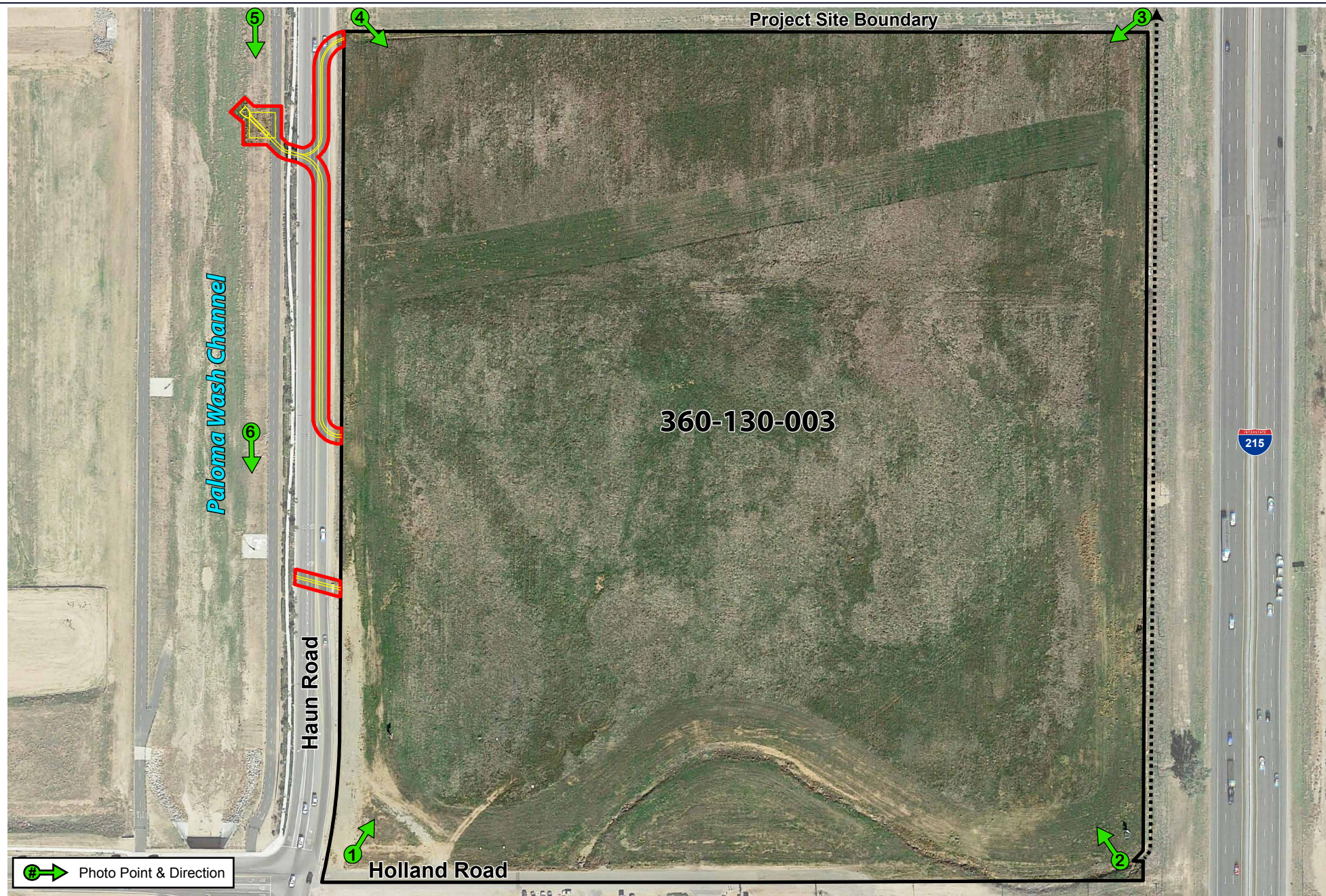
## Figure 1 - Regional Location Map

MSHCP Habitat Assessment/Consistency Analysis  
Haun & Holland Project Site TPM 37121

**CADRE**  
Environmental



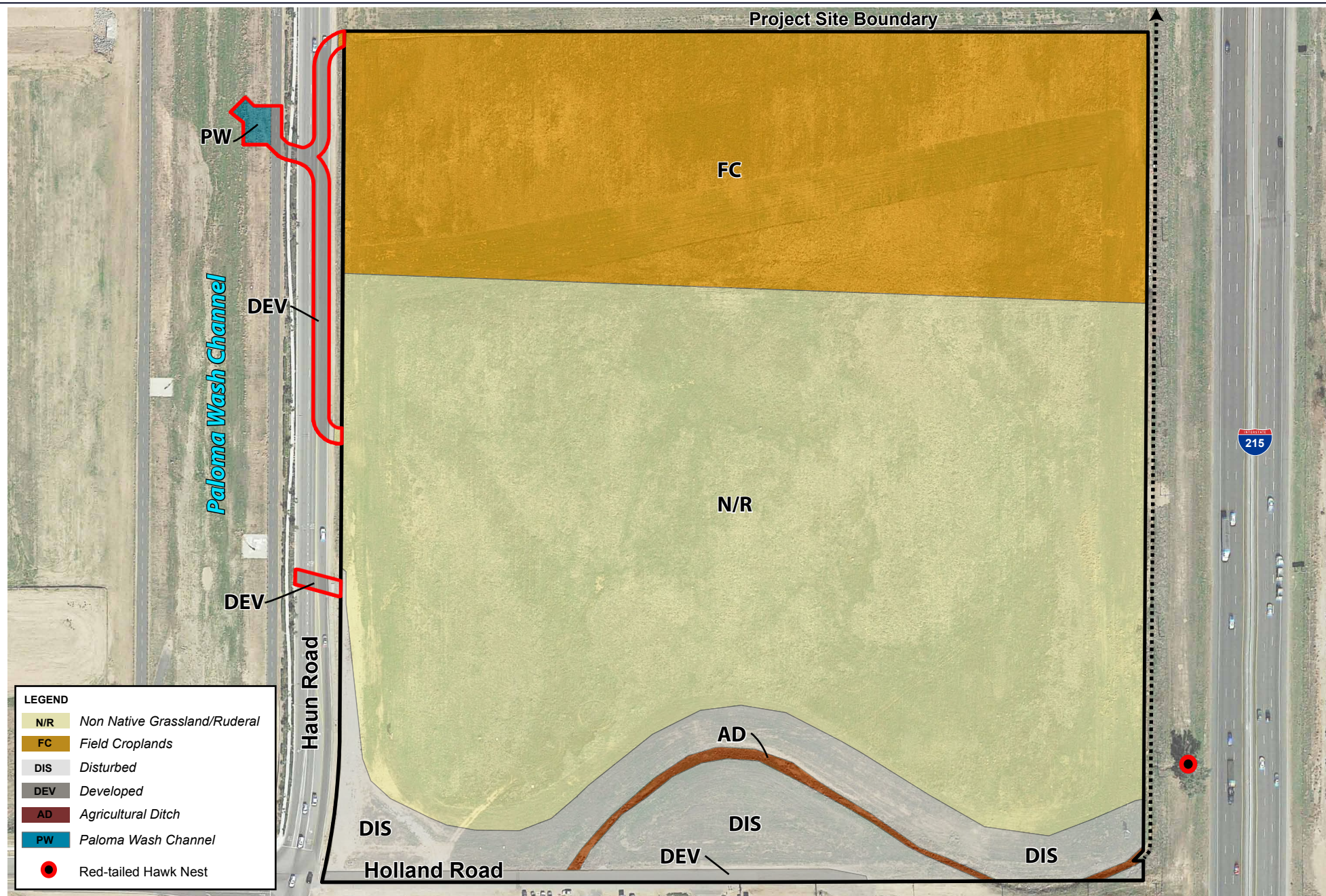




~~~~~ Offsite Study Area    
 ~~~~~ Proposed Offsite Storm Drain Facilities    
 - - - - - Caltrans Ditch

**Figure 2 - Vicinity Map**  
 MSHCP Habitat Assessment/Consistency Analysis  
 Haun & Holland Project Site TPM 37121





Offsite Study Area Caltrans Ditch

**Figure 3 - Biological Resources Map**  
 MSHCP Habitat Assessment/Consistency Analysis  
 Haun & Holland Project Site TPM 37121

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PHOTOGRAPH 1 - Northeast view of Project Site from southwest corner near Holland Road and Haun Road intersection.



PHOTOGRAPH 2 - Northwest view of Project Site from southeast corner.

*Refer to Figure 2 - Vicinity Map*

**Figure 4 - Current Project Site Photographs**

*MSHCP Habitat Assessment/Consistency Analysis  
Haun & Holland Project Site TPM 37121*







PHOTOGRAPH 3 - Southwest view of Project Site from northeast corner.



PHOTOGRAPH 4 - Southwest view of Project Site from northwest corner near Haun Road.

*Refer to Figure 2 - Vicinity Map*

**Figure 5 - Current Project Site Photographs**  
*MSHCP Habitat Assessment/Consistency Analysis*  
*Haun & Holland Project Site TPM 37121*





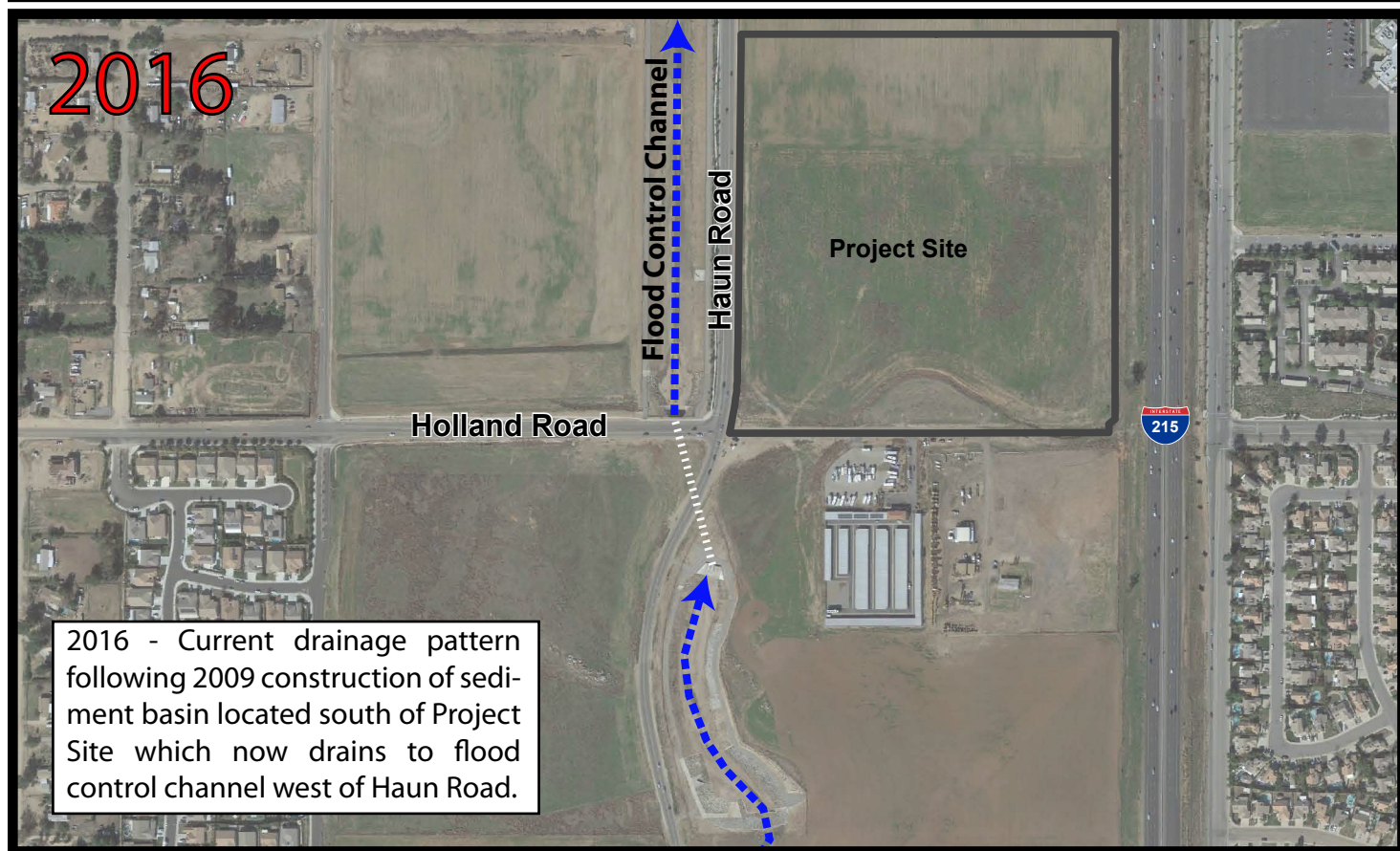
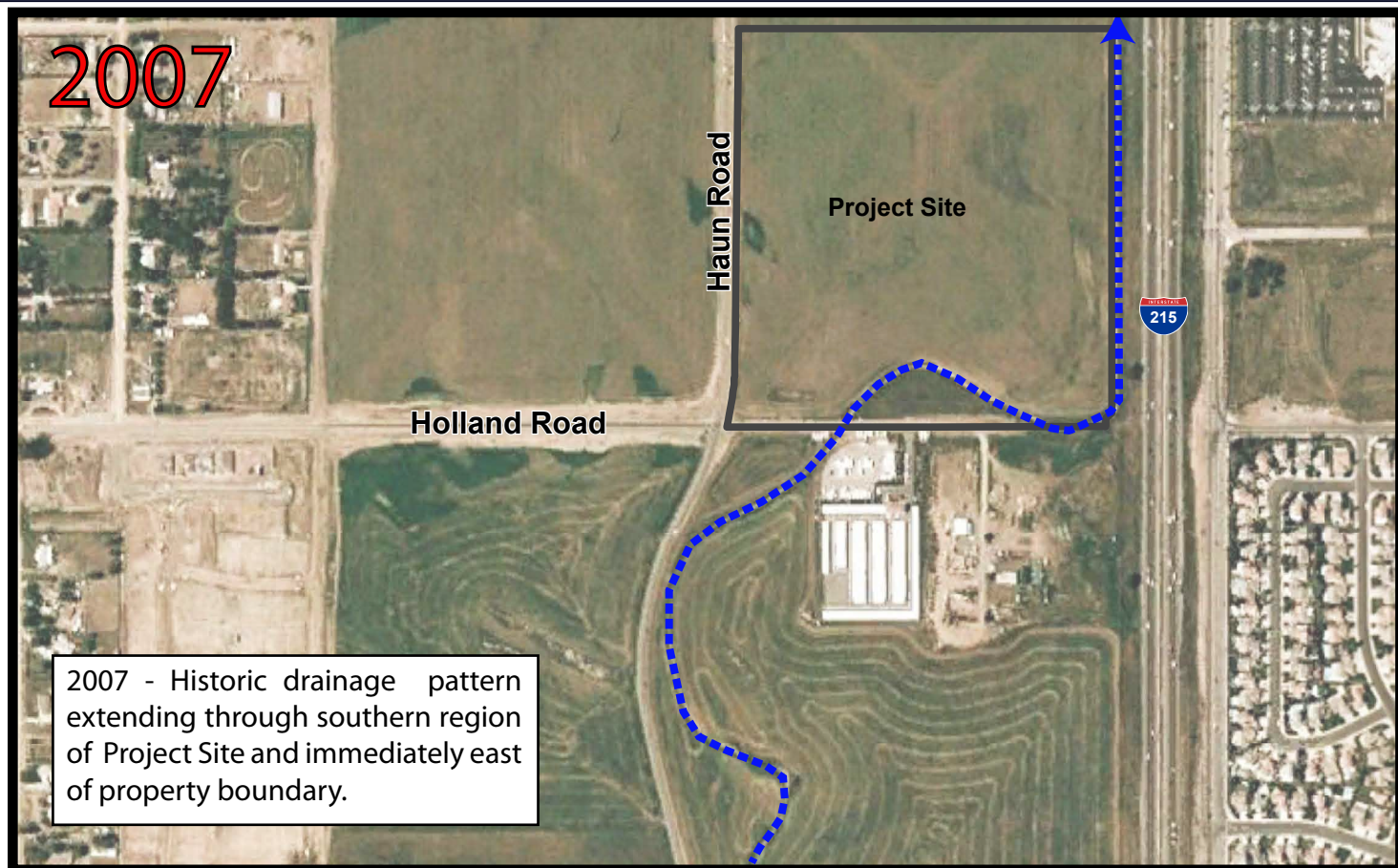
PHOTOGRAPH 5 - Southward view of offsite Paloma Wash channel Study Area



PHOTOGRAPH 6 - Southward view of existing southern tie-in structure located within the Paloma Wash channel.

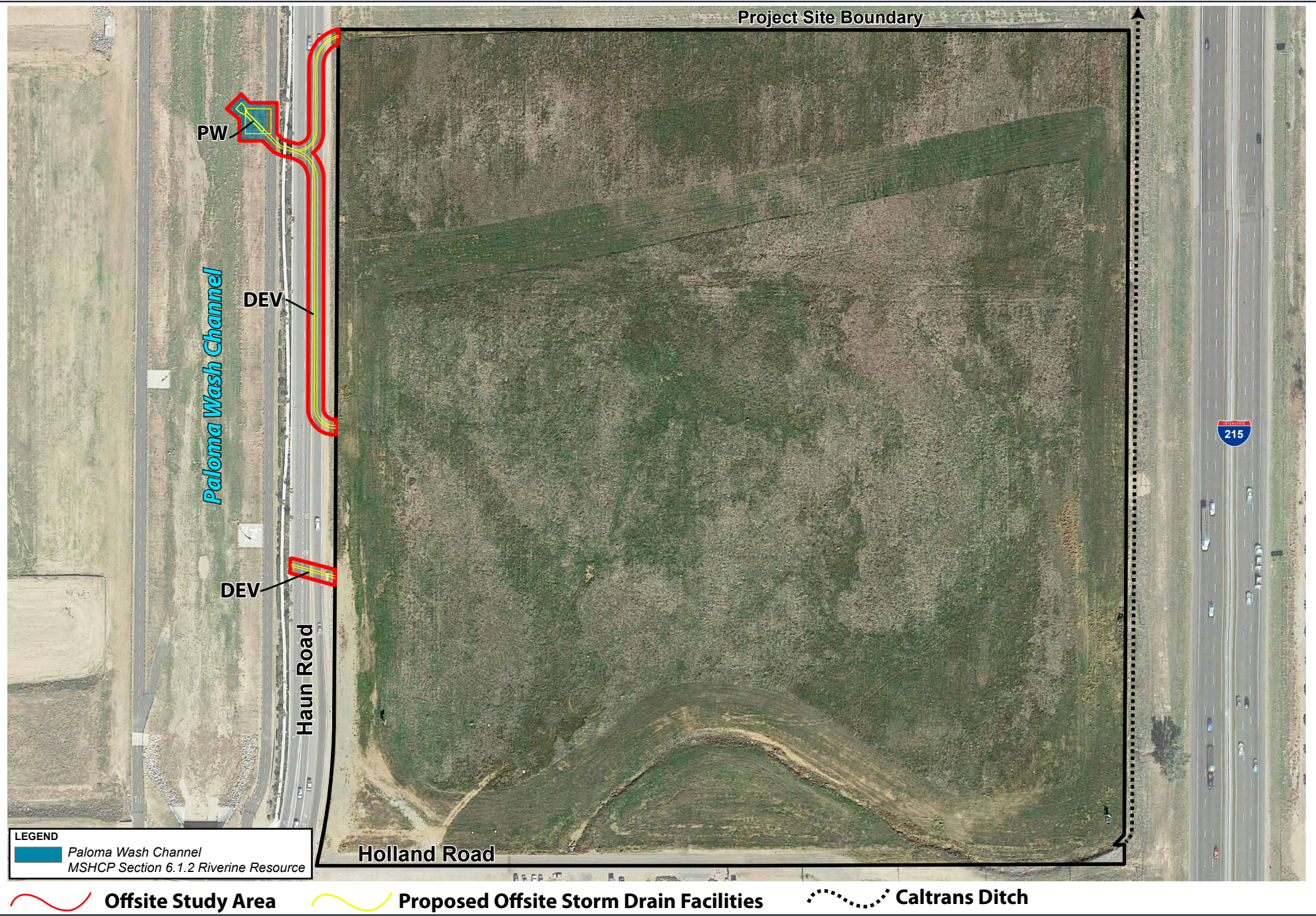
*Refer to Figure 2 - Vicinity Map*





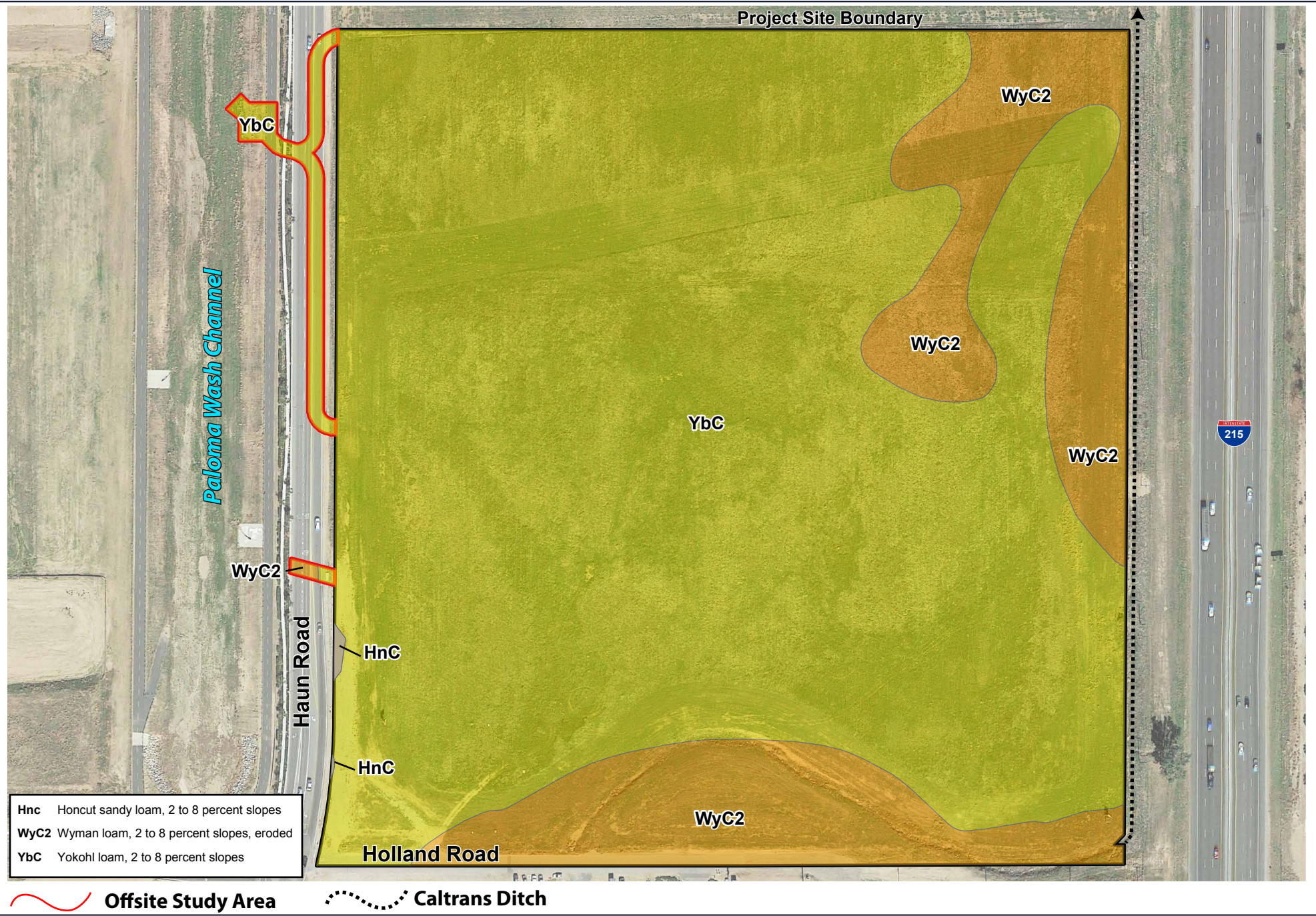
**Figure 7 - MSHCP Riverine (Section 6.1.2) Onsite Assessment Map**  
 MSHCP Habitat Assessment/Consistency Analysis  
 Haun & Holland Project Site TPM 37121





**Figure 8 - MSHCP Riverine (Section 6.1.2) Resources Impact Map**  
 MSHCP Habitat Assessment/Consistency Analysis  
 Haun & Holland Project Site TPM 37121





**Figure 9 - Soil Associations Map**

*MSHCP Habitat Assessment/Consistency Analysis  
Haun & Holland Project Site TPM 37121*

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Environmental



1 inch = 200 feet



# MSHCP Determination of Biologically Equivalent or Superior Preservation

**Haun & Holland - TPM 37121 Project (APN 360-130-003)**

*City of Menifee, Western Riverside County, California*

## FINAL REPORT



**Permittee Name:**

City of Menifee  
29714 Haun Road  
Menifee, CA 92586  
Contact: Cheryl Kitzerow (951) 672-6777

**Applicant Representative:**

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**Consultant Name:**

Cadre Environmental  
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Carlsbad, CA 92011  
Contact: Ruben Ramirez, (949) 300-0212

**April 2019**

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- B - Riverside County Environmental Programs Division – MSHCP Focused Burrowing Owl Survey Report Review (EPD Case Number ME00135), April 10<sup>th</sup> 2017.
- C - General MSHCP Habitat Assessment/Consistency Analysis for the 37.06 Acre Haun & Holland Project Site, City of Menifee, California, Cadre Environmental 2019.
- D - Jurisdictional Delineation, Haun and Holland Road Project TPM 37121, Albert A. Webb Associates 2019.

## 1.0 EXECUTIVE SUMMARY

The proposed Haun and Holland Road Tentative Parcel Map (TPM) 37121 project will require the construction of an offsite outfall structure within the Paloma Wash flood control channel (Western Riverside County Multiple Species Habitat Conservation Plan “MSHCP” section 6.1.2 riverine resource) located west of the project site (“Project Site”) and Haun Road. A total of 0.08-acre of impacts (0.04-acre permanent and 0.04-acre temporary) will occur within the Paloma Wash channel, an MSHCP section 6.1.2 riverine resource as a result of project initiation.

To meet the criteria of a biologically equivalent or superior alternative, the applicant will offset temporary and permanent impacts to 0.08-acre of MSHCP Section 6.1.2 riverine resources located within the Paloma Wash channel (disturbed habitat) by:

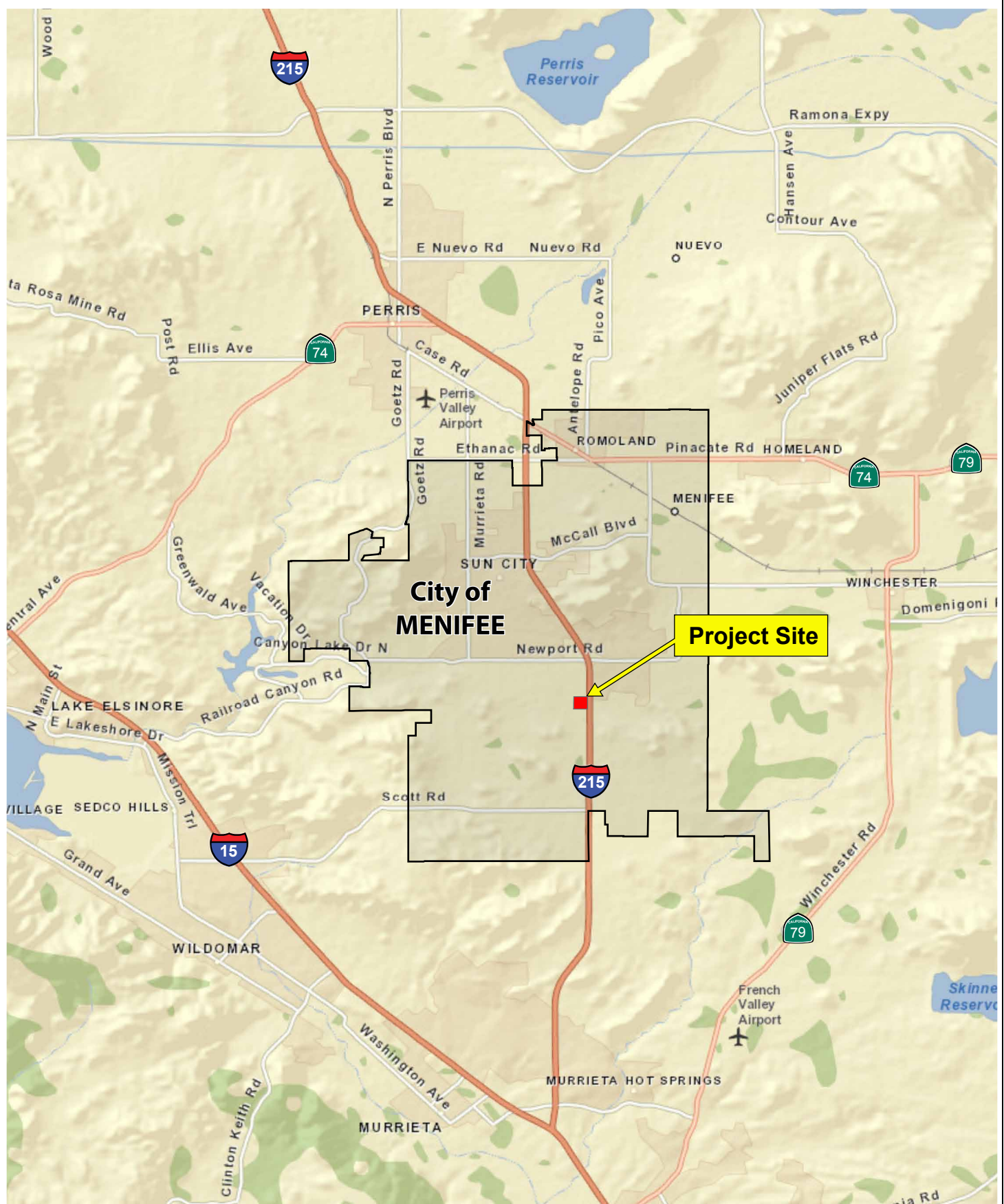
- 1) Restoring temporary impact area (0.04 acre) by hydroseeding with a native seed mix, and the applicant will perform exotic weed removal for a period of one year. The seed mix will consist of deer grass (*Muhlenbergia rigens*), foothill needlegrass (*Nassella lepida*), California bromegrass (*Bromus carinatus*), Spanish clover (*Acmispon americanus*) and alkali barley (*Hordeum depressum*). The seed will be obtained from S & S Seeds, and;
- 2) Purchasing 0.08 acre of rehabilitation credits (2:1) at the Riverpark Mitigation Bank. If the River Park Mitigation Bank is not selling credits when the applicant will need to purchase them, then the applicant will provide for habitat restoration of native alkali habitat within the City of Hemet’s vernal pool complex located within Regional Conservation Authority (RCA) lands (APN’s 455-130-030, 455-130-036, and 455-130-046) at a higher ratio of 3:1.

## 2.0 INTRODUCTION

This document presents the results of a Determination of Biologically Equivalent or Superior Preservation (DBESP) analysis conducted by Cadre Environmental for the 37.06-acre Haun & Holland Road project site including a 0.51-acre offsite study area as required under Section 6.1.2, *Protection of Species Associated with Riparian/Riverine Areas and Vernal Pools*, of the Western Riverside County MSHCP (MSHCP 2004).

### 2.1 Project Area

the Project Site is located within APN 360-130-003 extending west of State Route 215 and an existing Caltrans ditch, east of Haun Road and north of Holland Road. The offsite study area extends west of the Project Site across Haun Road and is partially located within the Paloma Wash channel (Figure 1, *Regional Location Map* and Figure 2, *Vicinity Map*). the Project Site and offsite study area are located within the Western Riverside County MSHCP Sun City/Menifee Valley Plan Area and are not located within an MHSCP Criteria Cell, Group, or Linkage Area.



APN 360-130-003

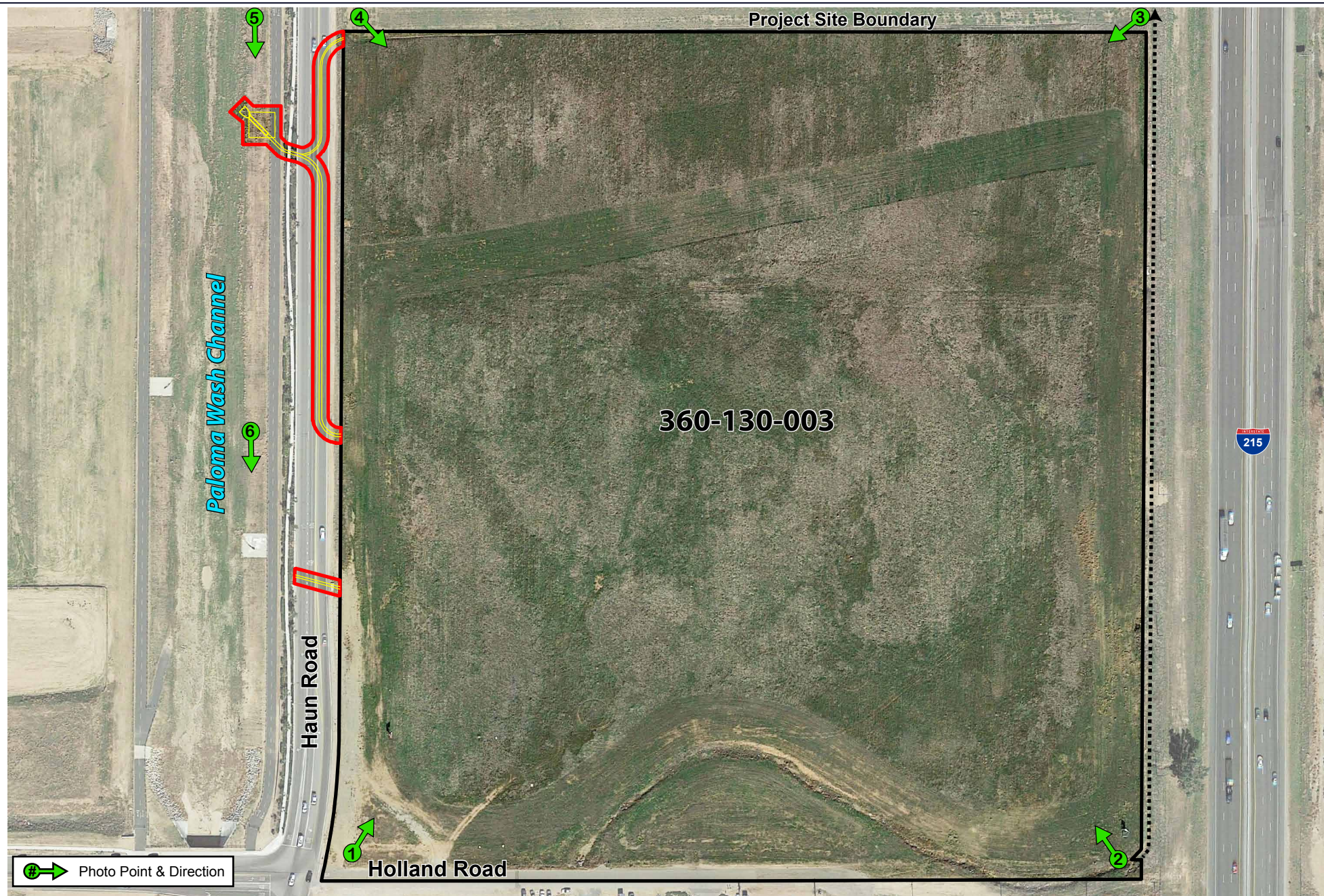
## Figure 1 - Regional Location Map

*Determination of Biologically Equivalent or Superior Preservation  
Haun & Holland Project Site TPM 37121*

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~ Offsite Study Area    
 ~ Proposed Offsite Storm Drain Facilities    
 - - - Caltrans Ditch

**Figure 2 - Vicinity Map**

*Determination of Biologically Equivalent or Superior Preservation  
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Environmental



1 inch = 200 feet



## 2.2 Project Description

The proposed project includes a subdivision of the property into six (6) parcels for future independent commercial mixed-use developments. The project will also include the construction of a public access road and a storm drain system that includes a new offsite outlet structure extending into the west facing bank of the Paloma Wash flood control channel. The proposed project does not include any connections or other impacts to the Caltrans ditch located east of and adjacent to the Project Site.

## 2.3 Existing Conditions

Cadre Environmental biologist and Albert A. Webb Associates environmental analyst assessed the Project Site and offsite study area from 2016 - 2019 to qualitatively and quantitatively document baseline conditions. The following is a summary of the current biological conditions.

The generally flat Project Site is characterized as non-native grassland/ruderal and field croplands with an elevation ranging between 1,440 feet above mean sea level (AMSL) and 1,435 AMSL. The offsite study area located west of the Project Site includes the west facing slope of the Paloma Wash channel which is characterized as disturbed habitat as shown in Figure 3, *Biological Resources Map* and summarized in Table 1, *Vegetation Communities Acreage*. Representative photographs of the Project Site and offsite study area's natural resources were taken during the initial as well as updated field surveys (Figures 4 to 6, *Current Project Site and Offsite Study Area Photographs*).

**Table 1, Vegetation Communities Acreages**

| Vegetation Communities       | Project Site<br>(ac) | Offsite Study Area<br>(ac) | Total<br>(ac) |
|------------------------------|----------------------|----------------------------|---------------|
| Non-native grassland/ruderal | 21.38                | 0.01                       | 21.39         |
| Field Croplands              | 11.18                | 0.01                       | 11.19         |
| Disturbed                    | 3.90                 | 0.02                       | 3.92          |
| Developed                    | 0.34                 | 0.39                       | 0.73          |
| Agricultural Ditch           | 0.26                 | --                         | 0.26          |
| Paloma Wash Channel          | --                   | 0.08                       | 0.08          |
| <b>TOTAL</b>                 | <b>37.06</b>         | <b>0.51</b>                | <b>37.57</b>  |

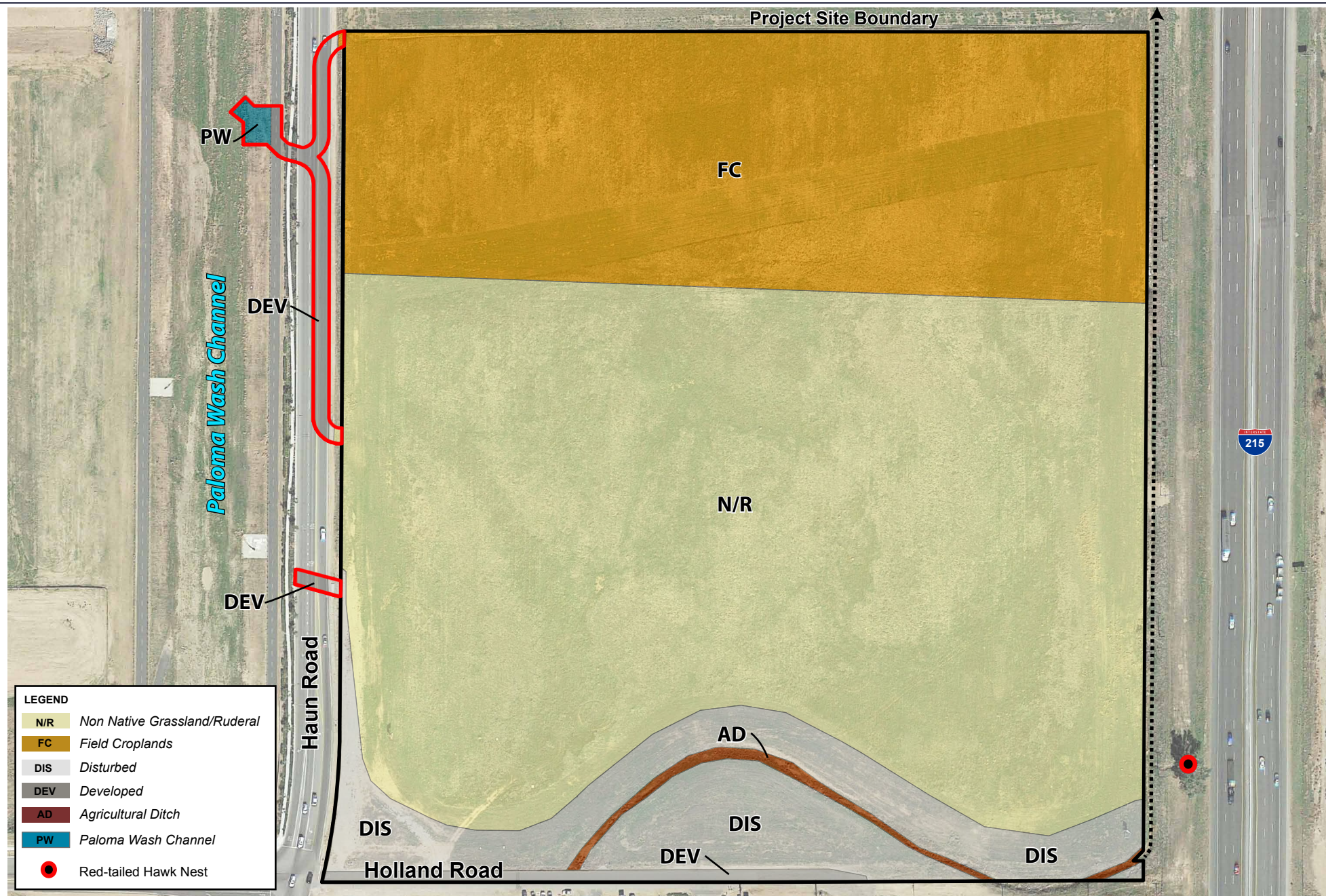
Cadre Environmental 2016, 2019.

## Soils

The Soil Survey of Western Riverside Area<sup>1</sup> has classified the Project Site and offsite study area as Honcut sandy loam, 2 to 8 percent slopes (HnC), Gr Wyman loam, 2 to 8 percent slopes, eroded (WyC2), and Yokohl loam, 2 to 8 percent slopes (YbC). All soils documented within the Project Site and offsite study area are characterized as being well drained (drainage class) as shown in Figure 7, *Soil Associations Map*. This is consistent with conditions observed onsite and lack of inundation documented during a review of historical aerials for years of above average rainfall.

<sup>1</sup> United States Department of Agriculture – Natural Resources Conservation Service - <https://websoilsurvey.nrcs.usda.gov/app/WebSoilSurvey.aspx>, accessed April 2019.





Offsite Study Area      Caltrans Ditch

**Figure 3 - Biological Resources Map**

*Determination of Biologically Equivalent or Superior Preservation  
Haun & Holland Project Site TPM 37121*

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Environmental



1 inch = 200 feet





PHOTOGRAPH 1 - Northeast view of Project Site from southwest corner near Holland Road and Haun Road intersection.



PHOTOGRAPH 2 - Northwest view of Project Site from southeast corner.

*Refer to Figure 2 - Vicinity Map*

#### **Figure 4 - Current Study Area Photographs**

*Determination of Biologically Equivalent or Superior Preservation  
Haun & Holland Project Site TPM 37121*







PHOTOGRAPH 3 - Southwest view of Project Site from northeast corner.



PHOTOGRAPH 4 - Southwest view of Project Site from northwest corner near Haun Road.

*Refer to Figure 2 - Vicinity Map*

**Figure 5 - Current Study Area Photographs**

*Determination of Biologically Equivalent or Superior Preservation  
Haun & Holland Project Site TPM 37121*







PHOTOGRAPH 5 - Southward view of offsite Paloma Wash channel Study Area



PHOTOGRAPH 6 - Southward view of existing southern tie-in structure located within the Paloma Wash channel.

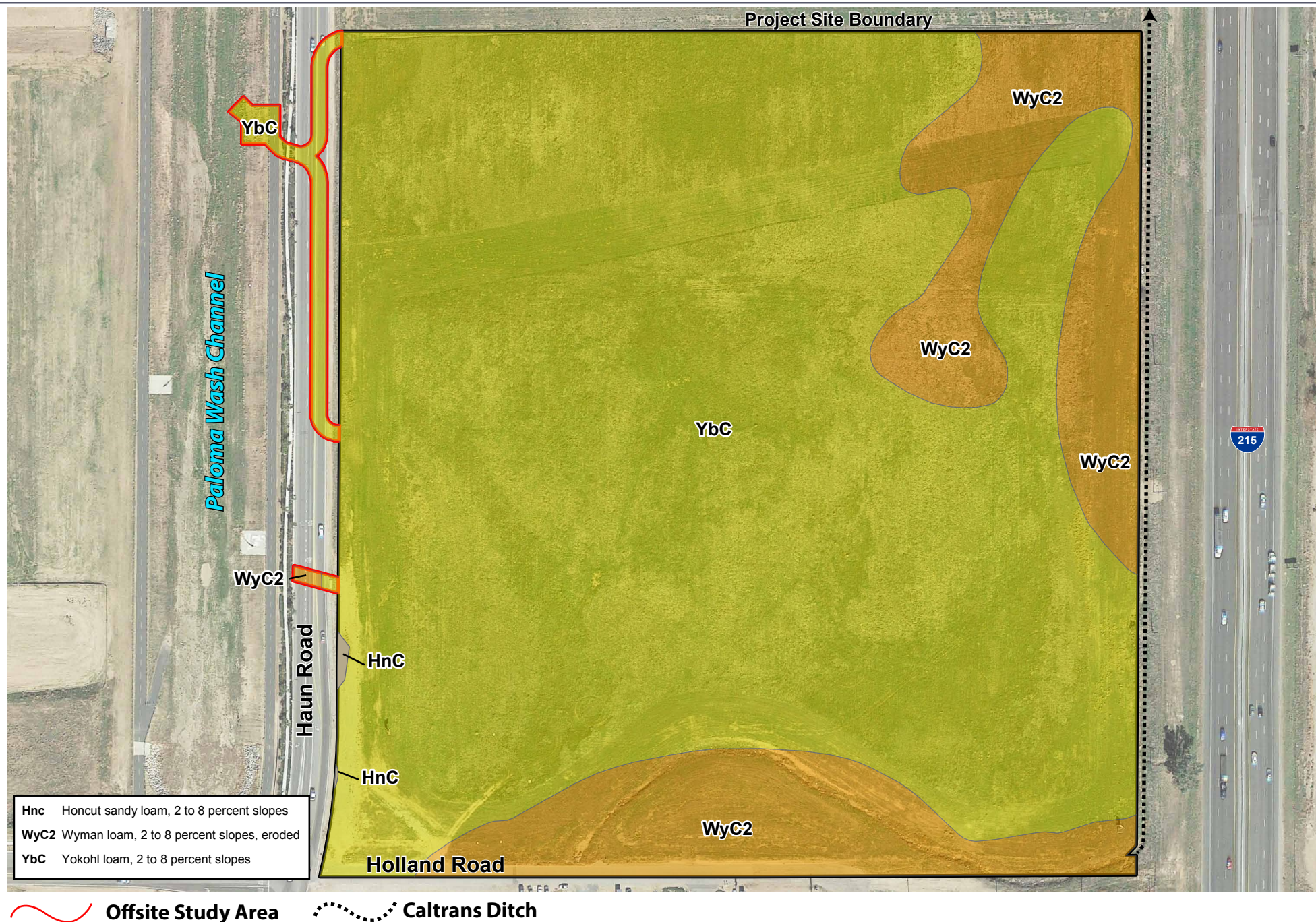
*Refer to Figure 2 - Vicinity Map*

## **Figure 6 - Current Study Area Photographs**

*Determination of Biologically Equivalent or Superior Preservation  
Haun & Holland Project Site TPM 37121*







**Figure 7 - Soil Associations Map**

*Determination of Biologically Equivalent or Superior Preservation  
Haun & Holland Project Site TPM 37121*

**CADRE**  
Environmental



1 inch = 200 feet



## **Vegetation Communities**

### **Non-native Grassland/Ruderal**

The non-native grassland/ruderal vegetation community located in the southern region is expected to have been historically dry farmed similar to the northern region of the Project Site. However, this region is now dominated by non-native ruderal species including wild oat (*Avena fatua*), false barley (*Hordeum murinum*), London rockets (*Sisymbrium irio*), Russian thistle (*Kali tragus*), and cheeseweed (*Malva parviflora*). The native common fiddleneck (*Amsinckia menziesii*) was also documented in this habitat type.

### **Field Croplands**

The northern region of the Project Site is characterized as field croplands based on the on-going cultivation of wheat (*Triticum aestivum*). Other less common non-native species documented in this region include London rockets, cheeseweed and false barley.

### **Disturbed**

The disturbed southern region of the Project Site has been recently disked and is expected to be dominated by the same non-native species presented in the non-native grassland/ruderal classification above as well as those present in the agricultural ditch as presented below.

### **Developed**

The developed region of the Project Site is represented by the asphalt paved portion of Holland Road and Haun Road located along the southwest and western boundaries.

### **Agricultural Ditch**

The agricultural ditch did not exhibit any sign of inundation, flow and did not possess native/riparian or wetland vegetation communities within or adjacent to the active channel which ranged between 4 to 8 feet wide. Dominant plant species documented within the ditch include Russian thistle, London rocket, horseweed (*Conyza canadensis*), western ragweed (*Ambrosia psilostachya*), black mustard (*Brassica nigra*), tocalote (*Centaurea melitensis*), red-stemmed filaree (*Erodium cicutarium*), white-stemmed filaree (*Erodium moschatum*), stinknet (*Oncosiphon piluliferum*), prickly lettuce (*Lactuca serriola*), salt heliotrope (*Heliotropium curassavicum*), common goldfields (*Lasthenia californica*), annual sunflower (*Helianthus annuus*), salt grass (*Distichlis spicata*), clustered tarweed (*Deinandra fasciculata*), Jimsonweed (*Datura wrightii*), and non-native grasses.

### **Paloma Wash Channel**

The offsite study area where an outfall structure is proposed extends west of the Project Site and includes a small region of the Paloma Wash channel. The offsite study area

located within the Paloma Wash channel is characterized as disturbed/ruderal vegetation, primarily dominated by non-native invasive species. Common non-native species documented within and in the region of the study area include red-stemmed filaree, black mustard, Russian thistle, tocalote, curly dock (*Rumex crispus*), shepherds' purse (*Capsella bursa-pastoris*), dwarf nettle (*Urtica urens*), stinking chamomile (*Anthemis cotula*), bur clover (*Medicago polymorpha*), and non-native grasses. Less common native species documented in this region include clustered tarweed, California buckwheat (*Eriogonum fasciculatum*), common sand aster (*Corethrogyne filaginifolia*), common fiddleneck, rough cocklebur (*Xanthium strumarium*), annual sunflower, and smooth tarplant (*Centromadia pungens* ssp. *laevis*).

Representative distribution and photographs of these habitat types are illustrated in Figure 3, *Biological Resources Map* and Figures 4 to 6, *Current Project Site and Offsite Study Area Photographs*.

### **General Wildlife**

General wildlife species documented onsite or within the vicinity during the site visits include turkey vulture (*Cathartes aura*), killdeer (*Charadrius vociferous*), rock dove (*Columba livia*), northern mockingbird (*Mimus polyglottos*), mourning dove (*Zenaida macroura*), black phoebe (*Sayornis nigricans*), western kingbird (*Tyrannus verticalis*), cliff swallow (*Petrochelidon pyrrhonota*), western meadowlark (*Sturnella neglecta*), European starling (*Sturnus vulgaris*), house finch (*Carpodacus mexicanus*), house sparrow (*Passer domesticus*), and California ground squirrel (*Otospermophilus beecheyi*). An active red-tailed hawk (*Buteo jamaicensis*) nest was documented within a Eucalyptus tree located immediately adjacent to the southeast Project Boundary during the 2016 site visit as shown in Figure 3, *Biological Resources Map*.

## **3.0 RIPARIAN, RIVERINE, VERNAL POOL MITIGATION (SECTION 6.1.2)**

### **3.1 Methods**

The Project Site was initially surveyed on April 26<sup>th</sup>, 2016 and an updated survey was conducted on January 31<sup>st</sup>, 2019 to assess the offsite study area associated with constructing an outfall structure extending within the Paloma Wash channel. The survey included complete coverage of the Project Site and offsite study area, with special attention focused toward sensitive species or those habitats potentially supporting sensitive flora or fauna that would be essential to efficiently implementing the terms and conditions of the Western Riverside County MSHCP, and features potentially subject to United States Army Corps of Engineers (USACE), California Department of Fish and Wildlife (CDFW), Regional Water Quality Control Board (RWQCB) and MSHCP jurisdiction (6.1.2). Aerial photography, historical aeriels, and soil maps of the Project Site and offsite study area were utilized to accurately locate and survey the assessment areas. General plant communities were preliminarily mapped directly on the aerial photo using visible landmarks in the field, which are depicted in Figure 3, *Biological Resources Map*. Representative photographs of the Project Site's natural resources were taken during the initial as well as updated field surveys (Figures 4 to 6, *Current Project Site and Offsite Study Area Photographs*).

### 3.2 Results/Impacts

Prior to 2009, a blueline stream bisected the southern region of the Project Site and extended north along the eastern boundary of the property (Caltrans ditch) as shown in Figure 8, *MSHCP Riverine (Section 6.1.2) Onsite Assessment Map*. However, as shown in Figure 8, following construction of a sediment basin located south of the Project Site in 2009, the drainage was redirected to flow west of Haun Road where it currently discharges into the Paloma Wash flood control channel. The onsite feature, now characterized as an agricultural ditch did not exhibit any sign of flow, was characterized by ruderal non-native species, had no wetland or riparian vegetation and is expected to be isolated and non-functional in its current altered state. This onsite feature does not provide function or onsite/downstream resources for target MSHCP Section 6.1.2 species. This feature no longer represents an MSHCP 6.1.2 riparian or riverine feature.

Conservatively, all resources characterized as CDFW jurisdictional features were also characterized as MSHCP Section 6.1.2 regulated features (Albert A. Webb Associates 2019). Specifically, the offsite study area is located partially within the Paloma Wash channel which represents an MSHCP 6.1.2 riverine resource as shown in Figure 9, *MSHCP Riverine (Section 6.1.2) Resources Impact Map*. An approximately 10-foot buffer was established around the 0.04-acre permanent impact area and represents a temporary impact/assessment area as outlined in Table 2, *MSHCP Riverine Impacts*. Temporary and permanent impacts proposed to occur within the Paloma Wash channel as a result of constructing an outfall structure will impact 0.08-acre of MSHCP 6.1.2 riverine resources.

All habitats within the offsite Paloma Wash channel study area were characterized as disturbed. No riparian scrub, forest, or woodland habitat representing suitable, foraging, nesting or transitional resources for the least Bell's vireo (*Vireo bellii pusillus*), southwestern willow flycatcher (*Empidonax traillii extimus*) or western yellow-billed cuckoo (*Coccyzus americanus*) was detected within or adjacent to the Project Site or offsite study area.

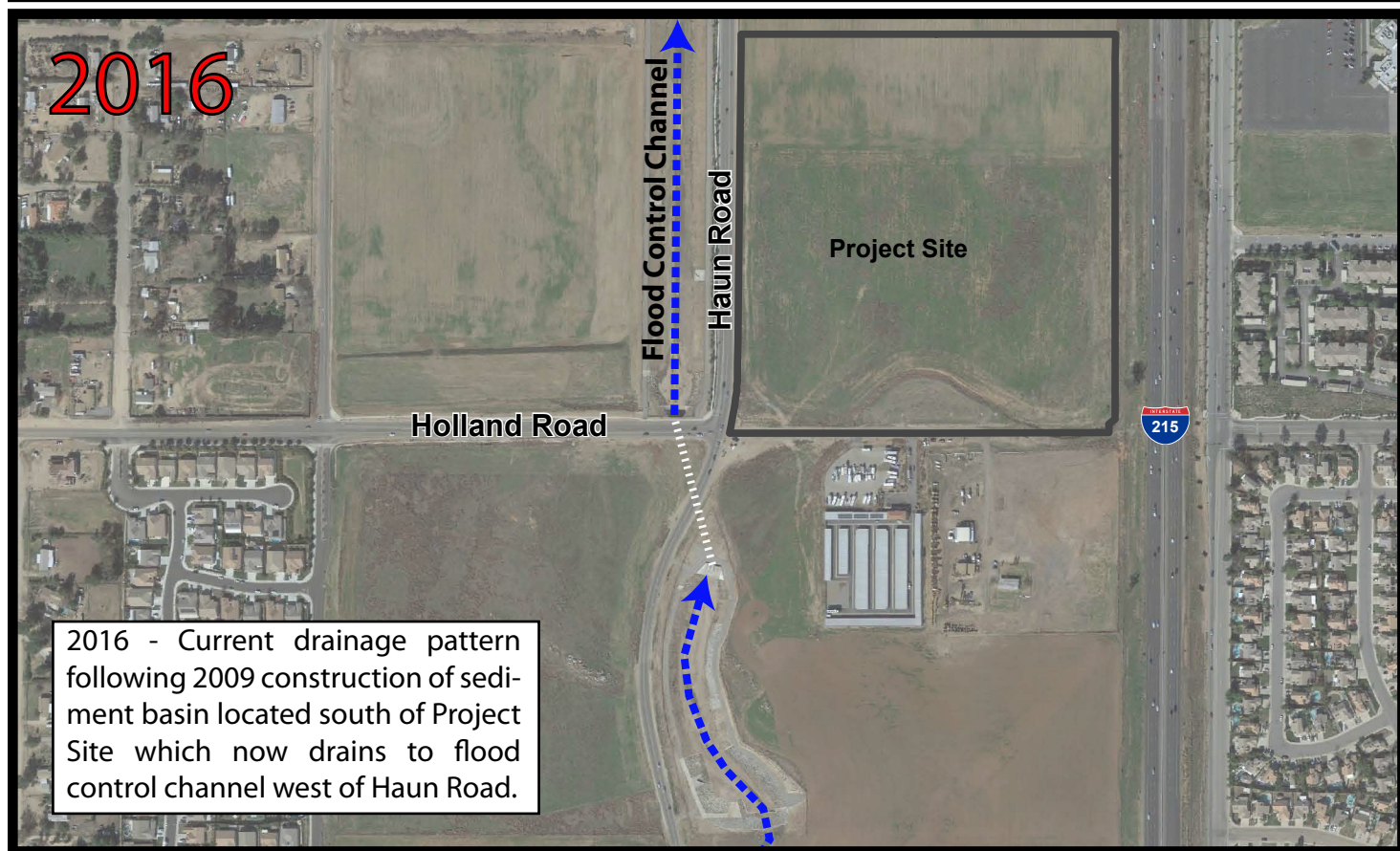
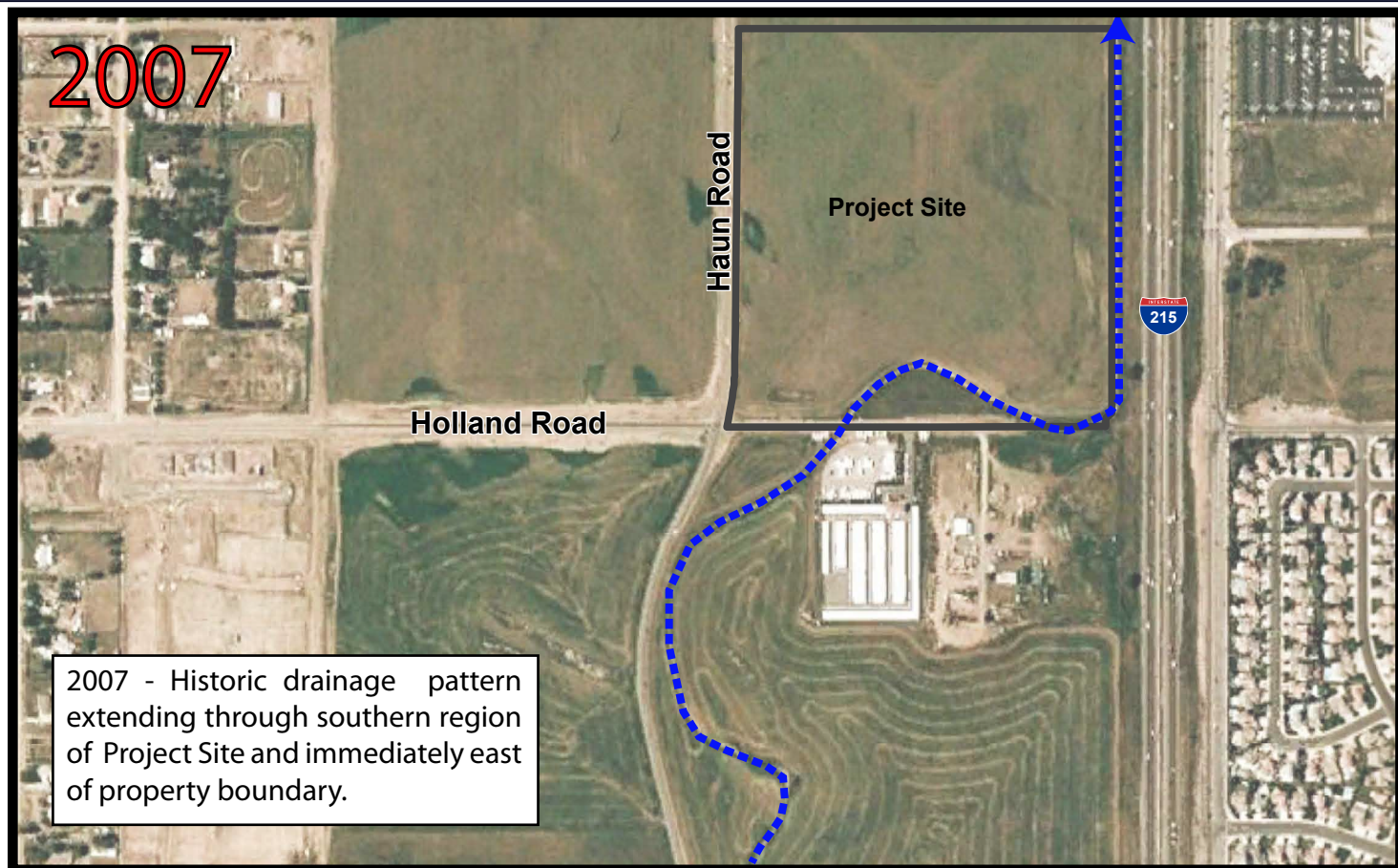
Based on a review of historic aerials, soil maps, habitat assessments and focused surveys conducted onsite and within the offsite study area in 2016, 2017, and 2019, no vernal pool or seasonal depressions representing suitable resources for common or sensitive fairy shrimp species were documented. All soils documented within the Project Site and offsite study area are characterized as being well drained (drainage class) as shown in Figure 7, *Soil Associations Map*.

**Table 2, MSHCP Riverine Offsite Impacts**

| <b>MSHCP<br/>Riverine<br/>Resources</b> | <b>Permanent<br/>Impacts<br/>(ac)</b> | <b>Temporary<br/>Impacts<br/>(ac)</b> | <b>Total Impacts<br/>(ac)</b> |
|---|---------------------------------------|---------------------------------------|-------------------------------|
| Paloma Wash<br>Channel                  | 0.04                                  | 0.04                                  | 0.08                          |

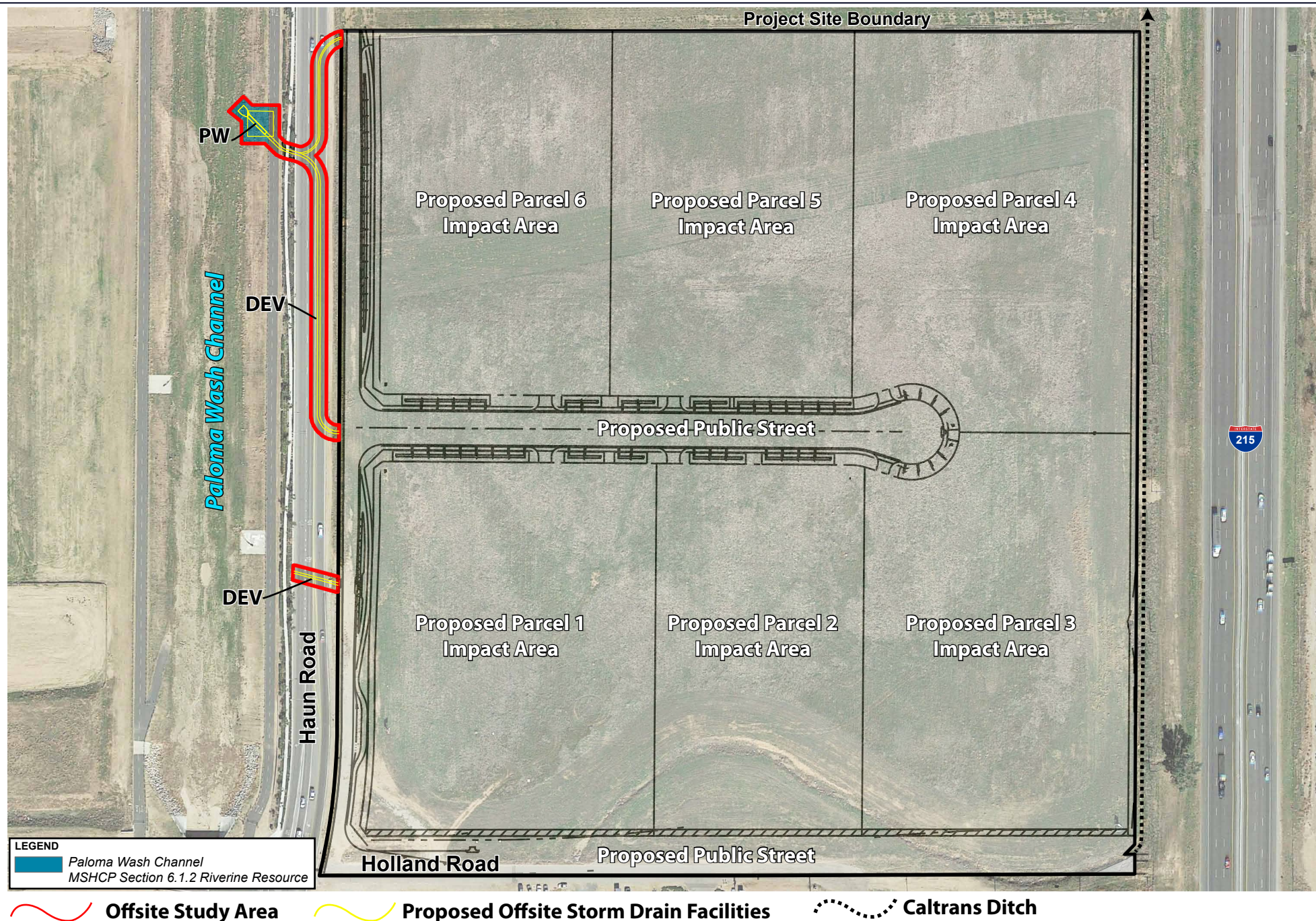
*Albert A. Webb Associates, Jurisdictional Delineation 2019.*





**Figure 8 - MSHCP Riverine (Section 6.1.2) Onsite Assessment Map**  
*Determination of Biologically Equivalent or Superior Preservation*  
 Haun & Holland Project Site TPM 37121







### 3.3 Mitigation and Equivalency

To meet the criteria of a biologically equivalent or superior alternative, the applicant will offset temporary and permanent impacts to 0.08-acre of MSHCP Section 6.1.2 riverine resources located within the Paloma Wash channel (disturbed habitat) by:

- 3) Restoring temporary impact area (0.04 acre) by hydroseeding with a native seed mix, and the applicant will perform exotic weed removal for a period of one year. The seed mix will consist of deer grass (*Muhlenbergia rigens*), foothill needlegrass (*Nassella lepida*), California brome grass (*Bromus carinatus*), Spanish clover (*Acmispon americanus*) and alkali barley (*Hordeum depressum*). The seed will be obtained from S & S Seeds, and;
- 4) Purchasing 0.08 acre of rehabilitation credits (2:1) at the Riverpark Mitigation Bank. If the River Park Mitigation Bank is not selling credits when the applicant will need to purchase them, then the applicant will provide for habitat restoration of native alkali habitat within the City of Hemet's vernal pool complex located within Regional Conservation Authority (RCA) lands (APN's 455-130-030, 455-130-036, and 455-130-046) at a higher ratio of 3:1.

The River Park Mitigation Bank proposes to re-establish (recreate former but no longer existing) alkali plain wetland system habitat and rehabilitate (repair existing but degraded) alkali plain wetland system habitat for a grand total of 583 acres of restoration of various types of alkali plain wetland system plant communities. As stated by the United States Army Corps of Engineers (USACE):

*"The Riverpark Mitigation Bank is a proposed 619-acre mitigation bank located along the San Jacinto River (SJR) in western Riverside County (Figures 1 and 2). The Bank property is specifically located just downstream of the Ramona Expressway and immediately upstream of Nuevo Road. The site is depicted on the U.S. Geological Survey (USGS) Perris and Romoland Quadrangle Rancho San Jacinto Nuevo y Potrero Land Grant (Figure 3) in unincorporated Riverside County, California (33° 49' 8.4"N, -117° 9' 18"W)." (USACE 2015)*

*"The primary objective of the proposed mitigation bank would be to replace functions and services of aquatic resources and associated habitats that have been degraded or destroyed as a result of activities conducted in compliance or in violation of Section 404 of the CWA. The proposed mitigation bank would provide mitigation for both permanent and temporary impacts to waters of the U.S. In addition, the proposed mitigation bank may be used to offset environmental losses resulting from unavoidable impacts related to regulated activities by the California Department of Fish and Wildlife and the San Diego and Santa Ana Regional Water Quality Control Boards. Specific objectives include: • Restoration of fluvial processes on site within the San Jacinto River floodplain. • Restoration of alkali playa and vernal pool habitat. • Expansion of existing sensitive plant populations across the site. • Removal of ongoing agricultural activities on the site. • Removal of existing berms and the low flow channel. • Permanent*

*protection of the site through transfer of fee title to the Western Riverside Regional Conservation Authority (RCA). • Permanent management of the site through funding of a non-wasting endowment.” (USACE 2015)*

*“Due to its location along the San Jacinto River and its high potential for successful restoration upon elimination of the artificial low flow channel and berms created by historic agricultural activities, the proposed mitigation bank location has been identified by several state and Federal agencies as a high-priority restoration site.” (USACE 2015)*

### **3.3.1 Direct Effects**

Direct impacts are considered to be those that involve the loss, modification, or disturbance of natural resources or habitats (i.e., vegetative communities or substrate) that in turn, directly affect plant and wildlife species dependent on that habitat. Direct impacts include the destruction of individual plants or wildlife of low mobility (i.e., plants, amphibians, reptiles, and small mammals). The collective loss of individuals may also directly affect area-wide population numbers or result in the physical isolation of populations thereby reducing genetic diversity and population stability.

A total of 0.08-acre of impacts (0.04-acre permanent and 0.04-acre temporary) will occur within the Paloma Wash channel as a result of project initiation as summarized in Table 2, *MSHCP Riverine Offsite Impacts*, and illustrated on Figure 9, *MSHCP Riverine (Section 6.1.2) Resources Impact Map*.

### **3.3.2 Indirect Effects**

Indirect impacts are considered to be those impacts associated with the project that involve the effects of alteration of the existing habitat and an increase in human population and or landuse within the Study Area. These impacts are commonly referred to as “edge effects” and may result in changes in the behavioral patterns of wildlife and reduced wildlife diversity and abundance in habitats adjacent to the Study Area.

Indirect impacts also include the effects of increases in ambient levels of sensory stimuli (e.g., noise and light), unnatural predators (e.g., domestic cats and other non-native animals), competitors (e.g., exotic plants and non-native animals), and trampling and unauthorized recreational use due to the increase in human population. Other permanent indirect effects may occur that are related to water quality and storm water management, including trash/debris, toxic materials, and dust.

Initiation of the proposed project will not result in temporary or permanent indirect edge effects to sensitive receptors as a result of noise or lighting levels. The Project Site is located immediately adjacent to State Route 215 along the eastern boundary, Haun Road along the western boundary, and vacant land/mixed commercial retail development along the northern boundary. The lands located immediately south of the Project Site are also developed and do not provide suitable resources or open space habitat for common or sensitive species.

The storm water conveyed and released into the Paloma Wash channel by the proposed outlet structure will be in compliance with National Pollutant Discharge Elimination System (NPDES) regulations as required of the developer of the proposed project and the City of Menifee for treatment of storm water prior to discharge. Effluent will be regulated during both construction (NPDES no. CAS000002) and post-construction (NPDES no. CAS618033).

#### **4.0 NARROW ENDEMIC PLANT SPECIES MITIGATION (SECTION 6.1.3)**

The MSHCP has determined that all of the sensitive species potentially occurring onsite or within the offsite study area have been adequately covered (MSHCP Table 2-2 Species Considered for Conservation Under the MSHCP Since 1999, 2004). However, additional surveys may be required for narrow endemic plants if suitable habitat is documented and the assessment area is located within a predetermined "Survey Area" (MSHCP 2004).

The Project Site and offsite study area do not occur within a predetermined Survey Area for MSHCP narrow endemic plant species. Compliance with Section 6.1.3 respective of MSHCP narrow endemic plants is not applicable to the proposed Project Site or offsite study area.

##### **4.1 Methods**

Compliance with Section 6.1.3 respective of MSHCP narrow endemic plants is not applicable to the proposed Project Site or offsite study area.

##### **4.2 Results/Impacts**

Compliance with Section 6.1.3 respective of MSHCP narrow endemic plants is not applicable to the proposed Project Site or offsite study area.

##### **4.3 Mitigation and Equivalency**

Compliance with Section 6.1.3 respective of MSHCP narrow endemic plants is not applicable to the proposed Project Site or offsite study area.

###### **4.3.1 Direct Effects**

Compliance with Section 6.1.3 respective of MSHCP narrow endemic plants is not applicable to the proposed Project Site or offsite study area.

###### **4.3.2 Indirect Effects**

Compliance with Section 6.1.3 respective of MSHCP narrow endemic plants is not applicable to the proposed Project Site or offsite study area.

## **5.0 CRITERIA AREA SPECIES MITIGATION (SECTION 6.3.2)**

The MSHCP has determined that all of the sensitive species potentially occurring onsite or within the offsite study area have been adequately covered (MSHCP Table 2-2 Species Considered for Conservation Under the MSHCP Since 1999, 2004). However, additional surveys may be required for criteria area species if suitable habitat is documented onsite and the assessment areas are located within a predetermined “Survey Area” (MSHCP 2004).

### **5.1 Criteria Area Species Survey Area – Plants**

The Project Site and offsite study area do not occur within a predetermined Survey Area for MSHCP criteria area plant species. Compliance with Section 6.1.3 respective of MSHCP criteria area plants is not applicable to the proposed Project Site or offsite study area.

Smooth tarplant (*Centromadia pungens* ssp. *laevis*), CRPR 1B.1 was documented within the region of the offsite study area (Paloma Wash Channel). However, the Project Site and offsite study area do not occur within a predetermined Survey Area for MSHCP narrow endemic or criteria area plant species and focused surveys and/or conservation is not required.

#### **5.1.1 Methods**

Compliance with Section 6.1.3 respective of MSHCP criteria area plants is not applicable to the proposed Project Site or offsite study area.

#### **5.1.2 Results/Impacts**

Compliance with Section 6.1.3 respective of MSHCP criteria area plants is not applicable to the proposed Project Site or offsite study area.

#### **5.1.3 Mitigation and Equivalency**

Compliance with Section 6.1.3 respective of MSHCP criteria area plants is not applicable to the proposed Project Site or offsite study area.

### **5.2 Criteria Area Species Survey Area – Burrowing Owl**

Compliance with Section 6.1.3 respective of MSHCP criteria area plants is not applicable to the proposed Project Site or offsite study area.

#### **5.2.1 Methods**

##### **Burrowing Owl Habitat Assessment and Focused Surveys**

The Project Site and offsite study area occur within an MSHCP burrowing owl survey area and a habitat assessment and focused survey was conducted to ensure compliance with MSHCP guidelines as summarized below.

In accordance with the MSHCP Burrowing Owl Survey Instructions (2006), survey protocol consists of two steps, Step I – Habitat Assessment and Step II – Locating Burrows and Burrowing Owls. Step II is comprised of two parts, Part A: Focused Burrow Surveys and Part B: Focused Burrowing Owl Surveys.

Each step is briefly outlined below, followed by the methodology and results of each survey conducted within the Project Site. All initial habitat assessment, burrow and focused surveys were conducted by Ruben Ramirez.

Surveys were conducted during weather that is conducive to observing owls outside their burrows and detecting burrowing owl sign. Surveys were not conducted during rain, high winds (> 20 mph), dense fog, or temperatures over 90 °F. None of the surveys were conducted within five (5) days of measurable precipitation.

In addition to the MSHCP guidelines, field notes were taken daily. These notes recorded the date, location, animal species observed, and general habitat characteristics of each area and habitat examined that day.

### **Step I – Habitat Assessment**

Step 1 of the MSHCP habitat assessment for burrowing owl consists of a walking survey to determine if suitable habitat is present onsite. Cadre Environmental conducted the initial habitat assessment on April 26<sup>th</sup>, 2016 (Cadre Environmental 2016). Upon arrival at the Project Site, and prior to initiating the assessment survey, Cadre Environmental used binoculars to scan all suitable habitats on and adjacent to the property, including perch locations, to ascertain owl presence.

All suitable areas of the Project Site were surveyed on foot by walking slowly and methodically while recording/mapping areas that may represent suitable owl habitat onsite. Primary indicators of suitable burrowing owl habitat in western Riverside County include, but are not limited to, native and non-native grassland, interstitial grassland within shrub lands, shrub lands with low density shrub cover, golf courses, drainage ditches, earthen berms, unpaved airfields, pastureland, dairies, fallow fields, and agricultural use areas. Burrowing owls typically use burrows made by fossorial mammals, such as ground squirrels (*Otospermophilus beecheyi*) or badgers (*Taxidea taxus*), but they often utilize man-made structures, such as earthen berms, cement culverts, cement, asphalt, rock, wood debris piles, openings beneath cement or asphalt pavement. Burrowing owls are often found within, under, or in close proximity to man-made structures.

According to the MSHCP guidelines, if suitable habitat is present, the biologist should also walk the perimeter of the property, which consists of a 150-meter (approximately 500 feet) buffer zone around the Project Site boundary. If permission to access the buffer area cannot be obtained, the biologist shall not trespass, but visually inspect adjacent habitats with binoculars. In addition to surveying the entire Project Site all bordering natural habitats located immediately adjacent to the Project Site were assessed including the Caltrans easement located immediately east of the property.



Results from the habitat assessment indicate that suitable resources for burrowing owl are present throughout the Project Site. Accordingly, if suitable habitat is documented onsite or within adjacent habitats, both Step II, focused surveys and the 30-day pre-construction surveys are required in order to comply with the MSHCP guidelines.

## **Step II – Locating Burrows and Burrowing Owls**

Concurrent with the initial habitat assessment, a detailed focused burrow survey was conducted and included documentation of appropriately sized natural burrows or suitable man-made structures that may be utilized by burrowing owl - as part of the MSHCP protocol, which is described below under Part A. Focused Burrow Survey

### **Part A: Focused Burrow Survey**

A systematic survey for burrows, including burrowing owl sign, was conducted by walking across and adjacent to all suitable habitats mapped within the Project Site on April 26<sup>th</sup>, 2016 and March 2<sup>nd</sup>, 2017.

All observations of suitable burrows or dens, natural or man-made, or sightings of burrowing owl, were recorded and mapped during the survey (Cadre Environmental 2016).

### **Part B: Focused Burrowing Owl Surveys**

Four (4) focused burrowing owl surveys (in addition to the initial focused burrow survey – Step II, Part A) were conducted on March 2<sup>nd</sup>, 8<sup>th</sup>, 15<sup>th</sup>, and 20<sup>th</sup>, 2017, from one hour before sunrise to two hours after sunrise. Pedestrian survey transects were spaced to allow 100% visual coverage of the ground surface. The distances between transect centerlines were no more than 20 meters (approximately 66 ft.) apart, and owing to the terrain, often much smaller. During visual surveys, all potentially suitable burrow or structure entrances were investigated for signs of owl occupation, such as feathers, tracks, or pellets, and carefully observed to determine if burrowing owls utilize these features, when present. All burrows are monitored at a short distance from the entrance, and at a location that would not interfere with potential owl behavior, when present.

## **5.2.2 Results/Impacts**

Suitable burrowing owl burrows potentially utilized for refugia, foraging and/or nesting were documented within the Project Site and the offsite study area located within the Paloma Wash channel. Based on the presence of suitable habitat and known occurrences of the species in close proximity to the Project Site, focused MSHCP burrowing owl surveys were conducted to determine the presence, absence and status of the species within the Project Site. No burrowing owl were detected within the Project Site during focused MSHCP burrowing owl surveys (Cadre Environmental 2017).

### **5.2.3 Mitigation and Equivalency**

A 30-day preconstruction survey will be required immediately prior to the initiation of construction within the Project Site and offsite study area to ensure protection for this species and compliance with the conservation goals as outlined in the MSHCP.

If burrowing owls are detected onsite during the 30-day preconstruction survey, during the breeding season (February 1<sup>st</sup> to August 31<sup>st</sup>) then construction activities shall be limited to beyond 300 feet of the active burrows until a qualified biologist has confirmed that nesting efforts are completed or not initiated. In addition to monitoring breeding activity, if construction is proposed to be initiated during the breeding season or active relocation is proposed, a burrowing owl mitigation plan will be developed based on the County of Riverside Environmental Programs Division, CDFW and USFWS requirements for the relocation of individuals to the Lake Mathews Preserve.

### **5.3 Criteria Area Species Survey Area – Mammals**

The MSHCP has determined that all of the sensitive species potentially occurring onsite or within the offsite study area have been adequately covered (MSHCP Table 2-2 Species Considered for Conservation Under the MSHCP Since 1999, 2004). However, additional surveys may be required if suitable habitat for mammals is documented onsite and the property is located within a predetermined “Survey Area” (MSHCP 2004).

The Project Site and offsite study area do not occur within a predetermined Survey Area for mammal species. Compliance with Section 6.1.3 respective of MSHCP mammals is not applicable to the proposed Project Site or offsite study area.

#### **5.3.1 Methods**

Compliance with Section 6.1.3 respective of MSHCP mammals is not applicable to the proposed Project Site or offsite study area.

#### **5.3.2 Results/Impacts**

Compliance with Section 6.1.3 respective of MSHCP mammals is not applicable to the proposed Project Site or offsite study area.

#### **5.3.3 Mitigation and Equivalency**

Compliance with Section 6.1.3 respective of MSHCP mammals is not applicable to the proposed Project Site or offsite study area.

### **5.4 Criteria Area Species Survey Area – Amphibians**

The MSHCP has determined that all of the sensitive species potentially occurring onsite or within the offsite study area have been adequately covered (MSHCP Table 2-2 Species Considered for Conservation Under the MSHCP Since 1999, 2004). However, additional surveys may be required if suitable habitat for amphibian species is

documented onsite and the property is located within a predetermined “Survey Area” (MSHCP 2004).

#### **5.4.1 Methods**

Compliance with Section 6.1.3 respective of MSHCP amphibians is not applicable to the proposed Project Site or offsite study area.

#### **5.4.2 Results/Impacts**

Compliance with Section 6.1.3 respective of MSHCP amphibians is not applicable to the proposed Project Site or offsite study area.

### **6.0 REFERENCES**

Cadre Environmental. 2016. General MSHCP Habitat Assessment/Constraints Analysis for the 37 Acre Haun & Holland Project Site, City of Menifee, California.

Cadre Environmental. 2019. General MSHCP Habitat Assessment/Consistency Analysis for the 37.06 Acre Haun & Holland Project Site, City of Menifee, California.

Cadre Environmental. 2017. MSHCP Focused Burrowing Owl Surveys for the 37 Acre Haun & Holland Project Site, City of Menifee, California.

California Department of Fish and Wildlife. 2012. Staff Report on Burrowing Owl Mitigation, State of California Natural Resources Agency.

County of Riverside. 2006. Burrowing Owl Survey Instructions – Western Riverside Multiple Species Habitat Conservation Plan Area.

Riverside County Integrated Project (RCIP) Multiple Species Habitat Conservation Plan (MSHCP), March 2004.

United States Department of Agriculture. 2019. Custom Soil Resources Report for Western Riverside Area, California. Natural Resources Conservation Service. <https://websoilsurvey.nrcs.usda.gov/app/WebSoilSurvey.aspx>, accessed April 2019.

United States Army Corps of Engineers. 2015. Prospectus for Mitigation Bank and Application for Permit - Riverpark Mitigation Bank (Public Notice/Application No.: SPL-2015-00318-MBT).

## **APPENDIX A**

MSHCP Focused Burrowing Owl Surveys for the 37-Acre Haun & Holland Road Project  
Site, City of Menifee, California, Cadre Environmental 2017.

## **APPENDIX B**

Riverside County Environmental Programs Division – MSHCP Focused Burrowing Owl  
Survey Report Review (EPD Case Number ME00135), April 10<sup>th</sup> 2017.



## **APPENDIX C**

General MSHCP Habitat Assessment/Compliance Analysis for the 37.06 Acre Haun & Holland Project Site, City of Menifee, California, Cadre Environmental 2019

## **APPENDIX D**

Jurisdictional Delineation - Haun and Holland Road Project TPM 37121  
Albert A. Webb Associates 2019

Contact: Ruben S. Ramirez, Jr. 949-300-0212, [r.ramirez@cadreenvironmental.com](mailto:r.ramirez@cadreenvironmental.com)

## **APPENDIX D**

### **WETLAND DETERMINATION FORM**

## WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Paloma Wash City/County: Menifee, Riv. Sampling Date: 11:30 12/19/18  
 Applicant/Owner: JPA Corp. State: CA Sampling Point: 1  
 Investigator(s): A. Dewoody Section, Township, Range: \_\_\_\_\_  
 Landform (hillslope, terrace, etc.): channel bed Local relief (concave, convex, none): none Slope (%): 0  
 Subregion (LRR): C Lat: 33.6737 Long: -117.1760 Datum: \_\_\_\_\_  
 Soil Map Unit Name: Yokohl Loam NWI classification: none  
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No \_\_\_\_\_ (If no, explain in Remarks.)  
 Are Vegetation \_\_\_\_\_, Soil \_\_\_\_\_, or Hydrology no significantly disturbed? Are "Normal Circumstances" present? Yes X No \_\_\_\_\_  
 Are Vegetation \_\_\_\_\_, Soil \_\_\_\_\_, or Hydrology no 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 _____ No <u>X</u> | Is the Sampled Area<br>within a Wetland? Yes _____ No <u>X</u> |
| Hydric Soil Present?                           | Yes _____ No <u>X</u> |  |
| Wetland Hydrology Present?                     | Yes <u>X</u> No _____ |  |
| Remarks:<br><u>Most recent rain: 12/6-12/8</u> |                       |  |

## VEGETATION – Use scientific names of plants.

| Tree Stratum (Plot size: _____) | Absolute<br>% Cover | Dominant<br>Species? | Indicator<br>Status | Dominance Test worksheet:   |                              |
|---------------------------------|---------------------|----------------------|---------------------|---|------------------------------|
| 1. _____                        |                     |                      |                     | Number of Dominant Species<br>That Are OBL, FACW, or FAC:   | <u>0</u> (A)                 |
| 2. _____                        |                     |                      |                     | Total Number of Dominant<br>Species Across All Strata:  | <u>1</u> (B)                 |
| 3. _____                        |                     |                      |                     | Percent of Dominant Species<br>That Are OBL, FACW, or FAC:  | <u>0</u> (A/B)               |
| 4. _____                        |                     |                      |                     |   |                              |
|                                 |                     |                      |                     | Prevalence Index worksheet:   |                              |
|                                 |                     |                      |                     | Total % Cover of:   | Multiply by:                 |
|                                 |                     |                      |                     | OBL species   | x 1 = _____                  |
|                                 |                     |                      |                     | FACW species  | x 2 = _____                  |
|                                 |                     |                      |                     | FAC species   | <u>1</u> x 3 = <u>3</u>      |
|                                 |                     |                      |                     | FACU species  | <u>4</u> x 4 = <u>16</u>     |
|                                 |                     |                      |                     | UPL species   | <u>45</u> x 5 = <u>225</u>   |
|                                 |                     |                      |                     | Column Totals:  | <u>50</u> (A) <u>244</u> (B) |
|                                 |                     |                      |                     | Prevalence Index = B/A = <u>4.9</u>   |                              |
|                                 |                     |                      |                     | Hydrophytic Vegetation Indicators:  |                              |
|                                 |                     |                      |                     | ___ Dominance Test is >50%  |                              |
|                                 |                     |                      |                     | ___ Prevalence Index is ≤3.0 <sup>1</sup>   |                              |
|                                 |                     |                      |                     | ___ Morphological Adaptations <sup>1</sup> (Provide supporting<br>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<br>be present, unless disturbed or problematic. |                              |
|                                 |                     |                      |                     | Hydrophytic<br>Vegetation<br>Present? Yes _____ No <u>X</u>   |                              |
| Remarks:                        |                     |                      |                     |   |                              |

| Sapling/Shrub Stratum (Plot size: _____)   | Absolute<br>% Cover           | Dominant<br>Species? | Indicator<br>Status |
|--|-------------------------------|----------------------|---------------------|
| 1. _____                                   |                               |                      |                     |
| 2. _____                                   |                               |                      |                     |
| 3. _____                                   |                               |                      |                     |
| 4. _____                                   |                               |                      |                     |
| 5. _____                                   |                               |                      |                     |
|  |                               |                      |                     |
| _____ = Total Cover                        |                               |                      |                     |
| Herb Stratum (Plot size: <u>0 = 5'</u> )   |                               |                      |                     |
| 1. <u>Red-stemmed filaree</u>              | <u>40</u>                     | <u>D</u>             | <u>NL</u>           |
| 2. <u>Curly dock</u>                       | <u>1</u>                      |                      | <u>FAC</u>          |
| 3. <u>Russian thistle</u>                  | <u>2</u>                      |                      | <u>FACU</u>         |
| 4. <u>Shepherd's purse</u>                 | <u>2</u>                      |                      | <u>FACU</u>         |
| 5. <u>grasses</u>                          | <u>5</u>                      |                      | <u>NL</u>           |
| 6. _____                                   |                               |                      |                     |
| 7. _____                                   |                               |                      |                     |
| 8. _____                                   |                               |                      |                     |
|  |                               |                      |                     |
| <u>50</u> = Total Cover                    |                               |                      |                     |
| Woody Vine Stratum (Plot size: _____)      |                               |                      |                     |
| 1. _____                                   |                               |                      |                     |
| 2. _____                                   |                               |                      |                     |
|  |                               |                      |                     |
| _____ = Total Cover                        |                               |                      |                     |
| % Bare Ground in Herb Stratum <u>20-50</u> | % Cover of Biotic Crust _____ |                      |                     |

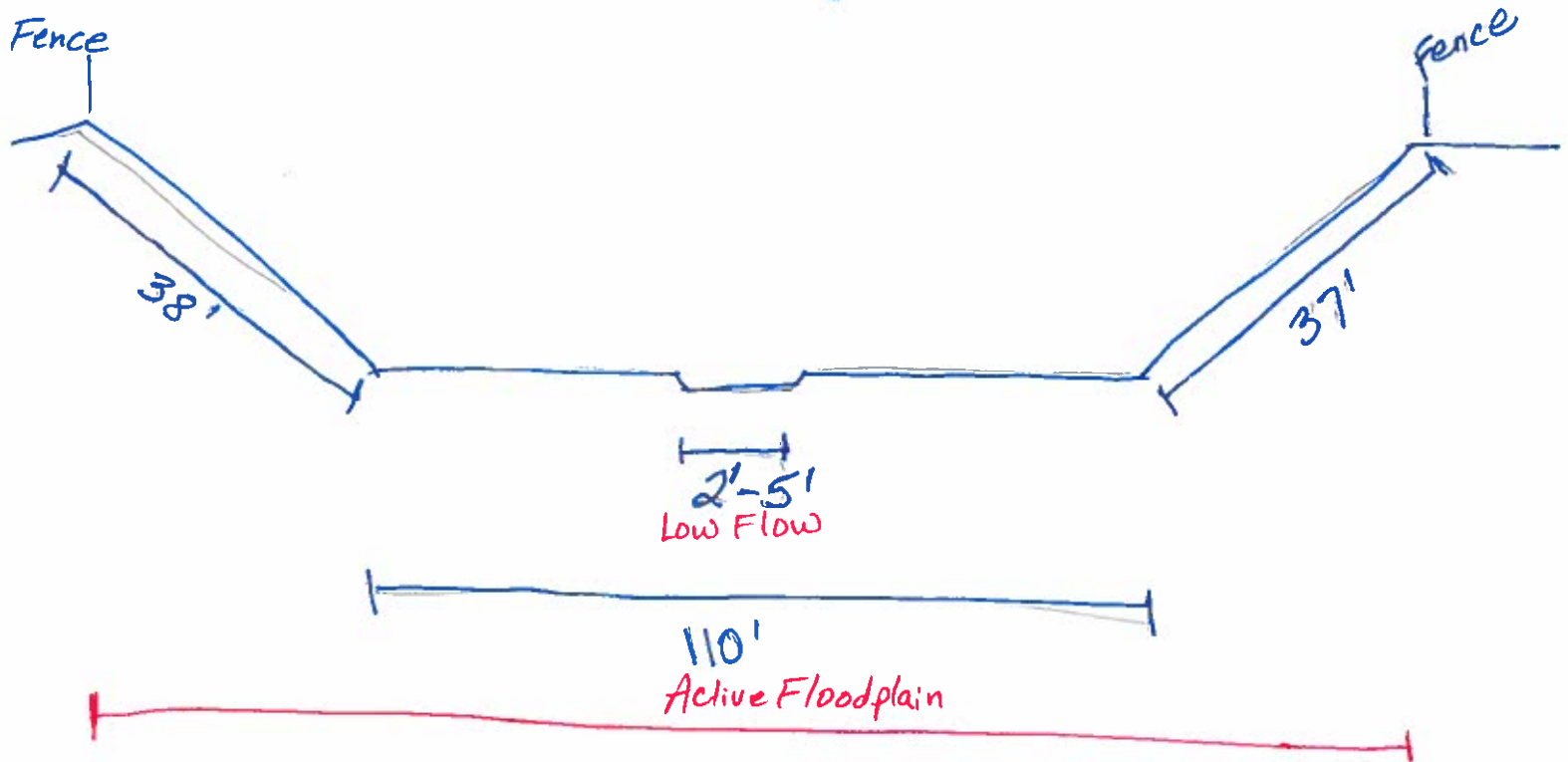




# ARID WEST EPHEMERAL AND INTERMITTENT STREAMS OHWM DATASHEET

| Project: <u>JPN Corp./Haun Rd.-Holland Rd.</u>   |  | Date: <u>12/19/18</u>   | Time: <u>11:30</u> |   |  |     |         |      |    |        |       |   |        |       |      |         |       |      |                  |       |      |             |            |      |             |           |       |           |            |        |                |             |       |             |              |        |             |              |        |           |               |        |                |  |  |      |  |  |
|--|--|---|--------------------|---|--|-----|---------|------|----|--------|-------|---|--------|-------|------|---------|-------|------|------------------|-------|------|-------------|------------|------|-------------|-----------|-------|-----------|------------|--------|----------------|-------------|-------|-------------|--------------|--------|-------------|--------------|--------|-----------|---------------|--------|----------------|--|--|------|--|--|
| Project Number: <u>-</u>   |  | Town: <u>Menifee</u>  | State: <u>CA</u>   |   |  |     |         |      |    |        |       |   |        |       |      |         |       |      |                  |       |      |             |            |      |             |           |       |           |            |        |                |             |       |             |              |        |             |              |        |           |               |        |                |  |  |      |  |  |
| Stream: <u>Paloma Wash</u>   |  | Photo begin file#   | Photo end file#    |   |  |     |         |      |    |        |       |   |        |       |      |         |       |      |                  |       |      |             |            |      |             |           |       |           |            |        |                |             |       |             |              |        |             |              |        |           |               |        |                |  |  |      |  |  |
| Investigator(s): <u>Autumn DeWoody</u>   |  | <u>Rain 12/6-12/8</u>   |                    |   |  |     |         |      |    |        |       |   |        |       |      |         |       |      |                  |       |      |             |            |      |             |           |       |           |            |        |                |             |       |             |              |        |             |              |        |           |               |        |                |  |  |      |  |  |
| Y <input checked="" type="checkbox"/> / N <input type="checkbox"/> Do normal circumstances exist on the site?<br>Y <input type="checkbox"/> / N <input checked="" type="checkbox"/> Is the site significantly disturbed?   |  | Location Details: <u>West of Haun Rd. Right bank, 1/2-way between outfalls.</u><br>Projection: _____ Datum: _____<br>Coordinates: <u>33.6737, -117.1760</u> |                    |   |  |     |         |      |    |        |       |   |        |       |      |         |       |      |                  |       |      |             |            |      |             |           |       |           |            |        |                |             |       |             |              |        |             |              |        |           |               |        |                |  |  |      |  |  |
| Notes:<br><u>1. Regularly mowed</u><br><u>2. Artificially constructed.</u>   |  |   |                    |   |  |     |         |      |    |        |       |   |        |       |      |         |       |      |                  |       |      |             |            |      |             |           |       |           |            |        |                |             |       |             |              |        |             |              |        |           |               |        |                |  |  |      |  |  |
| Brief site description:<br><u>Earthen trapezoidal engineered flood control channel.</u><br><u>Recently built. Drains North to Salt Creek.</u>  |  |   |                    |   |  |     |         |      |    |        |       |   |        |       |      |         |       |      |                  |       |      |             |            |      |             |           |       |           |            |        |                |             |       |             |              |        |             |              |        |           |               |        |                |  |  |      |  |  |
| Checklist of resources (if available): <table style="width: 100%; border: none;"> <tr> <td style="vertical-align: top; width: 50%;"> <input checked="" type="checkbox"/> Aerial photography<br/>           Dates: <u>2019</u><br/> <input checked="" type="checkbox"/> Topographic maps<br/>           Scale: <u>1:24000</u><br/> <input type="checkbox"/> Geologic maps<br/> <input checked="" type="checkbox"/> Vegetation maps<br/> <input checked="" type="checkbox"/> Soils maps<br/> <input type="checkbox"/> Rainfall/precipitation maps<br/> <input checked="" type="checkbox"/> Existing delineation(s) for site <u>(adjacent)</u><br/> <input checked="" type="checkbox"/> Global positioning system (GPS)<br/> <input type="checkbox"/> Other studies         </td> <td style="vertical-align: top; width: 50%;"> <input type="checkbox"/> Stream gage data<br/>           Gage number: _____<br/>           Period of record: _____<br/> <input type="checkbox"/> Clinometer / level<br/> <input type="checkbox"/> History of recent effective discharges<br/> <input type="checkbox"/> Results of flood frequency analysis<br/> <input type="checkbox"/> Most recent shift-adjusted rating<br/> <input type="checkbox"/> Gage heights for 2-, 5-, 10-, and 25-year events and the most recent event exceeding a 5-year event         </td> </tr> </table> |  |   |                    | <input checked="" type="checkbox"/> Aerial photography<br>Dates: <u>2019</u><br><input checked="" type="checkbox"/> Topographic maps<br>Scale: <u>1:24000</u><br><input type="checkbox"/> Geologic maps<br><input checked="" type="checkbox"/> Vegetation maps<br><input checked="" type="checkbox"/> Soils maps<br><input type="checkbox"/> Rainfall/precipitation maps<br><input checked="" type="checkbox"/> Existing delineation(s) for site <u>(adjacent)</u><br><input checked="" type="checkbox"/> Global positioning system (GPS)<br><input type="checkbox"/> Other studies | <input type="checkbox"/> Stream gage data<br>Gage number: _____<br>Period of record: _____<br><input type="checkbox"/> Clinometer / level<br><input type="checkbox"/> History of recent effective discharges<br><input type="checkbox"/> Results of flood frequency analysis<br><input type="checkbox"/> Most recent shift-adjusted rating<br><input type="checkbox"/> Gage heights for 2-, 5-, 10-, and 25-year events and the most recent event exceeding a 5-year event |     |         |      |    |        |       |   |        |       |      |         |       |      |                  |       |      |             |            |      |             |           |       |           |            |        |                |             |       |             |              |        |             |              |        |           |               |        |                |  |  |      |  |  |
| <input checked="" type="checkbox"/> Aerial photography<br>Dates: <u>2019</u><br><input checked="" type="checkbox"/> Topographic maps<br>Scale: <u>1:24000</u><br><input type="checkbox"/> Geologic maps<br><input checked="" type="checkbox"/> Vegetation maps<br><input checked="" type="checkbox"/> Soils maps<br><input type="checkbox"/> Rainfall/precipitation maps<br><input checked="" type="checkbox"/> Existing delineation(s) for site <u>(adjacent)</u><br><input checked="" type="checkbox"/> Global positioning system (GPS)<br><input type="checkbox"/> Other studies  | <input type="checkbox"/> Stream gage data<br>Gage number: _____<br>Period of record: _____<br><input type="checkbox"/> Clinometer / level<br><input type="checkbox"/> History of recent effective discharges<br><input type="checkbox"/> Results of flood frequency analysis<br><input type="checkbox"/> Most recent shift-adjusted rating<br><input type="checkbox"/> Gage heights for 2-, 5-, 10-, and 25-year events and the most recent event exceeding a 5-year event |   |                    |   |  |     |         |      |    |        |       |   |        |       |      |         |       |      |                  |       |      |             |            |      |             |           |       |           |            |        |                |             |       |             |              |        |             |              |        |           |               |        |                |  |  |      |  |  |
| The dominant Wentworth size class that imparts a characteristic texture to each zone of a channel cross-section is recorded in the average sediment texture field under the characteristics section for the zone of interest.  |  |   |                    |   |  |     |         |      |    |        |       |   |        |       |      |         |       |      |                  |       |      |             |            |      |             |           |       |           |            |        |                |             |       |             |              |        |             |              |        |           |               |        |                |  |  |      |  |  |
| <table border="1" style="width: 100%; border-collapse: collapse; text-align: center;"> <thead> <tr> <th>Millimeters (mm)</th> <th>Inches (in)</th> <th>Wentworth size class</th> </tr> </thead> <tbody> <tr> <td>10.08</td> <td>256</td> <td>Boulder</td> </tr> <tr> <td>2.56</td> <td>64</td> <td>Cobble</td> </tr> <tr> <td>0.157</td> <td>4</td> <td>Pebble</td> </tr> <tr> <td>0.079</td> <td>2.00</td> <td>Granule</td> </tr> <tr> <td>0.039</td> <td>1.00</td> <td>Very coarse sand</td> </tr> <tr> <td>0.020</td> <td>0.50</td> <td>Coarse sand</td> </tr> <tr> <td>1/2 0.0098</td> <td>0.25</td> <td>Medium sand</td> </tr> <tr> <td>1/4 0.005</td> <td>0.125</td> <td>Fine sand</td> </tr> <tr> <td>1/8 0.0025</td> <td>0.0625</td> <td>Very fine sand</td> </tr> <tr> <td>1/16 0.0012</td> <td>0.031</td> <td>Coarse silt</td> </tr> <tr> <td>1/32 0.00061</td> <td>0.0156</td> <td>Medium silt</td> </tr> <tr> <td>1/64 0.00031</td> <td>0.0078</td> <td>Fine silt</td> </tr> <tr> <td>1/128 0.00015</td> <td>0.0039</td> <td>Very fine silt</td> </tr> <tr> <td></td> <td></td> <td>Clay</td> </tr> </tbody> </table>  |  | Millimeters (mm)  | Inches (in)        | Wentworth size class  | 10.08  | 256 | Boulder | 2.56 | 64 | Cobble | 0.157 | 4 | Pebble | 0.079 | 2.00 | Granule | 0.039 | 1.00 | Very coarse sand | 0.020 | 0.50 | Coarse sand | 1/2 0.0098 | 0.25 | Medium sand | 1/4 0.005 | 0.125 | Fine sand | 1/8 0.0025 | 0.0625 | Very fine sand | 1/16 0.0012 | 0.031 | Coarse silt | 1/32 0.00061 | 0.0156 | Medium silt | 1/64 0.00031 | 0.0078 | Fine silt | 1/128 0.00015 | 0.0039 | Very fine silt |  |  | Clay | <div style="text-align: center;"> <p>Hydrogeomorphic Floodplain Units - Intermittent and Ephemeral Channel Forms<br/>(representative cross-section)</p> </div> |  |
| Millimeters (mm)   | Inches (in)  | Wentworth size class  |                    |   |  |     |         |      |    |        |       |   |        |       |      |         |       |      |                  |       |      |             |            |      |             |           |       |           |            |        |                |             |       |             |              |        |             |              |        |           |               |        |                |  |  |      |  |  |
| 10.08  | 256  | Boulder   |                    |   |  |     |         |      |    |        |       |   |        |       |      |         |       |      |                  |       |      |             |            |      |             |           |       |           |            |        |                |             |       |             |              |        |             |              |        |           |               |        |                |  |  |      |  |  |
| 2.56   | 64   | Cobble  |                    |   |  |     |         |      |    |        |       |   |        |       |      |         |       |      |                  |       |      |             |            |      |             |           |       |           |            |        |                |             |       |             |              |        |             |              |        |           |               |        |                |  |  |      |  |  |
| 0.157  | 4  | Pebble  |                    |   |  |     |         |      |    |        |       |   |        |       |      |         |       |      |                  |       |      |             |            |      |             |           |       |           |            |        |                |             |       |             |              |        |             |              |        |           |               |        |                |  |  |      |  |  |
| 0.079  | 2.00   | Granule   |                    |   |  |     |         |      |    |        |       |   |        |       |      |         |       |      |                  |       |      |             |            |      |             |           |       |           |            |        |                |             |       |             |              |        |             |              |        |           |               |        |                |  |  |      |  |  |
| 0.039  | 1.00   | Very coarse sand  |                    |   |  |     |         |      |    |        |       |   |        |       |      |         |       |      |                  |       |      |             |            |      |             |           |       |           |            |        |                |             |       |             |              |        |             |              |        |           |               |        |                |  |  |      |  |  |
| 0.020  | 0.50   | Coarse sand   |                    |   |  |     |         |      |    |        |       |   |        |       |      |         |       |      |                  |       |      |             |            |      |             |           |       |           |            |        |                |             |       |             |              |        |             |              |        |           |               |        |                |  |  |      |  |  |
| 1/2 0.0098   | 0.25   | Medium sand   |                    |   |  |     |         |      |    |        |       |   |        |       |      |         |       |      |                  |       |      |             |            |      |             |           |       |           |            |        |                |             |       |             |              |        |             |              |        |           |               |        |                |  |  |      |  |  |
| 1/4 0.005  | 0.125  | Fine sand   |                    |   |  |     |         |      |    |        |       |   |        |       |      |         |       |      |                  |       |      |             |            |      |             |           |       |           |            |        |                |             |       |             |              |        |             |              |        |           |               |        |                |  |  |      |  |  |
| 1/8 0.0025   | 0.0625   | Very fine sand  |                    |   |  |     |         |      |    |        |       |   |        |       |      |         |       |      |                  |       |      |             |            |      |             |           |       |           |            |        |                |             |       |             |              |        |             |              |        |           |               |        |                |  |  |      |  |  |
| 1/16 0.0012  | 0.031  | Coarse silt   |                    |   |  |     |         |      |    |        |       |   |        |       |      |         |       |      |                  |       |      |             |            |      |             |           |       |           |            |        |                |             |       |             |              |        |             |              |        |           |               |        |                |  |  |      |  |  |
| 1/32 0.00061   | 0.0156   | Medium silt   |                    |   |  |     |         |      |    |        |       |   |        |       |      |         |       |      |                  |       |      |             |            |      |             |           |       |           |            |        |                |             |       |             |              |        |             |              |        |           |               |        |                |  |  |      |  |  |
| 1/64 0.00031   | 0.0078   | Fine silt   |                    |   |  |     |         |      |    |        |       |   |        |       |      |         |       |      |                  |       |      |             |            |      |             |           |       |           |            |        |                |             |       |             |              |        |             |              |        |           |               |        |                |  |  |      |  |  |
| 1/128 0.00015  | 0.0039   | Very fine silt  |                    |   |  |     |         |      |    |        |       |   |        |       |      |         |       |      |                  |       |      |             |            |      |             |           |       |           |            |        |                |             |       |             |              |        |             |              |        |           |               |        |                |  |  |      |  |  |
|  |  | Clay  |                    |   |  |     |         |      |    |        |       |   |        |       |      |         |       |      |                  |       |      |             |            |      |             |           |       |           |            |        |                |             |       |             |              |        |             |              |        |           |               |        |                |  |  |      |  |  |

CROSS SECTION DRAWING:



☒ Walk the channel and floodplain within the study area to get an impression of the vegetation and geomorphology present at the site. Record any potential anthropogenic influences on the channel system in "Notes" above.

☒ Locate the low-flow channel (lowest part of the channel). Record observations.

Characteristics of the low-flow channel:

Average sediment texture: sand

Total veg cover: 50 % Tree:      % Shrub:      % Herb: 100 %

Community successional stage:

☐ NA ☐ Mid (herbaceous, shrubs, saplings)

☒ Early (herbaceous & seedlings) ☐ Late (herbaceous, shrubs, mature trees)

Dominant species present: non-native grasses, red-stemmed filaree

Other: ☐ sign of recent inundation.

☐ Soil pit at 33.6737, -117.1761

☒ Walk away from the low-flow channel along cross-section. Record characteristics of the low-flow/active floodplain boundary.

Characteristics used to delineate the low-flow/active floodplain boundary:

☒ Change in total veg cover ☐ Tree ☐ Shrub ☒ Herb

☐ Change in overall vegetation maturity

☐ Change in dominant species present

☒ Other ☒ Presence of bed and bank

☐ Drift and/or debris

☐ Other:                                     

☐ Other:                                     

☒ Continue walking the channel cross-section. Record observations below.

Characteristics of the ~~low flow~~ channel: outside of low-flow.

Average sediment texture: sand

Total veg cover: 80 % Tree:      % Shrub:      % Herb: 100 %

Community successional stage:

☐ NA ☐ Mid (herbaceous, shrubs, saplings)

☒ Early (herbaceous & seedlings) ☐ Late (herbaceous, shrubs, mature trees)

Dominant species present: non-native grasses, Russian thistle

Other: ☐                                     

☐                                     

☐                                     

☐

|                                     |  |
|-------------------------------------|--|
| <input checked="" type="checkbox"/> | <p><b>Continue walking the channel cross-section. Record indicators of the active floodplain/low terrace boundary.</b></p> <p style="text-align: right; margin-right: 50px;"><i>Low Terrace = top of channel bank.</i></p> <p><u>Characteristics used to delineate the active floodplain/ low terrace boundary:</u></p> <div style="display: flex; flex-wrap: wrap;"> <div style="width: 50%;"> <input type="checkbox"/> Change in average sediment texture<br/> <input type="checkbox"/> Change in total veg cover<br/> <input type="checkbox"/> Change in overall vegetation maturity<br/> <input type="checkbox"/> Change in dominant species present<br/> <input type="checkbox"/> Other:             </div> <div style="width: 50%;"> <input type="checkbox"/> Tree      <input type="checkbox"/> Shrub      <input type="checkbox"/> Herb<br/> <input checked="" type="checkbox"/> Presence of bed and bank<br/> <input type="checkbox"/> Drift and/or debris<br/> <input checked="" type="checkbox"/> Other: <i>Channel bank char flattens and sidewalk present</i><br/> <input type="checkbox"/> Other:             </div> </div>  |
| <input checked="" type="checkbox"/> | <p><b>Walk the active floodplain/low terrace boundary both upstream and downstream of the cross-section to verify that the indicators used to identify the transition are consistently associated the transition in both directions.</b></p> <p><u>Consistency of indicators used to delineate the active floodplain/low terrace boundary:</u></p> <div style="display: flex; flex-wrap: wrap;"> <div style="width: 50%;">                 Y <input checked="" type="checkbox"/> N <input type="checkbox"/> Change in average sediment texture<br/>                 Y <input checked="" type="checkbox"/> N <input type="checkbox"/> Change in total veg cover<br/>                 Y <input checked="" type="checkbox"/> N <input type="checkbox"/> Change in overall vegetation maturity<br/>                 Y <input checked="" type="checkbox"/> N <input type="checkbox"/> Change in dominant species present<br/>                 Y <input checked="" type="checkbox"/> N <input type="checkbox"/> Other:             </div> <div style="width: 50%;">                 Y <input checked="" type="checkbox"/> N <input type="checkbox"/> Presence of bed and bank<br/>                 Y <input type="checkbox"/> N <input type="checkbox"/> Drift and/or debris<br/>                 Y <input type="checkbox"/> N <input type="checkbox"/> Other:<br/>                 Y <input type="checkbox"/> N <input type="checkbox"/> Other:             </div> </div> |
| <input type="checkbox"/>            | <p><b>If the characteristics used to delineate the active floodplain/low terrace boundary were NOT consistently associated with the transition in both the upstream and downstream directions, repeat all steps above.</b> <i>N/A</i></p>  |
| <input type="checkbox"/>            | <p><b>Continue walking the channel cross-section. Record characteristics of the low terrace.</b> <i>N/A</i></p> <p><u>Characteristics of the low terrace:</u></p> <p>Average sediment texture: _____</p> <p>Total veg cover: _____%    Tree: _____%    Shrub: _____%    Herb: _____%</p> <p><u>Community successional stage:</u></p> <div style="display: flex; justify-content: space-between;"> <input type="checkbox"/> NA             <input type="checkbox"/> Mid (herbaceous, shrubs, saplings)         </div> <div style="display: flex; justify-content: space-between;"> <input type="checkbox"/> Early (herbaceous &amp; seedlings)             <input type="checkbox"/> Late (herbaceous, shrubs, mature trees)         </div> <p><u>Dominant species present:</u> _____</p> <p>Other: <input type="checkbox"/> _____<br/> <input type="checkbox"/> _____<br/> <input type="checkbox"/> _____<br/> <input type="checkbox"/> _____</p>   |
| <input checked="" type="checkbox"/> | <p><b>If characteristics used to delineate the active floodplain/low terrace boundary were deemed reliable, acquire boundary.</b></p> <p><u>Active floodplain/low terrace boundary acquired via:</u></p> <div style="display: flex; justify-content: space-between;"> <input checked="" type="checkbox"/> Mapping on aerial photograph             <input checked="" type="checkbox"/> GPS         </div> <div style="display: flex; justify-content: space-between;"> <input type="checkbox"/> Digitized on computer             <input type="checkbox"/> Other: _____         </div>   |



# ARID WEST EPHEMERAL AND INTERMITTENT STREAMS OHWM DATASHEET

|   |   |
|---|---|
| <b>Project:</b> JPN Corp. / Haun and Holland Rd.<br><b>Project Number:</b> -<br><b>Stream:</b> Caltrans Ditch<br><b>Investigator(s):</b> Autumn DeWoody | <b>Date:</b> 12/19/18<br><b>Town:</b> Menifee<br><b>Photo begin file#</b><br><b>Time:</b> 11:00<br><b>State:</b> CA<br><b>Photo end file#</b> |
|---|---|

|  |   |
|--|---|
| Y <input checked="" type="checkbox"/> / N <input type="checkbox"/> Do normal circumstances exist on the site?<br><br>Y <input type="checkbox"/> / N <input checked="" type="checkbox"/> Is the site significantly disturbed? | <b>Location Details:</b> Between property and I-215 start at Mulefat bush, end btwn 5th and 6th<br><b>Projection:</b><br><b>Datum:</b> power pole north of start.<br><b>Coordinates:</b> 33.6715, -117.1714 |
|--|---|

**Notes:**  
 1. Trash dumping / vagrant shelter

**Brief site description:** Earthen trapezoidal / box channel. Ditch, man-made, for freeway on Caltrans R.O.W. area of historic Paloma Wash. No sign of recent saturation.

**Checklist of resources (if available):**

|  |  |
|--|--|
| <input checked="" type="checkbox"/> Aerial photography<br>Dates: 2019<br><input checked="" type="checkbox"/> Topographic maps<br>Scale: 1:24000<br><input type="checkbox"/> Geologic maps<br><input type="checkbox"/> Vegetation maps<br><input checked="" type="checkbox"/> Soils maps<br><input type="checkbox"/> Rainfall/precipitation maps<br><input checked="" type="checkbox"/> Existing delineation(s) for site adjacent to south<br><input checked="" type="checkbox"/> Global positioning system (GPS)<br><input type="checkbox"/> Other studies | <input type="checkbox"/> Stream gage data<br>Gage number:<br>Period of record:<br><input type="checkbox"/> Clinometer / level<br><input type="checkbox"/> History of recent effective discharges<br><input type="checkbox"/> Results of flood frequency analysis<br><input type="checkbox"/> Most recent shift-adjusted rating<br><input type="checkbox"/> Gage heights for 2-, 5-, 10-, and 25-year events and the most recent event exceeding a 5-year event |
|--|--|

The dominant Wentworth size class that imparts a characteristic texture to each zone of a channel cross-section is recorded in the average sediment texture field under the characteristics section for the zone of interest.

| Millimeters (mm) |   | Inches (in) |        | Wentworth size class |                  |        |
|------------------|---|-------------|--------|----------------------|------------------|--------|
| 10.08            | — | —           | 256    | —                    | Boulder          | Gravel |
| 2.56             | — | —           | 64     | —                    | Cobble           |        |
| 0.157            | — | —           | 4      | —                    | Pebble           |        |
|                  |   |             |        |                      | Granule          |        |
| 0.079            | — | —           | 2.00   | —                    | Very coarse sand | Sand   |
| 0.039            | — | —           | 1.00   | —                    | Coarse sand      |        |
| 0.020            | — | —           | 0.50   | —                    | Medium sand      |        |
| 1/2 0.0098       | — | —           | 0.25   | —                    | Fine sand        |        |
| 1/4 0.005        | — | —           | 0.125  | —                    | Very fine sand   |        |
| 1/8 — 0.0025     | — | —           | 0.0625 | —                    | Coarse silt      |        |
| 1/16 0.0012      | — | —           | 0.031  | —                    | Medium silt      | Silt   |
| 1/32 0.00061     | — | —           | 0.0156 | —                    | Fine silt        |        |
| 1/64 0.00031     | — | —           | 0.0078 | —                    | Very fine silt   |        |
| 1/128 — 0.00015  | — | —           | 0.0039 | —                    | Clay             | Mud    |

Hydrogeomorphic Floodplain Units - Intermittent and Ephemeral Channel Forms (representative cross-section)

Active Floodplain

Low Terrace

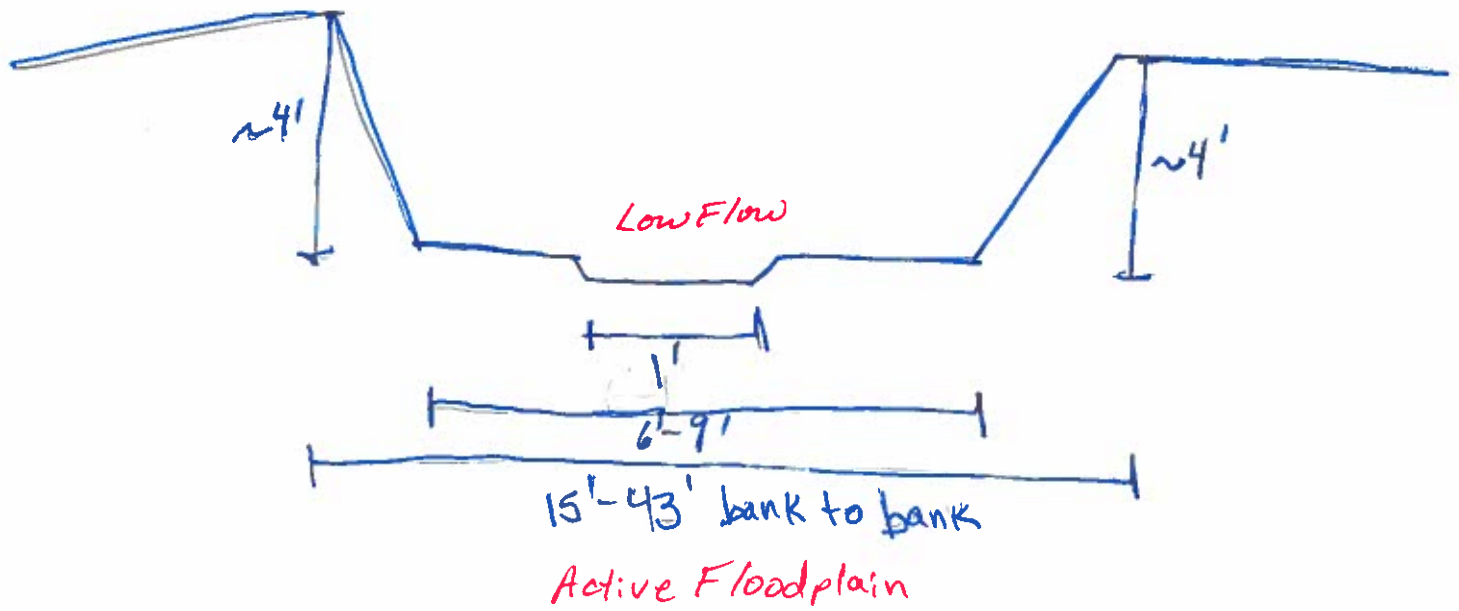
Low-Flow Channels

Paleo Channel

0 cm 1 2 3 4 5 6 7 8

0 in 1 2 3

## CROSS SECTION DRAWING:



|                                     |   |
|-------------------------------------|---|
| <input checked="" type="checkbox"/> | <p>Walk the channel and floodplain within the study area to get an impression of the vegetation and geomorphology present at the site. Record any potential anthropogenic influences on the channel system in "Notes" above.</p>  |
| <input type="checkbox"/>            | <p>Locate the low-flow channel (lowest part of the channel). Record observations.</p> <p>Characteristics of the low-flow channel:</p> <p>Average sediment texture: <u>sand</u></p> <p>Total veg cover: <u>40</u> % Tree: <u>    </u> % Shrub: <u>    </u> % Herb: <u>100</u> %</p> <p>Community successional stage:</p> <p><input type="checkbox"/> NA <input type="checkbox"/> Mid (herbaceous, shrubs, saplings)</p> <p><input checked="" type="checkbox"/> Early (herbaceous &amp; seedlings) <input type="checkbox"/> Late (herbaceous, shrubs, mature trees)</p> <p>Dominant species present: <u>red-stemmed filaree</u></p> <p>Other: <input type="checkbox"/><br/><input type="checkbox"/><br/><input type="checkbox"/><br/><input type="checkbox"/></p>   |
| <input checked="" type="checkbox"/> | <p>Walk away from the low-flow channel along cross-section. Record characteristics of the low-flow/active floodplain boundary.</p> <p>Characteristics used to delineate the low-flow/active floodplain boundary:</p> <p><input checked="" type="checkbox"/> Change in total veg cover <input type="checkbox"/> Tree <input type="checkbox"/> Shrub <input checked="" type="checkbox"/> Herb</p> <p><input type="checkbox"/> Change in overall vegetation maturity</p> <p><input type="checkbox"/> Change in dominant species present</p> <p><input checked="" type="checkbox"/> Other <input checked="" type="checkbox"/> Presence of bed and bank</p> <p><input type="checkbox"/> Drift and/or debris</p> <p><input type="checkbox"/> Other: <u>                    </u></p> <p><input type="checkbox"/> Other: <u>                    </u></p>  |
| <input checked="" type="checkbox"/> | <p>Continue walking the channel cross-section. Record observations below.</p> <p>Characteristics of the <del>low-flow channel</del>: <u>bed outside low-flow and banks.</u></p> <p>Average sediment texture: <u>                    </u></p> <p>Total veg cover: <u>90</u> % Tree: <u>    </u> % Shrub: <u>    </u> % Herb: <u>100</u> %</p> <p>Community successional stage:</p> <p><input type="checkbox"/> NA <input type="checkbox"/> Mid (herbaceous, shrubs, saplings)</p> <p><input checked="" type="checkbox"/> Early (herbaceous &amp; seedlings) <input type="checkbox"/> Late (herbaceous, shrubs, mature trees)</p> <p>Dominant species present: <u>London rocket, horseweed,</u><br/><u>Russian thistle, western ragweed, tocalote</u><br/><u>red-stem filaree</u></p> <p>Other: <input type="checkbox"/><br/><input type="checkbox"/><br/><input type="checkbox"/><br/><input type="checkbox"/></p> |

|  |   |  |   |   |  |  |  |  |  |  |  |   |  |  |  |  |   |   |   |  |  |  |   |   |  |  |                                       |   |  |  |                                       |  |   |              |  |  |  |   |              |  |  |
|--|---|--|---|---|--|--|--|--|--|--|--|---|--|--|--|--|---|---|---|--|--|--|---|---|--|--|---------------------------------------|---|--|--|---------------------------------------|--|---|--------------|--|--|--|---|--------------|--|--|
| <input checked="" type="checkbox"/>                                    | <p><b>Continue walking the channel cross-section. Record indicators of the active floodplain/low terrace boundary.</b></p> <p><u>Characteristics used to delineate the active floodplain/ low terrace boundary:</u></p> <table> <tr> <td><input checked="" type="checkbox"/> Change in average sediment texture</td> <td><input type="checkbox"/> Tree</td> <td><input type="checkbox"/> Shrub</td> <td><input type="checkbox"/> Herb</td> </tr> <tr> <td><input type="checkbox"/> Change in total veg cover</td> <td></td> <td></td> <td></td> </tr> <tr> <td><input type="checkbox"/> Change in overall vegetation maturity</td> <td></td> <td></td> <td></td> </tr> <tr> <td><input checked="" type="checkbox"/> Change in dominant species present</td> <td></td> <td></td> <td></td> </tr> <tr> <td><input type="checkbox"/> Other</td> <td><input type="checkbox"/> Presence of bed and bank</td> <td></td> <td></td> </tr> <tr> <td></td> <td><input type="checkbox"/> Drift and/or debris</td> <td></td> <td></td> </tr> <tr> <td></td> <td><input type="checkbox"/> Other: _____</td> <td></td> <td></td> </tr> <tr> <td></td> <td><input type="checkbox"/> Other: _____</td> <td></td> <td></td> </tr> </table>   | <input checked="" type="checkbox"/> Change in average sediment texture | <input type="checkbox"/> Tree                               | <input type="checkbox"/> Shrub                          | <input type="checkbox"/> Herb                                    | <input type="checkbox"/> Change in total veg cover |  |  |  | <input type="checkbox"/> Change in overall vegetation maturity |  |   |  | <input checked="" type="checkbox"/> Change in dominant species present |  |  |   | <input type="checkbox"/> Other                              | <input type="checkbox"/> Presence of bed and bank |  |  |  | <input type="checkbox"/> Drift and/or debris                            |   |  |  | <input type="checkbox"/> Other: _____ |   |  |  | <input type="checkbox"/> Other: _____ |  |   |              |  |  |  |   |              |  |  |
| <input checked="" type="checkbox"/> Change in average sediment texture | <input type="checkbox"/> Tree   | <input type="checkbox"/> Shrub   | <input type="checkbox"/> Herb                               |   |  |  |  |  |  |  |  |   |  |  |  |  |   |   |   |  |  |  |   |   |  |  |                                       |   |  |  |                                       |  |   |              |  |  |  |   |              |  |  |
| <input type="checkbox"/> Change in total veg cover                     |   |  |   |   |  |  |  |  |  |  |  |   |  |  |  |  |   |   |   |  |  |  |   |   |  |  |                                       |   |  |  |                                       |  |   |              |  |  |  |   |              |  |  |
| <input type="checkbox"/> Change in overall vegetation maturity         |   |  |   |   |  |  |  |  |  |  |  |   |  |  |  |  |   |   |   |  |  |  |   |   |  |  |                                       |   |  |  |                                       |  |   |              |  |  |  |   |              |  |  |
| <input checked="" type="checkbox"/> Change in dominant species present |   |  |   |   |  |  |  |  |  |  |  |   |  |  |  |  |   |   |   |  |  |  |   |   |  |  |                                       |   |  |  |                                       |  |   |              |  |  |  |   |              |  |  |
| <input type="checkbox"/> Other   | <input type="checkbox"/> Presence of bed and bank   |  |   |   |  |  |  |  |  |  |  |   |  |  |  |  |   |   |   |  |  |  |   |   |  |  |                                       |   |  |  |                                       |  |   |              |  |  |  |   |              |  |  |
|  | <input type="checkbox"/> Drift and/or debris  |  |   |   |  |  |  |  |  |  |  |   |  |  |  |  |   |   |   |  |  |  |   |   |  |  |                                       |   |  |  |                                       |  |   |              |  |  |  |   |              |  |  |
|  | <input type="checkbox"/> Other: _____   |  |   |   |  |  |  |  |  |  |  |   |  |  |  |  |   |   |   |  |  |  |   |   |  |  |                                       |   |  |  |                                       |  |   |              |  |  |  |   |              |  |  |
|  | <input type="checkbox"/> Other: _____   |  |   |   |  |  |  |  |  |  |  |   |  |  |  |  |   |   |   |  |  |  |   |   |  |  |                                       |   |  |  |                                       |  |   |              |  |  |  |   |              |  |  |
| <input checked="" type="checkbox"/>                                    | <p><b>Walk the active floodplain/low terrace boundary both upstream and downstream of the cross-section to verify that the indicators used to identify the transition are consistently associated the transition in both directions.</b></p> <p><u>Consistency of indicators used to delineate the active floodplain/low terrace boundary:</u></p> <table> <tr> <td>Y <input checked="" type="checkbox"/> N <input type="checkbox"/></td> <td><input type="checkbox"/> Change in average sediment texture</td> <td><input type="checkbox"/> Tree</td> <td><input type="checkbox"/> Shrub</td> <td><input checked="" type="checkbox"/> Herb</td> </tr> <tr> <td>Y <input checked="" type="checkbox"/> N <input type="checkbox"/></td> <td><input type="checkbox"/> Change in total veg cover</td> <td></td> <td></td> <td></td> </tr> <tr> <td>Y <input type="checkbox"/> N <input type="checkbox"/></td> <td><input type="checkbox"/> Change in overall vegetation maturity</td> <td></td> <td></td> <td></td> </tr> <tr> <td>Y <input type="checkbox"/> N <input type="checkbox"/></td> <td><input type="checkbox"/> Change in dominant species present</td> <td></td> <td></td> <td></td> </tr> <tr> <td>Y <input checked="" type="checkbox"/> N <input type="checkbox"/></td> <td>Other: Y <input checked="" type="checkbox"/> N <input type="checkbox"/></td> <td><input type="checkbox"/> Presence of bed and bank</td> <td></td> <td></td> </tr> <tr> <td></td> <td>Y <input type="checkbox"/> N <input type="checkbox"/></td> <td><input type="checkbox"/> Drift and/or debris</td> <td></td> <td></td> </tr> <tr> <td></td> <td>Y <input type="checkbox"/> N <input type="checkbox"/></td> <td>Other: _____</td> <td></td> <td></td> </tr> <tr> <td></td> <td>Y <input type="checkbox"/> N <input type="checkbox"/></td> <td>Other: _____</td> <td></td> <td></td> </tr> </table> | Y <input checked="" type="checkbox"/> N <input type="checkbox"/>       | <input type="checkbox"/> Change in average sediment texture | <input type="checkbox"/> Tree                           | <input type="checkbox"/> Shrub                                   | <input checked="" type="checkbox"/> Herb           | Y <input checked="" type="checkbox"/> N <input type="checkbox"/> | <input type="checkbox"/> Change in total veg cover |  |  |  | Y <input type="checkbox"/> N <input type="checkbox"/> | <input type="checkbox"/> Change in overall vegetation maturity |  |  |  | Y <input type="checkbox"/> N <input type="checkbox"/> | <input type="checkbox"/> Change in dominant species present |   |  |  | Y <input checked="" type="checkbox"/> N <input type="checkbox"/> | Other: Y <input checked="" type="checkbox"/> N <input type="checkbox"/> | <input type="checkbox"/> Presence of bed and bank |  |  |                                       | Y <input type="checkbox"/> N <input type="checkbox"/> | <input type="checkbox"/> Drift and/or debris |  |                                       |  | Y <input type="checkbox"/> N <input type="checkbox"/> | Other: _____ |  |  |  | Y <input type="checkbox"/> N <input type="checkbox"/> | Other: _____ |  |  |
| Y <input checked="" type="checkbox"/> N <input type="checkbox"/>       | <input type="checkbox"/> Change in average sediment texture   | <input type="checkbox"/> Tree  | <input type="checkbox"/> Shrub                              | <input checked="" type="checkbox"/> Herb                |  |  |  |  |  |  |  |   |  |  |  |  |   |   |   |  |  |  |   |   |  |  |                                       |   |  |  |                                       |  |   |              |  |  |  |   |              |  |  |
| Y <input checked="" type="checkbox"/> N <input type="checkbox"/>       | <input type="checkbox"/> Change in total veg cover  |  |   |   |  |  |  |  |  |  |  |   |  |  |  |  |   |   |   |  |  |  |   |   |  |  |                                       |   |  |  |                                       |  |   |              |  |  |  |   |              |  |  |
| Y <input type="checkbox"/> N <input type="checkbox"/>                  | <input type="checkbox"/> Change in overall vegetation maturity  |  |   |   |  |  |  |  |  |  |  |   |  |  |  |  |   |   |   |  |  |  |   |   |  |  |                                       |   |  |  |                                       |  |   |              |  |  |  |   |              |  |  |
| Y <input type="checkbox"/> N <input type="checkbox"/>                  | <input type="checkbox"/> Change in dominant species present   |  |   |   |  |  |  |  |  |  |  |   |  |  |  |  |   |   |   |  |  |  |   |   |  |  |                                       |   |  |  |                                       |  |   |              |  |  |  |   |              |  |  |
| Y <input checked="" type="checkbox"/> N <input type="checkbox"/>       | Other: Y <input checked="" type="checkbox"/> N <input type="checkbox"/>   | <input type="checkbox"/> Presence of bed and bank                      |   |   |  |  |  |  |  |  |  |   |  |  |  |  |   |   |   |  |  |  |   |   |  |  |                                       |   |  |  |                                       |  |   |              |  |  |  |   |              |  |  |
|  | Y <input type="checkbox"/> N <input type="checkbox"/>   | <input type="checkbox"/> Drift and/or debris                           |   |   |  |  |  |  |  |  |  |   |  |  |  |  |   |   |   |  |  |  |   |   |  |  |                                       |   |  |  |                                       |  |   |              |  |  |  |   |              |  |  |
|  | Y <input type="checkbox"/> N <input type="checkbox"/>   | Other: _____   |   |   |  |  |  |  |  |  |  |   |  |  |  |  |   |   |   |  |  |  |   |   |  |  |                                       |   |  |  |                                       |  |   |              |  |  |  |   |              |  |  |
|  | Y <input type="checkbox"/> N <input type="checkbox"/>   | Other: _____   |   |   |  |  |  |  |  |  |  |   |  |  |  |  |   |   |   |  |  |  |   |   |  |  |                                       |   |  |  |                                       |  |   |              |  |  |  |   |              |  |  |
| <input type="checkbox"/>   | <p><b>If the characteristics used to delineate the active floodplain/low terrace boundary were NOT consistently associated with the transition in both the upstream and downstream directions, repeat all steps above.</b> <i>N/A</i></p>   |  |   |   |  |  |  |  |  |  |  |   |  |  |  |  |   |   |   |  |  |  |   |   |  |  |                                       |   |  |  |                                       |  |   |              |  |  |  |   |              |  |  |
| <input type="checkbox"/>   | <p><b>Continue walking the channel cross-section. Record characteristics of the low terrace.</b> <i>N/A</i></p> <p><u>Characteristics of the low terrace:</u></p> <p>Average sediment texture: _____</p> <p>Total veg cover: _____ % Tree: _____ % Shrub: _____ % Herb: _____ %</p> <p><u>Community successional stage:</u></p> <table> <tr> <td><input type="checkbox"/> NA</td> <td><input type="checkbox"/> Mid (herbaceous, shrubs, saplings)</td> </tr> <tr> <td><input type="checkbox"/> Early (herbaceous &amp; seedlings)</td> <td><input type="checkbox"/> Late (herbaceous, shrubs, mature trees)</td> </tr> </table> <p><u>Dominant species present:</u> _____</p> <p>Other: <input type="checkbox"/> _____</p> <p><input type="checkbox"/> _____</p> <p><input type="checkbox"/> _____</p> <p><input type="checkbox"/> _____</p>  | <input type="checkbox"/> NA  | <input type="checkbox"/> Mid (herbaceous, shrubs, saplings) | <input type="checkbox"/> Early (herbaceous & seedlings) | <input type="checkbox"/> Late (herbaceous, shrubs, mature trees) |  |  |  |  |  |  |   |  |  |  |  |   |   |   |  |  |  |   |   |  |  |                                       |   |  |  |                                       |  |   |              |  |  |  |   |              |  |  |
| <input type="checkbox"/> NA  | <input type="checkbox"/> Mid (herbaceous, shrubs, saplings)   |  |   |   |  |  |  |  |  |  |  |   |  |  |  |  |   |   |   |  |  |  |   |   |  |  |                                       |   |  |  |                                       |  |   |              |  |  |  |   |              |  |  |
| <input type="checkbox"/> Early (herbaceous & seedlings)                | <input type="checkbox"/> Late (herbaceous, shrubs, mature trees)  |  |   |   |  |  |  |  |  |  |  |   |  |  |  |  |   |   |   |  |  |  |   |   |  |  |                                       |   |  |  |                                       |  |   |              |  |  |  |   |              |  |  |
| <input checked="" type="checkbox"/>                                    | <p><b>If characteristics used to delineate the active floodplain/low terrace boundary were deemed reliable, acquire boundary.</b></p> <p><u>Active floodplain/low terrace boundary acquired via:</u></p> <table> <tr> <td><input checked="" type="checkbox"/> Mapping on aerial photograph</td> <td><input checked="" type="checkbox"/> GPS</td> </tr> <tr> <td><input type="checkbox"/> Digitized on computer</td> <td><input type="checkbox"/> Other: _____</td> </tr> </table>   | <input checked="" type="checkbox"/> Mapping on aerial photograph       | <input checked="" type="checkbox"/> GPS                     | <input type="checkbox"/> Digitized on computer          | <input type="checkbox"/> Other: _____                            |  |  |  |  |  |  |   |  |  |  |  |   |   |   |  |  |  |   |   |  |  |                                       |   |  |  |                                       |  |   |              |  |  |  |   |              |  |  |
| <input checked="" type="checkbox"/> Mapping on aerial photograph       | <input checked="" type="checkbox"/> GPS   |  |   |   |  |  |  |  |  |  |  |   |  |  |  |  |   |   |   |  |  |  |   |   |  |  |                                       |   |  |  |                                       |  |   |              |  |  |  |   |              |  |  |
| <input type="checkbox"/> Digitized on computer                         | <input type="checkbox"/> Other: _____   |  |   |   |  |  |  |  |  |  |  |   |  |  |  |  |   |   |   |  |  |  |   |   |  |  |                                       |   |  |  |                                       |  |   |              |  |  |  |   |              |  |  |