

**BIOLOGICAL TECHNICAL REPORT**

**FOR**

**NAKASE PROPERTY PROJECT**

**LOCATED IN THE CITY OF LAKE FOREST,  
ORANGE COUNTY, CALIFORNIA**

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## **APPENDICES**

Appendix A

Floral Compendium

Appendix B

Faunal Compendium

## **1.0 INTRODUCTION**

### **1.1 Background and Scope of Work**

This document provides the results of general biological surveys and focused biological surveys for the approximately 121.8-acre Nakase Property Project, and an additional 2.75 acres of adjacent road and slope improvements, totaling 124.55 acres (the Project) located in the City of Lake Forest, Orange County, California. This report identifies and evaluates impacts to biological resources associated with the proposed Project in the context of the California Environmental Quality Act (CEQA) and State and Federal regulations such as the Endangered Species Act (ESA), Clean Water Act (CWA), and the California Fish and Game Code.

Although this project occurs within the boundaries of the Orange County Central and Coastal Subregion Natural Communities Conservation Plan/Habitat Conservation Plan (NCCP/HCP), the project proponent is a non-participating landowner (County of Orange 1996) and will not be addressing impacts to resources through this plan.

The scope of this report includes a discussion of existing conditions for the approximately 124.55-acre Project site, all methods employed regarding the general biological surveys and focused biological surveys, the documentation of botanical and wildlife resources identified (including special-status species), and an analysis of impacts to biological resources. Methods of the study include a review of relevant literature, field surveys, and a Geographical Information System (GIS)-based analysis of vegetation communities. As appropriate, this report is consistent with accepted scientific and technical standards and survey guideline requirements issued by the U.S. Fish and Wildlife Service (USFWS), the California Department of Fish and Wildlife (CDFW), the California Native Plant Society (CNPS), and other applicable agencies/organizations.

The field study focused on a number of primary objectives that would comply with CEQA requirements, including (1) general reconnaissance survey and vegetation mapping; (2) general biological surveys; (3) habitat assessments and focused surveys for special-status plant species; and (4) habitat assessments and focused surveys for special-status wildlife species. Observations of all plant and wildlife species were recorded during the general biological surveys and are included as Appendix A: Floral Compendium and Appendix B: Faunal Compendium.

### **1.2 Project Location**

The Project site comprises approximately 124.55 acres in the City of Lake Forest, Orange County, California [Exhibit 1 – Regional Map] and is located within an unsectioned portion of Township 6 South, Range 8 West, of the U.S. Geological Survey (USGS) 7.5” quadrangle map El Toro, California (dated 1968 and photorevised in 1982) [Exhibit 2 – Vicinity Map].

Adjacent land uses include residential and commercial, with Serrano Creek along the southeastern boundary.

### **1.3 Project Description**

The proposed project would be a master planned community of mixed-use development which will incorporate residential (unit count will range from approximately 600-800 units), an elementary school, developed open space in the form of a central park, parkways, trails, a detention basin, medians, affordable senior rental housing, a community clubhouse, and on-site and off-site infrastructural improvements.

The portion of Serrano Creek within the property boundary will be conserved and left in place. An illustration of the 6.57-acre proposed Conservation Area is on [Exhibit 3 – Vegetation Map/Impact Map].

### **1.4 Existing Conditions**

Agricultural land uses consisting of an active nursery operation occupy the vast majority of the site. Nursery activities have remained active since 1979, causing a general lack of native vegetation communities on the site, with the exception of a small patch of remnant coastal sage scrub occurring within the southeastern corner of the site and riparian forest located within Serrano Creek along the southeastern boundary of the site. A water quality treatment ditch designed to infiltrate flows from nursery operations prior to leaving the property bisects the site and is routinely maintained free of vegetation. Developed areas consisting of equipment maintenance buildings and nursery offices were also observed at the site.

## **2.0 METHODOLOGY**

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

- Delineation of aquatic resources (including wetlands and riparian habitat) subject to the jurisdiction of the U.S. Army Corps of Engineers, Regional Board, and California Department of Fish and Wildlife (CDFW);
- Performance of vegetation mapping for the Project site; and
- Performance of habitat assessments, and site-specific biological surveys (focused surveys), to evaluate the presence/absence of special-status species in accordance with the requirements of CEQA.

The focus of the biological surveys was determined through initial site reconnaissance, a review of the California Natural Diversity Database (CNDDDB) [CDFW 2017], CNPS 8<sup>th</sup> edition online inventory (CNPS 2017), Natural Resource Conservation Service (NRCS) soil data, other pertinent literature, and knowledge of the region. Site-specific general surveys within the Project site were conducted on foot in the proposed development areas for each target plant or animal species identified below.

Vegetation was mapped directly onto a 200-scale (1"=200') aerial photograph following the Habitat Classification System Natural Resources Geographic Information System (GIS) Project (Gray and Bramlet, 1992). All flora and fauna identified on site during vegetation mapping was included in floral and faunal compendia prepared for the Project (Appendices A and B). Vegetation communities not listed under the above-mentioned vegetation classification systems were named based on the dominant plant species present. All vegetation mapping was imported into ArcGIS for acreage analysis.

GLA senior biologist Zack West and regulatory specialist April Nakagawa visited the property on July 27 and 28, 2016 to conduct a general site review. Additional follow-up visits were made by Zack West and senior regulatory specialist Thienan Pfeiffer on October 6 and November 17, 2016, and various times during March and April 2017. Site reconnaissance was conducted in such a manner as to allow inspection of the entire site by direct observation, including the use of binoculars. The property was inspected to determine whether any special-status species, habitats, or potential jurisdictional areas are present on site.

In addition to site reconnaissance, evaluation of the property included a review of the CNDDDB for the El Toro quadrangle and surrounding quadrangles,<sup>1</sup> a review of the CNPS on-line inventory,<sup>2</sup> a soil map review, and review of various documents provided by Toll Brothers, Inc.

## **2.1 Summary of Surveys**

GLA conducted biological studies to identify and analyze actual or potential impacts to biological resources associated with development of the Project site. Observations of all plant and wildlife species were recorded during each of the above-mentioned survey efforts [Appendix A: Floral Compendium and Appendix B: Faunal Compendium]. The studies conducted include the following:

- Performance of vegetation mapping;
- Performance of site-specific habitat assessments and biological surveys to evaluate the potential presence/absence of special-status species (or potentially suitable habitat) to the satisfaction of CEQA and federal and state regulations;
- Focused survey for rare plants;
- Focused survey for burrowing owl;
- Focused survey for coastal California gnatcatcher;
- Focused survey for least Bell's vireo;
- Focused survey for southwestern willow flycatcher;
- Delineation of aquatic resources (including wetlands and riparian habitat) potentially subject to the jurisdiction of the U.S. Army Corps of Engineers (Corps), Regional Water Quality Control Board (Regional Board), and CDFW.

Table 2-1 provides a summary list of survey dates, survey types and personnel.

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<sup>1</sup> California Department of Fish and Wildlife. July, 2016. Natural Diversity Database: RareFind 5.

<sup>2</sup> California Native Plant Society. 2016. On-Line Inventory of Rare and Endangered Plants of California (Eighth Edition).

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

Survey Type	Survey Dates	Biologists
General Biological Survey	7/27/16, 7/28/16	ZW, AN
Jurisdictional Delineation	4/7/17	ZW
Focused Rare Plant Surveys	4/19/17, 5/22/17	ZW
Focused Burrowing Owl Surveys	1: 3/17/17      3: 5/30/17 2: 4/26/17      4: 7/3/17	JA, KL
Focused Coastal California Gnatcatcher Surveys	1: 3/17/17      4: 4/7/17 2: 3/24/17      5: 4/14/17 3: 3/31/17      6: 4/26/17	JA, KL
Focused Least Bell's Vireo Surveys	1: 4/14/17      5: 5/30/17 2: 4/26/17      6: 6/12/17 3: 5/8/17       7: 6/23/17 4: 5/18/17      8: 7/3/17	KL
Focused Southwestern Willow Flycatcher Surveys	1: 5/20/17      4: 6/25/17 2: 6/1/17       5: 7/5/17 3: 6/15/17	JA

AN = April Nakagawa    JA = Jeff Ahrens    KL = Kevin Livergood    TP=Thienan Pfeiffer    ZW = Zack West

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

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

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

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

Vegetation communities and habitats were considered of “special status” based on their occurrence in the CNDDDB inventory.

## **2.2 Botanical Resources**

A site-specific survey program was designed to accurately document the botanical resources within the Project site, and consisted of five components: (1) a literature search; (2) preparation of a list of target special-status plant species and sensitive vegetation communities that could

occur within the Project site; (3) general field reconnaissance surveys; (4) vegetation mapping; and (5) habitat assessments and focused surveys for special-status plants.

### **2.2.1 Literature Search**

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

- CNPS *Inventory of Rare and Endangered Plants* for the USGS 7.5' quadrangles: Black Star Canyon, Canada Gobernadora, Corona South, El Toro, Laguna Beach, Orange, San Juan Capistrano, Santiago Peak, and Tustin (online edition, v8-02) (CNPS 2017); and
- CNDDDB for the USGS 7.5' quadrangles: Black Star Canyon, Canada Gobernadora, Corona South, El Toro, Laguna Beach, Orange, San Juan Capistrano, Santiago Peak, and Tustin, California.

### **2.2.2 Vegetation Mapping**

Vegetation communities within the Project site were mapped according to the Habitat Classification System Natural Resources GIS Project (Gray and Bramlet, 1992). Plant communities were mapped in the field directly onto a 200-scale (1"=200') aerial photograph. A vegetation map is included as Exhibit 3. Representative site photographs are included as Exhibit 6.

### **2.2.3 Special-Status Plant Species and Habitats Evaluated for the Project Site**

A literature search was conducted to obtain a list of special status plants with the potential to occur within the Project site. The CNDDDB was initially consulted to determine well-known occurrences of plants and habitats of special concern in the region. Other sources used to develop a list of target species for the survey program included the CNPS online inventory (2017).

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

### **2.2.4 Botanical Surveys**

GLA biologist Zack West visited the site on April 19 and May 22, 2017 to conduct general and focused plant surveys. Surveys were conducted in accordance with accepted botanical survey guidelines (CDFG 2009, CNPS 2001, USFWS 2000). As applicable, surveys were conducted at appropriate times based on precipitation and flowering periods. An aerial photograph, a soil

map, and/or a topographic map were used to determine the community types and other physical features that may support sensitive and uncommon taxa or communities within the Project site. Surveys were conducted by following meandering transects within target areas of suitable habitat. All plant species encountered during the field surveys were identified and recorded following the above-referenced guidelines adopted by CNPS (2010) and CDFW by Nelson (1984). A complete list of the plant species observed is provided in Appendix A. Scientific nomenclature and common names used in this report follow Baldwin et al (2012), and Munz (1974).

## **2.3 Wildlife Resources**

Wildlife species were evaluated and detected during field surveys by sight, call, tracks, and scat. Site reconnaissance was conducted in such a manner as to allow inspection of the entire Project site by direct observation, including the use of binoculars. Observations of physical evidence and direct sightings of wildlife were recorded in field notes during the visit. A complete list of wildlife species observed within the Project site is provided in Appendix B. Scientific nomenclature and common names for vertebrate species referred to in this report follow the Complete List of Amphibian, Reptile, Bird, and Mammal Species in California (CDFG 2016), Standard Common and Scientific Names for North American Amphibians, Turtles, Reptiles, and Crocodylians 6<sup>th</sup> Edition, Collins and Taggart (2009) for amphibians and reptiles, and the American Ornithologists' Union Checklist 7<sup>th</sup> Edition (2009) and its supplements through 2016 for birds. The methodology (including any applicable survey protocols) utilized to conduct general surveys, habitat assessments, and/or focused surveys for special-status animals are included below.

### **2.3.1 General Surveys**

#### ***Birds***

During the general biological and reconnaissance survey within the Project site, birds were detected incidentally by direct observation and/or by vocalizations, with identifications recorded in field notes.

#### ***Mammals***

During general biological and reconnaissance surveys within the Project site, mammals were identified and detected incidentally by direct observations and/or by the presence of diagnostic sign (i.e., tracks, burrows, scat, etc.).

#### ***Reptiles and Amphibians***

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

### **2.3.2 Special-Status Animal Species Reviewed**

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

### **2.3.2 Habitat Assessment for Special Status Animal Species**

GLA biologists Zack West and April Nakagawa conducted habitat assessments for special-status animal species on July 27 and 28, 2016. An aerial photograph, soil map and/or topographic map were used to determine the community types and other physical features that may support special-status and uncommon taxa within the Project site.

### **2.3.3 Focused Surveys for Special-Status Animals Species**

#### ***Burrowing Owl***

GLA biologists Jeff Ahrens and Kevin Livergood conducted focused surveys for the burrowing owl (*Athene cunicularia*; BUOW) for all suitable habitat areas within the Project site. Surveys were conducted in accordance with survey guidelines described in the 2012 CDFW Staff Report on Burrowing Owl Mitigation. The guidelines stipulate that four focused survey visits should be conducted between February 15 and July 15, with the first visit occurring between February 15 and April 15. The remaining three visits should be conducted three weeks apart from each other, with at least one visit occurring between June 15 and July 15. Focused surveys were conducted on March 17, April 26, May 30, and July 3, 2017. As recommended by the survey guidelines, the survey visits were conducted between morning civil twilight and 10:00 AM. Weather conditions during the surveys were conducive to a high level of bird activity.

Surveys were conducted by walking meandering transects throughout areas of suitable habitat, primarily rubble piles, culverts, and irrigation pipes located throughout the Project site. All suitable burrows were inspected for diagnostic owl sign (e.g., pellets, prey remains, whitewash, feathers, bones, and/or decoration) to identify potentially occupied burrows. Table 2-2 summarizes the burrowing owl survey visits. The results of the burrowing owl surveys are documented in Section 4.0 of this report.

**Table 2-2. Summary of Burrowing Owl Surveys**

<b>Survey Date</b>	<b>Biologist</b>	<b>Start/End Time (AM)</b>	<b>Start/End Temperature</b>	<b>Start/End Wind Speed (mph)</b>	<b>Cloud Cover</b>
3/17/17	JA	6:15-7:00	55-56° F	1-2 mph	Clear
4/26/17	KL	6:35-8:00	54-58° F	1-3 mph	Partly Cloudy
5/30/17	KL	6:30-7:45	58-59° F	2-3 mph	Overcast
7/3/17	KL	6:15-7:30	60-62° F	0-2 mph	Overcast

### ***Coastal California Gnatcatcher***

GLA biologists Jeff Ahrens (permit TE 052159-5) and Kevin Livergood (permit TE-172638-2) conducted focused surveys for the coastal California gnatcatcher (*Polioptila californica californica*; CAGN) for all suitable habitat areas within the Project site. Surveys were conducted in accordance with the 1997 USFWS survey guidelines, which during the breeding season (March 15 through June 30) require a minimum of six surveys (per survey polygon) with at least one week separating each survey visit. The survey guidelines limit individual biologists to surveying a maximum of 80 acres per day. The Project site contains approximately 0.28 acre of suitable habitat for the gnatcatcher. Therefore, the 0.28-acre survey area of suitable habitat was completed as a single survey polygon. Regardless, biologists recorded birds throughout the entire project area during surveys.

Focused surveys were conducted on March 17, March 24, March 31, April 7, April 14, and April 26, 2017. Pursuant to the survey guidelines, the surveys were conducted between sunrise and 12:00 p.m. Weather conditions during the surveys were conducive to a high level of bird activity. Table 2-3 summarizes the gnatcatcher survey visits. The results of the gnatcatcher surveys are documented in Section 4.0 of this report.

**Table 2-3. Summary of Coastal California Gnatcatcher Surveys**

<b>Survey Date</b>	<b>Biologist</b>	<b>Start/End Time (AM)</b>	<b>Start/End Temperature</b>	<b>Start/End Wind Speed (mph)</b>	<b>Cloud Cover</b>
3/17/17	JA	6:15-8:00	55-56° F	1-2 mph	Clear
3/24/17	JA	6:05-8:00	49-57° F	0-2 mph	Clear
3/31/17	JA	6:20-7:50	50-51° F	1-3 mph	Clear
4/7/17	JA	9:50-11:05	61-68° F	1-4 mph	Mostly Clear
4/14/17	KL	9:15-10:45	55-63° F	2-4 mph	Clear
4/26/17	KL	8:00-9:00	58-65° F	1-2 mph	Partly Cloudy

### ***Least Bell's Vireo***

GLA biologist Kevin Livergood conducted focused surveys for the least Bell's vireo (*Vireo bellii pusillus*; LBV) for all suitable habitat areas within the Project site. Surveys were conducted in accordance with the 2001 USFWS survey guidelines, which stipulate that eight surveys should be conducted between April 10 and July 31, with a minimum of ten days separating each survey visit.

Focused surveys were conducted on April 14, April 26, May 8, May 18, May 30, June 12, June 23, and July 3, 2017. Pursuant to the survey guidelines, the surveys were conducted between sunrise and 11:00 a.m. Weather conditions during the surveys were conducive to a high level of bird activity. Table 2-4 summarizes the vireo survey visits. The results of the vireo surveys are documented in Section 4.0 of this report.

**Table 2-4. Summary of Least Bell's Vireo Surveys**

Survey Date	Biologist	Start/End Time (AM)	Start/End Temperature	Start/End Wind Speed (mph)	Cloud Cover
4/14/17	KL	7:00-9:15	49-55° F	1-4 mph	Clear
4/26/17	KL	9:00-11:00	65-73° F	2-4 mph	Partly Cloudy
5/8/17	KL	8:00-10:00	53-59° F	2-5 mph	Partly Cloudy
5/18/17	KL	6:20-8:30	51-59° F	2-3 mph	Partly Cloudy
5/30/17	KL	7:45-10:00	59-62° F	2-3 mph	Overcast
6/12/17	KL	8:30-11:00	62-66° F	2-4 mph	Mostly Sunny
6/23/17	KL	8:00-10:00	65-72° F	1-3 mph	Clear
7/3/17	KL	7:30-9:40	62-71° F	2-4 mph	Clear

***Southwestern Willow Flycatcher***

GLA biologist Jeff Ahrens conducted focused surveys for the southwestern willow flycatcher (*Empidonax traillii extimus*; SWWF) for all suitable habitat areas within the Project site. Surveys were conducted in accordance with the 2010 USFWS survey guidelines<sup>3</sup>, which stipulate that five surveys should be conducted between May 15 and July 17, divided into three survey periods. The southwestern willow flycatcher is one of four subspecies of willow flycatcher that occur within southern California, but is the only subspecies that breeds in southern California. The other subspecies may occur in southern California during the first and second surveys periods as they migrate through the area onwards to breeding areas, but will not breed in southern California. Therefore, the presence of the southwestern willow flycatcher is determined by willow flycatchers that remain in southern California during the third survey period.

Focused surveys were conducted on May 20, June 1, June 15, June 25, and July 5, 2017. Pursuant to the survey guidelines, the surveys were conducted between sunrise and 10:00 a.m. Weather conditions during the surveys were conducive to a high level of bird activity. Table 2-5 summarizes the flycatcher survey visits. The results of the flycatcher surveys are documented in Section 4.0 of this report.

**Table 2-5. Summary of Southwestern Willow Flycatcher Surveys**

Survey Date	Biologist	Start/End Time (AM)	Start/End Temperature	Start/End Wind Speed (mph)	Cloud Cover
5/20/17	JA	5:30-7:50	60-60° F	1-4 mph	Overcast
6/1/17	JA	5:50-8:40	56-61° F	1-2 mph	Overcast
6/15/17	JA	5:45-9:00	61-68° F	1-2 mph	Clear
6/25/17	JA	5:45-8:00	62-67° F	1-3 mph	Partly Cloudy

<sup>3</sup> A Natural History Summary and Survey Protocol for the Southwestern Willow Flycatcher, prepared by the USGS.

Survey Date	Biologist	Start/End Time (AM)	Start/End Temperature	Start/End Wind Speed (mph)	Cloud Cover
7/5/17	JA	5:45-7:45	65-69° F	1-2 mph	Partly Cloudy

## 2.4 Jurisdictional Delineation

A jurisdictional delineation was conducted for the Project site on April 7, 2017 by GLA biologist Zack West. Prior to beginning the field delineation, a 200'-scale color aerial photograph and the previously cited USGS topographic maps were examined to determine the locations of potential areas of Corps/CDFW jurisdiction and the Special Area Management Plan (SAMP) for the San Diego Creek Watershed was reviewed for any Aquatic Resource Integrity Areas mapped within the boundaries of the Project site. Suspected jurisdictional areas were field checked for the presence of definable channels and/or wetland vegetation, soils and hydrology. Potential wetland habitats at the subject site were evaluated using the methodology set forth in the U.S. Army Corps of Engineers 1987 Wetland Delineation Manual<sup>4</sup> (Wetland Manual) and the 2008 Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Supplement (Arid West Supplement)<sup>5</sup>. The presence of an Ordinary High Water Mark (OHWM) was determined using the 2008 Field Guide to Identification of the Ordinary High Water Mark (OHWM) in the Arid West Region of the Western United States<sup>6</sup> in conjunction with the Updated Datasheet for the Identification of the Ordinary High Water Mark (OHWM) in the Arid West Region of the Western United States.<sup>7</sup> While in the field, the limits of the OHWM, wetlands, and CDFW jurisdiction were recorded using GPS technology and/or on copies of the aerial photography. Other data were recorded onto the appropriate datasheets. The results of the Jurisdictional Delineation are depicted on Exhibit 5A and Exhibit 5B.

## 3.0 REGULATORY SETTING

The proposed Project is subject to state and federal regulations associated with a number of regulatory programs. These programs often overlap and were developed to protect natural resources, including: state- and federally listed plants and animals; aquatic resources including rivers and creeks, ephemeral streambeds, wetlands, and areas of riparian habitat; other special-

<sup>4</sup> Environmental Laboratory. 1987. Corps of Engineers Wetlands Delineation Manual, Technical Report Y-87-1, U.S. Army Engineer Waterways Experimental Station, Vicksburg, Mississippi.

<sup>5</sup> U.S. Army Corps of Engineers. 2008. Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Supplement (Version 2.0). Ed. J.S. Wakeley, R.W. Lichvar, and C.V. Noble. ERDC/EL TR-06-16. Vicksburg, MS: U.S. Army Engineer Research and Development Center.

<sup>6</sup> Lichvar, R. W., and S. M. McColley. 2008. A Field Guide to the Identification of the Ordinary High Water Mark (OHWM) in the Arid West Region of the Western United States. ERDC/CRREL TR-08-12. Hanover, NH: U.S. Army Engineer Research and Development Center, Cold Regions Research and Engineering Laboratory. (<http://www.crrel.usace.army.mil/library/technicalreports/ERDC-CRREL-TR-08-12.pdf>).

<sup>7</sup> Curtis, Katherine E. and Robert Lichevar. 2010. Updated Datasheet for the Identification of the Ordinary High Water Mark (OHWM) in the Arid West Region of the Western United States. ERDC/CRREL TN-10-1. Hanover, NH: U.S. Army Engineer Research and Development Center, Cold Regions Research and Engineering Laboratory.

status species which are not listed as threatened or endangered by the state or federal governments; and other special-status vegetation communities.

### **3.1 State and/or Federally Listed Plants or Animals**

#### **3.1.1 State of California Endangered Species Act**

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

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

#### **3.1.2 Federal Endangered Species Act**

The FESA of 1973 defines an endangered species as "any species that is in danger of extinction throughout all or a significant portion of its range." A threatened species is defined as "any species that is likely to become an Endangered species within the foreseeable future throughout all or a significant portion of its range." Under provisions of Section 9(a)(1)(B) of the FESA it is unlawful to "take" any listed species. "Take" is defined in Section 3(18) of FESA: "...harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such conduct." Further, the USFWS, through regulation, has interpreted the terms "harm" and "harass" to include certain types of habitat modification that result in injury to, or death of

species as forms of “take.” These interpretations, however, are generally considered and applied on a case-by-case basis and often vary from species to species. In a case where a property owner seeks permission from a Federal agency for an action that could affect a federally listed plant and animal species, the property owner and agency are required to consult with USFWS. Section 9(a)(2)(b) of the FESA addresses the protections afforded to listed plants.

### **3.1.3 State and Federal Take Authorizations for Listed Species**

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

- Section 7 of the FESA stipulates that any federal action that may affect a species listed as threatened or endangered requires a formal consultation with USFWS to ensure that the action is not likely to jeopardize the continued existence of the listed species or result in destruction or adverse modification of designated critical habitat. 16 U.S.C. 1536(a)(2).
- In 1982, the FESA was amended to give private landowners the ability to develop Habitat Conservation Plans (HCP) pursuant to Section 10(a) of the FESA. Upon development of an HCP, the USFWS can issue incidental take permits for listed species where the HCP specifies at minimum, the following: (1) the level of impact that will result from the taking, (2) steps that will minimize and mitigate the impacts, (3) funding necessary to implement the plan, (4) alternative actions to the taking considered by the applicant and the reasons why such alternatives were not chosen, and (5) such other measures that the Secretary of the Interior may require as being necessary or appropriate for the plan.
- Sections 2090-2097 of the CESA require that the state lead agency consult with CDFW on projects with potential impacts on state-listed species. These provisions also require CDFW to coordinate consultations with USFWS for actions involving federally listed as well as state-listed species. In certain circumstances, Section 2080.1 of the California Fish and Game Code allows CDFW to adopt the federal incidental take statement or the 10(a) permit as its own based on its findings that the federal permit adequately protects the species under state law.

## **3.2 California Environmental Quality Act**

### **3.2.1 CEQA Guidelines Section 15380**

CEQA requires evaluation of a project’s impacts on biological resources and provides guidelines and thresholds for use by lead agencies for evaluating the significance of proposed impacts. Sections 5.1.1 and 5.2.2 below set forth these thresholds and guidelines. Furthermore, pursuant to the CEQA Guidelines Section 15380, CEQA provides protection for non-listed species that could potentially meet the criteria for state listing. For plants, CDFW recognizes that plants on Lists 1A, 1B, or 2 of the CNPS *Inventory of Rare and Endangered Plants in California* may meet the criteria for listing and should be considered under CEQA. CDFW also recommends protection of plants, which are regionally important, such as locally rare species, disjunct populations of more common plants, or plants on the CNPS Lists 3 or 4.

### **3.2.2 Special-Status Plants, Wildlife and Vegetation Communities Evaluated Under CEQA**

#### ***Federally Designated Special-Status Species***

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

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

- FE                Federally listed as Endangered
- FT                Federally listed as Threatened
- FPE              Federally proposed for listing as Endangered
- FPT              Federally proposed for listing as Threatened
- FC                Federal Candidate Species (former C1 species)
- FSC              Federal Species of Concern (former C2 species)

#### ***State-Designated Special-Status Species***

Some mammals and birds are protected by the state as Fully Protected (SFP) Mammals or Fully Protected Birds, as described in the California Fish and Game Code, Sections 4700 and 3511, respectively. California SSC are designated as vulnerable to extinction due to declining population levels, limited ranges, and/or continuing threats. This list is primarily a working document for the CDFW's CNDDDB project. Informally listed taxa are not protected, 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 this report the following acronyms are used for State special-status species:

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

*California Native Plant Society*

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

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

<b>CNPS Rank</b>	<b>Comments</b>
Rank 1A – Plants Presumed Extirpated in California and Either Rare or Extinct Elsewhere	Thought to be extinct in California based on a lack of observation or detection for many years.
Rank 1B – Plants Rare, Threatened, or Endangered in California and Elsewhere	Species, which are generally rare throughout their range that are also judged to be vulnerable to other threats such as declining habitat.
Rank 2A – Plants presumed Extirpated in California, But Common Elsewhere	Species that are presumed extinct in California but more common outside of California
Rank 2B – Plants Rare, Threatened or Endangered in California, But More Common Elsewhere	Species that are rare in California but more common outside of California
Rank 3 – Plants About Which More Information Is Needed (A Review List)	Species that are thought to be rare or in decline but CNPS lacks the information needed to assign to the appropriate list. In most instances, the extent of surveys for these species is not sufficient to allow CNPS to accurately assess whether these species should be assigned to a specific rank. In addition, many of the Rank 3 species have associated taxonomic problems such that the validity of their current taxonomy is unclear.
Rank 4 – Plants of Limited Distribution (A Watch List)	Species that are currently thought to be limited in distribution or range whose vulnerability or susceptibility to threat is currently low. In some cases, as noted above for Rank 3 species, CNPS lacks survey data to accurately determine status in California. Many species have been placed on Rank 4 in previous editions of the “Inventory” and have been removed as survey data has indicated that the species are more common than previously thought. CNPS recommends that species currently included on this list should be monitored to ensure that future substantial declines are minimized.
<b>Extension</b>	<b>Comments</b>
.1 – Seriously endangered in California	Species with over 80% of occurrences threatened and/or have a high degree and immediacy of threat.
.2 – Fairly endangered in California	Species with 20-80% of occurrences threatened.
.3 – Not very endangered in California	Species with <20% of occurrences threatened or with no current threats known.

### 3.3 Jurisdictional Waters

#### 3.3.1 Army Corps of Engineers

Pursuant to Section 404 of the Clean Water Act, the Corps regulates the discharge of dredged and/or fill material into waters of the United States. The term "waters of the United States" is defined in Corps regulations at 33 CFR Part 328.3(a)<sup>8</sup> as:

- (1) *All waters which are currently used, or were used in the past, or may be susceptible to use in interstate or foreign commerce, including all waters which are subject to the ebb and flow of the tide;*
- (2) *All interstate waters including interstate wetlands;*
- (3) *All other waters such as intrastate lakes, rivers, streams (including intermittent streams), mudflats, sandflats, wetlands, sloughs, prairie potholes, wet meadows, playa lakes, or natural ponds, the use, degradation or destruction of which could affect foreign commerce including any such waters:*
  - (i) *Which are or could be used by interstate or foreign travelers for recreational or other purposes; or*
  - (ii) *From which fish or shell fish are or could be taken and sold in interstate or foreign commerce; or*
  - (iii) *Which are used or could be used for industrial purpose by industries in interstate commerce...*
- (4) *All impoundments of waters otherwise defined as waters of the United States under the definition;*
- (5) *Tributaries of waters identified in paragraphs (a) (1)-(4) of this section;*
- (6) *The territorial seas;*
- (7) *Wetlands adjacent to waters (other than waters that are themselves wetlands) identified in paragraphs (a) (1)-(6) of this section.*
- (8) *Waters of the United States do not include prior converted cropland.<sup>9</sup> Notwithstanding the determination of an area's status as prior converted cropland by any other federal agency, for the purposes of the Clean Water Act, the final authority regarding Clean Water Act jurisdiction remains with the EPA.*

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<sup>8</sup> On October 9, 2015, the U.S. 6<sup>th</sup> District Circuit Court of Appeals ordered a nationwide stay on the Corps and EPA's definition of waters of the United States under the Clean Water Rule ("Clean Water Rule: Definition of 'Waters of the United States'; Final Rule," 80 Federal Register 124 (29 June, 2015), pp. 37054-37127). As a result, the Corps' regulations that were in effect prior to the August 28, 2015 Clean Water Rule is again in effect until such a time as the Court order is satisfied, if this occurs. In addition, President Trump signed an Executive Order on February 28, 2017 that instructs the EPA and Corps to formally reconsider the Rule, which could lead to a re-write of the law or a complete repeal.

<sup>9</sup> The term "prior converted cropland" is defined in the Corps' Regulatory Guidance Letter 90-7 (dated September 26, 1990) as "wetlands which were both manipulated (drained or otherwise physically altered to remove excess water from the land) and cropped before 23 December 1985, to the extent that they no longer exhibit important wetland values. Specifically, prior converted cropland is inundated for no more than 14 consecutive days during the growing season...." [Emphasis added.]

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

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

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

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

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

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

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

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

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

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

On June 5, 2007, the U.S. Environmental Protection Agency (EPA) and Corps issued joint guidance that addresses the scope of jurisdiction pursuant to the Clean Water Act in light of the Supreme Court’s decision in the consolidated cases *Rapanos v. United States* and *Carabell v. United States* (“Rapanos”). The chart below was provided in the joint EPA/Corps guidance.

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

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

The agencies will assert jurisdiction over the following waters:

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

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

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

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

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

The agencies will apply the significant nexus standard as follows:

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

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

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

- more than 50 percent of the dominant plant species at the site must be typical of wetlands (i.e., rated as facultative or wetter in the Arid West 2016 Regional Wetland Plant List<sup>10 11</sup>;
- soils must exhibit physical and/or chemical characteristics indicative of permanent or periodic saturation (e.g., a gleyed color, or mottles with a matrix of low chroma indicating a relatively consistent fluctuation between aerobic and anaerobic conditions); and
- Whereas the 1987 Manual requires that hydrologic characteristics indicate that the ground is saturated to within 12 inches of the surface for at least five percent of the growing season during a normal rainfall year, the Arid West Supplement does not include a quantitative criteria with the exception for areas with “problematic hydrophytic vegetation”, which require a minimum of 14 days of ponding to be considered a wetland.

### **4. Regional General Permit 74 and Special Area Management Plan**

Regional General Permit 74 (RGP 74) is one part of the permitting frameworks developed for the Corps’ two SAMPs in Orange County, California: the San Diego Creek Watershed SAMP and the San Juan Creek/Western San Mateo Creek Watersheds.

The SAMP permitting frameworks replace the pre-SAMP permitting procedures available in these watersheds prior to the Corps’ formulation and adoption of the SAMPs. The SAMP permitting framework involves the establishment of abbreviated permit processing procedures in the form of this RGP and new Clean Water Act section 404 letter of permission procedures in combination with the use of selected nationwide permits and standard individual permits.

Watershed-specific mitigation policies are also being implemented under both the SAMPs. The SAMP permitting frameworks consider the type of regulated activity, permanency of impacts,

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<sup>10</sup> Lichvar, R.W., D.L. Banks, W.N. Kirchner, and N.C. Melvin. 2016. Arid West 2016 Regional Wetland Plant List. *Phytoneuron* 2016-30: 1-17. Published 28 April 2016.

<sup>11</sup> Note the Corps also publishes a National List of Plant Species that Occur in Wetlands (Lichvar, R.W., D.L. Banks, W.N. Kirchner, and N.C. Melvin. 2016. *The National Wetland Plant List: 2016 wetland ratings*. *Phytoneuron* 2016-30: 1-17. Published 28 April 2016.); however, the Regional Wetland Plant List should be used for wetland delineations within the Arid West Region.

and location of proposed activity within the SAMP Watersheds, that is, whether the activity would affect sensitive aquatic resources also identified as aquatic resource integrity areas.

For the San Diego Creek Watershed SAMP, the California Department of Fish and Game established a Watershed Streambed Alteration Agreement (WSAA) Process that will augment streambed alteration agreement (California Fish and Game Code section 1600) processing procedures within the San Diego Creek Watershed, Orange County, California. (SAMP, 2009)

### **3.3.2 Regional Water Quality Control Board**

Section 401 of the Clean Water Act requires any applicant for a Section 404 permit to obtain certification from the State that the discharge (and the operation of the facility being constructed) will comply with the applicable effluent limitation and water quality standards. In California, this 401 certification is obtained from the Regional Water Quality Control Board. The Corps, by law, cannot issue a Section 404 permit until a 401 certification is issued or waived.

Subsequent to the SWANCC decision, the Chief Counsel for the State Water Resources Control Board issued a memorandum that addressed the effects of the SWANCC decision on the Section 401 Water Quality Certification Program. The memorandum states:

*California's right and duty to evaluate certification requests under section 401 is pendant to (or dependent upon) a valid application for a section 404 permit from the Corps, or another application for a federal license or permit. Thus, if the Corps determines that the water body in question is not subject to regulation under the COE's 404 program, for instance, no application for 401 certification will be required...*

*The SWANCC decision does not affect the Porter Cologne authorities to regulate discharges to isolated, non-navigable waters of the states....*

*Water Code section 13260 requires "any person discharging waste, or proposing to discharge waste, within any region that could affect the waters of the state to file a report of discharge (an application for waste discharge requirements)." (Water Code § 13260(a)(1) (emphasis added).) The term "waters of the state" is defined as "any surface water or groundwater, including saline waters, within the boundaries of the state." (Water Code § 13050(e).) The U.S. Supreme Court's ruling in SWANCC has no bearing on the Porter-Cologne definition. While all waters of the United States that are within the borders of California are also waters of the state, the converse is not true—waters of the United States is a subset of waters of the state. Thus, since Porter-Cologne was enacted California always had and retains authority to regulate discharges of waste into any waters of the state, regardless of whether the COE has concurrent jurisdiction under section 404. The fact that often Regional Boards opted to regulate discharges to, e.g., vernal pools, through the 401 program in lieu of or in addition to issuing waste discharge requirements (or waivers thereof) does not preclude the regions*

*from issuing WDRs (or waivers of WDRs) in the absence of a request for 401 certification....*

In this memorandum, the SWRCB's Chief Counsel has made the clear assumption that fill material to be discharged into isolated waters of the United States is to be considered equivalent to "waste" and therefore subject to the authority of the Porter Cologne Water Quality Act.

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

Pursuant to Division 2, Chapter 6, Sections 1600-1603 of the California Fish and Game Code, the CDFW regulates all diversions, obstructions, or changes to the natural flow or bed, channel, or bank of any river, stream, or lake, which supports fish or wildlife.

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

It is important to note that the Fish and Game Code defines fish and wildlife to include: all wild animals, birds, plants, fish, amphibians, invertebrates, reptiles, and related ecological communities including the habitat upon which they depend for continued viability (FGC Division 5, Chapter 1, section 45 and Division 2, Chapter 1 section 711.2(a) respectively). Furthermore, Division 2, Chapter 5, Article 6, Section 1600 et seq. of the California Fish and Game Code does not limit jurisdiction to areas defined by specific flow events, seasonal changes in water flow, or presence/absence of vegetation types or communities.

### **3.5 Central/Coastal Natural Communities Conservation Program/Habitat Conservation Plan**

The California Fish and Game Commission voted in favor of pursuing preparation of a Natural Communities Conservation Plan (NCCP), as proposed by pursuing preparation of a NCCP program, as proposed by Assembly Bill ("AB") 2172 (California Fish and Game Code, Sections 2800 et seq.). AB 2172 authorizes the CDFW to enter agreements with any person or local, State, or federal agencies for preparing and implementing NCCPs and for preparing guidelines for developing and implementing NCCPs.

The purpose of the NCCP program is to provide regional or area wide protection and to promote perpetuation of natural wildlife diversity while allowing compatible and appropriate development and growth. The focus of the NCCP program represents a dramatic shift from "individual species" to "habitat" preservation.

The County of Orange (in conjunction with State and federal resource agencies, local jurisdictions/municipalities, utility companies, the Transportation Corridor Agencies, and major

private landowners) prepared the NCCP/Habitat Conservation Plan (“HCP”) for the Central/Coastal Subregion (approved on July 10, 1996). The City of Lake Forest is a signatory to the NCCP/HCP. This NCCP/HCP is intended to ensure the long-term survival of the coastal California gnatcatcher and other special status, coastal sage scrub dependent plant and wildlife species, in accordance with State-sanctioned NCCP program guidelines. The Project site is located within the Central/Coastal Subregion of Orange County, California. (OCCCNCCP, 1996) but the project applicant is a non-participating landowner. As such there are no specific requirements of the Plan that applies to this project.

## **4.0 RESULTS**

This section provides the results of general biological surveys, vegetation mapping, habitat assessments and focused surveys for special-status plants and animals (BUOW, CAGN, LBV, SWWF), and a jurisdictional delineation for Waters of the United States (including wetlands) subject to the jurisdiction of the Corps and Regional Board, and streams (including riparian vegetation) and lakes subject to the jurisdiction of CDFW.

### **4.1 Existing Conditions**

The site consists of an active commercial nursery operation with an elevation ranging from approximately 670 feet above mean sea level (amsl) to 750 feet amsl, is relatively flat with a single rolling hill, and gently slopes from northeast to southwest.

Agricultural land uses consisting of an active nursery operation occupy the vast majority of the site. Nursery activities have remained active since 1979, causing a general lack of native vegetation communities on the site, with the exception of a small patch of remnant coastal sage scrub occurring within the southeastern corner of the site and riparian forest located within Serrano Creek along the southeastern boundary of the site. A water quality treatment ditch designed to infiltrate flows prior to leaving the property bisects the site and is routinely maintained free of vegetation. Developed areas consisting of equipment maintenance buildings and nursery offices were also observed at the site.

### **4.2 Vegetation**

During vegetation mapping of the Project site, four different habitat (vegetation) types were identified. Table 4-1 provides a summary of vegetation types/land uses and the corresponding acreage. Detailed descriptions of each vegetation type follow the table. A Vegetation Map is attached as Exhibit 3. Photographs depicting the various vegetation types and land uses are attached as Exhibit 6.

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

OC Habitat Types <sup>1</sup>	OC Habitat Code**	Acreage
*Maritime Succulent Scrub/Southern Cactus Scrub	3.1.5	0.28
*Southern Black Willow Forest	7.7	2.17
Active Agriculture	14.5	118.66
Bare Ground/Developed	15.0	3.44
<b>Habitat Total</b>		<b>124.55</b>
<b>Notes:</b>		
**Gray & Bramlet County of Orange Habitat Classification System, 1992		
*Coastal sage scrub; special-status vegetation type per Gray & Bramlet.		

#### **4.2.1 Maritime Succulent Scrub/Southern Cactus Scrub (Coastal Sage Scrub)**

The 0.28 acre of maritime succulent scrub occurs along the southwestern boundary of the property. It appears to be a remnant patch from when lands in the vicinity were covered with natural vegetation including this form of sage scrub. This patch is vegetated with coast prickly pear (*Opuntia littoralis*), lemonade berry (*Rhus integrifolia*), California sagebrush (*Artemisia californica*), and telegraph weed (*Heterotheca grandiflora*). This native scrub is highly degraded at this location due to invasive weedy garden escapees from the nursery operation and is not expected to support wildlife associated with larger stands of sage scrub. A focused survey for CAGN, an obligate sage scrub species that is federally listed as Threatened, was performed only due to the proximity of this patch to Serrano Creek and hence the prospect of a CAGN visiting this area while moving up or downstream to reach existing open space well north and south of the Project site.

#### **4.2.2 Southern Black Willow Forest**

Approximately 2.17 acres of riparian forest, best characterized as southern black willow forest<sup>12</sup> was mapped within project site, and is associated with Serrano Creek. This vegetation type consists of a mix of native riparian and non-native plant species and includes Eucalyptus (*Eucalyptus* sp.), coast live oak (*Quercus agrifolia*), western sycamore (*Platanus racemosa*), Fremont cottonwood (*Populus fremontii*), black willow (*Salix gooddingii*), mule fat (*Baccharis salicifolia*), toyon (*Heteromeles arbutifolia*), Spanish dagger (*Yucca gloriosa*), and mission prickly-pear (*Opuntia ficus-indica*).

#### **4.2.3 Active Agriculture**

Project site is characterized as active agriculture (nursery stock). The agricultural land use, consisting of the active nursery operation, contains a variety of non-native ornamental plant species, grown in containers for commercial resale.

The two other vegetation types, maritime succulent scrub and southern black willow forest are considered special-status vegetation communities (habitats). Refer to Section 4.3 for a discussion of these.

**4.2.4 Bare Ground/Developed**

Approximately 3.44 acre of bare ground/developed land occurs between Rancho Parkway and the existing nursery and between Bake Parkway and the existing nursery. This land is outside the nursery property but is proposed for improvements. This area is bare ground, portions of which have been planted with ornamental trees including Peruvian pepper tree and coast live oak.

**4.2 Wildlife**

Animal species observed consisted of common avian species, and included common raven (*Corvus corax*), western kingbird (*Tyrannus verticalis*), northern mockingbird (*Mimus polyglottos*), mourning dove (*Zenaida macroura*), California towhee (*Melospiza crissalis*), house finch (*Haemorhous mexicanus*), Bewick’s wren (*Thryomanes bewickii*), and Say’s phoebe (*Sayornis saya*).

Two special-status species of wildlife were detected during the 2017 field studies, Willow flycatcher (*Empidonax traillii*) and Yellow warbler (*Setophaga petechia*). Refer to Section 4.5 for further discussion.

**4.3 Special-Status Vegetation Communities (Habitats)**

The CNDDDB identifies the following eight special-status vegetation communities for the 9-quad search, using the El Toro quad with surrounding quadrangle maps (Table 4-2). The CNDDDB query is simply used as a guide for what depleted habitats may occur in the region.

**Table 4-2. Summary of CNDDDB Query - Special Status Habitats**

<b>CNDDDB Query – Special Status Habitats</b>	<b>Habitat Type</b>	<b>Determination</b>
Valley Needlegrass Grassland	Herbaceous	Absent.
Southern Coast Live Oak Riparian Forest	Riparian	Absent.
Southern Cottonwood Willow Riparian Forest	Riparian	Absent.
Southern Mixed Riparian Forest	Riparian	Southern Black Willow Forest is present. Refer to discussion below.
Canyon Live Oak Ravine Forest	Riparian	Absent.
Southern Sycamore Alder Riparian Woodland	Riparian	Absent.
Southern Riparian Scrub	Riparian	Southern Black Willow Forest is present. Refer to discussion below.
Southern Interior Cypress Forest	Forest	Absent.

None of the CNDDDB special status habitats are present on the Project site, as classified. However, Serrano Creek is vegetated with southern black willow forest which is similar to southern mixed riparian forest and southern riparian scrub. In addition, a small patch of remnant maritime succulent scrub is present along the southwestern boundary of the property. Both of these vegetation types can provide valuable habitat to a wide range of species associated with riparian habitats and sage scrub habitats, both of which have declined appreciably over the past several decades in Orange County and coastal southern California.

#### 4.4 Special-Status Plants

No special-status plants were detected at the Project site. Table 4-3 provides a list of special-status plants evaluated for the potential to occur on the Project site through general biological surveys, habitat assessments, and focused surveys. The list of species evaluated was based on the following factors: 1) species identified by the CNDDDB and CNPS as occurring (either currently or historically) on or in the vicinity of the Project site, and 2) any other special-status plants that are known to occur within the vicinity of the Project site, or for which potentially suitable habitat occurs within the site.

**Table 4-3. Special-Status Plants Evaluated for the Project Site**

<b><u>Status</u></b>	
<b>Federal</b>	<b>State</b>
FE – Federally Endangered	SE – State Endangered
FT – Federally Threatened	ST – State Threatened
FC – Federal Candidate	
<b>CNPS</b>	
Rank 1A – Plants presumed extirpated in California and either rare or extinct elsewhere.	
Rank 1B – Plants rare, threatened, or endangered in California and elsewhere.	
Rank 2A – Plants presumed extirpated in California, but common elsewhere.	
Rank 2B – Plants rare, threatened, or endangered in California, but more common elsewhere.	
Rank 3 – Plants about which more information is needed (a review list).	
Rank 4 – Plants of limited distribution (a watch list).	
<b>CNPS Threat Code extension</b>	
.1 – Seriously endangered in California (over 80% occurrences threatened)	
.2 – Fairly endangered in California (20-80% occurrences threatened)	
.3 – Not very endangered in California (<20% of occurrences threatened or no current threats known)	
<b><u>Occurrence</u></b>	
<ul style="list-style-type: none"> <li>• Does not occur – The site does not contain habitat for the species and/or the site does not occur within the geographic range of the species.</li> <li>• Absent – The site contains suitable habitat for the species, but the species has been confirmed absent through focused surveys.</li> <li>• Not expected to occur – The species is not expected to occur onsite due to low habitat quality, however absence cannot be ruled out.</li> <li>• Potential to occur – The species has a potential to occur onsite based on suitable habitat, however its presence/absence could not be confirmed.</li> <li>• Present – The species was detected onsite incidentally or through focused surveys.</li> </ul>	

Species Name	Status	Habitat Requirements	Potential for Occurrence
Allen's pentachaeta <i>Pentachaeta aurea</i> ssp. <i>allenii</i>	Federal: None State: None CNPS: Rank 1B.1	Openings in coastal sage scrub, and valley and foothill grasslands.	Absent. Not detected during focused surveys.
Aphanisma <i>Aphanisma blitoides</i>	Federal: None State: None CNPS: Rank 1B.2	Sandy soils in coastal bluff scrub, coastal dunes, and coastal scrub.	Does not occur. Necessary habitat components for species are absent from the project site.
Big-leaved crownbeard <i>Verbesina dissita</i>	Federal: FT State: ST CNPS: Rank 1B.1	Southern maritime chaparral, coastal sage scrub	Absent. Not detected during focused surveys.
Braunton's milk-vetch <i>Astragalus brauntonii</i>	Federal: FE State: None CNPS: Rank 1B.1	Closed-cone coniferous forest, chaparral, coastal sage scrub, valley and foothill grassland. Usually carbonate soils. Recent burn or disturbed areas.	Does not occur. Necessary habitat components for species are absent from the project site.
Brewer's calandrinia <i>Calandrinia breweri</i>	Federal: None State: None CNPS: Rank 4.2	Sandy or loamy soils in disturbed sites and burns. Chaparral, coastal scrub.	Does not occur. Necessary habitat components for species are absent from the project site.
California beardtongue <i>Penstemon californicus</i>	Federal: None State: None CNPS: Rank 1B.2	Sandy soils in chaparral, lower montane coniferous forest, and pinyon and juniper woodland.	Does not occur. Necessary habitat components for species are absent from the project site.
California box-thorn <i>Lycium californicum</i>	Federal: None State: None CNPS: Rank 4.2	Coastal bluff scrub, coastal scrub.	Does not occur. Necessary habitat components for species are absent from the project site.
California mariposa lily <i>Calochortus catalinae</i>	Federal: None State: None CNPS: Rank 4.2	Chaparral, cismontane woodland, coastal scrub, valley and foothill grassland.	Does not occur. Necessary habitat components for species are absent from the project site.
California satintail <i>Imperata brevifolia</i>	Federal: None State: None CNPS: Rank 2B.1	Mesic soils in chaparral, coastal scrub, Mojavean desert scrub, meadows and seeps (often alkali), and riparian scrub.	Does not occur. Necessary habitat components for species are absent from the project site.
California mariposa lily <i>Calochortus catalinae</i>	Federal: None State: None CNPS: Rank 4.2	Chaparral, cismontane woodland, coastal scrub, valley and foothill grassland.	Does not occur. Necessary habitat components for species are absent from the project site.
Chaparral nolina <i>Nolina cismontana</i>	Federal: None State: None CNPS: Rank 1B.2	Chaparral, coastal sage scrub. Occurring on sandstone or gabbro substrates.	Does not occur. Necessary habitat components for species are absent from the project site.

Species Name	Status	Habitat Requirements	Potential for Occurrence
Chaparral ragwort <i>Senecio aphanactis</i>	Federal: None State: None CNPS: Rank 2B.2	Chaparral, cismontane woodland, coastal scrub. Sometimes associated with alkaline soils.	Absent. Not detected during focused surveys.
Chaparral rein orchid <i>Piperia cooperi</i>	Federal: None State: None CNPS: Rank 4.2	Chaparral, cismontane woodland, valley and foothill grassland.	Does not occur. Necessary habitat components for species are absent from the project site.
Chaparral sand-verbena <i>Abronia villosa</i> var. <i>aurita</i>	Federal: None State: None CNPS: Rank 1B.1	Sandy soils in chaparral, coastal sage scrub.	Does not occur. Necessary habitat components for species are absent from the project site.
Cleveland's bush monkeyflower <i>Mimulus clevelandii</i>	Federal: None State: None CNPS: Rank 4.2	Gabbroic soils, often in disturbed areas, openings, rocky. Chaparral, cismontane woodland, lower montane coniferous forest.	Does not occur. Necessary habitat components for species are absent from the project site.
Cliff malacothrix <i>Malacothrix saxatilis</i> var. <i>saxatilis</i>	Federal: None State: None CNPS: Rank 4.2	Coastal bluff scrub, coastal scrub.	Does not occur. Necessary habitat components for species are absent from the project site.
Cliff spurge <i>Euphorbia misera</i>	Federal: None State: None CNPS: Rank 2B.2	Coastal bluff scrub and coastal sage scrub. Occurring on rocky soils.	Does not occur. Necessary habitat components for species are absent from the project site.
Coulter's goldfields <i>Lasthenia glabrata</i> ssp. <i>coulteri</i>	Federal: None State: None CNPS: Rank 1B.1	Playas, vernal pools, marshes and swamps (coastal salt).	Does not occur. Necessary habitat components for species are absent from the project site.
Coulter's matilija poppy <i>Romneya coulteri</i>	Federal: None State: None CNPS: Rank 4.2	Often in burns in chaparral and coastal scrub.	Does not occur. Necessary habitat components for species are absent from the project site.
Coulter's saltbush <i>Atriplex coulteri</i>	Federal: None State: None CNPS: Rank 1B.2	Coastal bluff scrub, coastal dunes, coastal sage scrub, valley and foothill grassland. Occurring on alkaline or clay soils.	Does not occur. Necessary habitat components for species are absent from the project site.
Davidson's saltscale <i>Atriplex serenana</i> var. <i>davidsonii</i>	Federal: None State: None CNPS: Rank 1B.2	Alkaline soils in coastal sage scrub, coastal bluff scrub.	Does not occur. Necessary habitat components for species are absent from the project site.

Species Name	Status	Habitat Requirements	Potential for Occurrence
Decumbent goldenbush <i>Isocoma menziesii</i> var. <i>decumbens</i>	Federal: None State: None CNPS: Rank 1B.2	Chaparral, coastal scrub (sandy, often in disturbed areas)	Does not occur. Necessary habitat components for species are absent from the project site.
Estuary seablite <i>Suaeda esteroa</i>	Federal: None State: None CNPS: Rank 1B.2	Coastal salt marsh and swamps. Occurring in sandy soils	Does not occur. Necessary habitat components for species are absent from the project site.
Fish's milkwort <i>Polygala cornuta</i> var. <i>fishae</i>	Federal: None State: None CNPS: Rank 4.3	Chaparral, cismontane woodland, riparian woodland.	Does not occur. Necessary habitat components for species are absent from the project site.
Hall's monardella <i>Monardella macrantha</i> ssp. <i>hallii</i>	Federal: None State: None CNPS: Rank 1B.3	Occurs on dry slopes and ridges within openings in broadleaved upland forest, chaparral, lower montane coniferous forest, cismontane woodland, and valley and foothill grassland.	Does not occur. Necessary habitat components for species are absent from the project site.
Heart-leaved pitcher sage <i>Lepechinia cardiophylla</i>	Federal: None State: None CNPS: Rank 1B.2	Closed-cone coniferous forest, chaparral, and cismontane woodland.	Does not occur. Necessary habitat components for species are absent from the project site.
Intermediate (foothill) mariposa-lily <i>Calochortus weedii</i> var. <i>intermedius</i>	Federal: None State: None CNPS: Rank 1B.2	Rocky soils in chaparral, coastal sage scrub, valley and foothill grassland.	Absent. Not detected during focused surveys.
Intermediate monardella <i>Monardella hypoleuca</i> ssp. <i>intermedia</i>	Federal: None State: None CNPS: Rank 1B.3	Usually in the understory of chaparral, cismontane woodland, and lower montane coniferous forest (sometimes)	Does not occur. Necessary habitat components for species are absent from the project site.
Laguna Beach dudleya <i>Dudleya stolonifera</i>	Federal: FT State: ST CNPS: Rank 1B.1	Chaparral, cismontane woodland, coastal sage scrub, valley and foothill grassland. Occurring on rocky soils.	Does not occur. Necessary habitat components for species are absent from the project site.
Lewis' evening-primrose <i>Camissoniopsis lewisii</i>	Federal: None State: None CNPS: Rank 3	Sandy or clay soils in coastal bluff scrub, cismontane woodland, coastal dunes, coastal scrub, and valley and foothill grassland.	Does not occur. Necessary habitat components for species are absent from the project site.
Long-spined spineflower <i>Chorizanthe polygonoides</i> var. <i>longispina</i>	Federal: None State: None CNPS: Rank 1B.2	Clay soils in chaparral, coastal sage scrub, meadows and seeps, and valley and foothill grasslands	Does not occur. Necessary habitat components for species are absent from the project site.

Species Name	Status	Habitat Requirements	Potential for Occurrence
Malibu baccharis <i>Baccharis malibuensis</i>	Federal: None State: None CNPS: Rank 1B.1	Chaparral, cismontane woodland, coastal sage scrub.	Absent. Not detected during focused surveys.
Many-stemmed dudleya <i>Dudleya multicaulis</i>	Federal: None State: None CNPS: Rank 1B.2	Chaparral, coastal sage scrub, valley and foothill grassland. Often occurring in clay soils.	Does not occur. Necessary habitat components for species are absent from the project site.
Mesa horkelia <i>Horkelia cuneata</i> var. <i>puberula</i>	Federal: None State: None CNPS: Rank 1B.1	Sandy or gravelly soils in chaparral (maritime), cismontane woodland, and coastal scrub.	Does not occur. Necessary habitat components for species are absent from the project site.
Mud nama <i>Nama stenocarpa</i>	Federal: None State: None CNPS: Rank 2B.2	Marshes and swamps	Does not occur. Necessary habitat components for species are absent from the project site.
Munz's onion <i>Allium munzii</i>	Federal: FE State: ST CNPS: Rank 1B.1	Clay soils in chaparral, coastal sage scrub, and valley and foothill grasslands	Does not occur. Necessary habitat components for species are absent from the project site.
Narrow-petaled rein orchid <i>Piperia leptopetala</i>	Federal: None State: None CNPS: Rank 4.3	Cismontane woodland, lower montane coniferous forest, upper montane coniferous forest.	Does not occur. Necessary habitat components for species are absent from the project site.
Nuttall's scrub oak <i>Quercus dumosa</i>	Federal: None State: None CNPS: Rank 1B.1	Closed-cone coniferous forest, chaparral, and coastal sage scrub. Occurring on sandy, clay loam soils.	Absent. Not detected during focused surveys.
Ocellated humboldt lily <i>Lilium humboldtii</i> ssp. <i>ocellatum</i>	Federal: None State: None CNPS: Rank 4.2	Chaparral, cismontane woodland, coastal sage scrub, lower montane coniferous forest, riparian woodland. Occurring in openings.	Does not occur. Necessary habitat components for species are absent from the project site.
Orcutt's pincushion <i>Chaenactis glabriuscula</i> var. <i>orcuttiana</i>	Federal: None State: None CNPS: Rank 1B.1	Coastal bluff scrub (sandy soils) and coastal dunes.	Does not occur. Necessary habitat components for species are absent from the project site.
Palmer's grapplinghook <i>Harpagonella palmeri</i>	Federal: None State: None CNPS: Rank 4.2	Chaparral, coastal sage scrub, valley and foothill grassland. Occurring in clay soils.	Does not occur. Necessary habitat components for species are absent from the project site.
Palomar monkeyflower <i>Mimulus diffusus</i>	Federal: None State: None CNPS: Rank 4.3	Sandy or gravelly soils in chaparral, lower montane coniferous forest.	Does not occur. Necessary habitat components for species are absent from the project site.

Species Name	Status	Habitat Requirements	Potential for Occurrence
Paniculate tarplant <i>Deinandra paniculata</i>	Federal: None State: None CNPS: Rank 4.2	Usually in vernal mesic, sometimes sandy soils in coastal scrub, valley and foothill grassland, and vernal pools.	Does not occur. Necessary habitat components for species are absent from the project site.
Parish's brittlescale <i>Atriplex parishii</i>	Federal: None State: None CNPS: Rank 1B.1	Chenopod scrub, playas, vernal pools.	Does not occur. Necessary habitat components for species are absent from the project site.
Parry's tetracoccus <i>Tetracoccus dioicus</i>	Federal: None State: None CNPS: Rank 1B.2	Chaparral and coastal sage scrub.	Does not occur. Necessary habitat components for species are absent from the project site.
Payson's jewelflower <i>Caulanthus simulans</i>	Federal: None State: None CNPS: Rank 4.2	Sandy or granitic soils in chaparral and coastal scrub.	Does not occur. Necessary habitat components for species are absent from the project site.
Peninsular spineflower <i>Chorizanthe leptotheca</i>	Federal: None State: None CNPS: Rank 4.2	Alluvial fan, granitic. Chaparral, coastal scrub, lower montane coniferous forest.	Does not occur. Necessary habitat components for species are absent from the project site.
Plummer's mariposa lily <i>Calochortus plummerae</i>	Federal: None State: None CNPS: Rank 4.2	Granitic, rock soils within chaparral, cismontane woodland, coastal sage scrub, lower montane coniferous forest, valley and foothill grassland.	Absent. Not detected during focused surveys.
Prostrate vernal pool navarretia <i>Navarretia prostrata</i>	Federal: None State: None CNPS: Rank 1B.1	Coastal sage scrub, valley and foothill grassland (alkaline), vernal pools. Occurring in mesic soils.	Does not occur. Necessary habitat components for species are absent from the project site.
Robinson's pepper grass <i>Lepidium virginicum</i> var. <i>robinsonii</i>	Federal: None State: None CNPS: Rank 4.3	Chaparral, coastal sage scrub	Does not occur. Necessary habitat components for species are absent from the project site.
Salt Spring checkerbloom <i>Sidalcea neomexicana</i>	Federal: None State: None CNPS: Rank 2B.2	Mesic, alkaline soils in chaparral, coastal sage scrub, lower montane coniferous forest, Mojavean desert scrub, and playas.	Does not occur. Necessary habitat components for species are absent from the project site.
San Bernardino aster <i>Symphotrichum defoliatum</i>	Federal: None State: None CNPS: Rank 1B.2	Cismontane woodland, coastal scrub, lower montane coniferous forest, meadows and seeps, marshes and swamps, valley and foothill grassland (vernally mesic).	Does not occur. Necessary habitat components for species are absent from the project site.

Species Name	Status	Habitat Requirements	Potential for Occurrence
San Fernando Valley spineflower <i>Chorizanthe parryi</i> var. <i>fernandina</i>	Federal: Candidate State: SE CNPS: Rank 1B.1	Coastal sage scrub, occurring on sandy soils.	Does not occur. Necessary habitat components for species are absent from the project site.
San Miguel savory <i>Clinopodium chandleri</i>	Federal: None State: None CNPS: Rank 1B.2	Rocky, gabbroic, or metavolcanic soils in chaparral, cismontane woodland, coastal sage scrub, riparian woodland, valley and foothill grassland.	Does not occur. Necessary habitat components for species are absent from the project site.
Santa Ana River woolly star <i>Eriastrum densifolium</i> ssp. <i>sanctorum</i>	Federal: FE State: SE CNPS: Rank 1B.1	Alluvial fan sage scrub, chaparral. Occurring on sandy or rocky soils.	Does not occur. Necessary habitat components for species are absent from the project site.
Santa Monica dudleya <i>Dudleya cymosa</i> ssp. <i>ovatifolia</i>	Federal: FT State: None CNPS: Rank 1B.1	Chaparral, coastal sage scrub. Occurring on volcanic soils.	Does not occur. Necessary habitat components for species are absent from the project site.
Santiago Peak phacelia <i>Phacelia keckii</i>	Federal: None State: None CNPS: Rank 1B.3	Closed-cone coniferous forest, chaparral	Does not occur. Necessary habitat components for species are absent from the project site.
Seaside cistanthe <i>Cistanthe maritima</i>	Federal: None State: None CNPS: Rank 4.2	Sandy soils in coastal bluff scrub, coastal scrub, and valley and foothill grassland.	Does not occur. Necessary habitat components for species are absent from the project site.
Slender-horned spineflower <i>Dodecahema leptoceras</i>	Federal: FE State: SE CNPS: Rank 1B.1	Sandy soils in alluvial scrub, chaparral, cismontane woodland.	Does not occur. Necessary habitat components for species are absent from the project site.
Small-flowered morning-glory <i>Convolvulus simulans</i>	Federal: None State: None CNPS: Rank 4.2	Chaparral (openings), coastal sage scrub, valley and foothill grassland. Occurring on clay soils and serpentinite seeps.	Does not occur. Necessary habitat components for species are absent from the project site.
Smooth tarplant <i>Centromadia pungens</i> ssp. <i>laevis</i>	Federal: None State: None CNPS: Rank 1B.1	Alkaline soils in chenopod scrub, meadows and seeps, playas, riparian woodland, valley and foothill grasslands, disturbed habitats.	Does not occur. Necessary habitat components for species are absent from the project site.
South coast branching phacelia <i>Phacelia ramosissima</i> var. <i>austrolitoralis</i>	Federal: None State: None CNPS: Rank 3.2	Sandy, sometimes rocky soils in chaparral, coastal dunes, coastal scrub, and marshes and swamps (coastal salt)	Does not occur. Necessary habitat components for species are absent from the project site.

Species Name	Status	Habitat Requirements	Potential for Occurrence
South coast saltscale <i>Atriplex pacifica</i>	Federal: None State: None CNPS: Rank 1B.2	Coastal bluff scrub, coastal dunes, coastal sage scrub, playas.	Does not occur. Necessary habitat components for species are absent from the project site.
Southern tarplant <i>Centromadia parryi</i> ssp. <i>australis</i>	Federal: None State: None CNPS: Rank 1B.1	Disturbed habitats, margins of marshes and swamps, vernal mesic valley and foothill grassland, vernal pools.	Does not occur. Necessary habitat components for species are absent from the project site.
Sticky dudleya <i>Dudleya viscida</i>	Federal: None State: None CNPS: Rank 1B.2	Coastal bluff scrub, chaparral, coastal sage scrub. Occurring on rocky soils.	Does not occur. Necessary habitat components for species are absent from the project site.
Summer holly <i>Comarostaphylis diversifolia</i> ssp. <i>diversifolia</i>	Federal: None State: None CNPS: Rank 1B.2	Chaparral.	Does not occur. Necessary habitat components for species are absent from the project site.
Tecate cypress <i>Hesperocyparis forbesii</i>	Federal: None State: None CNPS: Rank 1B.1	Closed-cone coniferous forest, chaparral.	Does not occur. Necessary habitat components for species are absent from the project site.
Thread-leaved brodiaea <i>Brodiaea filifolia</i>	Federal: FT State: SE CNPS: Rank 1B.1	Clay soils in chaparral (openings), cismontane woodland, coastal sage scrub, playas, valley and foothill grassland, vernal pools.	Does not occur. Necessary habitat components for species are absent from the project site.
Vernal barley <i>Hordeum intercedens</i>	Federal: None State: None CNPS: Rank 3.2	Coastal dunes, coastal sage scrub, valley and foothill grassland (saline flats and depressions), vernal pools.	Does not occur. Necessary habitat components for species are absent from the project site.
Western dichondra <i>Dichondra occidentalis</i>	Federal: None State: None CNPS: Rank 4.2	Chaparral, cismontane woodland, coastal scrub, valley and foothill grassland.	Does not occur. Necessary habitat components for species are absent from the project site.
Western spleenwort <i>Asplenium vespertinum</i>	Federal: None State: None CNPS: Rank 4.2	Rocky soils in chaparral, cismontane woodland, and coastal scrub.	Does not occur. Necessary habitat components for species are absent from the project site.
White rabbit-tobacco <i>Pseudognaphalium leucocephalum</i>	Federal: None State: None CNPS: Rank 2B.2	Sandy or gravelly soils in chaparral, cismontane woodland, coastal scrub, and riparian woodland.	Absent. Not detected during focused surveys.

Species Name	Status	Habitat Requirements	Potential for Occurrence
White-bracted spineflower <i>Chorizanthe xanti</i> var. <i>leucotheca</i>	Federal: None State: None CNPS: Rank 1B.2	Sandy or gravelly soils in Mojavean desert scrub and pinyon and juniper woodland.	Does not occur. Necessary habitat components for species are absent from the project site.
Woolly chaparral-pea <i>Pickeringia montana</i> var. <i>tomentosa</i>	Federal: None State: None CNPS: Rank 4.3	Gabbroic, granitic, and clay soils in chaparral.	Does not occur. Necessary habitat components for species are absent from the project site.

#### **4.4.1 Special-Status Plants Detected at the Project Site**

Eight species of special-status plants were initially judged to have potential to occur on the Project site, based on a preliminary review of habitat needs and site conditions. A focused plant survey was performed and special-status plant species were confirmed absent from the project site.

#### **4.5 Special-Status Animals**

The following special-status animals were detected at the Project site, Willow flycatcher (*Empidonax traillii*) and Yellow warbler (*Setophaga petechia*).

Table 4-4 provides a list of special-status animals evaluated for the Project site through general biological surveys, habitat assessments, and focused surveys. Species were evaluated based on the following factors, including: 1) species identified by the CNDDDB as occurring (either currently or historically) on or in the vicinity of the Project site, and 2) any other special-status animals that are known to occur within the vicinity of the Project site, for which potentially suitable habitat occurs on the site.

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

<b><u>Status</u></b>	
<b>Federal</b>	<b>State</b>
FE – Federally Endangered	SE – State Endangered
FT – Federally Threatened	ST – State Threatened
FPT – Federally Proposed Threatened	SC – State Candidate
FC – Federal Candidate	CFP – California Fully-Protected Species
BGEPA – Bald and Golden Eagle Protection Act	SSC – Species of Special Concern
<b><u>Occurrence</u></b>	
<ul style="list-style-type: none"> <li>Absent – The species is absent from the site, either because the site lacks suitable habitat for the species, the site is located outside of the known range of the species, or focused surveys has confirmed the absence of the species.</li> </ul>	

- Not expected to occur – Absence cannot be ruled out however the species’ potential for occurrence is judged less than reasonable and its presence would be rare, if at all.
- Potential to occur – The species has a potential to occur onsite based on suitable habitat, however its presence/absence could not be confirmed.
- Present – The species was detected onsite incidentally or through focused surveys.

Species Name	Status	Habitat Requirements	Occurrence
<b>Invertebrates</b>			
Quino checkerspot butterfly <i>Euphydryas editha quino</i>	Federal: FE State: None	Larval and adult phases each have distinct habitat requirements tied to host plant species and topography. Larval host plants include <i>Plantago erecta</i> and <i>Castilleja exserta</i> . Adults occur on sparsely vegetated rounded hilltops and ridgelines, and are known to disperse through disturbed habitats to reach suitable nectar plants.	Absent. Project site outside species range and does not support habitat needs of the species.
Riverside fairy shrimp <i>Streptocephalus woottoni</i>	Federal: FE State: None	Restricted to deep seasonal vernal pools, vernal pool-like ephemeral ponds, and stock ponds.	Absent. Site lacks vernal pools.
San Diego fairy shrimp <i>Branchinecta sandiegonensis</i>	Federal: FE State: None	Seasonal vernal pools	Absent. Site lacks vernal pools.
<b>Fish</b>			
Arroyo chub <i>Gila orcutti</i>	Federal: None State: SSC	Slow-moving or backwater sections of warm to cool streams with substrates of sand or mud.	Absent. Serrano Creek has ephemeral hydrology and lacks connectivity with perennial streams that may support this species.
Santa Ana speckled dace <i>Rhinichthys osculus ssp. 3</i>	Federal: None State: SSC	Occurs in the headwaters of the Santa Ana and San Gabriel Rivers. May be extirpated from the Los Angeles River system. Requires permanent flowing streams with summer water temperatures of 17-20 C. Usually inhabits shallow cobble and gravel riffles.	Absent. Serrano Creek has ephemeral hydrology and lacks connectivity with perennial streams that may support this species.
Southern steelhead - southern California DPS <i>Oncorhynchus mykiss irideus</i>	Federal: FE State: SSC	Clear, swift moving streams with gravel for spawning. Federal listing refers to populations from Santa Maria river south to southern extent of range (San Mateo Creek in San Diego county.)	Absent. Serrano Creek has ephemeral hydrology and lacks connectivity with perennial streams that may support this species.

Species Name	Status	Habitat Requirements	Occurrence
<b>Amphibians</b>			
Arroyo toad <i>Anaxyrus californicus</i>	Federal: FE State: SSC	Breed, forage, and/or aestivate in aquatic habitats, riparian, coastal sage scrub, oak, and chaparral habitats. Breeding pools must be open and shallow with minimal current, and with a sand or pea gravel substrate overlain with sand or flocculent silt. Adjacent banks with sandy or gravelly terraces and very little herbaceous cover for adult and juvenile foraging areas, within a moderate riparian canopy of cottonwood, willow, or oak.	Absent. Lack of suitable habitat onsite.
Coast Range newt <i>Taricha torosa</i>	Federal: None State: SSC	Found in wet forests, oak forests, chaparral, and rolling grasslands. In southern California, drier chaparral, oak woodland, and grasslands are used.	Absent. Lack of suitable habitat onsite.
Western spadefoot <i>Spea hammondi</i>	Federal: None State: SSC	Seasonal pools in coastal sage scrub, chaparral, and grassland habitats.	Absent. Species confirmed absent in the several small, shallow ponded areas located within the Water Quality Treatment Ditch.
<b>Reptiles</b>			
California glossy snake <i>Arizona elegans occidentalis</i>	Federal: None State: SSC	Inhabits arid scrub, rocky washes, grasslands, chaparral.	Absent. Lack of suitable habitat.
California mountain kingsnake (San Diego population) <i>Lampropeltis zonata (pulchra)</i>	Federal: None State: SSC	A habitat generalist, found in diverse habitats including coniferous forest, oak-pine woodlands, riparian woodland, chaparral, manzanita, and coastal sage scrub.	Absent. Outside of elevation range.
Coastal whiptail <i>Aspidoscelis tigris stejnegeri (multiscutatus)</i>	Federal: None State: SSC	Open, often rocky areas with little vegetation, or sunny microhabitats within shrub or grassland associations.	Not expected to occur. Site lacks live-in habitat.
Coast horned lizard <i>Phrynosoma blainvillii</i>	Federal: None State: SSC	Occurs in a variety of vegetation types including coastal sage scrub, chaparral, annual grassland, oak woodland, and riparian woodlands.	Not expected to occur. Site lacks live-in habitat.
Coast patch-nosed snake <i>Salvadora hexalepis virgultea</i>	Federal: None State: SSC	Occurs in coastal chaparral, desert scrub, washes, sandy flats, and rocky areas.	Not expected to occur. Site lacks live-in habitat.
Coronado Island skink <i>Plestiodon skiltonianus interparietalis</i>	Federal: None State: SSC	Grassland, woodlands, pine forests, chaparral, especially in open sunny areas such as clearings and the edges of creeks and rivers. Prefers rocky areas near streams with lots of vegetation. Also, found in areas away from water.	Absent. Note: Separated into two species. Range no longer overlaps with Orange County.
Red-diamond rattlesnake <i>Crotalus ruber</i>	Federal: None State: SSC	Habitats with heavy brush and rock outcrops, including coastal sage scrub and chaparral.	Not expected to occur. Site lacks live-in habitat.

<b>Species Name</b>	<b>Status</b>	<b>Habitat Requirements</b>	<b>Occurrence</b>
Two-striped garter snake <i>Thamnophis hammondi</i>	Federal: None State: SSC	Aquatic snake typically associated with wetland habitats such as streams, creeks, and pools.	Not expected to occur given the high level of disturbance to Serrano Creek and limited hydrology of the creek, and the high level of disturbance within the Water Quality Treatment Ditch caused by regular maintenance.
Western pond turtle <i>Emys marmorata</i>	Federal: None State: SSC	Slow-moving permanent or intermittent streams, small ponds and lakes, reservoirs, abandoned gravel pits, permanent and ephemeral shallow wetlands, stock ponds, and treatment lagoons. Abundant basking sites and cover necessary, including logs, rocks, submerged vegetation, and undercut banks.	Absent, given the high level of disturbance to Serrano Creek and limited hydrology of the creek, and the high level of disturbance within the Water Quality Treatment Ditch caused by regular maintenance.
<b>Birds</b>			
American peregrine falcon (nesting) <i>Falco peregrinus anatum</i>	Federal: Delisted State: Delisted, FP	Breeding habitat consists of high cliffs, tall buildings, and bridges along the coast and inland. Foraging habitat primarily includes open areas near wetlands, marshes, and adjacent urban landscapes.	Absent. No potential for nesting.
Bald eagle (nesting & wintering) <i>Haliaeetus leucocephalus</i>	Federal: Delisted State: SE, FP	Primarily in or near seacoasts, rivers, swamps, and large lakes. Perching sites consist of large trees or snags with heavy limbs or broken tops.	Not expected. No potential for nesting and very unlikely to occur during migration/winter.
Burrowing owl (burrow sites & some wintering sites) <i>Athene cucularia</i>	Federal: None State: SSC	Shortgrass prairies, grasslands, lowland scrub, agricultural lands (particularly rangelands), coastal dunes, desert floors, and some artificial, open areas as a year-long resident. Occupies abandoned ground squirrel burrows as well as artificial structures such as culverts and underpasses.	Absent. Not detected during focused surveys.
California black rail <i>Laterallus jamaicensis coturniculus</i>	Federal: None State: ST, FP	Nests in high portions of salt marshes, shallow freshwater marshes, wet meadows, and flooded grassy vegetation.	Absent. Lack of marsh habitats.

<b>Species Name</b>	<b>Status</b>	<b>Habitat Requirements</b>	<b>Occurrence</b>
Coastal cactus wren (San Diego & Orange County only) <i>Campylorhynchus brunneicapillus sandiegensis</i>	Federal: BCC State: SSC	Occurs almost exclusively in cactus (cholla and prickly pear) dominated coastal sage scrub.	Absent. Not detected during gnatcatcher focused surveys and there is not adequate habitat. The small patch of maritime succulent scrub is not adequate.
Coastal California gnatcatcher <i>Poliophtila californica californica</i>	Federal: FT State: SSC	Low elevation coastal sage scrub and coastal bluff scrub.	Absent. Not detected during focused surveys.
Golden eagle (nesting & wintering) <i>Aquila chrysaetos</i>	Federal: None State: FP	In southern California, occupies grasslands, brushlands, deserts, oak savannas, open coniferous forests, and montane valleys. Nests on rock outcrops and ledges.	Not expected. No nesting potential and very unlikely to occur during migration/winter.
Grasshopper sparrow (nesting) <i>Ammodramus savannarum</i>	Federal: None State: SSC	Open grassland and prairies with patches of bare ground.	Absent; lack of grassland habitats.
Least Bell's vireo (nesting) <i>Vireo bellii pusillus</i>	Federal: FE State: SE	Dense riparian habitats with a stratified canopy, including southern willow scrub, mule fat scrub, and riparian forest.	Absent. Not detected during focused surveys.
Light-footed Ridgway rail <i>Rallus longirostris levipes</i>	Federal: FE State: SE, FP	Marsh vegetation of coastal salt marshes and freshwater wetlands, especially cordgrass habitats.	Absent; lack of marsh habitats.
Long-eared owl (nesting) <i>Asio otus</i>	Federal: None State: SSC	Riparian habitats are required by the long-eared owl, but it also uses live-oak thickets and other dense stands of trees.	Not expected to occur. Serrano Creek is too degraded and too close to development for this species.
Northern harrier (nesting) <i>Circus cyaneus</i>	Federal: None State: SSC	A variety of habitats, including open wetlands, grasslands, wet pasture, old fields, dry uplands, and croplands.	Absent. No nesting habitat present. The species could occur in a foraging role.
Southwestern willow flycatcher (nesting) <i>Empidonax traillii extimus</i>	Federal: FE State: SE	Riparian woodlands along streams and rivers with mature dense thickets of trees and shrubs.	Absent. Not detected during focused surveys.
Tricolored blackbird (nesting colony) <i>Agelaius tricolor</i>	Federal: None State: CE	Breeding colonies require nearby water, a suitable nesting substrate, and open-range foraging habitat of natural grassland, woodland, or agricultural cropland.	Absent. Lack of suitable habitat.
White-tailed kite (nesting) <i>Elanus leucurus</i>	Federal: None State: FP	Low elevation open grasslands, savannah-like habitats, agricultural areas, wetlands, and oak woodlands. Dense canopies used for nesting and cover.	Absent as a nester during the field studies. Potential to forage on site.

<b>Species Name</b>	<b>Status</b>	<b>Habitat Requirements</b>	<b>Occurrence</b>
Willow flycatcher (nesting) <i>Empidonax traillii</i>	Federal: None State: SE	Breeds in moist, shrubby areas, often with standing or running water. Winters in shrubby clearings and early successional growth.	Present. This species was detected during focused surveys in the riparian area of Serrano Creek. However, the subspecies detected was not <i>E. t. extimus</i> , but rather other subspecies that only migrate through southern California to breed elsewhere. The state Endangered Species Act does not provide protection to migrant habitat and only <i>E.t. extimus</i> is federally listed.
Yellow-breasted chat (nesting) <i>Icteria virens</i>	Federal: None State: SSC	Dense, relatively wide riparian woodlands and thickets of willows, vine tangles, and dense brush with well-developed understories.	Not expected to occur; was not detected during focused surveys for LBV and SWWF.
Yellow warbler (nesting) <i>Setophaga petechia</i>	Federal: None State: SSC	Breed in lowland and foothill riparian woodlands dominated by cottonwoods, alders, or willows and other small trees and shrubs typical of low, open-canopy riparian woodland. During migration, forages in woodland, forest, and shrub habitats.	Present. This species was detected during focused surveys for LBV and SWWF.
<b>Mammals</b>			
American badger <i>Taxidea taxus</i>	Federal: None State: SSC	Most abundant in drier open stages of most scrub, forest, and herbaceous habitats, with friable soils.	Absent. Potential burrows are absent from the site.
Mexican long-tongued bat <i>Choeronycteris mexicana</i>	Federal: None State: SSC	Variety of habitats ranging from desert, montane, riparian, to pinyon-juniper habitats. Found roosting in desert canyons, deep caves, mines, or rock crevices. Can use abandoned buildings.	Not expected to occur. No suitable habitat.
Pacific pocket mouse <i>Perognathus longimembris pacificus</i>	Federal: FE State: SSC	Fine, alluvial soils along the coastal plain. Scarcely in rocky soils of scrub habitats.	Absent. Lack of suitable habitat.
Pallid bat <i>Antrozous pallidus</i>	Federal: None State: SSC	Deserts, grasslands, shrublands, woodlands, and forests. Most common in open, dry habitats with rocky areas for roosting.	Not expected to occur; lack of suitable habitat.
San Diego desert woodrat <i>Neotoma lepida intermedia</i>	Federal: None State: SSC	Occurs in a variety of shrub and desert habitats, primarily associated with rock outcrops, boulders, cacti, or areas of dense undergrowth.	Absent. Middens confirmed absent during surveys.

<b>Species Name</b>	<b>Status</b>	<b>Habitat Requirements</b>	<b>Occurrence</b>
Western mastiff bat <i>Eumops perotis californicus</i>	Federal: None State: SSC	Occurs in many open, semi-arid to arid habitats, including conifer and deciduous woodlands, coastal scrub, grasslands, and chaparral. Roosts in crevices in cliff faces, high buildings, trees, and tunnels.	Potential to occur.
Western red bat <i>Lasiurus blossevillii</i>	Federal: None State: SSC	Prefers riparian areas dominated by walnuts, oaks, willows, cottonwoods, and sycamores where they roost in broad-leafed trees.	Potential to occur.

#### **4.5.1 Special-Status Wildlife Species Observed within the Project Site**

Two species of special-status wildlife were detected during the field studies: willow flycatcher, and yellow warbler.

##### ***Willow flycatcher***

During the focused surveys for southwestern willow flycatcher (*Empidonax traillii extimus*), a willow flycatcher was detected. The subspecies of willow flycatcher detected was confirmed to not be the southwestern willow flycatcher subspecies based on when the individual was observed. The subspecies detected was likely the subspecies *E. t. brewsteri*, which does not breed in southern California but migrates through the area in spring and fall. Only southwestern willow flycatcher is federally listed but all subspecies of willow flycatcher are state listed. However, the state does not protect habitat used by willow flycatchers migrating through and all non-*extimus* willow flycatchers are habitat generalists during migration.

##### ***Yellow warbler***

This species of warbler is an obligate of riparian vegetation for nesting and was detected in Serrano Creek during the field studies. Yellow warbler is a state Species of Special Concern and may breed in the creek.

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

Two special-status bats have potential to occur in Serrano Creek: western mastiff bat (*Eumops perotis californicus*) and western red bat (*Lasiurus blossevillii*). Neither species is state or federally listed but both are state Species of Special Concern. These bats, along with several non-special-status bats, have potential to roost and possibly breed in Serrano Creek.

#### **4.5.3 Critical Habitat**

The Maritime Succulent Scrub/Southern Cactus Scrub (Coastal Sage Scrub) located at the Project site is not within federally designated Critical Habitat, as it is a small (0.28 acre) remnant patch of this community and is highly disturbed in nature. There is no federally designated Critical Habitat mapped within or adjacent to the Project site. The nearest Critical Habitat (for

CAGN) is located approximately one mile west and approximately one and one-half miles east of the Project site.

#### **4.6 Raptor Use**

The Project site provides suitable foraging habitat for several raptor species, including, but not limited to Cooper's hawk (*Accipiter cooperii*), red-tailed hawk (*Buteo jamaicensis*), red-shouldered hawk (*Buteo lineatus*), great horned owl (*Bubo virginianus*), barn owl (*Tyto alba*), and the white-tailed kite (*Elanus leucurus*). Cooper's hawk and red-tailed hawk nested in Serrano Creek with no other species nesting on site during the field studies.

#### **4.7 Nesting Birds**

The Project site contains trees, shrubs, and ground cover that provide suitable habitat for nesting migratory birds. Impacts to nesting birds are prohibited under the Migratory Bird Treaty Act (MBTA) and California Fish and Game Code.<sup>13</sup>

#### **4.8 Soil Mapping**

The Natural Resource Conservation Service (NRCS) identifies the following soil types (series) as occurring (currently or historically) within the Project site [Exhibit 4]: Capistrano Sandy Loam, Cieneba Sandy Loam, Cropley Clay, Myford Sandy Loam, Sorrento Loam, and Riverwash.

#### **4.9 Jurisdictional Delineation**

The Project site is within the San Diego Creek SAMP, and contains three drainage features: 1) the Water Quality Treatment Ditch, 2) Serrano Creek, and 3) unvegetated ephemeral Drainage 3. These drainages are ultimately tributary to San Diego Creek, which is tributary to Upper Newport Bay, which is tributary to the Pacific Ocean.

Potential Corps jurisdiction associated with the Project site totals 1.28 acre, none of which consists of jurisdictional wetlands, and a total of 4,971 linear feet of streambed is present. The boundaries of potential Corps jurisdiction are depicted on Exhibit 5A.

Potential Regional Board jurisdiction associated with the Project site totals 1.28 acres, none of which consists of jurisdictional wetlands [Exhibit 5A - Corps/RWQCB Jurisdictional Delineation Map]. A total of 4,971 linear feet of streambed is present. As noted above, the Water Quality Treatment Ditch, Serrano Creek, and Drainage 3 have been determined to be potential Corps jurisdictional waters, subject to regulation pursuant to Section 404 of the CWA and subject to regulation by the Regional Board pursuant to Section 401 of the CWA.

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<sup>13</sup> The MBTA makes it unlawful to take, possess, buy, sell, purchase, or barter any migratory bird listed in 50 C.F.R. Part 10, including feathers or other parts, nests, eggs, or products, except as allowed by implementing regulations (50 C.F.R.21). In addition, sections 3505, 3503.5, and 3800 of the California Department of Fish and Game Code prohibit the take, possession, or destruction of birds, their nests or eggs.

Potential CDFW jurisdiction associated with the project site totals 4.11 acres, of which 1.94 acres consists of non-riparian streambed and 2.17 acres consists of vegetated riparian habitat. The boundaries of potential CDFW jurisdiction within the project site are depicted on the enclosed jurisdictional delineation map provided as Exhibit 5B.

Table 4-5 below provides a summary of the total area of potential Corps, Regional Board, and CDFW jurisdiction within the Project site.

**Table 4-5. Summary of Corps, CDFW, and Regional Board Jurisdiction on the Project Site**

Drainage Feature	Resource Type	Corps			CDFW			Regional Board	Length (lf)
		Wetland (acres)	Non-wetland Waters (acres)	Total (acres)	Vegetated Streambed (acres)	Unvegetated Streambed (acres)	Total (acres)	Total (acres)	Total (feet)
Water Quality Treatment Ditch	Intermittent	0.0	0.92	0.92	0.0	1.84	1.84	0.92	3,032
Serrano Creek	Intermittent	0.0	0.29	0.29	2.17	0.03	2.20	0.29	928
Drainage 3	Ephemeral	0.0	0.07	0.07	0.0	0.07	0.07	0.07	1,011
<b>TOTALS:</b>		0.0	1.28	<b>1.28</b>	2.17	1.94	<b>4.11</b>	<b>1.28</b>	<b>4,971</b>

The water quality treatment ditch is an intermittent drainage feature which generally bisects the Project site from northeast to southwest. This water quality treatment ditch is regularly maintained in order to remain free of vegetation and sediment for maximum capacity, on-site retention, and treatment of flows.

Serrano Creek is an intermittent drainage which extends along the southeastern boundary of the Project site. Serrano Creek supports a riparian forest which consists of both native and non-native species, including Eucalyptus (*Eucalyptus* sp.), coast live oak (*Quercus agrifolia*), western sycamore (*Platanus racemosa*), Fremont cottonwood (*Populus fremontii*), Goodding’s black willow (*Salix gooddingii*), mule fat (*Baccharis salicifolia*), toyon (*Heteromeles arbutifolia*), Spanish dagger (*Yucca gloriosa*), and mission prickly-pear (*Opuntia ficus-indica*).

Drainage 3 is an unvegetated ephemeral drainage feature which is located along the southwestern boundary of the Project site. Drainage 3 drains into the water quality treatment ditch which drains into an off-site portion of Serrano Creek.

#### **4.10 Wildlife Migration/Nurseries**

The project does not support wildlife nurseries, but Serrano Creek is expected to provide the necessary structure and vegetation to support animal movement between natural open space well southwest and northeast of the project site. When moving through developed landscapes, wildlife

use vegetated drainages (when having suitable conditions) like Serrano Creek. The movement of individuals between natural open spaces help to support healthy animal populations through genetic diversity.

## **5.0 IMPACT ANALYSIS**

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

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

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

### **5.1 California Environmental Quality Act (CEQA)**

#### **5.1.1 Thresholds of Significance**

Environmental impacts to biological resources are assessed using impact significance threshold criteria, which reflect the policy statement contained in CEQA, Section 21001(c) of the

California Public Resources Code. Accordingly, the State Legislature has established it to be the policy of the State of California:

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

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

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

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

### **5.1.2 Criteria for Determining Significance Pursuant to CEQA**

Appendix G of the 1998 State CEQA guidelines indicate that a project may be deemed to have a significant effect on the environment if the project is likely to:

- a) Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service.*
  
- b) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish and Game or U.S. Fish and Wildlife Service.*

*c) Have a substantial adverse effect on 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.*

*d) Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites.*

*e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance.*

*f) Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan.*

## **5.2 Impacts to Native Vegetation**

The proposed Project would permanently remove approximately 0.29 acre of a remnant patch of maritime succulent scrub (coastal sage scrub). Although this vegetation community is a special-status vegetation type, the 0.29-acre patch on the project site is isolated and does not provide the functions and values associated with sage scrub communities. This impact would not be significant under CEQA. No direct impacts to southern black willow forest would occur. Refer to Section 6.0 for details on how this vegetation community would be preserved and protected. The Project would permanently remove 114.09 acres of agriculture and 0.88 acre of bare ground/developed. An additional 4.51 acres of agriculture would be temporarily impacted. Impacts to these two land covers would be a less than significant under CEQA.

## **5.3 Impacts to Special-Status Plants**

No special-status plants are present on the project site, thus no impacts to these resources would occur.

## **5.4 Impacts to Special-Status Animals**

The proposed project would remove 119.77 acres (115.26 acres permanently, 4.51 acres temporarily) of potential foraging habitat for two special-status bats, western red bat and western mastiff bat. The agricultural lands would not provide valuable foraging habitat but could be used to some degree by these species, if present. The number of individuals potentially foraging onsite is judged to be low given the degraded condition of the site. In addition, large blocks of high quality foraging habitat are present within Whiting Ranch Wilderness Park and Limestone Canyon Regional Park, located approximately one mile north of the Project site. Roosting and breeding (nursery) by these species and other non-special-status bats may occur in Serrano Creek but potential roosting habitat is not proposed for removal. The removal of 119.77 acres of low quality potential foraging habitat for bats would be a less than significant impact.

Serrano Creek provides potential nesting habitat for yellow warbler and the species was observed during field studies. The project proposes no removal of potential habitat for this species. No direct impact would occur.

Willow flycatcher was detected as a spring migrant in Serrano Creek. As discussed in Section 4.5.1, the subspecies of willow flycatcher detected was not the southwestern subspecies which is federally listed as Endangered. All subspecies of willow flycatcher are state listed as Endangered, but the state does not provide protection of migrant habitat, thus no potential “take” of willow flycatcher would occur under CESA. The non-southwestern subspecies of willow flycatcher that migrates through southern California in spring and fall does not breed here and during migration are habitat generalists, including use of residential landscaping. As proposed, encroachment into Serrano Creek would not occur. The potential foraging that could occur by these migrants in other parts of the project site that are proposed for impact (nursery agriculture) is not judged important habitat for these subspecies given the broad range of vegetation used by them. Potential impacts to non-southwestern willow flycatchers during migration is less than significant under CEQA.

The proposed Project would result in loss of 119.77 acres (115.26 acres permanently, 4.51 acres temporarily) of foraging habitat that supports several species of raptors. Cooper’s hawk and red-tailed hawk both nested in the trees within Serrano Creek during the field studies. There is no proposed direct impacts to Serrano Creek, thus this nesting habitat would remain. The loss of 119.77 acres of nursery lands would not be a significant impact under CEQA. This is based on the degraded quality of the foraging habitat and the low number of individuals potentially affected.

## **5.5 Impacts to Critical Habitat**

The proposed Project will not impact lands designated as Critical Habitat by the USFWS; therefore, the Project would have no impact to Critical Habitat.

## **5.6 Impacts to Nesting Birds**

The project has the potential to impact active native bird nests if vegetation is removed during the nesting season (January 15 to August 31). Impacts to nesting native birds are prohibited by the MBTA and California Fish and Game Code. A project-specific mitigation measure is identified in Section 6.0 of this report to avoid impacts to native nesting birds. Although impacts to native birds are prohibited by MBTA and similar provisions of California Fish and Game Code, impacts to native birds by the proposed project would not be a significant impact under CEQA biologically. The native birds with potential to nest on the project site would be those that are extremely common to the region and highly adapted to human landscapes (e.g. Anna’s hummingbird, house finch). The number of individuals potentially affected by the Project would not significantly affect regional, or local populations of such species.

## 5.7 Impacts to Jurisdictional Waters

Implementation of the proposed project would permanently impact a 0.99-acre (4,078 linear feet of drainage) portion of the existing 1.28 acres (4,971 linear feet) of potential federal Corps jurisdiction; none of which consists of jurisdictional wetlands. Development of the project would remove a 0.99-acre (4,078 linear feet) portion of the existing 1.28 acres (4,971 linear feet) of Regional Board jurisdiction, none of which are wetlands; and for the CDFW jurisdiction on the project site, an estimated 1.91-acre portion of the 1.94 acres of existing unvegetated streambed would be removed. The proposed project will not impact the existing 2.17 acres of vegetated streambed. Refer to Table 5-1 below for a summary of impacts by jurisdiction and feature.

The entirety of each of the Water Quality Treatment Ditch and Drainage 3 would be permanently removed by the Project [Exhibits 5A and 5B]. These features do not support riparian vegetation (herbaceous or woody). These features do not provide habitat to plant or wildlife species beyond what the adjacent uplands provide. Although removal of these features trigger CWA and Fish and Game Code 1602 permitting/authorizations, the removal of these agricultural features would not significantly impact water resources or associated biological resources in the vicinity or at a regional level. The proposed impacts would be less than significant under CEQA.

The proposed project would impact 0.95 acre of agricultural and developed upland areas currently and historically under use by the plant nursery operation that have been mapped under the SAMP as an Aquatic Resource Integrity Area. These areas were part of the nursery operation during the time that the SAMP was developed, are outside of the existing riparian zone associated with Serrano Creek, and are located at elevation 10 or more feet above the bankfull channel of Serrano Creek; therefore, these areas are anticipated to be a mapping error generated from the course level of remote-sensing-based mapping utilized to develop the SAMP. In addition, the entirety of the existing riparian zone associated with Serrano Creek has been avoided by the proposed project; therefore, impacts to the riparian integrity of Serrano Creek would not occur from the development of the proposed project, as the entire riparian zone is being avoided; therefore, proposed impacts to mapped SAMP areas would be less than significant under CEQA.

**Table 5-1. Summary of Proposed Impacts to Corps, CDFW, and Regional Board Jurisdiction**

Drainage Feature	Impact Type	Corps			CDFW			Regional Board	Length
		Wetland (acres)	Non-wetland Waters (acres)	Total (acres)	Vegetated Streambed (acres)	Unvegetated Streambed (acres)	Total (acres)	Total (acres)	Total (linear feet)
Water Quality Treatment Ditch (Intermittent)	Permanent	0.0	0.92	0.92	0.0	1.84	1.84	0.92	3,032
	Temporary	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0
Serrano Creek		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0

Drainage Feature	Impact Type	Corps			CDFW			Regional Board	Length
		Wetland (acres)	Non-wetland Waters (acres)	Total (acres)	Vegetated Streambed (acres)	Unvegetated Streambed (acres)	Total (acres)	Total (acres)	Total (linear feet)
(Intermittent)	Permanent								
	Temporary	0.0	0.01	0.01	0.0	0.01	0.01	0.01	35
Drainage 3 (Ephemeral)	Permanent	0.0	0.07	0.07	0.0	0.07	0.07	0.07	1,011
	Temporary	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
<b>TOTALS<sup>1</sup></b>		<b>0.0</b>	<b>0.99</b>	<b>0.99</b>	<b>0.0</b>	<b>1.91</b>	<b>1.91</b>	<b>0.99</b>	<b>4,078</b>

<sup>1</sup>-totals may not equal sum of parts due to rounding error.

### 5.8 Wildlife Migration/Nurseries

There are no wildlife corridors or wildlife nurseries on the project site where development is proposed. Serrano Creek occurs outside the project footprint but is considered a wildlife migration corridor. The creek is an important link between the open space lands well southwest and northeast of the project. Although the creek is in degraded condition, it still supports the necessary attributes needed to support animal movement, namely vegetation for cover and topography to guide animals up and downstream. No direct encroachment is proposed by the project, however the potential for indirect impacts to occur is present and evaluated in Section 5.9.

### 5.9 Indirect Impacts to Biological Resources

In the context of biological resources, indirect effects are those effects associated with developing areas adjacent to native open space. Potential indirect effects associated with development include water quality impacts associated with drainage into adjacent open space/downstream aquatic resources; dust effects; lighting effects; noise effects; invasive plant species from landscaping; and effects from human entry into adjacent open space, such as recreational activities (including hiking), pets, dumping, etc. Temporary, indirect effects may also occur as a result of construction-related activities.

There would be potential for these indirect effects to occur temporarily during construction and also in the long-term by the proposed development. These potential indirect effects can degrade the existing functions and values of Serrano Creek, and include increased depredation of wildlife from noise and lighting; dissuaded use of Serrano Creek by wildlife from noise and lighting; introduction of non-native invasive plants that outcompete native riparian plant species and thus cause reduced value to native plants and wildlife; and increased mortality to native wildlife from dogs and cats. These impacts can occur to non-special status as well as special-status species (e.g. western red bat, western Mastiff bat, nesting hawks).

Although the portion of Serrano Creek adjacent to the project already demonstrates many of these indirect impacts caused from past development, the proposed project would increase the

severity of such impacts. Serrano Creek is an important connection between natural open space well east and west of the project site. The potential indirect impacts that the project could cause to the southern black willow forest; bats, including special-status species (i.e. western red bat, western Mastiff bat) in the creek; and the existing wildlife corridor, would be a potentially significant impact under CEQA. For bats, the threshold of significance would be if the population of bats potentially impacted is 25 or more individuals with no special status and one individual bat with a special status. The threshold of significance is set at 25 or more individuals for non-special-status bats because the loss of 25 individuals would not pose a significant loss to the regional population of any non-special status species with potential to roost at the Project. Refer to Section 6.0 to address this potential impact.

Potential indirect impacts to yellow warbler would be adverse but not significant. This species has remained common to many riparian habitats and only a small number of individuals would be expected to be potentially affected by the proposed project (two to three pairs).

### **5.10 Cumulative Impacts to Biological Resources**

Cumulative impacts are defined as the direct and indirect effects of a proposed project which, when considered alone, would not be deemed a substantial impact, but when considered in addition to the impacts of related projects in the area, would be considered potentially significant. “Related projects” refers to past, present, and reasonably foreseeable probable future projects, which would have similar impacts to the proposed project.

**Native vegetation.** Development of the project site would remove permanently 0.29 acre of maritime succulent scrub (coastal sage scrub), as described in Section 5.2. This patch is remnant and due to its very small size and lack of contiguity with other sage scrub, is not judged to provide resource values associated with sage scrub vegetation. The permanent removal of 0.29 acre of maritime succulent scrub would not make a cumulatively considerable contribution to the regional decline of this vegetation community.

Direct impacts to Serrano Creek are not proposed but as identified in Section 5.9, there is potential for significant indirect impacts to occur to this section of creek by the adjacent proposed development. Although this portion of Serrano Creek shows degradation from being adjacent to surrounding development, the potential further decline of the creek by the Project would be a cumulatively considerable contribution to the regional decline of native streambed vegetated with riparian (southern black willow forest) that supports animal movement, nesting raptors, yellow warbler, and potential roosting/nursery habitat for bats. This creek and vegetation is expected to support a degree of wildlife movement/connectivity between the natural open space lands well southwest and northeast of the project site, which needs to be maintained. Refer to Section 6.4 for measures to address this impact.

**Raptor Use.** The project site is used by nesting Cooper’s hawk and red-tailed hawk. Other species of raptors may also use the site for foraging. No direct impact to occupied nesting habitat in Serrano Creek would occur but there is potential for potentially significant indirect impacts to occur to Serrano Creek, which may dissuade raptors from nesting along this stretch of creek. These two species are common to the region and the removal of nesting habitat for these or other

common species of raptors would not make a potentially cumulatively considerable contribution to the regional decline of raptors. The project would remove 119.77 acres of potential raptor foraging habitat through development of the active nursery. Although the nursery may provide foraging habitat for raptors, it is not expected to be valuable, as the lands are actively maintained to minimize use by small mammals (prey for raptors). This loss of 119.77 acres of potential raptor foraging habitat would not make a cumulatively considerable contribution to the regional decline of raptors.

**Special-Status Wildlife.** Yellow warbler is present in Serrano Creek and likely nests there. This species is strongly tied to riparian habitats for nesting. During migration it can be seen in a wide variety of native and non-native vegetation, including residential landscaping and native upland vegetation. Yellow warbler is a species of Special of Concern. Development of the project would not directly impact yellow warbler, but as identified in Section 5.9 above, the potential indirect impacts to Serrano Creek could be appreciable. However, the number of yellow warbler potentially affected would be limited to approximately two or three pairs, and this species remains a common species to many riparian habitats. The loss of nesting habitat for yellow warbler would not make a cumulatively considerable contribution to the regional decline of this species.

There is potential for bats to roost in Serrano Creek (including western mastiff bat and western red bat). The proposed project would not directly remove potential roosting/nursery habitat but has the potential to cause abandonment of the creek by bats by indirect degradation of habitat. As stated in Section 5.9, this would be judged a significant impact under CEQA if the population of bats potentially impacted is 25 or more individual bats without special status and/or one or more bats with special status. Given the regional decline of bats over the past several decades, this potential indirect impact would make a cumulatively considerable contribution to the regional decline of bats. Refer to Sections 6.3 and 6.4 for measures to address this potential cumulative impact.

**Native Nesting Birds.** There is potential for native nesting birds to be affected by development of the project. As discussed in Section 5.6, the types of birds potentially affected are common to the region and the number of individuals would be limited given the type of vegetation proposed for removal (agriculture, remnant patch of scrub habitat). Native birds are protected by MBTA and similar provisions under FGC. Based on the types of species and expected limited number of nesting pairs potentially affected and the types of species, development of the project would not make a cumulatively considerable contribution to the regional decline of native nesting birds.

**Federal and Status Jurisdictional Waters.** The jurisdictional waters proposed for removal are associated with the nursery operations and do not provide the functions and values of natural drainages/streambeds. As such the removal of 0.99 acre of Corps non-wetland waters, 0.99 acre of Regional Board non-wetland waters, and 1.91 acres of unvegetated CDFW streambed would not make a cumulatively considerable contribution to the regional decline of jurisdictional waters.

## **6.0 MITIGATION/AVOIDANCE MEASURES**

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

### **6.1 Burrowing Owl**

This measure is required as part of the CDFG (2012) protocol for burrowing owl. If a focused survey for the species has determined burrowing owl to be absent, a pre-construction survey is required prior to ground disturbance to ensure the species has not moved onto the site between when the survey was performed and commencement of construction.

A qualified biologist will conduct a pre-construction presence/absence survey for burrowing owls within 14 days prior to site disturbance. If burrowing owls are not detected, no further action is necessary.

If burrowing owls are detected during the preconstruction survey visit, the owls will be evicted from the site (when not nesting) following accepted CDFW protocols and as approved by the CDFW to avoid direct take of burrowing owl and compensate for the loss of habitat.

Compensation for the loss of occupied burrowing owl habitat will occur at a 1:1 ratio such that the habitat acreage and number of burrows occupied by burrowing owls impacted are replaced. As required by CDFW (2012) a mitigation management plan will be drafted and submitted to CDFW for approval, and will ensure lands used to compensate for the loss of habitat and burrows occupied by burrowing owls are conserved and managed in perpetuity.

### **6.2 Native Nesting Birds**

This measure is a recommendation to further reduce potential impacts to native nesting birds, as potential impacts to native nesting birds was not judged significant under CEQA. Vegetation clearing should be conducted outside of the nesting season (February 1 through August 31). If avoidance of the nesting season is not feasible, then a qualified biologist shall conduct a nesting bird survey within three days prior to any disturbance of the site, including diking, demolition activities, and grading. If active nests are identified, the biologist shall establish suitable buffers (a minimum of 50 feet for passerines, 250 feet for raptors [including burrowing owls]) around the nests. The buffer areas shall be avoided until the nests are no longer occupied and the juvenile birds can survive independently from the nests. Because potential impacts to nesting birds from development of the site is judged not biologically significant, this measure may be superseded by USFWS and/or CDFW nesting bird measures provided during the streambed/Waters of the U.S. permitting effort.

### **6.3 Bats**

The following measures are intended to reduce potential indirect impacts to bats during construction to a level of less than significant under CEQA:

Bat roosting/nursery exit counts, and acoustic surveys will be performed in Serrano Creek by a qualified bat biologist prior to construction to determine whether Serrano Creek supports a bat nursery and/or roost and by which species. This survey work will occur in late-spring/summer and potentially again in the fall, depending on the results of the summer work. This would be determined by the bat biologist.

If the results of the bat work finds 25 or more individuals composed of non-special-status bat species and/or one or more bats with a special-status, a Bat Management Plan will be developed to ensure mortality to bats does not occur during construction. If it is determined that excluding the bats during non-breeding (generally October through March) is necessary, the plan will provide details both in text and graphically where exclusion devices will need to be placed, the timing for exclusion work, and the timeline and methodology needed to exclude the bats. The plan will be reviewed and approved by CDFW. Once construction is completed, it is anticipated bats will recolonize Serrano Creek. The same measures presented in Section 6.4, below, for ensuring potential indirect effects are avoided/minimized to Serrano Creek, apply for bats.

#### **6.4 Serrano Creek**

The follow measures are intended to reduce potential impacts to Serrano Creek during construction and thus, potential indirect effects to wildlife movement and/or roosting bats:

1. The project impact footprint, including any construction buffer, shall be staked and fenced (e.g., with orange snow fencing, silt fencing or a material that is clearly visible) and the boundary shall be confirmed by a qualified biological monitor prior to ground disturbance. The construction site manager shall ensure that the fencing is maintained for the duration of construction and that any required repairs are completed in a timely manner.
2. For any vegetation clearing or work within 100 feet of Serrano Creek, a biologist will monitor to ensure encroachment into Serrano Creek does not occur.
3. Any open trenches shall be covered at the end of each work day in a manner to prevent the entrapment of wildlife, or adequately ramped to provide an animal escape route.
4. Construction will occur between 30 minutes before sunrise and 30 minutes after sunset. No nighttime construction within 200 feet of Serrano Creek will occur.
5. No construction lighting will be placed within 200 feet of Serrano Creek unless a qualified biologist confirms the lighting does not cast into Serrano Creek.
6. Active construction areas will be watered regularly (at least once every two hours) to control dust and thus minimize impacts on vegetation within Serrano Creek.
7. Equipment operators and construction crews will be informed of the importance of the construction limits by the biological monitor prior to any ground disturbance.
8. Construction personnel will strictly limit their activities, vehicles, equipment, and construction materials to the limits of disturbance and designated staging areas and routes of travel approved by the biological monitor.

9. Exotic plant species removed during construction will be properly handled to prevent sprouting or regrowth. 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. The cleaning of equipment will occur at least 300 feet from jurisdictional aquatic features, including Serrano Creek. If the location is closer, it must be approved by the biological monitor.
10. Vegetation will be covered while being transported, and vegetation materials removed from the site will be disposed of in accordance with applicable laws and regulations.
11. All equipment maintenance, staging, and dispensing of fuel, oil, coolant, or any other toxic substances will occur only in designated areas within the limits of disturbance and at least 200 feet from jurisdictional aquatic features, including Serrano Creek. These designated areas will be clearly marked and located in such a manner as to contain runoff and will be approved by the biological monitor.
12. To avoid attracting predators, the project site will be kept clear of trash and debris. All food related trash items will be enclosed in sealed containers and regularly removed from the site.

The following measures are intended to reduce potential indirect impacts to Serrano Creek post construction:

13. Potential long-term edge effects to Serrano Creek (Conservation Area – Exhibit 3) will be minimized through the installation of permanent fencing along the perimeter of the conservation easement and interior trails, if applicable. Permanent signs will be installed along all fencing indicating the purpose and need for the fencing and the restrictions within the Conservation Area. The proposed fencing location will be identified in a Habitat Management Plan (HMP). The maintenance of the fencing and signage will be the responsibility of the Home Owners Association or a long-term land management entity.
14. All lighting along the perimeter of Serrano Creek, particularly street lamps, shall be shielded and oriented in a manner that will prevent spillage or glare into the Creek. This also includes outdoor lighting for those residences abutting Serrano Creek. It will be the responsibility of the Home Owners Association to ensure lighting is maintained at these criteria.
15. Landscape plans within common areas of the development shall be reviewed by a qualified botanist, who shall recommend appropriate provisions to prevent invasive plant species from colonizing Serrano Creek. It will be the responsibility of the Home Owners Association to ensure this measure is followed.
16. Serrano Creek will be placed into a conservation easement or similar legal protection mechanism that will protect the lands in perpetuity.
17. Lands within the conservation easement will be managed in perpetuity by a designated

entity.

## **6.5 Jurisdictional Waters**

The Project would permanently impact a 0.99-acre portion of the 1.28 acres of non-wetland WoUS, a 0.99-acre portion of the 1.28 acres of non-wetland state waters (Regional Board), and a 1.91-acre portion of the 1.94 acres of unvegetated CDFW streambed. None of the 2.17 acres of vegetated streambed would be impacted.

As discussed, these proposed impacts would not be biologically significant under CEQA but would require permits and mitigation through Sections 401 and 404 of the Clean Water Act and DFG Code 1602. The following mitigation measure is recommended to address proposed impacts to these resources:

- To mitigate the loss of Corps, Regional Board, and CDFW jurisdiction, the Project will conserve and protect Serrano Creek in perpetuity through a conservation easement or a similar form of legal mechanism and will create an additional 4.19 acres of riparian vegetation that will be contiguous with, and contribute to, the existing riparian canopy associated with Serrano Creek within the conservation lands.
- A Habitat Mitigation Monitoring Plan (HMMP) shall be prepared that describes the location of establishment, restoration, and/or enhancement, which shall include replanting requirements, success criteria and monitoring following construction. The plan shall be incorporated into the regulatory agencies permit, certification, and agreement required for the project.
- A water pollution and erosion control plan will be developed and implemented in accordance with RWQCB requirements and will ensure that no fluids or sediment from construction reach Serrano Creek and that the built environment meets Section 402 CWA requirements.
- If on-site mitigation options are not feasible, the Project purchase credits from an approved mitigation bank/in-lieu fee program at a minimum of a 1:1 ratio, for a minimum of 1.91 acres of mitigation credits.
- If on-site mitigation options are not feasible and an approved mitigation bank/in-lieu fee program cannot be identified to mitigate the loss of Corps, Regional Board, and CDFW jurisdiction, the Project will enhance, re-establish, or establish Corps, Regional Board, and CDFW jurisdictional areas on off-site conserved lands at a minimum of a 1:1 ratio, for a minimum of 1.91 acre of enhancement, re-establishment, or establishment.
- The project is located within the boundaries of the Special Area Management Plan “SAMP” San Diego Creek Watershed, and impacts to non-riparian agricultural upland areas accounting for 0.95 acre of mapped Aquatic Resource Integrity Area, believed to be misclassified by a mapping error based on current and historic land use conditions, would occur. Impacts to greater than 1/10 of an acre within this mapping unit will need to be developed in coordination with the natural resource agencies.

## **6.6 Level of Significance after Mitigation**

With the implementation of mitigation measures described above in Sections 6.3 and 6.4, potential impacts to wildlife movement and bat roosting (including cumulative impacts) in Serrano Creek would be reduced to less than significant under CEQA. This is accomplished through ensuring that potential indirect effects to these resources during construction are avoided and/or minimized and that the necessary measures are in place for when the development becomes occupied by humans and their pets. The measures for nesting birds (Section 6.2) and jurisdictional waters (Section 6.5) are recommendations to further reduce potential impacts. The burrowing owl measure in Section 6.1 is necessary for compliance with the CDFG (2012) protocol for the species.

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## 8.0 CERTIFICATION

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

A handwritten signature in black ink, consisting of several loops and a long horizontal stroke.

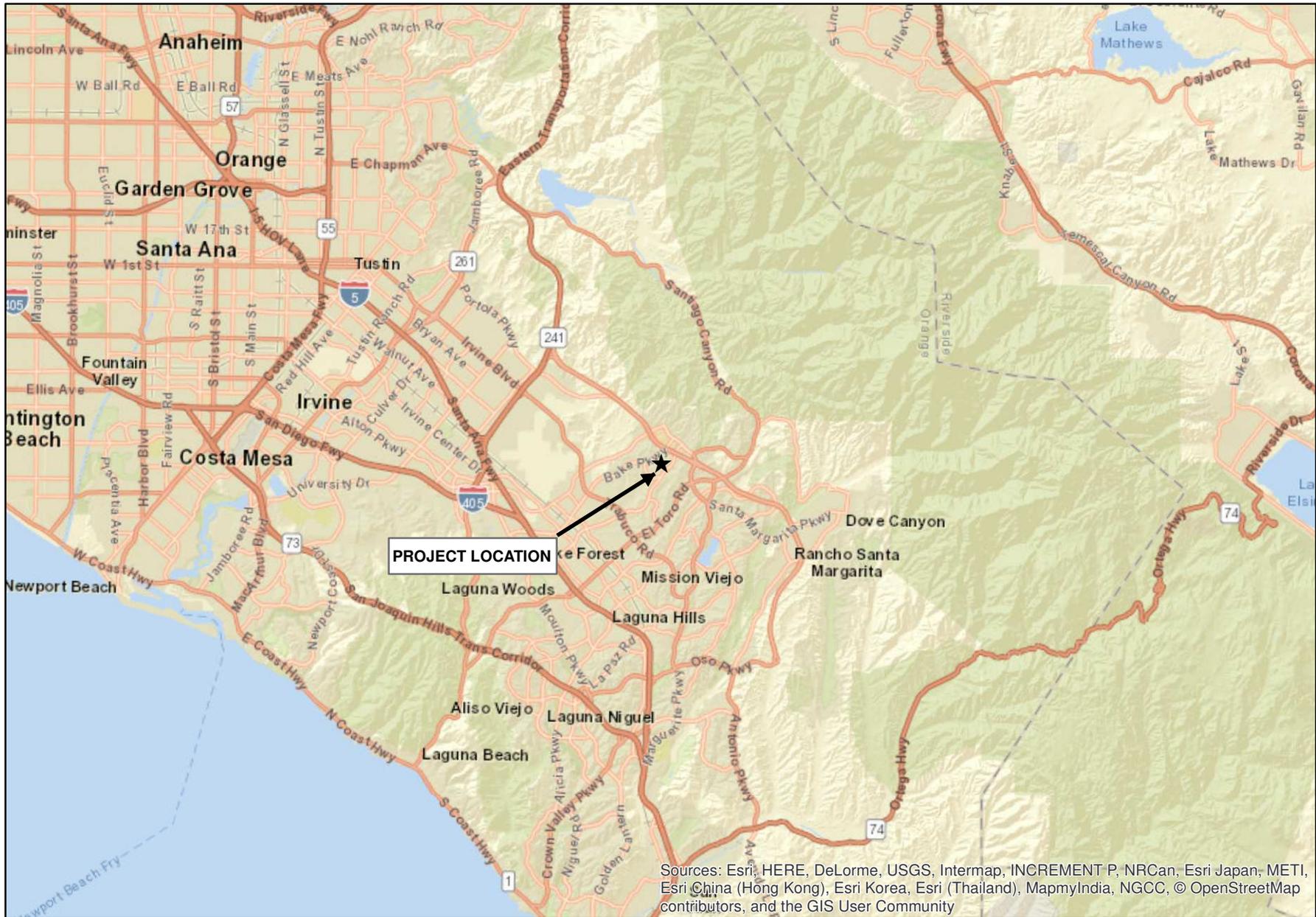
Signed:

Date: March 5, 2019

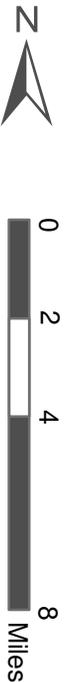
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## EXHIBITS

Source: ESRI World Street Map



Sources: Esri, HERE, DeLorme, USGS, Intermap, INCREMENT P, NRCan, Esri Japan, METI, Esri China (Hong Kong), Esri Korea, Esri (Thailand), MapmyIndia, NGCC, © OpenStreetMap contributors, and the GIS User Community



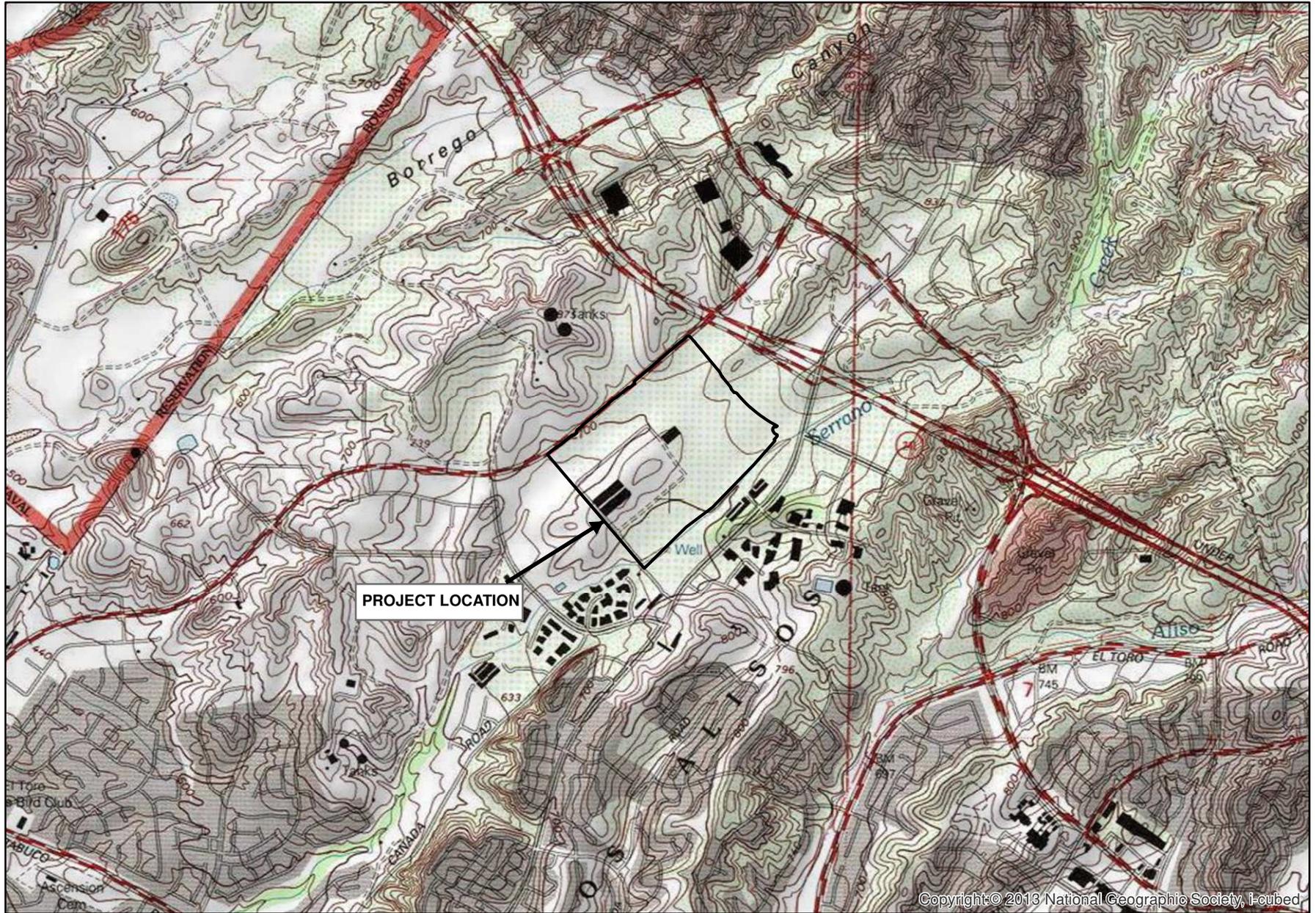
**NAKASE PROPERTY**  
Regional Map

GLENN LUKOS ASSOCIATES

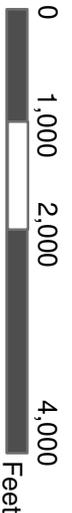


Exhibit 1

Adapted from USGS El Toro, CA quadrangle



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# NAKASE PROPERTY

Vicinity Map

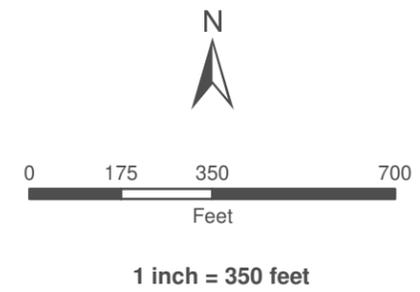
GLENN LUKOS ASSOCIATES



Exhibit 2



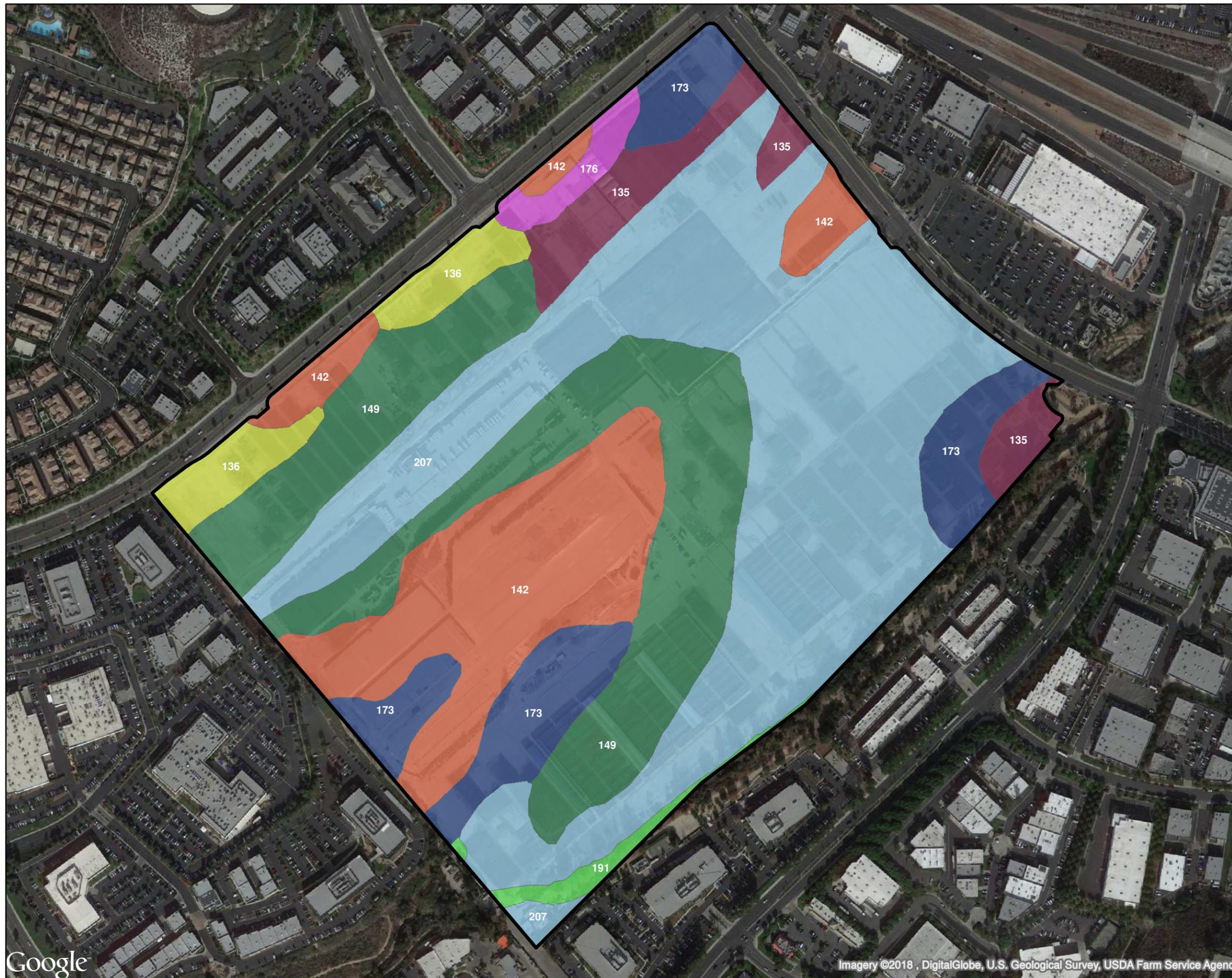
-  Project Boundary Boundary
-  Conservation Area
-  Permanent Impact Limits
-  Temporary Impact Limits
-  Avoidance Area
-  Agriculture
-  Bare Ground/Developed
-  Maritime Succulent Scrub
-  Southern Black Willow Forest



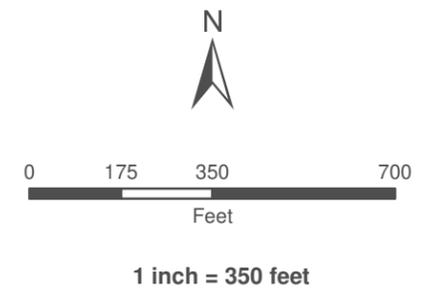
**NAKASE PROPERTY**  
Vegetation Map/Impact Map

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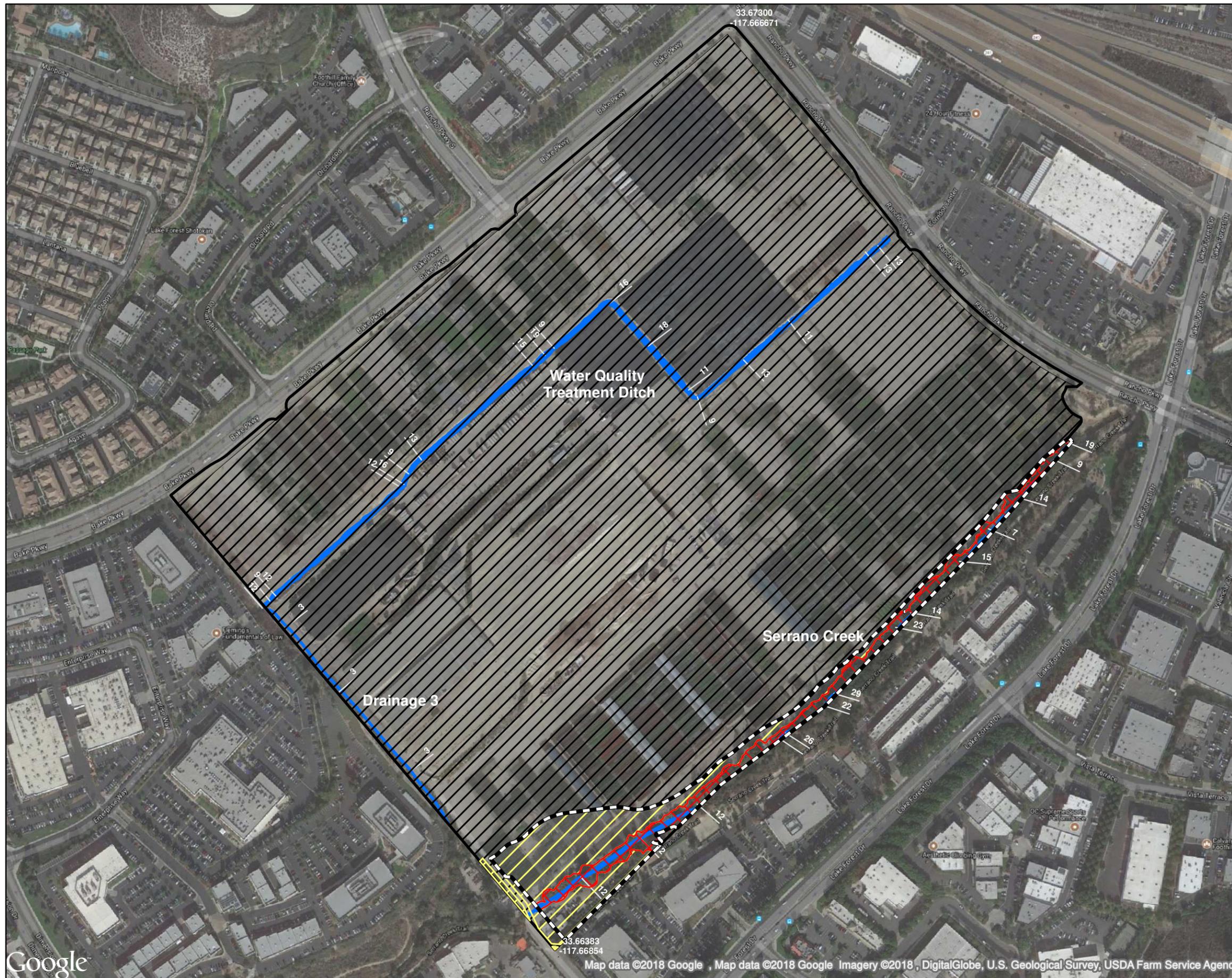
Exhibit 3



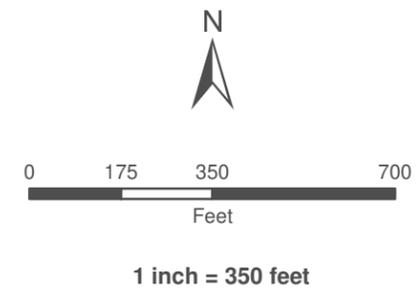
-  Project Boundary
-  135 - CAPISTRANO SANDY LOAM, 2 TO 9 PERCENT SLOPES
-  136 - CAPISTRANO SANDY LOAM, 9 TO 15 PERCENT SLOPES
-  142 - CIENEBA SANDY LOAM, 30 TO 75 PERCENT SLOPES, ERODED
-  149 - CROPLEY CLAY, 2 TO 9 PERCENT SLOPES
-  173 - MYFORD SANDY LOAM, 2 TO 9 PERCENT SLOPES
-  176 - MYFORD SANDY LOAM, 15 TO 30 PERCENT SLOPES
-  191 - RIVERWASH
-  207 - SORRENTO LOAM, 2 TO 9 PERCENT SLOPES



**NAKASE PROPERTY**  
Soils Map



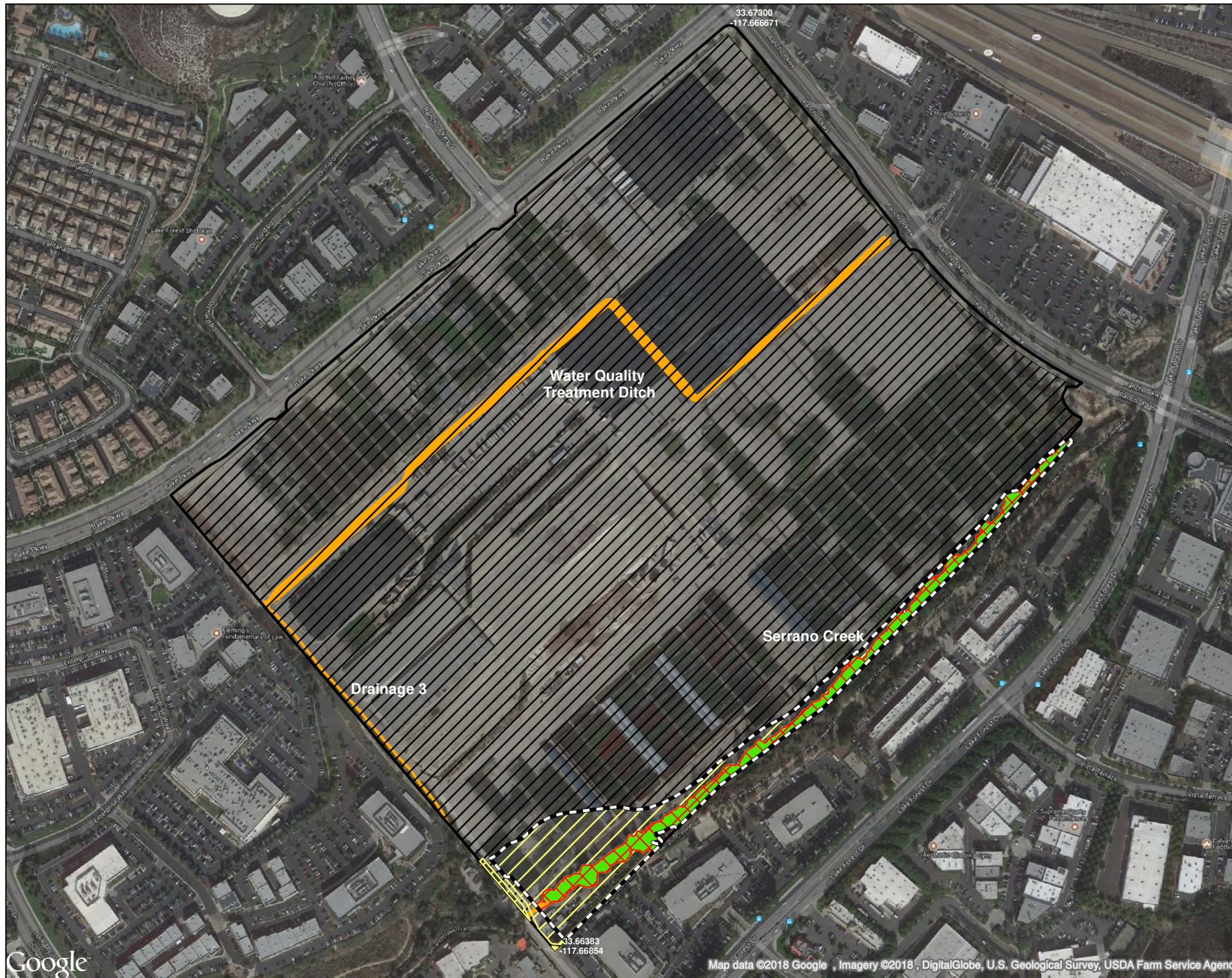
-  Project Boundary
-  Permanent Impact Limits
-  Temporary Impact Limits
-  Conservation Area
-  Avoidance Area
-  Corps/RWQCB Non-Wetland Waters
-  Width in Feet



Coordinate System: State Plane 6 NAD 83  
 Projection: Lambert Conformal Conic  
 Datum: NAD83  
 Map Prepared by: K. Kartunen, GLA  
 Date Prepared: March 9, 2018

**NAKASE PROPERTY**  
 Corps/RWQCB Jurisdictional Delineation/Impact Map

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 Exhibit 5A



-  Property Boundary
-  Permanent Impact Limits
-  Temporary Impact Limits
-  Conservation Area
-  Avoidance Area
-  CDFW Riparian
-  CDFW Unvegetated



1 inch = 350 feet

Coordinate System: State Plane 6 NAD 83  
 Projection: Lambert Conformal Conic  
 Datum: NAD83  
 Map Prepared by: K. Kartunen, GLA  
 Date Prepared: March 9, 2018

**NAKASE PROPERTY**  
 CDFW Jurisdictional Delineation/Impact Map



Photograph 1: View of the active nursery operation from the southwest corner of the site looking toward the southeast.



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Exhibit 6



Photograph 2: View of Serrano Creek along the southeastern boundary of the site looking toward the southwest.





Photograph 3: View of Serrano Creek from the southeast corner of the site looking toward the northeast.



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Exhibit 6



Photograph 4: View of Serrano Creek along the central portion of the southeastern boundary of the site looking toward the southwest.



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Site Photographs



Photograph 5: View of the southwestern portion of the water quality treatment ditch looking toward the northeast.



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Exhibit 6



Photograph 6: View of the central portion of the water quality treatment ditch looking toward the northeast.



NAKASE PROPERTY

Site Photographs

## APPENDICES

**APPENDIX A**

**FLORAL COMPENDIUM**

The floral compendium lists plant species identified on the Site.

\* = non-native species    \*\* = native cultivar

**EUDICOTS**

**ADOCACEAE**

**Elderberry Family**

*Sambucus nigra*

black elderberry

**AGAVACEAE**

**Agave Family**

\* *Agave* sp.

agave cultivar

\* *Yucca gloriosa*

Spanish dagger

**ANACARDIACEAE**

**Sumac Family**

*Malosma laurina*

laurel sumac

*Rhus integrifolia*

lemonade berry

\* *Schinus molle*

Peruvian pepper tree

*Toxicodendron diversilobum*

poison oak

**APIACEAE**

**Celery Family**

\* *Conium maculatum*

poison hemlock

**ARECAEAE**

**Palm Tree Family**

\* *Phoenix dactylifera*

Date palm

\* *Washingtonia robusta*

Mexican fan palm

**ASPHODELACEAE**

**Aloe Family**

\* *Aloe maculata*

Aloe

**ASTERACEAE**

**Sunflower Family**

*Ambrosia acanthicarpa*

annual burrweed

*Artemisia californica*

California sagebrush

*Artemisia douglasiana*

California mugwort

*Baccharis pilularis*

coyote brush

*Baccharis salicifolia*

mulefat

\* *Carduus pycnocephalus*

Italian thistle

\* *Centaurea melitensis*

totalote

\* *Cirsium vulgare*

bull thistle

*Encelia farinosa*

desert brittlebush

*Erigeron canadensis*

horseweed

<i>Heterotheca grandiflora</i>	telegraph weed
* <i>Oncosiphon piluliferum</i>	stinknet
<i>Pseudognaphalium californicum</i>	California everlasting
<i>Senecio</i> sp.	ragwort
* <i>Sonchus asper</i>	spiny sowthistle
<i>Xanthium sturmairium</i>	rough cocklebur
<b>BORAGINACEAE</b>	
<b>Forget-Me-Not Family</b>	
<i>Emmenanthe penduliflora</i>	whispering bells
<b>BRASSICACEAE</b>	
<b>Mustard Family</b>	
* <i>Brassica nigra</i>	black mustard
* <i>Hirschfeldia incana</i>	Summer mustard
<b>CACTACEAE</b>	
<b>Cactus Family</b>	
<i>Cylindropuntia</i> sp.	cholla
* <i>Opuntia ficus-indica</i>	mission cactus
<i>Opuntia littoralis</i>	coast prickly pear
<b>CHENOPODIACEAE</b>	
<b>Goosefoot Family</b>	
* <i>Chenopodium album</i>	lamb's quarters
<b>CUCURBITACEAE</b>	
<b>Gourd Family</b>	
<i>Cucurbita palmata</i>	coyote melon
<i>Marah macrocarpus</i>	wild cucumber
<b>CUPRESSACEAE</b>	
<b>Cypress Family</b>	
** <i>Juniperus californica</i>	California juniper
<b>CYPERACEAE</b>	
<b>Sedge Family</b>	
<i>Cyperus eragrostis</i>	tall flatsedge
* <i>Cyperus involucratus</i>	umbrella sedge
* <i>Cyperus papyrus</i>	Papyrus
<b>EUPHORBIACEAE</b>	
<b>Spurge Family</b>	
<i>Croton setiger</i>	doveweed
* <i>Euphorbia maculata</i>	spotted spurge
* <i>Ricinus communis</i>	castor bean
<b>FABACEAE</b>	
<b>Legume Family</b>	
* <i>Albizia julibrissin</i>	silk tree
* <i>Parkinsonia aculeate</i>	Mexican palo verde
* <i>Senna didymobotrya</i>	hairy senna

* <i>Vachellia farenisiana</i>	red acacia
<b>FAGACEAE</b>	<b>Oak Family</b>
<i>Quercus agrifolia</i>	coast live oak
<b>GERANIACEAE</b>	<b>Geranium Family</b>
* <i>Erodium cicutarium</i>	red-stemmed filaree
<b>LAMIACEAE</b>	<b>Mint Family</b>
* <i>Marrubium vulgare</i>	common horehound
* <i>Plectranthus montanus</i>	camphor sunflower
<b>LAURACEAE</b>	<b>Laurel Family</b>
* <i>Persea americana</i>	avocado
<b>MORACEAE</b>	<b>Mulberry Family</b>
* <i>Ficus edulis</i>	fig
* <i>Ficus pumila</i>	creeping fig
<b>MYRTACEAE</b>	<b>Myrtle Family</b>
* <i>Callistemon citrinus</i>	bottlebrush tree
* <i>Eucalyptus globulus</i>	blue gum eucalyptus
<b>OLEACEAE</b>	<b>Olive Family</b>
* <i>Olea europaea</i>	Olive
<b>ONAGACEAE</b>	<b>Evening Primrose Family</b>
<i>Eulobus californicus</i>	California primrose
<b>OXALIDACEAE</b>	<b>Wood-Sorrel Family</b>
<i>Oxalis pex-carprae</i>	Bermuda-buttercup oxalis
<b>PLATANACEAE</b>	<b>Sycamore Family</b>
<i>Platanus racemosa.</i>	western sycamore
<b>POLYGONACEAE</b>	<b>Buckwheat Family</b>
<i>Eriogonum fasciculatum</i>	California buckwheat
<b>ROSACEAE</b>	<b>Rose Family</b>
<i>Heteromeles arbutifolia</i>	toyon
* <i>Prunus persica</i>	peach
<b>RUTACEAE</b>	<b>Citrus Family</b>

* <i>Citrus</i> sp.	citrus
<b>SALICAEAE Willow Family</b>	
<i>Populus fremontii</i>	Fremont's cottonwood
<i>Salix gooddingii</i>	black willow
<i>Salix laevigata</i>	red willow
<i>Salix lasiolepis</i>	arroyo willow
<b>SOLANACEAE Nightshade Family</b>	
* <i>Nicotiana glauca</i>	tree tobacco
<i>Datura wrightii</i>	jimsonweed
<i>Solanum douglasii</i>	Douglas' nightshade
<b>TAMARICAEAE Tamarisk Family</b>	
* <i>Tamarix ramosissima</i>	salt cedar
<b>ULMACEAE Elm Family</b>	
* <i>Ulmus</i> sp.	elm
<b>URTICACEAE Nettle Family</b>	
* <i>Urtica urens</i>	dwarf nettle
<b>MONOCOTS</b>	
<b>POACEAE Grass Family</b>	
* <i>Stipa miliacea</i>	smilo grass



<b>EMBERIZIDAE</b>	<b>Emberizines</b>
<i>Melospiza melodia</i>	song sparrow
<i>Melozona crissalis</i>	California towhee
<i>Pipilo maculatus</i>	spotted towhee
<i>Zonotrichia leucophrys</i>	white-crowned sparrow
<b>ESTERILIDIDAE</b>	<b>Weaver-finches</b>
* <i>Lonchura punctulata</i>	nutmeg manakin
<b>FALCONIDAE</b>	<b>Caracas and Falcons</b>
<i>Falco sparverius</i>	American kestrel
<b>FRINGILLIDAE</b>	<b>Finches</b>
<i>Hirundo rustica</i>	barn swallow
<i>Petrochelidon pyrrhonota</i>	cliff swallow
<i>Stelgidopteryx serripennis</i>	northern rough-winged swallow
<b>ICTERIDAE</b>	<b>Blackbirds</b>
<i>Icterus bullockii</i>	Bullock's oriole
<i>Icterus cucullatus</i>	hooded oriole
<i>Molothrus ater</i>	brown-headed cowbird
<b>MIMIDAE</b>	<b>Mockingbirds and Thrashers</b>
<i>Mimus polyglottos</i>	northern mockingbird
<b>PARLUIDAE</b>	<b>Wood Warblers and Relatives</b>
<i>Cardellina pusilla</i>	Wilson's warbler
<i>Geothlypis trichas</i>	common yellowthroat
<i>Oreothlypis celata</i>	orange-crowned warbler
<i>Setophaga coronata</i>	yellow-rumped warbler
** <i>Setophaga petechial</i>	yellow warbler
<b>PICIDAE</b>	<b>Woodpeckers</b>
<i>Melanerpes formicivorus</i>	acorn woodpecker
<i>Picoides nuttallii</i>	Nuttall's woodpecker
<i>Picoides pubescens</i>	downy woodpecker
<b>PTILOGONATIDAE</b>	<b>Silky Flycatchers</b>
<i>Phainopepla nitens</i>	phainopepla
<b>REGULIDAE</b>	<b>Kinglets</b>
<i>Regulus calendula</i>	ruby-crowned kinglet

<b>STURNIDAE</b>	<b>Starlings</b>
* <i>Sturnus vulgaris</i>	European starling
<b>SYLVIIDAE</b>	<b>Old World Warblers</b>
<i>Chamaea fasciata</i>	wren
<b>TROCHILIDAE</b>	<b>Hummingbirds</b>
<i>Calypte anna</i>	Anna's hummingbird
<i>Selasphorus sasin</i>	Allen's hummingbird
<b>TROGLODYTIDAE</b>	<b>Wrens</b>
<i>Thryomanes bewickii</i>	Bewick's wren
<i>Troglodytes aedon</i>	house wren
<b>TURDIDAE</b>	<b>Thrushes</b>
<i>Sialia mexicana</i>	western bluebird
<i>Turdus migratorius</i>	American robin
<b>TYRANNIDAE</b>	<b>Tyrant Flycatchers</b>
<i>Empidonax difficilis</i>	Pacific-slope flycatcher
** <i>Empidonax traillii</i>	willow flycatcher
<i>Myiarchus cinerascens</i>	ash-throated flycatcher
<i>Sayornis nigricans</i>	black phoebe
<i>Sayornis saya</i>	Say's phoebe
<i>Tyrannus verticalis</i>	western kingbird
<i>Tyrannus vociferans</i>	Cassin's kingbird
<b>FISH</b>	
<b>POECILIIDAE</b>	<b>Tooth-carps</b>
* <i>Gambusia affinis</i>	western mosquitofish
<b>AMPHIBIANS</b>	
<b>HYLIDAE</b>	<b>Treefrogs</b>
<i>Pseudacris cadaverina</i>	California treefrog
<i>Pseudacris hypochondriaca hypochondriaca</i>	Baja California treefrog
<b>REPTILES</b>	
<b>PHRYNOSOMATIDAE</b>	<b>Spiny Lizard</b>
<i>Sceloporus occidentalis longipes</i>	Great Basin fence lizard
<i>Uta stansburiana</i>	common side-blotched lizard
<b>MAMMALS</b>	

<b>LEPORIDAE</b>	<b>Rabbits and Hares</b>
<i>Sylvilagus audubonii</i>	desert cottontail
<b>SCIURIDAE</b>	<b>Squirrel Family</b>
<i>Spermophilus beecheyi</i>	California Ground Squirrel