BIOLOGICAL TECHNICAL REPORT

FOR THE

Terracina Residential Development Project

Prepared For:

Spectrum Communities
5753-G Santa Ana Canyon Road
Suite 507
Anaheim, California 92807
Contact: Mr. David L. Salene
Phone: (714) 745-6546
Fax: (949) 612-8696

Prepared By:

Glenn Lukos Associates, Inc.
29 Orchard
Lake Forest, California 92630
Report Preparer: Timothy Morgan
Contact: Martin Rasnick
(949) 837-0404, ext. 20
(949) 837-5834 fax

August 28, 2013

TABLE OF CONTENTS

Page

Page

TABLES

EXHIBITS

APPENDICES

1.0 INTRODUCTION

1.1 Report Purpose

This report provides the results of general biological surveys, habitat assessments, and focused surveys conducted by Glenn Lukos Associates, Inc. (GLA) for the Terracina Residential Development Project (Project), located in the City of Lake Elsinore, Riverside County, California. This report identifies and evaluates impacts to biological resources associated with the proposed Project, and the relationship of the Project to the Western Riverside County Multiple Species Habitat Conservation Plan (MSHCP), 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.

1.2 Project Location

The Project occurs within the extreme western portion of Western Riverside County, California within the City of Lake Elsinore [Exhibit 1 – Regional Map]. The Project comprises approximately 154.8 acres of land and is bounded by rural residential development and the Alberhill Ranch Development to the north, Lakeshore Drive to the south, Dryden Street, Gunder Avenue and Stoddard Street to the east, and Terra Cotta Road and the Alberhill Ranch Development to the west. The Project site is depicted on the USGS Lake Elsinore (dated 1953 and photorevised in 1988) and Alberhill (dated 1954 and photorevised in 1988), California, topographic maps, in Sections 26, 34, and 35, of Township 5 South and Range 5 West [Exhibit 2 – Vicinity Map].

The Universal Transverse Mercator (UTM) coordinates approximately corresponding to the center of the property is 465330.33 m E and 3728644.93 m N. The Project site includes Assessor's Parcel Numbers (APN): 378-040-004, 378-040-005, 378-040-006, 378-040-007, 378-040-012, 389-180-001, 389-180-002, and 389-190-002.

1.3 Background and Project Description

The Project site is an irregular shaped parcel of land consisting of 154.8 acres of gently rolling topography and is bordered on all sides with existing or dedicated streets. The Project has six villages of residential lots on 71 acres of land ranging in size from 4,000 square feet to over 10,000 square feet in size and a total of 468 lots are being proposed. The street rights-of-way within the Project consist of 20,555 linear feet or 28.00 acres of land. The gross density of the Project is 3.10 dwelling units per acre.

In addition to 99.0 acres of residential development (including the residential streets), the Project includes a 1.6-acre park amenity; graded slopes of 28.20 acres and 22.00 acres of natural open space areas and detention/water quality basins.

As part of the Project, three detention/water quality basins will be constructed and located in each of the existing drainage areas. All three basins will detain and treat storm water from the project before exiting the site. Additional infrastructural improvements include sewer, domestic

water lines, storm drain facilities and other dry utility lines, which will be constructed as part of the proposed residential development.

A July 2006 biological constraints analysis update for the Project site reports the presence of one listed wildlife species, the federally listed California gnatcatcher (*Polioptila californica californica*), and one unlisted special-status plant species, the CNPS designated California Rare Plant Rank 4.2, Palmer's grapplinghook (*Harpagonella palmeri*), occurring on site. The current on-site status of these two species is discussed further below.

1.4 Scope and Methodology

Biologists/Regulatory Specialists from Glenn Lukos Associates, Inc. (GLA) conducted site-specific surveys at the Project site on March 14, 20, April 2, 24, May 6, 21, June 3, 7, 13, 24, and July 9, 19 2013. This report provides a discussion of existing conditions for the Project site, all methods employed regarding general and focused surveys, the documentation of botanical and wildlife resources identified (including special-status species), an analysis of impacts to biological resources, and proposed mitigation measures to offset resource impacts pursuant to the MSHCP and CEQA. Methods of study included a review of relevant literature, general and focused field surveys, and a Geographical Information System (GIS)-based impact analysis. Where applicable, 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 the Western Riverside County MSHCP. This report also discusses the relationship of the Project to the MSHCP, including the presence/absence of Covered Species, and compliance with provisions of the MSHCP, including requirements as outlined in *Volume I, Sections 6.1.2, 6.1.3, 6.1.4*, and *6.3.2* of the MSHCP document. Finally, this report provides an analysis to demonstrate that the Project (with mitigation) will be "biologically equivalent or superior" as it pertains to riparian/riverine resources.

The field studies focused on a number of primary objectives that would satisfy the special provisions of the MSHCP and also comply with CEQA requirements, including: (1) general reconnaissance surveys and vegetation mapping; (2) general wildlife surveys; (3) habitat assessments and focused surveys for special-status plants (including species with applicable MSHCP survey requirements; (4) habitat assessments and focused surveys for special-status animals (including species with applicable MSHCP survey requirements); (5) assessments for riparian/riverine areas and vernal pools; and (6) assessments for areas subject to the jurisdiction of the U.S. Army Corps of Engineers (Corps) jurisdiction pursuant to Section 404 of the Clean Water Act (CWA), CDFW jurisdiction pursuant to Division 2, Chapter 6, Section 1600 of the California Fish and Game Code and the Santa Ana Regional Water Quality Control Board (Regional Board) pursuant to Section 401 of the CWA and Section 13260 of the California Water Code (CWC), the Porter-Cologne Water Quality Control Act. Observations of plant and wildlife species were recorded during each of the above mentioned survey efforts.

1.5 Existing Conditions

The Project site is generally comprised of Riversidean Sage Scrub (RSS), disturbed land, and ruderal vegetation. The main drainage feature located in the northwest portion of the site supports southern willow scrub (SWS) and three small wetland areas. Two other drainage systems on site support RSS and non-native grasslands (NNG). The site is also traversed by many dirt paths and roads.

Elevation on site ranges between approximately 1,300 to 1,600 feet above mean sea level. Areas of high elevation are located in the southwestern and southeastern portions of the Project site and are dominated by RSS. The site also contains several anthropogenic refuse piles and scattered debris.

1.6 Relationship of the Project Site to the MSHCP

1.6.1 MSHCP Background

The Western Riverside County MSHCP is a comprehensive habitat conservation/planning program for Western Riverside County. The intent of the MSHCP is to preserve native vegetation and meet the habitat needs of multiple species, rather than focusing preservation efforts on one species at a time. The MSHCP provides coverage (including take authorization for listed species) for special-status plant and animal species, as well as mitigation for impacts to special-status species and associated native habitats.

Through agreements with the USFWS and CDFW, the MSHCP designates 146 special-status animal and plant species as Covered Species, of which the majority have no project-specific survey/conservation requirements. The MSHCP provides mitigation for project-specific impacts to these species for Projects that are compliant/consistent with MSHCP requirements, such that the impacts are reduced to below a level of significance pursuant to CEQA.

The Covered Species that are not yet adequately conserved have additional requirements in order for these species to ultimately be considered "adequately conserved". A number of these species have survey requirements based on a project's occurrence within a designated MSHCP survey area and/or based on the presence of suitable habitat. These include Narrow Endemic Plant Species (MSHCP *Volume I, Section 6.1.3*), as identified by the Narrow Endemic Plant Species Survey Areas (NEPSSA); Criteria Area Plant Species (MSHCP *Volume I, Section 6.3.2*) identified by the Criteria Area Plant Species Survey Areas (CAPSSA); animals species (burrowing owl, mammals, amphibians) identified by survey areas (MSHCP *Volume I, Section 6.3.2*); and species associated with riparian/riverine areas and vernal pool habitats, i.e., least Bell's vireo, southwestern willow flycatcher, western yellow-billed cuckoo, and three species of listed fairy shrimp (MSHCP *Volume I, Section 6.1.2*). An additional 28 species (MSHCP *Volume I, Table 9.3*) not yet adequately conserved have species-specific objectives in order for the species to become adequately conserved. However, these species do not have project-specific survey requirements.

The goal of the MSHCP is to have a total Conservation Area in excess of 500,000 acres, including approximately 347,000 acres on existing Public/Quasi-Public (PQP) Lands, and approximately 153,000 acres of Additional Reserve Lands targeted within the MSHCP Criteria Area. The MSHCP is divided into 16 separate Area Plans, each with its own conservation goals and objectives. Within each Area Plan, the Criteria Area is divided into Subunits, and further divided into Criteria Cells and Cell Groups (a group of criteria cells). Each Cell Group and ungrouped, independent Cell has designated "criteria" for the purpose of targeting additional conservation lands for acquisition. Projects meeting the definition of a "Covered Activity" are not required to set aside land pursuant to the Cell Criteria. However, all Projects within the Criteria Area must go through the Joint Project Review (JPR) process, where the Project is reviewed to ensure overall compliance/consistency with the biological requirements of the MSHCP.

1.6.2 Relationship of the Project Site to the MSHCP

The Project site is located within the Elsinore Area Plan of the MSHCP, but is not located within the MSHCP Criteria Area [Exhibit 3 MSHCP Overlay Map][1] The Project site is located within the MSHCP Burrowing Owl Survey Area and the Narrow Endemic Plant Survey Area (NEPSSA) number 1, but is not located within the MSHCP Mammal or Amphibian Survey Areas. Target plant species associated with NEPSSA 1 include Munz's onion (*Allium munzii*), San Diego ambrosia (*Ambrosia pumila*), slender horned-spineflower (*Dodecahema leptoceras*), many-stemmed dudleya (*Dudleya multicaulis*), spreading navarretia (*Navarretia fossalis*), California Orcutt grass (*Orcuttia californica*), San Miguel savory (*Clinopodium chandleri*), Hammitt's clay-cress (*Sibaropsis hammittii*), and Wright's trichocoronis (*Trichocoronis wrightii*).

Within the designated Survey Areas, the MSHCP requires habitat assessments, and focused surveys within areas of suitable habitat. For locations with positive survey results, the MSHCP requires that 90 percent of those portions of the property that provide for long-term conservation value for the identified species shall be avoided until it is demonstrated that conservation goals for the particular species have been met throughout the MSHCP. Findings of equivalency shall be made demonstrating that the 90-percent standard has been met, if applicable. If equivalency findings cannot be demonstrated, then "biologically equivalent or superior preservation" must be provided.

2.0 METHODOLOGY

GLA conducted biological surveys in order to identify and evaluate impacts to biological resources associated with the Project. The scope of the biological surveys was determined through initial site reconnaissance, a review of the California Natural Diversity Database (CNDDB) [CDFW 2013], the CNPS On-Line Inventory of Rare and Endangered Plants of California (2013), MSHCP species and habitat maps, MSHCP sensitive soil maps, Natural

[1] The MSHCP Conservation Summary Generator identifies a small portion of the Project site as occurring within the MSHCP Criteria Area. However, the City of Lake Elsinore has previously noted this as a mapping error, and that the Project site does not occur within the MSHCP Criteria Area.

Resource Conservation Service's (NRCS) soil data, other pertinent literature, and knowledge of the region. Site-specific general and focused surveys were conducted for all areas of suitable habitat for each target plant or animal species. In addition, the site was evaluated to determine the presence/absence of waters of the United States, including wetlands (Corps and Regional Board jurisdiction); stream/lakes, including riparian vegetation (CDFW jurisdiction); and MSHCP riparian/riverine areas and vernal pools.

Individual plant and animal 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 ESA;
- Occurrence in the CNPS Rare Plant Inventory (List 1B, 2, 3, or 4);
- CNDDB Federal/State Rankings; and/or
- Evaluation and coverage under the MSHCP.

Animals were considered "special-status" based on one or more of the following criteria:

- Listing through the Federal and/or State ESA;
- Designation as a Federal Species of Concern;
- Designation by the State as a California Species of Special Concern (SSC) or California Fully-Protected Species (CFP);
- CNDDB Federal/State Rankings; and/or
- Evaluation and coverage under the MSHCP.

As mentioned above, the Project site is located within the MSHCP Burrowing Owl Survey Area and NEPSSA number 1. The Project site was evaluated for burrowing owls and the target Narrow Endemic Plants. The Project site was also evaluated for riparian/riverine and vernal pool resources pursuant to *Volume I, Section 6.1.2* of the MSHCP.

2.1 Summary of Surveys

Site-specific surveys focused on a number of primary objectives that would satisfy the requirements of the MSHCP and also comply with CEQA requirements: (1) general biological surveys; (2) vegetation mapping ; (3) habitat assessments and focused surveys for special-status plants; (4) habitat assessments and focused surveys for special-status animals (including species designated by *Sections 6.1.2 and 6.3.2* of the MSHCP document); (5) assessments for MSHCP riparian/riverine areas and vernal pools; and (6) assessments for areas subject to the jurisdiction of the Corps and CDFW. Observations of all plant and animal species were recorded during each of the above-mentioned survey efforts. Table 2-1 provides a summary list of survey dates, survey types and personnel.

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

Survey Type	Survey Dates	Biologists
Burrowing Owl Focused Surveys	March 20, 2013 April 2, 2013 April 24, 2013 May 6, 2013	JF, TM
General Biological Surveys	March 14, 2013	DM, JF
Jurisdictional Delineation	June 15, 2012 June 20, 2012	MR, LL
Rare Plant Surveys	March 14, 2013 May 6, 2013 June 7, 2013	DM, JF
Vegetation Mapping	August 5, 2013	TM

MR – Martin Rasnick, DM – David Moskovitz, JF – Jason Fitzgibbon, LL – Lesley Lokovic, TM – Tim Morgan

2.2 Botanical Resources

A site-specific survey program was designed to accurately document the botanical resources within the Project Site, including: (1) literature search; (2) general biological survey and habitat assessments; (3) focused plant survey; and (4) vegetation mapping.

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, but was not limited to, the following:

- CNPS *Online Inventory of Rare and Endangered Plants of California* (Eighth Edition) [CNPS 2010];
- CNDDB for the Lake Elsinore, Alberhill, and surrounding USGS quadrangle maps (CDFW 2013); and
- MSHCP Document, including *Volume I, Sections 6.1.2, 6.1.3, and 6.3.2* (Riverside County Integrated Project 2003).

2.2.2 Vegetation Mapping

Vegetation communities were mapped for the Project site, using categories from the MSHCP Habitat Accounts (Volume II, Section C), which are based on the Holland (1986) classification system. Exhibit 4 [Vegetation Map] provides vegetation mapping for the Project Site. Exhibit 5 provides representative photographs of the site.

2.2.3 Special-Status Plant Species Evaluated for the Project Site

The CNDDB and MSHCP were initially consulted to determine known occurrences of special-status plants in the region. Other sources used to develop a list of target species for the survey program included the CNPS Online Inventory (CNPS 2013). Based on this information, a list of special-status plant species and habitats that could occur within the Project Site were developed and incorporated into a mapping and survey program for the Project Site. Focused plant surveys were conducted on March 14, May 6, and June 7 2013. Section 4.0 of this document provides a list of special-status plants evaluated for the Project, as well as the results of habitat assessments and focused plant surveys.

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. Wildlife species detected through direct sightings, or based on physical evidence, were recorded in field notes during each visit. Scientific nomenclature and common names for vertebrate species referred to in this report follows a number of sources, including the CDFW Complete List of Amphibian, Reptile, Bird, and Mammal Species in California (CDFW 2008); Collins (2009) for amphibians and reptiles; Baker, et al. (2003) for mammals; and the AOU Checklist (1998) for birds. The methodology (including any applicable survey protocols) utilized to conduct habitat assessments and focused surveys for special-status animals are included below.

2.3.1 General Biological Surveys

All wildlife species that were detected incidentally during biological surveys were documented. For reptiles, habitats were examined for diagnostic sign, which include shed skins, tracks, snake prints, and lizard tail drag marks. Birds were detected by both visual observation and by vocalizations. Mammals were detected both by visual observations and by the presence of diagnostic sign (i.e., tracks, burrows, scat, etc.).

2.3.2 Special-Status Animal Species Evaluated for the Project Site

The CNDDB and MSHCP were initially consulted to determine known occurrences of special-status animals in the region. Based on this information, a list of target animal species (including their suitable habitats) was developed and incorporated into a survey program to achieve the following goals: (1) prepare a detailed faunal compendium; and (2) implement general

reconnaissance field work and focused surveys to document special-status animal species within the Project Site.

2.3.3 Habitat Assessments/Focused Surveys for the Western Burrowing Owl

The Project Site is located within the MSHCP Survey Area for the western burrowing owl (*Athene cunicularia hypugaea*). Focused burrowing owl surveys were conducted following the 2006 MSHCP Burrowing Owl Survey Instructions.

Step I of the MSHCP Survey Instructions requires that an assessment be conducted to determine the presence of suitable habitat for the burrowing owl. Habitat assessments must be conducted by walking the subject property. Habitat assessments should consider a 150-meter (500 foot) buffer zone around the property.

Habitat for the burrowing owl is varied, including short-grass prairies, grasslands, lowland scrub, agricultural lands (particularly rangelands), coastal dunes, desert floors, and some artificial, open areas as a year-long resident (Haug, et al. 1993). Burrowing owls require large open expanses of sparsely vegetated areas on gently rolling or level terrain with an abundance of active small mammal burrows (e.g., ground squirrels, etc.). As a critical habitat feature need, they require the use of rodent or other burrows for roosting and nesting cover. Burrowing owls may also dig their own burrows in soft, friable soil (as found in Florida) and may also use pipes, culverts, and nest boxes where burrows are scarce (Robertson 1929). The mammal burrows are modified and enlarged. In the case of nesting owls, one burrow is typically selected for use as the nest; however, satellite burrows are usually found within the immediate vicinity of the nest burrow within the defended territory of the owl.

The MSHCP Survey Instructions acknowledge that the presence of suitable burrows is not the deciding factor on whether a site contains suitable habitat for burrowing owls. Basic suitability is more broadly defined by the vegetation structure of a given site. Once basic suitability has been confirmed, the presence/absence of suitable burrows is to be determined through focused burrow surveys (Step II of the Survey Instructions). The majority of the Project site consists of non-native grasslands and disturbed Riversidean sage scrub (dRSS). The Project site supports suitable burrowing owl habitat and potential nesting/roosting burrows created by mammals and refuse piles. As such, focused burrow and burrowing owl surveys were conducted.

The MSHCP Survey Instructions require a minimum of four survey visits to determine the presence/absence of burrowing owls. Potentially suitable burrows were mapped during the first survey visit on March 14, 2013. Focused surveys were conducted on March 20, April 2, 24, and May 6, 2013. Surveys were conducted by walking pedestrian transects across the Project Site. Burrows were inspected for the presence of diagnostic owl sign; including “whitewash” (owl excrement), regurgitated pellets, bones, feathers, etc. The results of focused surveys are discussed in Section 4.0 of this report.

Table 2-2. Summary of Focused Burrowing Owl Survey Dates

Survey Date	Biologist	Start/End Times	Temperature (°F)	Wind Speed (mph)	Cloud Cover (start/end)
3/20/13	JF/TM	0730/1000	58/68	0/3	Overcast/Overcast
4/2/13	JF/TM	0715/0945	63/69	0/2	Clear/Overcast
4/24/13	JF/TM	0650/0850	56/64	0/0	Overcast/Overcast
5/6/13	JF/TM	0730/0855	56/61	1/0	Overcast/Overcast

2.3.4 Focused Surveys for the Southwestern Willow Flycatcher

Volume I, Section 6.1.2 of the MSHCP requires focused surveys for the Federally and State listed southwestern willow flycatcher (*Empidonax traillii extimus*) within areas of suitable riparian habitat that cannot be avoided by projects. The Project site does not contain or occur next to adjacent riparian habitat with some potential to support the southwestern willow flycatcher. As such, focused flycatcher surveys were not conducted.

2.3.5 Habitat Assessments/Focused Surveys for the Least Bell's Vireo

Volume I, Section 6.1.2 of the MSHCP requires focused surveys for the Federally and State listed least Bell's vireo (*Vireo bellii pusillus*) [LBV] within areas of suitable riparian habitat that cannot be avoided by projects. The Project site contains riparian habitat with some potential to support the LBV. As such, focused LBV surveys were conducted within riparian habitat to be affected by the Project.

The USFWS LBV survey guidelines stipulate that a minimum of eight visits be conducted within areas of suitable habitat during the period from April 10 to July 31, with at least ten days between site visits.[2] Surveys must be conducted between sunrise and 11:00 am, and weather conditions must be conducive to a high level of bird activity.

GLA biologists conducted focused vireo surveys on April 24, May 6, 21, June 3, 13, 24, and July 9, 19 2013. Table 2-3 presented below summarizes the survey dates and surveying biologists for the 2013 focused surveys. The results of focused surveys are discussed in section 4.0 of this report.

[2] U.S. Fish and Wildlife guidelines for least Bell's vireo surveys recommend surveys of up to 50 hectares (approximately 120 acres) and no more than 3 linear kilometers (approximately 1.8 miles) per day, depending on site conditions (e.g., density and width of vegetation). U.S. Department of the Interior, Fish and Wildlife Service. 1999. Least Bell's vireo Survey Guidelines, Published guidelines by Ecological Services Carlsbad Fish and Wildlife Office, 3 pages.

Table 2-3. Summary of Focused Least Bell's Vireo Survey Dates

Survey Date	Surveying Biologist	Start/End Times	Temperature (°F)	Wind Speed (mph)	Cloud Cover
4/24/13	JF/TM	0850/1100	64/73	0/0	Overcast/Broken
5/6/13	JF/TM	0855/0955	61/57	0/0	Overcast/Overcast
5/21/13	JF	0605/0815	62/69	0/0	Scattered/Clear
6/3/13	JF	0620/1005	65/70	0/0	Overcast/Overcast
6/13/13	DS	0700/1000	75/75	0/2	Overcast/Overcast
6/24/13	TM	0825/1015	60/73	3/6	Overcast/Broken
7/9/13	DS	0600/0845	69/89	0/2	Clear/Broken
7/19/13	DS	0620/0900	66/88	0/2	Scattered/Scattered

2.4 MSHCP Riparian/Riverine Areas and Vernal Pools

GLA surveyed the site for riparian/riverine areas and vernal pool/seasonal pool habitat. *Volume I, Section 6.1.2* of the MSHCP describes the process through which protection of riparian/riverine areas and vernal pools would occur within the MSHCP Plan Area. The purpose is to ensure that the biological functions and values of these areas throughout the MSHCP Plan Area are maintained such that habitat values for species inside the MSHCP Conservation Area are maintained. The MSHCP requires that as projects are proposed within the overall Plan Area, the effect of those projects on riparian/riverine areas and vernal pools must be addressed.

The MSHCP defines riparian/riverine areas as *lands which contain Habitat dominated by trees, shrubs, persistent emergent mosses and lichens, which occur close to or which depend upon soils moisture from a nearby fresh water source; or areas with fresh water flow during all or a portion of the year.*

The MSHCP defines vernal pools as *seasonal wetlands that occur in depression areas that have wetlands indicators of all three parameters (soils, vegetation, and hydrology) during the wetter portion of the growing season but normally lack wetland indictors of hydrology and/or vegetation during the drier portion of the growing season.*

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

2.5 Jurisdictional Waters

The Project Site was evaluated to determine the limits of (1) Corps jurisdiction pursuant to Section 404 of the CWA, (2) Regional Board jurisdiction pursuant to Section 401 of the CWA and Section 13260 of the CWC, the Porter-Cologne Act, and (3) CDFW jurisdiction pursuant to Division 2, Chapter 6, Sections 1600-1616 of the Fish and Game Code. The evaluation for Corps jurisdiction was based on regulatory guidance pursuant to the recent U.S. Supreme Court

decisions of *Rapanos v. United States* and *Carabell v. United States*, which updated/incorporated guidance pursuant to *Solid Waste Agency of Northern Cook County v. United States Army Corps of Engineers, et. al.* (SWANCC).

2.5.1 Corps Jurisdiction

Pursuant to Section 404 of the CWA, 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) 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.*
>
> *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.*
>
> (8) Waters of the United States do not include prior converted cropland.[3] 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.

[3] 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.]

In the absence of wetlands, the limits of Corps jurisdiction in non-tidal waters, such as intermittent streams, extend to the ordinary high water mark (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 (RPWs) tributary to TNWs and/or their adjacent wetlands as set forth in the chart below, the Corps must apply the significant nexus standard, that includes the data set forth in the *Approved Jurisdictional Determination Form.*

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 information pertaining to isolated waters is also included on the *Approved Jurisdictional Determination Form*.

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 National List of Plant Species that Occur in Wetlands[4]);

- 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.

2.5.2 Regional Water Quality Control Board

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.[5] 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….

---

[4] Reed, P.B., Jr. 1988. National List of Plant Species that Occur in Wetlands. U.S. Fish and Wildlife Service Biological Report 88(26.10).

[5] Wilson, Craig M. January 25, 2001. Memorandum addressed to State Board Members and Regional Board Executive Officers.

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. However, while providing a recounting of the Act's definition of waters of the United States, this memorandum fails to also reference the Act's own definition of waste:

"Waste" includes sewage and any and all other waste substances, liquid, solid, gaseous, or radioactive, associated with human habitation, or of human or animal origin, or from any producing, manufacturing, or processing operation, including waste placed within containers of whatever nature prior to, and for purposes of, disposal.

The lack of inclusion of a reference to "fill material," "dirt," "earth" or other similar terms in the Act's definition of "waste," or elsewhere in the Act, suggests that no such association was intended. Thus, the Chief Counsel's memorandum signals that the SWRCB is attempting to retain jurisdiction over discharge of fill material into isolated waters of the United States by administratively expanding the definition of "waste" to include "fill material" without actually seeking amendment of the Act's definition of waste (an amendment would require action by the state legislature). Consequently, discharge of fill material into waters of the State not subject to the jurisdiction of the Corps pursuant to Section 404 of the Clean Water Act may require authorization pursuant to the Porter Cologne Act through application for waste discharge requirements (WDRs) or through waiver of WDRs, despite the lack of a clear regulatory imperative.

2.5.3 California Department of Fish and Wildlife

Pursuant to Division 2, Chapter 6, Sections 1600-1616 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 jurisdiction within altered or artificial waterways is based upon the value of those waterways to fish and wildlife. CDFW Legal Advisor has prepared the following opinion:

- Natural waterways that have been subsequently modified and which have the potential to contain fish, aquatic insects and riparian vegetation will be treated like natural waterways...

- Artificial waterways that have acquired the physical attributes of natural stream courses and which have been viewed by the community as natural stream courses, should be treated by [CDFW] as natural waterways...

- Artificial waterways without the attributes of natural waterways should generally not be subject to Fish and Game Code provisions...

Thus, CDFW jurisdictional limits closely mirror those of the Corps. Exceptions are CDFW's exclusion of isolated wetlands (those not associated with a river, stream, or lake), the addition of artificial stock ponds and irrigation ditches constructed on uplands, and the addition of riparian habitat supported by a river, stream, or lake regardless of the riparian area's federal wetland status.

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-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 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.

3.1.4 Take Authorizations Pursuant to the MSHCP

The Western Riverside County MSHCP was adopted on June 17, 2003, and an Implementing Agreement (IA) was executed between the Federal and State Wildlife Agencies (USFWS and CDFW) and participating entities. The MSHCP is a comprehensive habitat conservation-planning program for western Riverside County. The intent of the MSHCP is to preserve native vegetation and meet the habitat needs of multiple species, rather than focusing preservation efforts on one species at a time. As such, the MSHCP is intended to streamline review of individual projects with respect to the species and habitats addressed in the MSHCP, and to provide for an overall Conservation Area that would be of greater benefit to biological resources than would result from a piecemeal regulatory approach. The MSHCP provides coverage (including take authorization for listed species) for special-status plant and animal species, as well as mitigation for impacts to sensitive species.

Through agreements with the USFWS and the CDFW, the MSHCP designates 146 special-status animal and plant species that receive some level of coverage under the plan. Of the 146 "Covered Species" designated under the MSHCP, the majority of these species have no additional survey/conservation requirements. In addition, through project participation with the MSHCP, the MSHCP provides mitigation for project-specific impacts to Covered Species so that the impacts would be reduced to below a level of significance pursuant to CEQA. As noted above, project-specific survey requirements exist for species designated as "Covered Species not yet adequately conserved". These include Narrow Endemic Plant Species, as identified by the Narrow Endemic Plant Species Survey Areas (NEPSSA); Criteria Area Plant Species identified by the Criteria Area Species Survey Areas (CASSA); animals species as identified by survey area; and plant and animal species associated with riparian/riverine areas and vernal pool habitats (*Volume I, Section 6.1.2* of the MSHCP document).

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 5.1.2 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 Ranks 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 Ranks 3 or 4.

3.2.2 Special-Status Plants and Animals 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. However, some USFWS field offices have issued memoranda stating that former C2 species are to be considered federal Species of Concern (FSC). 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 (CFP) Mammals or Fully Protected Birds, as described in the California Fish and Game Code, Sections 4700 and 3511, respectively. California Species of Special Concern (SSC) are species 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 CNDDB project. Informally listed taxa are not protected, but warrant consideration in the preparation of biotic assessments. For some species, the CNDDB 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
- CFP California Fully-Protected
- CP California Protected
- SSC California Species of Special Concern
- WL Watch List

California Native Plant Society

The CNPS is a private plant conservation organization dedicated to the monitoring and protection of sensitive species in California. The California Native Plant Society's Sixth Edition of the *California Native Plant Society's Inventory of Rare and Endangered Plants of California* separates plants of interest into five categories. 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 (Tibor 2001). CNPS maintains an updated Online Inventory. The 8th Edition of the Online Inventory was released in December 2010. The Inventory 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 Rankings

CNPS Rank	Comments
Rank 1A – Presumed Extinct in California	Thought to be extinct in California based on a lack of observation or detection for many years.
Rank 1B – Rare 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 2 - Rare or Endangered in California, More Common Elsewhere	Species that are rare in California but more common outside of California
Rank 3 – Need More Information	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 list. In addition, many of the List 3 species have associated taxonomic problems such that the validity of their current taxonomy is unclear.
Rank 4 – Plants of Limited Distribution	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 List 3 species above, CNPS lacks survey data to accurately determine status in California. Many species have been placed on List 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.
Extension Code	***Comment***
.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.

4.0 RESULTS

This section discusses the results of biological surveys conducted for the Project, including general surveys; vegetation mapping; habitat assessments; focused plant surveys; soil mapping; focused burrowing owl surveys; and assessments for Corps, Regional Board, and CDFW jurisdictional waters, and MSHCP riparian/riverine areas and vernal pools.

4.1 Vegetation Types/Land Uses

A total of six distinct vegetation/land use types were mapped for the Project Site, including non-native grasslands (NNG), Riversidean sage scrub (RSS), disturbed Riversidean sage scrub (dRSS), southern willow scrub (SWS),emergent wetland (EW)vegetation, and ruderal vegetation. Exhibit 4 provides a vegetation map for the Project Site. Exhibit 5 provides representative site photographs. Table 4-1 provides a summary of vegetation acreages for the Project Site. A detailed description of each vegetation/land use type follows the table.

Table 4-1. Summary of Vegetation/Land Use Types

Vegetation	Acreage
Non-Native Grassland	57.68
Riversidean Sage Scrub	35.23
Southern Willow Scrub	1.79
Disturbed Riversidean Sage Scrub	36.94
Emergent Wetland Vegetation	0.09
Ruderal Vegetation	22.74
Total	**154.47**

4.1.1 Non-Native Grassland

Approximately 57.68 acres of the Project site are comprised of NNG. The NNG areas mainly occur in the central, eastern and northeastern portions of the irregularly shaped Project site with a strip occurring in the southwest along the toe of slope of a large on-site knoll that is bound by Lakeshore drive to the south. Species associated with the NNG include wild oats (*Avena fatua*.), red brome (*Bromus madritensis* ssp. .), red stemmed filaree (*Erodium* sp.), whitestem filaree (*Erodium moschatum*) long beaked filaree (*Erodium* botrys), black mustard (*Brassica nigra*), summer mustard (*Hirschfeldia incana*) tocalote (*Centaurea melitensis*), bur clover (*Medicago polymorpha*), common cryptantha (*Cryptantha intermedia*), fiddleneck (*Amsinckia menziesii*), sagebrush combseed (*Pectocarya linearis*), and Russian thistle (*Salsola tragus*).

4.1.2 Riversidean Sage Scrub

Approximately 35.23 acres of the Project site contain RSS dominated by desert brittlebush (*Encelia farinosa*) and California buckwheat (*Eriogonum fasciculatum*). Additional species include California sagebrush (*Artemisia californica*), white sage (*Salvia apiana*), California

goldfields (*Lasthenia californica*) wild hyacinth (*Dichelostemma capitatum*), fiesta flower (*Pholistoma auritum*), California wishbone bush (*Mirabilis californicus*), laurel sumac (*Malosma* laurina), deerweed (*Acmispon glaber*), black sage (*Salvia mellifera*), bush mallow (*Malacothamnus fasciculatus*), common cryptantha (*Cryptantha intermedia*), brome grasses (*Bromus* spp.), coastal prickly pear (*Opuntia littoralis*), and California cholla (*Cylindropuntia californica*).

4.1.3 Southern Willow Scrub

Approximately 1.79 acres of the Project site contain SWS. This community was mapped in the northeastern portion of the site in Drainage 1. SWS is classified as a sensitive natural community by CDFW. These relatively small areas of SWS contained dense thickets of willow species including arroyo willow (*Salix lasiolepis*) and Goodding's black willow (*Salix gooddingii*), in addition to mule fat (*Baccharis salicifolia*), and blue elderberry (*Sambucus nigra* ssp. *caerulea*).

4.1.4 Disturbed Riversidean Sage Scrub

Approximately 22.74 acres of the Project site contain disturbed areas that once supported more dense areas of dRSS, but as result of long-standing disturbances now support sparse amounts of scrub vegetation intermixed with ruderal vegetation and unvegetated areas. Areas of disturbed RSS occur within the upland areas in the southern and southwestern portion of the Project site

4.1.5 Emergent Wetland Vegetation

Approximately 0.09 acre of the Project site supports EW areas that are contained within the MSHCP riparian/riverine areas dominated by wetland associated plant species, including mulefat (*Baccharis salicifolia*), arroyo willow (*Salix lasiolepis*), Mexican rush (*Juncus mexicanus*), pigmy weed (*Crassula* connata), and stinging nettle (*Urtica dioica*). Vegetation adjacent to the wetland areas include black mustard (*Brassica nigra*), shepherd's purse (*Capsella bursa-pastoris*), common ragweed (*Ambrosia artemisiifolia*), bristly ox-tongue (*Helminthotheca echioides*), and rabbitsfoot grass (*Polypogon monspeliensis*).

4.1.6 Ruderal

Approximately 22.74 acres of the Project site consist of degraded areas supporting a predominance of ruderal vegetation. Areas of ruderal vegetation occur mostly in the central portion of the site adjacent to roadsides, dirt paths, and other areas where past disturbance has allowed the establishment of non-native and native ruderal species. Plant species associated with areas of ruderal vegetation include, but are not limited to, black mustard (*Brassica nigra*), summer mustard (*Hirschfeldia incana*), filaree (*Erodium* sp.), Russian thistle (*Salsola tragus*), London rocket (*Sisymbrium irio*), tocalote (*Centaurea melitensis*), ripgut brome (*Bromus diandrus*), horseweed (*Conyza* sp.), wild oat (*Avena* sp.), and clustered tarweed (*Deinandra fasciculata*).

4.2 Special-Status Plants

One special-status plant species was detected on-site during the focused plant surveys: paniculate tarplant (*Deinandra paniculata*). No other special status plants were detected during focused surveys and no other special status plants are expected to occur on site due to a lack of suitable habitat and/or the level of disturbance. Table 4-2 provides a list of special-status plants evaluated for the Project Site. Plant species were considered based on a number of factors, including: 1) species identified by the CNDDB as occurring (either currently or historically) on or in the vicinity of the Project Site, 2) MSHCP survey areas, 3) planning species identified by the Elsinore Area Plan, and 4) any other special-status plants that are known to occur within the vicinity of the property, or for which potentially suitable habitat occurs on site.

Table 4-2. Special-Status Plants Evaluated for the Project Site.

Federal
FE – Federally Endangered
FT – Federally Threatened

State
SE – State Endangered
ST – State Threatened

CNPS
Rank 1B – Plants rare, threatened, or endangered in California and elsewhere.
Rank 2 – Plants rare, threatened, or endangered in California, but more common elsewhere.
Rank 3 – Plants about which more information is needed.
Rank 4 – Plants of limited distribution (a watch list).

CNPS Threat Code Extensions
.1 – Seriously endangered in California (over 80% of occurrences threatened/high degree and immediacy of threat)
.2 – Fairly endangered in California (20-80% occurrences threatened)
.3 – Not very endangered in California (<20% of occurrences threatened or no current threats known)

Species Name	Status	Habitat Requirements	Occurrence or Potential for Occurrence
California Orcutt grass *Orcuttia californica*	Federal: FE State: SE CNPS: Rank 1B.1 MSHCP: Covered	Vernal pools. Known to occur below 660 meters (2,200 feet) MSL. Identifiable April through July.	Not detected during focused plant surveys. Not expected to occur on-site due to a lack of suitable habitat.
Chaparral sand verbena *Abronia villosa* var. *aurita*	Federal: None State: None CNPS: Rank 1B.1 MSHCP: Not Covered	Annual herb of sandy areas in chaparral and coastal sage scrub. Known from 80 to 1,600 meters (300 to 5,300 feet) MSL. Identifiable January through August.	Not detected during focused plant surveys. Not expected to occur on-site due to a lack of suitable habitat.

Species Name	Status	Habitat Requirements	Occurrence or Potential for Occurrence
Coulter's goldfields *Lasthenia glabrata* ssp. *coulteri*	Federal: None State: None CNPS: Rank 1B.1 MSHCP: Covered	Playas, vernal pools, marshes and swamps (coastal salt).	Not detected during focused plant surveys. Not expected to occur on-site due to a lack of suitable habitat.
Davidson's saltscale *Atriplex serenana* var. *davidsonii*	Federal: None State: None CNPS: Rank 1B.2 MSHCP: Covered	Alkaline soils in coastal sage scrub, coastal bluff scrub.	Not detected during focused plant surveys. Not expected to occur on-site due to a lack of suitable habitat.
Hall's monardella *Monardella macrantha* subsp. *hallii*	Federal: None State: None CNPS: Rank 1B.3 MSHCP: Covered	Granitic soils in broadleaved upland forest, chaparral, cismontane woodland, lower montane coniferous forest and valley and foothill grasslands.	Not detected during focused plant surveys. Not expected to occur on-site due to a lack of suitable habitat.
Hammitt's Clay-cress *Sibaropsis hammittii*	FED: None ST: None CNPS: Rank 1B.2 MSHCP: Covered	Clay soils in chaparral and valley and foothill grasslands	Not detected during focused plant surveys. Low potential to occur on-site.
Heart-leaved pitcher sage *Lepechinia cardiophylla*	FED: None ST: None CNPS: Rank 1B.2 MSHCP: Covered	Granitic soils in chaparral, closed cone coniferous forest and cismontane woodland .	Not detected during focused plant surveys. Not expected to occur on-site due to a lack of suitable habitat.
Intermediate mariposa lily *Calochortus weedii* var. *intermedius*	Federal: None State: None CNPS: Rank 1B.2 MSHCP: Covered	Rocky soils in chaparral, coastal sage scrub, valley and foothill grassland.	Not detected during focused plant surveys. Not expected to occur on-site due to a lack of suitable habitat.
Little mousetail *Myosurus minimus* ssp. *apus*	Federal: None State: None CNPS: Rank 3.1 MSHCP: Covered	Valley and foothill grassland, vernal pools (alkaline soils).	Not detected during focused plant surveys. Not expected to occur on-site due to a lack of suitable habitat.
Long-spined spineflower *Chorizanthe polygonoides* var. *longispina*	Federal: None State: None CNPS: Rank 1B.2 MSHCP: Covered	Clay soils in chaparral, coastal sage scrub, meadows and seeps, and valley and foothill grasslands	Not detected during focused plant surveys. Not expected to occur on-site due to a lack of suitable habitat.
Many-stemmed dudleya *Dudleya multicaulis*	Federal: None State: None CNPS: Rank 1B.2 MSHCP: Covered	Chaparral, coastal sage scrub, valley and foothill grassland. Often occurring in clay soils.	Not detected during focused plant surveys. Low potential to occur on-site in areas of Riversidean sage scrub.

Species Name	Status	Habitat Requirements	Occurrence or Potential for Occurrence
Mesa horkelia *Horkelia cuneata* var. *puberula*	Federal: None State: None CNPS: Rank 1B.1 MSHCP: Covered	Sandy or gravelly soils in chaparral and coastal scrub. Known from 70 to 825 meters (200 to 2,700 feet) MSL. Identifiable February through September.	Not detected during focused plant surveys. Not expected to occur on-site due to a lack of suitable habitat.
Munz's onion *Allium munzii*	Federal: FE State: ST CNPS: Rank 1B.1 MSHCP: Covered	Clay soils in chaparral, coastal sage scrub, and valley and foothill grasslands	Not detected during focused plant surveys. Low potential to occur on-site.
Orcutt's brodiaea *Brodiaea orcuttii*	Federal: None State: None CNPS: Rank 1B.1 MSHCP: Covered	Mesic, clay soils (sometimes serpentinite) in chaparral, meadows and seeps, valley and foothill grassland, vernal pools, closed-cone coniferous forest, cismontane woodland.	Not detected during focused plant surveys. Not expected to occur on site due to a lack of suitable habitat.
Palmer's grapplinghook *Harpagonella palmeri*	Federal: None State: None CNPS: Rank 4.2 MSHCP: Covered	Chaparral, coastal sage scrub, valley and foothill grassland. Occurring in clay soils.	Not detected during focused plant surveys in 2013. A previous 2006 biological update conducted by Thomas Leslie Corporation reported the presence of this species within the project site; however, exact location was not specified.
Parish's brittlescale *Atriplex parishii*	Federal: None State: None CNPS: Rank 1B.1 MSHCP: Covered	Chenopod scrub, playas, vernal pools.	Not detected during focused plant surveys. Not expected to occur on site due to a lack of suitable habitat.
Payson’s jewel-flower *Caulanthus simulans*	Federal: None State: None CNPS: Rank 4.2 MSHCP: Covered	Occurs in recently burned or disturbed areas within chaparral, coastal sage scrub and grasslands. Known from 60 to 2,200 meters (200 to 7,200 feet) MSL. Identifiable March through June.	Not detected during focused plant surveys. Not expected to occur on site due to a lack of suitable habitat.
Parry's spineflower *Chorizanthe parryi* var. *parryi*	Federal: None State: None CNPS: Rank 1B.1 MSHCP: Covered	Sandy or rocky soils in open habitats of chaparral and coastal sage scrub.	Not detected during focused plant surveys. Not expected to occur on-site due to a lack of suitable habitat.

Species Name	Status	Habitat Requirements	Occurrence or Potential for Occurrence
Plummer's mariposa lily *Calochortus plummerae*	Federal: None State: None CNPS: Rank 1B.2 MSHCP: Covered	Granitic, rock soils within chaparral, cismontane woodland, coastal sage scrub, lower montane coniferous forest, and valley and foothill grassland.	Not detected during focused plant surveys. Not expected to occur on-site due to a lack of suitable habitat.
Paniculate tarplant *Deinandra paniculata*	Federal: None State: None CNPS: Rank 4.2 MSHCP: Not Covered	Coastal sage scrub, and valley and foothill grasslands (usually vernally mesic).	Observed onsite during focused surveys.
Prostrate navarretia *Navarretia prostrata*	Federal: FSC State: None CNPS: Rank 1B.1 MSHCP: Covered	Coastal sage scrub, valley and foothill grassland (alkaline), vernal pools. Occurring in mesic soils.	Not detected during focused plant surveys. Not expected to occur on site due to a lack of suitable habitat.
Rainbow manzanita *Arctostaphylos rainbowensis*	Federal: None State: None CNPS: Rank 1B.1 MSHCP: Covered	Gabbro soils in association with chaparral.	Not detected during focused plant surveys. Not expected to occur on-site due to a lack of suitable habitat.
Robinson's pepper grass *Lepidium virginicum* var. *robinsonii*	Federal: None State: None CNPS: Rank 1B.2 MSHCP: Not Covered	Chaparral, coastal sage scrub	Not detected during focused plant surveys. Not expected to occur on-site due to a lack of suitable habitat.
Round-leaved filaree *California macrophylla*	Federal: None State: None CNPS: Rank 1B.1 MSHCP: Covered	Clay soils in cismontane woodland, valley and foothill grassland	Not detected during focused plant surveys. Not expected to occur on-site due to a lack of suitable habitat.
San Diego ambrosia *Ambrosia pumila*	Federal: FE State: None CNPS: Rank 1B.1 MSHCP: Covered	Chaparral, coastal sage scrub, valley and foothill grassland, vernal pools. Often in disturbed habitats.	Not detected during focused plant surveys. Not expected to occur on-site due to a lack of suitable habitat.
San Diego button-celery *Eryngium aristulatum* var. *parishii*	Federal: FE State: SE CNPS: Rank 1B.1 MSHCP: Covered	Mesic soils in vernal pools, valley and foothill grasslands, coastal sage scrub.	Not detected during focused plant surveys. Not expected to occur on-site due to a lack of suitable habitat.
San Jacinto Valley crownscale *Atriplex coronata* var. *notatior*	Federal: FE State: None CNPS: Rank 1B MSHCP: Covered	Alkaline soils in chenopod scrub, valley and foothill grassland, vernal pools.	Not detected during focused plant surveys. Not expected to occur on-site due to a lack of suitable habitat.

Species Name	Status	Habitat Requirements	Occurrence or Potential for Occurrence
San Miguel savory *Satureja chandleri*	Federal: None State: None CNPS: Rank 1B.2 MSHCP: Covered	Rocky, gabbroic, or metavolcanic soils in chaparral, cismontane woodland, coastal sage scrub, riparian woodland, valley and foothill grassland.	Not detected during focused plant surveys. Not expected to occur on-site due to a lack of suitable habitat.
Slender-horned spine flower *Dodecahema leptoceras*	FED: FE ST: SE CNPS: Rank 1B.1	Sandy soil in maritime chaparral and coastal scrub	Not detected during focused plant surveys. Not expected to occur on-site due to a lack of suitable habitat.
Smooth tarplant *Centromadia pungens* ssp. *laevis*	Federal: None State: None CNPS: Rank 1B.1 MSHCP: Covered	Alkaline soils in chenopod scrub, meadows and seeps, playas, riparian woodland, valley and foothill grasslands, disturbed habitats.	Not detected during focused plant surveys. Not expected to occur on-site due to a lack of suitable habitat.
Southern skullcap *Scutellaria bolanderi* ssp. *austromontana*	Federal: None State: None CNPS: Rank 1B.1 MSHCP: Not Covered	Mesic soils in chaparral, cismontane woodland, lower montane coniferous forest.	Not detected during focused plant surveys. Not expected to occur on-site due to a lack of suitable habitat.
Spreading navarretia *Navarretia fossalis*	Federal: FT State: None CNPS: Rank 1B.1 MSHCP: Covered	Vernal pools, playas, chenopod scrub, marshes and swamps (assorted shallow freshwater).	Not detected during focused plant surveys. Not expected to occur on-site due to a lack of suitable habitat.
Tecate cypress *Callitropsis forbesii*	FED: None ST: None CNPS: Rank 1B.1 MSHCP: Not Covered	Cone coniferous forest, and chaparral with gabbroic/metavolcanic and clay soils.	Not detected during focused plant surveys. Not expected to occur on-site due to a lack of suitable habitat.
Thread-leaved brodiaea *Brodiaea filifolia*	Federal: FT State: SE CNPS: Rank 1B.1 MSHCP: Covered	Clay soils in chaparral (openings), cismontane woodland, coastal sage scrub, playas, valley and foothill grassland, vernal pools.	Not detected during focused plant surveys. Not expected to occur on-site due to a lack of suitable habitat.
Wright's trichocoronis *Trichocoronis wrightii* var. *wrightii*	Federal: None State: None CNPS: Rank 2.1 MSHCP: Covered	Alkaline soils in meadows and seeps, marshes and swamps, riparian scrub, vernal pools.	Not detected during focused plant surveys. Not expected to occur on-site due to a lack of suitable habitat.

4.2.1 Narrow Endemic Plants and/or Criteria Area Plants

As noted above, the Project site is within the NEPSSA 1. Target species within this survey area include Munz's onion (*Allium* munzii), San Diego ambrosia (*Ambrosia pumila*), slender horned-spineflower (*Dodecahema* leptoceras), many-stemmed dudleya (*Dudleya multicaulis*), spreading navarretia (*Navarretia fossalis*), California Orcutt grass (*Orcuttia californica*), San Miguel savory (*Clinopodium chandleri*), Hammitt's claycress (Sibaropsis hammittii), and Wright's trichocoronis (*Trichocoronis wrightii var. wrightii*). Of these species, portions of the on-site RSS habitat have a low to moderate potential to support Munz's onion, many-stemmed dudleya, and Hammitt's claycress; however, the other NEPSSA 1 species are not expected to occur on-site due to a lack of suitable habitat. Regardless, none of the NEPSSA 1 species (or any other special-status plants) were detected on-site during biological surveys. The following provides a brief discussion of Munz's onion, many-stemmed dudleya, and Hammitt's claycress.

Munz's Onion

Munz's onion (*Allium munzii*) is a member of the onion family (ALLIACEAE) and is designated as federally endangered and state threatened as well as a CNPS designated California Rare Plant Rank (CRPR) 1B.1 species. This perennial bulbiferous herb is known to occur in chaparral, cismontane woodland, coastal scrub, pinyon and juniper woodland and mesic valley and foothill grassland associated with clay soils from 297 to 1,070 meters (975 to 3,510 feet) MSL. Munz's onion is known to occur in Riverside County and is known to bloom from March through May. Munz's onion was not observed on site during focused plant surveys but has low to moderate potential for occurrence based on general habitat.

Many-stemmed Dudleya

Many-stemmed Dudleya (*Dudleya multicaulis*) is a member of the stonecrop family (CRASSULACEAE) that is designated as a CRPR Rank 1B.2 species but is not a federal or state listed species. This perennial herb is known to occur in chaparral, coastal scrub and valley and foothill grasslands and is often associated with clay soils. Many-stemmed dudleya is known to occur from Los Angeles, Orange, Riverside, San Bernardino and San Diego counties from 15 to 790 meters (50 to 2,590 feet) MSL. This species is known to bloom from April through July. Many-stemmed dudleya was not observed on site during focused plant surveys, but has low to moderate potential for occurrence based on general habitat.

Hammitt's clay-cress

Hammitt's Clay-cress (*Sibaropsis hammittii*) is a member of the mustard family (BRASSICACEAE) that is designated as a CRPR List 1B.2 species but is not designated as a state or federal listed species. This annual herb is known to occur in chaparral and valley and foothill grasslands from 720 to 1,065 meters (2,360 to 3,493 feet) MSL. Hammitt's Clay-cress is known to occur from Riverside and San Diego counties and is known to bloom from March through April. Hammitt's clay cress was not observed on site during focused plant surveys, but has low to moderate potential for occurrence based on general habitat.

4.2.2 Soils Mapping

The Soil Conservation Service's (SCS)[6] Soil Survey for Western Riverside Area California maps seven soil types (series) for the overall Project site [Exhibit 6]. The following soil types occur (currently or historically) within the overall Project site:

Altamont Cobbly Clay, 8 to 35 Percent Slopes (AbF)

Soils of the Altamont series consist of well drained soils on uplands. These soils are underlain by soft, fine-grained sandstone and calcareous siltstone. The upper 12 inches consist of grayish-brown (10YR 5/2) clay when dry and dark grayish-brown (10YR 3/2) clay and very dark grayish-brown (10YR 4/2) clay when moist. Altamont soils are used for dryland grain, pasture, and range.

Cieneba Rocky Sandy Loam, 15 to 50 Percent Slopes, Eroded (CkF2)

Soils of the Cieneba series consist of somewhat excessively drained soils on uplands. These soils formed in coarse-grained igneous rock. The upper eight inches consist of brown (10YR 5/3) sandy loam when dry and dark brown (10YR 3/3) sandy loam when moist. Cieneba soils are used for dryland grain, pasture, range, irrigated citrus and homesites.

Gorgonio Loamy Sand, O to 8 Percent Slopes (GhC)

Soils of the Gorgonio series consist of somewhat excessively drained to excessively drained soils on alluvial fans. These soils formed in alluvium made up chiefly of granitic materials. The upper 15 inches consist of dark grayish-brown (10YR 4/2) and brown (10YR 5/3) gravelly loamy fine sand when dry and very dark grayish brown (10YR 3/2) and dark brown (10YR 3/3) gravelly loamy fine sand when moist. Gorgonio soils are used for dryland pasture and range, for irrigated alfalfa and apricots, and for homesites.

Hanford Coarse Sandy Loam, 2 to 8 Percent Slopes (HcC) and Hanford Coarse Sandy Loam, 8 to 15 Percent Slopes, Eroded (HcD2)

Soils of the Hanford series consist of somewhat excessively drained to well-drained soils on alluvial fans. Slopes of the Hanford series range from zero to 15 percent. These soils formed in alluvium made up chiefly of granitic materials. The upper 18 inches consist of grayish-brown (10YR 5/2) coarse sandy loam when dry and very dark grayish brown (10YR 3/2) coarse sandy loam when moist. Hanford soils are used for dryland pasture and grain, for irrigated alfalfa, potatoes, citrus, grapes, and grain. These soils are also used for homesites.

Placentia Fine Sandy Loam, 5 to 15 Percent Slopes (PlD)

Soils of the Placentia series consist of moderately well-drained soils on alluvial fans and terraces. Slopes of the Placentia series range from zero to 25 percent. These soils formed in alluvium

[6] SCS is now known as the National Resource Conservation Service or NRCS.

made up chiefly of granitic materials. The upper 13 inches consist of brown (10YR 5/3) fine sandy loam when dry and dark brown (10YR 4/3) fine sandy loam when moist. Placentia soils are used for dryland pasture and grain, for irrigated permanent pasture, and for non-farm purposes.

Rough Broken Land (RuF)

Rough broken land consists of alluvial materials that are remnants of old alluvial fans and terraces. These fans have been dissected by drainages to such an extent that areas of recognizable soils cannot be mapped. Soils within this series probably formed as acid igneous rocks, such as granite, granodiorite, gneiss, and mica-schist. These soils are slightly acidic to moderately alkaline, pale brown, or grayish brown to brown, or dark grayish brown to brown or dark grayish brown.

Willows Silty Clay, Saline-Alkali (0 to 2 Percent Slopes) (Wg)

Soils of the Willows series are poorly drained, saline-alkali soils in basins and on the edges of alluvial fans. Slopes of the Willows series range from zero to two percent. These soils developed in alluvium from predominantly fine-textured materials. The upper ten inches consist of olive-gray (5Y 5/2) and gray (5Y 5/1) silty clay when dry and dark olive-gray (5Y 3/2) silty clay when moist. The Willows soils are used for dryland grain and pasture, and, if irrigated, for grain, alfalfa, and permanent pasture. These soils are also used for non-farm purposes such as duck ponds.

4.3 Special-Status Animals

Five special status animals were observed within the Project site, including one federal listed and state species of special concern, the coastal California gnatcatcher (*Polioptila californica californica*), two state designated special status species, the Cooper's hawk (*Accipiter cooperi*, WL), and yellow warbler (*Setophaga petechia*, SSC), one state designated species of special concern mammal species, the San Diego black-tailed jackrabbit (*Lepus californicus bennettii*, SSC), and one unlisted but locally rare reptile species , the coastal whiptail (*Aspidoscelis tigris stejnegeri*). One special-status animal, the golden eagle (*Aquila chrysaetos*, CFP), was observed off-site, just outside the Project's northern boundary.

In addition to those species observed on-site, the Project site contains suitable habitat with the potential to support other special-status animals, including Bell's sage sparrow (*Amphispiza belli belli*), burrowing owl *(Athene cunicularia),* Dulzura pocket mouse *(Chaetodipus califronicus femoralis),* ferruginous hawk *(Buteo regalis),* least Bell's vireo *(Vireo bellii pusillus*), loggerhead shrike *(Lanius ludovicianus*), red-diamond rattlesnake *(Crotalus ruber ruber),* orangethroat whiptail *(Aspidoscelis hyperythra),* Quino checkerspot butterfly *(Euphydryas editha quino),* and southern California rufous-crowned sparrow *(Aimophila ruficeps canescens).*

The burrowing owl and vireo were determined to be absent from the Project site based on negative results of the focused surveys.

Table 4-3 provides a list of special-status animals evaluated for the Project Site, including MSHCP Covered Species with additional survey requirements. Species were evaluated based on a number of factors, including: 1) species identified by the CNDDB as occurring (either currently or historically) on or in the vicinity of the property, 2) MSHCP species survey areas for which the property occurs within, 3) planning species identified by the Temescal Area Plan, and 4) any other special-status animals that are known to occur within the vicinity of the property, or for which potentially suitable habitat occurs on site.

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

Federal (FESA)
FE - Federally Endangered
FT - Federally Threatened
FSC - Federal Species of Concern
BCC – Birds of Conservation Concern

State (CESA)
SE - State Endangered
ST - State Threatened

CDFW
SSC - California Species of Special Concern
CFP - Fully Protected
WL – Watch List

Species Name	Status	Habitat Requirements	Occurrence or Potential for Occurrence
Invertebrates			
Quino checkerspot butterfly *Euphydryas editha quino*	Federal: FE State: None MSHCP: Covered	Larval and adult phases each have distinct habitat requirements tied to host plant species and topography. Larval host plants include *Plantago erecta* and *Castilleja exserta*. Adults occur on sparsely vegetated rounded hilltops and ridgelines, and are known to disperse through disturbed habitats to reach suitable nectar plants.	Potential to occur on-site. Not detected on-site during general biological surveys. The MSHCP has already determined this species to be adequately conserved within the plan area.
Riverside fairy shrimp *Streptocephalus woottoni*	Federal: FE State: None MSHCP: Covered	Restricted to deep seasonal vernal pools, vernal pool-like ephemeral ponds, and stock ponds.	Does not occur on-site due to a lack of suitable habitat.

Species Name	Status	Habitat Requirements	Occurrence or Potential for Occurrence
Amphibians			
Coast range newt *Taricha torosa*	Federal: None State: SSC MSHCP: Covered	Found in wet forests, oak forests, chaparral, and rolling grasslands. In southern California, drier chaparral, oak woodland, and grasslands are used.	Does not occur on-site due to a lack of suitable habitat.
Western spadefoot *Scaphiopus hammondii*	Federal: None State: SSC MSHCP: Covered	Seasonal pools in coastal sage scrub, chaparral, and grassland habitats.	Does not occur on-site due to a lack of suitable habitat.
Reptiles			
Coast horned lizard *Phrynosoma blainvillii*	Federal: None State: SSC MSHCP: Covered	Occurs in a variety of vegetation types including coastal sage scrub, chaparral, annual grassland, oak woodland, and riparian woodlands.	Not observed on-site during biological surveys. Low potential to occur on-site within areas of Riversidean sage scrub.
Coast patch-nosed snake *Salvadora hexalepis virgultea*	Federal: None State: SSC MSHCP: Not Covered	Occurs in coastal chaparral, desert scrub, washes, sandy flats, and rocky areas.	Does not occur on-site due to a lack of suitable habitat
Coastal whiptail *Aspidoscelis tigris stejnegeri*	Federal: None State: None MSHCP: Covered	Open, often rocky areas with little vegetation, or sunny microhabitats within shrub or grassland associations.	Observed on-site.
Belding's orange-throated whiptail *Aspidoscelis hyperythra beldingi*	Federal: None State: SSC MSHCP: Covered	Coastal sage scrub, chaparral, non-native grassland, oak woodland, and juniper woodland.	Not observed on-site during biological surveys. Low potential to occur on-site within areas of Riversidean sage scrub.
Red-diamond rattlesnake *Crotalus ruber ruber*	Federal: None State: SSC MSHCP: Covered	Habitats with heavy brush and rock outcrops, including coastal sage scrub and chaparral.	Not observed on-site during biological surveys. Moderate potential to occur on site in areas of Riversidean sage scrub.
Rosy boa *Charina trivirgata*	Federal: None State: SSC MSHCP: Not Covered	Coastal sage scrub, chaparral, or mixed habitats, commonly with rocky soils and outcrops. Also in oak woodlands and riparian areas bordering scrub habitats.	Not observed on-site during biological surveys. Low potential to occur on site in areas of Riversidean sage scrub.

Species Name	Status	Habitat Requirements	Occurrence or Potential for Occurrence
San Bernardino ring-necked snake *Diadophis punctatus modestus*	Federal: None State: None MSHCP: Not Covered	Moist habitats including woodlands, forest, grasslands, chaparral, farms, and gardens.	Not observed on-site during biological surveys. Not expected to occur on site due to a lack of suitable habitat.
San Diego banded gecko *Coleonyx variegatus abbotti*	Federal: None State: None MSHCP: Covered	Primarily a desert species, but also occurs in cismontane chaparral, desert scrub, and open sand dunes.	Not observed on-site during biological surveys. Not expected to occur on site due to a lack of suitable habitat.
Southwestern pond turtle *Emys marmorata pallida*	Federal: None State: SSC MSHCP: Covered	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.	Does not occur on-site due to a lack of suitable habitat.
Two-striped garter snake *Thamnophis hammondii*	Federal: None State: SSC MSHCP: Not Covered	Aquatic snake typically associated with wetland habitats such as streams, creeks, and pools.	Not observed on-site during biological surveys. Not expected to occur on site due to a lack of suitable habitat.
Birds			
Bell's sage sparrow *Amphispiza belli belli*	Federal: FSC State: SSC MSHCP: Covered	Chaparral and coastal sage scrub along the coastal lowlands, inland valleys, and in the lower foothills of local mountains.	Not observed on-site during biological surveys. Moderate potential to occur on-site in areas of Riversidean sage scrub.
Burrowing owl *Athene cunicularia*	Federal: None State: SSC MSHCP: Covered	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.	Not observed on site during focused surveys. Moderate to high potential to occur on site.

Species Name	Status	Habitat Requirements	Occurrence or Potential for Occurrence
California horned lark *Eremophila alpestris actia*	Federal: None State: None MSHCP: Covered	Occupies a variety of open habitats, usually where trees and large shrubs are absent.	Not observed on-site during biological surveys. Low potential to occur on-site.
Coastal California gnatcatcher *Polioptila californica californica*	Federal: FT State: SSC MSHCP: Covered	Low elevation coastal sage scrub and coastal bluff scrub.	Gnatcatchers were detected on-site in the RSS during general biological surveys. The MSHCP has determined that this species has been adequately conserved within the plan area.
Cooper's hawk *Accipiter cooperi*	Federal: None State: WL MSHCP: Covered	Primarily occurs in riparian areas and oak woodlands, most commonly in montane canyons. Known to use urban areas, occupying trees among residential and commercial.	Observed foraging on site. Low to moderate potential to nest on-site.
Ferruginous hawk (wintering) *Buteo regalis*	Federal: FSC State: SSC MSHCP: Covered	Open, dry country, perching on trees, posts, and mounds. In California, wintering habitat consists of open terrain and grasslands of the plains and foothills.	Not observed on-site during biological surveys. Low potential to occur on site as part of a broader winter foraging area.
Golden eagle *Aquila chrysaetos*	Federal: None State: CFP MSHCP: Covered	In southern California, occupies grasslands, brushlands, deserts, oak savannas, open coniferous forests, and montane valleys. Nests on rock outcrops and ledges.	Observed offsite. Low to moderate potential to forage on-site. Does not nest on-site due to a lack of suitable habitat.
Grasshopper sparrow *Ammodramus savannarum*	Federal: None State: SSC MSHCP: Covered	Moderately open grasslands and prairies with patchy bare ground.	Observed onsite.
Least Bell's vireo *Vireo bellii pusillus*	Federal: FE State: SE MSHCP: Covered	Dense riparian habitats with a stratified canopy, including southern willow scrub, mule fat scrub, and riparian forest.	Not observed on site during focused surveys. Moderate to high potential to occur on-site within riparian section of main drainage feature.

Species Name	Status	Habitat Requirements	Occurrence or Potential for Occurrence
Loggerhead shrike *Lanius ludovicianus*	Federal: None State: SSC MSHCP: Covered	Forages over open ground within areas of short vegetation, pastures with fence rows, old orchards, mowed roadsides, cemeteries, golf courses, riparian areas, open woodland, agricultural fields, desert washes, desert scrub, grassland, broken chaparral and beach with scattered shrubs.	Not observed on-site during biological surveys. Low to moderate potential to forage on-site. Not expected to nest on site.
Northern harrier (nesting) *Circus cyaneus*	Federal: None State: SSC MSHCP: Covered	A variety of habitats, including open wetlands, grasslands, wet pasture, old fields, dry uplands, and croplands.	Not observed on-site during biological surveys. Not expected to nest on-site due to a lack of suitable habitat.
Southern California rufous-crowned sparrow *Aimophila ruficeps canescens*	Federal: None State: None MSHCP: Covered	Grass covered hillsides, coastal sage scrub, and chaparral.	Not observed on-site during biological surveys. Moderate potential to occur on-site in areas of Riversidean sage scrub.
Southwestern willow flycatcher *Empidonax traillii extimus*	Federal: FE State: SE MSHCP: Covered	Riparian woodlands along streams and rivers with mature dense thickets of trees and shrubs.	Not detected on site during focused surveys. Not expected to nest on-site due to a lack of suitable habitat.
Tricolored blackbird *Agelaius tricolor*	Federal: FSC State: SSC MSHCP: Covered	Breeding colonies require nearby water, a suitable nesting substrate, and open-range foraging habitat of natural grassland, woodland, or agricultural cropland.	Not detected on site during focused surveys. Not expected to nest on-site due to a lack of suitable habitat.
Western snowy plover *Charadrius alexandrinus nivosus*	Federal: FT State: SSC MSHCP: Not Covered	Sandy or gravelly beaches along the coast, estuarine salt ponds, alkali lakes, and at the Salton Sea.	Not expected to occur on-site due to a lack of suitable habitat.
White-faced ibis (nesting colony) *Plegadis chihi*	Federal: FSC State: SSC MSHCP: Covered	Winter foraging occurs in wet meadows, marshes, ponds, lakes, rivers, and agricultural fields. Requires extensive marshes for nesting.	Not expected to occur on-site due to a lack of suitable habitat.

Species Name	Status	Habitat Requirements	Occurrence or Potential for Occurrence
White-tailed kite (nesting) *Elanus leucurus*	Federal: None State: CFP MSHCP: Covered	Low elevation open grasslands, savannah-like habitats, agricultural areas, wetlands, and oak woodlands. Dense canopies used for nesting and cover.	Not observed on-site during biological surveys. Not expected to nest on-site due to a lack of suitable habitat.
Yellow-breasted chat *Icteria virens*	Federal: None State: SSC MSHCP: Covered	Dense, relatively wide riparian woodlands and thickets of willows, vine tangles, and dense brush with well-developed understories.	Not observed during focused vireo surveys, and therefore presumed absent. Not expected to nest or forage on-site due to lack of suitable habitat.
Yellow warbler *Setophaga petechia*	Federal: None State: SSC MSHCP: Covered	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.	Observed on site.
Mammals			
Dulzura pocket mouse *Chaetodipus califronicus femoralis*	Federal: None State: SSC MSHCP: Covered	Coastal scrub, grassland, and chaparral, especially at grass-chaparral edges	Not observed on site. Low potential to occur on-site in areas of RSS.
Los Angeles pocket mouse *Perognathus longimembris brevinasus*	Federal: None State: SSC MSHCP: Covered	Fine, sandy soils in coastal sage scrub and grasslands.	Not observed on site. Not expected to occur on-site due to a lack of suitable habitat.
Northwestern San Diego pocket mouse *Chaetodipus fallax fallax*	Federal: None State: SSC MSHCP: Covered	Coastal sage scrub, sage scrub/grassland ecotones, and chaparral.	Not observed on site. Low potential to occur on-site in areas of RSS.
San Diego black-tailed jackrabbit *Lepus californicus bennettii*	Federal: None State: SSC MSHCP: Covered	Occupies a variety of habitats, but is most common among shortgrass habitats. Also occurs in sage scrub, but needs open habitats.	Observed on-site in areas of disturbed grasslands and RSS.

Species Name	Status	Habitat Requirements	Occurrence or Potential for Occurrence
San Diego desert woodrat *Neotoma lepida intermedia*	Federal: None State: SSC MSHCP: Covered	Occurs in a variety of shrub and desert habitats, primarily associated with rock outcrops, boulders, cacti, or areas of dense undergrowth.	Not observed on site. Not expected to occur on-site due to lack of suitable habitat.
Southern grasshopper mouse *Onychomys torridus ramona*	Federal: None State: SSC MSHCP: Covered	Desert areas, especially scrub habitats with friable soils for digging. Prefers low to moderate shrub cover.	Not observed on site. Not expected to occur on-site due to a lack of suitable habitat.
Stephens' kangaroo rat *Dipodomys stephensi*	Federal: FE State: ST MSHCP/SKR HCP: Covered	Open grasslands or sparse shrublands with less than 50% vegetation cover during the summer.	Not observed on-site. Low to moderate potential to occur on-site.
Western mastiff bat *Eumops perotis californicus*	Federal: None State: SSC MSHCP: Not Covered	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.	Not observed on-site Not expected to occur on-site due to a lack of suitable habitat.
Western yellow bat *Lasiurus xanthinus*	Federal: None State: SSC MSHCP: Not Covered	Found in valley foothill riparian, desert riparian, desert wash, and palm oasis habitats. Roosts in trees, particularly palms. Forages over water and among trees.	Not observed on-site. Not expected to occur on-site due to a lack of suitable habitat.

4.3.1 Special-Status Animals Observed at the Project Site

Birds

Coastal California Gnatcatcher (*Polioptila californica californica*) – The coastal California gnatcatcher (gnatcatcher) is designated as a federally threatened species and a CDFW Species of Special Concern. Historically, gnatcatchers occurred from southern Ventura County southward through Los Angeles, Orange, Riverside, San Bernardino, and San Diego counties, and into Baja California, Mexico, to approximately 30 degrees north latitude near El Rosario (Atwood 1990). The gnatcatcher was considered locally common in the mid-1940s, but by the 1960s this subspecies had declined substantially in the United States owing to widespread destruction of its habitat (Atwood 1990). Currently, the subspecies occurs on coastal slopes of Southern

California, ranging from southern Ventura southward through Palos Verdes Peninsula in Los Angeles County through Orange, Riverside, San Bernardino and San Diego Counties into Baja California to El Rosario, Mexico, at about 30 degrees north latitude (Atwood 1991).

The gnatcatcher is a small member of the thrush family (Muscicapidae). The gnatcatcher typically occurs in or near sage scrub habitat, which is a broad category of vegetation that includes the following plant communities as classified by Holland (1986): Venturan coastal sage scrub, Diegan coastal sage scrub, maritime succulent scrub, Riversidean sage scrub, Riversidean alluvial fan sage scrub, southern coastal bluff scrub, and coastal sage-chaparral scrub. Coastal sage scrub is composed of relatively low-growing, dry-season deciduous, and succulent plants. Characteristic plants of this community include California sagebrush (*Artemisia californica*), various species of sage (*Salvia* sp.), California buckwheat (*Eriogonum fasciculatum*), lemonadeberry (*Rhus integrifolia*), California encelia (*Encelia californica*), and Opuntia spp. Ninety-nine percent of all gnatcatcher locality records occur at or below an elevation of 984 feet (Atwood 1990).

Coastal sage scrub is patchily distributed throughout the range of the gnatcatcher, and the gnatcatcher is not uniformly distributed within the structurally and floristically variable coastal sage scrub community. Rather, the subspecies tends to occur most frequently within the California sagebrush-dominated stands on mesas, gently sloping areas, and along the lower slopes of the coast ranges (Atwood 1990). The gnatcatcher occurs in high frequencies and densities in scrub with an open or broken canopy, while it is absent from scrub dominated by tall shrubs and occurs in low frequencies and densities in low scrub with a closed canopy (Weaver 1998). The territory size increases as vegetation density decreases and with distance from the coast, probably due to food resource availability. Thus, gnatcatchers will use even sparsely vegetated coastal sage scrub for shelter and to forage for insects as long as perennial shrubs are available (ERCE 1990).

Gnatcatchers also use chaparral, grassland, and riparian or alluvial habitats where they occur adjacent to sage scrub (Bontrager 1991). The use of these habitats appears to be most frequent during late summer, autumn, and winter, with smaller numbers of birds using such areas during the breeding season. These non-sage scrub habitats are used for dispersal, but data on dispersal use are largely anecdotal (Bowler 1995; Campbell et al. 1995). Although existing quantitative data may reveal relatively little about gnatcatcher use of these other habitats, these areas may be critical during certain times of the year for dispersal or as foraging areas during drought conditions (Campbell et al. 1998). Breeding territories have also been documented in non-sage scrub habitat. Campbell et al. (1998) discuss likely hypotheses explaining why non-CSS habitat is used by gnatcatchers including food source availability, dispersal areas for juveniles, temperature extremes, fire avoidance, and lowered predation rate for fledglings.

A pair of California gnatcatchers was detected vocalizing and subsequently visually detected within the RSS habitat located in the southwestern portion of the Project site. Although this species is present, the MSHCP has already determined that this species has been adequately conserved within the plan area.

Cooper's Hawk (*Accipiter cooperii*) – The Cooper's hawk does not have a federal or state designation, however this species is considered locally rare when nesting. Cooper's hawks breed from British Columbia eastward to Nova Scotia and southward to northern Mexico and Florida (AOU 1998).

The species winters from British Columbia eastward to New England and southward primarily to Honduras (AOU 1998). In California, the Cooper's hawk is a breeding resident throughout most of the wooded portion of the state. It breeds in the southern Sierra Nevada foothills, New York Mountains, Owens Valley, and other local areas in Southern California. Its breeding range is from sea level to above 2,700 m (9,000 ft.). This species was once considered a common nester throughout California (Grinnell and Miller 1944). In Southern California, the species is present year-round nearly throughout the state, except for the Colorado River and desert areas, where the species no longer breeds (Garrett and Dunn 1981). Although the Cooper's hawk breeds in Southern California and has a year-round resident population, it also occurs in the region as a spring and fall migrant and as a winter resident (Garrett and Dunn 1981).

Throughout its range, the Cooper's hawk breeds in deciduous, mixed, and evergreen forests and deciduous stands of riparian habitat (Rosenfield and Bielefeldt 1993). The Cooper's hawk breeds primarily in riparian areas and oak woodlands and apparently is most common in montane canyons (Garrett and Dunn 1981; Hamilton and Willick 1996). It frequents landscapes where wooded areas occur in patches and groves and it often uses patchy woodlands and edges with snags for perching (Beebe 1974). This species is seldom found in areas without dense tree stands or patchy woodland habitat (Zeiner, et al. 1990). Within the range in California, it most frequently uses dense stands of live oak, riparian deciduous or other forest habitats near water (Zeiner, et al. 1990). Dense stands with moderate crown-depths are usually used for nesting (Zeiner, et al. 1990). The Cooper's hawk tends to nest in stands with lower densities of taller and larger trees and a greater proportion of hardwood cover than conifer species when compared to other accipiters (Trexel, et al. 1999). Migrant and wintering birds are generally more catholic in their choice of habitats and may be found with regularity in developed (e.g., suburban) areas. They hunt in broken woodland and habitat edges, catching predominantly avian prey in the air, on the ground, and in vegetation.

The Cooper's hawk was detected foraging on site on one occasion. Active nesting was not detected in 2013 and is unlikely to occur on-site due lack of suitable habitat.

Grasshopper Sparrow (*Ammodramus savannarum*) – The grasshopper sparrow is designated as a CDFW California Species of Special Concern when nesting. Grasshopper sparrows winter from California to North Carolina south through Middle America to Costa Rica (AOU 1998). In Southern California, the species occurs locally in appropriate habitats west of the deserts and has nested to 1,500 meters in the San Jacinto Mountains (Garrett and Dunn 1981). It appears to be very rare to absent from the region in the winter but may be overlooked (Garrett and Dunn 1981).

Zeiner et al. (1990) summarized the distribution, abundance, and seasonality of the grasshopper sparrow for California as follows. It is an uncommon and local, summer resident and breeder in foothills and lowlands west of the Cascade-Sierra Nevada crest from Mendocino and Trinity

counties south to San Diego County. The species also has been found in Pete's Valley, Lassen County, and Shasta Valley, Siskiyou County. It is secretive in the winter and may occur more regularly than indicated by infrequent records, chiefly in coastal Southern California (Grinnell and Miller 1944, McCaskie, *et al*. 1979, Garrett and Dunn 1981).

The grasshopper sparrow generally prefers moderately open grasslands and prairies with patchy bare ground. However, they select different components of vegetation depending on the grassland ecosystem. They occupy lusher areas with shrub cover in the arid grassland of the southwest and west but select sparser vegetation in the east and mid-west such as tall grass and short grass prairie, native palmetto, wire grass prairie, dry or well-drained native and cultivated grassland in the east and fire-induced grassland in the northern mid-west (Vickery 1996). The grasshopper sparrow typically avoids grassland with extensive shrub cover, although some level of shrub cover is important for birds in the western regions.

Grasshopper sparrows in California breed (and primarily apparently winter) on slopes and mesas containing grasslands of varying compositions (Grinnell and Miller 1944; Garrett and Dunn 1981). The species frequents dense, dry or well-drained grassland, especially native grassland with a mix of grasses and forbs for foraging and nesting. Apparently, thick cover of grasses and forbs is essential for concealment. They require fairly continuous native grassland areas with occasional taller stems for breeding areas (Garrett and Dunn 1981). They especially occur in grasslands composed of a variety of grasses and tall forbs with scattered shrubs for singing perches (Zeiner *et al*. 1990). Grasshopper sparrows use a variety of forb species for perches and choose them predominantly on the basis of their height rather than the specific plant species (Payne, *et al*. 1998). Although shrub and forb species are used for perching, they tend to avoid grassland areas with extensive shrub cover and the presence of native grasses is less important than the absence of trees (Smith 1963; Vickery 1996).
Grasshopper sparrows were observed during general biological surveys; however, nesting was not observed. Due to the lack of native grasslands onsite and the moderate to high level of disturbance throughout the non-native grassland areas, breeding onsite is not expected to occur.

Yellow Warbler (*Dendroica petechia brewsteri*) – The yellow warbler is designated as a CDFW California Species of Special Concern when nesting. Yellow warblers as a whole nest from northern Alaska eastward to Newfoundland and southward to northern Baja California and Georgia. The species migrates throughout much of North America and winters from Southern California, Arizona and the Gulf Coast southward to central South America (AOU 1998). Zeiner, et al. (1990) summarizes the distribution, abundance, and seasonality in California as follows. The yellow warbler is an uncommon to common, summer resident in the north; and locally common in the south. It breeds in riparian woodlands southward from the northern border of the state generally west of the Sierra Nevada to the coastal slopes of Southern California and from coastal and desert lowlands up to 2,500 meters (8,000 feet) in the Sierra Nevada and other montane chaparral and forest habitats (Grinnell and Miller 1944). In general, the yellow warbler breeds most commonly in wet, deciduous thickets, especially those dominated by willows and in disturbed and early successional habitats (Lowther et al. 1999).

Yellow warblers in Southern California 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 (Garrett and Dunn 1981). The yellow warbler is found at elevations from 100 meters to 2,700 meters (330 to 8,900 feet) within riparian habitat and at higher elevations along watercourses with riparian growth (Lowther et al. 1999). During migration, they occur in lowland and foothill woodland habitats such as desert oases, riparian woodlands, oak woodlands, mixed deciduous-coniferous woodlands, suburban and urban gardens and parks, groves of exotic trees, farmyard windbreaks, and orchards (Small 1994). The yellow warbler also breed in montane, chaparral, open ponderosa pine and mixed conifer habitats with substantial amounts of brush (Zeiner, et al. 1990). It usually arrives in California in April, and generally has migrated out of the area by October. Apparently there is a post-breeding, upslope movement mostly to middle elevations (Beedy 1975); it is scarce at elevations above 2,500 meters (8,000 feet) (Gaines 1977). Small numbers regularly overwinter in Southern California lowlands (Garrett and Dunn 1981).

A single yellow warbler was detected during a focused vireo survey within the willow riparian areas associated with the main water drainage feature.

Golden Eagle (*Aquila chrysaetos*) – The golden eagle is designated as a California Fully Protected Species and is considered a sensitive species when nesting or wintering. Golden eagles in North America breed locally from northern Alaska eastward to Labrador southward to northern Baja California, northern Mexico, and Maine. The species winters from southern Alaska and southern Canada southward through the breeding range.

Within California the golden eagle is described as an uncommon permanent resident and migrant throughout California, except the center of the Central Valley. It may be more common in Southern California than in northern regions. It ranges from sea level up to 3,833 meters (0-11,500 feet) (Grinnell and Miller 1944). Golden eagles are sparsely distributed throughout most of California, occupying primarily mountain and desert habitats. Approximately 500 breeding pairs are estimated to nest in California. They are mostly resident, but may move downslope for the winter, or upslope after the breeding season. Some individuals migrate into California for the winter (Zeiner, *et al.* 1990).

Within Southern California, the species prefers grasslands, brushlands (coastal sage scrub and sparse chaparral), deserts, oak savannas, open coniferous forests, and montane valleys (Garrett and Dunn 1981). It uses rolling foothills and mountain terrain, wide arid plateaus deeply cut by streams and canyons, open mountain slopes, and cliffs and rock outcrops. The species requires a large expanse for foraging and suitable nest sites in the form of cliffs or large trees. Nesting is primarily restricted to rugged, mountainous country (Garrett and Dunn 1981). Secluded cliffs with overhanging ledges and large trees are used for cover (Zeiner, *et al*. 1990).

A golden eagle juvenile was detected offsite, during a burrowing owl survey, flying and then landing on the ground to the north of the Project site. The Project site has a low to moderate potential for use as a foraging area; however, the site does not contain suitable habitat for nesting.

Mammals

San Diego Black-Tailed Jackrabbit (*Lepus californicus bennettii*) – The San Diego black-tailed jackrabbit is designated as a CDFG Species of Special Concern. The black-tailed jackrabbit is widespread throughout the western United States, west from central Missouri and Arkansas, and only is absent from the higher elevations of the Rocky Mountains, the Sierra Nevada, and the Cascades (Hall 1981). It ranges south into central Mexico. The subspecies L.c. bennettii, which is one of nine subspecies of black-tailed-jackrabbit (Dunn et al. 1982), is confined to coastal Southern California, with marginal records being Mt. Piños, Arroyo Seco, Pasadena, San Felipe Valley, and Jacumba (Hall 1981).

The black-tailed-jackrabbit occupies many diverse habitats, but primarily is found in arid regions supporting short-grass habitats. Jackrabbits typically are not found in high grass or dense brush where it is difficult for them to move, and the openness of open scrub habitat probably is preferred over dense chaparral. Jackrabbits are common in grasslands that are overgrazed by cattle and they are well adapted to using low-intensity agricultural habitats (Lechleitner 1959). In fact, to a point, drought and overgrazing may create better habitat for black-tailed-jackrabbits (Bronson and Tiemeir 1959). The openness of such habitat allows jackrabbits to escape predators and humans by fast, often long-distance sprints. Black-tailed jackrabbits are found in most areas that support annual grassland, Riversidean sage scrub, alluvial fan sage scrub, Great Basin sagebrush, chaparral, disturbed habitat, and agriculture. Jackrabbits also are observed in southern willow scrub and juniper woodland (MWD and RCHCA 1995). Black-tailed-jackrabbits typically do not burrow, but take shelter at the base of shrubs in shallow depressions called forms. However, during the summer in the Mojave Desert, jackrabbits may use desert tortoise (*Gopherus agassizii*) burrows to escape the heat (Costa et al. 1976). Smith (1990) observed jackrabbits using burrows in the winter in northern Utah, concluding that it was an anti-predator strategy.

Black-tailed-jackrabbits locations include a broad variety of vegetation and land cover mapping types. The natural habitats with the most frequent occurrences of black-tailed jackrabbits are grassland (including alkali playa), scrubs (including coastal sage scrub, Riversidean sage scrub, alluvial fan sage scrub, disturbed alluvial, big sagebrush scrub, and semi-desert succulent scrub), and chaparral (including red shank chaparral), although it is likely that observations in chaparral were in openings or along trails and roads. Other native vegetation communities with jackrabbit occurrences are oak woodland (coast live oak, Engelmann oak) and southern cottonwood/willow riparian. Many occurrences are in non-natural areas, including agriculture (dairy/livestock, field croplands, and grove/orchard) and residential/urban/exotic.

Black-tailed jackrabbits were detected frequently within RSS and disturbed areas primarily in the south and southwestern portion of the Project site.

Reptiles

Coastal Whiptail (*Aspidoscelis tigris stejnegeri*) – The coastal whiptail does not have a federal or state designation, however this species is considered locally rare. The western whiptail ranges through the semi-arid and arid desert lowlands of Southern California, southern Arizona,

adjacent areas of Mexico and western Baja California, Mexico (Lowe, *et al*., 1970). It is the third most common lizard in the San Gabriel Mountains after *Sceloporus occidentalis* and *Uta stansburiana* (Schoenherr, 1976).

The western whiptail can be found in open, often rocky areas with little vegetation or sunny microhabitats within shrub or grassland associations (Benes, 1969). *Cnemidophorus* [*Aspidoscelis*] is commonly found on the eastern and western slopes of the San Gabriel Mountains in all habitats except yellow pine forest (Schoenherr, 1976). Schoenherr (1976) also indicates that the western whiptail probably occurs in oak woodland (although none have been taken in this habitat type) because they have been detected in riparian areas. Threats to the coastal western whiptail include habitat loss due to development, widespread use of insecticides, off-road vehicle use, and genetic isolation.

Coastal whiptails were observed on the Project site during general surveys in southern portions of the site during warmer days.

4.4 Nesting Birds

The Project Site contains trees, shrubs, and herbaceous vegetation with the potential to support nesting birds. The Migratory Bird Treaty Act (MBTA) and California Fish and Game Code prohibit impacts to nesting birds.[7]

4.5 Raptor Foraging Habitat

The Project site consists mostly of disturbed areas of NNG and RSS, which are both suitable foraging habitats for numerous raptor species. Raptors observed on-site include, two special-status species listed on the State watch list, Cooper's hawk (*Accipiter cooperii*), and merlin (*Falco columbarius*), and four non-listed species, American kestrel (*Falco sparverius*), red-shouldered hawk (*Buteo lineatus*), red-tailed hawk (*Buteo jamaicensis*), and turkey vulture (*Cathartes aura*). One state listed fully protected species was observed offsite, a juvenile golden eagle (*Aquila chrysaetos*). All raptors species observed on-site have a low to high probability of using the Project site for foraging. Abundant leporid prey (hares and rabbits) was observed on-site. No raptors were observed nesting on-site or immediately adjacent to the site during surveys.

4.6 MSHCP Riparian/Riverine Areas and Vernal Pools

Section 6.1.2 of the MSHCP defines Riparian/Riverine Areas as "*lands which contain habitat dominated by trees, shrubs, persistent emergents, or emergent mosses and lichens, which occur close to or which depend upon soil moisture from a nearby fresh water source, or areas with fresh water flow during all or a portion of the year*."

[7] 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.

MSHCP riparian/riverine area for the project site totals 2.34 acres of which 1.89 acres are riparian and the remainder (0.45 acre) is unvegetated riverine. MSHCP riparian/riverine area on-site is divided among three drainage systems, only one of which contains riparian vegetation. The other two drainage systems are unvegetated ephemeral riverine features and are not suitable for any special status species with riparian requirements, such as least Bell's vireo (*Vireo bellii pusillus*) [LBV], southwestern willow flycatcher (*Empidonax traillii extimus*) [SWFL], and yellow-billed cuckoo (*Coccyzus* americanus) [YBCU]. The main drainage feature located in the northwest portion of the project site contains riparian vegetation and has the potential to support LBVI; however, due to a lack of robustness (patch size and canopy structure) there is low potential for the occurrence of both SWFL and YBCU. The current CNDDB's species occurrence data indicates that both the SWFL and YBCU have not been documented within the USGS quads (Alberhill and Lake Elsinore) containing the Project site.

Section 6.1.2 of the MSHCP defines Vernal Pools as "*seasonal wetlands that occur in depression areas that have wetlands indicators of all three parameters (soils, vegetation and hydrology) during the wetter portion of the growing season but normally lack wetlands indicators of hydrology and/or vegetation during the drier portion of the growing season.*"

Areas meeting the MSHCP definition of vernal pools were not detected during surveys; therefore, the Project site does not contain suitable habitat for the federally endangered Riverside fairy shrimp (*Streptocephalus woottoni*) or other special status invertebrates associated with vernal pools.

4.7 Jurisdictional Waters

This section summarizes the findings of the Project Site's jurisdictional delineation. For full details, refer to Appendix C.

4.7.1 Corps Jurisdiction

Potential Corps jurisdiction associated with the Project area totals 0.70 acre, of which 0.09 acre consists of jurisdictional wetlands. A total of 8,730 linear feet of streambed is present. Potential Corps jurisdiction within the Project area is limited to three drainage systems, or drainages, described herein as Drainage Systems 1, 2, and 3. Table 4-4 below outlines the total acreage and linear footage of Corps jurisdiction on site. The drainage systems are discussed in further detail below.

Table 4-4: Potential Corps Jurisdiction On-Site

Drainage Number	Corps Non-Wetland Waters (Acres)	Corps Jurisdictional Wetlands (Acres)	Total Corps Waters (Acres)	Total Linear Feet (Feet)
Drainage 1	0.21	0.07	0.28	2,034
Tributary 1A	0.02	0	0.02	547
Tributary 1B	0.01	0	0.01	141
Tributary 1C	0.07	0.02	0.09	676
Drainage 2	0.01	0	0.01	269
Drainage 3	0.15	0	0.15	2,228
Tributary 3A	0.06	0	0.06	1,321
Tributary 3B	0.07	0	0.07	1,368
Tributary 3C	0.01	0	0.01	146
Tributary 3D	0	0	0	0
Total	**0.61**	**0.09**	**0.70**	**8,730**

Potential Corps jurisdiction associated with Drainage System 1 and associated tributaries (Tributaries 1A, 1B, and 1C) totals 0.40 acre, of which 0.09 acre consists of jurisdictional wetlands.

Drainage System 1 traverses the northwestern portion of the Project area from a storm drain discharge point in the west portion of the Project area. Drainage System 1 flows mostly from the northwest to northeast, crosses over Terra Cotta Road, and leaves the site to the north where it empties into several detention basins, which ultimately discharge into Alberhill Creek/Temescal Creek. Drainage 1 supports an ordinary high water mark (OHWM) ranging in width from approximately one-foot wide to 12-feet wide. Drainage 1 is dominated by mulefat (*Baccharis salicifolia*) and southern willow scrub. A Corps jurisdictional wetland area within Drainage 1 is dominated by Mexican rush *(Juncus mexicanus*) and rabbitsfoot grass (*Polypogon monspeliensis*). The uplands around Drainage System 1 contain California buckwheat (*Eriogonum fasciculatum*), California sagebrush (*Artemisia californica*) tocalote (*Centaurea melitensis*), and black mustard (*Brassica nigra*).

Potential Corps jurisdiction associated with Drainage 2 totals 0.01 acre, none of which consists of jurisdictional wetlands. Drainage 2 is an ephemeral feature traversing the southern portion of the Project area. Drainage 2 begins on site along a large hill near Dryden Street and flows in a north to south direction before terminating at Dryden Street where the feature disappears without entering a culvert or showing other flow signs. Drainage 2 supports an OHWM one foot wide. Drainage 2 is dominated by disturbed Riversidean sage scrub habitat consisting of laurel sumac (*Malosma laurina*), California sagebrush (*Artemisia californica*), and California buckwheat (*Eriogonum fasciculatum*).

Potential Corps jurisdiction associated with Drainage System 3 totals 0.29 acre, none of which consists of jurisdictional wetlands, and a total of 5,063 linear feet of streambed is present. Drainage System 3 is an ephemeral drainage system which flows from southwest to east/northeast before leaving the site, passing easterly of Baker Street, and ultimately flowing into Alberhill Creek/Temescal Creek. Drainage 3 supports an OHWM ranging in width from approximately one-foot wide to four-feet wide. Drainage System 3 is dominated by Riversidean sage scrub habitat and NNG. The Riversidean sage scrub habitat consists of buckwheat (*Eriogonum fasciculatum*), black sage (*Salvia mellifera*), white sage (*Salvia apiana*), and California sagebrush (*Artemisia californica*). Non-native grasses located within this portion of the site consist of wild oat (*Avena fatua*), red brome (*Bromus madritensis*, ssp. *rubens*), mustard (*Brassica nigra*), and ripgut brome (*Bromus diandrus*).

4.7.2 Regional Board Jurisdiction

Potential Regional Board jurisdiction associated with the Project site totals 0.71 acre, of which 0.09 acre consists of wetlands, and a total of 9,283 linear feet of streambed is present. A graphic depicting the limits of potential Regional Board jurisdiction can be found in Appendix C and a table (Table 4-5) listing Regional Board jurisdiction is below**.**

Table 4-5. Potential Regional Board Jurisdiction at the Project Site

Drainage Number	Regional Board Non-Wetland Waters (Acres)	Regional Board Wetlands (Acres)	Total Regional Board Waters (Acres)	Total Linear Feet (Feet)
Drainage 1	0.21	0.07	0.28	2,034
Tributary 1A	0.02	0	0.02	547
Tributary 1B	0.01	0	0.01	141
Tributary 1C	0.07	0.02	0.09	676
Drainage 2	0.01	0	0.01	269
Drainage 3	0.15	0	0.15	2,449
Tributary 3A	0.06	0	0.06	1,321
Tributary 3B	0.07	0	0.07	1,368
Tributary 3C	0.01	0	0.01	146
Tributary 3D	0.01	0	0.01	332
Total	**0.62**	**0.09**	**0.71**	**9,283**

4.7.3 CDFW Jurisdiction

Potential CDFW jurisdiction associated with the Project area totals 2.34 acres, of which 1.89 acres consist of vegetated riparian habitat. In general, the drainages on site are considered either ephemeral or intermittent streambeds and each drainage exhibits a high water mark (HWM) with several characteristics of stream flow, including destruction of terrestrial vegetation, terracing, debris wracking, water marks, and the presence of a defined bed, bank, and channel. The boundaries of CDFW jurisdiction are depicted in Appendix C. Table 4-6 below outlines the total acreage and linear footage of CDFW jurisdiction on site. Vegetation associated with each drainage system is described above in Section 4.7.1.

Table 4-6. Potential CDFW Jurisdiction at the Project Site

Drainage Number	Total CDFW Streambed (Acres)	Total CDFW Vegetated Riparian Habitat (Acres)	Total CDFW Jurisdiction (Acres)	Total Linear Feet of Drainage (Feet)
Drainage 1	0.08	1.72	1.80	2,034
Tributary 1A	0.02	0	0.02	547
Tributary 1B	0.01	0	0.01	141
Tributary 1C	0.03	0.17	0.20	676
Drainage 2	0.01	0	0.01	269
Drainage 3	0.15	0	0.15	2,449
Tributary 3A	0.06	0	0.06	1,321
Tributary 3B	0.07	0	0.07	1,368
Tributary 3C	0.01	0	0.01	146
Tributary 3D	0.01	0	0.01	332
Total	**0.45**	**1.89**	**2.34**	**9,283**

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 refers 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 Vegetation/Land Use Types

The overall Project site is comprised of approximately 155 acres, of which approximately 130 acres will be permanently impacted by the Project. The proposed Project consists of a residential housing development that includes 468 proposed lots on 71 acres, 28 acres of local streets, 28.2 acres of graded slopes and 22 acres of natural opens space and detention/water quality basins. Table 5-1 provides a breakdown of impacts to vegetation/land use types for the Project's development footprint.

Table 5-1. Summary of Impacts to Vegetation/Land Use Types

Vegetation	Acreage
Non-Native Grassland	54.12
Riversidean Sage Scrub	22.70
Southern Willow Scrub	1.12
Disturbed Riversidean Sage Scrub	31.65
Emergent Wetland Vegetation	0.01
Ruderal Vegetation	20.35
Total	**129.95**

5.2.1 Impacts to Native Vegetation Types

The proposed Project footprint will have direct impacts to two native vegetation communities, totaling approximately 55.48 acres, including Riversidean sage scrub (RSS) and southern willow scrub (SWS).

Riversidean Sage Scrub

The proposed Project would result in direct impacts to 54.35 acres of RSS in different areas of the Project site, including 22.70 acres of undisturbed RSS and 31.65 acres of disturbed RSS. Impacts to undisturbed RSS will occur in the southern potion of the Project site. Impacts to disturbed RSS will occur in various areas scattered throughout the Project site. Of the approximately 72.17 acres of disturbed and undisturbed RSS located within the Project site,

17.69 acres of RSS will be avoided, of which approximately 12.53 acres consist of undisturbed RSS. The onsite habitat to be conserved represents relatively moderate quality habitat for several wildlife species, including the coastal California gnatcatcher. Impacts to sage scrub are covered and mitigated for through the MSHCP. Prior to mitigation, Project related impacts to RSS would be significant; however, with coverage/mitigation afforded by the MSHCP and with the preservation of the avoided onsite scrub habitat, impacts to RSS would be mitigated to below a level of significance.

Southern Willow Scrub

The proposed Project would result in direct impacts to 1.12 acres of SWS habitat. Approximately 0.67 acre of SWS will be avoided by the Project's footprint. Impacts to MSHCP riparian/riverine areas should be avoided as described in *Section 6.1.2* of the MSHCP; however, for unavoidable impacts to MSHCP riparian/riverine areas, *Section 6.1.2* requires that the Permittee prepare a DBESP to ensure the replacement of any lost functions and values of habitat as it relates to Covered Species. With the mitigation and approval of a DBESP, the project will be compliant with *Section 6.1.2* of the MSHCP.

5.3 Impacts to MSHCP Riparian/Riverine Areas and Vernal Pools

As noted above, the Project site contains approximately 2.34 acres of MSHCP riparian/riverine areas, of which 1.89 acres support riparian habitat and 0.45 acre supports unvegetated riverine habitat. The Project will impact 1.55 acres of MSHCP riparian/riverine areas, including 1.13 acres of riparian vegetation and 0.42 acre of unvegetated riverine areas. Impacts to riparian habitats are potentially significant prior to mitigation. Table 5-1 provides a summary of impacts to MSHCP riparian/riverine areas.

Table 5-2. Impacts to MSHCP Riparian/Riverine Areas

Drainage System	Unvegetated Riverine	Riparian Vegetation	Total Impact
1	0.11	1.13	1.24
2	0.01	0	0.01
3	0.30	0	0.30
TOTAL JURISDICTION	**0.42**	**1.13**	**1.55**

The Project site contains a portion of Drainage System 1 that supports SWS/EW habitat which meets the MSHCP definition of a riparian/riverine area. Approximately 1.12 acres of the total 1.89 riparian vegetated area will be permanently impacted as a result of the Project. The riparian habitat does not support the least Bell's vireo, southwestern willow flycatcher, or western yellow-billed cuckoo. The Project will also permanently impact the majority of the onsite unvegetated riverine habitat (0.42 of 0.45 acres). The potential effects on the hydrological function of the onsite riverine areas relative to the downstream (offsite) receiving waters will be

minimized through the Project's drainage plan and the implementation of Best Management Practices (BMPs) so that impacts to hydrological function will be less than significant.

For unavoidable impacts to MSHCP riparian/riverine areas, *Section 6.1.2* of the MSHCP requires that the Permittee prepare a DBESP to ensure the replacement of any lost functions and values of habitat as it relates to Covered Species. With the mitigation and approval of a DBESP, the project will be compliant with *Section 6.1.2* of the MSHCP.

No vernal or seasonal pools are located within the Project site.

5.4 Impacts to Special-Status Species

5.4.1 Special-Status Plant Species

The proposed Project would result in direct impacts to one special-status plant species: paniculate tarplant (*Deinandra paniculata*). The project would result in impacts to scattered amounts of paniculate tarplant throughout ruderal and non-native grassland areas in the south and southeast portions of the Project site. Due to the low sensitivity of this species, and the broad representation in the region, the impacts to the species would be less than significant.

A previous study of the Project site conducted in 2006 found one special-status plant species, Palmer's grapplinghook (*Harpagonella palmeri*), a CNPS designated California Rare Plant Rank 4.2 species. The location of the Palmer's grapplinghook was not detailed in the previous report; however, focused surveys targeting areas containing potentially suitable habitat for this species yielded negative results. Regardless, impacts to any undetected Palmer's grapplinghook will not result in an adverse effect on the species population and would be covered by the MSHCP.

5.4.2 Special-Status Wildlife Species

The proposed Project would result in the loss of foraging and/or breeding habitat for special-status animals; including birds, reptiles, and small mammals. Species with potentially significant impacts prior to mitigation are discussed below individually. Additional special-status animals for which impacts would be less than significant will be summarized.

Coastal California Gnatcatcher

The Project would result in the loss of habitat occupied by the coastal California gnatcatcher, which was documented in the southwestern portion of the Project site during biological surveys conducted in 2006, and which was incidentally detected during the 2013 biological surveys. The loss of habitat for the gnatcatcher would be potentially significant. However, the gnatcatcher is designated as a Covered Species Adequately Conserved under the MSHCP without additional conservation requirements. Therefore, with the coverage afforded by the MSHCP, impacts to the gnatcatcher would be less than significant.

The significance of impacts to other special status-species either occurring or having the potential to occur onsite is summarized in Table 5-3 below. An asterisk (*) indicates that a

species was observed onsite or nearby offsite during a biological survey. All species listed in Table 5-3 are covered under the mitigation afforded by the MSHCP with the exception of the rosy boa, which has low potential to occur on-site due to the low quality of the marginal habitat present on-site; therefore, direct potential impacts to each of the species will be below a significant level after mitigation.

Table 5-3. Additional Special-Status Animals with Actual or Potential Direct Impacts

Species	Extent of Impact	Significance of Impact
Invertebrates		
Quino checkerspot butterfly	Loss of habitat in areas of native scrub vegetation within the southern and southeastern portion of the Project Site.	Less than significant impact.
Reptiles		
Belding's orange-throated whiptail	Loss of habitat in areas of native scrub vegetation within the southern and southeastern portion of the Project Site.	Less than significant impact.
Coast horned lizard	Loss of habitat in areas of native scrub vegetation within the southern and southeastern portion of the Project Site.	Less than significant impact.
Coastal whiptail*****	Loss of habitat in areas of native scrub vegetation within the southern and southwestern portion of the Project Site	Less than significant impact.
Northern red diamond rattlesnake	Loss of habitat in areas of native scrub vegetation within the southern and southeastern portion of the Project Site.	Less than significant impact.
Rosy boa	Loss of habitat in areas of native scrub vegetation within the southern and southeastern portion of the Project Site.	Less than significant impact.
San Diego horned lizard	Loss of habitat in areas of native scrub vegetation within the southern and southeastern portion of the Project Site.	Less than significant impact.
Birds		
California horned lark	Loss of foraging and breeding habitat, occurring throughout the Project Site.	Less than significant impact.
Cooper's hawk***** (wintering)	Loss of foraging habitat occurring throughout the Project Site.	Less than significant impact.
Ferruginous hawk (wintering)	Loss of winter foraging habitat, representing the majority of the Project Site (ruderal, disturbed areas, grassland).	Less than significant impact.
Grasshopper sparrow***** (nesting)	Loss of potential nesting habitat, representing a large portion of the Project site (grassland).	Less than significant impact.

Species	Extent of Impact	Significance of Impact
Golden eagle (wintering)*	Loss of winter foraging habitat, representing the majority of the Project Site (ruderal, disturbed areas, grassland).	Less than significant impact.
Merlin* (wintering)	Loss of winter foraging habitat, representing the majority of the Project Site (ruderal, disturbed areas, grassland).	Less than significant impact.
Northern harrier (wintering)	Loss of winter foraging habitat, representing the majority of the Project Site (ruderal, disturbed areas, grassland).	Less than significant impact.
Southern-California rufous-crowned sparrow	Loss of foraging and breeding habitat. Limited areas of native scrub vegetation within the southern and southeastern portion of the Project Site.	Less than significant impact.
Swainson's hawk (wintering)	Loss of winter foraging habitat, representing the majority of the Project Site (ruderal, disturbed areas, grassland).	Less than significant impact.
Yellow warbler	Loss of riparian habitat for breeding.	Less than significant impact.
Mammals		
Dulzura California pocket mouse	Loss of habitat. Limited areas of native scrub vegetation within the southern and southeastern portion of the Project Site.	Less than significant impact.
Northwestern San Diego pocket mouse	Loss of habitat. Limited areas of native scrub vegetation within the southern and southeastern portion of the Project Site.	Less than significant impact.
San Diego black-tailed jackrabbit*	Loss of winter habitat, representing the majority of the Project Site (ruderal, disturbed areas, grassland).	Less than significant impact.

5.5 Impacts to Raptor Foraging Habitat

The proposed Project would result in the direct loss of foraging habitat for a number of raptors (including special-status raptors), such as the red-tailed hawk, red-shouldered hawk, American kestrel, Cooper's hawk, merlin, and golden eagle. The majority of the Project site constitutes moderate quality foraging habitat for these raptor species. Impacts to raptor foraging habitat are reduced to a less than significant level with coverage afforded by the MSHCP.

5.6 Impacts to Nesting Birds

The Project has the potential to impact active nests if vegetation is to be removed during the nesting season (February 1 to August 31).

5.7 Impacts to Jurisdictional Waters

The Project, as proposed, will result in permanent impacts to 0.48 acre of Corps jurisdiction, of which 0.02 acre consists of jurisdictional wetlands. Permanent impacts will occur to 7,557 linear feet of streambed.

The Project, as proposed, will result in permanent impacts to 0.50 acre of Regional Board jurisdiction, of which, 0.02 acre consists of jurisdictional wetlands. Permanent impacts will occur to 7,883 linear feet of streambed.

The Project, as proposed will result in permanent impacts to 1.55 acres of CDFW jurisdiction, of which 1.13 acres consist of vegetated riparian habitat and 0.42 acre consists of unvegetated streambed associated with the riparian habitat. Permanent impacts will occur to 7,883 linear feet of streambed.

5.8 Indirect Impacts to Biological Resources

The Project is not expected to result in significant indirect impacts to special-status biological resources, with the implementation of measures pursuant to the MSHCP Urban/Wildlands Interface Guidelines (*Volume I, Section 6.1.4* of the MSHCP). These guidelines are intended to address indirect effects associated with locating projects (particularly development) in proximity to the MSHCP Conservation Area. To minimize potential edge effects, the guidelines are to be implemented in conjunction with review of individual public and private development projects in proximity to the MSHCP Conservation Area. The Project site does not occur within the MSHCP Criteria, but is located adjacent to Criteria Cell #4157. The MSHCP targets approximately 45 to 55 percent of Cell 4157 for inclusion into the MSHCP Conservation Area, focusing on the western portion of the Cell. As such, the northern portion of the Project site may occur adjacent to the MSHCP Conservation Area, or at least will occur in close proximity to the Conservation Area. As such, the Project will be required to implement measures (as applicable) consistent with the MSHCP guidelines to address the following:

- Drainage;
- Toxics;
- Lighting;
- Noise;
- Invasives;
- Barriers; and
- Grading/Land Development.

5.8.1 Drainage

Proposed projects in proximity to the MSHCP Conservation Area shall incorporate measures, including measures required through the National Pollutant Discharge Elimination System (NPDES) requirements, to ensure that the quantity and quality of runoff discharged to the MSHCP Conservation Area is not altered in an adverse way when compared with existing conditions. In particular, measures shall be put in place to avoid discharge of untreated surface

runoff from developed and paved areas into the MSHCP Conservation Area. Stormwater systems shall be designed to prevent the release of toxins, chemicals, petroleum products, exotic plant materials or other elements that might degrade or harm biological resources or ecosystem processes within the MSHCP Conservation Area. This can be accomplished using a variety of methods including natural detention basins, grass swales or mechanical trapping devices. Regular maintenance shall occur to ensure effective operations of runoff control systems.

The Project will implement BMPs to ensure there will be no adverse drainage/water quality impacts to the MSHCP Conservation Area.

5.8.2 Toxics

Land uses proposed in proximity to the MSHCP Conservation Area that use chemicals or generate bioproducts such as manure that are potentially toxic or may adversely affect wildlife species, habitat or water quality shall incorporate measures to ensure that application of such chemicals does not result in discharge to the MSHCP Conservation Area. Measures such as those employed to address drainage issues shall be implemented.
As noted above, the Project will implement BMPs to ensure there will be no adverse water quality impacts to the MSHCP Conservation Area.

5.8.3 Lighting

Night lighting shall be directed away from the MSHCP Conservation Area to protect species within the MSHCP Conservation Area from direct night lighting, ensuring that ambient lighting in the MSHCP Conservation Area is not increased.

5.8.4 Noise

Proposed noise generating land uses affecting the MSHCP Conservation Area shall incorporate setbacks, berms or walls to minimize the effects of noise on MSHCP Conservation Area resources pursuant to applicable rules, regulations and guidelines related to land use noise standards. The Project shall include applicable structures to ensure that wildlife within the MSHCP Conservation Area will not be subject to noise that would exceed residential noise standards, both during and post-construction.

5.8.5 Invasives

Project landscaping in proximity to the MSHCP Conservation Area shall avoid the use of invasive plant species, including invasive, non-native plant species listed in *Volume I,* Table 6-2 of the MSHCP.

5.8.6 Barriers

Proposed land uses adjacent to the MSHCP Conservation Area shall incorporate barriers, where appropriate in individual project designs to minimize unauthorized public access, domestic animal predation, illegal trespass or dumping in the MSHCP Conservation Area. Such barriers

may include native landscaping, rocks/boulders, fencing, walls, signage and/or other appropriate mechanisms.

5.8.7 Grading/Land Development

The MSHCP states that manufactured slopes associated with development shall not extend into the MSHCP Conservation Area.

5.9 Cumulative Impacts

The proposed Project will contribute to regional cumulative impacts as it pertains to the loss of riparian habitat, foraging, and live-in habitat for special status wildlife, the loss of raptor foraging habitat, and the loss of nesting bird habitat. However, with the Project's participation in the MSHCP, and with additional mitigation measures to be implemented, the cumulative impacts attributed to the Project would be reduced to below a level of significance.

6.0 MITIGATION

The following discussion provides project-specific mitigation measures for actual or potential impacts to special-status resources. In addition to these specific measures, mitigation is also provided by the MSHCP, through participation with the MSHCP and compliance with applicable MSHCP requirements.

6.1 Burrowing Owl

As noted in Section 5 of this report, the Project will result in the loss of potential habitat for the western burrowing owl. Currently, the site does not support any breeding owls, and as such the project would not currently be subject to MSHCP requirements for avoidance and/or owl relocation. However, since the Project site does contain habitat that could potentially support burrowing owls in the future, the following mitigation measure is applicable pursuant to the MSHCP:

- The Project applicant shall ensure that a pre-construction presence/absence survey for burrowing owl will be conducted where suitable habitat is present. The survey shall be conducted within 30 days prior to site disturbance. If burrowing owl are determined to be present, passive (i.e., use of one-way doors and collapse of burrows) relocation following accepted protocols will be utilized to ensure impacts to owls are minimized or avoided. In addition, disturbance of active nests will be avoided if burrowing owl is present during the nesting season (March 1st to August 31st).

6.2 Nesting Birds

As noted in Section 5 of this report, the project has the potential to impact nesting birds. The following mitigation measure shall be implemented to ensure that the project will not result in impacts to nesting birds:

- The removal of potential nesting vegetation will be conducted outside of the nesting season (February 1 to August 31) to the extent that this is feasible. If vegetation must be removed during the nesting season, a qualified biologist will conduct a nesting bird survey of potentially suitable nesting vegetation prior to removal. Surveys will be conducted no more than three (3) days prior to scheduled removals. If active nests are identified, the biologist will establish buffers around the vegetation containing the active nest (300 feet for raptors and 100 feet for non raptors). The vegetation containing the active nest will not be removed, and no grading will occur within the established buffer, until a qualified biologist has determined that the nest is no longer active (i.e., the juveniles are surviving independent from the nest). If clearing is not conducted within three days of a negative survey, the nesting survey must be repeated to confirm the absence of nesting birds.

6.3 MSHCP Riparian/Riverine Areas

Project implementation will result in the permanent loss of 1.55 acres of MSHCP riparian/riverine areas. Pursuant to *Section 6.1.2* of the MSHCP, impacts to MSHCP riparian/riverine areas will require the review and approval of a DBESP by the wildlife agencies (USFWS and CDFW). The DBESP document will outline mitigation measures to be implemented to compensate for unavoidable impacts to MSHCP riparian/riverine areas. The mitigation measures outlined in the DBESP will result in an equivalent or biological superior condition than the present conditions onsite.

6.4 Jurisdictional Waters

The following mitigation measures shall be considered for impacts to jurisdictional waters, including Corps waters and wetlands, Regional Water Quality Control Board jurisdiction, CDFG streambed and riparian habitat and MSHCP riparian/riverine Areas:

- Prior to the issuance of a grading permit, the Project applicant will obtain the necessary authorizations from the regulatory agencies for proposed impacts to jurisdictional waters. Authorizations may include a Section 404 Permit, Section 1602 Streambed Alteration Agreement from CDFW, and a Section 401 Water Quality Certification/Waste Discharge Requirement from the Regional Board.

- Project-specific impacts to jurisdictional waters is proposed to be minimally mitigated at a 2:1 ratio for permanent impacts and will be subject to approval by the appropriate regulatory agencies.

6.5 Level of Significance After Mitigation

With the Project's participation and compliance with the Western Riverside County MSHCP, with coverage afforded by the MSHCP, and with the mitigation measures as described above, direct, indirect, and cumulative impacts to sensitive biological resources will be less than significant.

7.0 MSHCP CONSISTENCY

The purpose of this section is to provide an analysis of the proposed Project with respect to compliance with biological aspects of the Western Riverside County MSHCP. Specifically, this analysis evaluates the proposed Project with respect to the Project's compliance with MSHCP Reserve assembly requirements, *Section 6.1.2* (Protection of Species Associated with Riparian/Riverine Areas and Vernal Pools), *Section 6.1.3* (Protection of Narrow Endemic Plant Species), *Section 6.1.4* (Guidelines Pertaining to the Urban/Wildlands Interface), and *Section 6.3.2* (Additional Survey Needs and Procedures).

7.1 Project Relationship to Reserve Assembly

The entire Project is located within the Elsinore Area Plan of the MSHCP. No part of the Project site occurs within a Criteria Cell proposed for conservation under the MSHCP[8]; therefore, the Project is not subject to the HANS or JPR processes, and thus the Project is consistent with the Reserve Assembly requirements of the MSHCP.

7.2 Protection of Species Associated with Riparian/Riverine Areas and Vernal Pools (Section 6.1.2)

The project site contains areas defined by the MSHCP as riparian/riverine areas. The Project site does not support vernal pools or vernal pool associated species. Impacts to MSHCP riparian/riverine areas will require the review and approval of a DBESP by USFWS and CDFW. Upon approval of the DBESP, the Project will be consistent with the MSHCP riparian/riverine policies.

7.3 Protection of Narrow Endemic Plant Species (Section 6.1.3)

The Project site is located within the MSHCP NEPSSA pursuant to *Section 6.3.2* of the MSHCP. Focused plant surveys were conducted for species identified under *Section 6.1.3* of the MSHCP in areas of the Project site that contained potentially suitable habitat, and none of the NEPSSA target species were identified onsite. As such, the Project is consistent with MSHCP requirements for the *Protection of Narrow Endemic Plant Species* pursuant to *Section 6.1.3*.

7.4 Guidelines Pertaining to the Urban/Wildland Interface

The MSHCP Urban/Wildland Interface Guidelines are intended to address indirect effects associated with locating development in proximity to the MSHCP Conservation Area. As the MSHCP Conservation Area is assembled, development is expected to occur adjacent to the Conservation Area. Future development in proximity to the MSHCP Conservation Area may result in edge effects with the potential to adversely affect biological resources within the Conservation Area. To minimize such edge effects, the guidelines shall be implemented in

[8] As noted in Section 1.6.2 of this report, the MSHCP Conservation Summary Generator identifies a small portion of the Project site as occurring within the MSHCP Criteria Area. However, the City of Lake Elsinore has previously noted this as a mapping error, and that the Project site does not occur within the MSHCP Criteria Area.

conjunction with review of individual public and private development projects in proximity to the MSHCP Conservation Area and address the following:

- Drainage;
- Toxics;
- Lighting;
- Noise;
- Invasive species;
- Barriers;
- Grading/Land Development.

As discussed in Section 5.0 of this report, the Project will implement applicable measures to minimize adverse indirect impacts on special-status resources within the MSHCP Conservation Area. The proposed Project will be consistent with *Section 6.1.4* of the MSHCP.

7.5 Additional Survey Needs and Procedures\

The Project site is not located within the MSHCP Criteria Area Plant Species Survey Area (CAPSSA) pursuant to *Section 6.1.3* of the MSHCP. Therefore, the CAPSSA requirements are not applicable to the Project.

The Project site is not located within the MSHCP Additional Survey Areas for Amphibians, Mammals, or any Special Linkage Areas; but is within the Survey Area for the burrowing owl . Breeding season protocol surveys for the western burrowing owl were conducted pursuant to the *Burrowing Owl Survey Instructions For The Western Riverside Multiple Species Habitat Conservation Plan Area* as set forth by the MSHCP and resulted in negative findings of burrowing owl and sign.

The following mitigation measure should be implemented to ensure that any potential impacts to burrowing owls are mitigated to below a level of significance:

- The Project applicant shall ensure that a pre-construction presence/absence survey for burrowing owl will be conducted where suitable habitat is present. The survey shall be conducted within 30 days prior to site disturbance. If burrowing owl are determined to be present, passive (i.e., use of one-way doors and collapse of burrows) relocation following accepted protocols will be utilized to ensure impacts to owls are minimized or avoided. In addition, disturbance of active nests will be avoided if burrowing owl is present during the nesting season (March 1st to August 31st).

Through compliance with the MSHCP and the aforementioned mitigation measure, the Project is consistent with the MSHCP Additional Survey Needs and Procedures policies.

7.5 Conclusion of MSHCP Consistency

As outlined above, the proposed Project will be compliant with the biological requirements of the MSHCP; specifically pertaining to the Project's relationship to reserve assembly, *Section*

6.1.2 (Protection of Species Associated with Riparian/Riverine Areas and Vernal Pools), *Section 6.1.3* (Protection of Narrow Endemic Plant Species), *Section 6.1.4* (Guidelines Pertaining to the Urban/Wildlands Interface), and *Section 6.3.2* (Additional Survey Needs and Procedures).

8.0 REFERENCES

Atwood, J. 1990. Status review of the California gnatcatcher (*Polioptila californica*). Manomet Bird Observatory, Manomet, Mass.

Atwood, J. 1990. Status review of the California gnatcatcher (*Polioptila californica*). Manomet Bird Observatory, Manomet, Mass.

Atwood, J. 1991. Subspecies limits and geographic patterns of morphological variation in California gnatcatchers (*Polioptila californica*). Bulletin Southern California Academy of Sciences 90 (3):118-133.

American Ornithologists' Union. 1998. Checklist of North American Birds, Seventh Edition.

Baker, R. S., L. C. Bradley, R. D. Bradley, J. W. Dragoo, M. D. Engstrom, R. S. Hoffman, C. A Jones, F. Reid, D. W. Rice, and C. Jones. 2003. Revised checklist of North American mammals North of Mexico, 2003. Occasional Papers The Museum Texas Tech University (229):1-24.

Baldwin, B. G., D.H. Goldman, D.J. Keil, R. Patterson, T.J. Rosatti, and D. H.Wilken, editors. 2012. The Jepson manual: vascular plants of California, second edition. University of California Press, Berkeley.

Beedy, E. C. 1975. Avifaunal complexity and forest structure in the Sierra Nevada of California. M.S. Thesis, Univ. California, Davis. 100pp.

Benes, E.S. 1969. Behavioral evidence of color discrimination by the whiptail lizard, *Cnemidophorus*. Copeia 1969:707-722.

Bontrager, D. R. 1991. Habitat requirements, home range and breeding biology of the California gnatcatcher (Polioptila californica) in South Orange County, California. Prepared for Santa Margarita Company, Rancho Santa Margarita, California.

Bowler, P. 1995. California gnatcatcher use of mulefat and coastal sage scrub restoration as a wetlands margin dispersal corridor. Paper delivered at the Symposium on the Biology of the California Gnatcatcher held 15-16 September 1995, University of California, Riverside.

Bronson, F.H. and O.W. Tiemeir. 1959. The relationship of precipitation and black-tailed jack rabbit populations in Kansas. Evolution 40:194-198.

California Department of Fish and Game. 2011 (January). Special Animals. State of California Resources Agency, Sacramento, California.

California Department of Fish and Game. 2013 (January). State and Federally Listed Endangered and Threatened Animals of California. State of California Resources Agency. Sacramento, California.

California Department of Fish and Game. August 2013. California Natural Diversity Database: RareFind 4. Records of occurrence for U.S.G.S. 7.5- minute Quadrangle maps: Murrieta, Romoland, and Bachelor Mountain. California Department of Fish and Game, State of California Resources Agency. Sacramento, California.

California Native Plant Society. 2001. Inventory of Rare and Endangered Plants of California. (Sixth Edition). Rare Plant Advisory Committee, David P. Tibor, Convening Editor, California Native Plant Society. Sacramento, California, 388 pp.

California Native Plant Society. 2010. Inventory of Rare and Endangered Plants of California. (Seventh Edition). Accessible online at <http://cnps.web.aplus.net/cgi-bin/inv/inventory.cgi>

Campbell, K., R. Erickson, and M. Patten. 1995. Saving the habitat and losing the birds: adjacent habitats, management, and natural history of the California gnatcatcher. Paper delivered at the Symposium on the Biology of the California Gnatcatcher held 15-16 September 1995, University of California, Riverside.

Campbell, K., R. Erickson, W. Haas and M. Patten. 1998. California gnatcatcher use of habitats other than coastal sage scrub: Conservation and management implications. Western Birds 29:421-433.

Collins, J. T. 2009. Standard common and scientific names for North American amphibians, turtles, reptiles, and crocodilians. Sixth Edition. Publication of The Center for North American Herpetology, Lawrence. Iv + 44pp.

Costa, W.R., K.A. Nagy, and V.H. Shoemaker. 1976. Observations of the behavior of jackrabbits (*Lepus californicus*) in the Mojave Desert. Journal of Mammalogy 57:399-402.

Dunn, J.P., J.A. Chapman, and R.E. Marsh. 1982. Jackrabbits. In J.A. Chapman and G.A. Feldhamer (eds.) *Mammals of North America*, pp 124-145.

ERC Environmental and Energy Services Co. 1990. Phase I Report Amber Ridge California Gnatcatcher Study. Prepared for Weingarten, Siegel, Fletcher Group, Inc.

Garrett, K. and J. Dunn. 1981. Birds of Southern California: Status and Distribution. Los Angeles Audubon Society. 407 pp.

Grinnell, J. and A.H. Miller. 1944. The Distribution of the Birds of California. Pacific Coast Avifauna Number 27. Cooper Ornithological Club, Berkeley, California. Reprinted by Artemisia Press, Lee Vining, California; April, 1986. 617 pp.

Hall, E.R. 1981. *The Mammals of North America*. John Wiley and Sons, New York. 2 Vol. 1181 pp.

Hamilton, R. and D.R. Willick. 1996. The Birds of Orange County, California: Status and Distribution. Sea and Sage Press, Irvine, California. 150 pp. with appendices.

Haug, E. A., B. A. Millsap, and M. S. Martell. 1993. Burrowing Owl (*Speotyto cunicularia*). In The Birds of North America, No. 130 (A. Poole and F. Gill, Eds.). Philadelphia: The Academy of Natural Sciences; Washington, D.C.: The American Ornithologists' Union.

Hickman, J.C., Ed. 1993. The Jepson Manual: Higher Plants of California. University of California Press. 1,400 pp.

Holland, R. F. 1986. Preliminary Descriptions of the Terrestrial Natural Communities of California. Nongame-Heritage Program, California Department of Fish and Game.

Lechleitner, R.R. 1959. Sex ratio, age classes and reproduction of the black-tailed jackrabbit. Journal of Mammalogy 40:63-81

Lowe, C.H., C.J.C.Wright, and R.L. Bezy. 1970. Chromosomes and evolution of the species groups *Cnemidophorus* (Reptilia: Teiidae). Syst.Zool 19 (1970): 128-141.

Lowther, P.E., C. Celada, N. K. Klein, C. C. Rimmer, and D. A. Spector. 1999. Yellow Warbler (*Dendroica petechia*), No. 454. *In* The Birds of North America, A. Poole and F. Gill, Eds. Cornell laboratory of Ornithology and The Academy of Natural Sciences. Washington, D. C.

McCaskie, G., P. De Benedictis, R. Erickson, and J. Morlan. 1979. Birds of northern California, an annotated field list. 2nd ed. Golden Gate Audubon Soc., Berkeley. 84pp.

Metropolitan Water District (MWD) and Riverside County Habitat Conservation Agency (RCHCA). 1995. Lake Mathews Multiple Species Habitat Conservation Plan and Natural Community Conservation Plan: Vol. 2.

Nelson, J. 1984. Rare plant survey guidelines. .In: Inventory of rare and endangered vascular plants of California. J. Smith and R. York (eds.). Special Publication No. 1. California Native Plant Society.

Payne, N. F. , S. N. Kobal, and D. R. Ludwig. 1998. Perch use by seven grassland bird species in northern Illinois. Trans. Ill. State Acad. Sci. 91: 77-83.

Reiser, C.H. 2001. Rare Plants of San Diego County, 2001 edition. Unpublished. Aquafir Press, San Diego, California.

Riverside County Integrated Project. 2003. Western Riverside County Multiple Species Habitat Conservation Plan.

Roberts, F.M, S.D. White, A.C. Sanders, D.E. Bramlet, and S. Boyd. 2004. The Vascular Plants of Western Riverside County, California; An Annotated Checklist. F.M. Roberts Publications, San Luis Rey, California. 192 pp.

Robertson, J. M. 1929. Some observations on the feeding habits of the burrowing owl. Condor 31: 38-39.

Rosenfield, R. N., and J. Bielefeldt. 1993. Cooper's hawk (*Accipiter cooperii*). *In* The Birds of North America, No. 75 (A. Poole and F. Gill, eds.) The Academy of Natural Sciences, Philadelphia, PA and The American Ornithologists' Union, Washington D.C.

Sawyer, J.O. and T. Keeler-Wolf. 1995. A Manual of California Vegetation. California Native Plant Society.

Schoenherr, A.A. 1976. The Herptofauna of the San Gabriel Mountains Los Angeles, California Including Distribution and Biogeography. Special Publication of the Southwestern Herpetologist's Society, February 1, 1976.

Small, A. 1994. California Birds: Their Status and Distribution. Ibis Publishing Company: Vista, CA. 342 pp.

Smith, G.W. 1990. Home range and activity patterns of black-tailed jackrabbits. Great Basin Naturalist 50:249-256.

Smith, R.L. 1963. Some ecological notes on the grasshopper sparrow. Wilson Bull. 75: 159-165.

Stebbins, R. C. 1954. Amphibians and reptiles of western North America. McGraw Hill Book Company, New York, New York.

Tibor, D.P, editor. 2001. California Native Plant Society's inventory of rare and endangered vascular plants of California. Sixth edition. Special Publication No. 1, California Native Plant Society, Sacramento, 387 pp.

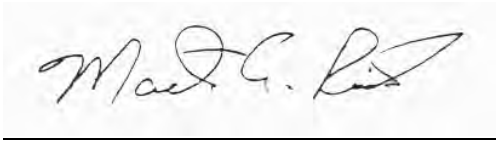
Trexel, D. R., R. N. Rosenfield, J. Bielefeldt, and E. A. Jacobs. 1999. Comparative nest site habitats in sharp-shinned and Cooper's hawks in Wisconsin. Wilson Bulletin 111: 7-14.

Vickery, Peter D. 1996. Grasshopper sparrow *(Ammodramus savannarum). In* The Birds of North America, No. 239 (A. Poole and F. Gill, eds.) The Academy of Natural Sciences, Philadelphia, PA and The American Ornithologists' Union, Washington D.C.

Zeiner, D. C., W., F. Laudenslayer, Jr., K. E. Mayer, M. White. Editors. 1990. California's Wildlife. Volume 2. Birds. State of California, Department of Fish and Game. Sacramento, California. 731 pp.

9.0 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.

Signed:  Date: August 28, 2013

s:0586-02b.bioreport.docx

APPENDIX A

FLORAL COMPENDIUM

The floral compendium lists species identified on the project site. Taxonomy follows the Jepson Manual Second Edition (Baldwin et. al. 2012) and, for sensitive species, the California Native Plant Society's Rare Plant Inventory, Online Edition v8-01a (CNPS 2013). Common plant names are taken from Roberts *et al.* (2004). An asterisk (*) denotes a non-native species.

SCIENTIFIC NAME	COMMON NAME
ANGIOSPERMS-DICOTS	
ADOXACEAE	**Muskroot Family**
Sambucus nigra ssp. *caerulea*	blue elderberry
ANACARDIACEAE	**Sumac Family**
Malosma laurina	laurel sumac
Rhus integrifolia	lemonade berry
APIACEAE	**Carrot Family**
Daucus pusillus	rattlesnake weed
**Foeniculum vulgare*	sweet fennel
Lomatium utriculatum	common lomatium
ASTERACEAE	**Sunflower Family**
Ambrosia psilostachya	western ragweed
Artemisia californica	California sagebrush
Artemisia douglasiana	mugwort
Baccharis pilularis	coyote bush
Baccharis salicifolia	mulefat
**Centaurea melitensis*	tocalote
Conyza canadensis	common horseweed
Deinandra fasciculata	fascicled tarplant
Deinandra paniculata	paniculate tarplant
Encelia californica	California encelia
Encelia farinosa	brittlebush
Heterotheca grandiflora	telegraph weed
Lasthenia californica	coastal goldfields
Malacothrix saxatilis var. *tenuifolia*	cliff malacothrix
Pseudognaphalium californicum	California everlasting

BORAGINACEAE	**Borage Family**
Amsinckia menziesii	fiddleneck
Cryptantha intermedia	common cryptantha
Pectocarya linearis	sagebrush combseed
Pholistoma auritum	fiestaflower
Heliotropium curassavicum	salt heliotrope
BRASSICACEAE	**Mustard Family**
**Brassica nigra*	black mustard
** Hirschfeldia incana*	summer mustard
**Capsella bursa-pastoris*	shepherd's purse
Lepidium nitidum var. nitidum	shining peppergrass
**Raphanus sativus*	wild radish
**Sisymbrium irio*	London rocket
CACTACEAE	**Cactus Family**
Cylindropuntia californica var. *californica*	snake cholla
Opuntia littoralis	coastal prickly pear
CHENOPODIACEAE	**Goosefoot Family**
**Salsola tragus*	Russian thistle
CONVOLVULACEAE	**Morning-Glory Family**
**Convolvulus arvensis*	field bindweed
Cuscuta californica	chaparral dodder
CRASSULACEAE	**Stonecrop Family**
Crassula connata	pygmy weed
EUPHORBIACEAE	**Spurge Family**
Chamaesyce albomarginata	rattlesnake weed
Croton setigerus	doveweed
FABACEAE	**Legume Family**
Acmispon glaber	deerweed
Lupinus bicolor	miniature lupine
Lupinus succulentus	arroyo lupine
**Medicago polymorpha*	California burclover

GERANIACEAE	**Geranium Family**
**Erodium botrys*	long-beaked filaree
**Erodium cicutarium*	red-stemmed filaree
**Erodium moschatum*	greenstem filaree
HYDROPHYLLACEAE	**Waterleaf Family**
Phacelia distans	common phacelia
LAMIACEAE	**Mint Family**
**Marrubium vulgare*	horehound
Salvia apiana	white sage
Salvia mellifera	black sage
MALVACEAE	**Mallow Family**
Malacothamnus fasciculatus	chaparral bush mallow
MYRSINACEAE	**Myrsine Family**
**Anagallis arvensis*	scarlet pimpernel
MYRTACEAE	**Myrtle Family**
**Eucalyptus* sp.	gum tree
NYCTAGINACEAE	**Four O'Clock Family**
Mirabilis laevis var. crassifolia	California four o'clock
ONAGRACEAE	**Evening Primrose Family**
Camissonia bistorta	southern suncup
PHRYMACEAE	**Lopseed Family**
Mimulus aurantiacus	bush monkey flower
POLYGONACEAE	**Buckwheat Family**
Eriogonum fasciculatum	California buckwheat
**Rumex crispus*	curly dock
PORTULACACEAE	**Purslane Family**
Calandrinia ciliata	red maids
ROSACEAE	**Rose Family**
Heteromeles arbutifolia	toyon
SALICACEAE	**Willow Family**
Salix gooddingii	Goodding's black willow
Salix lasiolepis	arroyo willow

SOLANACEAE	**Nightshade Family**
Datura wrightii	jimsonweed
**Nicotiana glauca*	tree tobacco

ANGIOSPERMS-MONOCOTS

ALLIACEAE	**Water-Plantain Family**
Allium haematochiton	redskin onion
CYPERACEAE	**Sedge Family**
Carex praegracilis	clustered field sedge
JUNCACEAE	**Rush Family**
Juncus mexicanus	Mexican rush
LILIACEAE	**Lily Family**
Fritillaria biflora	chocolate lily
POACEAE	**Grass Family**
**Avena barbata*	slender wild oat
**Avena fatua*	common wild oat
**Bromus diandrus*	ripgut grass
**Bromus hordeaceus*	soft chess
**Bromus madritensis* ssp. *rubens*	foxtail chess
Distichlis spicata	saltgrass
**Festuca myuros*	rattail sixweeks grass
**Festuca perennis*	Italian ryegrass
**Hordeum murinum* ssp. *leporinum*	hare barley
**Polypogon monspeliensis*	rabbitsfoot grass
**Schismus barbatus*	schismus
**Stipa miliacea*	smilo grass
THEMIDACEAE	
Dichelostemma capitatum	blue dicks

APPENDIX B

FAUNAL COMPENDIUM

The faunal compendium lists species identified on the Project site. Scientific nomenclature and common names for vertebrate species referred to in this report follow Collins (2009) for amphibians and reptiles, Baker, et al. (2003) for mammals, and AOU Checklist (1998) for birds. An (*) denotes non-native species.

SCIENTIFIC NAME	COMMON NAME
AMPHIBIA	**AMPHIBIANS**
HYLIDAE	**Treefrogs and Relatives**
Pseudacris hypochondriaca	Baja California treefrog
AVES	**BIRDS**
ACCIPITRIDAE	**Hawks And Old World Vultures**
Accipiter cooperii	Cooper's hawk
Aquila chrysaetos	golden eagle
Buteo jamaicensis	red-tailed hawk
Buteo lineatus	red-shouldered hawk
AEGITHALIDAE	**Long-Tailed Tits And Bushtits**
Psaltriparus minimus	bushtit
ARDEIDAE	**Herons And Bitterns**
Ardea herodias	great blue heron
Egretta thula	snowy egret
CATHARTIDAE	**New World Vultures**
Cathartes aura	turkey vulture
CHARADRIIDAE	**Plovers And Relatives**
Charadrius vociferus	killdeer
COLUMBIDAE	**Pigeons And Doves**
Zenaida macroura	mourning dove
CORVIDAE	**Crows And Jays**
Aphelocoma californica	western scrub-jay
Corvus corax	common raven

EMBERIZIDAE	**Emberizids**
Ammodramus savannarum	grasshopper sparrow
Melozone crissalis	California towhee
Melospiza melodia	song sparrow
Passerculus sandwichensis	savannah sparrow
Zonotrichia leucophrys	white-crowned sparrow
FALCONIDAE	**Falcons And Caracaras**
Falco columbarius	merlin
FRINGILLIDAE	**Fringilline And Cardueline Finches and Allies**
Haemorhous mexicanus	house finch
Spinus psaltria	lesser goldfinch
Spinus tristis	American goldfinch
HIRUNDINIDAE	**Swallows**
Stelgidopteryx serripennis	northern rough-winged swallow
ICTERIDAE	**Blackbirds**
Agelaius phoeniceus	red-winged blackbird
Icterus bullockii	Bullock's oriole
Icterus cucullatus	hooded oriole
Quiscalus mexicanus	great-tailed grackle
Sturnella neglecta	western meadowlark
MIMIDAE	**Mockingbirds And Thrashers**
Mimus polyglottos	northern mockingbird
Toxostoma redivivum	California thrasher
ODONTOPHORIDAE	**New World Quails**
Callipepla californica	California quail
PARULIDAE	**Wood Warblers And Relatives**
Cardellina pusilla	Wilson's warbler
Oreothlypis celata	orange-crowned warbler
Setophaga coronata	yellow-rumped warbler
Setophaga petechia	yellow warbler
PICIDAE	**Woodpeckers And Allies**
Colaptes auratus	northern flicker
Melanerpes formicivorus	acorn woodpecker
Picoides nuttallii	Nuttall's woodpecker
POLIOPTILIDAE	**Gnatcatchers**
Polioptila californica californica	California gnatcatcher

TROCHILIDAE	**Hummingbirds**
Calypte anna	Anna's hummingbird
Selasphorus sasin	Allen's hummingbird
TROGLODYTIDAE	**Wrens**
Thryomanes bewickii	Bewick's wren
Troglodytes aedon	house wren
TYRANNIDAE	**Tyrant Flycatchers**
Myiarchus cinerascens	ash-throated flycatcher
Sayornis saya	Say's phoebe
Tyrannus verticalis	western kingbird
Tyrannus vociferans	Cassin's kingbird

MAMMALIA	**MAMMALS**
CANIDAE	**Foxes, Wolves And Allies**
Canis latrans	coyote
LEPORIDAE	**Rabbits And Hares**
Lepus californicus	black-tailed jackrabbit
Sylvilagus audubonii	Audubon's (desert) cottontail
Sylvilagus bachmani	brush rabbit
SCIURIDAE	**Squirrels, Chipmunks, And Marmots**
Otospermophilus beecheyi	California ground squirrel

REPTILIA	**REPTILES**
PHRYNOSOMATIDAE	**Phrynosomatid Lizards**
Uta stansburiana	common side-blotched lizard
TEIIDAE	**Whiptails And Relatives**
Aspidoscelis tigris stejnegeri	coastal whiptail
VIPERIDAE	**Vipers**
Crotalus oreganus helleri	western rattlesnake

GLENN LUKOS ASSOCIATES
Regulatory Services

October 30, 2012

Mr. David L. Salene
Spectrum Communities
5753-G Santa Ana Canyon Road
Suite 507
Anaheim, California 92807

SUBJECT: Jurisdictional Delineation of the Terracina Residential Development Project, a 153-Acre Property Located in the City of Lake Elsinore, Riverside County, California.

Dear Mr. Salene:

This letter report summarizes our preliminary findings of U.S. Army Corps of Engineers (Corps), Santa Ana Regional Water Quality Control Board (Regional Board), and California Department of Fish and Game (CDFG) jurisdiction for the above-referenced property.[1]

The Terracina Residential Development Project (Project) is located at Latitude 33.697180 and Longitude -117.375956 within Assessor's Parcel Numbers 378-040-004, 378-040-005, 378-040-006, 378-040-007, 378-040-012, 389-180-001, 389-180-002, and 389-190-002. The Project is in Sections 26, 34, and 35, of Township 5 South and Range 5 West within the City of Lake Elsinore, Riverside County, California [Exhibit 1].

The Project comprises approximately 153 acres of land and is bounded by rural residential development and the Alberhill Ranch Development to the north, Lakeshore Drive to the south, Dryden Street, Gunder Avenue and Stoddard Street to the east, and Terra Cotta Road and the Alberhill Ranch Development to the west. The Project site contains one blue-line drainage (as depicted on the U.S. Geological Survey (USGS) topographic map Lake Elsinore, California

[1] This report presents our best effort at estimating the subject jurisdictional boundaries using the most up-to-date regulations and written policy and guidance from the regulatory agencies. Only the regulatory agencies can make a final determination of jurisdictional boundaries. If a final jurisdictional determination is required, GLA can assist in getting written confirmation of jurisdictional boundaries from the agencies.

29 Orchard ■ Lake Forest ■ California 92630-8300
Telephone: (949) 837-0404 Facsimile: (949) 837-5834

(dated 1953 and photorevised in 1988) and Alberhill, California (dated 1954 and photorevised in 1988) [Exhibit 2].

On June 15 and 20, 2012, regulatory specialists from Glenn Lukos Associates, Inc. (GLA) examined the Project site to determine the limits of Corps jurisdiction pursuant to Section 404 of the Clean Water Act (CWA), Regional Board jurisdiction pursuant to Section 401 of the CWA and Section 13260 of the California Water Code (CWC) [the Porter-Cologne Act], and CDFG jurisdiction pursuant to Division 2, Chapter 6, Sections 1600-1616 of the Fish and Game Code. Enclosed are three 400-scale maps [Exhibits 3A, 3B, and 3C], which depict the limits of Corps, Regional Board, and CDFG jurisdiction. Photographs to document the topography, vegetative communities, and general widths of each of the waters are provided as Exhibit 4 and a soils map is included as Exhibit 5. Wetland data sheets are attached as Appendix A.

Potential Corps jurisdiction associated with the Project site totals 0.69 acre, of which 0.07 acre consists of jurisdictional wetlands. A total of 8,461 linear feet of streambed is present.

Potential Regional Board jurisdiction associated with the Project site totals 0.71 acre, of which 0.07 acre consist of wetlands. A total of 9,283 linear feet of streambed is present.

Potential CDFG jurisdiction associated with the Project site totals 2.34 acres, of which 1.89 acres consist of vegetated riparian habitat. A total of 9,283 linear feet of streambed is present.

I. METHODOLOGY

Prior to beginning the field delineation a 200-scale color aerial photograph, a 200-scale topographic base map of the property, and the previously cited USGS topographic maps were examined to determine the locations of potential areas of Corps/Regional Board/CDFG jurisdiction. Suspected jurisdictional areas were field checked for the presence of definable channels and/or wetland vegetation, soils and hydrology. Suspected wetland habitats on the site were evaluated using the methodology set forth in the U.S. Army Corps of Engineers 1987 Wetland Delineation Manual[2] (Wetland Manual) and the Corps' 2008 Arid West Supplement to the 1987 Wetland Manual. While in the field, the jurisdictional areas were recorded onto a 200-scale color aerial photograph using visible landmarks. Other data were recorded onto wetland data sheets.

[2] Environmental Laboratory. 1987. Corps of Engineers Wetlands Delineation Manual, Technical Report Y-87-1, U.S. Army Engineer Waterways Experimental Station, Vicksburg, Mississippi.

The Soil Conservation Service (SCS)[3] has mapped the following soil types as occurring within the general vicinity of the project site:

Altamont Cobbly Clay, 8 to 35 Percent Slopes (AbF)

Soils of the Altamont series consist of well drained soils on uplands. These soils are underlain by soft, fine-grained sandstone and calcareous siltstone. The upper 12 inches consist of grayish-brown (10YR 5/2) clay when dry and dark grayish-brown (10YR 3/2) clay and very dark grayish-brown (10YR 4/2) clay when moist. Altamont soils are used for dryland grain, pasture, and range.

Cieneba Rocky Sandy Loam, 15 to 50 Percent Slopes, Eroded (CkF2)

Soils of the Cieneba series consist of somewhat excessively drained soils on uplands. These soils formed in coarse-grained igneous rock. The upper eight inches consist of brown (10YR 5/3) sandy loam when dry and dark brown (10YR 3/3) sandy loam when moist. Cieneba soils are used for dryland grain, pasture, range, irrigated citrus and homesites.

Gorgonio Loamy Sand, O to 8 Percent Slopes (GhC)

Soils of the Gorgonio series consist of somewhat excessively drained to excessively drained soils on alluvial fans. These soils formed in alluvium made up chiefly of granitic materials. The upper 15 inches consist of dark grayish-brown (10YR 4/2) and brown (10YR 5/3) gravelly loamy fine sand when dry and very dark grayish brown (10YR 3/2) and dark brown (10YR 3/3) gravelly loamy fine sand when moist. Gorgonio soils are used for dryland pasture and range, for irrigated alfalfa and apricots, and for homesites.

Hanford Coarse Sandy Loam, 2 to 8 Percent Slopes (HcC) and Hanford Coarse Sandy Loam, 8 to 15 Percent Slopes, Eroded (HcD2)

Soils of the Hanford series consist of somewhat excessively drained to well-drained soils on alluvial fans. Slopes of the Hanford series range from zero to 15 percent. These soils formed in alluvium made up chiefly of granitic materials. The upper 18 inches consist of grayish-brown (10YR 5/2) coarse sandy loam when dry and very dark grayish brown (10YR 3/2) coarse sandy loam when moist. Hanford soils are used for dryland pasture and grain, for irrigated alfalfa, potatoes, citrus, grapes, and grain. These soils are also used for homesites.

[3] SCS is now known as the National Resource Conservation Service or NRCS.

Placentia Fine Sandy Loam, 5 to 15 Percent Slopes (PlD)

Soils of the Placentia series consist of moderately well-drained soils on alluvial fans and terraces. Slopes of the Placentia series range from zero to 25 percent. These soils formed in alluvium made up chiefly of granitic materials. The upper 13 inches consist of brown (10YR 5/3) fine sandy loam when dry and dark brown (10YR 4/3) fine sandy loam when moist. Placentia soils are used for dryland pasture and grain, for irrigated permanent pasture, and for non-farm purposes.

Rough Broken Land (RuF)

Rough broken land consists of alluvial materials that are remnants of old alluvial fans and terraces. These fans have been dissected by drainages to such an extent that areas of recognizable soils cannot be mapped. Soils within this series probably formed as acid igneous rocks, such as granite, granodiorite, gneiss, and mica-schist. These soils are slightly acidic to moderately alkaline, pale brown, or grayish brown to brown, or dark grayish brown to brown or dark grayish brown.

Willows Silty Clay, Saline-Alkali (0 to 2 Percent Slopes) (Wg)

Soils of the Willows series are poorly drained, saline-alkali soils in basins and on the edges of alluvial fans. Slopes of the Willows series range from zero to two percent. These soils developed in alluvium from predominantly fine-textured materials. The upper ten inches consist of olive-gray (5Y 5/2) and gray (5Y 5/1) silty clay when dry and dark olive-gray (5Y 3/2) silty clay when moist. The Willows soils are used for dryland grain and pasture, and, if irrigated, for grain, alfalfa, and permanent pasture. These soils are also used for non-farm purposes such as duck ponds.

None of these soil units are identified as hydric in the SCS's publication, Hydric Soils of the United States[4]. None of these soil units are identified as hydric in the SCS's Hydric Soils Lists for Western Riverside County, however the Hydric Soils List for Western Riverside County does identify unnamed ponded areas as hydric when they are inclusions of Placentia Fine Sandy Loam, 5 to 15 Percent Slopes (PlD) if the inclusions of these soils are frequently ponded for long durations, or very long durations, during the growing season and/or are seasonally flooded or ponded.

[4] United States Department of Agriculture, Soil Conservation Service. 1991. Hydric Soils of the United States, 3rd Edition, Miscellaneous Publication Number 1491. (In cooperation with the National Technical Committee for Hydric Soils.)

JURISDICTION

A. Corps Jurisdiction

Pursuant to Section 404 of the CWA, 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) 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.*

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.

> *(8) Waters of the United States do not include prior converted cropland.*[5] *Notwithstanding the determination of an area's status as prior converted cropland by any*

[5] 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

> *other federal agency, for the purposes of the Clean Water Act, the final authority regarding CWA jurisdiction remains with the U.S. Environmental Protection Agency (EPA).*

In the absence of wetlands, the limits of Corps jurisdiction in non-tidal waters, such as intermittent streams, extend to the ordinary high water mark (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 CWA.

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:

---

wetland values. Specifically, prior converted cropland is inundated for no more than 14 consecutive days during the growing season...." [Emphasis added.]

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 couclude 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 CWA (regardless of any interstate commerce connection). However, the Corps and U.S. Environmental Protection Agency (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 EPA and Corps issued joint guidance that addresses the scope of jurisdiction pursuant to the CWA 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 (RPWs) tributary to TNWs and/or their adjacent wetlands as set forth in the chart below, the Corps must apply the significant nexus standard, that includes the data set forth in the *Approved Jurisdictional Determination Form.*

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 information pertaining to isolated waters is also included on the *Approved Jurisdictional Determination Form.*

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. Corps Preliminary Jurisdictional Determination

A *Corps Preliminary Jurisdictional Determination Form* may be used to concede Corps jurisdiction where all streambeds within the project area are considered Corps jurisdictional waters. The project would be able to move forward pursuant to Corps Regulatory Guidance Letter (RGL) 08-02, issued on June 26, 2008, which allows the Corps to issue preliminary jurisdictional determinations (Preliminary JD) for a project. A Preliminary JD allows a project to move forward by setting aside/voluntarily waiving questions regarding CWA jurisdiction over drainages onsite in the interest of allowing expeditiously obtaining a Section 404 Permit.

As stated in RGL 08-02:

While a landowner, permit applicant, or other affected party can elect to request and obtain an approved JD, he or she can also decline to request an approved JD, and instead obtain a Corps individual or general permit authorization based on either a preliminary JD, or, in appropriate circumstances (such as authorizations by non-reporting nationwide general permits), no JD whatsoever. The Corps will determine what form of JD is appropriate for any particular circumstance based on all the relevant factors, to include, but not limited to, the applicant's preference, what kind of permit authorization is being used (individual permit versus general permit), and the nature of the proposed activity needing authorization.

The Corps typically completes Preliminary JDs within 60 days of receipt of the request for such a determination. If the Corps project manager cannot complete the Preliminary JD within the 60-day timeframe, they must provide their supervisor, who would also provide the applicant, with a schedule to complete the determination (i.e., unlike the Rapanos significant nexus guidelines, there is a specific timeframe to complete the Preliminary JD and move forward with the jurisdictional determination, without uncertainty, and the EPA will not be involved with the Preliminary JD process as the Corps is not required to coordinate with the EPA to review Preliminary JDs). A copy of the Corps' Preliminary JD Form is attached as Appendix B.

4. 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 National List of Plant Species that Occur in Wetlands[6]);

- 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.

---

[6] Reed, P.B., Jr. 1988. National List of Plant Species that Occur in Wetlands. U.S. Fish and Wildlife Service Biological Report 88(26.10).

B. Regional Water Quality Control Board

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.[7] 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. However, while providing a recounting of the Act's definition of waters of the United States, this memorandum fails to also reference the Act's own definition of waste:

---

[7] Wilson, Craig M. January 25, 2001. Memorandum addressed to State Board Members and Regional Board Executive Officers.

"Waste" includes sewage and any and all other waste substances, liquid, solid, gaseous, or radioactive, associated with human habitation, or of human or animal origin, or from any producing, manufacturing, or processing operation, including waste placed within containers of whatever nature prior to, and for purposes of, disposal.

The lack of inclusion of a reference to "fill material," "dirt," "earth" or other similar terms in the Act's definition of "waste," or elsewhere in the Act, suggests that no such association was intended. Thus, the Chief Counsel's memorandum signals that the SWRCB is attempting to retain jurisdiction over discharge of fill material into isolated waters of the United States by administratively expanding the definition of "waste" to include "fill material" without actually seeking amendment of the Act's definition of waste (an amendment would require action by the state legislature). Consequently, discharge of fill material into waters of the State not subject to the jurisdiction of the Corps pursuant to Section 404 of the Clean Water Act may require authorization pursuant to the Porter Cologne Act through application for waste discharge requirements (WDRs) or through waiver of WDRs, despite the lack of a clear regulatory imperative.

C. California Department of Fish and Game

Pursuant to Division 2, Chapter 6, Sections 1600-1616 of the California Fish and Game Code, the CDFG 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.

CDFG 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." CDFG's definition of "lake" includes "natural lakes or man-made reservoirs."

CDFG jurisdiction within altered or artificial waterways is based upon the value of those waterways to fish and wildlife. The CDFG Legal Advisor has prepared the following opinion:

- Natural waterways that have been subsequently modified and which have the potential to contain fish, aquatic insects and riparian vegetation will be treated like natural waterways...

- Artificial waterways that have acquired the physical attributes of natural stream courses and which have been viewed by the community as natural stream courses, should be treated by [CDFG] as natural waterways...

- Artificial waterways without the attributes of natural waterways should generally not be subject to Fish and Game Code provisions...

Thus, CDFG jurisdictional limits closely mirror those of the Corps. Exceptions are CDFG's exclusion of isolated wetlands (those not associated with a river, stream, or lake), the addition of artificial stock ponds and irrigation ditches constructed on uplands, and the addition of riparian habitat supported by a river, stream, or lake regardless of the riparian area's federal wetland status.

III. RESULTS

A. Corps Jurisdiction

Potential Corps jurisdiction associated with the Project area totals 0.69 acre, of which 0.07 acre consists of jurisdictional wetlands. A total of 8,461 linear feet of streambed is present. Potential Corps jurisdiction within the Project area is limited to three drainage systems, or drainages, described herein as Drainage Systems 1, 2, and 3.[8] In general, the drainages on site are considered either ephemeral or intermittent streambeds and each drainage exhibits an ordinary high water mark (OHWM) with several characteristics of stream flow, including destruction of terrestrial vegetation, terracing, change in soil characteristics, debris wracking, and/or water marks. As a result, the drainages exhibit the potential for regulation by the Corps pursuant to Section 404 of the CWA. . The boundaries of Corps waters are depicted in Exhibit 3A. Table One below outlines the total acreage and linear footage of Corps jurisdiction on site. Drainage Systems 1, 2, and 3 are further described below.

1. Drainage System 1

Potential Corps jurisdiction associated with Drainage System 1 totals 0.40 acre, of which 0.09 acre consists of jurisdictional wetlands, and a total of 3,398 linear feet of streambed is present. Drainage System 1 is an ephemeral to intermittent drainage system containing three tributaries known as Tributaries 1A, 1B, and 1C.

Drainage 1 traverses the northwestern portion of the Project area from a storm drain discharge point in the west portion of the Project area. Drainage 1 flows for approximately 681 linear feet from northwest to east/northeast before confluencing with Tributary 1A, continuing for an additional 363 linear feet, and passing over Terra Cotta Road. Drainage System 1 continues in a

[8] Please note that Drainage 2 and Tributary 3D are not Corps jurisdictional waters as they do not support an ordinary high water mark.

west to east direction for an additional 990 linear feet before leaving the site and ultimately flowing into several constructed detention basins adjacent to Nichols Road, which ultimately discharge into Alberhill Creek/Temescal Creek. Drainage 1 supports an OHWM ranging in width from approximately one-foot wide to 12-feet wide and supports the presence of litter, debris wracks, changes in soil conditions, and shelving.

Tributaries 1A (0.02 acre) and 1B (0.01 acre) are small, ephemeral tributaries with OHWMs approximately one to two-feet wide beginning at the edge of the Alberhill Ranch Development and flowing for 688 linear feet from north to south before confluencing with Drainage 1 just northerly of Terra Cotta Road.

Tributary 1C (0.09 acre, of which 0.02 acre consists of jurisdictional wetlands) is an ephemeral to intermittent drainage accepting urban runoff from the Alberhill Ranch development and its adjacent water quality basin. Construction of this development has resulted in the presence of Corps jurisdictional wetlands approximately six-feet wide north of Terra Cotta Road. Tributary 1C flows for 281 linear feet from north to south before passing beneath Terra Cotta Road in a pipe. Tributary 1C re-emerges south of Terra Cotta Road and flows for an additional 395 linear feet before confluencing with Drainage 1 near the north-central Project boundary. The OHWM within Tributary 1C ranges from four to eight-feet in width.

Portions of Drainage System 1 are dominated by mule fat scrub, southern willow scrub, and wetland grass species in different segments of the stream channel. The upper watershed of Drainage System 1 consists of mule fat scrub habitat dominated by mule fat (*Baccharis salicifolia*) and black willow (*Salix gooddingii*). The lower reach of Drainage 1 is dominated by mulefat, arroyo willow (*Salix lasiolepis*), blue elderberry (*Sambucus nigra*), and coyote bush (*Bacchris pilularis*). The downstream end of Drainage 1 near the north-central property boundary also supports Corps jurisdictional wetlands dominated by Mexican rush (*Juncus mexicanus*), rabbitsfoot grass (*Polypogon monspeliensis*).

The uplands around Drainage System 1 contain California buckwheat (*Eriogonum fasciculatum*), California sagebrush (*Artemisia californica*) tocalote (*Centaurea melitensis*), and black mustard (*Brassica nigra*). The lower watershed is dominated by wetland plant species consisting of rabbitfoot grass (*Polypogon monspeliensis*), curly dock (*Rumex crispus*), and clustered field sedge (*Carex praegrasilis*). GLA dug multiple soil pits within Drainage 1 in the lower portion of the watershed and within Tributary 1C in the upper portion of this tributary near the Alberhill Ranch development. All vegetation associated with the lower watershed was, at minimum FACW and met the Corps' hydrophytic vegetation criteria. In addition, hydrology and hydric soils, observed as 10YR 2/1 and 10YR 3/1, were present on site (see wetland data sheets 1, 3, and 5, Appendix A).

2. Drainage 2

Drainage 2 is an ephemeral feature traversing the southern portion of the Project area. Drainage 2 begins on site along a large hill near Dryden Street and flows in a north to south direction for approximately 269 linear feet before terminating at Dryden Street where the feature disappears without entering a culvert or showing flow sign. Drainage 2 does not support an OHWM.

Drainage 2 is dominated by disturbed Riversidean sage scrub habitat consisting of laurel sumac (*Malosma laurina*), California sagebrush (*Artemisia californica*), and California buckwheat (*Eriogonum fasciculatum*).

3. Drainage System 3

Potential Corps jurisdiction associated with Drainage System 3 totals 0.29 acre, none of which consists of jurisdictional wetlands, and a total of 5,063 linear feet of streambed is present. Drainage System 3 is an ephemeral drainage system containing four tributaries, three tributaries of which may be subject to Corps jurisdiction, known as Tributaries 3A, 3B, 3C, and 3D. Drainage 3 traverses the central and eastern portions of the Project area and either begins on site and/or immediately off site within the surrounding foothills. Drainage 3 flows for approximately 2,228 linear feet from southwest to east/northeast before leaving the site, passing easterly of Baker Street, and ultimately flowing into Alberhill Creek/Temescal Creek. Drainage 3 supports an OHWM ranging in width from approximately one-foot wide to four-feet wide and supports the presence of litter, debris wracks, changes in soil conditions, and shelving.

Tributaries 3A, 3B, and 3C are all small, ephemeral tributaries with OHWMs approximately one to three-feet wide beginning either on site and/or within the adjacent foothills. Tributary 3A (0.06 acre) is located in the south-central portion of the Project area and flows for 1,321 linear feet before confluencing with Drainage 3 in the central portion of the Project. The OHWM within Tributary 3A is two-feet wide.

Tributaries 3B and 3C begin off site in the surrounding foothills and enter the Project in the eastern portion of the site. Tributary 3B (0.07 acre) flows for 1,368 linear feet before confluencing with Drainage 3 in the east/northeast portion of the site. Tributary 3C (0.01 acre) flows for 146 linear feet before confluencing with Tributary 3B in the eastern portion of the site. The OHWMs within Tributaries 3B and 3C ranges from one to three-feet in width.

Tributary 3D is a small, ephemeral tributary, which does not support an OHWM. Tributary 3D begins just off site within the foothills and flows in an east to west direction for approximately 332 linear feet where the feature disappears.

Drainage System 3 is dominated by Riversidean sage scrub habitat and non-native grasslands. The Riversidean sage scrub habitat consists of buckwheat (*Eriogonum fasciculatum*), black sage (*Salvia mellifera*), white sage (*Salvia apiana*), and California sagebrush (*Artemisia californica*). Non-native grasses located within this portion of the site consist of wild oat (*Avena fatua*), red brome (*Bromus madritensis,* ssp. *rubens*), mustard (*Brassica nigra*), and ripgut brome (*Bromus diandrus*). No soil pits were excavated within Drainage System 3 since no hydrophytic vegetation was present.

Table One: Potential Corps Jurisdiction On Site

Drainage Number	Corps Non-Wetland Waters (Acres)	Corps Jurisdictional Wetlands (Acres)	Total Corps Waters (Acres)	Total Linear Feet (Feet)
Drainage 1	0.21	0.07	0.28	2,034
Tribuary 1A	0.02	0	0.02	547
Tributary 1B	0.01	0	0.01	141
Tributary 1C	0.07	0.02	0.09	676
Drainage 2	0	0	0	0
Drainage 3	0.15	0	0.15	2,228
Tributary 3A	0.06	0	0.06	1,321
Tributary 3B	0.07	0	0.07	1,368
Tributary 3C	0.01	0	0.01	146
Tributary 3D	0	0	0	0
Total	**0.60**	**0.09**	**0.69**	**8,461**

B. Regional Water Quality Control Board Jurisdiction

Drainage Systems 1 and 3 (other than Tributary 3D) have been determined to be potential Corps jurisdictional waters subject to regulation pursuant to Section 401 and 404 of the CWA; therefore, these drainages do not need to be addressed separately pursuant to Section 13260 of the CWC, the Porter-Cologne Act.

Drainage 2 and Tributary 3D do not support an OHWM and contain marginal bed and bank; however, the Regional Board may determine that these features support beneficial uses regulated under the CWC. As these features are not considered Corps jurisdictional waters, they may need to be evaluated separately under Section 13260 of the CWC and require the issuance of a waste discharge order prior to disturbance. A graphic depicting the limits of potential Regional Board jurisdiction is attached as Exhibit 3B and a table (Table 2) listing Regional Board jurisdiction is below.

Table Two: Potential Regional Board Jurisdiction On Site

Drainage Number	Regional Board Non-Wetland Waters (Acres)	Regional Board Wetlands (Acres)	Total Regional Board Waters (Acres)	Total Linear Feet (Feet)
Drainage 1	0.21	0.07	0.28	2,034
Tributary 1A	0.02	0	0.02	547
Tributary 1B	0.01	0	0.01	141
Tributary 1C	0.07	0.02	0.09	676
Drainage 2	0.01	0	0.01	269
Drainage 3	0.15	0	0.15	2,449
Tributary 3A	0.06	0	0.06	1,321
Tributary 3B	0.07	0	0.07	1,368
Tributary 3C	0.01	0	0.01	146
Tributary 3D	0.01	0	0.01	332
Total	**0.62**	**0.09**	**0.71**	**9,283**

C. CDFG Jurisdiction

Potential CDFG jurisdiction associated with the Project area totals 2.34 acres, of which 1.89 acres consist of vegetated riparian habitat. A total of 9,283 linear feet of streambed is present. Potential CDFG jurisdiction within the Project area is limited to three drainage systems, or drainages, described herein as Drainage Systems 1, 2, and 3 ,and their adjacent or in-stream

riparian habitat. In general, the drainages on site are considered either ephemeral or intermittent streambeds and each drainage exhibits a high water mark (HWM) with several characteristics of stream flow, including destruction of terrestrial vegetation, terracing, debris wracking, water marks, and the presence of a defined bed, bank, and channel. As a result, the drainages exhibit the potential for regulation by the CDFG pursuant to Sections 1600-1616 of the Fish and Game Code. . The boundaries of CDFG jurisdiction are depicted in Exhibit 3B. Table Three below outlines the total acreage and linear footage of CDFG jurisdiction on site. Drainage Systems 1, 2, and 3 are further described below.

1. Drainage System 1

Potential CDFG jurisdiction associated with Drainage System 1 totals 2.03 acres, of which 1.89 acres consist of vegetated riparian habitat, and a total of 3,398 linear feet of streambed is present. Drainage System 1 is an ephemeral to intermittent drainage system containing three tributaries known as Tributaries 1A, 1B, and 1C.

Drainage 1 (1.80 acres of CDFG jurisdiction, of which 1.72 acres consist of vegetated riparian habitat) traverses the northwestern portion of the Project area from a storm drain discharge point in the west portion of the Project area. Drainage 1 flows for approximately 681 linear feet from northwest to east/northeast before confluencing with Tributary 1A, flowing for an additional 363 linear feet, and passing over Terra Cotta Road. Drainage 1 continues in a west to east direction for an additional 990 linear feet before leaving the site and ultimately flowing into several constructed basins adjacent to Nichols Road, which ultimately discharge into Alberhill Creek/Temescal Creek. Drainage System 1 supports a HWM ranging in width from approximately one-foot wide to 12-feet wide and supports the presence of litter, debris wracks, bed, bank, and channel. Drainage 1 is also dominated by mule fat scrub north of Terra Cotta Road and southern willow scrub habitat south of Terra Cotta Road.

Tributaries 1A (0.02 acre) and 1B (0.01 acre) are small, ephemeral tributaries with HWMs approximately one to two-feet wide beginning at the edge of the Alberhill Ranch Development and flowing for 688 linear feet from north to south before confluencing with Drainage 1 just northerly of Terra Cotta Road. Tributary 1C (0.20 acre, of which 0.17 acre supports vegetated riparian habitat) is an ephemeral to intermittent drainage accepting urban runoff from the Alberhill Ranch development and its adjacent water quality basin. Construction of this development has resulted in the presence of CDFG vegetated riparian habitat approximately 16 to 25 feet wide north of Terra Cotta Road. Tributary 1C flows for 281 linear feet from north to south before passing beneath Terra Cotta Road in a pipe. Tributary 1C re-emerges south of Terra Cotta Road and flows for an additional 395 linear feet before confluencing with Drainage 1 near the north-central Project boundary. The HWM within Tributary 1C ranges from four to eight-feet in width.

Portions of Drainage System 1 are dominated by mule fat scrub, southern willow scrub, and wetland grass species in different segments of the stream channel. The upper watershed of Drainage System 1 consists of mule fat scrub habitat dominated by mule fat (*Baccharis salicifolia*) and black willow (*Salix gooddingii*). The lower reach of Drainage 1 is dominated by mulefat, arroyo willow (*Salix lasiolepis*), blue elderberry (*Sambucus nigra*), and coyote bush (*Bacchris pilularis*). The downstream end of Drainage 1 near the north-central property boundary also supports Corps jurisdictional wetlands and CDFG vegetated riparian habitat dominated by Mexican rush (*Juncus mexicanus*), rabbitsfoot grass (*Polypogon monspeliensis*). The uplands around Drainage System 1 contain California buckwheat (*Eriogonum fasciculatum*), California sagebrush (*Artemisia californica*) tocalote (*Centaurea melitensis*), and black mustard (*Brassica nigra*). The lower watershed is dominated by wetland plant species consisting of rabbitfoot grass (*Polypogon monspeliensis*), curly dock (*Rumex crispus*), and clustered field sedge (*Carex praegrasilis*).

2. Drainage 2

Potential CDFG jurisdiction associated with Drainage 2 totals 0.01 acre, none of which consists of vegetated riparian habitat. Drainage 2 is an ephemeral feature traversing the southern portion of the Project area. Drainage 2 begins on site along a large hill near Dryden Street and flows in a north to south direction for approximately 269 linear feet before terminating at Dryden Street where the feature disappears without entering a culvert or showing other flow signs. Drainage 2 is not a Corps jurisdictional water as it does not support an OHWM; however, it does support bed and bank, which would result in regulation by the CDFG.

Drainage 2 is dominated by disturbed Riversidean sage scrub habitat consisting of laurel sumac (*Malosma laurina*), California sagebrush (*Artemisia californica*), and California buckwheat (*Eriogonum fasciculatum*).

3. Drainage System 3

Potential CDFG jurisdiction associated with Drainage System 3 totals 0.30 acre, none of which consists of vegetated riparian habitat, and a total of 5,616 linear feet of streambed is present. Drainage System 3 is an ephemeral drainage system containing four tributaries, known as Tributaries 3A, 3B, 3C, and 3D.

Drainage 3 traverses the central and eastern portions of the Project area and begins on site within the surrounding foothills. Drainage 3 contains 0.15 acre of CDFG jurisdiction, none of which consists of vegetated riparian habitat. Drainage 3 flows for approximately 2,449 linear feet from southwest to east/northeast before leaving the site, passing easterly of Baker Street, and ultimately flowing into Alberhill Creek/Temescal Creek. Drainage System 3 supports a HWM

ranging in width from approximately one to four-feet wide and supports the presence of litter, debris wracks, bed, bank, and channel.

Tributaries 3A, 3B, 3C, and 3D are all small, ephemeral tributaries with HWMs approximately one to three-feet wide beginning either on site and/or within the adjacent foothills. Tributary 3A (0.06 acre) is located in the south-central portion of the Project area and flows for 1,321 linear feet before confluencing with Drainage 3 in the central portion of the Project. The HWM within Tributary 3A is two-feet wide.

Tributaries 3B and 3C begin off site in the surrounding foothills and enter the Project in the eastern portion of the site. Tributary 3B (0.07 acre) flows for 1,368 linear feet before confluencing with Drainage 3 in the east/northeast portion of the site. Tributary 3C (0.01 acre) flows for 146 linear feet before confluencing with Tributary 3B in the eastern portion of the site. The HWMs within Tributaries 3B and 3C ranges from one to three-feet in width.

Tributary 3D (0.01 acre) begins just off site within the foothills and enters the Project in the eastern portion of the site. Tributary 3D flows in an east to west direction for approximately 332 linear feet where the feature disappears. Tributary 3D does not support a OHWM; however, it supports marginal bed and bank; therefore, it would be regulated by the CDFG under the Fish and Game Code.

Drainage System 3 is dominated by Riversidean sage scrub habitat and non-native grasslands. The Riversidean sage scrub habitat consists of buckwheat (*Eriogonum fasciculatum*), black sage (*Salvia mellifera*), white sage (*Salvia apiana*), and California sagebrush (*Artemisia californica*). Non-native grasses located within this portion of the site consist of wild oat (*Avena fatua*), red brome (*Bromus madritensis,* ssp. *rubens*), mustard (*Brassica nigra*), and ripgut brome (*Bromus diandrus*).

Table Three: Potential CDFG Jurisdiction On Site

Drainage Number	Total CDFG Streambed (Acres)	Total CDFG Vegetated Riparian Habitat (Acres)	Total CDFG Jurisdiction (Acres)	Total Linear Feet of Drainage (Feet)
Drainage 1	0.08	1.72	1.80	2,034
Tributary 1A	0.02	0	0.02	547
Tributary 1B	0.01	0	0.01	141
Tributary 1C	0.03	0.17	0.20	676
Drainage 2	0.01	0	0.01	269
Drainage 3	0.15	0	0.15	2,449
Tributary 3A	0.06	0	0.06	1,321
Tributary 3B	0.07	0	0.07	1,368
Tributary 3C	0.01	0	0.01	146
Tributary 3D	0.01	0	0.01	332
Total	**0.45**	**1.89**	**2.34**	**9,283**

IV. DISCUSSION

A. Impact Analysis

An analysis of impacts will be performed, based upon this delineation and the current project design (or design alternative) upon the client's request. This analysis will be provided as a separate memo and accompanying map.

If you have any questions about this letter report, please contact either Martin Rasnick (949) 837-0404 ext 20.

Sincerely,

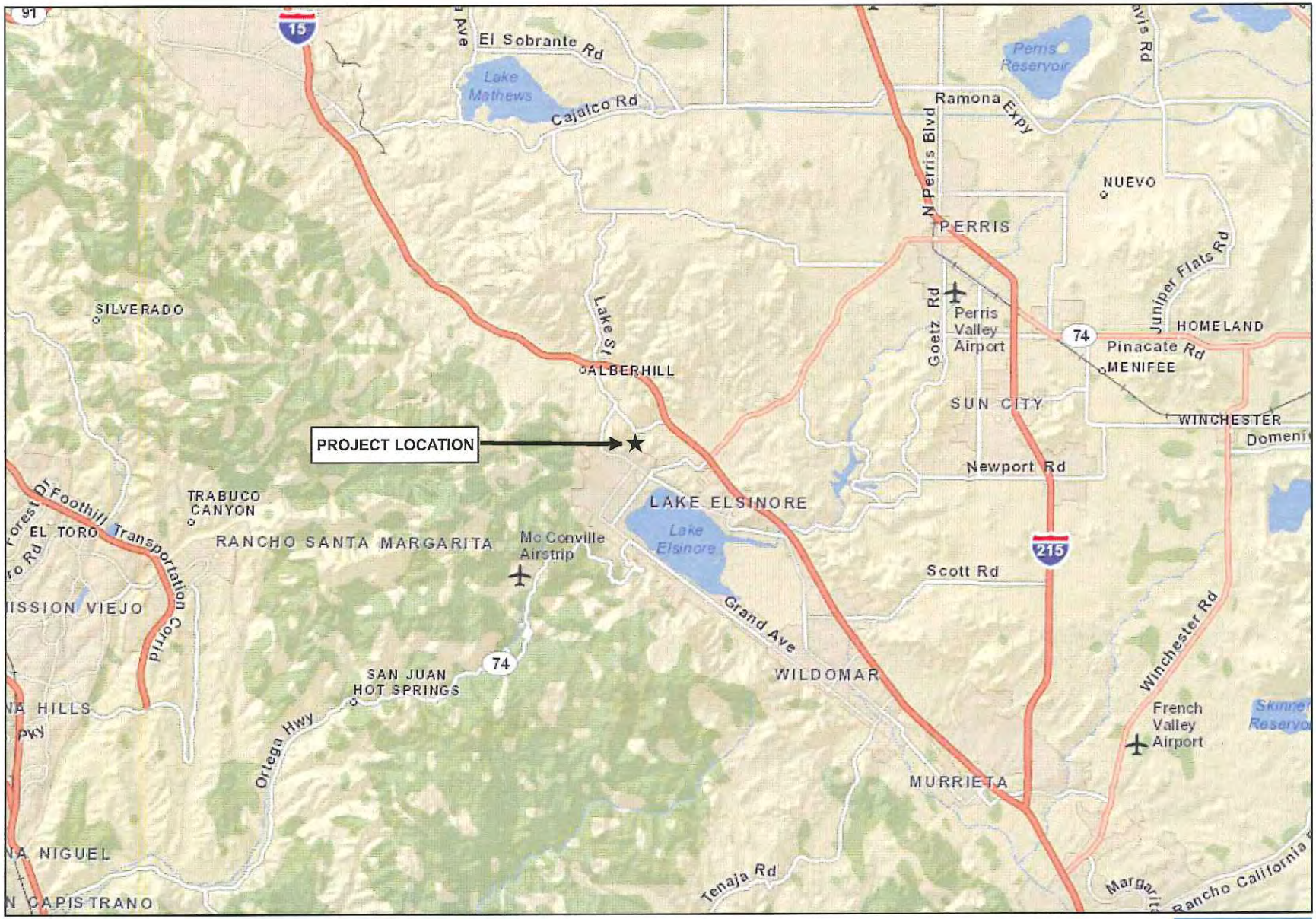
GLENN LUKOS ASSOCIATES, INC.

Martin A. Rasnick
Sr. Regulatory Specialist

s: 0586-2a.jd.doc

Exhibit 1

Regional Map



Source: ESRI World Street Map

N

0 2 4 8 Miles

TERRACINA PROJECT

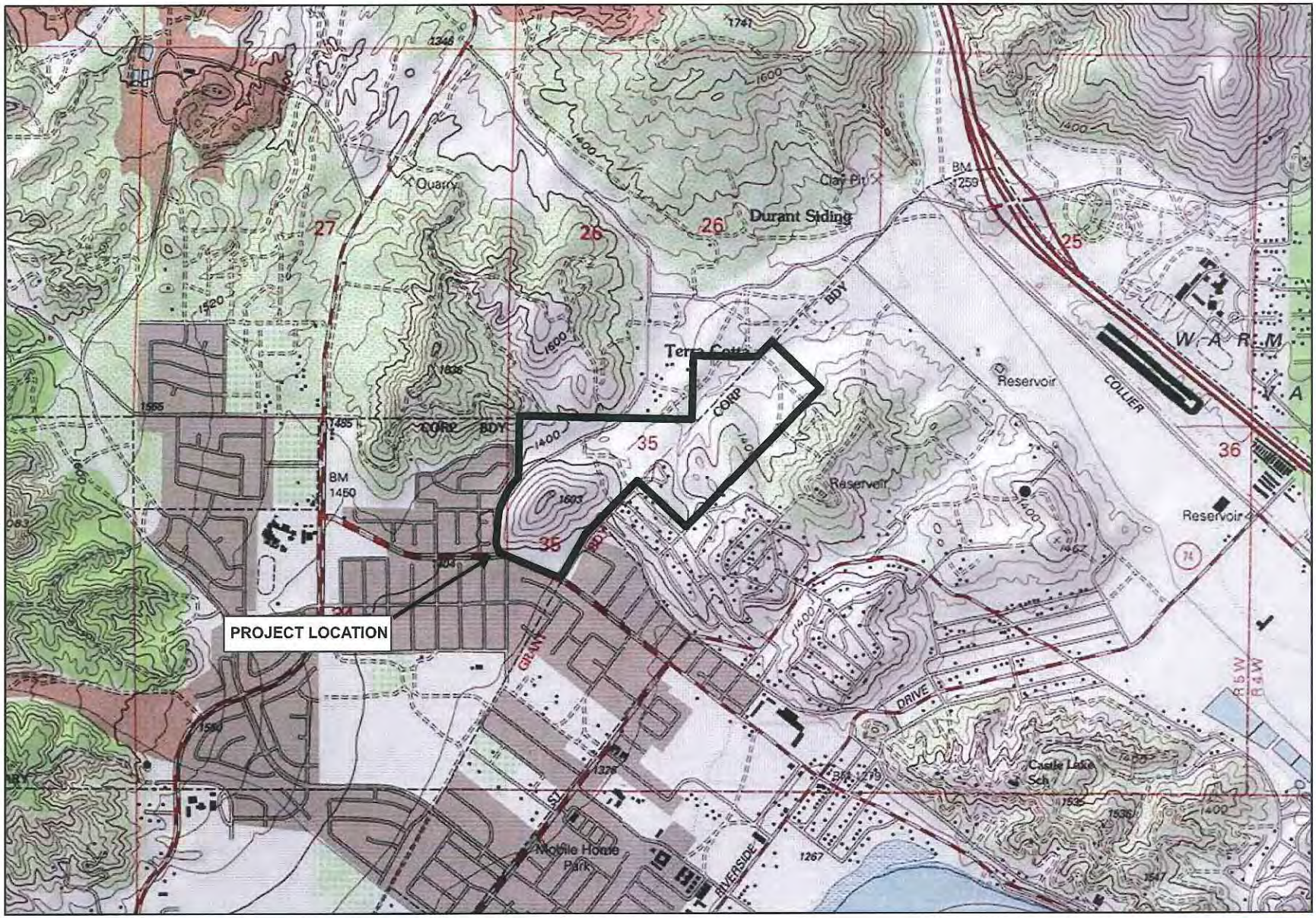
Regional Map

GLENN LUKOS ASSOCIATES

Exhibit 1

Exhibit 2

Vicinity Map



Adapted from USGS Lake Elsinore, CA quadrangle

TERRACINA PROJECT

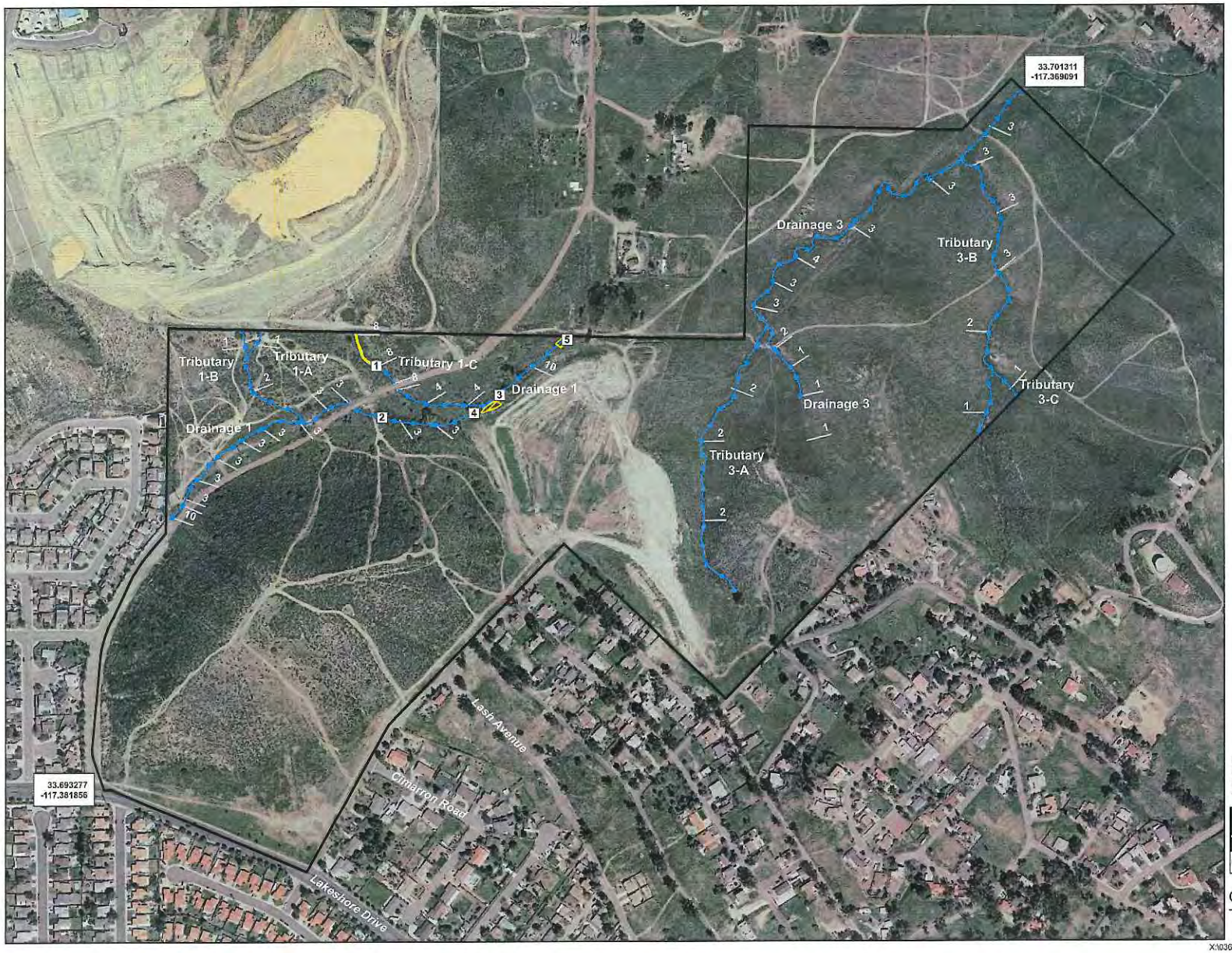
Vicinity Map

GLENN LUKOS ASSOCIATES

Exhibit 2

Exhibit 3A

Corps Jurisdictional Delineation Map



Legend

- Project Boundary
- Corps Non-Wetland Waters
- Corps Wetlands
- 3 Width in Feet
- 2 Soil Data Pit

N

0 200 400 800
Feet

1 inch = 400 feet

Reference Elevation Datum: State Plane 6
Aerial Photo: ESRI Basemaps
Map Prepared by: K. Kartunen, Glenn Lukos Associates
June 29, 2012

TERRACINA PROJECT
Corps Jurisdictional Delineation Map

GLENN LUKOS ASSOCIATES

Exhibit 3A

X:\0363-THE REST\0586-02TERR\586-2GIS\DelineationGIS\586-2 CorpsLayout.mxd

Exhibit 3B

Regional Board Jurisdictional Delineation Map

Legend

- Project Boundary
- RWQCB Non-Wetland Waters
- RWQCB Wetlands
- 3 Width in Feet
- 2 Soil Data Pit

N

0 200 400 800
Feet

1 inch = 400 feet

Reference Elevation Datum: State Plane 6
Aerial Photo: ESRI Basemaps
Map Prepared by: K. Kartunen, Glenn Lukos Associates
June 29, 2012

TERRACINA PROJECT
RWQCB Jurisdictional Delineation Map

GLENN LUKOS ASSOCIATES

Exhibit 3B

X:\0363-THE REST\0586-02TERR\586-2GIS\DelineationGIS\586-2 RWQCBLayout.mxd

Exhibit 3C

CDFG Jurisdictional Delineation Map

Legend

- Project Boundary
- CDFG Unvegetated Streambed
- CDFG Riparian
- 3 Width in Feet
- 2 Soil Data Pit

N

0 200 400 800
Feet

1 inch = 400 feet

Reference Elevation Datum: State Plane 6
Aerial Photo: ESRI Basemaps
Map Prepared by: K. Kartunen, Glenn Lukos Associates
June 29, 2012

TERRACINA PROJECT
CDFG Jurisdictional Delineation Map

GLENN LUKOS ASSOCIATES

Exhibit 3C

X:\0363-THE REST\0586-02TERR\586-2GIS\DelineationGIS\586-2 CDFGLayout.mxd

Exhibit 4

Site Photographs

Photograph 1: Photograph depicting southern upstream view of Tributary 3A just before its confluence with Drainage 3 at Latitude 33.698640 and Longitude -117.372625.

Photograph 2: Photograph depicting southern upstream view of Tributary 3D near an existing dirt road at Latitude 33.6698849 and Longitude -117.368630.

GLENN LUKOS ASSOCIATES

Exhibit 4

TERRACINA PROJECT

Site Photographs

Photograph 3: Photograph depicting southern upstream view of Drainage 3 just after losing all sign of an ordinary high water mark at Latitude 33.697892 and Longitude -117.372082.

Photograph 4: Photograph depicting western upstream view of Drainage 3 near an existing dirt road in the eastern portion of the site at Latitude 33.700900 and Longitude -117.369449.

GLENN LUKOS ASSOCIATES

Exhibit 4

TERRACINA PROJECT

Site Photographs

Photograph 5: Photograph depicting the western upstream view of Drainage 1 just after entering the site through a storm drain adjacent to Terra Cotta Road at Latitude 33.696398 and Longitude -117.380743.

Photograph 6: Photograph depicting northern upstream view of Tributary 1C after discharging out of the Alberhill Ranch Development at Latitude 33.698172 and Longitude -117.378106.

GLENN LUKOS ASSOCIATES

Exhibit 4

TERRACINA PROJECT

Site Photographs

Photograph 7: Photograph depicting the southeastern downstream view of Tributary 1C just after passing through a pipe under Terra Cotta Road at Latitude 33.697758 and Longitude -117.377432.

Photograph 8: Photograph depicting the southwestern upstream view of Drainage 1 at the northeastern property boundary at Latitude 33.698537 and Longitude -117.375285.

GLENN LUKOS ASSOCIATES

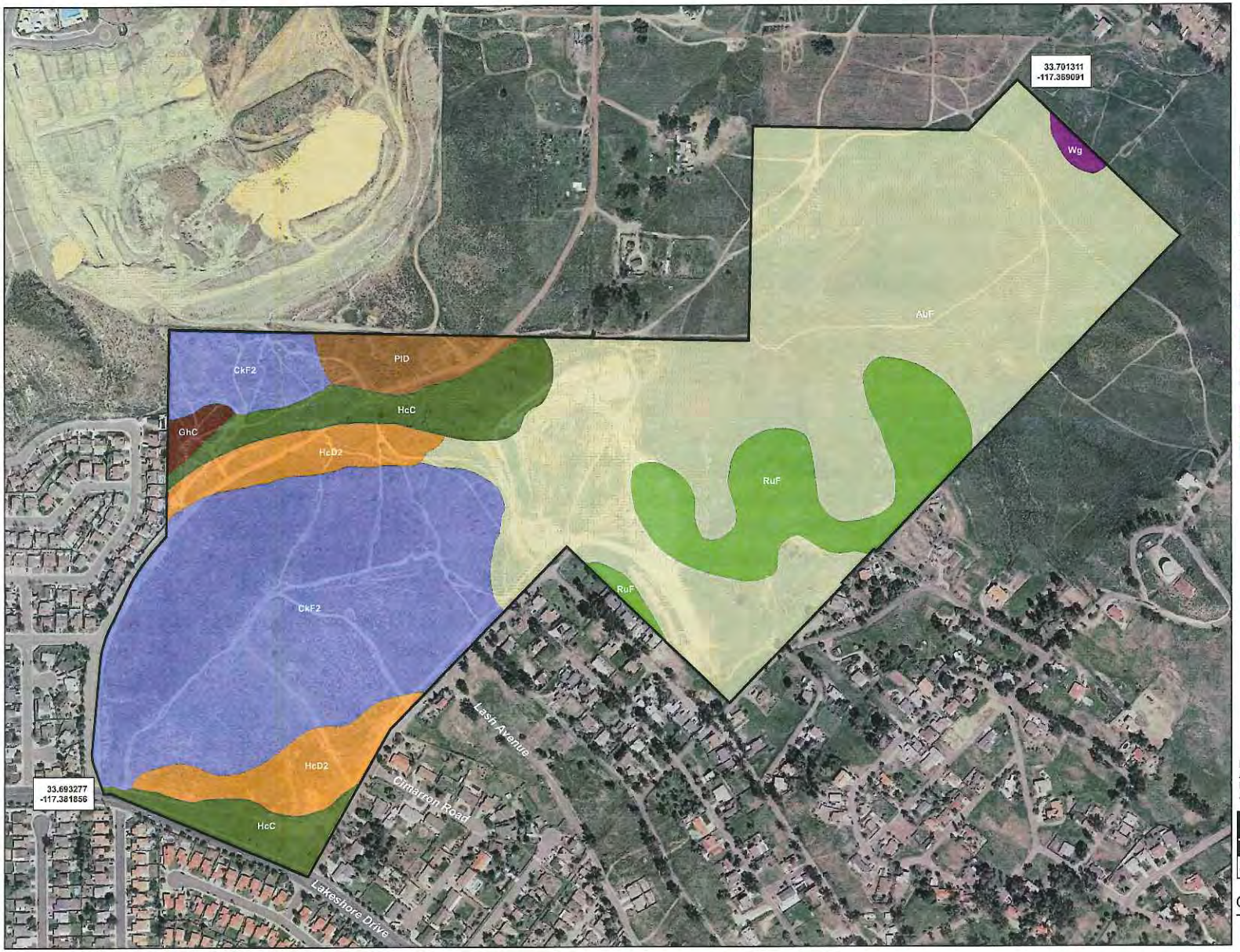
Exhibit 4

TERRACINA PROJECT

Site Photographs

Exhibit 5

Soils Map



Legend

- Project Boundary
- AbF - Altamont cobbly clay, 8 to 35 percent slopes
- CkF2 - Cieneba rocky sandy loam, 15 to 50 percent slopes, eroded
- GhC - Gorgonio loamy sand, 0 to 8 percent slopes
- HcC - Hanford coarse sandy loam, 2 to 8 percent slopes
- HcD2 - Hanford coarse sandy loam, 8 to 15 percent slopes, eroded
- PlD - Placentia fine sandy loam, 5 to 15 percent slopes
- RuF - Rough broken land
- Wg - Willows silty clay, saline-alkali

N

0 200 400 800
Feet

1 inch = 400 feet

Reference Elevation Datum: State Plane 6
Aerial Photo: ESRI Basemaps
Map Prepared by: K. Kartunen, Glenn Lukos Associates
June 29, 2012

TERRACINA PROJECT

Soils Map

GLENN LUKOS ASSOCIATES

Exhibit 5

X:\0363-THE REST\0586-02TERR\586-2GIS\SoilsGIS\586-2 Soils.mxd

Appendix A

Corps Wetland Data Sheets

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Terracina Project City/County: Lake Elsinore/Riverside Sampling Date: 06/15/12

Applicant/Owner: Spectrum Communities State: CA Sampling Point: 1

Investigator(s): M. Rasnick/L. Lokovic Section, Township, Range: Section 35; Township 5 South, Range 5 West

Landform (hillslope, terrace, etc.): In-Stream Local relief (concave, convex, none): concave Slope (%): 1

Subregion (LRR): LRR C Lat: 33.698116 Long: -117.378005 Datum: NAD 83

Soil Map Unit Name: Placentia Fine Sandy Loam, 5 to 15 Percent Slopes (PID) NWI classification:

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✓ No _____ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes ✓ No _____

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present?	Yes ✓ No _____	**Is the Sampled Area within a Wetland?** Yes ✓ No _____
Hydric Soil Present?	Yes ✓ No _____	
Wetland Hydrology Present?	Yes ✓ No _____	

Remarks:

Sampling conducted in Tributary 1C. Drainage exhibited wetland characteristics as a result of urban runoff from adjacent Alberhill Ranch development.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 20 feet)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	_____ = Total Cover		
Sapling/Shrub Stratum (Plot size: 10 Feet)			
1. Baccharis salicifolia	100	Y	FAC
2.			
3.			
4.			
5.			
	100 = Total Cover		
Herb Stratum (Plot size: 5 Feet)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
	_____ = Total Cover		
Woody Vine Stratum (Plot size: _____)			
1.			
2.			
	_____ = Total Cover		

% Bare Ground in Herb Stratum 100 % Cover of Biotic Crust 0

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100% (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species _____	x 1 = _____
FACW species _____	x 2 = _____
FAC species _____	x 3 = _____
FACU species _____	x 4 = _____
UPL species _____	x 5 = _____
Column Totals: _____ (A)	_____ (B)

Prevalence Index = B/A = _____

Hydrophytic Vegetation Indicators:

✓ Dominance Test is >50%

___ Prevalence Index is ≤3.0[1]

___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes ✓ No _____

Remarks:

SOIL

Sampling Point: 1

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

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-3	10YR 3/2							Sandy Loam; Debris and Cobble
3-16	Gley 1 2.5/N							Clay Loam; Sulfidic odor present

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

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

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ✓ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5) (**LRR C**)
- ___ 1 cm Muck (A9) (**LRR D**)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Vernal Pools (F9)

Indicators for Problematic Hydric Soils[3]:

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

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes ✓ No ___

Remarks:

Sulfidic odor present. Mucky soil.

HYDROLOGY

Wetland Hydrology Indicators:

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

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1) (**Nonriverine**)
- ___ Sediment Deposits (B2) (**Nonriverine**)
- ___ Drift Deposits (B3) (**Nonriverine**)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Biotic Crust (B12)
- ___ Aquatic Invertebrates (B13)
- ✓ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

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

Field Observations:

Surface Water Present? Yes ✓ No ___ Depth (inches): 1/4 Inch

Water Table Present? Yes ✓ No ___ Depth (inches): Surface

Saturation Present? (includes capillary fringe) Yes ✓ No ___ Depth (inches): Surface

Wetland Hydrology Present? Yes ✓ No ___

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

Remarks:

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Terracina Project City/County: Lake Elsinore/Riverside Sampling Date: 06/15/12

Applicant/Owner: Spectrum Communities State: CA Sampling Point: 2

Investigator(s): M. Rasnick/L. Lokovic Section, Township, Range: Section 3S; Township 5 South, Range 5 West

Landform (hillslope, terrace, etc.): In-Stream Local relief (concave, convex, none): none Slope (%): <1%

Subregion (LRR): LRR C Lat: 33.697480 Long: -117.377861 Datum: NAD 83

Soil Map Unit Name: Hanford Coarse Sandy Loam, 2 to 8 Percent Slopes (HcC) NWI classification: _____

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✓ No _____ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes ✓ No _____

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present?	Yes ✓ No _____	**Is the Sampled Area within a Wetland?** Yes _____ No ✓
Hydric Soil Present?	Yes _____ No ✓	
Wetland Hydrology Present?	Yes ✓ No _____	

Remarks:

Sampling conducted in Tributary 1C. Drainage exhibited wetland characteristics as a result of urban runoff from adjacent Alberhill Ranch development.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 20 feet)	Absolute % Cover	Dominant Species?	Indicator Status
1. Salix lasiolepis	100	Y	FACW
2.			
3.			
4.			
	100 = Total Cover		
Sapling/Shrub Stratum (Plot size: 10 Feet)			
1.			
2.			
3.			
4.			
5.			
	_____ = Total Cover		
Herb Stratum (Plot size: 5 Feet)			
1. Urtica dioica	25	Y	FAC
2. Brassica nigra	10	Y	UPL
3.			
4.			
5.			
6.			
7.			
8.			
	35 = Total Cover		
Woody Vine Stratum (Plot size: _____)			
1.			
2.			
	_____ = Total Cover		

% Bare Ground in Herb Stratum 65 % Cover of Biotic Crust 0

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 3 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 67% (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species _____	x 1 = _____
FACW species _____	x 2 = _____
FAC species _____	x 3 = _____
FACU species _____	x 4 = _____
UPL species _____	x 5 = _____
Column Totals: _____ (A)	_____ (B)

Prevalence Index = B/A = _____

Hydrophytic Vegetation Indicators:

✓ Dominance Test is >50%

___ Prevalence Index is ≤3.0[1]

___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes ✓ No _____

Remarks:

SOIL

Sampling Point: 2

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

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-12	10YR 2/2							Sandy Clay Loam

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

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

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5) (**LRR C**)
- ___ 1 cm Muck (A9) (**LRR D**)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Vernal Pools (F9)

Indicators for Problematic Hydric Soils[3]:

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

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes _____ No ✓

Remarks:

No redoxomorphic features present. Non-hydric soil

HYDROLOGY

Wetland Hydrology Indicators:

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

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1) (**Nonriverine**)
- ___ Sediment Deposits (B2) (**Nonriverine**)
- ___ Drift Deposits (B3) (**Nonriverine**)
- ✓ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Biotic Crust (B12)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

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

Field Observations:

Surface Water Present? Yes _____ No ✓ Depth (inches): _____

Water Table Present? Yes _____ No ✓ Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes _____ No ✓ Depth (inches): _____

Wetland Hydrology Present? Yes ✓ No _____

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

Remarks:

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Terracina Project City/County: Lake Elsinore/Riverside Sampling Date: 06/20/12

Applicant/Owner: Spectrum Communities State: CA Sampling Point: 3

Investigator(s): M. Rasnick/L. Lokovic Section, Township, Range: Section 35; Township S South, Range 5 West

Landform (hillslope, terrace, etc.): Terrace Local relief (concave, convex, none): none Slope (%): <1%

Subregion (LRR): LRR C Lat: 33.697677 Long: -117.376278 Datum: NAD 83

Soil Map Unit Name: Hanford Coarse Sandy Loam, 2 to 8 Percent Slopes (HcC) NWI classification: _____

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✓ No _____ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes ✓ No _____

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present?	Yes ✓ No _____	**Is the Sampled Area within a Wetland?** Yes ✓ No _____
Hydric Soil Present?	Yes ✓ No _____	
Wetland Hydrology Present?	Yes ✓ No _____	

Remarks:

Sampling conducted in Tributary 1C. Drainage exhibited wetland characteristics as a result of urban runoff from adjacent Alberhill Ranch development.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 20 feet)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	= Total Cover		
Sapling/Shrub Stratum (Plot size: 10 Feet)			
1.			
2.			
3.			
4.			
5.			
	= Total Cover		
Herb Stratum (Plot size: 5 Feet)			
1. Juncus mexicanus	100	Y	FACW
2.			
3.			
4.			
5.			
6.			
7.			
8.			
	100 = Total Cover		
Woody Vine Stratum (Plot size: _____)			
1.			
2.			
	= Total Cover		

% Bare Ground in Herb Stratum 0 % Cover of Biotic Crust 0

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100% (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species _____	x 1 = _____
FACW species _____	x 2 = _____
FAC species _____	x 3 = _____
FACU species _____	x 4 = _____
UPL species _____	x 5 = _____
Column Totals: _____ (A)	_____ (B)

Prevalence Index = B/A = _____

Hydrophytic Vegetation Indicators:

✓ Dominance Test is >50%

___ Prevalence Index is ≤3.0[1]

___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes ✓ No _____

Remarks:

SOIL

Sampling Point: 3

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

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-6	10YR 3/1	98	5 YR 5/8	1-2	C	M		Sandy Clay Loam
6-12	10 YR 3/2	98	5 YR 5/8	1-2	C	M		Sandy Clay Loam

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

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

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ✓ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5) (**LRR C**)
- ___ 1 cm Muck (A9) (**LRR D**)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ✓ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Vernal Pools (F9)

Indicators for Problematic Hydric Soils[3]:

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

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes ✓ No _____

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

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

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1) (**Nonriverine**)
- ___ Sediment Deposits (B2) (**Nonriverine**)
- ___ Drift Deposits (B3) (**Nonriverine**)
- ✓ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Biotic Crust (B12)
- ___ Aquatic Invertebrates (B13)
- ✓ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

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

Field Observations:

Surface Water Present? Yes ___ No ✓ Depth (inches): _____

Water Table Present? Yes ✓ No ___ Depth (inches): 5-6

Saturation Present? (includes capillary fringe) Yes ✓ No ___ Depth (inches): 5-6

Wetland Hydrology Present? Yes ✓ No _____

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

Remarks:

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Terracina Project City/County: Lake Elsinore/Riverside Sampling Date: 06/20/12

Applicant/Owner: Spectrum Communities State: CA Sampling Point: 4

Investigator(s): M. Rasnick/L. Lokovic Section, Township, Range: Section 35; Township 5 South, Range 5 West

Landform (hillslope, terrace, etc.): Terrace Local relief (concave, convex, none): none Slope (%): <1%

Subregion (LRR): LRR C Lat: 33.697S41 Long: -117.376569 Datum: NAD 83

Soil Map Unit Name: Hanford Coarse Sandy Loam, 2 to 8 Percent Slopes (HcC) NWI classification: _____

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✓ No _____ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes ✓ No _____

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present?	Yes ✓ No _____	**Is the Sampled Area within a Wetland?** Yes _____ No ✓
Hydric Soil Present?	Yes _____ No ✓	
Wetland Hydrology Present?	Yes ✓ No _____	

Remarks:

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 20 feet)	Absolute % Cover	Dominant Species?	Indicator Status
1. Salix lasiolepis	90	Y	FACW
2.			
3.			
4.			
	90 = Total Cover		
Sapling/Shrub Stratum (Plot size: 10 Feet)			
1.			
2.			
3.			
4.			
5.			
	= Total Cover		
Herb Stratum (Plot size: 5 Feet)			
1. Juncus mexicanus	90	Y	FACW
2.			
3.			
4.			
5.			
6.			
7.			
8.			
	90 = Total Cover		
Woody Vine Stratum (Plot size: _____)			
1.			
2.			
	= Total Cover		

% Bare Ground in Herb Stratum 10 % Cover of Biotic Crust 0

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100% (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species	x 1 =
FACW species	x 2 =
FAC species	x 3 =
FACU species	x 4 =
UPL species	x 5 =
Column Totals: (A)	(B)

Prevalence Index = B/A = _____

Hydrophytic Vegetation Indicators:

✓ Dominance Test is >50%

___ Prevalence Index is ≤3.0[1]

___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes ✓ No _____

Remarks:

SOIL

Sampling Point: 4

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Redox Features Type[1]	Redox Features Loc[2]	Texture	Remarks
0-16	10YR 3/2	100						Silty Loam

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

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

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5) **(LRR C)**
- ___ 1 cm Muck (A9) **(LRR D)**
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Vernal Pools (F9)

Indicators for Problematic Hydric Soils[3]:

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

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes _____ No ✓

Remarks:

No redox features present.

HYDROLOGY

Wetland Hydrology Indicators:

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

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1) **(Nonriverine)**
- ___ Sediment Deposits (B2) **(Nonriverine)**
- ___ Drift Deposits (B3) **(Nonriverine)**
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Biotic Crust (B12)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

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

Field Observations:

Surface Water Present? Yes _____ No ✓ Depth (inches): _____

Water Table Present? Yes _____ No ✓ Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes _____ No ✓ Depth (inches): _____

Wetland Hydrology Present? Yes ✓ No _____

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

Remarks:

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Terracina Project City/County: Lake Elsinore/Riverside Sampling Date: 06/20/12

Applicant/Owner: Spectrum Communities State: CA Sampling Point: 5

Investigator(s): M. Rasnick/L. Lokovic Section, Township, Range: Section 35; Township 5 South, Range 5 West

Landform (hillslope, terrace, etc.): Terrace Local relief (concave, convex, none): none Slope (%): <1%

Subregion (LRR): LRR C Lat: 33.698521 Long: -117.375326 Datum: NAD 83

Soil Map Unit Name: Altamont Cobbly Clay, 8 to 35 Percent Slopes (AbF) NWI classification: _____

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✓ No _____ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes ✓ No _____

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present?	Yes ✓ No _____	**Is the Sampled Area within a Wetland?** Yes ✓ No _____
Hydric Soil Present?	Yes ✓ No _____	
Wetland Hydrology Present?	Yes ✓ No _____	

Remarks:

Sampling conducted in Tributary 1C. Drainage exhibited wetland characteristics as a result of urban runoff from adjacent Alberhill Ranch development.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 20 feet)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	= Total Cover		
Sapling/Shrub Stratum (Plot size: 10 Feet)			
1.			
2.			
3.			
4.			
5.			
	= Total Cover		
Herb Stratum (Plot size: 5 Feet)			
1. Juncus mexicanus	90	Y	FACW
2. Polypogon monspeliensis	10	N	FACW
3.			
4.			
5.			
6.			
7.			
8.			
	100 = Total Cover		
Woody Vine Stratum (Plot size: _____)			
1.			
2.			
	= Total Cover		

% Bare Ground in Herb Stratum 0 % Cover of Biotic Crust 0

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100% (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species _____	x 1 = _____
FACW species _____	x 2 = _____
FAC species _____	x 3 = _____
FACU species _____	x 4 = _____
UPL species _____	x 5 = _____
Column Totals: _____ (A)	_____ (B)

Prevalence Index = B/A = _____

Hydrophytic Vegetation Indicators:

✓ Dominance Test is >50%

___ Prevalence Index is ≤3.0[1]

___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes ✓ No _____

Remarks:

SOIL

Sampling Point: 5

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

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-12	10YR 3/1	98	5 YR 5/8	1-2	C	M		Sandy Clay Loam

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

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

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5) (**LRR C**)
- ___ 1 cm Muck (A9) (**LRR D**)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ✓ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Vernal Pools (F9)

Indicators for Problematic Hydric Soils[3]:

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

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes ✓ No ___

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

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

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1) (**Nonriverine**)
- ___ Sediment Deposits (B2) (**Nonriverine**)
- ___ Drift Deposits (B3) (**Nonriverine**)
- ✓ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Biotic Crust (B12)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

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

Field Observations:

Surface Water Present? Yes ___ No ✓ Depth (inches): _____

Water Table Present? Yes ___ No ✓ Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes ___ No ✓ Depth (inches): _____

Wetland Hydrology Present? Yes ✓ No ___

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

Remarks:

MEMORANDUM

GLENN LUKOS ASSOCIATES
Regulatory Services

PROJECT NUMBER: 0586-0002TERR

TO: Mr. David L. Salene
Spectrum Communities

FROM: Martin Rasnick
Tim Morgan

DATE: April 16, 2014

SUBJECT: Addendum to the Biological Technical Report for the Terracina Residential Development Project Located in the City of Lake Elsinore, Riverside County, California.

Mr. Salene:

As requested, Glenn Lukos Associates (GLA) has prepared an addendum to GLA's Biological Technical Report (BTR dated: August 28, 2013), which was originally prepared for the approximate 154.8-acre Terracina Residential Development Project (Project) located in the City of Lake Elsinore, Riverside County, California. The addendum provides the results of a general biological survey and habitat assessment of off-site areas, totaling approximately 4.65 acres, which were not previously evaluated during GLA's biological resources assessment of the property in 2013. The additional areas assessed and covered in this report include off-site road improvements for Terra Cotta Street and Hoff Avenue, in addition to a remedial grading area abutting the northeastern boundary of Project site. This memorandum identifies and evaluates impacts to biological resources associated with the proposed off-site impact areas related to the Project, and the relationship of these areas to the Western Riverside County Multiple Species Habitat Conservation Plan (MSHCP), the California Environmental Quality Act (CEQA), and State and Federal regulations such as the Endangered Species Act (ESA), Clean Water Act (CWA), the Porter-Cologne Water Quality Control Act [California Water Code], and the California Fish and Game Code.

1.0 INTRODUCTION

1.2 Project Location

The Project, including the proposed off-site impact areas, occurs within the extreme western portion of Western Riverside County, California within the City of Lake Elsinore [Exhibit 1 –

Regional Map]. The Project comprises approximately 154.8 acres of land and is bounded by rural residential development and the Alberhill Ranch Development to the north, Lakeshore Drive to the south, Dryden Street, Gunder Avenue and Stoddard Street to the east, and Terra Cotta Road and the Alberhill Ranch Development to the west. The Project site is depicted on the USGS Lake Elsinore (dated 1953 and photorevised in 1988) and Alberhill (dated 1954 and photorevised in 1988), California, topographic maps, in Sections 26, 34, and 35, of Township 5 South and Range 5 West [Exhibit 2 – Vicinity Map]. The off-site impacts include improvements to two roads, Terra Cotta Street, which extends from Lakeshore Drive in the south to Nichols Road in the north; and Hoff Road, which extends from Terra Cotta Street to the Project boundary, and will function as an ingress/egress road for the northern portion of the Project [Exhibit 3 – Off-Site Improvements Map].

The Universal Transverse Mercator (UTM) coordinates approximately corresponding to the center of the property is 465330.33 m E and 3728644.93 m N. The Project site includes Assessor's Parcel Numbers (APN): 378-040-004, 378-040-005, 378-040-006, 378-040-007, 378-040-012, 389-180-001, 389-180-002, and 389-190-002.

1.3 Background and Project Description

The Project site is an irregular shaped parcel of land consisting of 154.8 acres on-site of gently rolling topography and is bordered on all sides with existing or dedicated streets. Approximately 4.65 acres of off-site improvements and remedial grading are also associated with the Project. The Project has six villages of residential lots on 71 acres of land ranging in size from 4,000 square feet to over 10,000 square feet in size and a total of 468 lots are being proposed. The street rights-of-way within the Project consist of 20,555 linear feet or 28.00 acres of land. The gross density of the Project is 3.10 dwelling units per acre.

In addition to 99.0 acres of residential development (including the residential streets), the Project includes a 1.6-acre park amenity; graded slopes of 28.20 acres and 22.00 acres of natural open space areas and detention/water quality basins.

As part of the Project, three detention/water quality basins will be constructed and located in each of the existing drainage areas. All three basins will detain and treat storm water from the project before exiting the site. Additional infrastructural improvements include sewer, domestic water lines, storm drain facilities and other dry utility lines, which will be constructed as part of the proposed residential development.

The Project also includes off-site road improvements to Terra Cotta Street from the Project boundary to Nichols Road, and Hoff Avenue from Terra Cotta Street to the Project boundary, in addition to an off site remedial grading area abutting the northeastern boundary of Project site.

1.4 Scope and Methodology

A Biologist/Regulatory Specialist from Glenn Lukos Associates, Inc. (GLA) conducted a general biological survey and a general habitat assessment for areas proposed for Project-related off-site improvements on April 4, 2014. The proposed off-site impacts include improvements to Terra Cotta Street and Hoff Avenue which are currently dirt and/or gravel roads. An additional off-site area adjacent to the northeastern boundary is proposed for grading [Exhibit 3 – Off-Site Improvements Map]. This addendum provides a discussion of existing conditions for the off-site areas proposed for Project-related impacts, all methods employed regarding general surveys, the documentation of botanical and wildlife resources identified (including special-status species), an analysis of impacts to biological resources, and proposed mitigation measures to offset resource impacts pursuant to the MSHCP and CEQA. Methods of study included a review of relevant literature, general field surveys, and a Geographical Information System (GIS)-based impact analysis. Where applicable, this biological update 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 the Western Riverside County MSHCP. This report also discusses the relationship of the off-site areas associated with the Project to the MSHCP, including the presence/absence of Covered Species, and compliance with provisions of the MSHCP, including requirements as outlined in *Volume I, Sections 6.1.2, 6.1.3, 6.1.4,* and *6.3.2* of the MSHCP document.

The field study focused on a number of primary objectives that would satisfy the special provisions of the MSHCP and also comply with CEQA requirements, including: (1) general reconnaissance surveys and vegetation mapping; (2) general wildlife surveys; (3) habitat assessments for special-status plants (including species with applicable MSHCP survey requirements; (4) habitat assessments for special-status animals (including species with applicable MSHCP survey requirements); (5) assessments for riparian/riverine areas and vernal pools; and (6) assessments for areas subject to the jurisdiction of the U.S. Army Corps of Engineers (Corps) jurisdiction pursuant to Section 404 of the CWA, CDFW jurisdiction pursuant to Division 2, Chapter 6, Section 1600 of the California Fish and Game Code and the Santa Ana Regional Water Quality Control Board (Regional Board) pursuant to Section 401 of the CWA and Section 13260 of the California Water Code (CWC), the Porter-Cologne Water Quality Control Act. Observations of plant and wildlife species were recorded during each of the above mentioned survey efforts.

1.5 Existing Conditions

The Project-related off-site improvement areas proposed for impact are generally comprised of disturbed and/or developed land, ruderal vegetation, and small patches of disturbed Riversidean sage scrub (RSS) habitat. Some areas adjacent to Terra Cotta Street (areas that will not be

impacted) contain small patches of moderate quality RSS. No jurisdictional drainage features are located within the impact boundaries of the off-site improvement areas.

1.6 Relationship of the Project Site to the MSHCP

1.6.1 MSHCP Background

The Western Riverside County MSHCP is a comprehensive habitat conservation/planning program for Western Riverside County. The intent of the MSHCP is to preserve native vegetation and meet the habitat needs of multiple species, rather than focusing preservation efforts on one species at a time. The MSHCP provides coverage (including take authorization for listed species) for special-status plant and animal species, as well as mitigation for impacts to special-status species and associated native habitats.

Through agreements with the USFWS and CDFW, the MSHCP designates 146 special-status animal and plant species as Covered Species, of which the majority have no project-specific survey/conservation requirements. The MSHCP provides mitigation for project-specific impacts to these species for Projects that are compliant/consistent with MSHCP requirements, such that the impacts are reduced to below a level of significance pursuant to CEQA.

The Covered Species that are not yet adequately conserved have additional requirements in order for these species to ultimately be considered "adequately conserved". A number of these species have survey requirements based on a project's occurrence within a designated MSHCP survey area and/or based on the presence of suitable habitat. These include Narrow Endemic Plant Species (MSHCP *Volume I, Section 6.1.3*), as identified by the Narrow Endemic Plant Species Survey Areas (NEPSSA); Criteria Area Plant Species (MSHCP *Volume I, Section 6.3.2*) identified by the Criteria Area Plant Species Survey Areas (CAPSSA); animals species (burrowing owl, mammals, amphibians) identified by survey areas (MSHCP *Volume I, Section 6.3.2*); and species associated with riparian/riverine areas and vernal pool habitats, i.e., least Bell's vireo, southwestern willow flycatcher, western yellow-billed cuckoo, and three species of listed fairy shrimp (MSHCP *Volume I, Section 6.1.2*). An additional 28 species (MSHCP *Volume I*, *Table 9.3*) not yet adequately conserved have species-specific objectives in order for the species to become adequately conserved. However, these species do not have project-specific survey requirements.

The goal of the MSHCP is to have a total Conservation Area in excess of 500,000 acres, including approximately 347,000 acres on existing Public/Quasi-Public (PQP) Lands, and approximately 153,000 acres of Additional Reserve Lands targeted within the MSHCP Criteria Area. The MSHCP is divided into 16 separate Area Plans, each with its own conservation goals and objectives. Within each Area Plan, the Criteria Area is divided into Subunits, and further divided into Criteria Cells and Cell Groups (a group of criteria cells). Each Cell Group and

ungrouped, independent Cell has designated "criteria" for the purpose of targeting additional conservation lands for acquisition. Projects meeting the definition of a "Covered Activity" are not required to set aside land pursuant to the Cell Criteria. However, all Projects within the Criteria Area must go through the Joint Project Review (JPR) process, where the Project is reviewed to ensure overall compliance/consistency with the biological requirements of the MSHCP.

1.6.2 Relationship of the Project Site to the MSHCP

The on-site and off-site portions of the Project site are located within the Elsinore Area Plan of the MSHCP; however, only the off-site areas are located within Subunit 2 – Alberhill, which is a subarea of the Elsinore Area Plan with specific conservation goals. The on-site portion of the Project site is not located within a Criteria Cell; however, the some of the off-site areas proposed for road improvements and a small area proposed for remedial grading are located within the southeastern portion of the Criteria Cell number 4157 [Exhibit 4 – MSHCP Overlay Map][1]. The Project site, including the off-site areas, is located within the MSHCP Burrowing Owl Survey Area and the Narrow Endemic Plant Survey Area (NEPSSA) number 1, but is not located within the MSHCP Mammal or Amphibian Survey Areas. Target plant species associated with NEPSSA 1 include Munz's onion (*Allium munzii*), San Diego ambrosia (*Ambrosia pumila*), slender horned-spineflower (*Dodecahema leptoceras*), many-stemmed dudleya (*Dudleya multicaulis*), spreading navarretia (*Navarretia fossalis*), California Orcutt grass (*Orcuttia californica*), San Miguel savory (*Clinopodium chandleri*), Hammitt's clay-cress (*Sibaropsis hammittii*), and Wright's trichocoronis (*Trichocoronis wrightii*). Only the off-site areas are located within the Criteria Area Plant Species Survey Area number 1 (CAPSSA). The target plant species associated with CAPSSA include thread-leaved brodiaea (*Brodiaea filifolia*), Davidson's saltscale (*Atriplex serenana* var. *davidsonii*), Parish's brittlescale (*Atriplex parishii*), smooth tarplant (*Centromadia pungens*), round-leaved filaree (*Erodium macrophyllum*), Coulter's goldfields (*Lasthenia glabrata* ssp. *coulteri*), and little mousetail (*Myosurus minimus*). The off-site areas associate with the Project do not contain habitat suitable for CAPSSA species.

Within the designated Survey Areas, the MSHCP requires habitat assessments, and focused surveys within areas of suitable habitat. For locations with positive survey results, the MSHCP requires that 90 percent of those portions of the property that provide for long-term conservation value for the identified species shall be avoided until it is demonstrated that conservation goals for the particular species have been met throughout the MSHCP. Findings of equivalency shall be made demonstrating that the 90-percent standard has been met, if applicable. If equivalency

[1] The MSHCP Conservation Summary Generator identifies a small portion of the on-site area of the Project site as occurring within the MSHCP Criteria Area. However, the City of Lake Elsinore has previously noted this as a mapping error, and that the Project site does not occur within the MSHCP Criteria Area.

findings cannot be demonstrated, then "biologically equivalent or superior preservation" must be provided.

The on-site portions of the Project site are not located within a Criteria cell; however, the off-site improvement areas addressed in this addendum are located within the southeastern portion of Criteria Cell 4157. Conservation within this Cell will contribute to assembly of Proposed Core 1. Conservation within this Cell will focus on coastal sage scrub, chaparral and grassland habitat. Areas conserved within this Cell will be connected to coastal sage scrub and chaparral habitat proposed for conservation in Cell #4156 to the west and to chaparral and grassland habitat proposed for conservation in Cell #4057 to the north. Conservation within this Cell will range from 45%-55% of the Cell focusing in the western half of the Cell.

2.0 METHODOLOGY

GLA conducted biological surveys in order to identify and evaluate impacts to biological resources associated with the off-site portions associated with the Project. The scope of the biological survey was determined through initial site reconnaissance, a review of the California Natural Diversity Database (CNDDB) [CDFW 2013], the CNPS On-Line Inventory of Rare and Endangered Plants of California (2013), MSHCP species and habitat maps, MSHCP sensitive soil maps, Natural Resource Conservation Service's (NRCS) soil data, other pertinent literature, and knowledge of the region. Site-specific general surveys were conducted for all areas of suitable habitat for each target plant or animal species. In addition, the site was evaluated to determine the presence/absence of waters of the United States, including wetlands (Corps and Regional Board jurisdiction); stream/lakes, including riparian vegetation (CDFW jurisdiction); and MSHCP riparian/riverine areas and vernal pools.

Individual plant and animal 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 ESA;
- Occurrence in the CNPS Rare Plant Inventory (List 1B, 2B, 3, or 4);
- CNDDB Federal/State Rankings; and/or
- Evaluation and coverage under the MSHCP.

Animals were considered "special-status" based on one or more of the following criteria:

- Listing through the Federal and/or State ESA;
- Designation as a Federal Species of Concern;

- Designation by the State as a California Species of Special Concern (SSC) or California Fully-Protected Species (CFP); and/or
- Evaluation and coverage under the MSHCP.

As mentioned above, the Project site is located within the MSHCP Burrowing Owl Survey Area and NEPSSA number 1. The Project site was evaluated for burrowing owl habitat and the target Narrow Endemic Plants. The Project site was also evaluated for riparian/riverine and vernal pool resources pursuant to *Volume I, Section 6.1.2* of the MSHCP.

2.1 Summary of Surveys

Site-specific surveys focused on a number of primary objectives that would satisfy the requirements of the MSHCP and also comply with CEQA requirements: (1) a general biological survey; (2) vegetation mapping ; (3) a habitat assessments for special-status plants; (4) a habitat assessments for special-status animals (including species designated by *Sections 6.1.2 and 6.3.2* of the MSHCP document); (5) assessments for MSHCP riparian/riverine areas and vernal pools; and (6) assessments for areas subject to the jurisdiction of the Corps, Regional Board, and CDFW. Observations of all plant and animal species were recorded during each of the above-mentioned survey efforts. Table 2-1 provides a summary list of survey dates, survey types and personnel.

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

Survey Type	Survey Dates	Biologists
Habitat Assessments	April 4, 2014	TM
General Biological Survey	April 4, 2014	TM
Assessment for Jurisdictional Waters	April 4, 2014	TM
Vegetation Mapping	April 4, 2014	TM

TM – Tim Morgan

2.2 Botanical Resources

A site-specific survey program was designed to accurately document the botanical resources within the Project site, including: (1) literature search; (2) general biological survey and habitat assessments; and (3) vegetation mapping.

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, but were not limited to, the following:

- CNPS *Online Inventory of Rare and Endangered Plants of California* (Eighth Edition) [CNPS 2010];
- CNDDB for the Lake Elsinore, Alberhill, and surrounding USGS quadrangle maps (CDFW 2013); and
- MSHCP Document, including *Volume I, Sections 6.1.2, 6.1.3, and 6.3.2* (Riverside County Integrated Project 2003).

2.2.2 Vegetation Mapping

Vegetation communities were mapped for the off-site areas associated with the Project site, using categories from the MSHCP Habitat Accounts (Volume II, Section C), which are based on the Holland (1986) classification system. Exhibit 5 [Vegetation Map] provides vegetation mapping for the Project Site. Exhibit 6 provides representative photographs of the site.

2.2.3 Special-Status Plant Species Evaluated for the Project Site

The CNDDB and MSHCP were initially consulted to determine known occurrences of special-status plants in the region. Other sources used to develop a list of target species for the survey program included the CNPS Online Inventory (CNPS 2013). Based on this information, a list of special-status plant species and habitats that could occur within the off-site areas associated with the Project were developed and incorporated into a mapping and survey program for the off-site portions of the Project site. Section 4.0 of this document provides a list of special-status plants evaluated for the Project, as well as the results of habitat assessments. The plants evaluated for the on-site and off-site areas are the same for the 2013 BTR and the current addendum to the BTR.

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 off-site area associated with the Project by direct observation, including the use of binoculars. Wildlife species detected through direct sightings, or based on physical evidence, were recorded in field notes during each visit. Scientific nomenclature and common names for vertebrate species referred to in this report follows a number of sources, including the CDFW Complete List of Amphibian, Reptile, Bird, and Mammal Species in California (CDFW 2008); Collins (2009) for amphibians and reptiles; Baker, et al. (2003) for mammals; and the AOU Checklist (1998) for birds. The methodology utilized to conduct habitat assessments for special-status animals are included below.

2.3.1 General Biological Surveys

All wildlife species that were detected incidentally during biological surveys were documented. For reptiles, habitats were examined for diagnostic sign, which include shed skins, tracks, snake prints, and lizard tail drag marks. Birds were detected by both visual observation and by vocalizations. Mammals were detected both by visual observations and by the presence of diagnostic sign (i.e., tracks, burrows, scat, etc.).

2.3.2 Special-Status Animal Species Evaluated for the Project Site

The CNDDB and MSHCP were initially consulted to determine known occurrences of special-status animals in the region. Based on this information, a list of target animal species (including their suitable habitats) was developed and incorporated into a survey program to achieve the following goal: implement general reconnaissance field work to document special-status animal species within the off-site areas associated with the Project Site.

2.3.3 Habitat Assessments for the Western Burrowing Owl

The Project (on-site and off-site) is located within the MSHCP Survey Area for the burrowing owl (*Athene cunicularia*). A habitat assessment was conducted for burrowing owl in the off-site areas associated with the Project, following the 2006 MSHCP Burrowing Owl Survey Instructions.

Step I of the MSHCP Survey Instructions requires that an assessment be conducted to determine the presence of suitable habitat for the burrowing owl. Habitat assessments must be conducted by walking the subject property. Habitat assessments should consider a 150-meter (500 foot) buffer zone around the property.

Habitat for the burrowing owl is varied, including short-grass prairies, grasslands, lowland scrub, agricultural lands (particularly rangelands), coastal dunes, desert floors, and some artificial, open areas as a year-long resident (Haug, et al. 1993). Burrowing owls require large open expanses of sparsely vegetated areas on gently rolling or level terrain with an abundance of active small mammal burrows (e.g., ground squirrels, etc.). As a critical habitat feature need, they require the use of rodent or other burrows for roosting and nesting cover. Burrowing owls may also dig their own burrows in soft, friable soil (as found in Florida) and may also use pipes, culverts, and nest boxes where burrows are scarce (Robertson 1929). The mammal burrows are modified and enlarged. In the case of nesting owls, one burrow is typically selected for use as the nest; however, satellite burrows are usually found within the immediate vicinity of the nest burrow within the defended territory of the owl.

The MSHCP Survey Instructions acknowledge that the presence of suitable burrows is not the deciding factor on whether a site contains suitable habitat for burrowing owls. Basic suitability is more broadly defined by the vegetation structure of a given site. Once basic suitability has been confirmed, the presence/absence of suitable burrows is to be determined through focused burrow surveys (Step II of the Survey Instructions). The majority of the off-site portions proposed for impacts is disturbed or developed and does not support habitat suitable for burrowing owls; however, areas within 500 feet from the road improvement impact boundary contain suitable burrowing owl habitat. Some of this area was not accessible, as it was located within private property. The small off-site area proposed for remedial grading was essentially surveyed during GLA's 2013 focused burrowing owl surveys of the on-site portion of the Project, as it is within the 500 foot buffer around the Project site and was accessible during the survey. The focused burrowing owl surveys conducted in 2013 were negative. Portions of Terra Cotta Street and Hoff Avenue are outside of the 500 foot Project boundary buffer which was assessed in the 2013 focused burrowing owl survey; therefore, given the potentially suitable habitat within the 500 foot buffer around the areas proposed for road improvements, a preconstruction burrowing owl survey is necessary.

2.3.4 Habitat Assessments for the Southwestern Willow Flycatcher

Volume I, Section 6.1.2 of the MSHCP requires focused surveys for the federally and State listed southwestern willow flycatcher (*Empidonax traillii extimus*) within areas of suitable riparian habitat that cannot be avoided by projects. The off-site areas associated with the Project do not contain or occur next to adjacent riparian habitat with some potential to support the southwestern willow flycatcher. As such, focused flycatcher surveys were not conducted nor are they necessary.

2.3.5 Habitat Assessments for the Least Bell's Vireo

Volume I, Section 6.1.2 of the MSHCP requires focused surveys for the federally and State listed least Bell's vireo (*Vireo bellii pusillus*) [LBV] within areas of suitable riparian habitat that cannot be avoided by projects. The off-site areas associated with the Project do not contain riparian habitat with some potential to support the LBV. As such, focused LBV surveys were not conducted nor are they necessary.

2.4 MSHCP Riparian/Riverine Areas and Vernal Pools

GLA surveyed the off-site areas associated with the Project for riparian/riverine areas and vernal pool/seasonal pool habitat. *Volume I, Section 6.1.2* of the MSHCP describes the process through which protection of riparian/riverine areas and vernal pools would occur within the MSHCP Plan Area. The purpose is to ensure that the biological functions and values of these areas throughout the MSHCP Plan Area are maintained such that habitat values for species inside the MSHCP Conservation Area are maintained. The MSHCP requires that as projects are proposed within the overall Plan Area, the effect of those projects on riparian/riverine areas and vernal pools must be addressed.

The MSHCP defines riparian/riverine areas as *lands which contain Habitat dominated by trees, shrubs, persistent emergent mosses and lichens, which occur close to or which depend upon soils moisture from a nearby fresh water source; or areas with fresh water flow during all or a portion of the year.*

The MSHCP defines vernal pools as *seasonal wetlands that occur in depression areas that have wetlands indicators of all three parameters (soils, vegetation, and hydrology) during the wetter portion of the growing season but normally lack wetland indictors of hydrology and/or vegetation during the drier portion of the growing season.*

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

2.5 Jurisdictional Waters

The Project Site was evaluated to determine the limits of (1) Corps jurisdiction pursuant to Section 404 of the CWA, (2) Regional Board jurisdiction pursuant to Section 401 of the CWA and Section 13260 of the CWC, the Porter-Cologne Act, and (3) CDFW jurisdiction pursuant to Division 2, Chapter 6, Sections 1600-1616 of the Fish and Game Code. The evaluation for Corps jurisdiction was based on regulatory guidance pursuant to the recent U.S. Supreme Court

decisions of *Rapanos v. United States* and *Carabell v. United States*, which updated/incorporated guidance pursuant to *Solid Waste Agency of Northern Cook County v. United States Army Corps of Engineers, et. al.* (SWANCC).

2.5.1 Corps Jurisdiction

Pursuant to Section 404 of the CWA, 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) 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.*
>
> *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.*
>
> *(8) Waters of the United States do not include prior converted cropland.*[2] *Notwithstanding the determination of an area's status as prior converted cropland by*

[2] 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

> *any other federal agency, for the purposes of the Clean Water Act, the final authority regarding Clean Water Act jurisdiction remains with the EPA.*

In the absence of wetlands, the limits of Corps jurisdiction in non-tidal waters, such as intermittent streams, extend to the ordinary high water mark (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:

---

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.]

> *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 (RPWs) tributary to TNWs and/or their adjacent wetlands as set forth in the chart below, the Corps must apply the significant nexus standard, that includes the data set forth in the *Approved Jurisdictional Determination Form*.

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 information pertaining to isolated waters is also included on the *Approved Jurisdictional Determination Form*.

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 National List of Plant Species that Occur in Wetlands[3]);

[3] Reed, P.B., Jr. 1988. National List of Plant Species that Occur in Wetlands. U.S. Fish and Wildlife Service Biological Report 88(26.10).

- 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.

2.5.2 Regional Water Quality Control Board

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.[4] 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

[4] Wilson, Craig M. January 25, 2001. Memorandum addressed to State Board Members and Regional Board Executive Officers.

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. However, while providing a recounting of the Act's definition of waters of the United States, this memorandum fails to also reference the Act's own definition of waste:

"Waste" includes sewage and any and all other waste substances, liquid, solid, gaseous, or radioactive, associated with human habitation, or of human or animal origin, or from any producing, manufacturing, or processing operation, including waste placed within containers of whatever nature prior to, and for purposes of, disposal.

The lack of inclusion of a reference to "fill material," "dirt," "earth" or other similar terms in the Act's definition of "waste," or elsewhere in the Act, suggests that no such association was intended. Thus, the Chief Counsel's memorandum signals that the SWRCB is attempting to retain jurisdiction over discharge of fill material into isolated waters of the United States by administratively expanding the definition of "waste" to include "fill material" without actually seeking amendment of the Act's definition of waste (an amendment would require action by the state legislature). Consequently, discharge of fill material into waters of the State not subject to the jurisdiction of the Corps pursuant to Section 404 of the Clean Water Act may require authorization pursuant to the Porter Cologne Act through application for waste discharge requirements (WDRs) or through waiver of WDRs, despite the lack of a clear regulatory imperative.

2.5.3 California Department of Fish and Wildlife

Pursuant to Division 2, Chapter 6, Sections 1600-1616 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 jurisdiction within altered or artificial waterways is based upon the value of those waterways to fish and wildlife. CDFW Legal Advisor has prepared the following opinion:

- Natural waterways that have been subsequently modified and which have the potential to contain fish, aquatic insects and riparian vegetation will be treated like natural waterways...

- Artificial waterways that have acquired the physical attributes of natural stream courses and which have been viewed by the community as natural stream courses, should be treated by [CDFW] as natural waterways...

- Artificial waterways without the attributes of natural waterways should generally not be subject to Fish and Game Code provisions...

Thus, CDFW jurisdictional limits closely mirror those of the Corps. Exceptions are CDFW's exclusion of isolated wetlands (those not associated with a river, stream, or lake), the addition of artificial stock ponds and irrigation ditches constructed on uplands, and the addition of riparian habitat supported by a river, stream, or lake regardless of the riparian area's federal wetland status.

3.0 REGULATORY SETTING

The proposed off-site areas associated with the Project are 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-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.

3.1.4 Take Authorizations Pursuant to the MSHCP

The Western Riverside County MSHCP was adopted on June 17, 2003, and an Implementing Agreement (IA) was executed between the Federal and State Wildlife Agencies (USFWS and CDFW) and participating entities. The MSHCP is a comprehensive habitat conservation-planning program for western Riverside County. The intent of the MSHCP is to preserve native vegetation and meet the habitat needs of multiple species, rather than focusing preservation efforts on one species at a time. As such, the MSHCP is intended to streamline review of individual projects with respect to the species and habitats addressed in the MSHCP, and to provide for an overall Conservation Area that would be of greater benefit to biological resources than would result from a piecemeal regulatory approach. The MSHCP provides coverage (including take authorization for listed species) for special-status plant and animal species, as well as mitigation for impacts to sensitive species.

Through agreements with the USFWS and the CDFW, the MSHCP designates 146 special-status animal and plant species that receive some level of coverage under the plan. Of the 146 "Covered Species" designated under the MSHCP, the majority of these species have no additional survey/conservation requirements. In addition, through project participation with the MSHCP, the MSHCP provides mitigation for project-specific impacts to Covered Species so that the impacts would be reduced to below a level of significance pursuant to CEQA. As noted above, project-specific survey requirements exist for species designated as "Covered Species not yet adequately

conserved". These include Narrow Endemic Plant Species, as identified by the Narrow Endemic Plant Species Survey Areas (NEPSSA); Criteria Area Plant Species identified by the Criteria Area Species Survey Areas (CASSA); animals species as identified by survey area; and plant and animal species associated with riparian/riverine areas and vernal pool habitats (*Volume I, Section 6.1.2* of the MSHCP document).

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 5.1.2 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 Ranks 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 Ranks 3 or 4.

3.2.2 Special-Status Plants and Animals 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. However, some USFWS field offices have issued memoranda stating that former C2 species are to be considered federal Species of Concern (FSC). 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 (CFP) Mammals or Fully Protected Birds, as described in the California Fish and Game Code, Sections 4700 and 3511, respectively. California Species of Special Concern (SSC) are species 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 CNDDB project. Informally listed taxa are not protected, but warrant consideration in the preparation of biotic assessments. For some species, the CNDDB 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
- CFP California Fully-Protected
- CP California Protected
- SSC California Species of Special Concern
- WL Watch List

California Native Plant Society

The CNPS is a private plant conservation organization dedicated to the monitoring and protection of sensitive species in California. The California Native Plant Society's Sixth Edition of the *California Native Plant Society's Inventory of Rare and Endangered Plants of California* separates plants of interest into five categories. 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 (Tibor 2001). CNPS maintains an updated Online Inventory. The 8th Edition of the Online Inventory was released in December 2010. The Inventory serves as the candidate list for listing as threatened and endangered by CDFW.

CNPS has developed six categories of rarity that are summarized in Table 3-1 below.

Table 3-1. CNPS California Rare Plant Ranks.

CNPS Rank	Comments
1A – 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.
1B – 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.
2A – Presumed Extirpated in California, but Common Elsewhere	Thought to be extinct in California based on a lack of observation or detection for many years, but is more common elsewhere in their range.
2B – Rare, Threatened, or Endangered in California, More Common Elsewhere	Species that are rare in California but more common outside of California
3 – Need More Information	Species that are thought to be rare or in decline but CNPS lacks the information needed to assign to the appropriate rank. 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.
4 – Plants of Limited Distribution	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 above, 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 designated this rank should be monitored to ensure that future substantial declines are minimized.
Threat Rank	**Comment**
.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.

4.0 RESULTS

This section discusses the results of the biological surveys conducted for the off-site areas associated with the Project, including general surveys; vegetation mapping; habitat assessments; soil mapping; and assessments for Corps, Regional Board, and CDFW jurisdictional waters, and MSHCP riparian/riverine areas and vernal pools.

4.1 Vegetation Types/Land Uses

A total of three (3) distinct vegetation/land use types were mapped for the Project site, including disturbed Riversidean sage scrub (dRSS), disturbed ruderal (DR) and ornamental. Exhibit 5 provides a vegetation map for the off-site impact areas. Exhibit 6 provides representative site photographs. Table 4-1 provides a summary of vegetation acreages for the off-site impact areas associated with the Project site. A detailed description of each vegetation/land use type identified within the off-site areas associated with the Project follows the table.

Table 4-1. Summary of Vegetation/Land Use Types for On-Site (2013 BTR) and Off-Site Impact Areas

Vegetation	On-Site Acreage	Off-Site Acreage
Non-Native Grassland	57.68	0
Riversidean Sage Scrub	35.23	0
Southern Willow Scrub	1.79	0
Disturbed Riversidean Sage Scrub	36.94	0.20
Emergent Wetland Vegetation	0.09	0
Ornamental	0	0.20
Disturbed/ Ruderal	22.74	4.25
Total	**154.47**	**4.65**

4.1.1 Disturbed Riversidean Sage Scrub

Approximately 0.20 acres of the off-site area associated with the Project site contain disturbed areas that once supported more dense areas of dRSS, but as result of long-standing disturbances now support sparse amounts of scrub vegetation intermixed with ruderal vegetation and unvegetated areas. California buckwheat (*Eriogonum fasciculatum*) was the dominant species associated with the off-site dRSS.

4.1.2 Disturbed/Ruderal

Approximately 4.25 acres of the off-site areas associated with the Project consist of degraded areas supporting a predominance of ruderal vegetation or dirt roads and dirt paths with little to no vegetation. Plant species associated with areas of ruderal vegetation include, but are not limited to, black mustard (*Brassica nigra*), summer mustard (*Hirschfeldia incana*), filaree (*Erodium* sp.), Russian thistle (*Salsola tragus*), London rocket (*Sisymbrium irio*), tocalote (*Centaurea melitensis*), ripgut brome (*Bromus diandrus*), wild oat (*Avena* sp.), common fiddleneck (*Amsinckia intermedia*), and tree tobacco (*Nicotiana glauca*).

4.1.3 Ornamental

Approximately 0.20 acres of the off-site areas associated with the Project consist of ornamental vegetation consisting primarily of *Eucalyptus* sp. and oleander (*Nerium oleander*).

4.2 Special-Status Plants

One special-status plant species was detected on-site during the 2013 GLA focused plant surveys: paniculate tarplant (*Deinandra paniculata*). No special status plants were detected during the current general survey of the areas proposed for off-site impacts and no special status plants are expected to occur in the off-site areas due to a lack of suitable habitat and/or the high level of disturbance. Table 4-2 provides a list of special-status plants evaluated for the off-site areas associated with the Project site. Plant species were considered based on a number of factors, including: 1) species identified by the CNDDB as occurring (either currently or historically) on or in the vicinity of the Project site, 2) MSHCP survey areas, 3) planning species identified by the Elsinore Area Plan, and 4) any other special-status plants that are known to occur within the vicinity of the property, or for which potentially suitable habitat occurs on site.

Table 4-2. Special-Status Plants Evaluated for the Proposed Off-Site Impacts Areas

Federal	**State**
FE – Federally Endangered	SE – State Endangered
FT – Federally Threatened	ST – State Threatened

CNPS
Rank 1B – Plants rare, threatened, or endangered in California and elsewhere.
Rank 2 – Plants rare, threatened, or endangered in California, but more common elsewhere.
Rank 3 – Plants about which more information is needed.
Rank 4 – Plants of limited distribution (a watch list).

CNPS Threat Code Extensions
.1 – Seriously endangered in California (over 80% of occurrences threatened/high degree and immediacy of threat)
.2 – Fairly endangered in California (20-80% occurrences threatened)
.3 – Not very endangered in California (<20% of occurrences threatened or no current threats known)

Species Name	Status	Habitat Requirements	Occurrence or Potential for Occurrence
California Orcutt grass *Orcuttia californica*	Federal: FE State: SE CNPS: Rank 1B.1 MSHCP: Covered	Vernal pools. Known to occur below 660 meters (2,200 feet) MSL. Identifiable April through July.	Not expected to occur in off-site areas associated with the Project due to a lack of suitable habitat.
Chaparral sand verbena *Abronia villosa* var. *aurita*	Federal: None State: None CNPS: Rank 1B.1 MSHCP: Not Covered	Annual herb of sandy areas in chaparral and coastal sage scrub. Known from 80 to 1,600 meters (300 to 5,300 feet) MSL. Identifiable January through August.	Not expected to occur in off-site areas associated with the Project due to a lack of suitable habitat.
Coulter's goldfields *Lasthenia glabrata* ssp. *coulteri*	Federal: None State: None CNPS: Rank 1B.1 MSHCP: Covered	Playas, vernal pools, marshes and swamps (coastal salt).	Not expected to occur in off-site areas associated with the Project due to a lack of suitable habitat.
Davidson's saltscale *Atriplex serenana* var. *davidsonii*	Federal: None State: None CNPS: Rank 1B.2 MSHCP: Covered	Alkaline soils in coastal sage scrub, coastal bluff scrub.	Not expected to occur in off-site areas associated with the Project due to a lack of suitable habitat.

Species Name	Status	Habitat Requirements	Occurrence or Potential for Occurrence
Hall's monardella *Monardella macrantha* subsp. *hallii*	Federal: None State: None CNPS: Rank 1B.3 MSHCP: Covered	Granitic soils in broadleaved upland forest, chaparral, cismontane woodland, lower montane coniferous forest and valley and foothill grasslands.	Not expected to occur in off-site areas associated with the Project due to a lack of suitable habitat.
Hammitt's Clay-cress *Sibaropsis hammittii*	FED: None ST: None CNPS: Rank 1B.2 MSHCP: Covered	Clay soils in chaparral and valley and foothill grasslands	Not expected to occur in off-site areas associated with the Project due to a lack of suitable habitat.
Heart-leaved pitcher sage *Lepechinia cardiophylla*	FED: None ST: None CNPS: Rank 1B.2 MSHCP: Covered	Granitic soils in chaparral, closed cone coniferous forest and cismontane woodland .	Not expected to occur in off-site areas associated with the Project due to a lack of suitable habitat.
Intermediate mariposa lily *Calochortus weedii* var. *intermedius*	Federal: None State: None CNPS: Rank 1B.2 MSHCP: Covered	Rocky soils in chaparral, coastal sage scrub, valley and foothill grassland.	Not expected to occur in off-site areas associated with the Project due to a lack of suitable habitat.
Little mousetail *Myosurus minimus* ssp. *apus*	Federal: None State: None CNPS: Rank 3.1 MSHCP: Covered	Valley and foothill grassland, vernal pools (alkaline soils).	Not expected to occur in off-site areas associated with the Project due to a lack of suitable habitat.
Long-spined spineflower *Chorizanthe polygonoides* var. *longispina*	Federal: None State: None CNPS: Rank 1B.2 MSHCP: Covered	Clay soils in chaparral, coastal sage scrub, meadows and seeps, and valley and foothill grasslands	Not expected to occur in off-site areas associated with the Project due to a lack of suitable habitat.
Many-stemmed dudleya *Dudleya multicaulis*	Federal: None State: None CNPS: Rank 1B.2 MSHCP: Covered	Chaparral, coastal sage scrub, valley and foothill grassland. Often occurring in clay soils.	Not expected to occur in off-site areas associated with the Project due to a lack of suitable habitat.

Species Name	Status	Habitat Requirements	Occurrence or Potential for Occurrence
Mesa horkelia *Horkelia cuneata* var. *puberula*	Federal: None State: None CNPS: Rank 1B.1 MSHCP: Covered	Sandy or gravelly soils in chaparral and coastal scrub. Known from 70 to 825 meters (200 to 2,700 feet) MSL. Identifiable February through September.	Not expected to occur in off-site areas associated with the Project due to a lack of suitable habitat.
Munz's onion *Allium munzii*	Federal: FE State: ST CNPS: Rank 1B.1 MSHCP: Covered	Clay soils in chaparral, coastal sage scrub, and valley and foothill grasslands	Not expected to occur in off-site areas associated with the Project due to a lack of suitable habitat.
Orcutt's brodiaea *Brodiaea orcuttii*	Federal: None State: None CNPS: Rank 1B.1 MSHCP: Covered	Mesic, clay soils (sometimes serpentinite) in chaparral, meadows and seeps, valley and foothill grassland, vernal pools, closed-cone coniferous forest, cismontane woodland.	Not expected to occur in off-site areas associated with the Project due to a lack of suitable habitat.
Palmer's grapplinghook *Harpagonella palmeri*	Federal: None State: None CNPS: Rank 4.2 MSHCP: Covered	Chaparral, coastal sage scrub, valley and foothill grassland. Occurring in clay soils.	Not detected during focused plant surveys in 2013. A previous 2006 biological update conducted by Thomas Leslie Corporation reported the presence of this species within the project site; however, exact location was not specified. Not observed in the off-site impact areas.
Parish's brittlescale *Atriplex parishii*	Federal: None State: None CNPS: Rank 1B.1 MSHCP: Covered	Chenopod scrub, playas, vernal pools.	Not expected to occur in off-site areas associated with the Project due to a lack of suitable habitat.

Species Name	Status	Habitat Requirements	Occurrence or Potential for Occurrence
Payson's jewel-flower *Caulanthus simulans*	Federal: None State: None CNPS: Rank 4.2 MSHCP: Covered	Occurs in recently burned or disturbed areas within chaparral, coastal sage scrub and grasslands. Known from 60 to 2,200 meters (200 to 7,200 feet) MSL. Identifiable March through June.	Not expected to occur in off-site areas associated with the Project due to a lack of suitable habitat.
Parry's spineflower *Chorizanthe parryi* var. *parryi*	Federal: None State: None CNPS: Rank 1B.1 MSHCP: Covered	Sandy or rocky soils in open habitats of chaparral and coastal sage scrub.	Not expected to occur in off-site areas associated with the Project due to a lack of suitable habitat.
Plummer's mariposa lily *Calochortus plummerae*	Federal: None State: None CNPS: Rank 1B.2 MSHCP: Covered	Granitic, rock soils within chaparral, cismontane woodland, coastal sage scrub, lower montane coniferous forest, and valley and foothill grassland.	Not expected to occur in off-site areas associated with the Project due to a lack of suitable habitat.
Paniculate tarplant *Deinandra paniculata*	Federal: None State: None CNPS: Rank 4.2 MSHCP: Not Covered	Coastal sage scrub, and valley and foothill grasslands (usually vernally mesic).	Observed on-site during focused surveys. Not observed in the off-site areas associated with the Project.
Prostrate navarretia *Navarretia prostrata*	Federal: FSC State: None CNPS: Rank 1B.1 MSHCP: Covered	Coastal sage scrub, valley and foothill grassland (alkaline), vernal pools. Occurring in mesic soils.	Does not occur in off-site areas associated with the Project due to a lack of suitable habitat.
Rainbow manzanita *Arctostaphylos rainbowensis*	Federal: None State: None CNPS: Rank 1B.1 MSHCP: Covered	Gabbro soils in association with chaparral.	Does not occur in off-site areas associated with the Project due to a lack of suitable habitat.
Robinson's pepper grass *Lepidium virginicum* var. *robinsonii*	Federal: None State: None CNPS: Rank 1B.2 MSHCP: Not Covered	Chaparral, coastal sage scrub	Not expected to occur in off-site areas associated with the Project due to a lack of suitable habitat.
Round-leaved filaree *California macrophylla*	Federal: None State: None CNPS: Rank 1B.1 MSHCP: Covered	Clay soils in cismontane woodland, valley and foothill grassland	Not expected to occur in off-site areas associated with the Project due to a lack of suitable habitat.

Species Name	Status	Habitat Requirements	Occurrence or Potential for Occurrence
San Diego ambrosia *Ambrosia pumila*	Federal: FE State: None CNPS: Rank 1B.1 MSHCP: Covered	Chaparral, coastal sage scrub, valley and foothill grassland, vernal pools. Often in disturbed habitats.	Not expected to occur in off-site areas associated with the Project due to a lack of suitable habitat.
San Diego button-celery *Eryngium aristulatum* var. *parishii*	Federal: FE State: SE CNPS: Rank 1B.1 MSHCP: Covered	Mesic soils in vernal pools, valley and foothill grasslands, coastal sage scrub.	Not expected to occur in off-site areas associated with the Project due to a lack of suitable habitat.
San Jacinto Valley crownscale *Atriplex coronata* var. *notatior*	Federal: FE State: None CNPS: Rank 1B MSHCP: Covered	Alkaline soils in chenopod scrub, valley and foothill grassland, vernal pools.	Not expected to occur in off-site areas associated with the Project due to a lack of suitable habitat.
San Miguel savory *Satureja chandleri*	Federal: None State: None CNPS: Rank 1B.2 MSHCP: Covered	Rocky, gabbroic, or metavolcanic soils in chaparral, cismontane woodland, coastal sage scrub, riparian woodland, valley and foothill grassland.	Not expected to occur in off-site areas associated with the Project due to a lack of suitable habitat.
Slender-horned spine flower *Dodecahema leptoceras*	FED: FE ST: SE CNPS: Rank 1B.1	Sandy soil in maritime chaparral and coastal scrub	Not expected to occur in off-site areas associated with the Project due to a lack of suitable habitat.
Smooth tarplant *Centromadia pungens* ssp. *laevis*	Federal: None State: None CNPS: Rank 1B.1 MSHCP: Covered	Alkaline soils in chenopod scrub, meadows and seeps, playas, riparian woodland, valley and foothill grasslands, disturbed habitats.	Not expected to occur in off-site areas associated with the Project due to a lack of suitable habitat.
Southern skullcap *Scutellaria bolanderi* ssp. *austromontana*	Federal: None State: None CNPS: Rank 1B.1 MSHCP: Not Covered	Mesic soils in chaparral, cismontane woodland, lower montane coniferous forest.	Not expected to occur in off-site areas associated with the Project due to a lack of suitable habitat.
Spreading navarretia *Navarretia fossalis*	Federal: FT State: None CNPS: Rank 1B.1 MSHCP: Covered	Vernal pools, playas, chenopod scrub, marshes and swamps (assorted shallow freshwater).	Not expected to occur in off-site areas associated with the Project due to a lack of suitable habitat.

Species Name	Status	Habitat Requirements	Occurrence or Potential for Occurrence
Tecate cypress *Callitropsis forbesii*	FED: None ST: None CNPS: Rank 1B.1 MSHCP: Not Covered	Cone coniferous forest, and chaparral with gabbroic/metavolcanic and clay soils.	Not expected to occur in off-site areas associated with the Project due to a lack of suitable habitat.
Thread-leaved brodiaea *Brodiaea filifolia*	Federal: FT State: SE CNPS: Rank 1B.1 MSHCP: Covered	Clay soils in chaparral (openings), cismontane woodland, coastal sage scrub, playas, valley and foothill grassland, vernal pools.	Not expected to occur in off-site areas associated with the Project due to a lack of suitable habitat.
Wright's trichocoronis *Trichocoronis wrightii* var. *wrightii*	Federal: None State: None CNPS: Rank 2.1 MSHCP: Covered	Alkaline soils in meadows and seeps, marshes and swamps, riparian scrub, vernal pools.	Not expected to occur in off-site areas associated with the Project due to a lack of suitable habitat.

4.2.1 Narrow Endemic Plants and/or Criteria Area Plants

As noted above, the Project site is within the NEPSSA 1. Target species within this survey area include Munz's onion (*Allium* munzii), San Diego ambrosia (*Ambrosia pumila*), slender horned-spineflower (*Dodecahema* leptoceras), many-stemmed dudleya (*Dudleya multicaulis*), spreading navarretia (*Navarretia fossalis*), California Orcutt grass (*Orcuttia californica*), San Miguel savory (*Clinopodium chandleri*), Hammitt's claycress (Sibaropsis hammittii), and Wright's trichocoronis (*Trichocoronis wrightii var. wrightii*). None of these species are expected to occur within or immediately adjacent to the off-site areas proposed for impacts, due to a lack of suitable habitat and the highly disturbed nature of the areas abutting the existing dirt roads (Terra Cotta Street and Hoff Avenue). The off-site area proposed for remedial grading, which abuts the western boundary of the on-site portion of the Project does not support suitable habitat due to high levels of disturbance. Additionally this area was assessed during the 2013 plant habitat survey, as it is a narrow strip that adjoins the on-site boundary and was easily observable during field investigations.

Only the off-site areas are located within the Criteria Area Plant Species Survey Area number 1 (CAPSSA). The target plant species associated with CAPSSA include thread-leaved brodiaea (*Brodiaea filifolia*), Davidson's saltscale (*Atriplex serenana* var. *davidsonii*), Parish's brittlescale (*Atriplex parishii*), smooth tarplant (*Centromadia pungens*), round-leaved filaree (*Erodium macrophyllum*), Coulter's goldfields (*Lasthenia glabrata* ssp. *coulteri*), and little mousetail (*Myosurus minimus*). The off-site areas associated with the Project do not contain habitat suitable for CAPSSA species.

4.2.2 Soils Mapping

The Soil Conservation Service's (SCS)[5] Soil Survey for Western Riverside Area California maps seven soil types (series) for the overall Project site [Exhibit 7]. The following soil types occur (currently or historically) within the overall Project site:

Altamont Cobbly Clay, 8 to 35 Percent Slopes (AbF)

Soils of the Altamont series consist of well drained soils on uplands. These soils are underlain by soft, fine-grained sandstone and calcareous siltstone. The upper 12 inches consist of grayish-brown (10YR 5/2) clay when dry and dark grayish-brown (10YR 3/2) clay and very dark grayish-brown (10YR 4/2) clay when moist. Altamont soils are used for dryland grain, pasture, and range.

Placentia Fine Sandy Loam, 5 to 15 Percent Slopes (PlD)

Soils of the Placentia series consist of moderately well-drained soils on alluvial fans and terraces. Slopes of the Placentia series range from zero to 25 percent. These soils formed in alluvium made up chiefly of granitic materials. The upper 13 inches consist of brown (10YR 5/3) fine sandy loam when dry and dark brown (10YR 4/3) fine sandy loam when moist. Placentia soils are used for dryland pasture and grain, for irrigated permanent pasture, and for non-farm purposes.

4.3 Special-Status Animals

Five special status animals were observed on the on-site portion of the Project during GLA's 2013 site assessments, including one federal listed and state species of special concern, the coastal California gnatcatcher (*Polioptila californica californica*), two state designated special status species, the Cooper's hawk (*Accipiter cooperi,* WL), and yellow warbler (*Setophaga petechia,* SSC), one state designated species of special concern mammal species, the San Diego black-tailed jackrabbit (*Lepus californicus bennettii,* SSC), and one unlisted but locally rare reptile species , the coastal whiptail (*Aspidoscelis tigris stejnegeri*). One special-status animal, the golden eagle (*Aquila chrysaetos*, CFP), was observed off-site, just outside the Project's northern boundary. The current assessment of the off-site portions of the Project site yielded no additional observations of special-status species or any other additional species that was not previously noted in 2013.

The burrowing owl and vireo were determined to be absent from the Project site based on negative results of the focused surveys conducted in 2013.

[5] SCS is now known as the National Resource Conservation Service or NRCS.

Table 4-3 provides a list of special-status animals evaluated for the off-site areas associated with the Project that are proposed for permanent impacts, including MSHCP Covered Species with additional survey requirements. Species were evaluated based on a number of factors, including: 1) species identified by the CNDDB as occurring (either currently or historically) on or in the vicinity of the property, 2) MSHCP species survey areas for which the property occurs within, 3) planning species identified by the Elsinore Area Plan, and 4) any other special-status animals that are known to occur within the vicinity of the property, or for which potentially suitable habitat occurs on site. The same wildlife species were assessed for both the on-site and off-site portions of the Project. Only the results of the assessment of the off-site areas are reported below.

Table 4-3. Special-Status Animals Evaluated for Off-Site Impact Areas

Federal (FESA)
FE - Federally Endangered
FT - Federally Threatened
FSC - Federal Species of Concern
BCC – Birds of Conservation Concern

State (CESA)
SE - State Endangered
ST - State Threatened

CDFW
SSC - California Species of Special Concern
CFP - Fully Protected
WL – Watch List

Species Name	Status	Habitat Requirements	Occurrence or Potential for Occurrence
Invertebrates			
Quino checkerspot butterfly *Euphydryas editha quino*	Federal: FE State: None CDFW: None MSHCP: Covered	Larval and adult phases each have distinct habitat requirements tied to host plant species and topography. Larval host plants include *Plantago erecta* and *Castilleja exserta*. Adults occur on sparsely vegetated rounded hilltops and ridgelines, and are known to disperse through disturbed habitats to reach suitable nectar plants.	Not likely to occur in off-site areas due to the highly disturbed nature of the habitat. The MSHCP has already determined this species to be adequately conserved within the plan area.

Species Name	Status	Habitat Requirements	Occurrence or Potential for Occurrence
Riverside fairy shrimp *Streptocephalus woottoni*	Federal: FE State: None CDFW: None MSHCP: Covered	Restricted to deep seasonal vernal pools, vernal pool-like ephemeral ponds, and stock ponds.	Does not occur in off-site areas due to a lack of suitable habitat.
Amphibians			
Coast range newt *Taricha torosa*	Federal: None State: None CDFW: SSC MSHCP: Covered	Found in wet forests, oak forests, chaparral, and rolling grasslands. In southern California, drier chaparral, oak woodland, and grasslands are used.	Does not occur in off-site areas due to a lack of suitable habitat.
Western spadefoot *Scaphiopus hammondii*	Federal: None State: None CDFW: SSC MSHCP: Covered	Seasonal pools in coastal sage scrub, chaparral, and grassland habitats.	Does not occur in off-site areas due to a lack of suitable habitat.
Reptiles			
Coast horned lizard *Phrynosoma blainvillii*	Federal: None State: None CDFW: SSC MSHCP: Covered	Occurs in a variety of vegetation types including coastal sage scrub, chaparral, annual grassland, oak woodland, and riparian woodlands.	Low potential to occur on-site within areas of disturbed Riversidean sage scrub.
Coast patch-nosed snake *Salvadora hexalepis virgultea*	Federal: None State: None CDFW: SSC MSHCP: Not Covered	Occurs in coastal chaparral, desert scrub, washes, sandy flats, and rocky areas.	Does not occur in off-site areas due to a lack of suitable habitat
Coastal whiptail *Aspidoscelis tigris stejnegeri*	Federal: None State: None CDFW: None MSHCP: Covered	Open, often rocky areas with little vegetation, or sunny microhabitats within shrub or grassland associations.	Observed previously on-site in 2013; moderate potential to occur in fragmented patches of disturbed Riversidean sage scrub within the off-site areas.

Species Name	Status	Habitat Requirements	Occurrence or Potential for Occurrence
Belding's orange-throated whiptail *Aspidoscelis hyperythra beldingi*	Federal: None State: None CDFW: SSC MSHCP: Covered	Coastal sage scrub, chaparral, non-native grassland, oak woodland, and juniper woodland.	Low potential to occur in the off-site areas within the fragmented patches of disturbed Riversidean sage scrub.
Red-diamond rattlesnake *Crotalus ruber*	Federal: None State: None CDFW: SSC MSHCP: Covered	Habitats with heavy brush and rock outcrops, including coastal sage scrub and chaparral.	Very low potential to occur in off-site areas.
Rosy boa *Charina trivirgata*	Federal: None State: None CDFW: None MSHCP: Not Covered	Coastal sage scrub, chaparral, or mixed habitats, commonly with rocky soils and outcrops. Also in oak woodlands and riparian areas bordering scrub habitats.	Very low potential to occur in the off-site areas of fragmented patches of disturbed Riversidean sage scrub.
San Bernardino ring-necked snake *Diadophis punctatus modestus*	Federal: None State: None CDFW: None MSHCP: Not Covered	Moist habitats including woodlands, forest, grasslands, chaparral, farms, and gardens.	Not expected to occur in off-site areas due to a lack of suitable habitat.
San Diego banded gecko *Coleonyx variegatus abbotti*	Federal: None State: None CDFW: None MSHCP: Covered	Primarily a desert species, but also occurs in cismontane chaparral, desert scrub, and open sand dunes.	Not expected to occur in off-site areas due to a lack of suitable habitat.
Southwestern pond turtle *Emys marmorata pallida*	Federal: None State: None SSC: SSC MSHCP: Covered	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.	Does not occur in off-site areas due to a lack of suitable habitat.

Species Name	Status	Habitat Requirements	Occurrence or Potential for Occurrence
Two-striped garter snake *Thamnophis hammondii*	Federal: None State: None CDFW: SSC MSHCP: Not Covered	Aquatic snake typically associated with wetland habitats such as streams, creeks, and pools.	Not expected to occur in off-site areas due to a lack of suitable habitat.
Birds			
Bell's sage sparrow *Amphispiza belli belli*	Federal: FSC State: None CDFW: SSC MSHCP: Covered	Chaparral and coastal sage scrub along the coastal lowlands, inland valleys, and in the lower foothills of local mountains.	Not expected to occur in off-site areas due to a lack of suitable habitat.
Burrowing owl *Athene cunicularia*	Federal: None State: None CDFW: SSC MSHCP: Covered	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.	Moderate potential to occur in off-site and adjacent areas within 500 feet of impact boundary.
California horned lark *Eremophila alpestris actia*	Federal: None State: None CDFW: WL MSHCP: Covered	Occupies a variety of open habitats, usually where trees and large shrubs are absent.	Not expected to occur in off-site areas due to a lack of suitable habitat.
Coastal California gnatcatcher *Polioptila californica californica*	Federal: FT State: None CDFW: SSC MSHCP: Covered	Low elevation coastal sage scrub and coastal bluff scrub.	Gnatcatchers were detected on-site in the RSS during general biological surveys in 2013. Not expected to occur in off-site areas due to the disturbed nature of the minimally available RSS habitat. The MSHCP has determined that this species has been adequately conserved within the plan area.

Species Name	Status	Habitat Requirements	Occurrence or Potential for Occurrence
Cooper's hawk *Accipiter cooperi*	Federal: None State: None CDFW: WL MSHCP: Covered	Primarily occurs in riparian areas and oak woodlands, most commonly in montane canyons. Known to use urban areas, occupying trees among residential and commercial.	Observed foraging on site during 2013 GLA surveys. Very low potential to nest in the off-site areas within the ornamental trees.
Ferruginous hawk (wintering) *Buteo regalis*	Federal: FSC State: None CDFW: SSC MSHCP: Covered	Open, dry country, perching on trees, posts, and mounds. In California, wintering habitat consists of open terrain and grasslands of the plains and foothills.	Low potential to occur in the off-site areas as part of a broader winter foraging area.
Golden eagle *Aquila chrysaetos*	Federal: None State: None CDFW: CFP MSHCP: Covered	In southern California, occupies grasslands, brushlands, deserts, oak savannas, open coniferous forests, and montane valleys. Nests on rock outcrops and ledges.	Observed foraging off-site approximately 0.5 mile off-site during a 2013 GLA survey. Low potential to forage in the off-site areas associated with the Project. Does not nest in the off-site areas due to a lack of suitable habitat.
Grasshopper sparrow *Ammodramus savannarum*	Federal: None State: None CDFW: SSC MSHCP: Covered	Moderately open grasslands and prairies with patchy bare ground.	Low potential to forage in off-site areas.
Least Bell's vireo *Vireo bellii pusillus*	Federal: FE State: SE CDFW: None MSHCP: Covered	Dense riparian habitats with a stratified canopy, including southern willow scrub, mule fat scrub, and riparian forest.	Not observed on-site during focused surveys. Does not occur in off-site areas due to a lack of suitable habitat.

Loggerhead shrike *Lanius ludovicianus*	Federal: None State: None CDFW: SSC MSHCP: Covered	Forages over open ground within areas of short vegetation, pastures with fence rows, old orchards, mowed roadsides, cemeteries, golf courses, riparian areas, open woodland, agricultural fields, desert washes, desert scrub, grassland, broken chaparral and beach with scattered shrubs.	Not observed on-site during biological surveys. Low to moderate potential to forage in off-site areas. Not expected to nest in off-site areas.
Northern harrier (nesting) *Circus cyaneus*	Federal: None State: None CDFW: SSC MSHCP: Covered	A variety of habitats, including open wetlands, grasslands, wet pasture, old fields, dry uplands, and croplands.	Does not nest in off-site areas due to a lack of suitable habitat.
Southern California rufous-crowned sparrow *Aimophila ruficeps canescens*	Federal: None State: None CDFW: WL MSHCP: Covered	Grass covered hillsides, coastal sage scrub, and chaparral.	Very low potential to occur in off-site areas in the fragmented patches of disturbed Riversidean sage scrub.
Southwestern willow flycatcher *Empidonax traillii extimus*	Federal: FE State: SE CDFW: None MSHCP: Covered	Riparian woodlands along streams and rivers with mature dense thickets of trees and shrubs.	Does not nest in off-site areas due to a lack of suitable habitat.
Tricolored blackbird *Agelaius tricolor*	Federal: FSC State: None CDFW: SSC MSHCP: Covered	Breeding colonies require nearby water, a suitable nesting substrate, and open-range foraging habitat of natural grassland, woodland, or agricultural cropland.	Does not nest in off-site areas due to a lack of suitable habitat.
Western snowy plover *Charadrius alexandrinus nivosus*	Federal: FT State: None CDFW: SSC MSHCP: Not Covered	Sandy or gravelly beaches along the coast, estuarine salt ponds, alkali lakes, and at the Salton Sea.	Does not nest in off-site areas due to a lack of suitable habitat.

White-faced ibis (nesting colony) *Plegadis chihi*	Federal: FSC State: None CDFW: SSC MSHCP: Covered	Winter foraging occurs in wet meadows, marshes, ponds, lakes, rivers, and agricultural fields. Requires extensive marshes for nesting.	Does not occur in off-site areas due to a lack of suitable habitat.
White-tailed kite (nesting) *Elanus leucurus*	Federal: None State: None CDFW: CFP MSHCP: Covered	Low elevation open grasslands, savannah-like habitats, agricultural areas, wetlands, and oak woodlands. Dense canopies used for nesting and cover.	Does not nest in off-site areas due to a lack of suitable habitat.
Yellow-breasted chat *Icteria virens*	Federal: None State: None CDFW: SSC MSHCP: Covered	Dense, relatively wide riparian woodlands and thickets of willows, vine tangles, and dense brush with well-developed understories.	Does not nest in off-site areas due to a lack of suitable habitat.
Yellow warbler *Setophaga petechia*	Federal: None State: None CDFW: SSC MSHCP: Covered	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.	Does not nest in off-site areas due to a lack of suitable habitat.
Mammals			
Dulzura pocket mouse *Chaetodipus califronicus femoralis*	Federal: None State: None CDFW:SSC MSHCP: Covered	Coastal scrub, grassland, and chaparral, especially at grass-chaparral edges	Very low potential to occur in off-site areas in fragmented patches of disturbed Riversidean sage scrub.
Los Angeles pocket mouse *Perognathus longimembris brevinasus*	Federal: None State: None CDFW: SSC MSHCP: Covered	Fine, sandy soils in coastal sage scrub and grasslands.	Not expected to occur in off-site areas due to a lack of suitable habitat.

Northwestern San Diego pocket mouse *Chaetodipus fallax fallax*	Federal: None State: None CDFW: SSC MSHCP: Covered	Coastal sage scrub, sage scrub/grassland ecotones, and chaparral.	Very low potential to occur in off-site areas in fragmented patches of disturbed Riversidean sage scrub.
San Diego black-tailed jackrabbit *Lepus californicus bennettii*	Federal: None State: None CDFW: SSC MSHCP: Covered	Occupies a variety of habitats, but is most common among shortgrass habitats. Also occurs in sage scrub, but needs open habitats.	Observed on-site in areas of disturbed grasslands and RSS. Moderate potential to occur in the off-site areas.
San Diego desert woodrat *Neotoma lepida intermedia*	Federal: None State: None CDFW: SSC MSHCP: Covered	Occurs in a variety of shrub and desert habitats, primarily associated with rock outcrops, boulders, cacti, or areas of dense undergrowth.	Not expected to occur in off-site areas due to a lack of suitable habitat.
Southern grasshopper mouse *Onychomys torridus ramona*	Federal: None State: None CDFW: SSC MSHCP: Covered	Desert areas, especially scrub habitats with friable soils for digging. Prefers low to moderate shrub cover.	Not expected to occur in off-site areas due to a lack of suitable habitat.
Stephens' kangaroo rat *Dipodomys stephensi*	Federal: FE State: ST CDFW: None MSHCP/SKR HCP: Covered	Open grasslands or sparse shrublands with less than 50% vegetation cover during the summer.	Very low potential to occur in off-site areas.
Western mastiff bat *Eumops perotis californicus*	Federal: None State: None CDFW: SSC MSHCP: Not Covered	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.	Not expected to occur in off-site areas due to a lack of suitable habitat.
Western yellow bat *Lasiurus xanthinus*	Federal: None State: None CDFW: SSC MSHCP: Not Covered	Found in valley foothill riparian, desert riparian, desert wash, and palm oasis habitats. Roosts in trees, particularly palms. Forages over water and among trees.	Not expected to occur in off-site areas due to a lack of suitable habitat.

4.4 Nesting Birds

The off-site areas associated with the Project site contain trees, shrubs, and herbaceous vegetation with the potential to support nesting birds. The Migratory Bird Treaty Act (MBTA) and California Fish and Game Code prohibit impacts to nesting birds.[6]

4.5 Raptor Foraging Habitat

The off-site areas associated with the Project site consist mostly of dirt roads, disturbed areas covered by ruderal species, and a thin strip of disturbed RSS, which are potentially suitable foraging habitats for numerous raptor species. No raptors were observed during the current biological assessment of the off-site areas; however; several raptor species were observed on-site during the 2013 GLA surveys, including two special-status species listed on the State watch list, Cooper's hawk (*Accipiter cooperii*), and merlin (*Falco columbarius*), and four non-listed species, American kestrel (*Falco sparverius*), red-shouldered hawk (*Buteo lineatus*), red-tailed hawk (*Buteo jamaicensis*), and turkey vulture (*Cathartes aura*). One state listed fully protected species was observed approximately 0.5 miles north of the Project site: a juvenile golden eagle (*Aquila chrysaetos*). No raptors were observed nesting in the off-site areas proposed for improvements or areas immediately adjacent to the off-site areas.

4.6 MSHCP Riparian/Riverine Areas and Vernal Pools

Section 6.1.2 of the MSHCP defines Riparian/Riverine Areas as "*lands which contain habitat dominated by trees, shrubs, persistent emergents, or emergent mosses and lichens, which occur close to or which depend upon soil moisture from a nearby fresh water source, or areas with fresh water flow during all or a portion of the year*."

There are no MSHCP defined riparian/ riverine areas located within the off-site areas proposed for impacts.

Section 6.1.2 of the MSHCP defines Vernal Pools as "*seasonal wetlands that occur in depression areas that have wetlands indicators of all three parameters (soils, vegetation and hydrology) during the wetter portion of the growing season but normally lack wetlands indicators of hydrology and/or vegetation during the drier portion of the growing season.*"

[6] 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.

Areas meeting the MSHCP definition of vernal pools were not detected during surveys; therefore, the Project site does not contain suitable habitat for the federally endangered Riverside fairy shrimp (*Streptocephalus woottoni*) or other special status invertebrates associated with vernal pools.

4.7 Jurisdictional Waters

The off-site areas associated with the Project site that are proposed for permanent impacts do not contain jurisdictional waters.

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 refers 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 Vegetation/Land Use Types

The overall Project site is comprised of approximately 155 acres, of which approximately 130 acres will be permanently impacted by the Project. The proposed Project consists of a residential housing development that includes 468 proposed lots on 71 acres, 28 acres of local streets, 28.2 acres of graded slopes and 22 acres of natural opens space and detention/water quality basins. Table 5-1 provides a breakdown of impacts to vegetation/land use types for the Project's development footprint.

Table 5-1. Summary of On-Site and Off-Site Impacts to Vegetation/Land Use Types

Vegetation	On-Site Acreage	Off-Site Acreage
Non-Native Grassland	54.12	0
Riversidean Sage Scrub	22.70	0
Southern Willow Scrub	1.12	0
Disturbed Riversidean Sage Scrub	31.65	0.02
Emergent Wetland Vegetation	0.01	0
Ornamental	0	0.20
Disturbed/Ruderal	20.35	4.25
Total	**129.95**	**4.65**

5.2.1 Impacts to Native Vegetation Types in Off-Site Areas Associated with the Project

The proposed Project footprint will have direct impacts to one native vegetation community totaling approximately 0.20 acres of dRSS. The areas of dRSS that will be permanently impacted area located along the southern off-site portion of Terra Cotta Street, in addition to a small area proposed for remedial grading located along the east-central Project boundary. Of the approximate 72.17 acres of disturbed and undisturbed RSS located on-site approximately, 17.69 acres of RSS will be avoided, of which approximately 12.53 acres consist of undisturbed RSS. The on-site habitat to be conserved represents relatively moderate quality habitat for several wildlife species, including the coastal California gnatcatcher. Impacts to sage scrub are covered and mitigated for through the MSHCP. Prior to mitigation, Project related impacts to RSS would be significant; however, with coverage/mitigation afforded by the MSHCP and with the preservation of the avoided on-site scrub habitat, impacts to on-site and off-site RSS would be mitigated to below a level of significance.

5.3 Impacts to MSHCP Riparian/Riverine Areas and Vernal Pools

As noted above, the off-site areas associated with the Project site do not contain MSHCP riparian/riverine areas or vernal pools.

For unavoidable impacts to MSHCP riparian/riverine areas, *Section 6.1.2* of the MSHCP requires that the Permittee prepare a DBESP to ensure the replacement of any lost functions and values of habitat as it relates to Covered Species. As stated in the 2013 BTR, Project related impacts will occur to on-site MSHCP riparian/riverine areas and will require the preparation of a DBESP, unless a DBESP is deemed unnecessary by the City. With the mitigation and approval of a DBESP, the project will be compliant with *Section 6.1.2* of the MSHCP.

5.4 Impacts to Special-Status Species

5.4.1 Special-Status Plant Species

Implementation of the proposed off-site improvements would not result in direct impacts to special status plant species, as the off-site areas are not suitable habitat for the special status species evaluated for the Project site.

5.4.2 Special-Status Wildlife Species

The proposed Project (on-site and off-site) would result in the potential loss of foraging and/or breeding habitat for special-status animals; including birds, reptiles, and small mammals. Species with potentially significant impacts prior to mitigation are discussed below individually. Additional special-status animals for which impacts would be less than significant will be summarized.

Coastal California Gnatcatcher

Impacts to the off-site areas associated with the Project would result in the loss of marginal CAGN habitat. Although the loss of CAGN habitat in the off-site area is not substantial the overall loss of RSS from off-site and on-site (assessed by GLA in 2013) Project-related impacts would be potentially significant. However, the gnatcatcher is designated as a Covered Species Adequately Conserved under the MSHCP without additional conservation requirements. Therefore, with the coverage afforded by the MSHCP, impacts to the gnatcatcher would be less than significant.

The significance of impacts to other special status-species either occurring or having the potential to occur on-site are summarized in Table 5-3 below. An asterisk (*) indicates that a species was observed on-site or adjacent to the project site during the 2013 GLA biological surveys. No special-status species were observed in the off-site areas during the surveys conducted on April 4, 2014. In addition, no new non-special status wildlife species were observed during the assessment of the off-site areas. All species listed in Table 5-3 are covered under the mitigation afforded by the MSHCP; therefore, potential impacts to each of the species will be below a significant level after mitigation.

Table 5-2. Additional Special-Status Animals with Actual or Potential Direct Impacts in the Off-Site Areas.

Species	Extent of Impact	Significance of Impact
Reptiles		
Belding's orange-throated whiptail	Loss of marginal habitat in areas of disturbed RSS.	Less than significant impact.
Coast horned lizard	Loss of marginal habitat in areas of disturbed RSS.	Less than significant impact.
Coastal whiptail*	Loss of marginal habitat in areas of disturbed RSS.	Less than significant impact.
Coast horned lizard	Loss of marginal habitat in areas of disturbed RSS.	Less than significant impact.
Birds		
Cooper's hawk* (wintering)	Loss of foraging habitat.	Less than significant impact.
Ferruginous hawk (wintering)	Loss of winter foraging habitat.	Less than significant impact.
Golden eagle (wintering)*	Loss of winter foraging habitat.	Less than significant impact.
Southern-California rufous-crowned sparrow	Loss of foraging and breeding habitat.	Less than significant impact.
Mammals		
Dulzura California pocket mouse	Loss of marginal RSS habitat.	Less than significant impact.
Northwestern San Diego pocket mouse	Loss of marginal RSS habitat.	Less than significant impact.
San Diego black-tailed jackrabbit*	Loss of winter habitat.	Less than significant impact.

5.5 Impacts to Raptor Foraging Habitat

The proposed Project would result in the direct loss of foraging habitat for a number of raptors (including special-status raptors), such as the red-tailed hawk, red-shouldered hawk, American kestrel, Cooper's hawk, ferruginous hawk, and golden eagle. The majority of the Project site constitutes moderate quality foraging habitat for these raptor species in addition to some portions of the off-site areas proposed for impacts. Impacts to raptor foraging habitat are reduced to a less than significant level with coverage afforded by the MSHCP.

5.6 Impacts to Nesting Birds

The off-site areas associated with the Project have the potential to impact active nests if vegetation is to be removed during the nesting season (February 1 to August 31).

5.7 Impacts to Jurisdictional Waters

Implementation of Project related improvements to the off-site area will not result in impacts to jurisdictional waters.

5.8 Indirect Impacts to Biological Resources

The Project is not expected to result in significant indirect impacts to special-status biological resources, with the implementation of measures pursuant to the MSHCP Urban/Wildlands Interface Guidelines (*Volume I, Section 6.1.4* of the MSHCP). These guidelines are intended to address indirect effects associated with locating projects (particularly development) in proximity to the MSHCP Conservation Area. To minimize potential edge effects, the guidelines are to be implemented in conjunction with review of individual public and private development projects in proximity to the MSHCP Conservation Area. The on-site portion of the Project site does not occur within the MSHCP Criteria area, but is located adjacent to Criteria Cell #4157. Additionally the off-site areas proposed for road improvements and remedial grading are located in Criteria Cell #4157. The MSHCP targets approximately 45 to 55 percent of Cell 4157 for inclusion into the MSHCP Conservation Area, focusing on the western portion of the Cell. As such, the off-site areas proposed for impact as well as the on-site portion of the Project may occur adjacent to the MSHCP Conservation Area, or at least will occur in close proximity to the Conservation Area. As such, the off-site Project related impacts will be required to implement measures (as applicable) consistent with the MSHCP guidelines to address the following (measures for on-site related impacts were addressed in the 2013 GLA biological technical report and are the same as follows):

- Drainage
- Toxics;
- Lighting;
- Noise;
- Invasives;
- Barriers; and
- Grading/Land Development.

5.8.1 Drainage

Proposed projects in proximity to the MSHCP Conservation Area shall incorporate measures, including measures required through the National Pollutant Discharge Elimination System (NPDES) requirements, to ensure that the quantity and quality of runoff discharged to the MSHCP Conservation Area is not altered in an adverse way when compared with existing conditions. In particular, measures shall be put in place to avoid discharge of untreated surface runoff from developed and paved areas into the MSHCP Conservation Area. Stormwater systems shall be designed to prevent the release of toxins, chemicals, petroleum products, exotic plant materials or other elements that might degrade or harm biological resources or ecosystem processes within the MSHCP Conservation Area. This can be accomplished using a variety of methods including natural detention basins, grass swales or mechanical trapping devices. Regular maintenance shall occur to ensure effective operations of runoff control systems.

The Project will implement BMPs to ensure there will be no adverse drainage/water quality impacts to the MSHCP Conservation Area.

5.8.2 Toxics

Land uses proposed in proximity to the MSHCP Conservation Area that use chemicals or generate bioproducts such as manure that are potentially toxic or may adversely affect wildlife species, habitat or water quality shall incorporate measures to ensure that application of such chemicals does not result in discharge to the MSHCP Conservation Area. Measures such as those employed to address drainage issues shall be implemented.

As noted above, the Project will implement BMPs to ensure there will be no adverse water quality impacts to the MSHCP Conservation Area.

5.8.3 Lighting

Night lighting shall be directed away from the MSHCP Conservation Area to protect species within the MSHCP Conservation Area from direct night lighting, ensuring that ambient lighting in the MSHCP Conservation Area is not increased.

5.8.4 Noise

Proposed noise generating land uses affecting the MSHCP Conservation Area shall incorporate setbacks, berms or walls to minimize the effects of noise on MSHCP Conservation Area resources pursuant to applicable rules, regulations and guidelines related to land use noise standards. The Project shall include applicable structures to ensure that wildlife within the

MSHCP Conservation Area will not be subject to noise that would exceed residential noise standards, both during and post-construction.

5.8.5 Invasives

Project landscaping in proximity to the MSHCP Conservation Area shall avoid the use of invasive plant species, including invasive, non-native plant species listed in *Volume I,* Table 6-2 of the MSHCP.

5.8.6 Barriers

Proposed land uses adjacent to the MSHCP Conservation Area shall incorporate barriers, where appropriate in individual project designs to minimize unauthorized public access, domestic animal predation, illegal trespass or dumping in the MSHCP Conservation Area. Such barriers may include native landscaping, rocks/boulders, fencing, walls, signage and/or other appropriate mechanisms.

5.8.7 Grading/Land Development

The MSHCP states that manufactured slopes associated with development shall not extend into the MSHCP Conservation Area.

5.9 Cumulative Impacts

The proposed Project (off-site and on-site impacts) will contribute to regional cumulative impacts as it pertains to the loss of riparian habitat (due to on-site impacts), foraging, and live-in habitat for special status wildlife, the loss of raptor foraging habitat, and the loss of nesting bird habitat. However, with the Project's participation in the MSHCP, and with additional mitigation measures to be implemented, the cumulative impacts attributed to the Project would be reduced to below a level of significance.

6.0 MITIGATION

The following discussion provides project-specific mitigation measures for actual or potential impacts to special-status resources. In addition to these specific measures, mitigation is also provided by the MSHCP, through participation with the MSHCP and compliance with applicable MSHCP requirements.

6.1 Burrowing Owl

As noted above in this report, the implementation of the off-site Project related impacts will result in the loss of potential habitat for the burrowing owl. Currently, the site does not support any breeding owls, and as such the Project would not currently be subject to MSHCP requirements for avoidance and/or owl relocation. However, since the off-site portion of Project site does contain habitat that could potentially support burrowing owls in the future, the following mitigation measure is applicable pursuant to the MSHCP:

- The Project applicant shall ensure that a pre-construction presence/absence survey for burrowing owl will be conducted where suitable habitat is present. The survey shall be conducted within 30 days prior to site disturbance. If burrowing owl are determined to be present, passive (i.e., use of one-way doors and collapse of burrows) relocation following accepted protocols will be utilized to ensure impacts to owls are minimized or avoided. In addition, disturbance of active nests will be avoided if burrowing owl is present during the nesting season (March 1st to August 31st).

6.2 Nesting Birds

As noted above in this report, implementation of off-site Project related impacts has the potential to impact nesting birds. The following mitigation measure shall be implemented to ensure that the project will not result in impacts to nesting birds:

- The removal of potential nesting vegetation will be conducted outside of the nesting season (February 1 to August 31) to the extent that this is feasible. If vegetation must be removed during the nesting season, a qualified biologist will conduct a nesting bird survey of potentially suitable nesting vegetation prior to removal. Surveys will be conducted no more than three (3) days prior to scheduled removals. If active nests are identified, the biologist will establish buffers around the vegetation containing the active nest (300 feet for raptors and 100 feet for non raptors). The vegetation containing the active nest will not be removed, and no grading will occur within the established buffer, until a qualified biologist has determined that the nest is no longer active (i.e., the juveniles are surviving independent from the nest). If clearing is not conducted within three days of a negative survey, the nesting survey must be repeated to confirm the absence of nesting birds.

6.3 MSHCP Riparian/Riverine Areas

The off-site areas do not contain MSHCP riparian/riverine areas.

6.4 Jurisdictional Waters

The off-site areas do not contain jurisdictional waters.

6.5 Level of Significance After Mitigation

With the Project's participation and compliance with the Western Riverside County MSHCP, with coverage afforded by the MSHCP, and with the mitigation measures as described above, direct, indirect, and cumulative impacts to sensitive biological resources will be less than significant.

7.0 MSHCP CONSISTENCY

The purpose of this section is to provide an analysis of the proposed off-site Project related impacts with respect to compliance with biological aspects of the Western Riverside County MSHCP. Specifically, this analysis evaluates the proposed Project with respect to the Project's compliance with MSHCP Reserve assembly requirements, *Section 6.1.2* (Protection of Species Associated with Riparian/Riverine Areas and Vernal Pools), *Section 6.1.3* (Protection of Narrow Endemic Plant Species), *Section 6.1.4* (Guidelines Pertaining to the Urban/Wildlands Interface), and *Section 6.3.2* (Additional Survey Needs and Procedures).

7.1 Project Relationship to Reserve Assembly

The entire Project is located within the Elsinore Area Plan of the MSHCP. The off-site portions of the Project, proposed for road improvements and remedial grading, are located within Criteria Cell #4157; however, it is GLA's understanding that the City has exempted the Project from the HANS and JPR processes as the road improvements are considered as covered activities. As a result, the Project will be consistent with the Reserve Assembly requirements of the MSHCP.

7.2 Protection of Species Associated with Riparian/Riverine Areas and Vernal Pools (Section 6.1.2)

The off-site areas associated with the Project do not contain areas defined by the MSHCP as riparian/riverine areas and do not support vernal pools or vernal pool associated species. As discussed in the 2013 Biological Technical Report, on-site Project related impacts to MSHCP riparian/riverine areas will require the review and approval of a DBESP by USFWS and CDFW, unless the City determines that a DBESP is either not necessary or was previously approved for the project. Upon approval of the DBESP, the Project will be consistent with the MSHCP riparian/riverine policies.

7.3 Protection of Narrow Endemic Plant Species (Section 6.1.3)

The Project site is located within the MSHCP NEPSSA pursuant to *Section 6.3.2* of the MSHCP. Focused plant surveys were conducted for species identified under *Section 6.1.3* of the MSHCP in on-site areas of the Project site that contained potentially suitable habitat, and none of the NEPSSA target species were identified on-site. The off-site areas associated with the Project do not contain suitable habitat to support NEPSSA plants; therefore, focused surveys in these areas are not necessary. As such, the Project is consistent with MSHCP requirements for the *Protection of Narrow Endemic Plant Species* pursuant to *Section 6.1.3*.

7.4 Guidelines Pertaining to the Urban/Wildland Interface

The MSHCP Urban/Wildland Interface Guidelines are intended to address indirect effects associated with locating development in proximity to the MSHCP Conservation Area. As the MSHCP Conservation Area is assembled, development is expected to occur adjacent to the Conservation Area. Future development in proximity to the MSHCP Conservation Area may result in edge effects with the potential to adversely affect biological resources within the Conservation Area. To minimize such edge effects, the guidelines shall be implemented in conjunction with review of individual public and private development projects in proximity to the MSHCP Conservation Area and address the following:

- Drainage;
- Toxics;
- Lighting;
- Noise;
- Invasive species;
- Barriers;
- Grading/Land Development.

As discussed in Section 5.0 of this report, the Project will implement applicable measures to minimize adverse indirect impacts on special-status resources within the MSHCP Conservation Area. The proposed Project will be consistent with *Section 6.1.4* of the MSHCP.

7.5 Additional Survey Needs and Procedures

The off-site areas associated with the Project are located within the MSHCP Criteria Area Plant Species Survey Area (CAPSSA) pursuant to *Section 6.1.3* of the MSHCP. However, the habitat located within the off-site areas is highly disturbed and is not suitable for CAPSSA species. As such the Project will be consistent with *Section 6.1.3* of the MSHCP.

The on-site and off-site areas associated with the Project are not located within MSHCP Additional Survey Areas for Amphibians, Mammals, or any Special Linkage Areas; but are within the Survey Area for the burrowing owl. Breeding season protocol surveys for the western burrowing owl were conducted for on-site areas of the Project pursuant to the *Burrowing Owl Survey Instructions For The Western Riverside Multiple Species Habitat Conservation Plan Area* as set forth by the MSHCP and resulted in negative findings of burrowing owl and sign (2013). Off-site areas associated with the Project impact footprint have very low potential to support burrowing owl due to an overall lack of suitable habitat; however, immediately adjacent areas, some of which are private property, have higher potential to support the species. As such a preconstruction survey for burrowing owl in the off-site areas associated with the Project is necessary.

The following mitigation measure should be implemented to ensure that any potential impacts to burrowing owls are mitigated to below a level of significance:

- The Project applicant shall ensure that a pre-construction presence/absence survey for burrowing owl will be conducted where suitable habitat is present. The survey shall be conducted within 30 days prior to site disturbance. If burrowing owl are determined to be present, passive (i.e., use of one-way doors and collapse of burrows) relocation following accepted protocols will be utilized to ensure impacts to owls are minimized or avoided. In addition, disturbance of active nests will be avoided if burrowing owl is present during the nesting season (March 1st to August 31st).

Through compliance with the MSHCP and the aforementioned mitigation measure, the Project is consistent with the MSHCP Additional Survey Needs and Procedures policies.

7.5 Conclusion of MSHCP Consistency

As outlined above, the proposed Project will be compliant with the biological requirements of the MSHCP; specifically pertaining to the Project's relationship to reserve assembly, *Section 6.1.2* (Protection of Species Associated with Riparian/Riverine Areas and Vernal Pools), *Section 6.1.3* (Protection of Narrow Endemic Plant Species), *Section 6.1.4* (Guidelines Pertaining to the Urban/Wildlands Interface), and *Section 6.3.2* (Additional Survey Needs and Procedures).

8.0 REFERENCES

American Ornithologists' Union. 1998. Checklist of North American Birds, Seventh Edition.

Baker, R. S., L. C. Bradley, R. D. Bradley, J. W. Dragoo, M. D. Engstrom, R. S. Hoffman, C. A Jones, F. Reid, D. W. Rice, and C. Jones. 2003. Revised checklist of North American mammals North of Mexico, 2003. Occasional Papers The Museum Texas Tech University (229):1-24.

California Department of Fish and Game. 2011 (January). Special Animals. State of California Resources Agency, Sacramento, California.

California Department of Fish and Game. 2013 (January). State and Federally Listed Endangered and Threatened Animals of California. State of California Resources Agency. Sacramento, California.

California Department of Fish and Game. August 2013. California Natural Diversity Database: RareFind 4. Records of occurrence for U.S.G.S. 7.5- minute Quadrangle maps: Murrieta, Romoland, and Bachelor Mountain. California Department of Fish and Game, State of California Resources Agency. Sacramento, California.

California Native Plant Society. 2001. Inventory of Rare and Endangered Plants of California. (Sixth Edition). Rare Plant Advisory Committee, David P. Tibor, Convening Editor, California Native Plant Society. Sacramento, California, 388 pp.

California Native Plant Society. 2010. Inventory of Rare and Endangered Plants of California. (Seventh Edition). Accessible online at <http://cnps.web.aplus.net/cgi-bin/inv/inventory.cgi>

Collins, J. T. 2009. Standard common and scientific names for North American amphibians, turtles, reptiles, and crocodilians. Sixth Edition. Publication of The Center for North American Herpetology, Lawrence. Iv + 44pp.

Haug, E. A., B. A. Millsap, and M. S. Martell. 1993. Burrowing Owl (*Speotyto cunicularia*). In The Birds of North America, No. 130 (A. Poole and F. Gill, Eds.). Philadelphia: The Academy of Natural Sciences; Washington, D.C.: The American Ornithologists' Union.

Holland, R. F. 1986. Preliminary Descriptions of the Terrestrial Natural Communities of California. Nongame-Heritage Program, California Department of Fish and Game.

Nelson, J. 1984. Rare plant survey guidelines. .In: Inventory of rare and endangered vascular plants of California. J. Smith and R. York (eds.). Special Publication No. 1. California Native Plant Society.

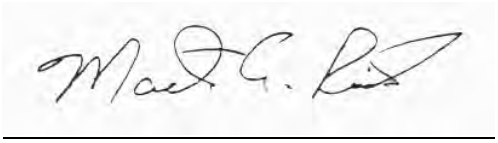
Riverside County Integrated Project. 2003. Western Riverside County Multiple Species Habitat Conservation Plan.

Robertson, J. M. 1929. Some observations on the feeding habits of the burrowing owl. Condor 31: 38-39.

Tibor, D.P, editor. 2001. California Native Plant Society's inventory of rare and endangered vascular plants of California. Sixth edition. Special Publication No. 1, California Native Plant Society, Sacramento, 387 pp.

9.0 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.

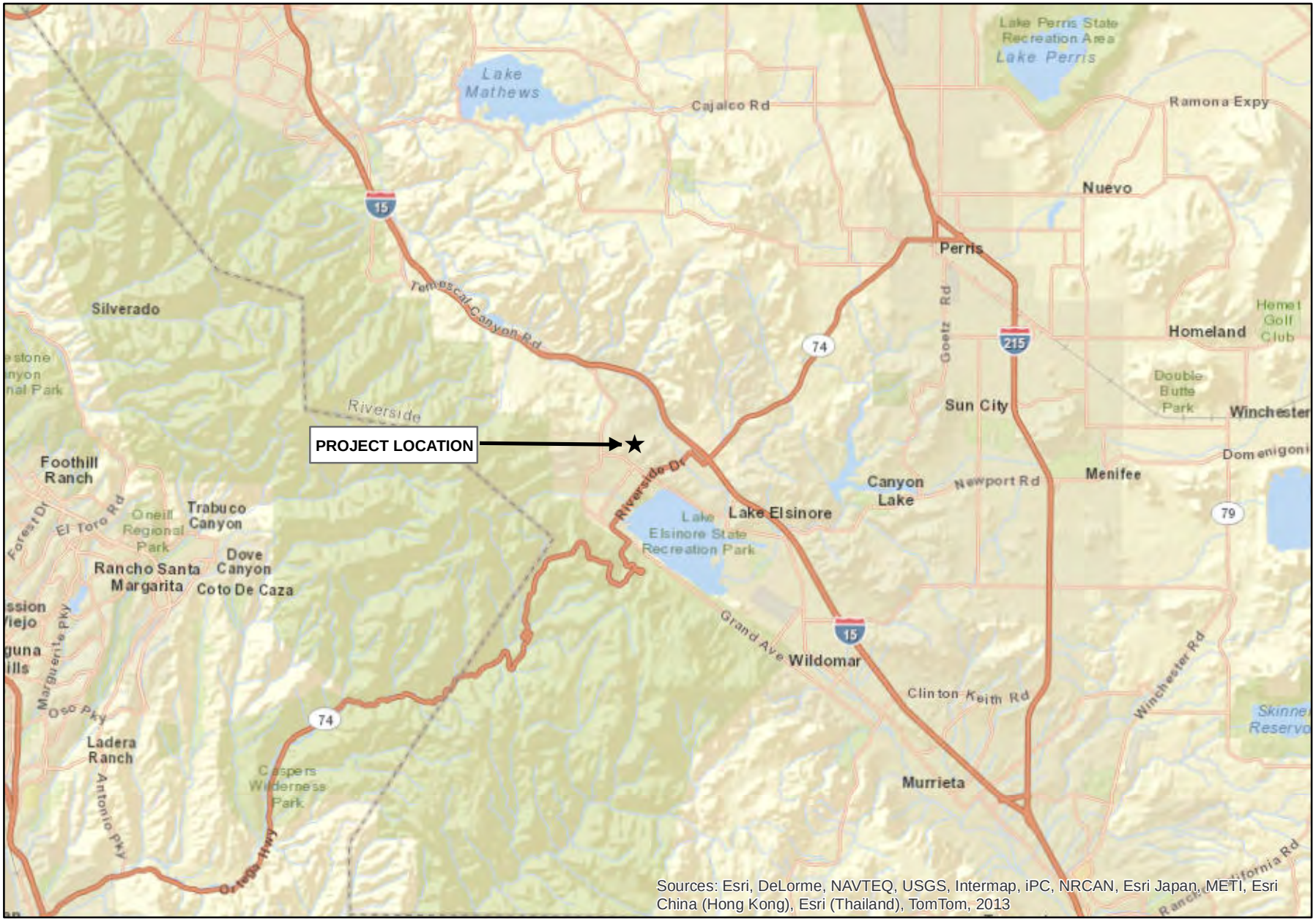
Signed:  Date: 04/16/14

s:0586-2b.bioreportaddendum.docx

Exhibit 1

Regional Map

Source: ESRI World Street Map



N

0 2 4 8 Miles

TERRACINA
RESIDENTIAL DEVELOPMENT PROJECT
OFFSITE IMPROVEMENTS

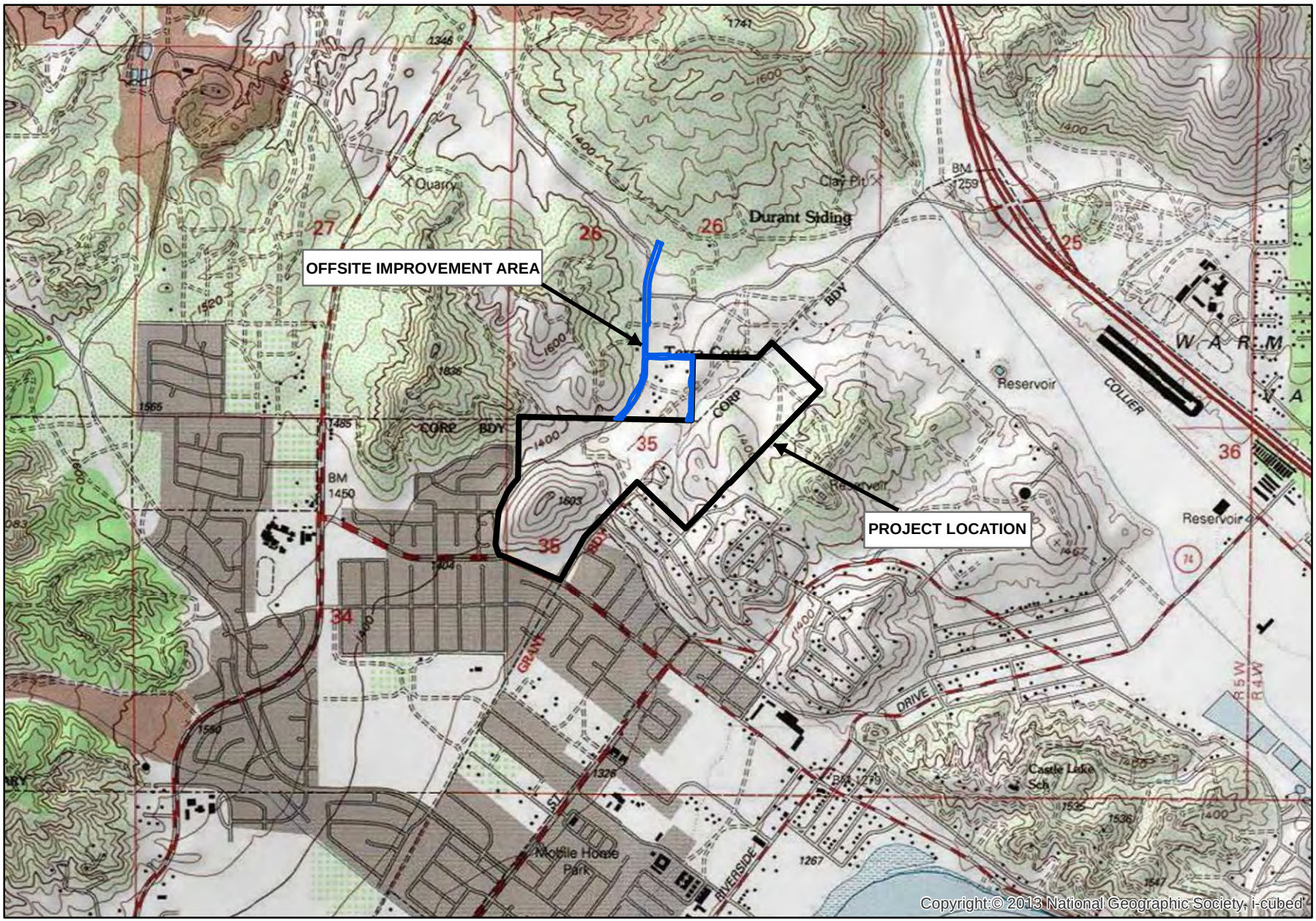
Regional Map

GLENN LUKOS ASSOCIATES

Exhibit 1

Exhibit 2

Vicinity Map



Adapted from USGS Lake Elsinore, CA quadrangle

N

0 1,000 2,000 4,000 Feet

TERRACINA
RESIDENTIAL DEVELOPMENT PROJECT
OFFSITE IMPROVEMENTS

Vicinity Map

GLENN LUKOS ASSOCIATES

Exhibit 2

Exhibit 3

Off-Site Improvements Map

Legend

- Project Boundary
- Site Plan
- Offsite Development Footprint

N

0 275 550 1,100

Feet

TERRACINA
RESIDENTIAL DEVELOPMENT PROJECT
OFFSITE IMPROVEMENTS

Site Plan

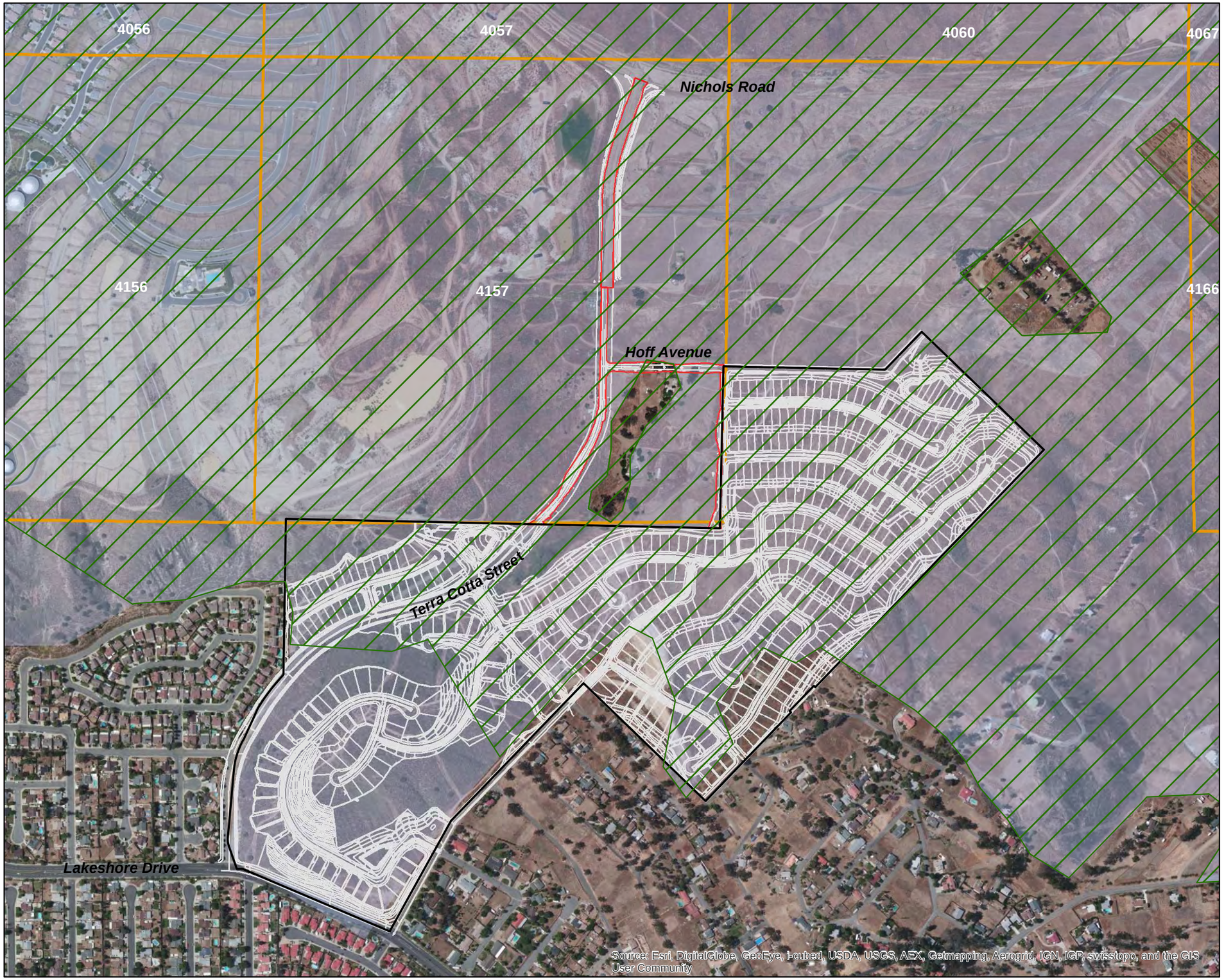
GLENN LUKOS ASSOCIATES

Exhibit 3

X:\0363-THE REST\0586-02TERR\586-2GIS\OffsiteRoadImpacts\586-2 OffsiteRoadImpactsLayout.mxd

Exhibit 4

MSHCP Overlay Map



Legend

- Project Boundary
- Site Plan
- Offsite Development Footprint
- MSHCP Criteria Cells/CAPSSA
- Narrow Endemic Plants Survey Area
- Burrowing Owl Survey Area

N

0 275 550 1,100
Feet

TERRACINA
RESIDENTIAL DEVELOPMENT PROJECT
OFFSITE IMPROVEMENTS

MSHCP Overlay Map

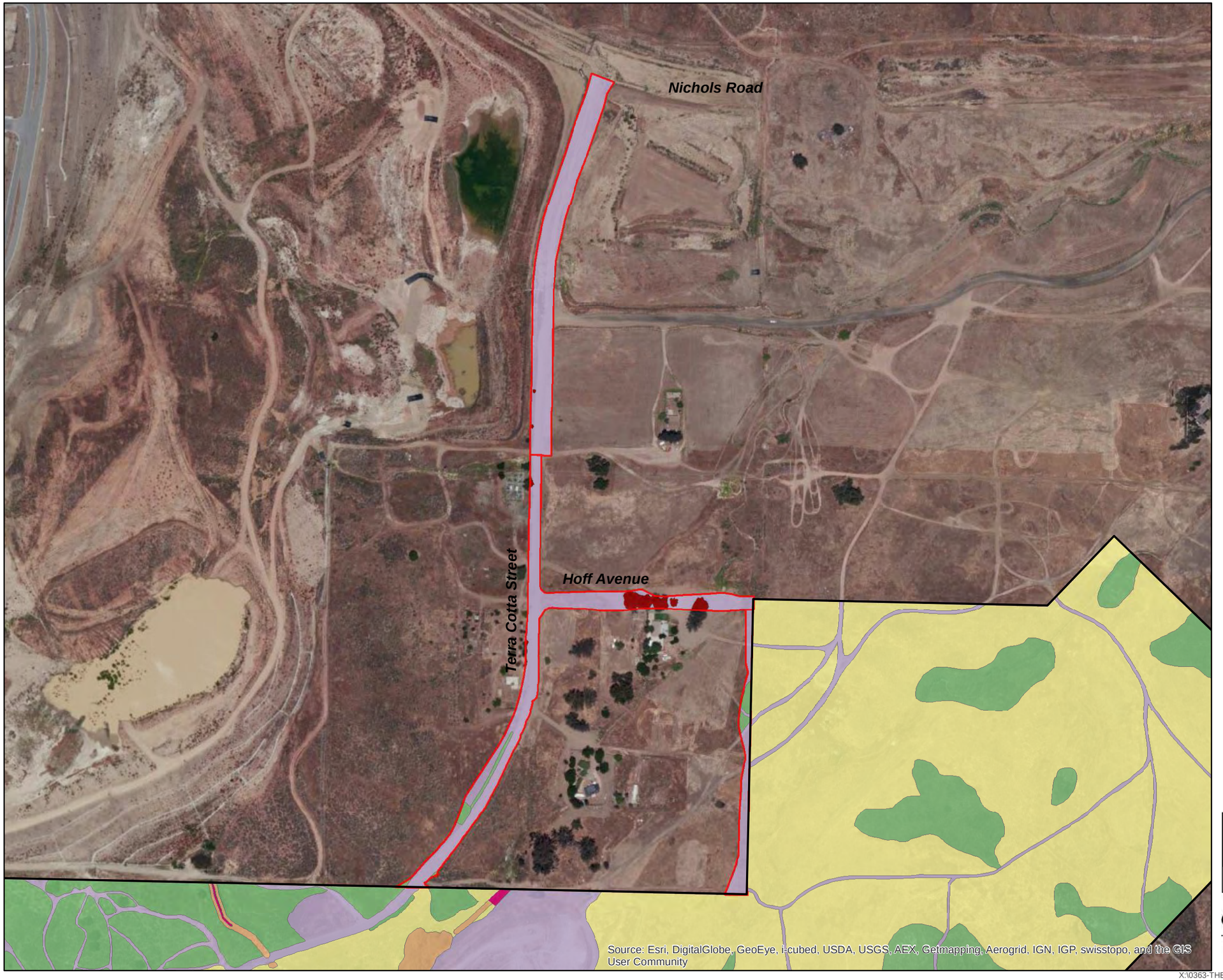
GLENN LUKOS ASSOCIATES

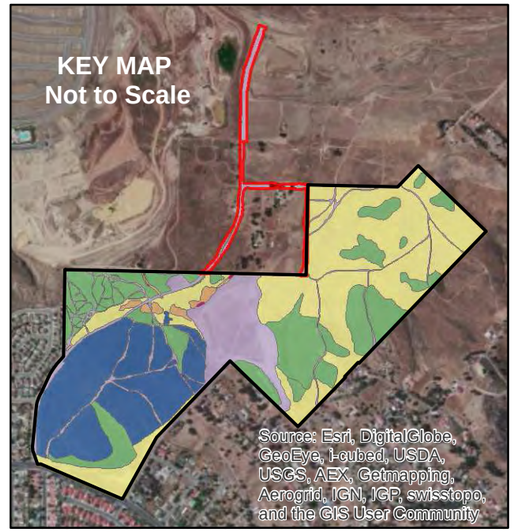
Exhibit 4

X:\0363-THE REST\0586-02TERR\586-2GIS\OffsiteRoadImpacts\586-2 OffsiteRoadImpactsMSHCP.mxd

Exhibit 5

Vegetation Map





Legend

- Project Boundary
- Offsite Development Footprint
- Disturbed Riversidean Sage Scrub
- Disturbed/Ruderal
- Emergent Wetland
- Non-native Grassland
- Ornamental
- Riversidean Sage Scrub
- Southern Willow Scrub

N

0 150 300 600

Feet

TERRACINA
RESIDENTIAL DEVELOPMENT PROJECT
OFFSITE IMPROVEMENTS

Vegetation Map

GLENN LUKOS ASSOCIATES

Exhibit 5

X:\0363-THE REST\0586-02TERR\586-2GIS\OffsiteRoadImpacts\586-2 OffsiteRoadImpactsLayout.mxd

Exhibit 6

Site Photographs

Photograph 1: Taken on April 4, 2014. Southerly view of the northern half of Terra Cotta Street.

Photograph 2: Taken on April 4, 2014. Southerly view of the southern half of Terra Cotta Street, bound by disturbed Riversidean sage scrub to the east and west.

Photograph 3: Taken on April 4, 2014. Westerly view of the proposed improvement area for Hoff Avenue, which is currently a dirt road that passes tangentially to an occupied residence before terminating at Terra Cotta Street.

Photograph 4: Taken on April 4, 2014. Southeasterly view of the off-site remedial grading area dominated by non-native grassland, ruderal herbs, and disturbed Riversidean sage scrub (seen near the horizon).

GLENN LUKOS ASSOCIATES

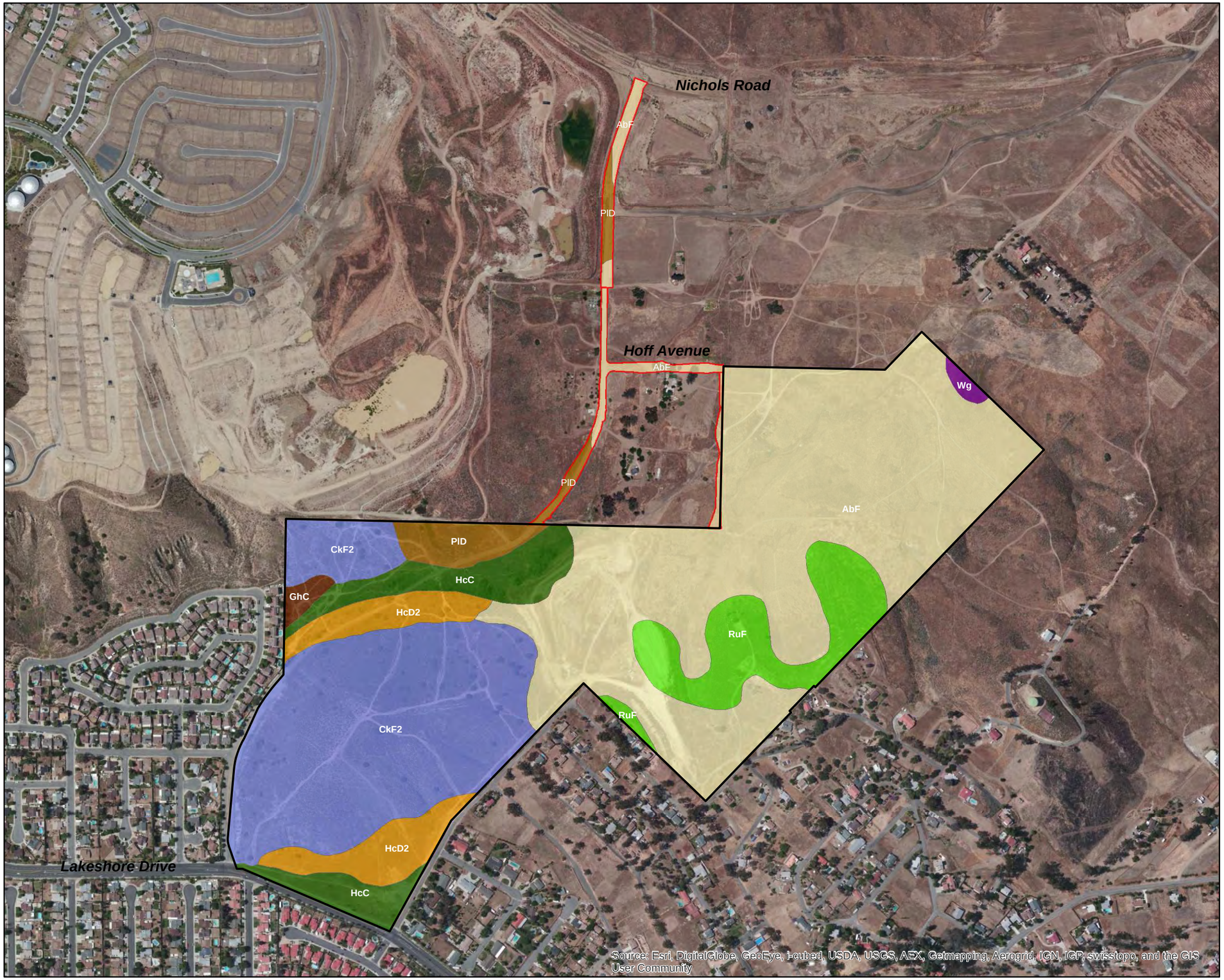
Exhibit 6

Terracina Residential Development Project (Off-Site Areas)

Site Photographs: April 4, 2014

Exhibit 7

Soils Map



Legend

- Project Boundary
- Offsite Development Footprint
- AbF - Altamont cobbly clay, 8 to 35 percent slopes
- CkF2 - Cieneba rocky sandy loam, 15 to 50 percent slopes, eroded
- GhC - Gorgonio loamy sand, 0 to 8 percent slopes
- HcC - Hanford coarse sandy loam, 2 to 8 percent slopes
- HcD2 - Hanford coarse sandy loam, 8 to 15 percent slopes, eroded
- PlD - Placentia fine sandy loam, 5 to 15 percent slopes
- RuF - Rough broken land
- Wg - Willows silty clay, saline-alkali

N

0 275 550 1,100
Feet

TERRACINA
RESIDENTIAL DEVELOPMENT PROJECT
OFFSITE IMPROVEMENTS

Soils Map

GLENN LUKOS ASSOCIATES

Exhibit 7

X:\0363-THE REST\0586-02TERR\586-2GIS\586-2 OffsiteRoadImpactsSoils.mxd