

March 19, 2018

City of Irvine

Department of Transportation
Attn: Melissa Dugan
1 Civic Center Plaza
Irvine, California 92606

**SUBJECT: Jeffrey Road/Irvine Center Drive Intersection Improvements Project –
Biological and Jurisdictional Resources Assessment, Orange County,
California**

Dear Ms. Dugan:

On behalf of the City of Irvine (City), Michael Baker International (Michael Baker) has prepared this letter report to document the results of a biological resources survey and jurisdictional delineation for the approximately 27-acre project site located at (including approaches to) the intersection at Jeffrey Road and Irvine Center Drive, approximately 0.5 mile west of the Interstate 5 and approximately 1 mile north of Interstate 805, within the City of Irvine, Orange County, California (refer to Figure 1 – *Regional Vicinity*, Figure 2 – *Site Vicinity*, and Figure 3 – *Project Site*). All figures and attachments are located at the end of this report. This report also provides an Orange County Natural Community Conservation Plan/Habitat Conservation Plan (Orange County NCCP/HCP) Consistency Analysis.

In summary, impacts to biological and jurisdictional resources as a result of the proposed project would be less than significant with implementation of the recommended mitigation measures described in the Conclusions and Recommendations section, below.

PROJECT DESCRIPTION

Due to the intersection at Jeffrey Road and Irvine Center Drive experiencing congestion (particularly during peak hours), and with traffic volumes forecast to increase as development in the project area occurs into the future, the City is proposing to make improvements. These improvements would provide traffic capacity enhancement, accomplished through widening of the intersection to include additional turn/through lanes, in addition to new bicycle lanes to improve mobility and safety through the project site.

METHODS

Prior to the site visit, Michael Baker conducted a records search of the California Department of Fish and Wildlife (CDFW) California Natural Diversity Database (CNDDDB) RareFind 5 and the California Native Plant Society (CNPS) Online Inventory of Rare and Endangered Plants within the U.S. Geologic Survey (USGS) *Tustin and El Toro, California* 7.5-minute topographic quadrangle maps. Other sources included the U.S. Fish and Wildlife Service (USFWS) Information for Planning and Conservation (IPaC) online system and Environmental Conservation Online System (ECOS) Critical Habitat online mapper, U.S. Department of Agriculture/Natural Resources Conservation Service (USDA/NRCS) Web Soil Survey, Federal Emergency

Management Agency (FEMA) 100-Year Flood Zones, USFWS National Wetlands Inventory (NWI) maps online, U.S. Climate Data, topographic maps, historic and current aerial photography, and hydrology and watershed data.

On February 28, 2018, between the hours of 8:30 a.m. and 2:30 p.m., Michael Baker biologists Dan Rosie and Stephen Anderson conducted a biological resources survey and jurisdictional delineation within the project site. Weather conditions consisted of partly cloudy skies, a temperature ranging between approximately 55 and 65 degrees Fahrenheit, and winds between approximately 1 and 5 miles per hour. The survey was conducted by traversing the project site on foot (and using binoculars for areas inaccessible) documenting all plant and wildlife species observed (Attachment A – *Plant and Wildlife Species Observed List*), mapping vegetation communities (Figure 4 – *Vegetation Communities and Land Uses*), photographing existing site conditions (Attachment B – *Site Photographs*), and evaluating the site's potential to support special-status plant and wildlife species known to occur in the area.

In addition, the U.S. Army Corps of Engineers (Corps) ordinary high water mark (OHWM) and adjacent wetlands (if present), the outer limits of streambed/banks and associated riparian vegetation subject to CDFW jurisdiction, and the Regional Water Quality Control Board (Regional Board) limits of waters of the State where features are isolated (if any) were mapped using the ESRI ArcGIS Collector application on an Apple iPad connected via Bluetooth to an iSX Blue II+ GNSS Global Positioning System (GPS) unit with sub-meter accuracy (Figure 5 – *Jurisdictional Resources*).

RESULTS

The following is a discussion of existing biological and jurisdictional features within the survey area, and its potential to support State-listed and/or Federally-listed as rare, threatened, or endangered species, and other special-status plants, animals, and natural communities.

Biological Resources

The project site consists of a nearly entirely urban setting, with the development Jeffrey Road and Irvine Center Drive, including their medians and associated sidewalks/ornamental landscaping tied into the surrounding commercial and residential developments, primarily north of Jeffrey Road. South of and parallel to Jeffrey Road is a Southern California Edison (SCE) overhead electric transmission corridor, inclusive of agricultural land use easements primarily consisting of active row crops, fallow/disked fields, a small orchard, and the Manassero Farms roadside produce market. The project site is surrounded by the Oak Creek Golf Club to the east, Irvine Valley College to the south, a small strip mall immediately to the north, and residential developments further to the north and west of the intersection. The project site is generally flat, with surface elevations ranging from approximately 115 feet above mean sea level (amsl) at the north end of the Irvine Center Drive footprint up to approximately 145 feet amsl at its southern end.

Vegetation Communities and Land Uses

The CNDDDB revealed that five (5) special-status vegetation communities have been recorded within the vicinity of the project site. However, none of these communities were observed on-site. The project site includes six (6) relatively distinct vegetation communities and land uses. The

following is a description of each vegetation community/land use observed and mapped within the project site (refer to Figure 4).

Disturbed Emergent Freshwater Marsh

Disturbed emergent freshwater marsh is present within Drainage A (described below) at elevations that are subject to wetland hydrology. Within the project site, dominant species include emerging native wetland species such as broadleaf cattail (*Typha latifolia*), salt marsh fleabane (*Pluchea odorata*), slender willow herb (*Epilobium ciliatum*), and tall flatsedge (*Cyperus eragrostis*), with non-natives including bristly ox-tongue (*Helminthotheca echioides*), Spanish false fleabane (*Pulicaria paludosa*), smilo grass (*Stipa miliacea*), and short-pod mustard (*Hirschfeldia incana*) along the fringes.

Disturbed Habitat

Disturbed habitat are areas that are frequently and repeatedly disturbed, and thereby consist of compacted soils or otherwise dominated by opportunistic, primarily nonnative species that often limit the reestablishment of native vegetation. Dominants on-site, albeit often widely scattered amongst otherwise bare ground, include, but are not limited to, non-native annuals such as filaree (*Erodium* spp.), short-pod mustard, London rocket (*Sisymbrium irio*), sow-thistle (*Sonchus* spp.), dwarf nettle (*Urtica urens*), bindweed (*Convolvulus arvensis*), pigweed (*Amaranthus albus*), burclover (*Medicago polymorpha*), foxtail barley (*Hordeum murinum*), prostrate knotweed (*Polygonum aviculare*), cheeseweed (*Malva parviflora*), Russian thistle (*Salsola tragus*), and prickly lettuce (*Lactuca serriola*).

Bare Ground

Areas mapped as bare ground include the unpaved eastbound shoulder of Jeffrey Road and access roads associated with agricultural uses that have been and continue to be subject to vegetation clearing and soil compaction from vehicles/equipment, which typically precludes the re-establishment of vegetation.

Ornamental

Ornamental vegetation was mapped primarily along the north side (westbound shoulder) of the Jeffrey Road right-of-way (ROW), and within and surrounding Irvine Center Drive ROW, including their vegetated medians. Ornamental vegetation within the project site includes lawns, groundcover, shrubs, and trees, including those known to naturalize such as Peruvian pepper (*Schinus molle*) and blue gum (*Eucalyptus globulus*).

Agricultural Land

Agricultural land within project site is prevalent within the SCE transmission corridor south of and parallel to Jeffrey Road, primarily consisting of row crops (with some active, and others fallow, but disked) and a small citrus orchard.

Developed

Developed lands within the project site consist of Jeffrey Road and Irvine Center Drive, sidewalks and driveways within their ROW, the Manassero Farms produce market, a gravel parking lot, and various concrete-lined, upland v-ditches south of Jeffrey Road.

Table 1 below provides the acreages of each vegetation community and land use mapped within the project site.

Table 1. Vegetation Communities and Land Uses (acres)

Vegetation Community	Total*
Disturbed Emergent Freshwater Marsh	0.02
Disturbed Habitat	0.93
Bare Ground	1.18
Ornamental	5.67
Agricultural Land	3.88
Developed	15.11
TOTAL*	26.79

* Totals may not equal to sum due to rounding.

Soils

Soil textures observed on-site were generally consistent with those mapped by the USDA/NRCS as San Emigdio fine sandy loam, 0 to 2 percent slopes (Map Unit Symbol: 194) throughout most of the project site; Sorrento loam, 0 to 2 percent slopes, warm MAAT, MLRA 19 (206) to the west; and Sorrento clay loam, 0 to 2 percent slopes, warm MAAT, MLRA 19 (208) to the north and east.

Special-Status Plant Species

A total of forty (40) plant species were identified during the site visit (refer to Attachment A). Based on the records search, a total of twenty-eight (28) special-status plant species have been recorded within the vicinity of the project by the CNDDDB, CNPS, and USFWS. All of these species either have a low potential or are not expected to occur on-site due to a lack of suitable habitat or the project site is outside of their known elevation range. No special-status plant species were observed during the survey, and none are expected to be affected by the project. Therefore, impacts to special-status plant species would be less than significant.

Special-Status Wildlife Species

A total of twelve (12) wildlife species (all avian) were detected during the site visit, including, but not limited to, those common to developed, agricultural, and disturbed areas such as red-tailed hawk (*Buteo jamaicensis*), American crow (*Corvus brachyrhynchos*), house finch (*Haemorrhous mexicanus*), black phoebe (*Sayornis nigricans*), lesser goldfinch (*Spinus psaltria*), and European starling (*Sturnus vulgaris*). See Attachment A for a complete list of wildlife species observed during the survey. No special-status wildlife species were observed on-site. Based on the records search, a total of forty-one (41) special-status wildlife species have been recorded within the vicinity of the project by the CNDDDB and USFWS. Several of these species have a low potential or are not expected to occur on-site due to a lack of suitable habitat. There is a moderate potential for California horned lark (*Eremophila alpestris actia*), a species on the State Watch List (WL), to forage and potentially nest within the fallow fields at the project site. With mitigation measures implemented (see Conclusions and Recommendations section below), impacts to horned lark would be less than significant.

State- and Federally-Listed Species

Of the sixty-two (62) special-status species known to occur within the vicinity of the survey area, four (4) plant species and twelve (12) wildlife species are listed or are a candidate for listing under the Federal Endangered Species Act and/or the California Endangered Species Act, thereby warranting their protection from take. However, none of these species are expected to occur on-site due to a lack of suitable habitat. Therefore, no impacts to State- or Federally-listed species are expected as a result of the project. Refer to Attachment C – *Special-Status Species Table*.

Critical Habitat

The project site is not located within any USFWS-designated Critical Habitat. The nearest Critical Habitat is located approximately 2 miles to the southwest and nearly 4 miles to the east, designated for coastal California gnatcatcher (*Poliioptila californica californica*). No impacts to Critical Habitat are expected as a result of the project.

Nesting Birds and Wildlife Movement

The project site contains habitat suitable to support a variety of nesting bird species, including ornamental trees and shrubs, fallow agricultural fields, SCE lattice towers and poles, and the bare ground and disturbed areas. The SCE transmission corridor provides limited wildlife movement opportunities being surrounded by development and includes active agricultural uses. With implemented of the mitigation measures recommended below in the Conclusions and Recommendations section, impacts to nesting birds would be less than significant.

Orange County NCCP/HCP

The project site is located within the Coastal Subregion of the Orange County NCCP/HCP. However, the project site is not located within the Reserve System or identified special linkage areas. The nearest designated portion of the NCCP/HCP Reserve System is located approximately 1 mile southeast of the project site at the Quail Hill Preserve and is separated by existing development. Implementation of the proposed project will not affect any coastal sage scrub plant community or other covered NCCP/HCP habitats and is not expected to directly affect any of the thirty-nine (39) NCCP/HCP “Target and Identified” Species. As a result, implementation of the proposed project will be consistent with the rules and regulations of the Orange County NCCP/HCP.

Jurisdictional Resources

The project site consists of a relatively flat, primarily urban setting, with a slight gradient (approximately 1 percent) decreasing generally from east to west. Flows from the project site are conveyed to San Diego Creek via the storm system, Newport Bay, and ultimately the Pacific Ocean. No wetlands have been mapped within the project site by the USFWS National Wetlands Inventory (NWI).

Watershed

The project site is located within the Newport Bay Watershed. Specifically, it is located within the Santa Ana River Hydrologic Unit (HU 801; Hydrologic Unit Code 18070204), Lower Santa Ana River Hydrologic Area (HA 801.1), and East Coastal Plain Hydrologic Subarea (HSA 801.11) of the Water Quality Control Plan for the Santa Ana River Basin (Region 8). The average annual precipitation within Irvine is over 14 inches. FEMA National Flood Hazard Layer maps indicate

that the entire project site is within an Area of Minimal Flood Hazard (Zone X).

Drainage A

The project site includes one jurisdictional feature, Drainage A, located in the southwestern portion of the project site, south of Jeffrey Road. The earthen drainage is intermittent, conveying surface flows via urban runoff from the development to the south (Irvine Valley College) through 36-inch concrete culvert off-site. On-site, flows are conveyed approximately 163 linear feet (which doglegs midway) to a 42-inch vertical culvert adjacent to Jeffrey Road (refer to Figure 5). Streambed and banks subject to CDFW jurisdiction varies between approximately 10 and 20 feet wide. No riparian vegetation was observed within the project site. The OHWM subject to Corps jurisdiction averages approximately 5 feet wide. Two (2) Sampling Points (SP1 and SP2) were examined to determine the presence of wetlands. Refer to Attachment D – *Wetland Determination Data Forms*.

SP1 included a soil pit with an approximately 5-foot radius plot size (remaining within the OHWM). Soil color and texture were not examined due to obvious Hydrogen Sulfide odor, thereby meeting the Hydric Soil Indicator, A4. Wetland hydrology was evident having Surface Water (Wetland Hydrology Indicator: A1), High Water Table (A2), Saturation (A3), and Hydrogen Sulfide Odor (C1) present, thereby meeting the hydrology criterion. Vegetation, in order of dominance, included smilo grass (Hydrophytic Indicator Status: Upland – UPL, 30 percent cover), slender willow herb (Facultative Wetland – FACW, 25 percent cover), short-pod mustard (UPL, 15 percent cover), broadleaf cattail (Obligate – OBL, 7 percent cover), salt marsh fleabane (FACW, 5 percent cover), and tall flatsedge (FACW, 3 percent cover). The vegetation sampled did not meet the dominance or prevalence tests. Therefore, SP1 did not meet the three-parameter criteria for wetlands, rather is mapped as non-wetland waters of the U.S. (WoUS).

SP2 was examined downstream where wetland vegetation was more prevalent, and included a soil pit and approximately 5-foot radius plot size (remaining within the OHWM). Again, soil color and texture were not examined due to obvious Hydrogen Sulfide odor, thereby meeting the Hydric Soil Indicator, A4. Wetland hydrology was evident having a High Water Table (A2), Saturation (A3), and Hydrogen Sulfide Odor (C1) present, thereby meeting the hydrology criterion. Vegetation, in order of dominance, included tall flatsedge (FACW, 40 percent cover), slender willow herb (FACW, 40 percent cover), short-pod mustard (UPL, 5 percent cover), and Spanish false fleabane (Facultative – FAC, 5 percent cover). The vegetation sampled at this location did meet the dominance test. Therefore, SP2 met the criteria for wetland WoUS.

Areas within Drainage A and within the OHWM that had similar vegetation consistency with SP2 (i.e., areas with an obvious dominance or prevalence of hydrophytic vegetation) were mapped as wetland WoUS, whereas other portions of Drainage A within the OHWM were mapped as non-wetland (WoUS). Table 2 below provides the acreages for each regulatory agency.

Table 2: Jurisdictional Limits (acres)

Feature	Linear Feet	Corps/Regional Board		CDFW Streambed/Banks and Riparian Vegetation
		Wetland WoUS	Non-wetland WoUS	
Drainage A	163	0.01	0.01	0.06
TOTAL	163	0.02		0.06

Non-jurisdictional Features

Four (4) ephemeral, concrete drainage ditches are present within the project site, located adjacent to the south side (westbound shoulder) of Jeffrey Road, that do not reveal clear bed and banks or OHWMs, with surface waters terminating at culverts. Based on a review of current and historical aerial photographs and topographical maps, Michael Baker confirmed that these ditches are not relocated natural features or tributaries, excavated in a natural feature, or drain wetlands, but rather were built in uplands and convey hardscape runoff from surrounding developments and agricultural lands. Therefore, these features were mapped as non-jurisdictional.

Corps Special Area Management Plan

The project site is located within the San Diego Creek Watershed (Watershed) subject to the Special Area Management Plan (SAMP) developed by the Corps Los Angeles District Regulatory Division and CDFW South Coast Region Habitat Conservation Branch. The plan was established to integrate a watershed approach to addressing anticipated regulated activities and aquatic resource conservation needs. This coordinated process resulted in a watershed approach to issuing Federal Clean Water Act (CWA) Section 404 permits and California Fish and Game Code (CFG) Watershed Streambed Alteration Agreements (WSAA). The SAMP for the Watershed establishes alternative permitting processes, including a new Regional General Permit (RGP) 74, where the Corps issues Letters of Permissions (LOP) for low impact discharges.

Conclusions and Recommendations

In conclusion, impacts to biological resources as a result of the proposed project would be less than significant with implementation of the following recommended Mitigation Measures (MM).

With the implementation of MM BIO-1, impacts to nesting birds would be less than significant.

MM BIO-1 Proposed project activities should avoid the bird breeding season (typically January through July for raptors and February through August for other avian species), if feasible. If breeding season avoidance is not feasible, a qualified biologist shall conduct a pre-construction nesting bird survey to determine the presence/absence, location, and status of any active nests on or adjacent to the project site. The extent of the survey buffer area surrounding the site should be established by the qualified biologist to ensure that direct and indirect effects to nesting birds are avoided. To avoid the destruction of active nests and to protect the reproductive success of birds protected under the California Fish and Game Code, nesting bird surveys shall be performed twice per week during the three weeks prior to the scheduled project activities.

In the event that active nests are discovered, a suitable buffer (distance to be determined by the biologist or overriding agencies) shall be established around such active nests, and no construction within the buffer allowed until the biologist has determined that the nest(s) is no longer active (i.e., the nestlings have fledged and are no longer reliant on the nest).

Nesting bird surveys are typically not required for construction activities occurring September through December; however, hummingbirds (Family Trochilidae), for example, are known to nest year-round; therefore, a pre-construction nesting bird survey for activities outside of the breeding season shall be conducted within 24 hours of construction to ensure full compliance with the regulations.

With the implementation of MM BIO-2 and MM BIO-3, impacts to jurisdictional aquatic features would be less than significant.

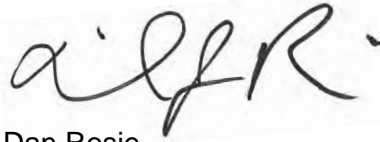
MM BIO-2 Prior to the commencement of construction, permits/authorization and the appropriate compensatory mitigation for impacts to jurisdictional aquatic features shall be procured and agreed upon by the regulatory agencies, respectively. Specifically, the following shall be obtained or satisfied:

- Corps CWA Section 404 Letter of Permission (LOP) for impacts associated with dredge and fill material to WoUS;
- Regional Board CWA Section 401 Water Quality Certification for impacts associated with dredge and fill material to WoUS; and
- CDFW CFGC Sections 1600 *et seq.* Watershed Streambed Alteration Agreement (WSAA) (or other approval in-lieu of a formal Agreement such as an Operation-by-Law letter or Letter of Non-Substantial Impact) for impacts/alteration to streambed/banks and associated riparian vegetation.

MM BIO-3 Following the completion of project activities, areas disturbed during construction shall be restored to pre-project conditions. Wetland restoration shall include re-contouring slopes to pre-project grade and the installation of freshwater marsh-specified hydroseed mix, cuttings, and/or container stock and container stock according to specifications, including maintenance, monitoring, and success criteria, detailed in an agency-approved Habitat Mitigation and Monitoring Plan (HMMP).

Please contact me at (949) 472-3407 or at dan.rosie@mbakerintl.com with any questions you may have regarding the results of this biological and jurisdictional resources assessment.

Sincerely,

A handwritten signature in black ink, appearing to read 'dan.rosie', with a stylized, cursive script.

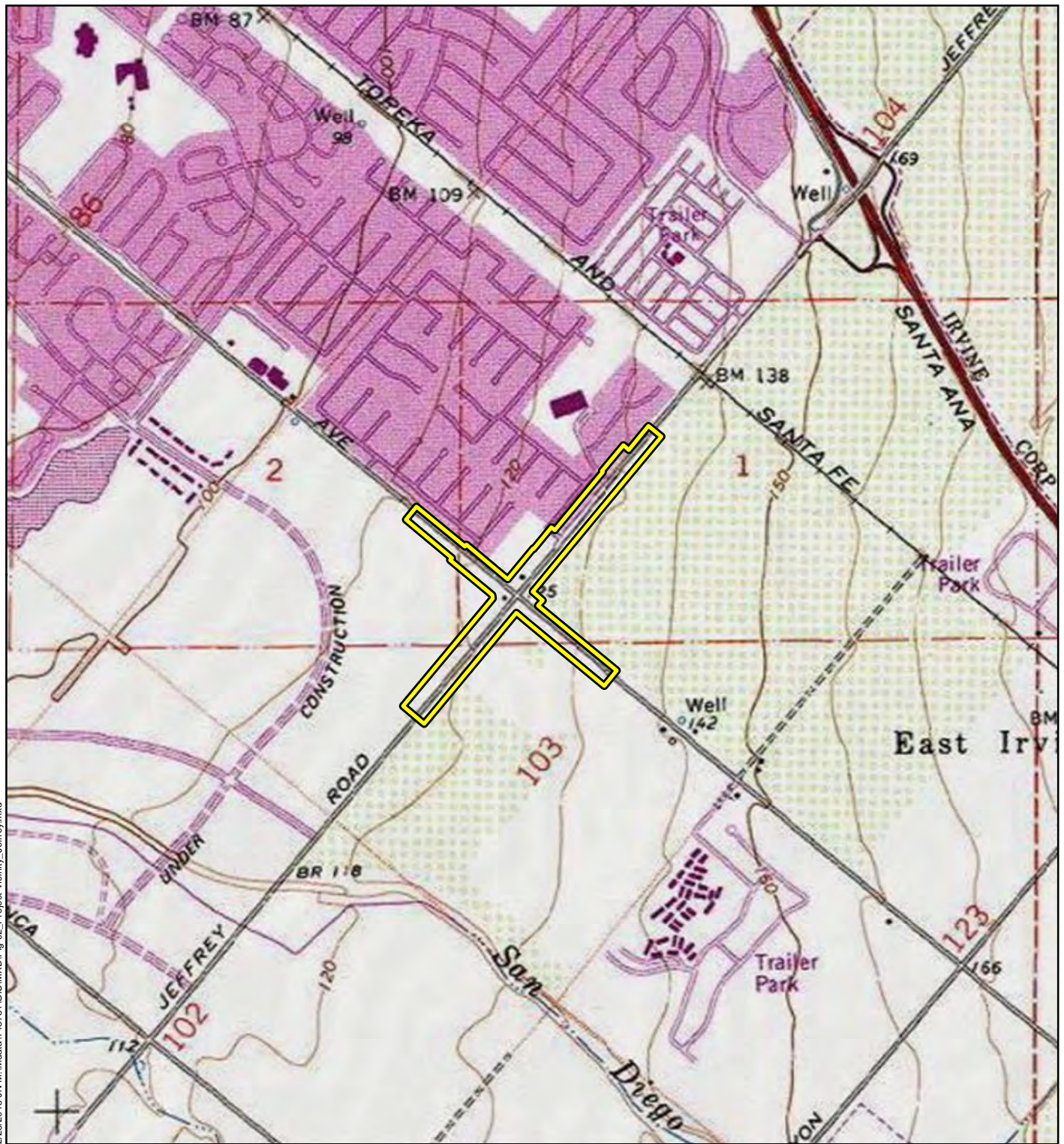
Dan Rosie
Ecologist
Natural Resources/Regulatory Permitting

- Figures:
1. Regional Vicinity
 2. Site Vicinity
 3. Project Site
 4. Vegetation Communities and Land Uses
 5. Jurisdictional Resources

- Attachments:
- A. Plant and Wildlife Species Observed List
 - B. Site Photographs
 - C. Special-Status Species Table
 - D. Wetland Determination Data Forms



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Legend



Project Site

USGS 7.5 Minute topographic quadrangle: *Tustin, California* (1981)

Source: ArcGIS Online

JEFFREY ROAD/IRVINE CENTER DRIVE INTERSECTION IMPROVEMENTS PROJECT
BIOLOGICAL AND JURISDICTIONAL RESOURCES ASSESSMENT

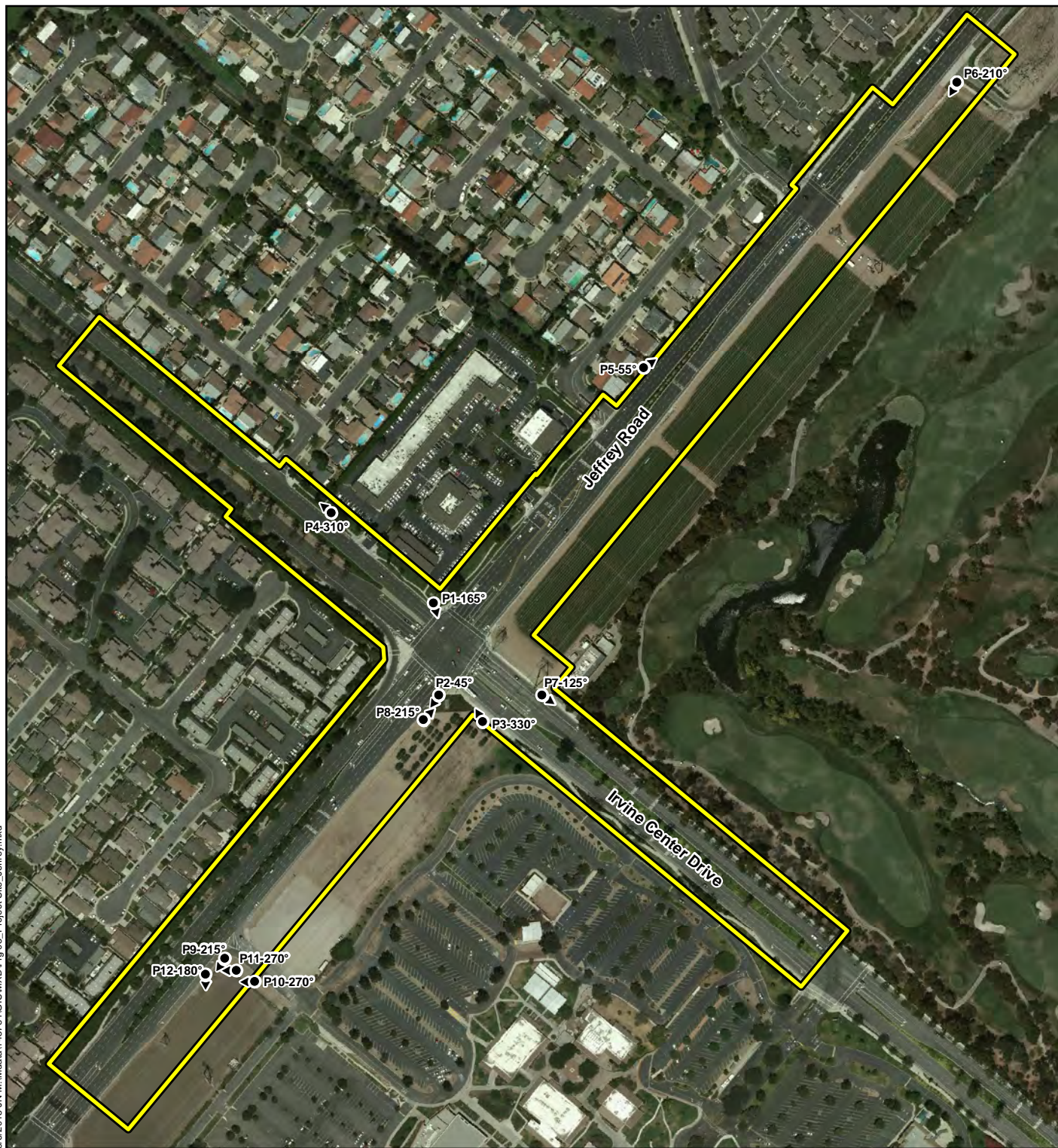


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Project Vicinity

Figure 2

3/6/2018 JN M:\Mdata\143781GIS\MXD\Fig 03. Project Site_Jeffrey.mxd



Legend



Project Site



Photo Location
and Direction

Source: Eagle Aerial - 2014





3/7/2018 JN M:\Mdata\161832GISMXD\Fig 04_Veg_Communities_Jeffrey.mxd

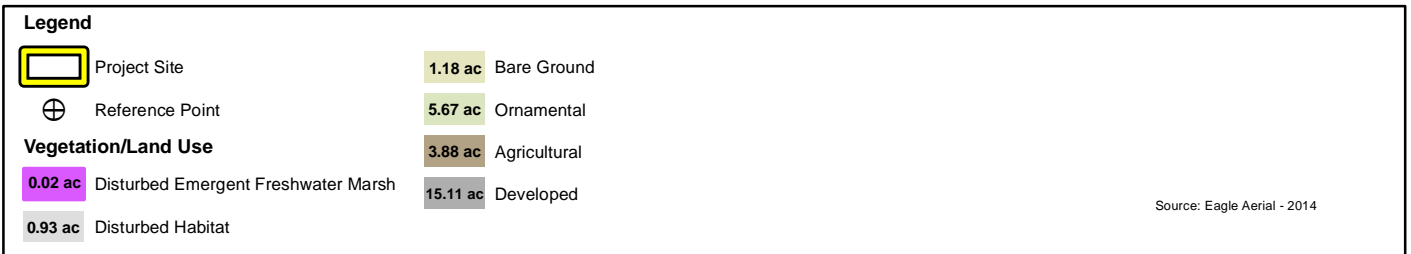
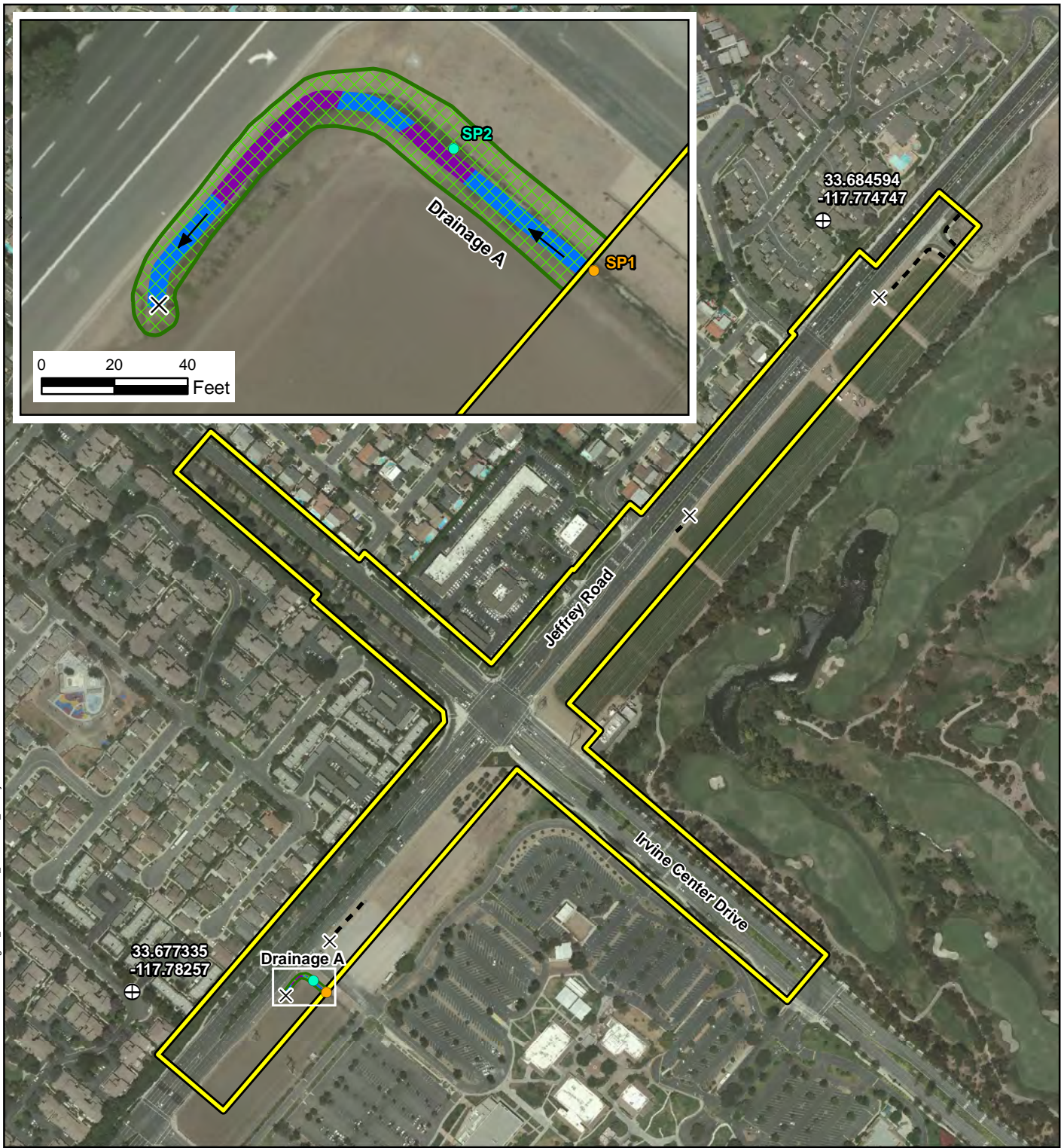


Figure 4

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Legend



Project Site

Jurisdictional Areas



0.01 ac Corps Wetland WoUS



0.01 ac Corps Non-Wetland WoUS (Intermittent)



0.06 ac CDFW Streambed and Banks



Reference Point



Non-Jurisdictional



Flow Direction



Upland Sampling Point



Wetland Sampling Point



Culvert

Source: Eagle Aerial - 2014



Attachment A: Plant and Wildlife Species Observed List

Scientific Name *	Common Name	Cal-IPC Rating**
Plants		
<i>Amaranthus albus</i> *	pigweed	
<i>Amsinckia intermedia</i>	common fiddleneck	
<i>Atriplex semibaccata</i> *	Australian saltbush	Moderate
<i>Bromus rubens</i> *	red brome	High
<i>Chenopodium murale</i> *	nettle leaf goosefoot	
<i>Convolvulus arvensis</i> *	bindweed	
<i>Cynodon dactylon</i> *	Bermuda grass	Moderate
<i>Cyperus eragrostis</i>	tall flatsedge	
<i>Encelia californica</i>	California encelia	
<i>Epilobium ciliatum</i>	slender willow herb	
<i>Erigeron bonariensis</i> *	flax-leaved horseweed	
<i>Erigeron canadensis</i>	Canada horseweed	
<i>Erodium cicutarium</i> *	redstem filaree	Limited
<i>Erodium moschatum</i> *	whitestem filaree	
<i>Eschscholzia californica</i>	California poppy	
<i>Helminthotheca echioides</i> *	bristly ox-tongue	Limited
<i>Hirschfeldia incana</i> *	short-pod mustard	
<i>Hordeum murinum</i> *	foxtail barley	
<i>Lactuca serriola</i> *	prickly lettuce	
<i>Malva parviflora</i> *	cheeseweed mallow	
<i>Medicago polymorpha</i> *	burclover	Limited
<i>Plantago major</i> *	common plantain	
<i>Pluchea odorata</i>	salt marsh fleabane	
<i>Polygonum aviculare</i> *	prostrate knotweed	
<i>Polypogon monspeliensis</i> *	rabbitsfoot grass	Limited
<i>Portulaca oleracea</i> *	common purslane	
<i>Pulicaria paludosa</i> *	Spanish false fleabane	
<i>Salsola tragus</i> *	Russian thistle	Limited
<i>Schinus molle</i> *	Peruvian pepper	Limited
<i>Senecio vulgaris</i> *	common groundsel	
<i>Sisymbrium irio</i> *	London rocket	Moderate
<i>Sonchus asper</i> *	prickly sow-thistle	
<i>Sonchus oleraceus</i> *	common sow-thistle	
<i>Stipa miliacea</i> *	smilo grass	
<i>Taraxacum officinale</i> *	common dandelion	
<i>Triticum aestivum</i> *	common wheat	
<i>Typha latifolia</i>	broadleaf cattail	

Scientific Name *	Common Name	Cal-IPC Rating**
<i>Urtica urens</i> *	dwarf nettle	
<i>Washingtonia robusta</i> *	Mexican fan palm	Moderate
Birds		
<i>Buteo jamaicensis</i>	red-tailed hawk	
<i>Corvus brachyrhynchos</i>	American Crow	
<i>Haemorhous mexicanus</i>	house finch	
<i>Picoides nuttallii</i>	Nuttall's woodpecker	
<i>Sayornis nigricans</i>	black phoebe	
<i>Sayornis saya</i>	Say's phoebe	
<i>Selasphorus sasin</i>	Allen's hummingbird	
<i>Sialia mexicana</i>	western bluebird	
<i>Spinus psaltria</i>	lesser goldfinch	
<i>Sturnus vulgaris</i>	European starling	
<i>Zenaida macroura</i>	mourning dove	
<i>Zonotrichia leucophrys</i>	white-crowned sparrow	

* Non-native species

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

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



Photo 1 – View of the intersection of Jeffrey Road and Irvine Center Drive, facing south.



Photo 2 – View of Jeffrey Road at Irvine Center Drive and the Southern California Edison (SCE) transmission corridor, facing northeast.



Photo 3 – View of Irvine Center Drive at Jeffrey Road, facing north.



Photo 4 – View of Irvine Center Drive, facing northwest from the intersection.



Photo 5 – View of Jeffrey Road, facing northeast from the intersection.



Photo 6 – View of the SCE transmission corridor/agricultural land (showing example roadside/agricultural ditch built in uplands) along Jeffrey Road, facing southwest towards the Smoketree intersection.



Photo 7 – View of Irvine Center Drive, facing southeast.



Photo 8 – View of Jeffrey Road and the SCE transmission corridor/
agricultural land, facing southwest from the Irvine Center Drive
intersection.



Photo 9 – View of Jeffrey Road, SCE transmission corridor/agricultural land, and the one jurisdictional feature on-site – Drainage A (wetlands in foreground), facing southwest.



Photo 10 – View of Drainage A and wetland sampling point (SP) 1, which did not qualify as wetlands, facing west.



Photo 11 – View of Drainage A at SP2 that qualifies as wetland WoUS, facing west.



Photo 12 – View of the vertical culvert that Drainage A conveys flows to, which enters the storm drain system and presumed connectivity to San Diego Creek, facing south.

Scientific Name Common Name	Status* Federal / State CRPR or G-Rank / S-Rank	Habitat Preferences and Distribution Affinities	Potential for Occurrence
PLANTS			
<i>Atriplex coulteri</i> Coulter's saltbush	-- / -- 1B.2	Perennial herb. Blooms March through October. Generally associated with alkaline or clay soils that occur in grasslands and coastal bluff habitats. Known elevations range from 30 to 1,440 feet above mean sea level (amsl).	Not Expected. Suitable habitat (alkaline soils) is marginally present within the project site. However, the nearest occurrence (CNPS) is over 4 miles to the west, and this perennial species was not observed during the survey.
<i>Atriplex pacifica</i> south coast saltscale	-- / -- 1B.2	Annual herb. Blooms March through October. Occurs on alkaline soils in coastal scrub, coastal bluff, and playas. Known elevations range from 3 to 1,640 feet amsl.	Not Expected. Suitable habitat (alkaline soils) is marginally present within the project site. However, the nearest occurrence (CNPS) from 1932 is over 6 miles to the west.
<i>Atriplex serenana</i> var. <i>davidsonii</i> Davidson's saltscale	-- / -- 1B.2	Annual herb. Blooms April through October. Occurs in coastal bluff scrub and coastal scrub on alkaline soils. Known elevations range from 30 to 660 feet amsl.	Low. Suitable habitat (alkaline soils) is marginally present within the project site. The nearest occurrence (CNPS) is over 3 miles to the west.
<i>Brodiaea filifolia</i> thread-leaved brodiaea	FT / SE 1B.1	Perennial herb (bulb). Blooms March through June. Typically occurs on clay-silt soils in vernal pools, coastal scrub, and valley and foothills grasslands. Known elevations range from 80 to 3,675 feet amsl.	Not Expected. Suitable habitat (clay-silt soils) is not present within the project site. Further, the nearest occurrence (CNPS) is over 5 miles to the west.
<i>Calochortus catalinae</i> Catalina mariposa lily	-- / -- 4.2	Perennial herb (bulb). Blooms March through June (sometimes as early as February). Found in heavy soils, open slopes, and openings in valley and foothill grassland, chaparral, coastal scrub, and cismontane woodland. Known elevations range from 45 to 4,725 feet amsl.	Not Expected. Suitable habitat (heavy soils, open slopes) is not present within the project site. Further, the nearest occurrence (CNPS) is over 5 miles to the south.

Scientific Name Common Name	Status* Federal / State CRPR or G-Rank / S-Rank	Habitat Preferences and Distribution Affinities	Potential for Occurrence
<i>Calochortus weedii</i> var. <i>intermedius</i> intermediate mariposa-lily	-- / -- 1B.2	Perennial herb (bulb). Blooms May through July. Found in chaparral, coastal sage scrub, and valley and foothill grasslands, as well as rocky outcrops. Known elevations range from 55 to 4,135 feet amsl.	Not Expected. Suitable habitat (scrub, grassland, and rocky outcrops) is not present within the project site. Further, the nearest occurrences (CNPS) are over 4 miles to the south and northeast.
<i>Camissoniopsis lewisii</i> Lewis' evening- primrose	-- / -- 3	Annual herb. Blooms March through June. Occurs on sandy or clay soils in valley and foothill grassland, coastal bluff scrub, cismontane woodland, coastal dunes, and coastal scrub. Known elevations range from 0 to 1,740 feet amsl.	Not Expected. Suitable habitat (sandy or clay soils) is not present within the project site. Further, the nearest occurrence (CNPS) is over 5 miles to the west.
<i>Centromadia parryi</i> ssp. <i>australis</i> southern tarplant	-- / -- 1B.1	Annual herb. Blooms March through October. Often found in disturbed sites near the coast at marsh edges; also in alkaline soils, sometimes with saltgrass. Sometimes in grasslands and on vernal pool margins. Known elevations range from 0 to 3,200 feet amsl.	Low. Suitable habitat (disturbed sites, alkaline soils) is marginally present within the project site. The nearest occurrences (CNPS) are 2 miles to the north and northeast.
<i>Convolvulus simulans</i> small-flowered morning-glory	-- / -- 4.2	Annual herb. Blooms March through July. Occurs on wet clay, serpentine ridges in chaparral, coastal scrub, and valley and foothill grassland. Known elevations range from 30 to 2,760 feet amsl.	Not Expected. Suitable habitat (wet clay, serpentine ridges) is not present within the project site. Further, the nearest occurrences (CNPS) are over 4 miles to the southwest and northeast.
<i>Deinandra paniculata</i> paniculate tarplant	-- / -- 4.2	Annual herb. Blooms March through November. Found on vernal mesic sites, sometimes vernal pools or surrounding mima mounds, in coastal scrub and valley and foothill grassland. Known elevations range from 55 to 4,070 feet amsl.	Not Expected. Suitable habitat (vernally mesic sites) is not present within the project site. Further, the nearest occurrence (CNPS) is over 4 miles to south.

Scientific Name Common Name	Status* Federal / State CRPR or G-Rank / S-Rank	Habitat Preferences and Distribution Affinities	Potential for Occurrence
<i>Dodecahema leptoceras</i> slender-horned spineflower	FE / SE 1B.1	Annual herb. Blooms April through June. Occurs on sandy soils of flood deposited terraces and washes in chaparral, cismontane woodland, coastal scrub, and alluvial fan sage scrub; associates include <i>Encelia</i> , <i>Dalea</i> , <i>Lepidospartum</i> , etc. Known elevations range from 656 to 2,690 feet amsl.	Not Expected. Suitable habitat (flood deposited terraces and washes) is not present within the project site. Further, the nearest occurrence (CNPS) is nearly 5 miles to east.
<i>Dudleya multicaulis</i> many-stemmed dudleya	-- / -- 1B.2	Perennial herb. Blooms April through July. Occurs on heavy, often clayey soils or grassy slopes in chaparral, coastal scrub, and valley and foothill grassland habitats. Known elevations range from 45 to 3,280 feet amsl.	Not Expected. Suitable habitat (clay soils) is not present within the project site. Further, the nearest occurrence (CNPS) is nearly 3 miles to the south and this perennial species was not observed during the survey.
<i>Dudleya stolonifera</i> Laguna Beach dudleya	FT / ST 1B.1	Perennial herb (stoloniferous). Blooms May through July. Found on thin soils of north-facing sandstone cliffs in chaparral, cismontane woodland, coastal scrub, and valley and foothill grassland. Known elevations range from 15 to 855 feet amsl.	Not Expected. Suitable habitat (sandstone cliffs) is not present within the project site. Further, the nearest occurrence (CNPS) is over 5 miles to the south.
<i>Helianthus nuttallii</i> <i>ssp. parishii</i> Los Angeles sunflower	-- / -- 1A	Perennial herb (rhizomatous). Blooms August through October. Occurs in marshes, swamps, and on damp river banks. Believed to be extirpated. Known elevations range from 15 to 5,495 feet amsl.	Not Expected. Suitable habitat (marshes) is marginally present within the project site. However, the nearest occurrence (CNDDB) is over 6 miles to the west and this perennial species was not observed during the survey.
<i>Hesperocyparis forbesii</i> Tecate cypress	-- / -- 1B.1	Perennial evergreen tree. Found on clay, gabbroic, or metavolcanic soils in closed-cone coniferous forest and chaparral. Known elevations range from 195 to 5,415 feet amsl.	Not Expected. Suitable habitat (clay, gabbro, or metavolcanic soils) is not present within the project site. Further, the project site is outside of the species known elevation range.

Scientific Name Common Name	Status* Federal / State CRPR or G-Rank / S-Rank	Habitat Preferences and Distribution Affinities	Potential for Occurrence
<i>Hordeum intercedens</i> vernal barley	-- / -- 3.2	Annual herb. Blooms March through June. Occurs in vernal pools, dry, saline streambeds, and alkaline flats of valley and foothill grassland, coastal dunes, and coastal scrub habitats. Known elevations range from 15 to 3,280 feet amsl.	Not Expected. Suitable habitat (vernal pools, dry, saline streambeds, and alkaline flats) is not present within the project site. The nearest occurrence (CNPS) is over 1 mile to the south.
<i>Lasthenia glabrata</i> ssp. <i>coulteri</i> Coulter's goldfields	-- / -- 1B.1	Annual herb. Blooms February through June. Usually found in alkaline soils in marshes, playas, vernal pools, and valley and foothill grasslands. Known elevations range from 3 to 4,595 feet amsl.	Not Expected. Suitable habitat (alkaline soils, marshes) is marginally present within the project site. However, the nearest occurrences (CNPS) are from 1934 and over 5 miles to the west.
<i>Lepidium virginicum</i> var. <i>robinsonii</i> Robinson's pepper-grass	-- / -- 4.3	Annual herb. Blooms January through July. Found on dry soils in chaparral and coastal sage scrub. Known elevations range from 0 to 4,400 feet amsl.	Low. Suitable habitat (dry soils) is marginally present within the project site. Further, the nearest occurrence (CNPS) is less than 2 miles to the west.
<i>Monardella hypoleuca</i> ssp. <i>intermedia</i> intermediate monardella	-- / -- 1B.3	Perennial herb. Blooms June through August. Often found on steep, brushy areas in lower montane coniferous forest, cismontane woodland, and chaparral. Known elevations range from 980 to 4,100 feet amsl.	Not Expected. Suitable habitat (coniferous forest, cismontane woodland, and chaparral) is not present within the project site. Further, the project site is outside of the species known elevation range.
<i>Nama stenocarpa</i> mud nama	-- / -- 2B.2	Annual herb. Blooms March through May. Grows on the muddy embankments of ponds and lakes. Also reported to utilize river embankments. Known elevations range from 15 to 1,640 feet amsl.	Not Expected. Suitable habitat (muddy embankments of ponds, lakes, and rivers) is not present within the project site. The nearest occurrence (CNPS) is over 4 miles to the southwest.

Scientific Name Common Name	Status* Federal / State CRPR or G-Rank / S-Rank	Habitat Preferences and Distribution Affinities	Potential for Occurrence
<i>Nasturtium gambelii</i> Gambel's water cress	FE / ST 1B.1	Perennial herb (rhizomatous). Blooms April through October. Found in freshwater and brackish marshes at the margins of lakes and along streams, in or just above the water level. Known elevations range from 15 to 2,560 feet amsl.	Not Expected. Suitable habitat (margins of streams) is marginally present within the project site. However, the nearest occurrence (CNPS) is from 1927 and over 6 miles to the northwest. Further, this perennial species was not observed during the survey.
<i>Nolina cismontana</i> chaparral nolina	-- / -- 1B.2	Shrub. Blooms May through July. Generally associated with sandstone or gabbro soils in chaparral and coastal scrub. Known elevations range from 425 to 4,185 feet amsl.	Not Expected. Suitable habitat (coniferous forest, cismontane woodland, and chaparral) is not present within the project site. Further, the project site is outside of the species known elevation range.
<i>Pentachaeta aurea</i> ssp. <i>allenii</i> Allen's pentachaeta	-- / -- 1B.1	Annual herb. Blooms March through June. Occurs in coastal scrub openings and valley and foothill grasslands. Known elevations range from 225 to 1,560 feet amsl.	Not Expected. Suitable habitat (coastal scrub openings and grasslands) is not present within the project site. Further, the project site is outside of the species known elevation range.
<i>Senecio aphanactis</i> chaparral ragwort	-- / -- 2B.2	Annual herb. Blooms January through April. Occurs in coastal sage scrub, cismontane woodland, and alkaline flats. Known elevations range from 45 to 2,625 feet amsl.	Not Expected. Suitable habitat (coastal sage scrub, cismontane woodland, and alkaline flats) is not present within the project site. The nearest occurrences (CNPS) are over 4 miles to the northeast and southwest.
<i>Sidalcea neomexicana</i> salt spring checkerbloom	-- / -- 2B.2	Perennial herb. Blooms March through June. Occurs in alkali springs, marshes, and playas in chaparral, coastal scrub, lower montane coniferous forest, and Mojavean desert scrub. Known elevations range from 0 to 7,810 feet amsl.	Low. Suitable habitat (marshes) is marginally present within the project site. Further, the nearest occurrence (CNPS) is from 1903 and over 3 miles to the north.

Scientific Name Common Name	Status* Federal / State CRPR or G-Rank / S-Rank	Habitat Preferences and Distribution Affinities	Potential for Occurrence
<i>Suaeda esteroa</i> estuary seablite	-- / -- 1B.2	Perennial herb. Blooms June through October (sometimes May through January). Found on clay, silt, and sand substrates in coastal salt marshes and swamps. Known elevations range from 0 to 395 feet amsl.	Not Expected. Suitable habitat (coastal salt marshes and swamps) is not present within the project site. The nearest occurrence (CNPS) is over 4 miles to the west.
<i>Symphyotrichum defoliatum</i> San Bernardino aster	-- / -- 1B.2	Perennial herb (rhizomatous). Blooms July through November. Grows in grasslands and disturbed areas in the San Gabriel and San Bernardino Mountains and Peninsular Range. Occurs in vernal wet sites including ditches, streams, and springs in many plant communities. Known elevations range from 5 to 6,695 feet in elevation amsl.	Not Expected. Suitable habitat (disturbed areas, ditches) is marginally present within the project site. However, the nearest occurrence (CNPS) is from 1927 and over 4 miles to the northwest.
<i>Verbesina dissita</i> big-leaved crownbeard	FT / ST 1B.1	Perennial herb. Blooms April through July (sometimes as early as March). Found on gravelly soils of steep, rocky, primarily north-facing slopes in coastal scrub and maritime chaparral less than 1.5 miles from the ocean. Known elevations range from 145 to 955 feet amsl.	Not Expected. Suitable habitat (gravelly, rocky slopes) is not present within the project site. The nearest occurrence (CNPS) is over 5 miles to the southwest.
INVERTEBRATES			
<i>Bombus crotchii</i> Crotch bumble bee	-- / -- G3G4 / S1S2	Found from coastal California east to the Sierra-Cascade crest and south into Mexico. Food plant genera include <i>Antirrhinum</i> , <i>Phacelia</i> , <i>Clarkia</i> , <i>Dendromecon</i> , <i>Eschscholzia</i> , and <i>Eriogonum</i> .	Not Expected. An individual host plant (<i>Eschscholzia</i>) is present within the project site. Further, the nearest CNDDDB occurrence (from 1942) is over 6 miles to the northwest.
<i>Streptocephalus woottoni</i> Riverside fairy shrimp	FE / -- G1G2 / S1S2	Endemic to western Riverside, Orange, and San Diego Counties in areas of tectonic swales/earth slump basins and vernal pools in grassland and coastal sage scrub habitats. Inhabits seasonally astatic pools filled by winter/spring rains. Hatches in warm water later in the season.	Not Expected. Suitable habitat (tectonic swales/earth slump basins and vernal pools) is not present within the project site. Further, the nearest CNDDDB occurrence is over 5 miles to the east.

Scientific Name Common Name	Status* Federal / State CRPR or G-Rank / S-Rank	Habitat Preferences and Distribution Affinities	Potential for Occurrence
<i>Tryonia imitator</i> mimic tryonia (California brackishwater snail)	-- / -- G2 / S2	Inhabits coastal lagoons, estuaries, salt marshes, and where creek mouths that join tidal marshes from Sonoma County south to San Diego County. Found only in permanently submerged areas in a variety of sediment types; able to withstand a wide range of salinities.	Not Expected. Suitable habitat (coastal lagoons, estuaries, salt/brackish marshes) is not present within the project site. Further, the nearest CNDDDB occurrence is over 6 miles to the west.
FISH			
<i>Rhinichthys osculus</i> ssp. 3 Santa Ana speckled dace	-- / SSC G5T1 / S1	Occurs in the headwaters of the Santa Ana and San Gabriel Rivers, usually in areas with shallow cobble and gravel riffles. Requires permanent water flow with summer water temperatures between 17 and 20 degrees Celsius, and clear, well oxygenated water with movement due to current or waves.	Not Expected. Suitable habitat (permanent water flow) is not present within the project site. Further, the nearest CNDDDB occurrence is over 8 miles to the east.
AMPHIBIANS			
<i>Anaxyrus californicus</i> arroyo toad	FE / SSC G2G3 / S2S3	Inhabits washes, arroyos, sandy riverbanks, and riparian areas with willows, sycamores, oaks, and cottonwoods. Has extremely specialized habitat needs, which include exposed sandy streambanks with stable terraces for burrowing with scattered vegetation for shelter, and areas of quiet water or pools free of predatory fishes with sandy or gravel bottoms without silt for breeding.	Not Expected. Suitable habitat (washes, arroyos, sandy riverbanks, and riparian areas) is not present within the project site. Further, the nearest CNDDDB occurrence (from 1974) is nearly 8 miles to the east.
<i>Spea hammondi</i> western spadefoot	-- / SSC G3 / S3	Prefers open areas with sandy or gravelly soils, in a variety of habitats including mixed woodlands, grasslands, coastal sage scrub, chaparral, sandy washed, lowlands, river floodplains, alluvial fans, playas, alkali flats, foothills, and mountains. Rain pools, which do not contain bullfrogs, fish, or crayfish are necessary for breeding.	Not Expected. Suitable habitat (rain pools, floodplains, etc.) is not present within the project site. Further, the nearest CNDDDB occurrence is over 4 miles to the east.

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REPTILES			
<i>Arizona elegans occidentalis</i> California glossy snake	-- / SSC G5T2 / S2	Generalist reported from a range of scrub and grassland habitats, often with loose or sandy soils. Patchily distributed from the eastern portion of San Francisco Bay, southern San Joaquin Valley, and the Coast, Transverse, and Peninsular ranges, south to Baja California.	Not Expected. Suitable habitat (scrub and grassland) is not present within the project site. Further, the nearest CNDDB occurrence (from 1952) is nearly 6 miles to the southeast.
<i>Aspidoscelis hyperythra</i> orange-throated whiptail	-- / WL G5 / S2S3	Inhabits low-elevation coastal scrub, chaparral, and cismontane woodlands. Prefers washes and other sandy areas with patches of brush and rocks. Often found on the edge of intact vegetation and disturbed areas. Perennial plants necessary for its primary food, termites.	Not Expected. Suitable habitat (coastal scrub, chaparral, and cismontane woodlands) is not present within the project site. Further, the nearest CNDDB occurrence is nearly 3 miles to the east.
<i>Aspidoscelis tigris stejnegeri</i> coastal whiptail	-- / SSC G5T5 / S3	Found in deserts and semiarid areas with sparse vegetation and open areas. Also found in woodland and riparian areas. Ground may be firm soil, sandy, or rocky.	Not Expected. Suitable habitat (sparse vegetation and open areas) is marginally present within the project site. However, the nearest CNDDB occurrence is nearly 5 miles to the east.
<i>Crotalus ruber</i> red-diamond rattlesnake	-- / SSC G4 / S3	Found in chaparral, woodland, grassland, and desert scrub habitats from coastal San Diego County to the eastern slopes of the mountains. Occurs in rocky areas and dense vegetation. Needs rodent burrows, and cracks in rocks or surface cover objects.	Not Expected. Suitable habitat (chaparral, woodland, grassland, and desert scrub) is not present within the project site. Further, the nearest CNDDB occurrence is over 3 miles to the south.
<i>Emys marmorata</i> western pond turtle	-- / SSC G3G4 / S3	A thoroughly aquatic turtle of ponds, marshes, rivers, streams, and irrigation ditches, usually found with aquatic vegetation. Needs basking sites and suitable (sandy banks or grassy open fields) upland habitat up to 0.5 kilometers from water for egg-laying. Found between 0 and 6,000 feet amsl in elevation.	Not Expected. Suitable habitat (irrigation ditches) is marginally present within the project site. However, the nearest CNDDB occurrence (from the 1980s) is over 2 miles to the southwest.

Scientific Name Common Name	Status* Federal / State CRPR or G-Rank / S-Rank	Habitat Preferences and Distribution Affinities	Potential for Occurrence
<i>Phrynosoma blainvillii</i> coast horned lizard	-- / SSC G3G4 / S3S4	Frequents a wide variety of habitats, including coastal sage scrub, annual grassland, chaparral, oak woodland, riparian woodland, and coniferous forest, along sandy washes with scattered low bushes. Prefers open areas for sunning, bushes for cover, patches of loose soil for burial, and an abundant supply of ants and other insects.	Not Expected. Suitable habitat (scrub, woodlands, sandy washes, and ants) is not present within the project site. Further, the nearest CNDDDB occurrence is nearly 5 miles to the east.
<i>Salvadora hexalepis virgulata</i> coast patch-nosed snake	-- / SSC G5T4 / S2S3	Found in brush or shrubby vegetation (coastal sage scrub) throughout coastal southern California, using small mammal burrows for refuge and overwintering sites.	Not Expected. Suitable habitat (coastal sage scrub) is not present within the project site. Further, the nearest CNDDDB occurrence is nearly 6 miles to the northeast.
<i>Thamnophis hammondi</i> two-striped gartersnake	-- / SSC G4 / S3S4	Highly aquatic, found in or near permanent fresh water of marshes, swamps, and riparian scrub and woodlands, often along streams with rocky beds and riparian growth, up to 7,000 feet amsl.	Not Expected. Suitable habitat (marshes) is marginally present within the project site. However, the nearest CNDDDB occurrence is 8 miles to the east.
BIRDS			
<i>Accipiter cooperii</i> (Nesting) Cooper's hawk	-- / WL G5 / S4	Generally found in forested areas up to 3,000 feet in elevation, especially near edges and rivers. Prefers hardwood stands and mature forests, but can be found in urban and suburban areas where there are tall trees for nesting. Common in open areas during nesting season.	Low. Suitable nesting habitat (tall trees) is not present within the project site; however, this species may forage in the area. The nearest CNDDDB occurrence is just over 1 mile to the south.
<i>Agelaius tricolor</i> (Nesting colony) tricolored blackbird	-- / SCE, SSC G2G3 / S1S2	Requires open water, protected nesting substrate, and foraging area with insect prey within a few kilometers of the colony. Highly colonial species, most numerous in Central Valley and vicinity. Largely endemic to California.	Not Expected. Suitable habitat (open water, protected nesting substrate) is not present within the project site. The nearest CNDDDB occurrence is 0.5 mile to the east.

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<i>Aimophila ruficeps canescens</i> southern California rufous-crowned sparrow	-- / WL G5T3 / S3	Frequents relatively steep, often rocky hillsides with grass and forb patches in coastal sage scrub and sparse mixed chaparral habitats.	Not Expected. Suitable habitat (rocky hillsides in scrub) is not present within the project site. Further, the nearest CNDDDB occurrence is nearly 3 miles to the south.
<i>Ammodramus savannarum</i> (Nesting) grasshopper sparrow	-- / SSC G5 / S3	Favors native grasslands with a mix of grasses, forbs, and scattered shrubs. Loosely colonial when nesting. Occurs in dense grasslands on rolling hills, lowland plains, in valleys, and on hillsides on lower mountain slopes.	Not Expected. Suitable habitat (grasslands) is not present within the project site. Further, the nearest CNDDDB occurrence is over 3 miles to the south.
<i>Athene cunicularia</i> (Burrow sites and some wintering sites) burrowing owl	-- / SSC G4 / S3	Primarily found in open, dry annual or perennial grasslands, deserts, and scrublands characterized by low-growing vegetation, but it persists and even thrives in some landscapes highly altered by human activity, such as earthen canals, berms, rock piles, and pipes. Subterranean nester, most often dependent upon burrowing mammals, most notably, the California ground squirrel (<i>Otospermophilus beecheyi</i>).	Low. Suitable habitat (open, dry landscapes, earthen canals) is marginally present within the project site. However, the nearest CNDDDB occurrence is over 2 miles to the east.
<i>Buteo regalis</i> (Wintering) ferruginous hawk	-- / WL G4 / S3S4	Primarily found in open grasslands, sagebrush flats, desert scrub, and low foothills and fringes of pinyon and juniper habitats, and agricultural and open fields. Feeds primarily on lagomorphs, ground squirrels, and mice. Population trends may follow lagomorph population cycles.	Low. Suitable habitat (agricultural and open fields) is marginally present within the project site, and this species may forage in the area. However, the nearest CNDDDB occurrence is over 4 miles to the east.
<i>Campylorhynchus brunneicapillus sandiegensis</i> (San Diego and Orange Counties only) coastal cactus wren	-- / SSC G5T3Q / S3	From southern Ventura County and southwestern San Bernardino County to northwestern Baja California, occupies coastal sage scrub largely consisting of tall stands of coastal prickly pear (<i>Opuntia littoralis</i>) or cholla (<i>Cylindropuntia</i> spp.) cacti for nesting and roosting.	Not Expected. Suitable habitat (coastal scrub with cacti stands) is not present within the project site. Further, the nearest CNDDDB occurrence is 2 miles to the south.

Scientific Name Common Name	Status* Federal / State CRPR or G-Rank / S-Rank	Habitat Preferences and Distribution Affinities	Potential for Occurrence
<i>Charadrius alexandrinus nivosus</i> (Nesting) western snowy plover	FT / SSC G3T3 / S2S3	Occurs on sandy beaches, salt pond levees, and shores of large alkali lakes. Needs sandy, gravelly, or friable soils for nesting.	Not Expected. Suitable habitat (beaches, levees, and shores) is not present within the project site. Further, the nearest CNDDDB occurrence is over 11 miles to the west.
<i>Coccyzus americanus occidentalis</i> (Nesting) western yellow-billed cuckoo	FT / SE G5T2T3 / S1	Obligate willow-cottonwood riparian forest nester, along the broad, lower flood-bottoms of larger river systems. Nests in riparian jungles of willow, often mixed with cottonwoods (<i>Populus</i> spp.), with the lower story dominated by blackberry (<i>Rubus</i> spp.), nettles (<i>Urtica</i> spp.), and/or wild grape (<i>Vitis</i> spp.).	Not Expected. Suitable habitat (riparian forests) is not present within the project site. Further, the nearest CNDDDB occurrence is over 6 miles to the northwest.
<i>Coturnicops noveboracensis</i> yellow rail	-- / SSC G4 / S1S2	Occurs in freshwater marshlands. Summer resident in eastern Sierra Nevada in Mono County.	Not Expected. Suitable habitat (freshwater marshlands) is marginally present within the project site. However, the nearest CNDDDB occurrence (from 1896) is over 8 miles to the southwest.
<i>Elanus leucurus</i> (Nesting) white-tailed kite	-- / FP G5 / S3S4	Often found in rolling foothills and valley margins with scattered oaks, riparian bottomlands, or marshes next to deciduous woodland. Prefers isolated, dense-topped trees for nesting and perching near open valley and foothill grasslands, meadows, or marshes for foraging.	Low. Suitable habitat (marshes next to deciduous woodland) is not present within the project site; however, this species may forage in the area. The nearest CNDDDB occurrence is 1.5 miles to the southwest.
<i>Empidonax traillii extimus</i> (Nesting) southwestern willow flycatcher	FE / SE G5T2 / S1	Occurs in broad riparian woodlands in southern California. Typically requires large areas of willow thickets in broad valleys and canyon bottoms, or around ponds and lakes. These areas typically have standing or running water, or are at least moist.	Not Expected. Suitable habitat (broad riparian woodlands) is not present within the project site. Further, the nearest CNDDDB occurrences are over 13 miles from the project site.

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<i>Eremophila alpestris actia</i> California horned lark	-- / WL G5T4Q / S4	Found in short-grass prairie, "bald" hills, mountain meadows, open coastal plains, fallow grain fields, and alkali flats. Known from coastal regions, chiefly from Sonoma County to San Diego County, including main part of San Joaquin Valley and east to the foothills.	Moderate. Suitable habitat (fallow fields) is marginally present within the project site. The nearest CNDDDB occurrence is just over 2 miles to the southeast.
<i>Icteria virens</i> (Nesting) yellow-breasted chat	-- / SSC G5 / S3	Summer resident that inhabits riparian thickets of willow and other brushy tangles near watercourses. Nests in low, dense riparian, consisting of willow, blackberry, and wild grape. Breeding habitat must be dense to provide shade and concealment. Forages and nests within 10 feet of ground.	Low. Suitable habitat (riparian thickets) is not present within the project site. However, this species was heard 0.25 mile to the southwest in 2015 by Michael Baker biologists.
<i>Laterallus jamaicensis coturniculus</i> California black rail	-- / ST, FP G3G4T1 / S1	Inhabits freshwater marshes, wet meadows, and shallow margins of saltwater marshes bordering larger bays. Needs water depths of approximately 1 inch that do not fluctuate during the year, and dense upland buffer and marsh vegetation for nesting habitat.	Not Expected. Suitable habitat (marshes) is marginally present within the project site. However, the nearest CNDDDB occurrence (from 1983) is over 6 miles to the west.
<i>Passerculus sandwichensis beldingi</i> Belding's savannah sparrow	-- / SE G5T3 / S3	Inhabits coastal salt marshes, from Santa Barbara south through San Diego County. Nests in pickleweed (<i>Salicornia</i> spp.) on and around margins of tidal flats.	Not Expected. Suitable habitat (salt marshes) is not present within the project site. Further, the nearest CNDDDB occurrence is over 6 miles to the west.
<i>Poliophtila californica californica</i> coastal California gnatcatcher	FT / SSC G4G5T2Q / S2	Obligate, permanent resident of coastal sage scrub below 2,500 feet amsl in Southern California. Occurs in low, coastal sage scrub in arid washes, and on mesas, bowls, and slopes lacking tall perching vegetation. Not all areas classified as coastal sage scrub are occupied.	Not Expected. Suitable habitat (coastal sage scrub) is not present within the project site. Further, the nearest CNDDDB occurrences are over 2 miles to the south.
<i>Rallus obsoletus levipes</i> light-footed Ridgway's rail	FE / SE, FP G5T1T2 / S1	Found in salt marshes traversed by tidal sloughs, where dense growths of cordgrass (<i>Spartina foliosa</i>) and pickleweed dominate for nesting. Requires shallow water and mudflats for foraging on mollusks and crustaceans, with adjacent higher vegetation for cover during high water.	Not Expected. Suitable habitat (salt marshes) is not present within the project site. Further, the nearest CNDDDB occurrence is over 4 miles to the west.

Scientific Name Common Name	Status* Federal / State CRPR or G-Rank / S-Rank	Habitat Preferences and Distribution Affinities	Potential for Occurrence
<i>Sternula antillarum browni</i> (Nesting colony) California least tern	FE / SE, FP G4T2T3Q / S2	Colonial breeder on bare or sparsely vegetated, flat substrates, including sand beaches, alkali flats, landfills, or paved areas. Prefers broad, level expanses of open sandy or gravelly beach, dredge spoil, and other open shoreline areas, and broad river valley sandbars. Nests along the coast from San Francisco Bay south to northern Baja California.	Not Expected. Suitable habitat (sandy or gravelly beach) is not present within the project site. Further, the nearest CNDDDB occurrence is over 5 miles to the west.
<i>Vireo bellii pusillus</i> (Nesting) least Bell's vireo	FE / SE G5T2 / S2	Summer resident of Southern California. Occurs below 2,000 feet amsl in riparian scrub, woodland, and forest habitats, preferably with a developed, wetland understory, often in the vicinity of water. Nests are stitched onto horizontal twig branches, typically of willow, mule fat, and tamarisk a few feet above ground.	Not Expected. Suitable habitat (riparian habitats with wetland understory) is not present within the project site. The nearest CNDDDB occurrence is 1 mile to the southwest.
MAMMALS			
<i>Chaetodipus fallax fallax</i> northwestern San Diego pocket mouse	-- / SSC G5T3T4 / S3S4	Prefers sandy, herbaceous areas, usually in association with rocks or coarse gravel. Known from coastal scrub, chaparral, grasslands, and sagebrush habitats in western San Diego County.	Not Expected. Suitable habitat (scrub and grassland habitats) is not present within the project site. Further, the nearest CNDDDB occurrence is over 8 miles to the east.
<i>Choeronycteris mexicana</i> Mexican long-tongued bat	-- / SSC G4 / S1	Occasionally found in San Diego County, which is on the periphery of their range, in pinyon and juniper woodlands, riparian scrub, and Sonoran thorn woodland. Feeds on nectar and pollen of night-blooming succulents. Roosts in relatively well-lit caves, and in and around buildings.	Not Expected. Suitable habitat (riparian scrub and woodlands) is not present within the project site. Further, the nearest CNDDDB occurrence is 5 miles to the north.
<i>Eumops perotis californicus</i> western mastiff bat	-- / SSC G5T4 / S3S4	Primarily a cliff-dwelling species, occurs in many open, semi-arid to arid habitats, including conifer and deciduous woodlands, coastal scrub, grasslands, and chaparral. Roosts on cliff faces, high buildings, trees, and tunnels.	Low. Suitable habitat (scrub, woodlands, and grasslands) is not present within the project site; however, this species may forage in the area. The nearest CNDDDB occurrence is nearly 4 miles to the south.

Scientific Name Common Name	Status* Federal / State CRPR or G-Rank / S-Rank	Habitat Preferences and Distribution Affinities	Potential for Occurrence
<i>Neotoma lepida intermedia</i> San Diego desert woodrat	-- / SSC G5T3T4 / S3S4	From San Diego County to San Luis Obispo County, prefers moderate to dense canopies of coastal scrub, and in areas particularly abundant in rock outcrops, and rocky cliffs and slopes.	Not Expected. Suitable habitat (coastal scrub, rock outcrops, cliffs) is not present within the project site. Further, the nearest CNDDDB occurrence is over 4 miles to the east.
<i>Perognathus longimembris pacificus</i> Pacific pocket mouse	FE / SSC G5T1 / S1	Seems to prefer soils of fine alluvial sands and sandy slopes of coastal scrub near the ocean, but much remains to be learned. Historically, known to inhabit the narrow coastal mesas from the Mexican border north to El Segundo, Los Angeles County.	Not Expected. Suitable habitat (sandy slopes of coastal scrub) is not present within the project site. Further, the nearest CNDDDB occurrence (from 1971, and since extirpated) is over nearly 6 miles to the southwest.
<i>Onychomys torridus ramona</i> southern grasshopper mouse	-- / SSC G5T3 / S3	Feeds almost exclusively on arthropods, especially scorpions and Orthopteran insects. Found in desert areas, especially scrub habitats with friable soils for digging. Prefers low to moderate shrub cover.	Not Expected. Suitable habitat (desert area, scrub habitats) is not present within the project site. Further, the nearest CNDDDB occurrence is over 8 miles to the east.
<i>Sorex ornatus salicornicus</i> southern California saltmarsh shrew	-- / SSC G5T1? / S1	Inhabits coastal salt marshes of Los Angeles, Orange, and Ventura Counties. Requires dense vegetation and woody debris for cover.	Not Expected. Suitable habitat (salt marshes) is not present within the project site. Further, the nearest CNDDDB occurrence is over 6 miles to the west.

*

California Rare Plant Rank (CRPR)

- 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 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

Threat Ranks

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

Federal Classifications

FE Federally Endangered
FT Federally Threatened

State Classifications

SE State Endangered
ST State Threatened
SCE State Candidate for Endangered
SSC California Species of Special Concern
FP Fully Protected

G-Rank / S-Rank

Global Rank and State Rank as per NatureServe and CDFW's CNDDDB RareFind 5, ranging from critically imperiled (G1/S1) to demonstrably secure (G5/S5)

WETLAND DETERMINATION DATA FORM - Arid West Region

Project/Site: Jeffrey Road / Irvine Center Drive City/County: Irvine / Orange Sampling Date: 2/28/18
 Applicant/Owner: City of Irvine State: CA Sampling Point: 1
 Investigator(s): D. Rosie, S. Anderson, and F. Yau Section, Township, Range: Sections 01 and 02, T6S, R9W
 Landform (hillslope, terrace, etc.): channel Local relief (concave, convex, none): concave Slope (%): 1
 Subregion (LRR): C - Mediterranean California Lat: 33.677273 Long: -117.780331 Datum: 11S
 Soil Map Unit Name: Sorrento loam, 0 to 2 percent slopes, warm MAAT, MLRA 19 (206) NWI classification: NA

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ☒ No ☐ (If no, explain in Remarks.)
 Are Vegetation ☐ Soil ☐ or Hydrology ☐ significantly disturbed? Are "Normal Circumstances" present? Yes ☒ No ☐
 Are Vegetation ☐ Soil ☐ or Hydrology ☐ naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present?	Yes <input type="radio"/>	No <input checked="" type="radio"/>	Is the Sampled Area within a Wetland?	Yes <input type="radio"/>	No <input checked="" type="radio"/>
Hydric Soil Present?	Yes <input checked="" type="radio"/>	No <input type="radio"/>			
Wetland Hydrology Present?	Yes <input checked="" type="radio"/>	No <input type="radio"/>			
Remarks: Areas within the OHWM of Drainage A lacking a dominance or prevalence of hydrophytic vegetation are considered non-wetland waters of the U.S.					

VEGETATION

Tree Stratum (Use scientific names.)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:	
1. _____	_____	_____	_____	Number of Dominant Species That Are OBL, FACW, or FAC:	<u>1</u> (A)
2. _____	_____	_____	_____	Total Number of Dominant Species Across All Strata:	<u>2</u> (B)
3. _____	_____	_____	_____	Percent of Dominant Species That Are OBL, FACW, or FAC:	<u>50.0 %</u> (A/B)
4. _____	_____	_____	_____		
Total Cover: _____ %					
Sapling/Shrub Stratum				Prevalence Index worksheet:	
1. _____	_____	_____	_____	Total % Cover of:	Multiply by:
2. _____	_____	_____	_____	OBL species <u>7</u>	x 1 = <u>7</u>
3. _____	_____	_____	_____	FACW species <u>33</u>	x 2 = <u>66</u>
4. _____	_____	_____	_____	FAC species _____	x 3 = <u>0</u>
5. _____	_____	_____	_____	FACU species _____	x 4 = <u>0</u>
Total Cover: _____ %				UPL species <u>45</u>	x 5 = <u>225</u>
				Column Totals: <u>85</u> (A)	<u>298</u> (B)
Herb Stratum				Prevalence Index = B/A = <u>3.51</u>	
1. <i>Stipa miliacea</i>	<u>30</u>	Yes	UPL	Hydrophytic Vegetation Indicators:	
2. <i>Epilobium ciliatum</i>	<u>25</u>	Yes	FACW	<input checked="" type="checkbox"/> Dominance Test is >50%	
3. <i>Hirschfeldia incana</i>	<u>15</u>	No	UPL	<input checked="" type="checkbox"/> Prevalence Index is ≤3.0 ¹	
4. <i>Typha latifolia</i>	<u>7</u>	No	OBL	<input type="checkbox"/> Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet)	
5. <i>Pluchea odorata</i>	<u>5</u>	No	FACW	<input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain)	
6. <i>Cyperus eragrostis</i>	<u>3</u>	No	FACW	¹ Indicators of hydric soil and wetland hydrology must be present.	
7. _____	_____	_____	_____	Hydrophytic Vegetation Present? Yes <input type="radio"/> No <input checked="" type="radio"/>	
8. _____	_____	_____	_____		
Total Cover: <u>85 %</u>					
Woody Vine Stratum					
1. _____	_____	_____	_____		
2. _____	_____	_____	_____		
Total Cover: _____ %					
% Bare Ground in Herb Stratum <u>15 %</u>	% Cover of Biotic Crust _____ %				

Remarks:

SOIL

Sampling Point: 1

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

Depth (inches)	Matrix		Redox Features			Loc ²	Texture ³	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹			
0-6	NA							

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix. ²Location: PL=Pore Lining, RC=Root Channel, M=Matrix.

³Soil Textures: Clay, Silty Clay, Sandy Clay, Loam, Sandy Clay Loam, Sandy Loam, Clay Loam, Silty Clay Loam, Silt Loam, Silt, Loamy Sand, Sand.

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 checked="" 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:⁴

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

⁴Indicators of hydrophytic vegetation and wetland hydrology must be present.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes ☒ No ☐

Remarks: _____

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (any one indicator is sufficient)

- | | |
|--|--|
| <input checked="" type="checkbox"/> Surface Water (A1) | <input type="checkbox"/> Salt Crust (B11) |
| <input checked="" type="checkbox"/> High Water Table (A2) | <input type="checkbox"/> Biotic Crust (B12) |
| <input checked="" type="checkbox"/> Saturation (A3) | <input type="checkbox"/> Aquatic Invertebrates (B13) |
| <input type="checkbox"/> Water Marks (B1) (Nonriverine) | <input checked="" 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 Plowed Soils (C6) |
| <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) | <input type="checkbox"/> Other (Explain in Remarks) |
| <input type="checkbox"/> Water-Stained Leaves (B9) | |

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)
- ☐ Thin Muck Surface (C7)
- ☐ 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): 1

Water Table Present? Yes ☒ No ☐

Depth (inches): 0

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

Depth (inches): 0

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: Jeffrey Road / Irvine Center Drive City/County: Irvine / Orange Sampling Date: 2/28/18
 Applicant/Owner: City of Irvine State: CA Sampling Point: 2
 Investigator(s): D. Rosie, S. Anderson, and F. Yau Section, Township, Range: Sections 01 and 02, T6S, R9W
 Landform (hillslope, terrace, etc.): channel Local relief (concave, convex, none): concave Slope (%): 1
 Subregion (LRR): C - Mediterranean California Lat: 33.677363 Long: -117.780458 Datum: 11S
 Soil Map Unit Name: Sorrento loam, 0 to 2 percent slopes, warm MAAT, MLRA 19 (206) NWI classification: NA

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ☒ No ☐ (If no, explain in Remarks.)
 Are Vegetation ☐ Soil ☐ or Hydrology ☐ significantly disturbed? Are "Normal Circumstances" present? Yes ☒ No ☐
 Are Vegetation ☐ Soil ☐ or Hydrology ☐ naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present?	Yes <input checked="" type="radio"/>	No <input type="radio"/>	Is the Sampled Area within a Wetland?	Yes <input checked="" type="radio"/> No <input type="radio"/>
Hydric Soil Present?	Yes <input checked="" type="radio"/>	No <input type="radio"/>		
Wetland Hydrology Present?	Yes <input checked="" type="radio"/>	No <input type="radio"/>		
Remarks: Areas within the OHWM of Drainage A having a dominance or prevalence of hydrophytic vegetation are considered wetland waters of the U.S.				

VEGETATION

Tree Stratum (Use scientific names.)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:			
1.				Number of Dominant Species That Are OBL, FACW, or FAC: <u>2</u> (A)			
2.				Total Number of Dominant Species Across All Strata: <u>2</u> (B)			
3.				Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100.0 %</u> (A/B)			
4.							
Total Cover: <u> </u> %							
Sapling/Shrub Stratum				Prevalence Index worksheet:			
1.				Total % Cover of: Multiply by:			
2.				OBL species	<u> </u>	x 1 =	<u>0</u>
3.				FACW species	<u>80</u>	x 2 =	<u>160</u>
4.				FAC species	<u>5</u>	x 3 =	<u>15</u>
5.				FACU species	<u> </u>	x 4 =	<u>0</u>
Total Cover: <u> </u> %				UPL species	<u>5</u>	x 5 =	<u>25</u>
				Column Totals:	<u>90</u>	(A)	<u>200</u> (B)
				Prevalence Index = B/A = <u>2.22</u>			
Herb Stratum				Hydrophytic Vegetation Indicators:			
1. <i>Cyperus eragrostis</i>	<u>40</u>	<u>Yes</u>	<u>FACW</u>	<input checked="" type="checkbox"/> Dominance Test is >50%			
2. <i>Epilobium ciliatum</i>	<u>40</u>	<u>Yes</u>	<u>FACW</u>	<input checked="" type="checkbox"/> Prevalence Index is ≤3.0 ¹			
3. <i>Hirschfeldia incana</i>	<u>5</u>	<u>No</u>	<u>UPL</u>	<input type="checkbox"/> Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet)			
4. <i>Pulicaria paludosa</i>	<u>5</u>	<u>No</u>	<u>FAC</u>	<input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain)			
5.				¹ Indicators of hydric soil and wetland hydrology must be present.			
6.							
7.							
8.							
Total Cover: <u>90</u> %							
Woody Vine Stratum				Hydrophytic Vegetation Present? Yes <input checked="" type="radio"/> No <input type="radio"/>			
1.							
2.							
Total Cover: <u> </u> %							
% Bare Ground in Herb Stratum <u>10</u> %		% Cover of Biotic Crust <u> </u> %					

Remarks:

SOIL

Sampling Point: 2

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

Depth (inches)	Matrix		Redox Features			Loc ²	Texture ³	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹			
0-6	NA							

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix. ²Location: PL=Pore Lining, RC=Root Channel, M=Matrix.

³Soil Textures: Clay, Silty Clay, Sandy Clay, Loam, Sandy Clay Loam, Sandy Loam, Clay Loam, Silty Clay Loam, Silt Loam, Silt, Loamy Sand, Sand.

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 checked="" 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:⁴

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

⁴Indicators of hydrophytic vegetation and wetland hydrology must be present.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes ☒ No ☐

Remarks: _____

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (any one indicator is sufficient)

- | | |
|--|--|
| <input type="checkbox"/> Surface Water (A1) | <input type="checkbox"/> Salt Crust (B11) |
| <input checked="" type="checkbox"/> High Water Table (A2) | <input type="checkbox"/> Biotic Crust (B12) |
| <input checked="" type="checkbox"/> Saturation (A3) | <input type="checkbox"/> Aquatic Invertebrates (B13) |
| <input type="checkbox"/> Water Marks (B1) (Nonriverine) | <input checked="" 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 Plowed Soils (C6) |
| <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) | <input type="checkbox"/> Other (Explain in Remarks) |
| <input type="checkbox"/> Water-Stained Leaves (B9) | |

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)
- ☐ Thin Muck Surface (C7)
- ☐ 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): 3

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

Depth (inches): 0

Wetland Hydrology Present? Yes ☒ No ☐

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

Remarks: _____