Appendix D –
Biological Technical Report
Prepared by Glen Lukos Associates, Inc. dated March 2013, Revised November 2013

BIOLOGICAL TECHNICAL REPORT
FOR THE 504-ACRE
ESPERANZA HILLS SPECIFIC PLAN PROPERTY AND
ASSOCIATED OFFSITE IMPACT AREAS
UNINCORPORATED ORANGE COUNTY, CALIFORNIA

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EXECUTIVE SUMMARY

The approximately 469-acre Esperanza Hills Specific Plan Property (Project Site) is located adjacent to the City of Yorba Linda, in unincorporated Orange County, California. The Project Site is located approximately ¾ mile northwest of Horseshoe Bend on the Santa Ana River. General site boundaries are Blue Mud Canyon and ridge line (Green Crest Drive) to the south, San Antonio Road. to the east, and Chino Hills State Park to the north. The Project Site supports a diverse mix of habitats/land use types including non-native grasslands with locally dominant stands of coastal sage scrub currently dominated by bush mallow and other fire followers, following the Freeway Complex Fire in 2008, and chaparral with limited areas of riparian habitat and walnut woodland, that were also affected by the fire. The Project Site also includes disturbed habitats characterized as ruderal and disturbed/developed areas.

Ten special-status wildlife species, as designated by CDFW and/or USFWS, were observed within the project site or in close proximity: Cooper's hawk (*Accipiter cooperii*), Golden eagle (*Aquila chrysaetos*), grasshopper sparrow (*Ammodramus savannarum*), Least Bell's vireo (*Vireo bellii pusillus*), northern harrier (*Circus cyaneus*), peregrine falcon (*Falco peregrinus*), sharp-shinned hawk (*Accipiter striatus*), southern California rufous-crowned sparrow (*Aimpohila ruficeps canescens*), yellow breasted chat (*Icteria virens*), and yellow warbler (*Setophaga petechia*).

Five special status plant species as designated by the CNPS was observed within the project site: Braunton's milkvetch (*Astragalus brauntoni*), intermediate mariposa lily (*Calochortus weedii var. intermedius*), Catalina mariposa lily (*Calochortus catalinae*), California walnut (*Juglans californica*), and small flowered microseris (*Microseris douglasii* var. *platycarpa*).

Three special-status habitats as designated by the CDFW were observed within the project site: southern willow scrub, Southern California walnut woodland, and blue elderberry woodland.

Under Alternative 1, Alternative 2, and Alternative 3, impacts to intermediate mariposa lily, Braunton's milkvetch, least Bell's vireo, Corps and CDFW jurisdiction, and nesting birds protected by the Migratory Bird Treaty Act would be potentially significant without mitigation, but would be reduced to less than significant with mitigation.

1.0 INTRODUCTION

1.1 Background and Scope of Work

This document provides the results of general and focused biological surveys for the approximately 468.9-acre Esperanza Hills Specific Plan property (Project Site), as well as an impact assessment and mitigation to reduce the proposed Project's biological impacts to less than significant. The proposed Project Site is located adjacent to the City of Yorba Linda, in unincorporated Orange County, California. This report has been prepared to identify potential biological resources on the site, and quantify impacts of the proposed development in relationship to the California Environmental Quality Act (CEQA).

The scope of this report includes a discussion of existing conditions for the approximately 468.9-acre Project Site as well as the locations of off-site impacts, all of which are contained within a 504.20-acre Study Area. This report includes 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 suggested mitigation measures to offset significant impacts. Methods of the study include a review of relevant literature, general and focused field surveys, and a Geographical Information System (GIS)-based analysis of vegetation communities. As appropriate, this report is consistent with accepted scientific and technical standards and survey guideline requirements issued by the U.S. Fish and Wildlife Service (USFWS), the California Department of Fish and Wildlife (CDFW), and the California Native Plant Society (CNPS).

The field studies focused on a number of primary objectives that would comply with CEQA requirements, including (1) general reconnaissance surveys and vegetation mapping; (2) floristic plant surveys; (3) general wildlife surveys; (4) habitat assessments and focused surveys for special status plant species; and (5) habitat assessments and focused surveys for special status wildlife species. Observations of plant and wildlife species were recorded during each of the above mentioned survey efforts and are included [Appendix A; Floral Compendium, and Appendix B; Faunal Compendium].

1.2 Project Location

The Project Site comprises approximately 468.9 acres adjacent to the city of Yorba Linda within unincorporated Orange County, California, and the Study Area, which includes the Project Site and the location of proposed off-site impacts (including offsite access alternatives), comprises approximately 504 acres [Exhibit 1 – Regional Map]. The Project Site is located within Section 17, 18 of Township 3S, Range 8W, of the Yorba Linda (dated 1964 and photorevised in 1981) and Prado Dam (dated 1967 and photorevised in 1981) USGS 7.5" Quadrangle Maps. The Project Site also includes un-sectioned portions of Township 3S, Range 8W [Exhibit 2 – Vicinity Map]. Elevation ranges from approximately 550 feet at the southwest boundary to 1,550 feet at the north boundary. The Study Area is bordered by Blue Mud Canyon and Green Crest Drive to

the south, Chino Hills State Park to the north and east, and residential areas adjacent to San Antonio Road to the west. The property immediately north east, and west of the study area is currently open space, while property bordering the southern boundary is residential development.

1.2 Project Description

The Esperanza Hills project proposes to construct 340 single-family residential units on 468.9 acres in the unincorporated portion of the County adjacent to the City. As currently proposed, project components will include approximately 13.9 acres of active and passive parks, 7 miles of trails and 230 acres of open space. The trails will include pedestrian, bicycle, and equestrian trails with linkages to permit non-vehicular access to the Chino Hills State Park and surrounding open space areas. Fuel Modification areas have been identified and emergency access/evacuation plans have been designed and submitted to the Orange County Fire Authority for approval, and two underground water reservoirs are planned to provide on site gravity storage to assist in fire fighting both on site and off site. Three options for access to the community are analyzed: one with a primary connection going south to Stonehaven Drive, a second with a primary connection going west from the community to Aspen Way, connecting to San Antonio Road, and a third going north from San Antonio Road south of Alder Avenue. A homeowners' association will manage streets, landscaping, parks, and other amenities.

2.0 METHODOLOGY

In order to adequately identify biological resources to the satisfaction of CEQA, GLA assembled biological data consisting of three main components:

- Performance of vegetation mapping for the Project Site;
- Performance of habitat assessments, and site-specific biological surveys to evaluate the presence/absence of special status species to the satisfaction of CEQA; and
- Performance of a jurisdictional delineation for areas subject to the jurisdiction of the U.S. Army Corps of Engineers subject to Section 404 of the Clean Water Act and CDFW pursuant to Section 1602 of the California Fish and Game Code.

The focus of the biological surveys was determined through initial site reconnaissance, a review of the California Natural Diversity Database (CNDDB) [CDFW 2012], the 2001 California Native Plant Society (CNPS) Inventory (CNPS 2001), CNPS 8th edition online inventory (CNPS 2010), USDA Soil Conservation Service's (SCS) soil maps for the Prado Dam and Yorba Linda quadrangles, other pertinent literature, and knowledge of the region. Site-specific general and focused surveys within the Project Site were conducted on foot for the entire Project Site for each target plant or animal species identified below. The Project Site was also surveyed on foot and the vegetation mapped directly onto a 200-scale (1"=200') topographic map based on the Orange County Habitat Classification System (OCHCS).

2.1 Summary of Surveys

Field studies were conducted for the approximately 504.20-acre Study Area, encompassing the entire Project Site as well as off-site impact areas. An initial round of surveys was conducted in spring of 2007, with additional surveys conducted during spring of 2008 as well as spring of 2010, following the Freeway Complex Fire that occurred in late 2008. Finally, reconnaissance-level surveys were conducted in spring of 2012 and winter 2013 to verify that conditions on the site were functionally unchanged from that observed in 2010. As mentioned above, the field studies focused on a number of primary objectives that would comply with CEQA requirements: (1) general reconnaissance surveys and vegetation mapping according to the Orange County Habitat Classification System (OCHCS); (2) general floristic surveys; (3) general wildlife surveys; (4) habitat assessments for special-status plants; (5) habitat assessments and focused surveys for special-status animals; and (6) delineation of state and federal waters, including wetlands and riparian areas. Observations of all plant and wildlife species were recorded during each of the above mentioned survey efforts [Appendix A; Floral Compendium and Appendix B; Faunal Compendium]. Table 2-1 provides a summary list of survey dates, survey types, survey conditions and personnel.

Table 2-1. Summary of Biological Surveys for the Esperanza Hills Property

Survey Date	Survey Type	Surveying Biologist	Weather
03-20-2007	California gnatcatcher survey # 1	JA, DM	Overcast
03-26-2007	Vegetation mapping Focused plant survey	PS, BS	Clear skies
03-27-2007	California gnatcatcher survey # 2	JA, DM	Scattered clouds
04-03-2007	California gnatcatcher survey # 3	JA, DM	Overcast
04-04-2007	Vegetation mapping Focused plant survey	PS, BS	Clear skies
04-10-2007	Least Bell's Vireo survey # 1 California gnatcatcher survey # 4	JA, DM, KL	Isolated clouds
04-17-2007	California gnatcatcher survey # 5	JA, DM	Clear skies
04-20-2007	Least Bell's Vireo survey # 2	JA, BS	Overcast
04-30-2007	Least Bell's Vireo survey # 3	KL	Overcast
05-04-2007	Vegetation mapping Focused plant survey	PS, BS	Clear skies
05-09-2007	California gnatcatcher survey # 6	JA, IC	Overcast
05-11-2007	Least Bell's Vireo survey # 4	DL	Clear skies
05-21-2007	Least Bell's Vireo survey # 5 Willow flycatcher survey # 1	JA, PS	Overcast, isolated rain showers
05-31-2007	Least Bell's Vireo survey # 6	JA	Overcast
06-01-2007	Willow flycatcher survey # 2	JA	Overcast
06-10-2007	Least Bell's Vireo survey # 7	IC	Overcast
06-29-2007	Willow flycatcher survey # 3	JA	Clear skies
07-03-2007	Vegetation mapping Focused plant survey	PS	Clear skies
07-08-2007	Willow flycatcher survey # 4	JA	Clear skies
07-13-2007	Least Bell's Vireo survey # 8 Willow flycatcher survey # 5	JA	Scattered clouds
08-17-2007	Jurisdictional Delineation	PS	Clear Skies
08-21-2007	Jurisdictional Delineation Focused plant survey	PS, JM	Clear Skies
08-22-2007	Jurisdictional Delineation	PS	Clear Skies
3-22-2008	Focused plant survey	BS	Clear Skies
5-24-2008	Focused plant survey	BS	Overcast
2-27-2010	Avian Survey	TB	Overcast
5-10-2012	Focused Plant Survey	BS	Partly Cloudy
7-28-2012	Avian Survey	TB	Clear Skies
12-28-2012	Vegetation Mapping	TB	Clear Skies
1-9-2013	Jurisdictional Delineation Vegetation Mapping Focused Plant Survey	TB	Clear Skies

Survey Date	Survey Type	Surveying Biologist	Weather
1-11-2013	Jurisdictional Delineation Vegetation Mapping	TB	Clear Skies
2-7-2013	Jurisdictional Delineation Vegetation Mapping	TB, ET	Overcast
2-11-2013	Jurisdictional Delineation Vegetation Mapping	TB	Overcast
2-22-2013	Jurisdictional Delineation	TB	Clear Skies
5-9-2013	California gnatcatcher survey # 1	KL, DM	Isolated clouds
5-16-2013	California gnatcatcher survey # 2	KL	Overcast
5-23-2013	California gnatcatcher survey # 3	KL	Overcast
5-30-2013	California gnatcatcher survey # 4	KL	Overcast
6-6-2013	California gnatcatcher survey # 5	KL	Overcast
6-13-2013	California gnatcatcher survey # 6	KL	Overcast
7-12-2013	Jurisdictional Delineation	TB	Scattered Clouds

Surveying Biologists:
BS = Ben Smith
DL = Diana Lloyd
DM = David Moskovitz
IC = Ingrid Chlup
JA = Jeff Ahrens
JM = Justin Meyer
KL = Kevin Livergood
PS = Paul Schwartz
TB = Tony Bomkamp
ET = Erin Trung

2.2 Botanical Resources

A site-specific survey program was designed to accurately document the botanical resources within the Project Site, and consisted of seven components: (1) a literature search; (2) preparation of a list of target special-status plant species and sensitive vegetation communities that could occur on site; (3) general field reconnaissance surveys; (4) vegetation mapping according to the Orange County Habitat Classification System (OCHCS); (5) habitat assessments for special-status plants; (6) focused plant surveys, and (7) preparation of a vegetation map, including the location of any sensitive vegetation communities found on site.

Due to the drought conditions that Southern California experienced during the 2006/2007 rain season the botanical survey schedule was front loaded in order to capture the early season plants and any plants that may germinate/flower earlier than normal in order to avoid the dry conditions. In addition, reference sites of known special status plants with

the potential to occur on Site were used to determine the scheduling of surveys. However, many of the special status plant reference sites for southern California supported plants in low numbers or none at all for the year 2007. Additional surveys were conducted in March and May of 2008.

In fall of 2008, the site burned in the "Freeway Complex Fire" that started November 15, 2008. Focused botanical surveys were therefore conducted in spring of 2010, which exhibited higher-than-normal rainfall, providing optimal conditions for focused botanical surveys. It is also important to note that scrub vegetation was not sufficiently recovered such that it was suitable for supporting the California gnatcatcher; therefore spring surveys in 2010 focused on special-status plants.

2.2.1 Literature Search

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

- California Native Plant Society (CNPS). 2010. Inventory of Rare and Endangered Plants (online edition, v8-01a). California Native Plant Society. Sacramento, CA. Available at http://www.rareplants.cnps.org/;

- California Native Plant Society *Inventory of Rare and Endangered Plants of California* (seventh edition). Rare Plant Advisory Committee, David Tibor, Convening Editor, California Native Plant Society. Sacramento, CA x + 388pp; (CNPS 2001);

- California Natural Diversity Data Base (CNDDB) for the USGS 7.5' quadrangles which contain the Project Site: Yorba Linda, and Prado Dam (CNDDB 2007 and 2012);

- Prior botanical and faunal surveys conducted for the property:

  David Bramlet and Campbell BioConsulting, Inc. Biological Resources of the Murdock and Adjacent Properties in the City of Yorba Linda (David Bramlet and Campbell BioConsulting, 1998).

  Campbell BioConsulting, Inc. Updated Focused Biological Studies for the Murdock Project, Unincorporated Orange County, California (Campbell BioConsulting, 2002).

  Glenn Lukos Associates. Submittal of Southwestern Willow Flycatcher Report for the Approximately 635-Acre Murdock Specific Area Plan [which included Esperanza Hills, Cielo Vista, and several adjacent properties] Located in the City

of Yorba Linda, Orange County, California (Glenn Lukos Associates, August 2007)

Glenn Lukos Associates. Results of a Biological/Regulatory Overview of a 635-Acre Property [which included Esperanza Hills, Cielo Vista, and several adjacent properties] Located in Yorba Linda, Orange County, California (Glenn Lukos Associates, October 2006) [Unpublished]

Glenn Lukos Associates. Impacts from Proposed Geotechnical Testing on Murdock Site [which included Esperanza Hills, Cielo Vista, and several adjacent properties], Yorba Linda, Orange County, California (Glenn Lukos Associates, June 2008)

Glenn Lukos Associates. Draft Biological Technical Report for the Esperanza Hills Property (Glenn Lukos Associates 2007) [Unpublished]

- Biological surveys conducted for the adjacent Cielo Vista property, which includes some off-site impact areas of the Esperanza Hills Property:

  PCR Services Corporation. Biological Resources Assessment, Cielo Vista, Orange County, California (PCR Services Corporation, 2012).

  PCR Services Corporation. Sensitive Plant Survey Report - Yorba Linda Project Site, 117.8 Acres [which included Cielo Vista and a portion of Esperanza Hills] City of Yorba Linda, Orange County, California (PCR Services Corporation July 20, 2006)

  PCR Services Corporation. Results of Focused Coastal California Gnatcatcher Survey at the Yorba Linda Project Site [which included Cielo Vista and a portion of Esperanza Hills] in the City of Yorba Linda, Orange County, California PCR Services Corporation, July 27, 2008)

2.2.2 Vegetation Mapping

Vegetation communities within the Project Site were mapped according to the Orange County Habitat Classification System (OCHCS). Where necessary, deviations were made when areas did not fit into exact habitat descriptions provided by the OCHCS. Plant communities were mapped in the field directly onto a 200-scale (1"=200') topographic map. Exhibit 3 [Vegetation Map] provides vegetation mapping for the Project Site. Exhibit 4 provides representative photographs of site conditions. Because the Freeway Complex Fire burned the entire site, at the time of updated surveys in Spring of 2010, the vegetation on site was still recovering. In general, only limited changes to the vegetation mapping were made; however, the descriptions for each vegetation type were updated to reflect post-fire conditions. As noted in the descriptions, fire followers

such as bush mallow remain dominant in areas that previously supported coastal sage scrub and chaparral.

2.2.3 Special-Status Plant Species Evaluated for the Project Site

A literature search was conducted to obtain a list of special status plants with the potential to occur on the property. The CNDDB was initially consulted to determine well-known occurrences of plants and habitats of special concern in the region. Other sources used to develop a list of target species for the survey program included the CNPS Inventory (CNPS 2001), CNPS online inventory (2010), and prior botanical surveys conducted by Campbell BioConsulting, Inc.

Based on this information, vegetation profiles and a list of target sensitive plant species and habitats that could occur within the Project Site were developed and incorporated into a mapping and survey program to achieve the following goals: (1) characterize the vegetation associations and land use; (2) prepare a detailed floristic compendium; (3) implement general reconnaissance field work and focused surveys to document the distribution and abundance of rare, endangered, and/or sensitive plant species within the Project Site; and (4) prepare biological resource maps showing the distribution of the sensitive botanical resources associated with the Project Site.

2.2.4 Sensitive Vegetation Communities Evaluated for the Site

Sensitive Vegetation Communities listed in the CNDDB search for the Project Site and the surrounding USGS 7.5' quadrangles include southern California walnut woodland, Southern coast live oak riparian forest, Southern cottonwood willow riparian forest, Southern sycamore alder riparian woodland, and Southern willow scrub. The Project Site was evaluated for these (and other) sensitive habitats.

2.2.5 General Reconnaissance Surveys and Habitat Assessments

General site-specific surveys of the Project Site were conducted to identify potential sensitive plant habitats, and to establish the accuracy of the data identified from the literature. Initial reconnaissance surveys were conducted in November 2006. Additional reconnaissance level surveys were conducted in winter and spring of 2010, as well as spring 2012. A topographic map was used to determine the community types and other physical features that may support sensitive and uncommon taxa or communities within the Project Site. Within the Project Site, biologists traversed each of the target habitats on foot to provide adequate coverage for surveys. All plant species encountered during the field surveys were identified and recorded following the guidelines adopted by CNPS (2001) and CDFW by Nelson (1984). A complete list of the plant species observed is provided in Appendix A. Scientific nomenclature and common names used in this report follow Roberts (1998), Baldwin et. al. (2012), and Reiser (1994).

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 Project Site by direct observation, including the use of binoculars. Observations of physical evidence and direct sightings of wildlife were recorded in field notes during each visit. A complete list of wildlife species observed within the Project Site is provided in Appendix B. Scientific nomenclature and common names for vertebrate species referred to in this report follow Collins (1997) for amphibians and reptiles, Jones, et al. (1992) for mammals, and AOU Checklist (2013) for birds. The methodology (including any applicable survey protocols) utilized to conduct the focused surveys or the habitat assessments for special-status animals are included below.

2.3.1 General Surveys

Birds

During general surveys within the Project Site, birds were identified incidentally during surveys within each habitat type. Birds were detected by both direct observation and by vocalizations, and were recorded in field notes.

Mammals

During general surveys within the Project Site, mammals were identified incidentally during surveys within each habitat type. Mammals were detected both by direct observations and by the presence of diagnostic sign (i.e., tracks, burrows, scat, etc.).

Reptiles and Amphibians

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

2.3.2 Special-Status Animal Species Evaluated for the Project Site

A literature search was conducted in order to obtain a list of special status wildlife species with the potential to occur on the property. Species were evaluated based on two factors, including: 1) species identified by the CNDDB as occurring (either currently or historically) on or in the vicinity of the property, and 2) 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.

2.3.3 Habitat Assessment for Special Status Wildlife Species

General site-specific surveys of the Project Site were conducted to identify habitats with potential to support special-status wildlife and to establish the accuracy of the data identified from the literature. Initial reconnaissance surveys and habitat assessments were conducted in September 2006, February 2010, and April 2012. An aerial photograph, soil map and topographic map were used to determine the community types and other physical features that may support special-status and uncommon taxa or communities within the Project Site. The reconnaissance surveys also incorporated the guidelines adopted by CNPS and CDFW (CNPS 2001, Nelson 1994).

Habitat Assessment and Focused Surveys for the California Gnatcatcher

In the United States, the coastal California gnatcatcher ranges through appropriate habitat in the coastal lowlands of southern California from the Mexican border just into Los Angeles County, with isolated populations in the Palos Verdes Peninsula of Los Angeles County and Moorpark in Ventura County. Inland geographic limits are formed by mountains and deserts. The species is restricted to lowlands, rarely occurring above 900 feet within 60 miles of the coast, and above 2,300 feet farther inland. The species is a resident to this area with limited dispersal and occupies habitats today that are heavily fragmented.

The gnatcatcher subspecies was federally listed as threatened by the USFWS (USFWS 1993), shortly after the State of California declined to list the species. It is currently a Species of Special Concern under state law. The listing has withstood serious legal challenges since that time, and the state has reaffirmed its decision not to list the species. Working under authority of Section 10 of the Endangered Species Act, there are currently several large-scale habitat conservation plans (HCPs) in various planning stages for portions of the southern California lowlands, most of which include protection for the gnatcatcher as a prominent feature.

The project site falls entirely within Unit 9 of the existing final critical habitat for coastal California gnatcatcher[1] designated by the U.S. Fish and Wildlife Service.

Biologists evaluated the Project Site for the potential to support the California Gnatcatcher. Prior to the Freeway Complex Fire in 2008, it was determined that marginally suitable sage scrub habitat existed on site and protocol surveys for the California Gnatcatcher were conducted. Focused protocol surveys were conducted on March 20, March 27, April 3, April 10, and May 9, 2007, and updated protocol surveys were conducted on May 9, May 16, May 23, June 6, and June 13, 2013. Biologists traversed each of the target habitats on foot to provide adequate coverage for surveys

[1] As a result of legal challenges regarding the U.S. Fish and Wildlife Service's October 24, 2000 designation of critical habitat for the coastal California gnatcatcher, the U.S. District Court for the Central District of California granted the Service's request to re-propose critical habitat. The site is also entirely within Unit 9 of the critical habitat as re-proposed in 2003 by the U.S. Fish and Wildlife Service.

Protocol surveys for the coastal California gnatcatcher were performed by GLA biologists Jeff Ahrens (TE-052159-2), David Moskovitz (TE-084606-0) and Ingrid Chlup (TE-092469-0) between March 20 and May 9, 2007, and by GLA biologists Kevin Livergood (TE-172638-1) and David Moskovitz (TE-084606-1) between May 9 and June 13, 2013 in all areas of suitable habitat on site. Surveys were conducted in accordance with the 1997 U.S. Fish and Wildlife Service (USFWS) guidelines, which stipulate that during the breeding season, six surveys shall be conducted in all areas of suitable habitat with at least seven days between site visits. The USFWS survey guidelines also stipulate that no more than 80 acres of suitable habitat shall be surveyed per biologist per day. Due to the fragmented nature of the Coastal Sage Scrub and ecotonal areas on site, the survey area was divided into two survey polygons. As depicted in Exhibit 3 of the Gnatcatcher report (see Appendix C), Polygon A included potentially suitable habitat north of the Old Edison Spur Road. Polygon B included the southern portion of the property extending east of San Antonio and Dorinda Roads to Blue Mud Canyon to the south. For complete survey methodology see Appendix C [California Gnatcatcher Survey Report]. Following the November 15, 2008 Freeway Complex Fire, a new habitat assessment was performed on February 26, 2010 and it was determined that the habitat had not recovered sufficiently to support the coastal California gnatcatcher. During the April 2012 site reconnaissance, it was noted that areas of coastal sage scrub were recovering; however, the areas were dominated by bush mallow (*Malacothamnus fasciculata*), an early successional fire follower that is tall and exhibits very limited potential for supporting the California gnatcatcher and given the previous lack of detection prior to the fire, it is not necessary to conduct focused surveys for the California gnatcatcher at this time. Additional habitat assessments conducted in January 2013 found that most areas that previously supported coastal sage scrub continues to support a predominance of bush mallow and where areas of intact coastal sage scrub occur, they are small isolated patches that do not represent suitable habitat for the gnatcatcher. Nevertheless, updated protocol surveys were conducted in May and June 2013 in order ensure detection of any gnatcatchers that could occur in the marginal post-fire scrub habitat.

Habitat Assessments for Special-Status Riparian Species

Biologists evaluated the Project Site for the potential to support the following species: least Bell's vireo (*Vireo bellii pusillus*) (LBV), and southwestern willow flycatcher (*Empidonax traillii extimus*) (SWF), and western yellow-billed cuckoo (*Coccyzus americanus occidentalis*). It was determined that suitable habitat for the least Bell's vireo, and southwestern willow flycatcher exists in the proposed project area. Based on a lack of suitable habitat, focused surveys were not conducted for the western yellow-billed cuckoo.

Habitat Assessment and Focused Surveys for the Least Bell's Vireo

Least Bell's Vireo (LBV) is a state and federally listed migratory songbird. It is a small insectivorous bird, which is colored olive-gray above and whitish underneath. This vireo

nests and forage almost exclusively in riparian woodland habitats. Least Bell's vireo winter in southern Baja California, Mexico, and typically migrate between mid March and early April to southern California and northwestern Baja California, where they remain until late September. Marginally suitable LBV habitat was identified during vegetation mapping of riparian habitat.

An experienced team of GLA biologists (lead surveying biologists were familiar with the songs, whisper songs, calls, scolds and plumage characteristics of adult and juvenile vireos), conducted focused least Bell's vireo (LBV) surveys according to *Least Bell's Vireo Guidelines* issued by U.S. Fish and Wildlife Service (USFWS) (January 2001) to determine the presence/absence of LBV within or adjacent to the Project Site. In accordance with these guidelines, all riparian areas and adjacent habitats were surveyed at least eight times, at least ten days apart, between May 15 and July 27, and between dawn and 11:00 am. Surveys were conducted in the spring to summer of 2007. Opportunistic surveys were also conducted in spring and summer of 2010 along with a single survey on July 28, 2012 as the riparian habitat exhibited sufficient recovery to support this species.

Habitat Assessment and Focused Surveys for the Southwestern Willow Flycatcher

The endangered southwestern willow flycatcher (SWF) is one of four subspecies of willow flycatchers recognized in North America and is distinguished by subtle differences in color and morphology. Although the subspecies occupy distinct breeding ranges, northern subspecies (*Empidonax traillii brewsteri* and *Empidonax traillii adastus*) do pass through southern California during migration. All three subspecies of willow flycatcher that occur in California, including *Empidonax traillii extimus* described above, are listed by the state as endangered species. However, only the SWF subspecies nests within southern California.

SWF breed in riparian habitats along rivers, streams, or other wetlands characterized by dense willows and shrubs in woodlands with standing water. Willow flycatcher subspecies winter in Mexico and Central America, and typically arrive at sites in the southwest in mid-May and remain until late August. Suitable SWF habitat was identified during vegetation mapping.

Protocol surveys for the southwestern willow flycatcher were performed in an unnamed creek that runs along the western boundary of the Study Area. Surveys were conducted in accordance with the 2000 U.S. Fish and Wildlife Service (USFWS) guidelines, which stipulate that for Projects, five surveys (divided into three survey periods) shall be conducted in all areas of suitable habitat. One survey was conducted during the first survey period (May 15 to May 31). One survey was conducted during the second survey period (June 1 to June 21), and three surveys, spaced at least five days apart were conducted during the third survey period (June 22 to July 17).

GLA biologist Jeff Ahrens (TE052159-2) conducted the protocol surveys on May 21, June 1, 29, July 8, and 13, 2007. All surveys were conducted during the morning hours and were completed before 11:00 A.M. No surveys were conducted during extreme weather conditions (i.e., winds exceeding 15 miles per hour, rain, or temperatures in excess of 95ºF). All areas of suitable habitat were surveyed on foot by walking slowly and methodically. Taped vocalizations and "pishing" sounds were utilized to elicit a response from willow flycatchers that might be present. The detection of willow flycatchers on site was based on both sight and call. Any southwestern willow flycatchers that were observed were noted and locations as well as behavior were recorded. A copy of the Southwestern Willow Flycatcher report is attached as Appendix D.

2.4 Jurisdictional Delineation

Prior to beginning the field delineation a 350-scale color aerial photograph, a 350-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/CDFW 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 Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region (Version 2.0) (Arid West Supplement).[3] While in the field the jurisdictional area was recorded onto a 350-scale color aerial photograph using visible landmarks.

The SCS has mapped the following soil series as occurring within the Project Site: Alo Clay, Alo Variant Clay, Anaheim Loam, Anaheim Clay Loam, Balcom Clay Loam, Calleguas Clay Loam, Cieneba Sandy Loam, Cieneba Rock Outcrop Complex, Mocho Loam, Myford Sandy Loam, Nacimiento Clay Loam, Soper Gravelly Loam, Sorrento Clay Loam.

None of these soil units are identified as hydric in the SCS's publication, Hydric Soils of the United States[4], or the SCS's publication, Local Hydric Soils Lists for Orange County and Western Riverside County.

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

[3] U.S. Army Corps of Engineers, Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region (Version 2.0), 2008.

[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.)

Under the new Arid West Supplement, the presence of mapped hydric soils is no longer considered as an indicator of the presence of hydric soils, independent of onsite confirmation.

3.0 REGULATORY SETTING

The proposed development 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 California Endangered Species Act (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 Coastal California Gnatcatcher Critical Habitat Area

The Study Area falls entirely within Unit 9 of the existing critical habitat for coastal California gnatcatcher[5] designated by the U.S. Fish and Wildlife Service. Critical Habitat designations do not apply to private property; however, where "federalization" of a project occurs through involvement of a federal agency, the Critical Habitat designation would apply to the federal action. In this instance, the potential federal action would be the issuance of a Section 404 permit authorizing the discharge of fill into the drainages during project grading. If the Corps asserts jurisdiction over some or all of the drainages then a Section 7 Consultation with USFWS could be required between the Corps and USFWS with the applicant involved as an interested party, if the Corps determines that the project would result in "adverse modification" of critical habitat. If such consultation should occur, and the USFWS finds that the project would result in adverse modification of critical habitat then USFWS would likely require mitigation for impacts to coastal sage scrub and potentially to chaparral and riparian habitats, all of which are defined as Primary Constituent Elements (PCEs) by the USFWS for the gnatcatcher. The extent of the mitigation would be based on the extent of coastal sage scrub and other areas that potentially meet the PCE definitions.

3.2 California Environmental Quality Act

3.2.1 CEQA Guidelines Section 15380

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

[5] As a result of legal challenges regarding the U.S. Fish and Wildlife Service's October 24, 2000 designation of critical habitat for the coastal California gnatcatcher, the U.S. District Court for the Central District of California granted the Service's request to re-propose critical habitat. The site is also entirely within Unit 9 of the critical habitat as re-proposed in 2003 by the U.S. Fish and Wildlife Service.

3.2.2 Non-Listed Special-Status Plants and Animals Evaluated Under CEQA

Federally Designated Special-Status Species

Some years ago, 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. 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. Additionally, the USFWS *Birds of Conservation Concern 2008* report was published to identify the migratory and nonmigratory bird species (beyond those already federally listed) that represent the highest conservation priorities for 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 Category 1 candidates)
- BCC USFWS Birds of Conservation Concern

State-Designated Special-Status Species

Some mammals and birds are protected by the state as Fully Protected (FP) 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
- SCE State candidate for listing as Endangered
- SCT State candidate for listing as Threatened
- FP State Fully Protected
- SSC California Species of Special Concern
- WL Watch List

California Rare Plant Rank

The CNPS is a private plant conservation organization dedicated to the monitoring and protection of sensitive species in California. The California Native Plant *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). The list serves as the candidate list for listing as threatened and endangered by CDFW. CNPS and CDFW have jointly assigned five California Rare Plant Ranks (CRPR), which are categories of rarity that are summarized in Table 3-1

Table 3-1. California Rare Plant Ranks 1, 2, 3, & 4, and Threat Code Extensions.

CRPR List	Comments
List 1A – Presumed Extinct in California	Thought to be extinct in California based on a lack of observation or detection for many years.
List 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.
List 2 - Rare or Endangered in California, More Common Elsewhere	Species that are rare in California but more common outside of California
List 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.
List 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	**Comments**
.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 provides the results of general biological surveys, vegetation mapping, habitat assessments and focused surveys for special status plants and wildlife, including a jurisdictional delineation for Waters of the United States (including wetlands) subject to the jurisdiction of the U.S. Army Corps of Engineers (Corps) and streams (including riparian vegetation) and lakes subject to the jurisdiction of the California Department of Fish and Wildlife (CDFW).

4.1 Existing Conditions

The Study Area comprises approximately 504 acres, including the approximately 469-acre Project Site and 35-acre offsite study area, and consists of a diverse range of habitat / land use types including sage scrub habitat, chaparral, and riparian habitats, as well as disturbed habitats such as ruderal vegetation, and disturbed/developed land. The southern portion of the Project Site contains numerous oil wells, and oil extraction equipment, and service roads. Due to the high human use of the southern portion of the Project Site, there is a predominance of non-native vegetation and disturbed lands when compared to the relatively un-disturbed northern portion of the Project Site.

The Study Area is dominated by ridges and associated canyons that support riparian habitat. A total of four blue-line drainages occur on site, as depicted on the U.S. Geological Survey (USGS) topographic map Yorba Linda, California (Yorba Linda, 1988), and Prado Dam, California (Prado Dam 1981) USGS 7.5-minute quadrangle maps [Exhibit 2]. . Elevation ranges from approximately 550 feet above mean sea level (MSL) at the southwest boundary to 1,550 feet MSL at the north boundary. The property immediately north and east of the study area is currently open space, while property bordering the west and southern boundary is residential development.

The entirety of the property falls within Unit 9 of the USFWS designated final critical habitat for the coastal California gnatcatcher.

4.1.1 Conditions Pre- and Post-Freeway Complex Fire

As previously noted, the November 15, 2008 Freeway Complex Fire burned the entire site during fall of 2008. Prior to the fire, the coastal sage scrub habitats within the Study Area exhibited a diverse suite of species, including California sagebrush (*Artemisia californica*), black sage (*Salvia mellifera*), California figwort (*Scrophularia californica*), bush monkey-flower (*Mimulus aurantiacus*), California buckwheat (*Eriogonum fasciculatum*), white sage (*Salvia apiana*), coastal deerweed (*Acmispon glaber var. glaber*), Menzies' goldenbush (*Isocoma menziesii* var. *menziesii*), coastal prickly pear (*Opuntia littoralis*), California everlasting (*Gnaphalium californicum*), California encelia (*Encelia californica*), golden yarrow (*Achillea millefolium*), chia (*Salvia columbariae*), California aster (*Corethrogyne filaginifolia* var. *californica*), coastal paintbrush (*Castilleja affinis*), Box springs goldenbush (*Ericameria palmeri* var. *pachylepis*),

California witch's hair (*Cuscuta californica*), and morning-glory (*Calystegia macrostegia*). The disturbed California sagebrush scrub within the Study Area supported a similar species composition with a substantial component of non-native plant shrubs and herbaceous species. Despite the presence of suitable habitat, coastal California gnatcatcher has never been detected at the on-site or off-site portions of the Study Area (Campbell BioConsulting, Inc. 2002, GLA 2007, and PCR Services Corporation 2012). Additionally, the Study Area supported numerous blue elderberry and coast live oak, and California black walnut trees, many of which were damaged and a few of which were killed by the fire. Finally, the riparian canopy species (e.g. black willow, red willow, arroyo willow, and mulefat) observed by GLA at Drainages G and F were burned, which substantially narrowed the band of native riparian trees and large shrubs associated with these drainages; however, by summer of 2012 when the jurisdictional delineation was updated, the riparian habitat was largely recovered.

Post-fire succession varies among habitat types, with some habitats exhibiting signs of reverting to their pre-fire condition, which will still require a number of years, while other habitats may never return to their pre-fire condition and instead transition to a new habitat type, such as coastal sage scrub converting to non-native grassland. Under either scenario, the early post-fire successional stage consists of fire-following species that require the seed bank to be heated/burned, and/or weedy species that are able to quickly reproduce and fill the open niches left by the destroyed vegetation. The Esperanza Hills site is currently in an early post-fire successional stage, and habitat recovery will vary according to a number of factors. It is presumed that the habitats within the Study Area will return to pre-fire conditions eventually; however, such conversion will take one to two decades. Individual trees, including both upland, and to a lesser extent, riparian species, killed by the fire will obviously not regrow, and recruitment and growth of new saplings to maturity will take several years. Additionally, given that locally dominant patches of bush mallow were present on the site prior to the fire, it is possible that not all coastal sage scrub colonized by bush mallow post-fire will eventually revert to coastal sage scrub. Site visits in spring of 2010 and 2012 and winter 2013 confirmed that while vegetation in some areas was following a typical trajectory for recovery, many of the affected areas remain dominated by bush mallow (*Malacothamnus fasciculatus*).

It should also be noted that although much of the coastal sage scrub will likely revert to the pre-fire condition after one to two decades, it is not anticipated that coastal California gnatcatcher will colonize such areas since it was never observed within the Study Area.

4.2 Vegetation Mapping

During vegetation mapping of the Project Site, 16 different associations were identified within eight vegetation/land use types. Table 4-1 provides a summary of vegetation types/land uses and the corresponding acreage. Numbers recorded in Table 4-1 are rounded to the nearest hundredth. Detailed descriptions of each type follow the table. A Vegetation Map is attached as Exhibit 3. Photographs depicting the various vegetation types and land uses are attached as Exhibit 4 [Site Photographs].

As already noted, the November 15, 2008 Freeway Complex Fire burned the entire site during fall of 2008. Habitat recovery varies according to a number of factors. The habitat mapping is generally consistent with vegetation/land use types present prior to the Freeway Complex Fire as it is presumed that most habitats will eventually recover to pre-fire conditions; however, the descriptions of each vegetation/land use type following the table include both pre- and post-fire conditions as appropriate; Site visits in spring of 2010 and 2012 and winter 2013 confirmed that while vegetation was following a typical trajectory for recovery, many of the affected areas remain dominated by bush mallow (*Malacothamnus fasciculatus*), a fire follower, and as appropriate, the current conditions are noted where it varies from mapped conditions.

Table 4-1. Summary of Vegetation/Land Use types for the Esperanza Hills Property Study Area

Vegetation/Land Use Type	Total in Study Area (Acres)	Percent of Total Study Area
Coastal Sage Scrub	**45.88**	**9.1**
California Sagebrush Scrub	24.21	4.8
Disturbed California Sagebrush Scrub	10.32	2.0
Purple Sage Scrub	10.14	2.0
Sagebrush-Monkeyflower Scrub	1.21	0.2
Ecotonal Habitats	**129.45**	**25.7**
Coastal Sage Scrub/Chaparral Ecotone	95.02	18.9
Sumac Savannah	34.43	6.8
Chaparral Habitats	**124.38**	**24.7**
Toyon/Sumac Chaparral	122.63	24.3
Sumac/Elderberry Chaparral	1.75	0.3
Woodland Habitats	**36.61**	**7.3**
California Walnut Woodland	6.37	1.3
Blue Elderberry Woodland	23.88	4.7
Southern Coast Live Oak Forest	6.36	1.3
Riparian Habitats	**5.34**	**1.0**
Mulefat Scrub	1.93	0.3
Black Willow Riparian Forest	0.19	0.04
California Walnut/Mulefat Scrub	2.70	0.5
Southern Willow Scrub	0.52	0.1
Grassland Habitats	**136.10**	**27.0**
Annual Grassland	136.10	27.0
Disturbed Habitats	**15.93**	**3.2**
Ruderal	15.93	3.2
Developed Land	**10.51**	**2.0**
Graded Areas/Paved Roads	10.17	2.0
Ornamental Vegetation	0.28	0.1
Detention Basin	0.06	0.01
Total Vegetation/Land Use Acreage	**504.20**	**100**

*please note that percentages for each habitat type do not add to 100 percent due to rounding error.

4.2.1 Coastal Sage Scrub Habitats

Prior to the 2008 Freeway Complex Fire, coastal sage scrub habitat occupied approximately 45.88 acres of the Study Area. Four different associations of coastal sage scrub were identified: California sagebrush scrub, disturbed California sagebrush scrub, purple sage scrub, and sagebrush-monkeyflower scrub. A brief description of each association in the pre-fire conditions is provided below and includes acreages and the dominant plant species observed along with description in the current post-fire conditions.

California Sagebrush Scrub

Approximately 24.21 acres of the Study Area supported California sagebrush scrub. The majority of the California sagebrush scrub was identified in the southeastern portion of the Study Area, however smaller areas of California sagebrush scrub were found throughout. The California sagebrush scrub on site was commonly observed adjacent to areas supporting non-native/native grasslands.

Surveys in 2007, prior to the 2008 Freeway Complex Fire, found that the dominant plant species observed within the California sagebrush scrub consist of California sagebrush (*Artemisia californica*), black sage (*Salvia mellifera*), occasional individuals of California buckwheat (*Eriogonum fasciculatum*), Menzies' goldenbush (*Isocoma menziesii* var. *menziesii*), and California encelia (*Encelia californica*). Understory includes non-native grasses and herbs including red brome (*Bromus madritensis* ssp. *rubens*), ripgut (*Bromus diandrus*), and tocalote (*Centaurea melitensis*)

However, surveys in April 2012 and January 2013 found that the majority of California sagebrush scrub was dominated by bush mallow (*Malacothamnus fasciculatus*), a fire follower, which occurs in near monocultural stands (i.e., areas vegetated with only a single plant species) on large portions of the site. Over time, the abundance of bush mallow will diminish with a corresponding increase in species that were dominant in the pre-fire condition; however, such conversion will take one to two decades. As such, under existing conditions, habitat value for coastal sage scrub-associated sensitive species, including coastal California gnatcatcher, is greatly diminished. Currently, areas previously mapped as California sagebrush scrub are largely dominated by bush mallow, laurel sumac (which has re-sprouted following the fire), and deer weed (*Acmispon glaber*), another fire follower. Neither the laurel sumac or deerweed provide potential habitat for the coastal California gnatcatcher.

Disturbed California Sagebrush Scrub

Approximately 10.32 acres of the Study Area supported disturbed California sagebrush scrub. The disturbed California sagebrush scrub is similar in composition to the California sagebrush scrub except that the diversity of native species is lower and the number of non-native species is higher. The disturbed California sagebrush scrub was found throughout the entire Study Area and was commonly observed adjacent to areas supporting non-native/native grasslands.

During surveys conducted in 2007 prior to the Freeway Complex Fire, the dominant plant species observed within the disturbed California sagebrush scrub consist of California sagebrush, black sage, California buckwheat, , and California encelia. The disturbed California sagebrush scrub contains a large non-native component that includes grasses such as ripgut grass (*Bromus diandrus*), soft chess (*Bromus hordeaceus*), and foxtail grass (*Bromus madritensis* ssp. *rubens*).

As noted above, surveys in April 2012 and January 2013 found that the majority of disturbed California sagebrush scrub was dominated by bush mallow (*Malacothamnus fasciculatus*), a fire follower and which occurs in near monocultural stands on large portions of the site. Over time, the abundance of bush mallow will diminish with a corresponding increase in species that were dominant in the pre-fire condition: however, such conversion will take one to two decades. As such, under existing conditions, habitat value for coastal sage scrub-associated sensitive species, including coastal California gnatcatcher, is greatly diminished. Currently, areas previously mapped as disturbed California sagebrush scrub are largely dominated by bush mallow, laurel sumac (which has re-sprouted following the fire), and deer weed (*Acmispon glaber*) another fire follower. Neither the laurel sumac or deerweed provide potential habitat for the coastal California gnatcatcher.

Purple Sage Scrub

Approximately 10.14 acres of the Study Area supported purple sage scrub. The purple sage scrub was observed in the southern portion of the Project Site with the exception of one polygon in the northern portion. The purple sage scrub observed on site was commonly found adjacent to California sagebrush scrub, California coastal sage scrub/chaparral ecotone, and toyon/sumac chaparral.

During surveys conducted in 2007 prior to the Freeway Complex Fire, the dominant plant species observed within the purple sage scrub consisted mostly of purple sage (*Salvia leucophylla*). Other components of the purple sage scrub included white sage, giant wildrye (*Leymus condensatus*), bush lupine (*Lupinus succulentus*), black sage, coyote bush (*Baccharis pilularis*), poison oak (*Toxicodendron diversilobum*), and fuchsia flowered gooseberry (*Ribes speciosum*). The purple sage scrub contained scattered blue elderberry (*Sambucus nigra* ssp. *caerulea*), toyon (*Heteromeles arbutifolia*), and lemonade berry (*Rhus integrifolia*).

As noted above, surveys in April 2012 and January 2013 found that the majority of purple sage scrub was dominated by bush mallow (*Malacothamnus fasciculatus*), a fire follower and which occurs in near monocultural stands on large portions of the site. Over time, the abundance of bush mallow will diminish with a corresponding increase in species that were dominant in the pre-fire condition: however, such conversion will take one to two decades. As such, under existing conditions, habitat value for coastal sage scrub-associated sensitive species, including coastal California gnatcatcher, is greatly diminished. Currently, areas previously mapped as purple sage scrub are largely dominated by bush mallow, another fire follower.

Sagebrush-Monkeyflower Scrub

Approximately 1.21 acres of the Study Area supported sagebrush-monkeyflower scrub. The sage-brush monkeyflower scrub was observed on north facing slopes within the southern portion of the Study Area in close proximity to the coastal sage scrub/chaparral ecotone.

Prior to the Freeway Complex Fire, the dominant plant species observed within the sagebrush monkeyflower scrub were California sagebrush, bush monkeyflower, Menzies' goldenbush, giant wild rye, poison oak, purple sage, fucshia-flowered gooseberry, and black sage. The sagebrush-monkeyflower scrub contained scattered blue elderberry (*Sambucus nigra ssp. caerulea*), some of which were killed by the fire, and a number of the elderberry trees that were killed by the fire have not regenerated, while toyon (*Heteromeles arbutifolia*) and lemonade berry (*Rhus integrifolia*), which re-sprout following fire, are recovering. A significant portion of this habitat is now dominated by bush mallow.

4.2.2 Ecotonal Habitats

Ecotonal habitats occupy approximately 129.45 acres of the Project Site. Two associations were identified: coastal sage scrub/chaparral, and sumac savannah. A brief description of each association is provided below. Following the Freeway Complex Fire, these habitats, much like the coastal sage scrub associations, support a significant component of bush mallow.

Coastal Sage Scrub/Chaparral

Approximately 95.02 acres of the Study Area supported coastal sage scrub/chaparral ecotone. This ecotone was commonly observed on north facing slopes but was observed on all aspects throughout the entire Project Site. This ecotone is difficult to define as it contains elements from both coastal sage scrub and chaparral.

Prior to the Freeway Complex Fire, the dominant plant observed within the coastal sage scrub/Chaparral ecotone consisted of laurel sumac, toyon, lemonade berry, and blue

elderberry. The stands of chaparral were intermixed with areas containing coastal sage scrub species that consists of black sage, purple sage, chaparral bush mallow (*Malacothamnus fasciculatus*), coyote bush, California sagebrush, giant wildrye, and Menzies' goldenbush.

Surveys in April 2012 and January 2013 found this habitat dominated by bush mallow, with the majority of blue elderberry killed by the fire, and the laurel sumac resprouted.

Sumac Savannah

Approximately 34.43 acres of the Study Area supported sumac savannah. The sumac savannah was commonly observed on south facing slopes within areas supporting non-native/native grasslands. Areas mapped as sumac savannah contain the same understory species as the non-native/native grasslands but have a scattered cover of laurel sumac with occasional individuals of blue elderberry.

The dominant species observed within sumac savannah consist of laural sumac, and various native and non-native grassland and ruderal species including ripgut grass, soft chess, foxtail grass, purple needlegrass (*Stipa pulchra*), tree tobacco (*Nicotania glauca*), horehound (*Marrubium vulgare*), Italian wildrye (*Lolium multiflorum*), English wildrye (*Lolium perenne*), Russian thistle (*Salsola tragus*), summer mustard (*Hirschfeldia incana*), black mustard (*Brassica nigra*), slender wild oats (*Avena barbata*), common wild oats (*Avena fatua*), dove weed (*Croton setigerus*), telegraph weed (*Heterotheca grandiflora*), and sweet fennel (*Foeniculum vulgare*).

As noted above, most individuals of laurel sumac have re-sprouted following the fire and this community is generally consistent in species composition with the pre-fire conditions.

4.2.3 Chaparral Habitats

Chaparral habitats occupied approximately 124.38 acres of the Study Area. Two associations were identified: toyon/sumac chaparral and sumac/elderberry chaparral. A brief description of each association is provided below.

Toyon/Sumac Chaparral

Approximately 122.63 acres of the Study Area supported toyon/sumac chaparral. This community was commonly observed on the north facing slopes of the Study Area.

Prior to the Freeway Complex Fire, the toyon/sumac community was characterized by a dominance of evergreen chaparral species including toyon, laurel sumac, lemonade berry, holly-leaved redberry (*Rhamnus ilicifolia*), blue elderberry, poison oak, and southern honeysuckle (*Lonicera subspicata*).

Following the fire, these areas exhibit dense areas of bush mallow with toyon and laurel sumac recovering due to the ability to re-sprout following fire. Additionally, most of the blue elderberry trees were damaged and some were killed by the fire.

Sumac/Elderberry Chaparral

Approximately 1.75 acres of the Study Area support sumac/elderberry chaparral. This community occurs along Drainage D, where it intergrades with blue elderberry woodland and is differentiated from the blue elderberry woodland by a clear dominance of the laurel sumac. Other species include the bush mallow and a variety of non-native grasses and forbs.

4.2.4 Woodland Habitats

Woodland habitats occupy approximately 36.61 acres of the Study Area. Three woodland associations were identified: California walnut woodland, blue elderberry woodland, and southern coast live oak forest. A brief description of each association is provided below and includes acreages and the dominant plant species observed.

California Walnut Woodland

Prior to the 2008 Freeway Complex Fire, approximately 6.37 acres of the Study Area supported California walnut woodland. This community was observed in the southern portion of the Study Area and is restricted to Blue Mud Canyon and was closely associated with California sagebrush-monkeyflower scrub, blue elderberry woodland, and the coastal sage scrub/chaparral ecotone. The California walnut woodland is considered a special-status habitat by CDFW.

Prior to the fire, the California walnut woodland within the study area was dominated by the California walnut (*Juglans californica*). Other species associated with this community consist of giant wildrye, bush monkeyflower, laurel sumac, toyon, lemonade berry, poison oak, chaparral nightshade (*Solanum xantii*), coyote bush, purple sage, and less commonly California sagebrush.

It should be noted that the vast majority of the walnut trees within the Study Area burned in the 2008 Freeway Complex Fire, and based on surveys in January 2013, many appear to have been damaged and a few killed by the fire, with the damaged trees exhibiting some signs of re-growth including some crown-sprouting. Additionally, bush mallow now dominates some portions of this habitat, and the toyon and laurel sumac have re-sprouted.

Blue Elderberry Woodland

Prior to the 2008 Freeway Complex Fire, approximately 23.88 acres of the Study Area supported blue elderberry woodland. This community was commonly observed on the

lower slopes of hillsides and within the drier reaches of the riparian areas and on terraces adjacent to drainage courses.

Component species within blue elderberry woodland include blue elderberry, albeit at a low density of approximately 10 trees per acre, laurel sumac, which is often co-dominant or dominant in these areas, coyote bush, giant wild rye, poison oak, California walnut (restricted to Blue Mud Canyon and limited areas along Drainage D), sweet fennel, southern honeysuckle, poison hemlock (*Conium maculatum*), chaparral nightshade, stinging nettle (*Urtica dioica* ssp. *holosericea*), and fuchsia flowered gooseberry. The blue elderberry woodland is considered a special-status habitat by CDFW; although it is not clear that as currently listed in the CNDDB that that it would apply to the Blue elderberry habitat on the site as addressed in Section 4.3 that addresses special-status habitats below.

Based on surveys conducted in January 2013, it appears that the greater than half of blue elderberry trees on the site were damaged and a smaller number killed by the 2008 Freeway Complex Fire, especially those within the lower and offsite portions of the canyon the contains Drainage D, where it appears that the majority elderberry trees were damaged and a few killed by the fire. These areas now support dense stands of bush mallow with individuals of re-sprouting laurel sumac and toyon. Many of the damaged elderberry trees have also begun to re-sprout. Nevertheless this community was substantially degraded by the fire.

Southern Coast Live Oak Forest

Prior to the 2008 Freeway Complex Fire approximately 6.36 acres of the Study Area was vegetated with southern coast live oak forest. Based on surveys in January of 2013, it is estimated that approximately 50-percent of the oak trees were killed by the fire with about 50-percent of the oaks exhibiting partial re-sprouting and otherwise in poor condition.

The southern coast live oak forest is dominated by coast live oak (*Quercus agrifolia*). Other plant species within this community consisted of blue elderberry (most of which were damaged and a few killed by the fire) along with laurel sumac, holly-leaved red berry, giant wild rye, which have re-sprouted since the fire, and sweet fennel, a non-native invasive species that has proliferated since the fire.

A very small portion of the southern coast live oak forest occurs within the jurisdictional boundaries of the CDFW pursuant to Section 1600 of the California Fish and Game Code; however, the vast majority of this vegetation type occurs outside of the CDFW jurisdiction, and is not considered a riparian habitat.

4.2.5 Riparian Habitats

Prior to the Freeway Complex Fire, riparian habitats occupied approximately 5.34 acres of the Study Area. Four different associations were identified: mulefat scrub, black willow riparian forest, southern willow scrub, and California walnut/mulefat scrub. The fire burned a significant portion of the riparian vegetation, and although it is recovering, the widths of the swath of riparian trees and shrubs associated with each drainage are roughly half of what they were in their pre-fire condition, and many areas are now dominated instead by poison hemlock (*Conium maculatum*) and tree tobacco (*Nicotiana glauca*). A brief description of each association is provided below and includes acreages and the dominant plant species observed.

Mulefat Scrub

Approximately 1.93 acres of the Study Area supported mulefat scrub. This community was observed in localized patches along drainages. This community was mapped in the southeastern portion of the Project Area and is commonly intermixed with the black willow riparian forest and blue elderberry woodland.

Prior to the fire, the mulefat scrub community was dominated by mulefat (*Baccharis salicifolia*), blue elderberry, poison oak, California walnut, coyote bush, chaparral bush mallow, poison hemlock, sweet fennel, giant wild rye, common cocklebur (*Xanthium strumarium*), common sow thistle (*Sonchus oleraceus*), mugwort (*Artemisia douglasiana*), stinging nettle, rabbitsfoot grass (*Polypogon monspeliensis*), and common celery (*Apium graveolens*).

Following the fire, the mulefat has partially returned, but many areas previously vegetated with mulefat are now stands of dense poison hemlock and tree tobacco. Additionally, most of the blue elderberry and California walnut were damaged and a few killed by the fire, but the damaged trees are beginning to re-sprout.

Black Willow Riparian Forest

Prior to the 2008 Freeway Complex Fire, approximately 0.19 acres of the Study Area supported black willow riparian forest, all of which was located off-site. The black willow riparian forest was mapped in the southeastern portion of the Study Area adjacent to residential housing and existing oil facilities. Much of the black willow riparian forest was associated with streambeds and was considered to be jurisdictional. Other areas of black willow riparian forest were outside of the bed and banks of the drainage features, and therefore outside of CDFW jurisdictional boundaries.

Prior to the fire, the black willow riparian forest was dominated by black willow (*Salix goodingii*), red willow (*Salix laevigata*), arroyo willow (*Salix lasiolepis*), blue elderberry, mulefat, poison oak, poison hemlock, castor bean (*Ricinus communis*), fuchsia flowered gooseberry, mugwort, hoary nettle (*Urtica dioica*), stinging nettle, sweet fennel, prickly

sow thistle (*Sonchus asper*), yerba mansa (*Anemopsis californica*), and water cress (*Rorippa nasturtium-aquaticum*).

Following the fire, the willows have largely recovered, although some areas previously vegetated with willows are now stands of dense poison hemlock and tree tobacco. Additionally, individuals of blue elderberry and California walnut were killed or damaged by the fire; although as noted many have resprouted and exhibit signs of regrowth and recovery.

California Walnut/Mulefat Scrub

Prior to the 2008 fire, approximately 2.70 acres of the Study Area supported California walnut/mulefat scrub. This community was mapped within Blue Mud Canyon in the southeastern portion of the Project Site.

The California walnut/mulefat scrub was dominated by California walnut and mulefat. Other plant species within this community were poison oak, hoary nettle, blue elderberry, toyon, and holly-leaved redberry.

Following the fire, the mulefat has partially returned, but many areas previously vegetated with mulefat are now stands of dense poison hemlock and tree tobacco. Additionally, the blue elderberry and California walnut were killed or damaged by the fire; although as noted many have resprouted and exhibit signs of regrowth and recovery.

Southern Willow Scrub

Prior to the 2008 fire, approximately 0.52 acre of the Study Area was dominated by southern willow scrub. This community was mapped in the eastern portion of Blue Mud Canyon and the southern portion of Drainage D. Southern willow scrub is classified as a sensitive natural community by CDFW.

These relatively small areas of Southern Willow Scrub contained dense thickets of willow species including arroyo willow (*Salix lasiolepis*), in addition to mule fat (*Baccharis salicifolia*), and blue elderberry (*Sambucus nigra* ssp. *caerulea*). Understory species include poison oak (*Toxicodendron diversilobum*) and California mugwort (*Artemesia douglasiana*).

Following the fire, the willows and mulefat have partially returned, but many areas previously vegetated with willows and mulefat are now stands of dense poison hemlock and tree tobacco. Additionally, many individuals of blue elderberry were killed or damaged by the fire; although as noted many have resprouted and exhibit signs of regrowth and recovery.

4.2.6 Grassland Habitats

Grassland habitat occupies approximately 136.10 acres of the Study Area. One association was identified: annual grasslands. A brief description of the non-native/native grassland habitat is provided below.

Annual Grassland

Approximately 136.10 acres of the Study Area supports annual grassland. This community was mapped on hill-tops, ridgelines, and south facing slopes throughout the Project Site.

The annual grassland community is dominated by non-native grasses. Many of the non-native grasses found on site are considered to be a naturalized species in southern California. Dominant grasses include ripgut brome, soft chess, Italian wildrye, English wildrye, fox-tail grass, African fountain grass (*Pennisetum setaceum*), slender wild oats, and common wild oats. Dominant forbs mapped in the annual grassland community are Russian thistle, summer mustard, black mustard, tocalote, bur clover (*Medicago polymorpha*), horehound, and telegraph weed.

The species composition of the annual grasslands was largely unchanged by the 2008 Freeway Complex Fire.

4.2.7 Disturbed Habitats

Disturbed habitats occupy approximately 15.93 acres of the Study Area,. One association was identified: ruderal vegetation. A brief description of is provided below and includes acreages and the dominant plant species observed.

Ruderal Vegetation

Approximately 15.93 acres of the Study Area consists of ruderal vegetation. The majority of ruderal vegetation was mapped in the southern portion of the Study Area. A small area of ruderal vegetation was mapped in the northeast portion of the Project Site. This vegetation type was typically observed adjacent to the oil extraction equipment, roads and less commonly adjacent to riparian areas.

The dominant ruderal vegetation consists of summer mustard, black mustard, tree tobacco, horehound, calabazilla (*Cucurbita foetidissima*), Russian thistle, wild radish (*Raphanus sativus*), salt heliotrope (*Heliotropium curassavicum*), telegraph weed, tocalote, and artichoke thistle (*Cynara cardunculus*).

4.2.8 Developed Land

Approximately 10.51 acres of the Study Area consists of developed lands. A brief description of the developed lands within the Study Area is provided below**.**

Graded Areas

Approximately 10.17 acres of the Study Area consists graded areas. Areas within the Study Area mapped as graded consist of dirt roads, and pads for oil equipment. The majority of the areas mapped as graded were observed in the southern portion of the Study Area. Two areas containing service roads used to maintain power lines were mapped in the northeastern portion of the Project Site. Although vegetation was not commonly associated with the graded areas, numerous ruderal species were observed adjacent to the service roads and within the oil pad areas.

Ornamental Vegetation

Approximately 0.28 acre of the Study Area supports ornamental vegetation. One small area of ornamental vegetation was observed in the eastern portion of the Study Area adjacent to residential housing.

The ornamental vegetation observed on site consists of aleppo pine (*Pinus halepensis*), acacia (*Acacia redolens*), hottentot fig (*Carpobrotus edulis*), sweet allysum (*Lobularia maritima*), Peruvian pepper tree (*Schinus molle*), and myoporum (*Myoporum laetum*).

Detention Basin

Approximately 0.06 acre of the off-site portion of the Study Area consists of a constructed earthen detention basin vegetated with species including rabbitfoot grass (*Polypogon monspeliensis*), bristly ox-tongue (*Helminthotheca echiodes*), water beard grass (*Polypogon viridis*) and southern cattail (*Typha domingensis*). The basin is owned by Metropolitan Water District (MWD) and appears to be subject to regular maintenance.

4.3 Special Status Habitats

Three special status plant communities were observed within the Study Area: southern willow scrub, California walnut woodland, and blue elderberry woodland. Refer to Exhibit 3 (Vegetation Map) for locations of the special status habitats.

It should be noted that for the Study Area, none of the coastal sage scrub habitat types, which include California sagebrush scrub (G5S5), disturbed California sagebrush scrub (G5S5), purple sage scrub (G4S4), and sagebrush-monkeyflower scrub (G5S5), are considered special status both because the global and state rankings indicate that they are secure and not rare, and because they generally exhibit a high degree of disturbance resulting from the Freeway Complex Fire.

California Walnut Woodland

California walnut woodland was observed within the Study Area and occurs in one contiguous polygon in the southern portion of the Study Area; however, the majority of the trees were damaged and a few killed by the 2008 fire (Exhibit 3: Vegetation Map). Approximately 6.37 acres of California walnut woodland was observed within the Study Area. California walnut woodland has a global ranking of G2 and a State ranking of S2.1[6], indicating that between 2,000 and 10,000 acres of this habitat remain throughout its global and State range, and that it is very threatened. Although a substantial number of the walnut trees within the Study Area were damaged, the walnut woodland is showing signs of recovery and is treated as a special-status habitat even with the loss of function associated with the fire.

Southern Willow Scrub

Southern willow scrub was observed in three small areas within the eastern portion of Blue Mud Canyon (Exhibit 3: Vegetation Map). Approximately 0.52 acres of southern willow scrub was observed. Southern Willow Scrub has a global ranking of G3 and a State ranking of 2.1, indicating that between 10,000 and 50,000 acres of this habitat occur within its global range, and that between 2,000 and 10,000 acres of this habitat remain within its State range, and that it is very threatened.

[6] Global and State Rankings refer to the relative rarity of vegetation types as classified by CDFW. Vegetation types are ranked on a scale of 1 to 5, with 1 being the most rare/insecure and 5 being the least. Rankings of 1 and 2 generally indicate a high to moderate degree of rarity/insecurity, a ranking of 3 indicates a low degree of rarity/insecurity, and ranks of 4 or 5 indicate that populations are secure and not rare. The global rank is an overall ranking throughout the range of the vegetation type, while the state rank refers to the relative rarity in California only. The second number after the state rank is the threat rank, with .1 being very threatened, .2 being threatened, and .3 meaning no threats are known.

Blue Elderberry Woodland

Blue elderberry woodland was observed within the Study Area and occurs on the lower slopes of hillsides and within the drier sections of the riparian areas; however, large numbers of the trees were damaged and a few killed by the 2008 fire (Exhibit 3: Vegetation Map). Approximately 23.88 acres of blue elderberry woodland was observed within the Study Area. Blue elderberry woodland has a global ranking of G3 and a State ranking of S3, indicating that between 10,000 and 50,000 acres of this habitat remain throughout its global and State range.

Currently, the CNDDB does not include a description of this habitat. Blue elderberry is a common shrub or small tree that occurs in a large variety of habitats throughout its range and most certainly occupies well over 50,000 acres when the variety of habitats it occupies are taken into account. The CNDDB currently lists the following:

**Sambucus nigra* (Blue elderberry stands) Alliance G3 S3 *63.410.00

Elderberry Savanna G2 S2.1 CTT63440CA[7]

**Sambucus nigra* *63.410.01
**Sambucus nigra* - *Heteromeles arbutifolia* *63.410.03
**Sambucus nigra* / *Leymus condensatus* *63.410.02

As noted in the description above, the blue elderberry on the site occurs in low to moderated densities with laurel sumac as co-dominant or in some cases in larger numbers than the elderberry. While both toyon (*H. arbutifolia*) and giant wild rye are present, they are not dominants and only in very limited numbers in this habitat on the site. Because there are not monocultural stands of blue elderberry on the site and because the habitat is generally co-dominated or dominated by species such as laurel sumac, it is not clear that this habitat should be treated as a special-status habitat. Nevertheless, impacts to this community, though highly degraded will be treated as significant and mitigated accordingly.

[7] According to Holland (1986) Elderberry Savannah occurs in northern California, in the Sacromento and northern San Joaquin valleys, extending as far south as Merced County. As such, this community does not occur in southern California.

4.4 Special Status Plants

4.4.1 Habitat Assessments and Literature Search for Special Status Plant Species

Table 4-2 provides a list of special-status plants evaluated for the Study Area through habitat assessments and focused surveys (where suitable habitat was present). Species were evaluated based on three factors: 1) species identified by the CNDDB and CNPS as occurring (either currently or historically) on or in the vicinity of the property, and 2) 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, 3) previous botanical reports from studies conducted on the property.

Table 4-2. Special-status plants evaluated for the Esperanza Hills Property

Species Name	Status	Habitat Requirements	Potential for Occurrence
Allen's pentachaeta *Pentachaeta aurea* ssp. *allenii*	Federal: None State: None CRPR: List 1B.1	Openings in coastal sage scrub and valley and foothill grassland. Blooming period Mar-Jun. Elevation range 75-520m	Low potential to occur
Brand's phacelia *Phacelia stellaris*	Federal: None State: None CRPR: List 1B.1	Coastal dunes and coastal sage scrub. Blooming period Mar-Jun. Elevation range 1-400m.	Low potential to occur
Braunton's milkvetch *Astralagus brauntonii*	Federal: FE State: None CRPR: List 1B.1	Chaparral, coastal scrub, and valley and foothill grassland in recently burns or disturbed areas. Usually occurs in sandstone with carbonate layers.	Observed on site during 2010 surveys
California beardtongue *Penstemon californicus*	Federal: None State: None CRPR: List 1B.2	Chaparral, lower montane coniferous forest, pinyon and juniper woodland/sandy. Blooming period May-Jun(Aug). Elevation range 1170-2300m.	Not expected to occur due to lack of suitable habitat and sandy soils.
Catalina mariposa lily *Calochortus catalinae*	Federal: None State: None CRPR: List 4	Found in native grassland and coastal sage scrub. Typically found in the Chino-Puente Hills.	Observed during surveys prior to 2007 and during 2010 surveys.
Chaparral nolina *Nolina cismontana*	Federal: None State: None CRPR: List 1B.2	Chaparral, coastal scrub (sandstone or gabbro).	Low potential to occur
Chaparral sand verbena *Abronia villosa* var. *aurita*	Federal: None State: None CRPR: List 1B.1	Sandy soils in chaparral, coastal sage scrub.	Not expected due to lack of habitat
Coulter's matilija poppy *Romneya coulteri*	Federal: None State: None CRPR: List 4	Occurs in alluvial fan sage scrub and chaparral mostly in alluvial areas in the Santa Ana mountains and adjacent foothills. Populations are known to occur within and on the slopes of the canyon along the Santa Ana River.	Not expected based on lack of detection of this easily identified species
Coulter's saltbush *Atriplex coulteri*	Federal: None State: None CRPR: List 1B.2	Coastal bluff scrub, coastal dunes, coastal sage scrub, valley and foothill grassland. Occurring on alkaline or clay soils.	Not expected due to lack of suitable habitat and alkaline or clay soils
Davidson's saltscale *Atriplex serenana* var. *davidsonii*	Federal: None State: None CRPR: List 1B.2	Alkaline soils in coastal sage scrub, coastal bluff scrub.	Not expected due to lack of suitable habitat and alkaline soils

Species Name	Status	Habitat Requirements	Potential for Occurrence
Heart-leaved pitcher sage *Lepechinia cardiophylla*	Federal: None State: None CRPR: List 1B.2	Closed-cone coniferous forest, chaparral, and cismontane woodland. Occurring on gabbroic, metavolcanic, or serpentinite soils. Blooming period Apr-Jul. Elevation range 520-1370m.	Not expected due to lack of suitable habitat and soils
Intermediate mariposa lily *Calochortus weedii* var. *intermedius*	Federal: None State: None CRPR: List 1B.2	Rocky soils in chaparral, coastal sage scrub, valley and foothill grassland.	Observed on site during 2010 surveys.
Long-spined spineflower *Chorizanthe polygonoides* var. *longispina*	Federal: None State: None CRPR: List 1B.2	Clay soils in chaparral, coastal sage scrub, meadows and seeps, and valley and foothill grasslands. Blooming period Apr-Jul. Elevation range 30-1530m.	Not expected to occur due to lack of clay soils
Malibu baccharis *Baccharis malibuensis*	Federal: None State: None CRPR: List 1B.1	Chaparral, cismontane woodland, coastal sage scrub, riparian woodland. Blooming period August. Elevation range 150-305m.	Not expected to occur due to lack of suitable habitat
Many-stemmed dudleya *Dudleya multicaulis*	Federal: None State: None CRPR: List 1B.2	Chaparral, coastal sage scrub, valley and foothill grassland. Often occurring in clay soils.	Moderate potential of occurrence, historically present in areas near Study Area
Mesa horkelia *Horkelia cuneata ssp. puberula*	Federal: None State: None CRPR: List 1B.1	Chaparral, cismontane woodland, and coastal scrub. Occurring on sandy or gravelly soils. Blooming period Feb-Jul(Sept). Elevation range 70-810m.	Not expected to occur due to lack of sandy soils
Parry's spineflower *Chorizanthe parryi* var. *parryi*	Federal: None State: None CRPR: List 3.2	Sandy or rocky soils in open habitats of chaparral and coastal sage scrub. Blooming period Apr-Jun. Elevation range 275-1220m.	Not expected to occur due to lack of sandy or rocky soils
Plummer's mariposa lily *Calochortus plummerae*	Federal: None State: CSC CRPR: List 4.2	Found in coastal sage scrub and chaparral habitats. In Orange County the species is known to occur in the Chino-Puente Hills.	Not expected to occur as Plummer's mariposa lily is not known to co-occur with intermediate mariposa lily, which occurs on-site
Rayless ragwort *Senecio aphanactis*	Federal: None State: None CRPR: 2	Occurs in rocky outcrops in coastal sage scrub. This species is known to occur on the UCI ecological reserve, and at Puddingstone Country Park.	Not expected due to lack of habitat
Robinson's pepper grass *Lepidium virginicum* var. *robinsonii*	Federal: None State: None CRPR: List 1B.2	Chaparral, coastal sage scrub. Blooming period Jan-Jul. Elevation range 1-885m.	Low potential to occur

Species Name	Status	Habitat Requirements	Potential for Occurrence
Round-leaved filaree *California macrophylla*	Federal: None State: None CRPR: List 2.1	Clay soils in cismontane woodland, valley, and foothill grassland. Blooming period Mar-May. Elevation range 15-1,200m.	Not expected to occur due to lack of clay soils
Salt spring checkerbloom *Sidalcea neomexicana*	Federal: None State: None CRPR: List 2.2	Mesic, alkaline soils in chaparral, coastal sage scrub, lower montane coniferous forest, Mojavean desert scrub, and playas.	Not expected due to lack of suitable habitat
San Bernardino aster *Symphyotrichum defoliatum*	Federal: None State: None CRPR: List 1B.2	Cismontane woodland, coastal scrub, lower montane coniferous forest, meadows and seeps, marshes and swamps, valley and foothill grassland (vernally mesic)/near ditches, streams, and springs. Blooming period Jul-Nov. Elevation range 2-2040m.	Not expected due to lack of suitable habitat
San Fernando Valley spineflower *Chorizanthe parryi* var. *fernandina*	Federal: Candidate State: SE CRPR: List 1B.1	Coastal sage scrub, valley and foothill grassland. Occurring on sandy soils. Blooming period Apr-Jul. Elevation range 150-1220m.	Not expected due to lack of sandy soils
Santa Ana River woolly star *Eriastrum densifolium* ssp. *sanctorum*	Federal: FE State: SE CRPR: List 1B.1	Alluvial fan sage scrub, chaparral. Occurring on sandy or rocky soils.	Not expected to occur due to lack of suitable soils and habitat
Slender-horned spineflower *Dodecahema leptoceras*	Federal: FE State: SE CRPR: List 1B.1	Sandy soils in alluvial fan coastal scrub, chaparral, cismontane woodland. Blooming period Apr-Jun. Elevation range 200-760m.	Not expected to occur due to lack of suitable soils and habitat
Small-flowered microseris *Microseris douglasii* var. *platycarpha*	Federal: None State: None CRPR: List 4	Found on clay soils. In Orange County known from clay grasslands in the Irvine-Costa Mesa regions.	Observed during prior surveys, not observed during 2007 or 2010 surveys
Small-flowered morning glory *Convolvulus simulans*	Federal: None State: None CRPR: List 4	Found on clay soils. Historically recorded for the Brea region, but not recently observed.	Low potential to occur
Southern California walnut *Juglans californica*	Federal: None State: None CRPR: List 4	Occurs in grasslands, floodplains and sage scrub/chaparral habitats. The Chino Hills are an important distributional center for this species.	Observed on site
Southern tarplant *Centromadia parryi* ssp. *australus*	Federal: None State: Rare CRPR: List 1B.1	Disturbed habitats, margins of marshes and swamps, vernally mesic valley and foothill grassland, vernal pools.	Not expected to occur due to lack of suitable conditions
Vernal barley *Hordeum intercedens*	Federal: None State: None CRPR: List 3	Occurs in clayey or alkali substrates, usually in grasslands or in alkali meadow habitats.	Low potential to occur

Species Name	Status	Habitat Requirements	Potential for Occurrence
White rabbit-tobacco *Pseudognaphalium leucocephalum*	Federal: None State: None CRPR: List 2.2	Chaparral, cismontane woodland, coastal scrub, and riparian woodland in sandy and gravelly soils. Blooming period (Jul)Aug-Nov(Dec). Elevation range 0-2100m.	Not expected to occur due to lack of suitable soils

Federal
FE - Federally Endangered
FT - Federally Threatened

State
SE - State Endangered
ST – State Threatened

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

CRPR 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)

Habitat assessments were conducted for special status plants with the potential to occur on site. Based on sufficient habitat several plants were targeted for focused plant surveys during the 2007 and 2010 field season. These include Allen's pentachaeta (*Pentachaeta aurea* ssp. *allenii*), Brand's phacelia (*Phacelia stellaris*), Braunton's milkvetch (*Astragalus brauntonii*), Catalina mariposa lily (*Calochortus catalinae*), chaparral nolina (*Nolina cismontana*), intermediate mariposa lily (*Calochortus weedii* var. *intermedius*), many-stemmed dudleya (*Dudleya multicaulis*), Robinson's peppergrass (*Lepidium viginicum* var. *robinsonii*), small flowered microseris (*Microseris douglasii* var. *platycarpa*), small-flowered morning glory (*Convolvulus simulans*), Southern California Walnut (*Juglans californica*), and vernal barley (*Hordeum intercedens*).

4.4.2 Special-Status Plants Observed

Three special-status plant species were observed within the Study Area during 2010 surveys: Braunton's milkvetch (*Astragalus brauntonii*), Catalina mariposa lily (*Calochortus catalinae*), and intermediate mariposa lily (*Calochortus weedii var. intermedius*). One special-status plant species was observed within the Study Area during the 2007, 2010, and 2012 survey season: Southern California walnut (*Juglans californica*). Two special-status plant species, Catalina mariposa lily and small flowered microseris (*Microseris douglasii* var. *platycarpa*), were documented within the Study Area during botanical surveys conducted by Campbell BioConsulting, Inc. from 1997 to 2002. All five special-status plants are discussed in detail below.

Braunton's milkvetch (*Astralagus brauntonii*)

Braunton's milkvetch is a perennial herb designated as a California RPR List 1B.1 species, is Federally Listed as endangered, and is not State Listed. The species is known to occur in Los Angeles, Orange, Riverside, and Ventura Counties. Braunton's milkvetch occurs mainly in chaparral, coastal scrub, and valley and foothill grasslands in recently burned or disturbed areas in sandstone soil with carbonate layers from 4 to 640 meters in elevation. Approximately 400 individuals of Braunton's milkvetch were detected during focused surveys in 2010 as depicted by Exhibit 5. A survey conducted on January 9, 2013 found many of the dried remains of the plants still intact; however all individuals of this short-lived perennial had senesced.

Catalina mariposa lily (*Calochortus catalinae*)

Catalina mariposa lily is a perennial herb designated as a California RPR List 4 species but is not Federally or State Listed. This species is known from Los Angeles, Ventura, and Orange Counties as well as the Channel Islands. Catalina mariposa lily occurs mostly in open grasslands and has been documented in the Chino-Puente Hills. Surveys completed from 1997 to 2002 by Campbell BioConsulting reported observing approximately 445 Catalina mariposa lilies scattered throughout the site. Catalina lily plants were observed during 2010 surveys. During 2007 surveys when many dried capsules believed to be remnants from previous years Catalina lily blooms were observed in grassland areas within the northern portion of the Study Area, negative survey results were thought to be an outcome of the extreme dry conditions experienced throughout southern California, and it was predicted that the 445 plants reported by Campbell BioConsulting thought to be dormant on site and would most likely flower during a later season in wetter conditions. 2010 survey results are evidence of the accurate prediction.

Intermediate mariposa lily (*Calochortus weedii var. intermedius*)

Intermediate mariposa lily is a bulbiferous herb designated as a California RPR List 1B.2 species but is not Federally or State Listed. This species is found in Los Angeles, Orange, Riverside, and San Bernardino Counties. Intermediate mariposa lily occurs

mainly in chapparal, coastal scrub, and valley and foothill grasslands in rocky, calcareous soils from 105 to 855 meters in elevation. Approximately 326 individuals of intermediate mariposa lily were detected during focused surveys in 2010 as depicted by Exhibit 5.

Southern California walnut (*Juglans californica*)

Southern California walnut is a perennial deciduous tree species designated as a California RPR List 4 species but is not Federally or State Listed. Woodlands dominated by Southern California walnut are designated as rare by CDFW. This species is endemic to California and is known to occur from Los Angeles, Orange, Riverside, San Bernardino, San Diego, Santa Barbara, and Ventura counties. This species is known to occur in chaparral, coastal sage scrub, and in coast live oak woodland from 50 to 900 meters in elevation. Southern California walnut was detected during focused surveys in 2007. However, the 2008 Freeway Complex Fire damaged a large percentage and killed a few of the walnut trees within the Study Area.

Small flowered microseris (*Microseris douglasii* var. *platycarpa*)

Small flowered microseris is an annual herb designated as a California RPR List 4 species but is not Federally or State Listed. Small flowered microseris is known from Los Angeles, Riverside, and Orange Counties and is restricted to clay soils. During focused surveys conducted by Campbell BioConsulting in 1998, 10 individuals of small flowered microseris were observed. These plants were located along the old Edison spur road, approximately 75 feet west to the Southern California Edison 500KV towers. No small flowered microseris were observed during the 2007 or 2010 surveys. The negative survey results in 2007 are thought to be an outcome of the extreme dry conditions experienced throughout southern California that year, and the 10 plants reported by Campbell BioConsulting were thought to be dormant on site and would most likely flower when wetter conditions were present. However, small flowered microseris was not detected in 2010, and it is not known if the population is extant.

4.5 Wildlife Surveys

4.5.1 Habitat Assessment and Literature and Search for Special Status Wildlife Species

Table 4-3 provides a list of special-status animals evaluated for the Study Area through habitat assessments and focused surveys (where suitable habitat was present). Species were evaluated based on two factors, including: 1) species identified by the CNDDB as occurring (either currently or historically) on or in the vicinity of the property, and 2) 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 Esperanza Hills Property

Species Name	Status	Habitat Requirements	Potential for Occurrence
Arroyo chub *Gila orcutti*	Federal: None State: None CDFW: SSC	Slow-moving or backwater sections of warm to cool streams with substrates of sand or mud.	Not expected due to lack of suitable habitat
Burrowing owl (burrow sites and some wintering sites) *Athene cunicularia*	Federal: None State: None CDFW: SSC	Shortgrass prairies, grasslands, lowland scrub, agricultural lands (particularly rangelands), coastal dunes, desert floors, and some artificial, open areas as a year-long resident. Occupies abandoned ground squirrel burrows as well as artificial structures such as culverts and underpasses.	Not expected due to lack of suitable habitat
Coast patch-nosed snake *Salvadora hexalepis virgultea*	Federal: None State: None CDFW: SSC	Occurs in coastal chaparral, desert scrub, washes, sandy flats, and rocky areas.	Low potential of occurrence
Coast horned Lizard *Phrynosoma blainvillii*	Federal: None State: None CDFW: SSC	Chaparral and coastal sage scrub	Moderate potential of occurrence
Coastal cactus wren *Campylorhychus brunneicapillus couesi*	Federal: BCC State: None CDFW: SSC	Occurs almost exclusively in cactus (cholla and prickly pear) dominated coastal sage scrub.	Not expected due to lack of suitable habitat
Coastal California gnatcatcher *Polioptila californica californica*	Federal: FT State: None CDFW: SSC	Low elevation coastal sage scrub and coastal bluff scrub.	Low potential of occurrence, not detected during 2007or 2013 surveys. Habitat largely unsuitable following 2008 fire.
Cooper's hawk (nesting) *Accipiter cooperi*	Federal: None State: None CDFW: WL	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
Golden eagle (nesting and wintering) *Aquila chrysaetos*	Federal: BCC State: None CDFW: FP, WL	In southern California, occupies grasslands, brushlands, deserts, oak savannas, open coniferous forests, and montane valleys. Nests on rock outcrops and ledges.	Observed breeding north of the site within Chino Hills State Park. Observed on site for foraging only.
Grasshopper sparrow (nesting) *Ammodramus savannarum*	Federal: None State: None CDFW: SSC	Occurs in dense grasslands on rolling hills, lowland plains, in valleys, and on hillsides on lower mountain slopes. Favors native grasslands with a mix of grasses, forbs, and scattered shrubs. Loosely colonial when nesting.	Observed on site

Species Name	Status	Habitat Requirements	Potential for Occurrence
Least Bell's vireo (nesting) *Vireo bellii pusillus*	Federal: FE State: SE CDFW: None	Dense riparian habitats with a stratified canopy, including southern willow scrub, mule fat scrub, and riparian forest.	Observed at off-site impact location at Drainage G during 2010 and 2012 surveys. Observed at Drainage G and Drainage F off-site impacts locations by PCR Services in 2012.
Loggerhead shrike (nesting) *Lanius ludovicianus*	Federal: BCC State: None CDFW: SSC	Open fields with scattered trees, open woodland and scrub. Fairly common throughout southern California	Moderate potential of occurrence.
Long-eared owl (nesting) *Asio otus*	Federal: None State: None CDFW: SSC	Riparian habitats are required by the long-eared owl, but it also uses live-oak thickets and other dense stands of trees.	Low potential of occurrence
Northern harrier (nesting) *Circus cyaneus*	Federal: None State: None CDFW: SSC	Grassland and marshy habitats in Southern California, less common in deserts and brushlands.	Observed foraging on site.
Northern red-diamond rattlesnake *Crotalus ruber*	Federal: None State: None CDFW: SSC	Habitats with heavy brush and rock outcrops, including coastal sage scrub and chaparral.	Low potential of occurrence
Orange-throated whiptail *Aspidoscelis hyperythra*	Federal: None State: None CDFW: SSC	Coastal sage scrub, chaparral, non-native grassland, oak woodland, and juniper woodland.	Moderate potential of occurrence
Pallid Bat *Antrozous pallidus*	Federal: None State:None CDFW: SSC	Habitats with rocky, outcropped areas.	No potential to roost within the Study Area; may occasionally occur for foraging only.
Peregrine falcon (nesting) *Falco peregrinus anatum*	Federal: BCC State: None CDFW: FP	Wetlands near cliffs, coastal areas and inland mountains.	Observed foraging on site
Prairie falcon *Falco mexicanus*	Federal: BCC State: None CDFW: WL	Nests in cliffs or rocky outcrops, forages in open valleys and agricultural field. Known from desert and arid interior areas of coastal counties. Uncommon resident to Southern California.	Low potential to occur on site for foraging only.

Species Name	Status	Habitat Requirements	Potential for Occurrence
Santa Ana sucker *Catostomus santaanae*	Federal: FT State: None CDFW: SSC	Small, shallow streams, less than 7 meters in width, with currents ranging from swift in the canyons to sluggish in the bottom lands. Preferred substrates are generally coarse and consist of gravel, rubble, and boulders with growths of filamentous algae, but occasionally they are found on sand/mud substrates.	Not expected due to lack of suitable habitat
Sharp-shinned hawk (nesting) *Accipiter striatus*	Federal: None State: None CDFW: WL	Breeds in young coniferous forests with high canopy associations. Habitats that they are documented to use include ponderosa pine, black oak, riparian deciduous, mixed conifer, and Jeffrey pine.	Observed on site
Southern California rufous-crowned sparrow *Aimpohila ruficeps canescens*	Federal: None State: None CDFW: WL	Grass covered hillsides, coastal sage scrub, and chaparral.	Observed on site
Southwestern willow flycatcher (nesting) *Empidonax traillii extimus*	Federal: FE State: SE CDFW: None	Riparian woodlands along streams and rivers with mature dense thickets of trees and shrubs.	Low potential of occurrence, not detected during 2007 surveys
Tricolored blackbird (nesting colony) *Agelaius tricolor*	Federal: BCC State: None CDFW: SSC	Breeding colonies require nearby water, a suitable nesting substrate, and open-range foraging habitat of natural grassland, woodland, or agricultural cropland.	No potential to occur
Vaux's swift (nesting) *Chatura vauxi*	Federal: None State: None CDFW: SSC	Forages high in air over moist terrain and habitats but prefers rivers/lakes. Requires large hollow trees for nesting.	Low potential to occur for foraging only during migration

Species Name	Status	Habitat Requirements	Potential for Occurrence
Western pond turtle *Emys marmorata*	Federal: None State: None CDFW: SSC	Slow-moving permanent or intermittent streams, small ponds and lakes, reservoirs, abandoned gravel pits, permanent and ephemeral shallow wetlands, stock ponds, and treatment lagoons. Abundant basking sites and cover necessary, including logs, rocks, submerged vegetation, and undercut banks.	No potential to occur
Western yellow bat *Lasiurus xanthinus*	Federal: None State: None CDFW: SSC	Found in valley foothill riparian, desert riparian, desert wash, and palm oasis habitats. Roosts in trees, particularly palms. Forages over water and among trees.	No potential to roost within the Study Area; may occasionally occur for foraging only.
Western yellow-billed cuckoo (nesting) *Coccyzus americanus occidentalis*	Federal: FC State: SE CDFW: None	Dense, wide riparian woodlands with well-developed understories.	No potential to occur
Western mastiff bat *Eumops perotis californicus*	Federal: None State: None CDFW: SSC	Prefers habitat edges and mosaics with trees that are protected from above and open from below with open areas for foraging. Roosts primarily in trees, 2-40 feet above ground, from sea level up through mixed conifer forests.	No potential to roost within the Study Area; may occasionally occur for foraging only.
White tailed kite (nesting) *Elanus leucurus*	Federal: None State: None CDFW: FP	Breeds in riparian trees in lower elevation areas. Known from San Diego north to San Luis Obispo Counties.	Moderate potential to occur on site.
Yellow-breasted chat (nesting) *Icteria virens*	Federal: None State: None CDFW: SSC	Dense, relatively wide riparian woodlands and thickets of willows, vine tangles, and dense brush with well-developed understories.	Observed by PCR Services on adjacent Cielo Vista Property at off-site impact areas
Yellow warbler (nesting) *Setophaga petechia*	Federal: BCC State: None CDFW: SSC	Dense, relatively wide riparian woodlands and thickets of willows, vine tangles, and dense brush with well-developed understories.	Observed on site

Federal
FE – Federally Endangered
FT – Federally Threatened
FPE – Federally proposed for listing as Endangered
FPT – Federally proposed for listing as Threatened
FC – Federal Candidate
BCC – USFWS Bird of Conservation Concern

State
SE – State Endangered
ST – State Threatened
SPE – State proposed for listing as Endangered
SPT – State proposed for listing as Threatened

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

4.5.2 Focused Surveys for Special Status Wildlife Species

Focused surveys were conducted for three special status birds with the potential to occur on site: Coastal California Gnatcatcher, Least Bell's Vireo, and the Southwestern Willow Flycatcher. A list of wildlife species identified on the Study Area during surveys is provided in Appendix B.

Coastal California Gnatcatcher Survey Results

GLA biologists detected no California gnatcatchers on the Esperanza Hills property. As noted in the vegetation descriptions above, the coastal sage scrub on the site is heavily dominated by black and purple sage and is suboptimal for the gnatcatcher thus explaining the lack of detection over this fairly large site. The complete 2007 coastal California gnatcatcher survey report is attached as Appendix C, and the complete 2013 coastal California gnatcatcher survey report is attached as Appendix F.

In addition, focused surveys for the California coastal gnatcatcher during the 2002 survey season conducted by Campbell BioConsulting Inc. had negative results.

Least Bell's Vireo Survey Results

GLA biologists did not observe least Bell's vireo during focused surveys in 2007; however, this species was observed opportunistically during other biological surveys in 2010 and 2012 as depicted by Exhibit 5 at the west end of the Study Area in the location and immediate vicinity of potential offsite impacts. Additionally, PCR Services Corporation observed least Bell's vireo, including one least Bell's vireo nest, during 2012 focused surveys at the adjacent Cielo Vista property, as depicted by Exhibit 5.

Southwestern Willow Flycatcher Survey Results

GLA biologist Jeff Ahrens detected two willow flycatchers during the second willow flycatcher survey period (June 1, 2007) on the Esperanza Hills property. Because willow flycatchers were not detected during the last three surveys (Survey Period 3), results indicate that these willow flycatchers were migrants and did not attempt to establish nesting territories on site. As such, the Esperanza Hills property is not occupied by the endangered southwestern willow flycatcher. The complete Southwestern willow flycatcher survey report is attached as Appendix D.

In addition, focused surveys for the southwestern willow flycatcher during the 2002 survey season conducted by Campbell BioConsulting Inc. had negative results.

4.5.3 Special Status Wildlife Species Observed

Ten special-status wildlife species, as designated by CDFW and/or USFWS, were observed within the Study Area: Cooper's hawk (*Accipiter cooperii*), Golden eagle (*Aquila chrysaetos*), grasshopper sparrow (*Ammodramus savannarum*), Least Bell's vireo (*Vireo bellii pusillus*), northern harrier (*Circus cyaneus*), peregrine falcon (*Falco peregrinus*), sharp-shinned hawk (*Accipiter striatus*), southern California rufous-crowned sparrow (*Aimpohila ruficeps canescens*), yellow-breasted chat (*Icteria virens*) and yellow warbler (*Setophaga petechia*). These ten special status animal species are discussed in detail below.

Cooper's Hawk (*Accipiter cooperii*)

Cooper's hawk is a CDFW-designated watch list species when nesting. This species occurs primarily in riparian areas and oak woodlands, and most commonly in montane canyons. This species is also known to use urban areas, occupying trees among residential and commercial development and using utility poles as perches. Cooper's hawk was observed foraging within the Study Area, and has low potential to nest within the off-site riparian areas.

Golden eagle (*Aquila chrysaetos*)

The golden eagle is a CDFW-designated watch list species when nesting and wintering, and is also fully protected species. This species occurs in rolling foothills, mountain areas, sage-juniper flats, and deserts, and winters and nests in cliff-walled canyons. Golden eagle was seen foraging on site, and a nest was observed north of the site on a cliff face within Chino Hills State Park prior to the 2008 Freeway Complex Fire. However, no suitable nesting or wintering habitat is present on site, as there are no cliff faces within the site that provide suitable platforms for nesting. A subsequent visit to the former location of the nest in May 2013 revealed that the nest is no longer active, and GLA biologists concluded that it was probably destroyed in the 2008 Freeway Complex Fire.

Grasshopper sparrow (*Ammodramus savannarum*)

Grasshopper sparrow is a CDFW-designated Species of Special Concern (SSC) when nesting. It occurs in dense grasslands on rolling hills, lowland plains, in valleys, and on hillsides on lower mountain slopes. This species favors native grasslands with a mix of grasses, forbs, and scattered shrubs, and is loosely colonial when nesting. A single grasshopper sparrow was observed within the Study Area near eastern boundary by GLA in 2013, with additional individuals observed outside of the eastern Study Area Boundary.

Least Bell's vireo (*Vireo bellii pusillus*)

Least Bell's vireo is a State- and Federally-listed endangered species. It occurs in dense riparian habitats with a stratified canopy, including southern willow scrub, mule fat scrub, and riparian forest. GLA biologists did not observe least Bell's vireo during focused surveys in 2007; however, this species was observed opportunistically during other biological surveys in 2010. Additionally, this species was detected by PCR Services Corporation during surveys in 2012 within the off-site impact areas as depicted by Exhibit 5.

Northern harrier (*Circus cyaneus*)

The northern harrier is CDFW SSC when nesting, but is a common, often abundant, winter visitor throughout California from September through April. Characteristically, this hawk inhabits marshlands, both coastal salt and freshwater, but often forages over grasslands and fields. It glides and flies low over open habitats searching for prey. Northern harrier was observed foraging on site, but would not nest on site as this species is not known to breed in southern California.

Peregrine falcon (*Falco peregrinus*)

The peregrine falcon is CDFW FP and USFWS BCC. In California this species inhabits coastal areas and inland mountains. This species is a very uncommon breeding resident and uncommon as a migrant or as a winter resident. Peregrine falcon was seen foraging on site; however, no suitable sites for nesting occur on the site.

Sharp-shinned hawk (*Accipiter striatus*)

The sharp-shinned hawk is a CDFW WL species. This species occurs in southern California as a wintering species, foraging in woodlands and scrub habitats. Sharp-shinned hawk was observed foraging on site and would only occur as a winter visitor as this species does not breed in southern California.

Southern California rufous-crowned sparrow (*Aimophila ruficeps canescens*)

The southern California rufous-crowned sparrow is a CDFW WL species. This subspecies of the rufous-crowned sparrow is a resident species of southern California on the slopes of the Transverse and Coastal ranges from Los Angeles County south to Baja California Norte, and occurs on grass-covered hillsides, coastal sage scrub, and chaparral. Southern California rufous-crowned sparrow was detected foraging on site.

Yellow-Breasted Chat (*Icteria virens*)

The yellow-breasted chat, which is a CDFW SSC, is a migratory songbird that breeds in riparian habitats in southern California. This species exhibits habitat requirements similar to

least Bell's vireo. Suitable habitat typically consists of multi-layered riparian scrub or willow woodland corridors along flowing streams. The yellow breasted chat was not detected during 2007 or 2010 surveys. However, this species was detected by PCR Services Corporation during surveys in 2012 within the off-site impact areas.

Yellow warbler (*Setophaga petechia*)

The yellow warbler, which is a CDFW SSC and USFWS BCC, is a migratory songbird that breeds in riparian habitats in southern California. This species exhibits habitat requirements similar to the yellow-breasted chat and least Bell's vireo. Suitable habitat typically consists of multi-layered riparian scrub or willow woodland corridors along flowing streams. The yellow warbler was observed in the western portion of the Study Area during focused surveys for special-status riparian birds.

4.5.4 Special Status Wildlife Species with the Potential to Occur but not Detected

Special Status Wildlife Species with the potential to occur on site were evaluated based on the presence of potentially suitable habitat (ex. coastal sage scrub, chaparral, riparian). These species were not detected during habitat assessments, biological surveys, and vegetation mapping but are discussed here in more detail.

Coast horned lizard (*Phrynosoma blainvillii*)

The coast horned lizard is designated as a CDFW SSC, but is not federally or State listed. This species inhabits coastal sage scrub and chaparral habitats characterized associated with sandy, rocky, or shallow soils that support native harvester ants (*Pogonomyrmex* spp.). The San Diego Horned Lizard was not detected during 2007 or 2010 surveys.

Coast Patch-Nosed Snake (*Salvadora hexalepis virgultea*)

The coast patch-nosed snake has been designated a CDFW SSC. This snake inhabits sandy flats and rocky open areas in coastal sage scrub and chaparral. The coast patch-nosed snake was not detected during 2007 or 2010 surveys.

Loggerhead shrike (*Lanius ludovicianus*)

The loggerhead shrike, which is a CDFW SSC and a USFWS BCC, occurs in open fields with scattered trees, open woodland and scrub. This species is fairly common throughout open habitats in southern California. The loggerhead shrike was not detected during 2007 or 2010 surveys.

Long-eared owl (*Asio otus*)

The long-eared owl, which is a CDFW SSC, is a resident that breeds in riparian habitats and oak thickets in southern California. The long eared owl was not detected during 2007 or 2010 surveys.

Northern red-diamond rattlesnake (*Crotalus ruber ruber*)

The northern red-diamond rattlesnake is designated as a CDFW SSC but is not Federally or State listed. This species occurs in chaparral, woodland, grassland, and desert areas from San Bernardino County southward along both sides of the Peninsular ranges and Santa Ana mountains to Baja California. This species uses rocks, rodent burrows, and dense vegetation for cover. The northern red-diamond rattlesnake was not detected during 2007 or 2010 surveys.

Orange-Throated Whiptail (*Aspidoscelis hyperythra*)

The orange-throated whiptail is a CDFW SSC. This lizard is known from coastal sage scrub, chaparral, and valley-foothill hardwood habitats of San Bernardino, Riverside, Los Angeles, Orange and San Diego counties. It prefers washes and other sandy areas with patches of brush and rocks. The orange-throated whiptail was not detected during 2007 or 2010 surveys.

Pallid bat (***Antrozous pallidus*)**

Pallid bat is a CDFW SSC. Day and night roosts include crevices in rocky outcrops and cliffs, caves, mines, trees (e.g., basal hollows of coast redwoods and giant sequoias, bole cavities of oaks, exfoliating Ponderosa pine and valley oak bark, deciduous trees in riparian areas, and fruit trees in orchards), and various human structures such as bridges (especially wooden and concrete girder designs), barns, porches, bat boxes, and human-occupied as well as vacant buildings. They forage over open shrub-steppe grasslands, oak savannah grasslands, open Ponderosa pine forests, talus slopes, gravel roads, lava flows, fruit orchards, and vineyards. This species is not expected to roost within the study area, but may occasionally occur for foraging only.

Prairie falcon (*Falco peregrinus*)

The prairie falcon is CDFW FP and USFWS BCC. This species nests in cliffs or rocky outcrops, and forages in open valleys and agricultural fields. Known from desert and arid interior areas of coastal counties. Uncommon resident in Southern California. The prairie falcon was not detected during 2007 or 2010 surveys.

Vaux's Swift (*Chaetura vauxi*)

Vaux's swift, which is a CDFW SSC, is a migratory songbird that breeds in old-growth forests in the Sierra Nevada and from northern California to Washington. This species feeds on insects on the wing, typically over lakes, rivers, or riparian areas. The vaux swift was not detected during 2007 or 2010 surveys.

Western Mastiff Bat (*Eumops perotis californicus*)

Western mastiff bat is a CDFW SSC. Western mastiff bat is primarily a cliff-dwelling species, where maternity colonies of 30 to several hundred (typically fewer than 100) roost generally under exfoliating rock slabs (e.g., granite, sandstone or columnar basalt). It has also been found in similar crevices in large boulders and buildings. Roosts are generally high above the ground, usually allowing a clear vertical drop of at least 3m below the entrance for flight. In California, it is most frequently encountered in broad open areas. Its foraging habitat includes dry desert washes, flood plains, chaparral, oak woodland, open ponderosa pine forest, grassland, and agricultural areas. This species is not anticipated to roost within the Study Area but has a low potential to occur for foraging only.

Western Yellow Bat (*Lasiurus xanthinus*)

Western yellow bat is a CDFW SSC. Individuals usually roost in trees, hanging from the underside of a leaf. They are commonly found in the southwestern U.S. roosting in the skirt of dead fronds in both native and non-native palm trees, and have also been documented roosting in cottonwood trees. At least some individuals or populations may be migratory, although some individuals appear to be present year-round, even in the northernmost portion of their range. Capture sites are often associated with natural and non-natural water features in open grassy areas and scrub, as well as canyon and riparian situations. Captures are also reported over swimming pools, lawns in residential areas, and orchards. This species may forage within the Study Area, but is not expected to roost.

4.6 Raptor Use

The Study Area provides potentially suitable foraging and breeding habitat for a number of raptor species, including special status raptors. However, there was no evidence of nesting raptors on the site, and raptor foraging was not observed to be common on the site, with the exception of foraging by red-tailed hawks which regularly visit the site. Although a few special-status species were observed foraging within the Study Area, including Cooper's hawk, golden eagle, northern harrier, peregrine falcon, and sharp-shinned hawk, foraging by these species was infrequent and the Study Area does not provide an important location for raptor foraging, especially given that raptors can utilize the extensive habitat at the adjacent Chino Hills State Park.

4.7 Nesting Birds

The Study Area supports trees, shrubs, and ground cover that provide suitable habitat for nesting migratory birds. Impacts to nesting birds are prohibited under the MBTA and California Fish and Game Code.[8]

4.8 Wildlife Movement

The Study Area contains habitat that supports a number of species of invertebrates, amphibians, reptiles, birds, and mammals, and movement on a local scale occurs throughout the surrounding vicinity as well as within the Study Area itself. The home range and average dispersal distance of many of these species may be entirely contained within the Study Area and immediate vicinity, although individuals may occasionally move outside of the Study Area in order to expand or disperse from their natal territories.

From a regional perspective, the Study Area abuts an area of privately owned open space along the western boundary of the Study Area, and is contiguous with open space connecting to Chino Hills State Park (to the north and east). The Study Area is situated immediately south of Chino Hills State Park, and 1.5 miles north of the Santa Ana River. The Study Area is also 4.5 miles north of Warner and Conrock Basins, 4.5 miles southeast of the Carbon Canyon Dam, and 5.4 miles northwest of Sierra Peak (Cleveland National Forest). Due to the past urbanization of the region, large open space areas in the immediate vicinity of the Study Area are limited to Chino Hills State Park and the Santa Ana River. The Study Area is bounded by residential development to the south and northwest, and is separated from residential development to the west by a narrow area of open space. Thus, the Study Area serves as a "dead end" or "cul-de-sac" for the movement of larger mammals that require larger home range areas and dispersal distances or dense vegetative cover from the north and east through the Study Area, but no movement of large species with large ranges would occur to/from the south and west due to existing urban development. However, smaller, urban-adapted species (e.g., raccoon, skunk, coyote, birds) are expected to move through the Study Area. Although the Study Area provides habitat for small wildlife and may support movement on a local scale, it does not function as a regional wildlife movement corridor because it does not connect two or more habitat patches due to the surrounding development.

The Chino Hills State Park General Plan (1999) includes a lengthy discussion of wildlife corridors within Chino Hills State Park (CHSP) north of the Study Area. As stated in the General Plan, there are three importation corridors that connect Chino Hills State Park with adjacent projected open space: (1) Coal Canyon, (2) Sonome and Tonner Canyons, and (3) the Prado Basin.

[8] 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.

The Coal Canyon Corridor connects CHSP and surrounding Puente-Chino Hills on the north to Cleveland National Forest and the Santa Ana Mountains on the south. This corridor extends roughly west to southeast within CHSP boundaries through Brush and Water Canyons. It does not traverse the Study Area nor does it connect the Study Area to adjacent habitat areas.

The Sonome and Tonner Canyon corridors link CHSP with open space areas in Puente and Whittier Hills north and west of CHSP. These corridors also do not traverse the Study Area or connect it to adjacent habitat areas.

The Prado Basin corridor links CHSP with habitat within Prado Basin and the upper reaches of the Santa Area River to the east. Again, this corridor does not traverse the Study Area or connect it to adjacent habitat areas.

4.9 Coastal California Gnatcatcher Critical Habitat Area

As noted, the Study Area falls entirely within Unit 9 of the existing critical habitat for coastal California gnatcatcher designated by the U.S. Fish and Wildlife Service. However, no CAGN have been detected within the Study Area during multiple protocol surveys in 2007 and 2013. Additionally, primary constituent elements (PCEs) for CAGN are severely reduced or lacking due to the high degree of disturbance to coastal sage scrub habitats following the 2008 Freeway Complex Fire.

4.10 Jurisdictional Delineation

4.10.1 Corps Jurisdiction

The Study Area contains 2.08 acres of waters, of which 0.19 acre consist of wetlands. All of the drainages with the exception of Drainage G and offsite portions of Drainage D are ephemeral, meaning that they are non-relatively permanent waters (Non-RPWs). There are seven main drainage systems within the Project area (A–G). Drainage System D, E, F, and G and their tributaries are the main features on site. All of these drainages exhibit signs of an OHWM, which is indicated by physical characteristics such as a clear, natural line impressed on the bank, shelving, changes in the character of soil, destruction of terrestrial vegetation, and/or the presence of litter and debris. Table 4-4 below summarizes Corps jurisdiction. The drainages potentially subject to Corps jurisdiction are depicted on Exhibit 6a – Corps Jurisdictional Delineation Map.

Drainage System A

Corps jurisdiction associated with Drainage System A totals approximately 5,227 square feet (0.12 acre), none of which consists of wetlands. Drainage System A is located in the northeastern portion of the Project area and is tributary to Drainage System D which traverses the site and then exits the property to the south-west. Drainage A flows from the north to south for approximately 3,630 linear feet before the confluence with

Drainage D. The OHWM associated with this drainage system varies in width from one to two feet. Drainage System A exhibits an OHWM that is indicated by the presence of shelving, debris wrack, and/or destruction of terrestrial vegetation.

The banks of Drainage System A are generally vegetated with Toyon-Sumac Chaparral. In general drainage A is characterized by a dominance of evergreen chaparral species including toyon (*Heteromeles arbutifolia*, UPL), laurel sumac (*Malosma laurina* UPL), lemonade berry (*Rhus integrifolia* UPL), holly-leaved redberry (*Rhamnus ilicifolia*, UPL), poison oak (*Toxicodendrom diversilobium*, UPL), and southern honeysuckle (*Lonicera subspicata*, UPL).

Drainage System B

Corps jurisdiction within the Study Area associated with Drainage System B totals approximately 436 square feet (0.01 acre), all of which occurs on-site. None of Drainage B consists of wetlands. From where it enters the site, Drainage B flows from the north to south for approximately 281 linear feet to the confluence with Drainage D. The OHWM associated with this drainage system varies in width from one to two feet and is indicated by the presence of shelving, debris wrack, and/or destruction of terrestrial vegetation.

In general, Drainage B is characterized by a dominance of bush mallow (*Malacothamnus fasciculatus*, UPL),), coyote bush (*Baccharis pilularis*, UPL), laural sumac (*Malosma laurina*, UPL), giant wild rye (*Leymus condensatus*, FACU), poison oak (*Toxicodendron diversilobium*, UPL), sweet fennel (*Foeniculum vulgare*, UPL), southern honeysuckle (*Lonicera subspicata*, UPL), poison hemlock (*Conium maculatum*, FAC), chaparral nightshade (*Solanum xanti*, UPL), stinging nettle (*Urtica dioica*, FAC), and fuchsia flowered gooseberry (*Ribes speciosum*, UPL).

Drainage System C

Corps jurisdiction associated with Drainage System C totals approximately 44 square feet (0.001 acre), none of which consist of wetlands. Drainage System C is located in the northwestern portion of the Project area and is tributary to Drainage System D as noted above. This drainage system flows from the north to south for approximately 415 linear feet more-or-less straddling the property line, such that only 14 linear feet are actually located within the Study Area. The OHWM in this drainage system averages approximately two feet in width. Drainage System C exhibits an OHWM that is indicated by the presence of shelving, debris wrack, and/or destruction of terrestrial vegetation.

The banks of Drainage System C generally support a mix of native scrub species and herbaceous weedy species including laurel sumac (*Malosma laurina*, UPL), poison oak (*Toxicodendron diversilobum*, UPL), sweet fennel (*Foeniculum vulgare*, UPL), southern honeysuckle (*Lonicera subspicata*, UPL), poison hemlock (*Conium maculatum*, FAC),

chaparral nightshade (*Solanum xanti*, UPL), California sagebrush (*Artemisia californica* UPL), and fuchsia flowered gooseberry (*Ribes speciosum*, UPL).

Drainage System D

Corps jurisdiction associated with Drainage System D within the Study Area totals approximately 0.74 acre, of which approximately 0.13 acre consist of wetlands. Drainage System D is located in the north-central portion of the Project and traverses the site flowing east to west before exiting the property at the western edge of the site and extending to the limits of the Study Area at San Antonio Road. This Drainage extends for 9,409 linear through the Study Area. The OHWM in this drainage system varies in width from one to five feet within the project boundaries. Drainage System D exhibits an OHWM that is indicated by the presence of shelving, debris wrack, and/or destruction of terrestrial vegetation.

Drainage System D generally contains coast live oak riparian forest as well as several small areas of mulefat scrub. The extreme southern portion of Drainage D, which is within offsite portions of the study area is characterized by Black Willow Riparian Forest. In general Drainage D is characterized by a dominance of bush mallow (*Malacothamnus fasciculatus*, UPL), coyote bush (*Baccharis pilularis*, UPL), laurel sumac (*Malosma laurina*, UPL), giant wild rye (*Leymus condensatus*, FACU), poison oak (*Toxicodendron diversilobium*, UPL), sweet fennel (*Foeniculum vulgare*, UPL), southern honeysuckle (*Lonicera subspicata*, UPL), poison hemlock (*Conium maculatum*, FAC), chaparral nightshade (*Solanum xanti*, UPL), mulefat (*Baccharis salicifolia*, FAC), coast live oak (*Quercus agrifolia*, UPL), stinging nettle (*Urtica dioica*, FAC), fuchsia flowered gooseberry (*Ribes speciosum*, UPL), and within the southernmost extent, black willow (*Salix gooddingii*, FACW) and arroyo willow (*Salix lasiolepis*, FACW) with areas immediately adjacent exhibit high levels of disturbance due to dense stands of non-native species such as poison hemlock that is mixed with other non-native invasive species such as castor bean (*Ricinus communis*, FACU) and tree tobacco (*Nicotiana glauca*, FACU).

The reach of Drainage D in the vicinity of the offsite access road right-of-way connection to San Antonio Road consists of an intermittent drainage and adjacent wetlands that vary in width from eight to 40 feet with an earthen bank and bottom with the bottom exhibiting small cobbles. The channel is mostly unvegetated, with limited small patches of southern cattail (*Typha domingensis*, OBL), and non-natives such white watercress (*Rorippa nasturtium-aquaticum*, OBL), yerba mansa (*Anemopsis californica*, OBL), and African umbrella sedge (*Cyperus involucratus*, FACW). The banks support southern arroyo willow forest dominated by black willow (*Salix gooddingii*, FACW), occasional arroyo willow (*Salix lasiolepis*, FACW), and mulefat (*Baccharis salicifolia*, FAC). Large areas of the bank and adjacent terrace exhibit substantial disturbance and are dominated by non-natives such as poison hemlock (*Conium maculatum*, FAC), castor bean (*Ricinus communis*, FACU), summer mustard (*Hirschfeldia incana*, UPL), sweet fennel (*Foeniculum vulgare*, UPL), and tree tobacco (*Nicotiana glauca*, FACU).

Drainage System E

Corps jurisdiction associated with Drainage System E totals approximately 0.47 acre, none of which consists of wetlands. Drainage System E is located in the southern portion of the Project area and converges with Drainage System G, as noted above. This drainage system flows from the east to west for approximately 7,563 linear feet before its confluence with Drainage G. The OHWM varies in width from one to five feet as indicated by the presence of shelving, debris wrack, and/or destruction of terrestrial vegetation.

The banks of Drainage System E are vegetated with scrub and non-native grasses including bush mallow (*Malacothamnus fasciculatus*, UPL) a few surviving blue elderberry (*Sambucus nigra* subsp. *caerulea*, FACU), coyote bush (*Baccharis pilularis*, UPL), laurel sumac (*Malosma laurina* UPL), giant wild rye (*Leymus condensatus*, FACU), poison oak (*Toxicodendron diversilobium*, UPL), sweet fennel (*Foeniculum vulgare*, UPL), poison hemlock (*Conium maculatum*, FAC), chaparral nightshade (*Solanum xanti*, UPL), mulefat (*Baccharis salicifolia*, FAC), and fuchsia flowered gooseberry (*Ribes speciosum*, UPL).

Drainage System F

Corps jurisdiction associated with Drainage System F total approximately 0.70 acre, of which 0.02 acre consists of wetlands. The Corps jurisdictional wetland associated with Drainage F is within the off-site portion of the Study Area and is associated with a small debris basin. Drainage System F is located in the southern portion of the Project area and extends from the east to west for approximately 6,076 linear feet before exiting the Study Area at the southwest corner. The OHWM in this drainage system, including on and off-site sections, varies in width from one to 25 feet. Drainage System F exhibits an OHWM that is indicated by the presence of shelving, debris wrack, and/or destruction of terrestrial vegetation.

Drainage System F is generally vegetated with mulefat scrub, remnant California walnut woodland (most were killed by the 2008 Freeway Complex Fire), California walnut woodland/mulefat scrub, and limited amounts of blue elderberry woodland (also largely killed by the fire). In general drainage F is characterized by a dominance of bush mallow (*Malacothamnus fasciculatus*, UPL), limited areas of Arroyo willow (*Salix lasiolepis*, FACW), mulefat (*Baccharis salicifolia*, FAC), coyote bush (*Baccharis pilularis*, UPL), laural sumac (*Malosma laurina* UPL), giant wild rye (*Leymus condensatus*, FACU), poison oak (*Toxicodendron diversilobium*, UPL), sweet fennel (*Foeniculum vulgare*, UPL), stinging nettle (*Urtica dioica*, FAC), and fuchsia flowered gooseberry (*Ribes speciosum*, UPL).

Drainage System G

Corps jurisdiction associated with Drainage System G is all in the off-site portion of the Study Area and could be affected by development of an emergency access road connecting to the existing Aspen Way cul-de-sac. Drainage G totals approximately 0.04 acre, all of which consist of jurisdictional wetlands. Drainage System G is located in the western portion of the Project area. The Drainage flows from the north to south for approximately 187 linear feet and is tributary to Drainage D, which is noted above. The OHWM in this drainage system varies in width from six to ten feet. Drainage System G supports an OHWM consisting of shelving, debris wracks, and/or destruction of terrestrial vegetation. It should be noted that the primary hydrological input for Drainage G is constant, year-round urban runoff flows from the residential development immediately west of Drainage G located off of San Antonio Road, which supports the riparian forest habitat and wetlands downstream of the urban runoff discharge point.

Drainage System G is generally vegetated with Black Willow Riparian Forest. In general drainage g is characterized by a dominance of black willow (*Salix gooddingii*, FACW), arroyo willow (*Salix lasiolepis*, FACW), mulefat (*Baccharis salicifolia*, FACW), common celery (*Apium graveolens*, FACW), sweet fennel (*Foeniculum vulgare*, UPL), blue elderberry (*Sambucus nigra* subsp. *caerulea* FACU), coyote bush (*Baccharis pilularis*, UPL), mugwort (*Artemisia douglasiana*, FACW), and poison hemlock (*Conium maculatum*, FAC).

TABLE 4-4. Total Corps Jurisdiction (acres)

	Total Study Area			
Drainage	**Total Non-Wetland Waters**	**Total Wetland**	**Total Corps Jurisdiction (acres)**	**Linear Length (ft)**
A	0.12	0	0.12	3,630
B	0.01	0	0.01	281
C	0.001	0	0.001	14
D	0.61	0.13	0.74	9,409
E	0.47	0	0.47	7,563
F	0.68	0.02	0.70	6,076
G	0	0.04	0.04	187
Total	**1.89**	**0.19**	**2.08**	**27,161**

4.10.2 Regional Water Quality Control Board Jurisdiction

None of the onsite drainages were determined to be intrastate/isolated waters outside of Corps jurisdiction, therefore they do not need to be addressed separately pursuant to the Porter-Cologne Act.

4.10.3 CDFW Jurisdiction

CDFW jurisdiction associated with the Esperanza Hills Specific Plan Area totals approximately 4.15 acres of which 2.57 acres consist of vegetated riparian habitat. As described above, there are seven drainages or drainage systems within the Project area. All of the drainage systems support the presence of a bed, bank, and/or channel. For descriptions of CDFW jurisdictional areas and associated vegetation see the descriptions for Corps above. Table 4-5 below summarizes CDFW jurisdiction for both on-site and off-site areas. The boundaries of CDFW jurisdiction are depicted on Exhibit 6b – CDFW Jurisdictional Delineation Map.

TABLE 4-5. Total CDFW Jurisdiction (acres)

	Total Study Area			
Drainage	**Total Unvegetated Streambed**	**Riparian Streambed**	**Total CDFW Jurisdiction (acres)**	**Linear Length (ft)**
A	0.12	0	0.12	3,630
B	0.01	0	0.01	281
C	0.001	0	0.001	14
D	0.41	1.89	2.30	9,409
E	0.42	0.13	0.55	7,563
F	0.62	0.51	1.13	6,076
G	0	0.04	0.04	187
Total	**1.58**	**2.57**	**4.15**	**27,161**

5.0 IMPACTS

The following discussion examines the potential impacts to plant and wildlife resources that may occur as a result of implementation of the project. Project-related impacts 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 wildlife, 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.

Other impacts, such as loss of foraging habitat, can occur although these areas or habitats are not directly removed by project development; i.e., indirect impacts. Indirect impacts can also involve the effects of increases in ambient levels of noise or light, unnatural predators (i.e., domestic cats and other non-native animals), competition with exotic plants and animals, and increased human disturbance such as hiking and dumping of green waste on site. Indirect impacts may be associated with the subsequent day-to day activities associated with project build-out, such as increased traffic use, permanent concrete barrier walls or chain link fences, exotic ornamental plantings that provide a local source of seed, etc., which 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 exotics, and changes in the behavioral patterns of wildlife and reduced wildlife diversity and abundances in habitats adjacent to project sites.

The potential for significant adverse effects, either directly or through habitat modifications, on any special-status plant, animal, or habitat that could occur as a result of project development is discussed below.

5.1 California Environmental Quality Act

Thresholds of Significance

Environmental impacts relative 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 to:

> *"Prevent the elimination of fish or wildlife species due to man's activities, insure 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, substantially 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.

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 Wildlife 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 Wildlife 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 Associations

5.2.1 Alternative 1

Permanent impacts to vegetation communities associated with Alternative 1 account for approximately 336.50 acres of the 504.20-acre Study Area [Exhibit 7a – Impacts to Vegetation Associations-Alternative 1]. Table 5-1 below summarizes both permanent and temporary impacts associated with Project implementation.

Table 5-1. Summary of Impacts to Vegetation Associations/Cover Types Associated with Alternative 1

Vegetation/Land Use Type	Total in Study Area (Acres)	Total Impacts (Acres)	Total Percent Impacted
Coastal Sage Scrub	**45.88**	**33.35**	**73**
California Sagebrush Scrub	24.21	20.20	83
Disturbed California Sagebrush Scrub	10.32	5.61	54
Purple Sage Scrub	10.14	7.53	74
Sagebrush-Monkeyflower Scrub	1.21	0.01	1
Ecotonal Habitats	**129.45**	**90.68**	**70**
Coastal Sage Scrub/Chaparral Ecotone	95.02	65.42	69
Sumac Savannah	34.43	25.26	73
Chaparral Habitats	**124.38**	**87.01**	**70**
Toyon/Sumac Chaparral	122.63	85.26	70
Sumac/Elderberry Chaparral	1.75	1.75	100
Woodland Habitats	**36.61**	**17.46**	**47**
California Walnut Woodland	6.37	0.48	8
Blue Elderberry Woodland	23.88	11.37	48
Southern Coast Live Oak Forest	6.36	5.61	88
Riparian Habitats	**5.34**	**0.29**	**5**
Mulefat Scrub	1.93	0.24	12
Black Willow Riparian Forest	0.19	0	0
California Walnut/Mulefat Scrub	2.70	0.05	2
Southern Willow Scrub	0.52	0	0
Grassland Habitats	**136.10**	**98.21**	**72**
Annual Grassland	136.10	98.21	72
Disturbed Habitats	**15.93**	**4.12**	**26**
Ruderal	15.93	4.12	26
Developed Land	**10.51**	**5.38**	**51**
Graded Areas/Paved Roads	10.17	5.04	50
Ornamental Vegetation	0.28	0.28	100
Detention Basin	0.06	0.06	100
Total Vegetation/Land Use Acreage	**504.20**	**336.50**	**67**

5.2.2 Alternative 2

Permanent impacts to vegetation communities associated with the Alternative 2 account for approximately 340.183 acres of the 504.20-acre Study Area [Exhibit 7b – Impacts to Vegetation Associations-Alternative 2]. Table 5-2 below summarizes both permanent and temporary impacts associated with Project implementation.

Table 5-2. Summary of Impacts to Vegetation Associations/Cover Types Associated with Alternative 2

Vegetation/Land Use Type	Total in Study Area (Acres)	Total Impacts (Acres)	Total Percent Impacted
Coastal Sage Scrub	**45.88**	**33.12**	**72**
California Sagebrush Scrub	24.21	21.06	87
Disturbed California Sagebrush Scrub	10.32	4.51	44
Purple Sage Scrub	10.14	7.53	74
Sagebrush-Monkeyflower Scrub	1.21	0.02	2
Ecotonal Habitats	**129.45**	**91.07**	**70**
Coastal Sage Scrub/Chaparral Ecotone	95.02	65.24	69
Sumac Savannah	34.43	25.83	75
Chaparral Habitats	**124.38**	**90.40**	**73**
Toyon/Sumac Chaparral	122.63	88.65	72
Sumac/Elderberry Chaparral	1.75	1.75	100
Woodland Habitats	**36.61**	**19.46**	**53**
California Walnut Woodland	6.37	0.22	3
Blue Elderberry Woodland	23.88	13.63	57
Southern Coast Live Oak Forest	6.36	5.61	89
Riparian Habitats	**5.34**	**0.983**	**18**
Mulefat Scrub	1.93	0.79	41
Black Willow Riparian Forest	0.19	0.19	100
California Walnut/Mulefat Scrub	2.70	0.003	0.1
Southern Willow Scrub	0.52	0	0
Grassland Habitats	**136.10**	**96.23**	**71**
Annual Grassland	136.10	96.23	71
Disturbed Habitats	**15.93**	**4.68**	**29**
Ruderal	15.93	4.68	29
Developed Land	**10.51**	**4.24**	**40**
Graded Areas/Paved Roads	10.17	3.90	36
Ornamental Vegetation	0.28	0.28	100
Detention Basin	0.06	0.06	100
Total Vegetation/Land Use Acreage	**504.20**	**340.183**	**67**

5.2.3 Alternative 3

Permanent impacts to vegetation communities associated with the Alternative 3 account for approximately 343.133 acres of the 504.20-acre Study Area [Exhibit 7c – Impacts to Vegetation Associations-Alternative 3]. Table 5-3 below summarizes both permanent and temporary impacts associated with Project implementation.

Table 5-3. Summary of Impacts to Vegetation Associations/Cover Types Associated with Alternative 3

Vegetation/Land Use Type	Total in Study Area (Acres)	Total Impacts (Acres)	Total Percent Impacted
Coastal Sage Scrub	**45.88**	**32.84**	**72**
California Sagebrush Scrub	24.21	21.03	87
Disturbed California Sagebrush Scrub	10.32	4.26	41
Purple Sage Scrub	10.14	7.53	74
Sagebrush-Monkeyflower Scrub	1.21	0.02	1
Ecotonal Habitats	**129.45**	**90.93**	**70**
Coastal Sage Scrub/Chaparral Ecotone	95.02	65.24	69
Sumac Savannah	34.43	25.69	75
Chaparral Habitats	**124.38**	**93.84**	**75**
Toyon/Sumac Chaparral	122.63	92.09	75
Sumac/Elderberry Chaparral	1.75	1.75	100
Woodland Habitats	**36.61**	**18.20**	**50**
California Walnut Woodland	6.37	0.22	3
Blue Elderberry Woodland	23.88	12.37	52
Southern Coast Live Oak Forest	6.36	5.61	88
Riparian Habitats	**5.34**	**1.463**	**27**
Mulefat Scrub	1.93	1.02	53
Black Willow Riparian Forest	0.19	0.08	42
California Walnut/Mulefat Scrub	2.70	0.003	0.1
Southern Willow Scrub	0.52	0.36	69
Grassland Habitats	**136.10**	**94.86**	**70**
Annual Grassland	136.10	94.86	70
Disturbed Habitats	**15.93**	**6.09**	**47**
Ruderal	15.93	6.09	47
Developed Land	**10.51**	**4.90**	**47**
Graded Areas/Paved Roads	10.17	4.73	47
Ornamental Vegetation	0.28	0.11	39
Detention Basin	0.06	0.06	100
Total Vegetation/Land Use Acreage	**504.20**	**343.133**	**68**

5.3 Impacts to Special-Status Habitats

5.3.1 Alternative 1

California Walnut Woodland

Under Alternative 1, approximately 0.48 acre of the 6.37 acres of California Walnut Woodland would be impacted. This habitat has a global and state ranking of G2S2.1, meaning that between 2,000 and 10,000 acres of this habitat remain throughout its global and State range, and that it is very threatened. However, as previously discussed, the California Walnut Woodland within the Study Area was burned in the 2008 Freeway Complex Fire, and the majority of the walnut trees were damaged and a few killed by the fire. As such, the habitat within the Study Area is highly disturbed and does not exhibit habitat values typical of intact California Walnut Woodland. Nevertheless, because this habitat is a G2S2 impacts to this habitat associated with Alternative 1 would be potentially significant without mitigation.

Southern Willow Scrub

Under Alternative 1, southern willow scrub would be fully avoided, and as such no significant impacts to southern willow scrub would be associated with Alternative 1.

Blue Elderberry Woodland

Under Alternative 1, approximately 11.37 acre of the 23.88 acres of Blue Elderberry Woodland would be impacted. This habitat has a global and state ranking of G3S3, meaning that between 10,000 and 50,000 acres of this habitat remain throughout its global and State range. As previously discussed, the Blue Elderberry Woodland within the Study Area was burned in the 2008 Freeway Complex Fire, and more than half of the elderberry trees were damaged and many were killed by the fire. It is not clear that the CNDDB ranking of G3S3 applies to the blue elderberry habitat on the site, and while this habitat type is relatively secure as a G3S3 species, and that more than half of the elderberry trees are damaged and a few dead, impacts associated with Alternative 1 would be significant before mitigation; however, with mitigation these impacts would be reduced to less than significant.

As noted above in Section 4.3, none of the coastal sage scrub habitat types, which include California sagebrush scrub (G5S5), disturbed California sagebrush scrub (G5S5), purple sage scrub (G4S4), and sagebrush-monkeyflower scrub (G5S5), are considered special status both because the global and state rankings indicate that they are secure and not rare, and because they generally exhibit a high degree of disturbance resulting from the Freeway Complex Fire. As such, impacts associated with Option 1 would be less than significant.

5.3.2 Alternative 2

California Walnut Woodland

Under Alternative 2, approximately 0.22 acre of the 6.37 acres of California Walnut Woodland would be impacted. This habitat has a global and state ranking of G2S2.1, meaning that between 2,000 and 10,000 acres of this habitat remain throughout its global and State range, and that it is very threatened. However, as previously discussed, the California Walnut Woodland within the Study Area was burned in the 2008 Freeway Complex Fire, and the majority of the walnut trees were damaged and a few killed by the fire. As such, the walnut woodland within the Study Area is highly disturbed and does not exhibit habitat values typical of intact California Walnut Woodland. Nevertheless, because this habitat is a G2S2, impacts to this habitat associated with Alternative 2 would be potentially significant without mitigation.

Southern Willow Scrub

Under Alternative 2, southern willow scrub would be fully avoided, and as such no significant impacts to southern willow scrub would be associated with Alternative 2.

Blue Elderberry Woodland

Under Alternative 2, approximately 13.63 acre of the 23.88 acres of Blue Elderberry Woodland would be impacted. This habitat has a global and state ranking of G3S3, meaning that between 10,000 and 50,000 acres of this habitat remain throughout its global and State range. As previously discussed, the Blue Elderberry Woodland within the Study Area was burned in the 2008 Freeway Complex Fire, and more than half of the elderberry trees were killed or damaged by the fire. It is not clear that the CNDDB ranking of G3S3 applies to the blue elderberry habitat on the site, and while this habitat type is relatively secure as a G3S3 species, and that more than half of the elderberry trees are damaged and a few dead, impacts associated with Alternative 2 would be significant before mitigation; however, with mitigation, these impacts would be reduced to less than significant.

As noted above in Section 4.3, none of the coastal sage scrub habitat types, which include California sagebrush scrub (G5S5), disturbed California sagebrush scrub (G5S5), purple sage scrub (G4S4), and sagebrush-monkeyflower scrub (G5S5), are considered special status both because the global and state rankings indicate that they are secure and not rare, and because they generally exhibit a high degree of disturbance resulting from the Freeway Complex Fire. As such, impacts associated with Option 2 would be less than significant.

5.3.3 Alternative 3

California Walnut Woodland

Under Alternative 3, approximately 0.22 acre of the 6.37 acres of California Walnut Woodland would be impacted. This habitat has a global and state ranking of G2S2.1, meaning that between 2,000 and 10,000 acres of this habitat remain throughout its global and State range, where it is very threatened. However, as previously discussed, the California Walnut Woodland within the Study Area was burned in the 2008 Freeway Complex Fire, and the majority of the walnut trees were damaged and a few killed by the fire. As such, the walnut woodland within the Study Area is highly disturbed and does not exhibit habitat values typical of intact California Walnut Woodland. Nevertheless, because this habitat is a G2S2, impacts to this habitat associated with Alternative 3 would be potentially significant without mitigation.

Southern Willow Scrub

Under Alternative 3, approximately 0.36 acre of the 0.52 acre of southern willow scrub would be impacted. This habitat has a global and state ranking of G3S2.1, meaning that between 10,000 and 50,000 acres of this habitat remain throughout its global range, and between 2,000 and 10,000 acres of this habitat remain throughout its State range, where it is very threatened. However, given that this habitat is highly disturbed due to the Freeway Complex Fire, impacts to this habitat in and of itself would be less than significant. It should be noted that impacts to riparian habitat, including southern willow scrub, occupied by least Bell's vireo would be potentially significant without mitigation, as discussed in Section 5.5 below.

Blue Elderberry Woodland

Under Alternative 3, approximately 12.37 acre of the 23.88 acres of Blue Elderberry Woodland would be impacted. This habitat has a global and state ranking of G3S3, meaning that between 10,000 and 50,000 acres of this habitat remain throughout its global and State range. As previously discussed, the Blue Elderberry Woodland within the Study Area was burned in the 2008 Freeway Complex Fire, and more than half of the elderberry trees were damaged and a few killed by the fire. It is not clear that the CNDDB ranking of G3S3 applies to the blue elderberry habitat on the site, and while this habitat type is relatively secure as a G3S3 species, and that more than half of the elderberry trees are dead or damaged, impacts associated with Alternative 3 would be significant without mitigation; however, with mitigation these impacts would be reduced to less than significant.

As noted above in Section 4.3, none of the coastal sage scrub habitat types, which include California sagebrush scrub (G5S5), disturbed California sagebrush scrub (G5S5), purple sage scrub (G4S4), and sagebrush-monkeyflower scrub (G5S5), are considered special status both because the global and state rankings indicate that they are secure and not

rare, and because they generally exhibit a high degree of disturbance resulting from the Freeway Complex Fire. As such, impacts associated with Option 3 would be less than significant.

5.4 Impacts to Special-Status Plant Resources

As previously stated, five special-status plant species, Braunton's milkvetch (*Astragalus brauntonii*), Catalina mariposa lily (*Calochortus catalinae*), intermediate mariposa lily (*Calochortus weedii var. intermedius*), Southern California walnut (*Juglans californica*), and small flowered microseris (*Microseris douglasii* var. *platycarpa*), were documented within the Study Area. Impacts to these species are the same for Alternatives 1, 2, and 3, and are discussed below.

Braunton's milkvetch (*Astralagus brauntonii*)

Braunton's milkvetch is a perennial herb designated as a California RPR List 1B.1 species, and is federally listed as endangered. Approximately 400 individuals of Braunton's milkvetch were detected during focused surveys in 2010, all of which would be impacted by Alternatives 1, 2, and 3 as depicted by Exhibit 5. As Braunton's milkvetch is a California RPR 1B.1 species (i.e., plants seriously rare, threatened, or endangered in California and elsewhere, with over 80 percent of occurrences threatened/high degree and immediacy of threat), and is federally-listed endangered, impacts would be potentially significant without to mitigation. With mitigation, impacts would be reduced to less than significant.

Catalina mariposa lily (*Calochortus catalinae*)

Catalina mariposa lily is a perennial herb designated as a California RPR List 4 species (i.e., a plant of limited distribution/a watch list) but is not federally or state listed. This species is known from Los Angeles, Ventura, and Orange Counties as well as the Channel Islands. Surveys completed from 1997 to 2002 by Campbell BioConsulting reported observing approximately 445 Catalina mariposa lilies scattered throughout the site. Catalina lily plants were also observed by GLA during 2010 surveys. Under Alternatives 1, 2, and 3. Catalina mariposa lily would be impacted. However, given that Catalina mariposa lily is a List 4 species, impacts to 445 plants would not constitute a substantial adverse effect, and therefore would be less than significant.

Intermediate mariposa lily (*Calochortus weedii var. intermedius*)

Intermediate mariposa lily is a bulbiferous herb designated as a California RPR 1B.2 species. Approximately 326 individuals of intermediate mariposa lily were detected during focused surveys in 2010, all of which would be impacted by Alternatives 1, 2, and 3. As intermediate mariposa lily is a California RPR 1B.2 species (i.e, plants fairly rare, threatened, or endangered in California and elsewhere, with 20- 80 percent of occurrences threatened, impacts would be potentially significant without mitigation. With mitigation, impacts would be reduced to less than significant.

Southern California walnut (*Juglans californica*)

Southern California walnut is a perennial deciduous tree species designated as a California RPR 4 species but is not federally or state listed. Southern California walnut was detected during focused surveys in 2007. However, the majority of the walnut trees within the Study Area were damaged and a few killed in the 2008 Freeway Complex Fire. Impacts to the dead and damaged trees would not be significant. Under Alternatives 1, 2 and 3, some live trees may be impacted; however, given that Southern California walnut is a List 4 species, impacts to the remaining live and damaged trees would not constitute a substantial adverse effect, and therefore would be less than significant.

Small flowered microseris (*Microseris douglasii* var. *platycarpa*)

Small flowered microseris is an annual herb designated as a CRPR List 4 species. During focused surveys conducted by Campbell BioConsulting in 1998, 10 individuals of small flowered microseris were observed. These plants were located along the old Edison spur road, approximately 75 feet west to the Southern California Edison 500KV towers. No small flowered microseris were observed during the 2007 or 2010 surveys. Given that the 10 individuals detected in 1998 have not been detected during multiple subsequent surveys, and that impacts to 10 individuals of a California CRPR List 4 would not constitute a substantial adverse effect, under Alternatives 1, 2 and 3, any potential impacts to small-flowered microseris would be less than significant.

5.5 Impacts to Special-Status Wildlife Resources

5.5.1 Alternative 1

Cooper's Hawk (*Accipiter cooperii*)

Cooper's hawk is a CDFW-designated watch list species when nesting. In undeveloped areas, this species occurs primarily in riparian areas and oak woodlands, and most commonly in montane canyons. This species is also frequently found in suburban and urban areas, occupying trees among residential and commercial development and using utility poles as perches. Cooper's hawk was observed foraging within the Study Area,

and has potential to nest within the riparian areas within the Study Area, although no nests were observed during any biological surveys.

Impacts to potential riparian foraging and nesting area for Cooper's hawk associated with Alternative 1 are minimal. Given that Cooper's hawk is a relatively common urban-adapted species, is only a watch list species (which denotes a lower level of rarity than a CDFW SSC) and thrives in developed areas, such impacts would not constitute a substantial adverse effect, and would be less than significant.

Golden eagle (*Aquila chrysaetos*)

The golden eagle is a CDFW-designated watch list species when nesting and wintering, and is also a fully protected species. This species occurs in rolling foothills, mountain areas, sage-juniper flats, and deserts, and winters and nests in cliff-walled canyons. Golden eagle was seen foraging on site, but was not observed nesting or wintering within the Study Area. Although a nest was observed north of the site on a cliff face within Chino Hills State Park, no suitable nesting or wintering habitat is present within the Study Area, as there are no cliff faces or cliff-walled canyons within the Study Area.

As there is no potential for golden eagle to breed or winter within the study area, impacts to this species associated with Alternative 1 would be less than significant.

Grasshopper sparrow (*Ammodramus savannarum*)

Grasshopper sparrow is a CDFW SSC when nesting. It occurs in dense grasslands on rolling hills, lowland plains, in valleys, and on hillsides on lower mountain slopes. This species favors native grasslands with a mix of grasses, forbs, and scattered shrubs, and is loosely colonial when nesting. A single grasshopper sparrow was observed within the Study Area near eastern boundary by GLA in 2013, with additional individuals observed outside of the eastern Study Area Boundary.

Given that grasshopper sparrow is a relatively common species in southern California grasslands, and that potential impacts would be very limited as the species was only detected on one occasion on the eastern Study Area boundary, such impacts would not constitute a substantial adverse effect, and would be less than significant.

Least Bell's vireo (*Vireo bellii pusillus*)

Least Bell's vireo is a State- and Federally-listed endangered species. It occurs in dense riparian habitats with a stratified canopy, including southern willow scrub, mule fat scrub, and riparian forest. GLA biologists did not observe least Bell's vireo during focused surveys in 2007; however, this species was observed opportunistically during other biological surveys in 2010. Additionally, this species was detected by PCR Services Corporation during surveys in 2012 within the off-site impact areas as depicted by Exhibit 5.

Under Alternative 1, riparian vegetation occupied by least Bell's vireo at the southern edges of the Study Area would be subject to off-site impacts for project construction. Approximately 0.05 acre of mulefat scrub vegetation occupied by least Bell's vireo associated with Blue Mud Canyon at the southern edge of the Study Area would be impacted. As Least Bell's vireo is State- and federally-listed, direct impacts to this species, including riparian vegetation associated with breeding territories, would be potentially significant, but would be reduced to less than significant with mitigation.

Northern harrier (*Circus cyaneus*)

The northern harrier is CDFW SSC when nesting, but is a common, often abundant, winter visitor throughout California from September through April. Characteristically, this hawk inhabits marshlands, both coastal salt and freshwater, but often forages over grasslands and fields. It glides and flies low over open habitats searching for prey. Northern harrier was observed foraging on site, but would not nest on site as this species is not known to breed in southern California.

As northern harrier does not breed on site, impacts to this species associated with Alternative 1 would be less than significant.

Peregrine falcon (*Falco peregrinus*)

The peregrine falcon is CDFW FP and USFWS BCC when nesting. In California this species inhabits coastal areas and inland mountains. This species is a very uncommon breeding resident and uncommon as a migrant or as a winter resident. Peregrine falcon was seen foraging on site; however, no suitable sites for nesting occur on the site.

As peregrine falcon does not breed on site, impacts to this species associated with Alternative 1 would be less than significant.

Sharp-shinned hawk (*Accipiter striatus*)

As previously stated, sharp-shinned hawk, which is a CDFW Watch List (WL) species, was observed foraging on site and would only occur as a winter visitor as this species does not breed in southern California.

As sharp-shinned hawk is considered a CDFW WL species only when nesting, and sharp-shinned hawk does not breed on site, impacts to this species associated with Alternative 1 would be less than significant.

Southern California rufous-crowned sparrow (*Aimophila ruficeps canescens*)

As previously stated, southern California rufous-crowned sparrow, which is a CDFW Watch List (WL) species, was observed foraging on site.

Given that southern California rufous-crowned sparrow is a relatively common species in southern California grasslands, coastal sage scrub, and chaparral, and is only a watch list species (which denotes a lower level of rarity than a CDFW SSC), such impacts would not constitute a substantial adverse effect, and would be less than significant.

Yellow-Breasted Chat (*Icteria virens*)

The yellow-breasted chat, which is a CDFW SSC, is a migratory songbird that breeds in riparian habitats in southern California. This species exhibits habitat requirements similar to least Bell's vireo. Suitable habitat typically consists of multi-layered riparian scrub or willow woodland corridors along flowing streams. The yellow breasted chat was not detected during 2007 or 2010 surveys. However, this species was detected by PCR Services Corporation during surveys in 2012 within the off-site impact areas.

Although yellow-breasted chat is classified as a CDFW SSC, this species is very common in willow riparian habitat in southern California. As impacts to potential riparian foraging and nesting area for yellow-breasted chat associated with Alternative 1 are minimal (0.29 acre of impacts of the 5.34 acres of riparian habitat that could potentially be used by this species within the Study Area), and given that this species frequently occurs in such habitat, impacts would not constitute a substantial adverse effect, and would be less than significant.

Yellow warbler (*Setophaga petechia*)

The yellow warbler, which is a CDFW SSC and USFWS BCC, is a migratory songbird that breeds in riparian habitats in southern California. This species exhibits habitat requirements similar to the yellow-breasted chat and least Bell's vireo. Suitable habitat typically consists of multi-layered riparian scrub or willow woodland corridors along flowing streams. The yellow warbler was observed in the western portion of the Study Area during focused surveys for special-status riparian birds.

Like yellow-breasted chat, although yellow warbler is classified as a CDFW SSC and USFWS BCC, this species is very common in willow riparian habitat in southern California. As impacts to potential riparian foraging and nesting area for yellow warbler associated with Alternative 1 are minimal (0.29 acre of impacts of the 5.34 acres of riparian habitat that could potentially be used by this species within the Study Area), and given that this species frequently occurs in such habitat, impacts would not constitute a substantial adverse effect, and would be less than significant.

5.5.2 Alternative 2

Cooper's Hawk (*Accipiter cooperii*)

Cooper's hawk is a CDFW-designated watch list species when nesting. In undeveloped areas, this species occurs primarily in riparian areas and oak woodlands, and most

commonly in montane canyons. This species is also frequently found in suburban and urban areas, occupying trees among residential and commercial development and using utility poles as perches. Cooper's hawk was observed foraging within the Study Area, and has potential to nest within the riparian areas within the Study Area, although no nests were observed during any biological surveys.

Impacts to potential riparian foraging and nesting area for Cooper's hawk associated with Alternative 2 are minimal. Given that Cooper's hawk is a relatively common urban-adapted species, is only a watch list species (which denotes a lower level of rarity than a CDFW SSC) and thrives in developed areas, such impacts would not constitute a substantial adverse effect, and would be less than significant.

Golden eagle (*Aquila chrysaetos*)

The golden eagle is a CDFW-designated watch list species when nesting and wintering, and is also fully protected species. This species occurs in rolling foothills, mountain areas, sage-juniper flats, and deserts, and winters and nests in cliff-walled canyons. Golden eagle was seen foraging on site, but was not observed nesting or wintering within the Study Area. Although a nest was observed north of the site on a cliff face within Chino Hills State Park, no suitable nesting or wintering habitat is present within the Study Area, as there are no cliff faces or cliff-walled canyons within Study Area.

As there is no potential for golden eagle to breed or winter within the Study Area, impacts to this species associated with Alternative 2 would be less than significant.

Grasshopper sparrow (*Ammodramus savannarum*)

Grasshopper sparrow is a CDFW SSC when nesting. It occurs in dense grasslands on rolling hills, lowland plains, in valleys, and on hillsides on lower mountain slopes. This species favors native grasslands with a mix of grasses, forbs, and scattered shrubs, and is loosely colonial when nesting. A single grasshopper sparrow was observed within the Study Area near eastern boundary by GLA in 2013, with additional individuals observed outside of the eastern Study Area Boundary.

Given that grasshopper sparrow is a relatively common species in southern California grasslands, and that potential impacts would be very limited as the species was only detected on one occasion on the eastern Study Area boundary, such impacts would not constitute a substantial adverse effect, and would be less than significant.

Least Bell's vireo (*Vireo bellii pusillus*)

Least Bell's vireo is a State- and Federally-listed endangered species. It occurs in dense riparian habitats with a stratified canopy, including southern willow scrub, mule fat scrub, and riparian forest. GLA biologists did not observe least Bell's vireo during focused surveys in 2007; however, this species was observed opportunistically during

other biological surveys in 2010. Additionally, this species was detected by PCR Services Corporation during surveys in 2012 within the off-site impact areas as depicted by Exhibit 5.

Under Alternative 2, riparian vegetation occupied by least Bell's vireo at the southern edge of the Study Area associated with Blue Mud Canyon and at the unnamed drainage on the western edge of the Study Area would be subject to off-site impacts for project construction. Approximately 0.05 acre of mulefat scrub and 0.19 acre of black willow riparian forest vegetation occupied by least Bell's vireo would be impacted. As Least Bell's vireo is State and federally-listed, direct impacts to this species, including riparian vegetation associated with breeding territories, would be potentially significant, but would be reduced to less than significant with mitigation.

Northern harrier (*Circus cyaneus*)

The northern harrier is CDFW SSC when nesting, but is a common, often abundant, winter visitor throughout California from September through April. Characteristically, this hawk inhabits marshlands, both coastal salt and freshwater, but often forages over grasslands and fields. It glides and flies low over open habitats searching for prey. Northern harrier was observed foraging on site, but would not nest on site as this species is not known to breed in southern California.

As northern harrier does not breed on site, impacts to this species associated with Alternative 2 would be less than significant.

Peregrine falcon (*Falco peregrinus*)

The peregrine falcon is CDFW FP and USFWS BCC when nesting. In California this species inhabits coastal areas and inland mountains. This species is a very uncommon breeding resident and uncommon as a migrant or as a winter resident. Peregrine falcon was seen foraging on site; however, no suitable sites for nesting occur on the site.

As peregrine falcon does not breed on site, impacts to this species associated with Alternative 2 would be less than significant.

Sharp-shinned hawk (*Accipiter striatus*)

As previously stated, sharp-shinned hawk, which is a CDFW Watch List (WL) species, was observed foraging on site and would only occur as a winter visitor as this species does not breed in southern California.

As sharp-shinned hawk is considered a CDFW WL species only when nesting, and sharp-shinned hawk does not breed on site, impacts to this species associated with Alternative 2 would be less than significant.

Southern California rufous-crowned sparrow (*Aimophila ruficeps canescens*)

As previously stated, southern California rufous-crowned sparrow, which is a CDFW Watch List (WL) species, was observed foraging on site.

Given that southern California rufous-crowned sparrow is a relatively common species in southern California grasslands, coastal sage scrub, and chaparral, and is only a watch list species (which denotes a lower level of rarity than a CDFW SSC), such impacts would not constitute a substantial adverse effect, and would be less than significant.

Yellow-Breasted Chat (*Icteria virens*)

The yellow-breasted chat, which is a CDFW SSC, is a migratory songbird that breeds in riparian habitats in southern California. This species exhibits habitat requirements similar to least Bell's vireo. Suitable habitat typically consists of multi-layered riparian scrub or willow woodland corridors along flowing streams. The yellow breasted chat was not detected during 2007 or 2010 surveys. However, this species was detected by PCR Services Corporation during surveys in 2012 within the off-site impact areas.

Although yellow-breasted chat is classified as a CDFW SSC, this species is very common in willow riparian habitat in southern California. As impacts to potential riparian foraging and nesting area for yellow-breasted chat associated with Alternative 2 are minimal (0.983 acre of impacts of the 5.34 acres of riparian habitat that could potentially be used by this species within the Study Area), and given that this species frequently occurs in such habitat, impacts would not constitute a substantial adverse effect, and would be less than significant.

Yellow warbler (*Setophaga petechia*)

The yellow warbler, which is a CDFW SSC and USFWS BCC, is a migratory songbird that breeds in riparian habitats in southern California. This species exhibits habitat requirements similar to the yellow-breasted chat and least Bell's vireo. Suitable habitat typically consists of multi-layered riparian scrub or willow woodland corridors along flowing streams. The yellow warbler was observed in the western portion of the Study Area during focused surveys for special-status riparian birds.

Like yellow-breasted chat, although yellow warbler is classified as a CDFW SSC and USFWS BCC, this species is very common in willow riparian habitat in southern California. As impacts to potential riparian foraging and nesting area for yellow warbler associated with Alternative 2 are minimal (0.983 acre of impacts of the 5.34 acres of riparian habitat that could potentially be used by this species within the Study Area), and given that this species frequently occurs in such habitat, impacts would not constitute a substantial adverse effect, and would be less than significant.

5.5.3 Alternative 3

Cooper's Hawk (*Accipiter cooperii*)

Cooper's hawk is a CDFW-designated watch list species when nesting. In undeveloped areas, this species occurs primarily in riparian areas and oak woodlands, and most commonly in montane canyons. This species is also frequently found in suburban and urban areas, occupying trees among residential and commercial development and using utility poles as perches. Cooper's hawk was observed foraging within the Study Area, and has potential to nest within the riparian areas within the Study Area, although no nests were observed during any biological surveys.

Impacts to potential riparian foraging and nesting area for Cooper's hawk associated with Alternative 3 are minimal, as the riparian habitat associated with Drainage D to be impacted does not support mature trees that would be suitable for nesting. Given that Cooper's hawk is a relatively common urban-adapted species, is only a watch list species (which denotes a lower level of rarity than a CDFW SSC) and thrives in developed areas, such impacts would not constitute a substantial adverse effect, and would be less than significant.

Golden eagle (*Aquila chrysaetos*)

The golden eagle is a CDFW-designated watch list species when nesting and wintering, and is also fully protected species. This species occurs in rolling foothills, mountain areas, sage-juniper flats, and deserts, and winters and nests in cliff-walled canyons. Golden eagle was seen foraging on site, but was not observed nesting or wintering within the Study Area. Although a nest was observed north of the site on a cliff face within Chino Hills State Park, no suitable nesting or wintering habitat is present within the Study Area, as there are no cliff faces or cliff-walled canyons within the Study Area.

As there is no potential for golden eagle to breed or winter within the Study Area, impacts to this species associated with Alternative 3 would be less than significant.

Grasshopper sparrow (*Ammodramus savannarum*)

Grasshopper sparrow is a CDFW SSC when nesting. It occurs in dense grasslands on rolling hills, lowland plains, in valleys, and on hillsides on lower mountain slopes. This species favors native grasslands with a mix of grasses, forbs, and scattered shrubs, and is loosely colonial when nesting. A single grasshopper sparrow was observed within the Study Area near eastern boundary by GLA in 2013, with additional individuals observed outside of the eastern Study Area Boundary.

Given that grasshopper sparrow is a relatively common species in southern California grasslands, and that potential impacts would be very limited as the species was only

detected on one occasion on the eastern Study Area boundary, such impacts would not constitute a substantial adverse effect, and would be less than significant.

Least Bell's vireo (*Vireo bellii pusillus*)

Least Bell's vireo is a State- and Federally-listed endangered species. It occurs in dense riparian habitats with a stratified canopy, including southern willow scrub, mule fat scrub, and riparian forest. GLA biologists did not observe least Bell's vireo during focused surveys in 2007; however, this species was observed opportunistically during other biological surveys in 2010. Additionally, this species was detected by PCR Services Corporation during surveys in 2012 within the off-site impact areas as depicted by Exhibit 5.

Under Alternative 3, off-site riparian vegetation occupied by least Bell's vireo at the western edge of the Study Area associated with Drainage D would be subject to off-site impacts for project construction. Approximately 0.05 acre of mulefat scrub, 0.09 acre of black willow riparian forest, and 0.36 acre of southern willow scrub vegetation occupied by least Bell's vireo would be impacted. As Least Bell's vireo is State- and federally-listed, direct impacts to this species, including riparian vegetation associated with breeding territories, would be potentially significant without mitigation, but would be reduced to less than significant with mitigation.

Northern harrier (*Circus cyaneus*)

The northern harrier is CDFW SSC when nesting, but is a common, often abundant, winter visitor throughout California from September through April. Characteristically, this hawk inhabits marshlands, both coastal salt and freshwater, but often forages over grasslands and fields. It glides and flies low over open habitats searching for prey. Northern harrier was observed foraging on site, but would not nest on site as this species is not known to breed in southern California.

As northern harrier does not breed on site, impacts to this species associated with Alternative 3 would be less than significant.

Peregrine falcon (*Falco peregrinus*)

The peregrine falcon is CDFW FP and USFWS BCC when nesting. In California this species inhabits coastal areas and inland mountains. This species is a very uncommon breeding resident and uncommon as a migrant or as a winter resident. Peregrine falcon was seen foraging on site; however, no suitable sites for nesting occur on the site.

As peregrine falcon does not breed on site, impacts to this species associated with Alternative 3 would be less than significant.

Sharp-shinned hawk (*Accipiter striatus*)

As previously stated, sharp-shinned hawk, which is a CDFW Watch List (WL) species, was observed foraging on site and would only occur as a winter visitor as this species does not breed in southern California.

As sharp-shinned hawk is considered a CDFW WL species only when nesting, and sharp-shinned hawk does not breed on site, impacts to this species associated with Alternative 3 would be less than significant.

Southern California rufous-crowned sparrow (*Aimophila ruficeps canescens*)

As previously stated, southern California rufous-crowned sparrow, which is a CDFW Watch List (WL) species, was observed foraging on site.

Given that southern California rufous-crowned sparrow is a relatively common species in southern California grasslands, coastal sage scrub, and chaparral, and is only a watch list species (which denotes a lower level of rarity than a CDFW SSC), such impacts would not constitute a substantial adverse effect, and would be less than significant.

Yellow-Breasted Chat (*Icteria virens*)

The yellow-breasted chat, which is a CDFW SSC, is a migratory songbird that breeds in riparian habitats in southern California. This species exhibits habitat requirements similar to least Bell's vireo. Suitable habitat typically consists of multi-layered riparian scrub or willow woodland corridors along flowing streams. The yellow breasted chat was not detected during 2007 or 2010 surveys. However, this species was detected by PCR Services Corporation during surveys in 2012 within the off-site impact areas.

Although yellow-breasted chat is classified as a CDFW SSC, this species is very common in willow riparian habitat in southern California. As impacts to potential riparian foraging and nesting area for yellow-breasted chat associated with Alternative 3 are minimal (1.436 acre of impacts of the 5.34 acres of riparian habitat that could potentially be used by this species within the Study Area), and given that this species frequently occurs in such habitat, impacts would not constitute a substantial adverse effect, and would be less than significant.

Yellow warbler (*Setophaga petechia*)

The yellow warbler, which is a CDFW SSC and USFWS BCC, is a migratory songbird that breeds in riparian habitats in southern California. This species exhibits habitat requirements similar to the yellow-breasted chat and least Bell's vireo. Suitable habitat typically consists of multi-layered riparian scrub or willow woodland corridors along flowing streams. The yellow warbler was observed in the western portion of the Study Area during focused surveys for special-status riparian birds.

Like yellow-breasted chat, although yellow warbler is classified as a CDFW SSC and USFWS BCC, this species is very common in willow riparian habitat in southern California. As impacts to potential riparian foraging and nesting area for yellow warbler associated with Alternative 3 are minimal (1.436 acre of impacts of the 5.34 acres of riparian habitat that could potentially be used by this species within the Study Area), and given that this species frequently occurs in such habitat, impacts would not constitute a substantial adverse effect, and would be less than significant.

5.6 Impacts to Raptor Foraging Habitat

The Study Area supports some raptor foraging habitat, and in general the development portions of the Study Area exhibit low to moderate quality foraging habitat based on field observations during numerous site visits. No nesting by raptors was observed within the Study Area during the numerous site visits and no recently abandoned nests were observed. Although a few special-status species were observed foraging within the Study Area, including Cooper's hawk, golden eagle, northern harrier, peregrine falcon, and sharp-shinned hawk, foraging by these species was infrequent and the Study Area does not provide an important location for raptor foraging, especially given that raptors can utilize the extensive habitat at the adjacent Chino Hills State Park. As such, direct and indirect impacts to raptor foraging habitat under Alternatives 1, Alternative 2, and Alternative 3 do not constitute a substantial adverse effect on special-status raptors, would be less than significant, and would not require mitigation.

The avoided scrub and chaparral, grassland, and woodland habitats similarly do not exhibit substantial use by foraging raptors and the project does not exhibit potential for significant indirect impacts on raptor foraging.

5.7 Nesting Birds and Migratory Bird Treaty Act (MBTA) Considerations

Under Alternative 1, Alternative 2, and Alternative 3, the Study Area currently contains trees, shrubs, and groundcover that have the potential to support nesting birds protected by the MBTA. Direct impacts to a large variety of nesting birds are prohibited under the MBTA. Direct impacts to those species of nesting birds would be considered a significant impact. (It should be noted that the list of birds protected by the MBTA includes a number of species that are not listed as threatened or endangered or otherwise considered rare or sensitive in California.) With mitigation, direct impacts to nesting birds protected by the MBTA would be fully avoided, and there would be no significant impacts to such nesting birds associated with either Alternative[9]

[9] 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.

5.8 Wildlife Movement

As discussed above in Section 4.8, although local resident wildlife use the Study Area for local movement and dispersal, the Study Area does not act as a corridor or linkage for movement between open space areas, as use of the Study Area as a movement corridor is constrained by urban development south and west of the Study Area.

As discussed in the Chino Hills State Park General Plan there are three important corridors that connect Chino Hills State Park with adjacent projected open space: (1) Coal Canyon, (2) Sonome and Tonner Canyons, and (3) the Prado Basin. None of these corridors traverse the Study Area or connect it to adjacent habitat areas.

As such, none of the three Project alternatives would interfere substantially with the movement of any native resident or migratory wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites. Therefore, under Alternative 1, Alternative 2, and Alternative 3 impacts to wildlife movement would be less than significant.

5.9 Coastal California Gnatcatcher Critical Habitat

As previously stated, the Study Area occurs entirely within Critical Habitat Unit 9, but the Study Area is not occupied by CAGN as determined during a number of surveys, all of which showed the species to be absent from the site, and PCE's are severely limited or lacking due to disturbance to coastal sage scrub habitat from the 2008 Freeway Complex Fire.

As such, impacts to CAGN critical habitat would be less than significant under Alternative 1, Alternative 2, and Alternative 3.

5.10 Jurisdictional Impacts

5.10.1 Alternative 1

Impacts to Corps Jurisdictional Waters

Under Alternative 1, the proposed project would impact a total of 0.91 acre of Corps jurisdictional waters over 16,460 linear feet, of which 0.89 acre consists of non-wetland waters, and 0.02 acre consists of jurisdictional wetlands [see Table 5-4 below, and Exhibit 8a - Corps Jurisdictional Impacts - Alternative 1]. Impacts would occur in Drainages A, D, E, and F, while Drainages B, C, and G would be fully avoided. Impacts to 0.91 acre of Corps jurisdiction, including 0.02 acre of wetlands, over 16,460 linear feet, would be potentially significant without mitigation. With mitigation, impacts to Corps jurisdiction associated with Alternative 1 would be reduced to less than significant.

Table 5-4. Impacts to Corps Jurisdiction - Alternative 1

	Total Corps Jurisdictional Impacts (acres)			
Drainage	Non-Wetland Waters	Wetland	Total	Linear Length of Impacts (ft)
A	0.10	0	0.10	2,984
B	0	0	0	0
C	0	0	0	0
D	0.39	0	0.39	6,619
E	0.39	0	0.39	6,542
F	0.01	0.02	0.03	315
G	0	0	0	0
Total	**0.89**	**0.02**	**0.91**	**16,460**

Impacts to CDFW Jurisdiction

Under Alternative 1, the proposed project would impact a total of 1.955 acres of CDFW jurisdictional streambed, of which 0.735 acre consists of unvegetated streambed, and 1.22 acres consist of vegetated riparian habitat, including coast live oak trees within CDFW jurisdiction [see Table 5-5 below, and Exhibit 8b - CDFW Jurisdictional Impacts - Alternative 1]. Impacts would occur in Drainages A, D, E, and H, while Drainages B, C, and G would be fully avoided. Impacts to 1.955 acres of CDFW jurisdiction, including 1.22 acres of vegetated riparian habitat and associated coast live oak trees, would be potentially significant without mitigation. With mitigation, impacts to CDFW jurisdiction associated with Alternative 1 would be reduced to less than significant.

Table 5-5. Impacts to CDFW Jurisdiction - Alternative 1

	Total CDFW Jurisdictional Impacts (acres)			Linear Length of Impacts (ft)
Drainage	Unvegetated Streambed	Riparian Streambed	Total	
A	0.10	0	0.10	2,984
B	0	0	0	0
C	0	0	0	0
D	0.29	1.02	1.31	6,619
E	0.34	0.13	0.47	6,542
F	0.005	0.07	0.075	315
G	0	0	0	0
Total	**0.735**	**1.22**	**1.955**	**16,460**

5.10.2 Alternative 2

Impacts to Corps Jurisdictional Waters

Under Alternative 2, the proposed project would impact a total of 1.15 acre of Corps jurisdictional waters over 17,834 linear feet, of which 0.98 acre consists of non-wetland waters, and 0.17 acre consists of jurisdictional wetlands [see Table 5-6 below, and Exhibit 9a - Corps Jurisdictional Impacts - Alternative 2]. Impacts would occur in Drainages A, D, E, and F, and G. while Drainages B and C would be fully avoided. Impacts to 1.15 acre of Corps jurisdiction, including 0.17 acre of wetlands, over 17,834 linear feet, would be potentially significant without mitigation. With mitigation, impacts to Corps jurisdiction associated with Alternative 2 would be reduced to less than significant.

Table 5-6. Impacts to Corps Jurisdiction - Alternative 2

	Total Corps Jurisdictional Impacts (acres)			
Drainage	Non-Wetland Waters	Wetland	Total	Linear Length of Impacts (ft)
A	0.10	0	0.10	2,984
B	0	0	0	0
C	0	0	0	0
D	0.41	0.11	0.52	6,990
E	0.46	0	0.46	7,530
F	0.01	0.02	0.03	143
G	0	0.04	0.04	187
Total	**0.98**	**0.17**	**1.15**	**17,834**

Impacts to CDFW Jurisdiction

Under Alternative 2, the proposed project would impact a total of 2.234 acres of CDFW jurisdictional streambed, of which 0.824 acre consists of unvegetated streambed, and 1.41 acres consist of vegetated riparian habitat, including coast live oak trees within CDFW jurisdiction [see Table 5-7 below, and Exhibit 9b - CDFW Jurisdictional Impacts - Alternative 2]. Impacts would occur in Drainages A, D, E, F, and G, while Drainages B and C would be fully avoided. Impacts to 2.234 acres of CDFW jurisdiction, including 1.41 acres of vegetated riparian habitat and associated coast live oak trees, would be potentially significant without mitigation. With mitigation, impacts to CDFW jurisdiction associated with Alternative 2 would be reduced to less than significant.

Table 5-7. Impacts to CDFW Jurisdiction - Alternative 2

	Total CDFW Jurisdictional Impacts (acres)			Linear Length of Impacts (ft)
Drainage	Unvegetated Streambed	Riparian Streambed	Total	
A	0.10	0	0.10	2,984
B	0	0	0	0
C	0	0	0	0
D	0.31	1.17	1.48	6,990
E	0.41	0.13	0.54	7,530
F	0.004	0.07	0.074	143
G	0	0.04	0.04	187
Total	**0.824**	**1.41**	**2.234**	**17,834**

5.10.3 Alternative 3

Impacts to Corps Jurisdictional Waters

Under Alternative 3, the proposed project would impact a total of 1.17 acre of Corps jurisdictional waters over 18,031 linear feet, of which 1.06 acre consists of non-wetland waters, and 0.11 acre consists of jurisdictional wetlands [see Table 5-8 below, and Exhibit 10a - Corps Jurisdictional Impacts - Alternative 3]. Impacts would occur in Drainages A, D, E, and F, while Drainages B, C, and G would be fully avoided. Impacts to 1.17 acre of Corps jurisdiction, including 0.11 acre of wetlands, over 18,031 linear feet, would be potentially significant without mitigation. With mitigation, impacts to Corps jurisdiction associated with Alternative 3 would be reduced to less than significant.

Table 5-8. Impacts to Corps Jurisdiction - Alternative 3

	Total Corps Jurisdictional Impacts (acres)			
Drainage	Non-Wetland Waters	Wetland	Total	Linear Length of Impacts (ft)
A	0.10	0	0.10	2,984
B	0	0	0	0
C	0	0	0	0
D	0.49	0.09	0.58	7,374
E	0.46	0	0.46	7,530
F	0.01	0.02	0.03	143
G	0	0	0	0
Total	**1.06**	**0.11**	**1.17**	**18,031**

Impacts to CDFW Jurisdiction

Under Alternative 3, the proposed project would impact a total of 2.704 acres of CDFW jurisdictional streambed, of which 0.804 acre consists of unvegetated streambed, and 1.90 acres consist of vegetated riparian habitat including coast live oak trees [see Table 5-9 below, and Exhibit 10b - CDFW Jurisdictional Impacts - Alternative 3]. Impacts would occur in Drainages A, D, E, and F, while Drainages B, C, and G would be fully avoided. Impacts to 2.704 acres of CDFW jurisdiction, including 1.90 acres of vegetated riparian habitat and associated coast live oak trees, would be potentially significant without mitigation. With mitigation, impacts to CDFW jurisdiction associated with Alternative 3 would be reduced to less than significant.

Table 5-9. Impacts to CDFW Jurisdiction - Alternative 3

	Total CDFW Jurisdictional Impacts (acres)			
Drainage	Unvegetated Streambed	Riparian Streambed	Total	Linear Length of Impacts (ft)
A	0.10	0	0.10	2,984
B	0	0	0	0
C	0	0	0	0
D	0.29	1.70	1.99	7,374
E	0.41	0.13	0.54	7,530
F	0.004	0.07	0.074	143
G	0	0	0	0
Total	**0.804**	**1.90**	**2.704**	**18,031**

5.11 Indirect Impacts

5.11.1 Indirect Impacts to Native Habitats

Upon buildout of the project under either alternative, the Study Area will be bounded by urban development to the south and west, and open space associated with Chino Hills State Park to the north and east. Potential indirect impacts typically associated with development of native habitats include introduction of trash and debris, human intrusion that results in trampling of vegetation and/or creation of ad hoc trails, potential introduction of non-native invasive plants and generation of ambient dust during construction.

1. Introduction of Trash and Debris

As a Project Design Feature (PDF), the project will include trash receptacles placed in appropriate locations to ensure that trash and debris are controlled on the site and pose no risk to native habitats. With the incorporation of this PDF, there would be no significant impacts to native habitats due to introduction of trash and debris into areas of adjacent native habitat.

2. Human Intrusion

As a PDF, the project will include signage placed at appropriate locations to control human access to sensitive habitat areas and Chino Hills State Park to the north. With the incorporation of this PDF, there would be no significant impacts to native habitats due to human intrusion into areas of adjacent native habitat.

3. Non-Native Invasive Plants

As a PDF, the project will utilize either native species or non-invasive ornamental species within the project landscaping and within fuel modification zones. With the incorporation of this PDF, there would be no significant impacts to native habitats due to introduction of non-native plants into areas of adjacent native habitat.

4. Dust During Construction

A potential indirect impact to native vegetation includes deposition of dust on adjacent native vegetation during grading for all Project Alternatives. While such impacts would be short-term, they do exhibit potential to harm native species. Accordingly, the project includes a PDF to control dust during construction. With the incorporation of this PDF, there would be no significant impacts to native habitats due to dust deposition from construction.

5.11.2 Indirect Impacts to Special-Status Plant Resources

Potential indirect impacts associated with all three alternatives identified above for native vegetation associations would not be considered significant for avoided Catalina mariposa lily, southern California walnut, and small-flowered microseris; nevertheless, implementation of the PDFs for native vegetation and/or mitigation measures outlined below would provide a potential benefit for these species.

5.11.3 Indirect Impacts to Special-Status Wildlife Resources

1. Least Bell's Vireo - Alternative 1

As noted, the least Bell's vireo occurs within the areas proposed for off-site development at Blue Mud Canyon (Drainage F), and will be subject to direct impacts under Alternative 1. Because the occupied habitat would be removed, no indirect impacts to least Bell's vireo within the occupied habitat would occur. However, riparian habitat adjacent to the directly impacted habitat is suitable for least Bell's vireo and would not be removed and as such may be used by the vireo. Accordingly, noise related impacts to least Bell's vireo from construction of Option 1 would result in potentially significant impacts.

Under Alternative 1, the least Bell's vireo at the western edge of the Study Area would not be subject to either direct or indirect impacts, as the habitat would not be removed, and the nearest grading, construction, and residential development would be over 800 feet to the east, exceeding the 500 foot threshold generally accepted by resource agencies for noise impacts. Additionally, lighting 800 feet east of least Bell's vireo would not result in indirect impacts to least Bell's vireo as there is existing development approximately 350 feet to the west and the proposed development being at a greater distance would not increase ambient light. As part of the PDF, all permanent lighting adjacent to native habitat will be of the lowest illumination necessary for human safety, selectively placed, and shielded/directed away from adjacent natural habitats. Accordingly, there would be no indirect impacts from lighting or noise

2. Least Bell's Vireo - Alternative 2

As noted, the least Bell's vireo occurs within the areas proposed for off-site development at Blue Mud Canyon (Drainage F) and the unnamed drainage on the western edge of the Study Area (Drainage G), and will be subject to direct impacts under Alternative 2. Because the occupied habitat would be removed for project construction, no indirect impacts to least Bell's vireo within the occupied habitat would occur. However, riparian habitat adjacent to the directly impacted habitat is suitable for least Bell's vireo and would not be removed and as such may be used by the vireo. Accordingly, noise related impacts to least Bell's vireo from construction of Option 2 would result in potentially significant impacts.

Lighting associated with Alternative 2 would not result in indirect impacts to least Bell's vireo as there is existing development approximately 350 feet to the west and the proposed development would not increase ambient light. As part of the PDF, all permanent lighting adjacent to native habitat will be of the lowest illumination necessary for human safety, selectively placed, and shielded/directed away from adjacent natural habitats.

3. Least Bell's Vireo - Alternative 3

As noted, the least Bell's vireo occurs within the areas proposed for off-site development at Blue Mud Canyon (Drainage F) and Drainage D, and will be subject to direct impacts under Alternative 3. Because the occupied habitat would be removed, no indirect impacts to least Bell's vireo within the occupied habitat would occur. However, riparian habitat adjacent to the directly impacted habitat is suitable for least Bell's vireo and would not be removed and as such may be used by the vireo. Accordingly, noise related impacts to least Bell's vireo from construction of Option 1 would result in potentially significant impacts.

Lighting associated with Alternative 3 would not result in indirect impacts to least Bell's vireo as there is existing development approximately 350 feet to the west and the proposed development would not increase ambient light. As part of the PDF, all permanent lighting adjacent to native habitat will be of the lowest illumination necessary for human safety, selectively placed, and shielded/directed away from adjacent natural habitats.

4. Impacts from Domestic Cats

Domestic cats are known predators of native birds, especially within developments situated at the urban edge. As the Study Area is bordered by Chino Hills State Park to the north, it is possible that domestic cats allowed outdoors may, over time, cause the decline of some resident bird populations. As a PDF, the project will prohibit outdoor cats, and residents will be warned through the HOA that cats allowed to roam/reside outdoors in violation of the HOA regulations may be preyed upon by CHSP resident fauna such as coyotes.

5.11.4 Indirect Impacts from Noise and Lighting - All Alternatives

1. Impacts from Noise

There will be a temporary, unavoidable increase in noise levels during construction; however noise will be minimized to the greatest extent practicable. All construction vehicles and equipment, fixed or mobile, will be equipped with properly operating and maintained mufflers to minimize noise, and construction will be limited to the hours of 7 am to 8 pm Monday through Saturday, consistent with Orange County noise ordinances. As such, there will be no significant indirect impact to any special-status wildlife species due to noise from either Alternative 1, Alternative 2 or Alternative 3, with the exception of least Bell's vireo as discussed above.

Under all three alternatives, the lots nearest Chino Hills State Park would be least 500 feet south of the State Park boundary. Noise levels associated with the completed project will be typical of suburban development, with typical noise sources to include automobile traffic and lawn mowing/gardening equipment. As such, at that distance, typical suburban noise levels would not result in any significant indirect impacts to biological resources associated with Chino Hills State Park due to noise from Alternative 1, Alternative 2, and Alternative 3.

2. Impacts from Lighting

The project is designed to eliminate light spillage into open space areas. As a PDF, all permanent lighting adjacent to native habitat will be of the lowest illumination necessary for human safety, selectively placed, and shielded/directed away from adjacent natural habitats. With the incorporation of this PDF, there would be no indirect impact to special-status wildlife species associated with lighting from either Alternative 1, Alternative 2, or Alternative 3.

5.12 Cumulative Impacts

This section addresses and analyzes potential cumulative biological resource impacts associated with the three project alternatives. This analysis considers impacts to sensitive biological resources which result from combined, incremental impacts of each of the alternatives when added to other past, present and reasonably foreseeable future projects having closely related impacts (including federal, non-federal governmental and private actions). Cumulative impacts can result from individually minor, but collectively significant impacts taking place over a period of time. When an analysis concludes that a project's impacts are individually minor but "cumulatively considerable" the project may have a significant impact on the environment. An incremental contribution is cumulatively considerable if the incremental effects of the project are significant when viewed in combination with the effects of past and current projects and reasonably foreseeable future projects. The following cumulative impact analysis is based on a review of related projects in the vicinity of the Project Site (Cielo Vista and Bridal Hills,

LLC), existing conditions in the Project vicinity (including past projects), and an analysis of aerial photographs. Because the Project Site is located adjacent to Chino Hills State Park, the substantial areas of permanently preserved habitat associated with the Park is also in the evaluation of cumulative impacts to certain biological resources where appropriate.

The following potential impacts to biological resources have been evaluated in Section 5 above, and as appropriate are addressed in the mitigation measures set forth below. The potential cumulative effects of these potential impacts are addressed below.

5.11.1 Southern Willow Scrub

Under both Alternative 1 and Alternative 2, southern willow scrub would not be impacted. Alternative 3 would impact 0.36 acres of southern willow scrub in Drainage D for grading of the road that would connect the development to San Antonio Road. Although this is a special-status habitat, given that the southern willow scrub associated with Drainage D highly disturbed due to the Freeway Complex Fire, impacts to this habitat in and of itself would be less than significant. However, where this habitat is occupied by least Bell's vireo, impacts would be significant prior to mitigation, as discussed in Section 5.5 above and 5.11.6 below.

The following projects, which are in the vicinity of the Proposed Project, were evaluated to determine whether they would impact southern willow scrub habitat: Cielo Vista and Bridal Hills, LLC.

Cielo Vista will impact approximately 1.25 acres of southern willow scrub; however given the disturbed nature of the habitat resulting from the Freeway Complex Fire, this impact was found to be less than significant. It should be noted, however, that impacts to southern willow scrub occupied by least Bell's vireo were found to be significant before mitigation, and would be reduced to less than significant with mitigation.

The Bridal Hills, LLC property does not support any southern willow scrub and would therefore not impact southern willow scrub.

Finally, potential indirect impacts associated with introduction of trash and debris, human intrusion, introduction of non-native invasive plants and dust generated during construction were evaluated. Through a combination of PDFs and mitigation, potential indirect impacts would be reduced to less than significant and as such, would not add to the cumulative impacts to southern willow scrub within the region.

For Alternatives 1 and 2, which do not impact this habitat, there would be no significant cumulative impact.

As noted, Alternative 3 would result in less than significant impacts to southern willow scrub. Considering the two projects described above (which either have no potential to

impact this habitat, or find that the impact is less than significant) in combination with the less than significant impacts associated with Alternative 3, there would be no significant cumulative impacts to southern willow scrub associated with the project.

Refer to Section 5.11.6 below for an analysis of cumulative impacts to riparian vegetation occupied by least Bell's vireo.

5.11.2 California Walnut Woodland and Blue Elderberry Woodland

Under Alternative 1, Alternative 2 and Alternative 3, California Walnut Woodland and Blue Elderberry Woodland would be impacted. The scale of impacted acres among the alternatives are similar, with 0.22 to 0.48 acre of the total 6.37 acre of Walnut Woodland being impacted and mitigated since it is a significant impact, and 11.37 to 13.63 acre of the total 23.88 acre of Blue Elderberry Woodland being impacted. As noted, the California Walnut Woodland within the Study Area was burned in the 2008 Freeway Complex Fire, and the majority of the walnut trees were damaged and a few killed by the fire. As such, the walnut woodland within the Study Area is highly disturbed and does not exhibit habitat values typical of intact California Walnut Woodland. Nevertheless, because this habitat is a G2S2 impacts to this habitat associated with all three alternatives would be potentially significant without mitigation. Similarly, the Blue Elderberry Woodland within the Study Area was burned in the 2008 Freeway Complex Fire. More than half of the elderberry trees were damaged and many were killed by the fire. It is not clear that the CNDDB ranking of G3S3 applies to the blue elderberry habitat on the site, and while this habitat type is relatively secure as a G3S3 species, and that more than half of the elderberry trees are damaged or dead, impacts associated with all three alternatives would be significant before mitigation; however, with mitigation these impacts would be reduced to less than significant.

Cielo Vista will impact approximately 4.60 acres of blue elderberry woodland; however given the disturbed nature of the habitat resulting from the Freeway Complex Fire, this impact was found to be less than significant. Cielo Vista will not impact any California walnut woodland.

Although no biological survey results are available for the Bridal Hills, LLC property, based on a review of aerial photography and GLA's reconnaissance viewing of the site with binoculars, it does not appear to support either blue elderberry woodland or California walnut woodland, and therefore would not impact them.

Finally, potential indirect impacts associated with introduction of trash and debris, human intrusion, introduction of non-native invasive plants and dust generated during construction were evaluated. Through a combination of PDFs and mitigation, potential indirect impacts would be reduced to less than significant and as such, would not add to the cumulative impacts to California walnut woodland and blue elderberry woodland within the region.

As noted, Alternatives 1, 2, and 3 impacts would be reduced to less than significant impacts with mitigation to California walnut woodland and blue elderberry woodland and would improve existing conditions considering the highly disturbed nature of these habitats within the study area due to the 2008 Freeway Complex Fire. Considering the two projects described above (which either have no potential to impact this habitat, or find that the impact is less than significant) in combination with the less than significant impacts associated with Alternatives 1, 2, and 3, there would be no significant cumulative impacts to California walnut woodland and blue elderberry woodland associated with the project.

5.11.3 Braunton's Milkvetch

All three alternatives would impact the approximately 400 individuals of Braunton's milk vetch within the Study Area, which would be significant without mitigation, but would be reduced to less than significant with mitigation.

Braunton's milkvetch was not detected during focused surveys at the Cielo Vista site, and it is not known if it occurs at the Bridal Hills, LLC property, although suitable habitat may be present given the proximity to the population at Esperanza Hills. As impacts to this species associated with Esperanza Hills would be fully mitigated, there would be no cumulative significant impacts to this species associated with any of the three alternatives.

5.11.4 Intermediate Mariposa Lily

Alternatives 1, 2, and 3 would impact all of the 326 individuals of intermediate mariposa lily detected during focused surveys in 2010, which would be potentially significant without mitigation, given that intermediate mariposa lily is a CRPR List 1B.2 species. With mitigation, impacts would be reduced to less than significant. Cielo Vista does not support this species, and it is unknown if Bridal Hills, LLC supports it. Given that impacts to this species at Esperanza Hills will be fully mitigated, there would be no cumulative significant impacts to this species associated with Alternative 1, Alternative 2, or Alternative 3.

5.11.5 Southern California Walnut, Catalina Mariposa Lily, and Small Flowered Microseris

Southern California walnut is a California RPR 4 species and was detected during focused surveys in 2007. However, the majority of the walnut trees within the Study Area were damaged or killed in the 2008 Freeway Complex Fire. Impacts to the dead trees would not be significant. Under Alternatives 1, 2 and 3, some live and heavily damaged trees may be impacted; however, given that Southern California walnut is a List 4 species, impacts to the remaining live and damaged trees would not constitute a substantial adverse effect, and therefore would be less than significant. Cielo Vista found that impacts to this species were less than significant for the same reasons as at Esperanza

Hills, and Bridal Hills, LLC may support only a few scattered individuals of this species, but does not support any areas of walnut woodland. Given these considerations, there would be no cumulative significant impacts to this species associated with Alternative 1, Alternative 2, or Alternative 3.

Catalina mariposa lily is a CRPR List 4 species, and 445 plants were also observed by GLA during 2010 surveys. all of which would be impacted under Alternatives 1, 2, and 3. However, given that Catalina mariposa lily is a List 4 species, impacts to 445 plants would not constitute a substantial adverse effect, and therefore would be less than significant. Cielo Vista does not support Catalina mariposa lily, and it is not known whether Bridal Hills, LLC supports this species. Given these considerations, there would be no cumulative significant impacts to this species associated with Alternative 1, Alternative 2, or Alternative 3.

Small flowered microseris is a CRPR List 4 species, and 10 individuals were observed by Campbell BioConsulting in 1998. Given that the 10 individuals detected in 1998 have not been detected during multiple subsequent surveys, and that impacts to 10 individuals of a CRPR List 4 would not constitute a substantial adverse effect, under Alternatives 1, 2 and 3, any potential impacts to small-flowered microseris would be less than significant. Cielo Vista does not support Catalina mariposa lily, and it is not known whether Bridal Hills, LLC supports this species. Given these considerations, there would be no cumulative significant impacts to this species associated with Alternative 1, Alternative 2, or Alternative 3.

5.11.6 Least Bell's Vireo

Alternative 1 would permanently impact 0.05 acre of mulefat scrub occupied by LBV. These impacts would be considered significant before mitigation. However, with the mitigation proposed for the project, there would be a net increase of riparian habitat suitable for breeding LBV and impacts would be reduced to less than significant following mitigation. No direct take of individual birds would occur, as impacts would occur outside of the breeding season.

Alternative 2 would permanently impact 0.05 acre of mulefat scrub and 0.19 acre of black willow riparian forest occupied by LBV. These impacts would be considered significant before mitigation. However, with the mitigation proposed for the project, there would be a net increase of riparian habitat suitable for breeding LBV and impacts would be reduced to less than significant following mitigation. No direct take of individual birds would occur, as impacts would occur outside of the breeding season.

Alternative 3 would permanently impact 0.05 acre of mulefat scrub, 0.09 acre of black willow riparian forest, and 0.36 acre of southern willow scrub occupied by LBV. These impacts would be considered significant before mitigation. However, with the mitigation proposed for the project, there would be a net increase of riparian habitat suitable for breeding LBV and impacts would be reduced to less than significant following

mitigation. No direct take of individual birds would occur, as impacts would occur outside of the breeding season.

Of the potential projects in the vicinity of the Study Area, only Cielo Vista supports LBV; however, it should be noted that the riparian habitat to be impacted under the Cielo Vista project consists of the same habitat patches to be impacted by offsite impacts for Esperanza. As such, the subject riparian LBV habitat will only be subject to permanent impacts once, and the impacts should not be counted twice.

Given that the impacts to riparian habitat occupied by LBV will be fully mitigated, with a net gain of riparian habitat, and no additional impacts would occur in the vicinity, there would be no significant cumulative impacts to LBV associated with Alternatives 1, 2, or 3.

5.11.7 Other Special-Status Wildlife

In addition to least Bell's vireo, several other special-status wildlife were detected during surveys, including Cooper's hawk (CDFW watch list when nesting), golden eagle (CDFW watch list when nesting), grasshopper sparrow (CDFW SSC when nesting), northern harrier (CDFW SSC when nesting) peregrine falcon (CDFW fully protected and USFWS BCC when nesting), sharp-shinned hawk (CDFW watch list), southern California rufous-crowned sparrow (Aimpohila ruficeps canescens CDFW watch list), yellow-breasted chat (CDFW SSC), and yellow warbler (CDFW SSC and USFWS BCC). Impacts to these species under Alternative 1, Alternative 2, and Alternative 3 would be less than significant for the reasons set forth in Section 5.5 above, and generally because of any given species being either relative common and/or using the Study Area for only occasional foraging and not breeding.

Two of these species, yellow-breasted chat and yellow warbler were detected at the Cielo Vista site; however, it should be noted that a portion of the off-site study area for Esperanza Hills is coincident with Cielo Vista, and the chat and warbler individuals were detected in the same patches of riparian vegetation, and are not distinct occurrences.

Based on the lack of riparian habitat at Bridal Hills, LLC, yellow-breasted chat and yellow warbler are not expected to occur.

It should also be noted that the 14,102-acre Chino Hills State Park directly north of the Study Area contains large tracts of suitable nesting and foraging habitat for all of the above-mentioned species. Given these considerations, there would be no cumulative significant impacts to special-status wildlife associated with Alternative 1, Alternative 2, or Alternative 3.

5.11.8 Coastal California Gnatcatcher Critical Habitat

As described in detail above, the CAGN has not been found to occur in the Study Area and therefore none of the three alternatives would be expected to result in direct impacts to the species.

Cielo Vista and Bridal Hills, LLC are both located in CAGN critical habitat and contain coastal sage scrub habitat disturbed by the Freeway Complex Fire similar to Esperanza Hills. CAGN were not detected at Cielo Vista, and are not expected to occur at Bridal Hills, LLC. As such, these projects exhibit no potential for impacts to the CAGN. Therefore, these two projects would not contribute at all to any cumulative impacts to the CAGN.

As discussed in Section 3.1.4 above, the term "critical habitat" is a federal regulatory construct intended to be applied by federal agencies to guide their compliance with their obligations under the federal ESA, and so a specific analysis of impacts to lands designated as "critical habitat" by the FWS is not properly the basis of a separate analysis under CEQA (apart from the more comprehensive analysis of project impacts to the species under CEQA). Under Alternatives 1, 2, and 3, there would be direct impacts to areas mapped as CAGN Critical Habitat, but given the highly disturbed nature of the habitat, construction of the project would not result in impacts to PCE's. Given that neither Esperanza Hills nor the projects in the vicinity would impact PCE's within CAGN Critical Habitat Unit 9, there would be no cumulative significant impacts to CAGN Critical Habitat associated with Alternative 1, Alternative 2, or Alternative 3.

5.11.9 Raptor Foraging Habitat

As noted in Section 5.6 above, the Project Site exhibits low to moderate quality foraging habitat based on field observations during numerous site visits. No raptor nests were detected on the site and there were no old abandoned or old nest observed on the site indicating that nesting is not common on the site. As such, development of the Proposed Project would not result in significant impacts to raptor foraging habitat due to the limited use of the site by foraging raptors.

As noted, the Project Site is adjacent to Chino Hills State Park, which provides substantial conserved areas for raptor foraging, primarily grassland and shrubland habitats, meaning that substantial raptor foraging areas have been subject to regional conservation. As such, under either Alternative 1, Alternative 2, or Alternative 3, there would not be significant cumulative impacts to raptor foraging habitat.

5.11.10 Nesting Birds

Removal of vegetation during grading exhibits potential for impacts to nesting birds. Impacts to nesting birds are considered potentially significant. In order to ensure that impacts to nesting birds are fully avoided, Mitigation Measure 6.5 has been proposed.

Under this measure, vegetation must either be removed outside the avian nesting season or a qualified biologist must conduct surveys within areas of vegetation removed during the nesting season to ensure that nesting birds are not present. With implementation of this mitigation measure, impacts to nesting birds are avoided, and neither Alternative 1, Alternative 2, or Alternative 3 will contribute to potential cumulative impacts on nesting birds.

5.11.11 Wildlife Movement

As noted in Section 5.8 above, the Study Area is not part of any regional wildlife movement corridor, and construction of either Alternative 1, 2 or 3 would not substantially interfere with the movement of native wildlife on a regional basis due to the lack of connectivity to other habitat areas. Accordingly, impacts to wildlife movement would be less than significant. The major wildlife corridors in the vicinity of the Study Area are all in preserved lands within Chino Hills State Park. As such, under either Alternative 1, Alternative 2, or Alternative 3, there would not be significant cumulative impacts to raptor foraging habitat.

5.11.12 Corps, CDFG and RWQCB Jurisdiction

As noted in Section 5.10 above, Alternatives 1, 2, and 3 would significantly impact drainages within Corps, CDFG and RWQCB jurisdiction. This impact would be reduced to a level that is less than significant with mitigation. The Cielo Vista project would significantly impact Corps, CDFG, and RWQCB jurisdiction, but these impacts would be fully mitigated. The Bridal Hills, LLC parcel contains drainages that are likely jurisdiction, and any project constructed there would likely impact such drainages. However, such impacts would require mitigation under the Section 1602 of the State Fish and Game Code and Sections 401 and 404 of the Clean Water Act.

Nevertheless, because the impacts under Alternatives 1, 2, and 3 will be fully mitigated, with a net gain in aquatic resource functions, this impact will not contribute to cumulatively considerable impacts to jurisdictional resources within the region

6.0 MITIGATION

The following section discusses actual or potential impacts to sensitive resources that would be considered potentially significant prior to mitigation. As applicable, specific mitigation measures are provided to ensure that impacts to sensitive biological resources, as a result of the Project, are less than significant after mitigation. Exhibit 11 - Mitigation Map depicts the locations of proposed mitigation.

6.1 Mitigation for Impacts to Walnut Woodland and Blue Elderberry Woodland

Prior to the issuance of grading permits, the Project Applicant shall prepare a re-vegetation plan for mulefat scrub, black willow riparian forest and blue elderberry woodland located within Blue Mud Canyon. The plan will also incorporate California black walnut into the plant palette to mitigate the loss of 0.22 and/or 0.48 acre of walnut woodland associated with Options 1 and 2 The plan shall be prepared by a qualified biologist for review and approval by the Manager of OC Planning. At a minimum, the plan shall include: restoration of mulefat scrub and black willow riparian forest vegetation that also includes a black walnut component. The plan shall include replacement of habitat at a minimum a ratio of 1:1; responsibility and qualifications of the personnel to implement and supervise the plan; site selection; site preparation and planting implementation; schedule; maintenance plan/guidelines; monitoring plan; and long-term preservation.

6.2 Mitigation for Impacts to Intermediate Mariposa Lily

Under both Alternatives 1 and 2, 236 intermediate mariposa lily individuals are within the area proposed for permanent impacts [see Exhibit 5 - Biological Resources Impact Map].

Mitigation for the 236 intermediate mariposa lilies within the permanent impact zone will consist of the greenhouse propagation of 236 individuals of intermediate mariposa lily. These 236 individuals will be planted on the Study Area at the time of project impacts within an undisturbed area of coastal sage scrub. This mitigation program will be considered successful if at least 80-percent of 326 flowering individuals, or 261 flowering individuals, are observed five years after planting. If success criteria are not met after 5 years, remedial measures shall include greenhouse propagation and planting of additional individuals.

6.3 Mitigation for Impacts to Braunton's Milk Vetch

Under Alternatives 1, 2, and 3 approximately 400 Braunton's milk vetch individuals are within the area proposed for permanent impacts [see Exhibit 5 - Biological Resources Impact Map].

Mitigation for the 400 individuals of Braunton's milk vetch within the permanent impact zone will consist of the greenhouse propagation of 400 individuals of Braunton's milk vetch. These 400 individuals will be planted on the Study Area at the time of project impacts within an undisturbed area of suitable habitat and soils, slope and exposure. This mitigation program will be considered successful if at least 80-percent of 400 individuals, or 320 individuals, flower and set seed prior to senescence. If success criteria are not met prior to senescence of the planted individuals, remedial measures shall include greenhouse propagation and planting of additional individuals.

6.4 Mitigation for Impacts to Least Bell's Vireo

Permanent impacts on mulefat scrub and black willow riparian forest occupied by least Bell's vireo through grading shall be mitigated within Blue Mud Canyon through the restoration of mulefat scrub and black willow riparian forest vegetation at a ratio of 1:1. The mitigation will also incorporate California black walnut into the plant palette to mitigate the loss of walnut woodland. With implementation, the proposed impacts to mulefat scrub and black willow riparian forest habitat would be reduced to less than significant.

The Project Applicant shall be required to plan, implement, monitor, and maintain a mulefat scrub and black willow riparian forest revegetation program for the Project. Prior to issuance of the first permit which would allow for site disturbance (e.g., grading permit), a detailed restoration program shall be prepared by a qualified biologist for approval by the County of Orange. The program shall include the following items:

1. ***Responsibilities and qualifications of the personnel to implement and supervise the plan.*** The responsibilities of the landowner, habitat restoration specialists, and maintenance personnel that would supervise and implement the plan shall be specified.
2. ***Site selection.*** The mitigation areas shall be determined in coordination with the resource agencies. The mitigation areas shall be located on the Project site in areas to be dedicated as open space conservation.
3. ***Site preparation and planting implementation.*** Site preparation shall include (a) protection of existing native species; (b) trash and weed removal; (c) native species salvage and reuse (i.e., salvage of pads and translocation of large cactus clumps); (d) soil treatments (i.e., imprinting, decompacting); (e) temporary irrigation installation; (f) erosion-control measures (i.e., rice or willow wattles); (g) seed mix application; and (h) container species.
4. ***Schedule.*** A schedule shall be developed that includes planting to occur in late fall and early winter (i.e., between October 1 and January 30).
5. ***Maintenance plan/guidelines.*** The maintenance plan shall include (a) weed control; (b) herbivory control; (c) trash removal; (d) irrigation system maintenance; (e) maintenance training; and (f) replacement planting. The maintenance plan shall also include biological monitoring during maintenance activities if they occur during the LBV breeding season (April 1 – August 31).

6. ***Monitoring plan.*** The monitoring plan shall include (a) qualitative monitoring (i.e., photographs and general observations); (b) quantitative monitoring (i.e., randomly placed transects, wildlife monitoring); (c) performance criteria; (d) monthly reports for the first year and reports every other month thereafter; and (e) annual reports for five years, which shall be submitted to the resource agencies. The site shall be monitored and maintained for five years to ensure successful mulefat scrub and black willow riparian forest habitat establishment within the restored and created areas.
7. ***Long-term preservation.*** Long-term preservation of the site shall also be outlined in the conceptual mitigation plan to ensure the mitigation site is not impacted by future development.

The Project Applicant shall be fully responsible for the implementation of the mulefat scrub and black willow riparian forest revegetation program until the restoration areas have met the success criteria outlined in the program. The County shall have final authority over mitigation area sign-off. The following measures will be implemented during construction to ensure that potential construction impacts to LBV are avoided or minimized.

1. Prior to the commencement of clearing operations or other activities involving significant soil disturbance, all areas of mulefat scrub and black willow riparian forest habitat to be avoided shall be identified with temporary fencing or other markers that are clearly visible to construction personnel.
2. A USFWS-approved Biological Monitor shall be on site during any clearing of mulefat scrub and black willow riparian forest. The Project Applicant shall advise the USFWS at least 7 calendar days—but preferably 14 calendar days—prior to the clearing of mulefat scrub and black willow riparian forest. The Biological Monitor shall flush avian or other mobile species from habitat areas immediately prior to brush-clearing and earth-moving activities. It shall be the responsibility of the monitoring biologist to ensure that identified bird species are not directly impacted by brush-clearing and earth-moving equipment in a manner that also allows for construction activities to continue on a timely basis.
3. Following the completion of initial clearing activities, all areas of mulefat scrub and black willow riparian forest habitat to be avoided by construction equipment and personnel shall be marked with temporary fencing or other clearly visible, appropriate markers. No construction access, parking, or storage of equipment shall be permitted within such marked areas.

6.4 Mitigation for Impacts to Corps and CDFW Jurisdiction

Permanent impacts on Corps and CDFW jurisdiction through grading shall be mitigated within Blue Mud Canyon through the restoration of mulefat scrub, black willow riparian forest, coast live oak riparian woodland, and other appropriate wetland/riparian habitats

at an acreage ratio of 1:1. With implementation, the proposed impacts to Corps and CDFW jurisdiction would be reduced to less than significant.

Additionally, impacts to living coast live oak trees within CDFW jurisdiction will be mitigated through planting liners or acorns within Blue Mud Canyon at the following ratios:

For healthy trees to be removed for development:

- trees less than 5 inches diameter at breast height (DBH) should be replaced at 3:1
- trees between 5 and 12 inches DBH should be replaced at 5:1
- trees between 12 and 36 inches DBH should be replaced at 10:1
- trees greater than 36 inches DBH should be replaced at 20:1

For damaged trees (including trees damaged by construction and fire damaged trees to be removed for development):

- trees less than 12 inches DBH should be replaced at 3:1
- trees greater than 12 inches DBH should be replaced at 5:1

Impacts to trees that were killed by the 2008 Freeway Complex Fire do not require mitigation.

The sizes, condition, and total number of impacted trees will be determined after verification of the limits of CDFW jurisdiction and prior to project initiation.

The Project Applicant shall be required to plan, implement, monitor, and maintain a Habitat Mitigation and Monitoring Program (HMMP) for the Project. Prior to issuance of the first permit which would allow for site disturbance (e.g., grading permit), a detailed HMMP shall be prepared by a qualified biologist for approval by the County of Orange. The program shall include the following items:

1. ***Responsibilities and qualifications of the personnel to implement and supervise the plan.*** The responsibilities of the landowner, habitat restoration specialists, and maintenance personnel that would supervise and implement the plan shall be specified.
2. ***Site selection.*** The mitigation areas shall be determined in coordination with the resource agencies. The mitigation areas shall be located on the Project site in areas to be dedicated as open space conservation.
3. ***Site preparation and planting implementation.*** Site preparation shall include (a) protection of existing native species; (b) trash and weed removal; (c) native species salvage and reuse (i.e., salvage of pads and translocation of large cactus clumps); (d) soil treatments (i.e., imprinting, decompacting); (e) temporary irrigation installation; (f) erosion-control measures (i.e., rice or willow wattles); (g) seed mix application; and (h) container species.

4. ***Schedule.*** A schedule shall be developed that includes planting to occur in late fall and early winter (i.e., between October 1 and January 30).
5. ***Maintenance plan/guidelines.*** The maintenance plan shall include (a) weed control; (b) herbivory control; (c) trash removal; (d) irrigation system maintenance; (e) maintenance training; and (f) replacement planting. The maintenance plan shall also include biological monitoring during maintenance activities if they occur during the avian breeding season (March 15 – August 31).
6. ***Monitoring plan.*** The monitoring plan shall include (a) qualitative monitoring (i.e., photographs and general observations); (b) quantitative monitoring (i.e., randomly placed transects, wildlife monitoring); (c) performance criteria; (d) monthly reports for the first year and reports every other month thereafter; and (e) annual reports for five years, which shall be submitted to the resource agencies. The site shall be monitored and maintained for five years to ensure successful habitat establishment within the restored and created areas.
7. ***Long-term preservation.*** Long-term preservation of the site shall also be outlined in the conceptual mitigation plan to ensure the mitigation site is not impacted by future development.

The Project Applicant shall be fully responsible for the implementation of the HMMP until the restoration areas have met the success criteria outlined in the program. The County shall have final authority over mitigation area sign-off. The following measures will be implemented during construction to ensure that potential construction impacts to avoided Corps and CDFW jurisdiction are avoided or minimized.

1. Prior to the commencement of clearing operations or other activities involving significant soil disturbance, all areas of Corps and CDFW jurisdiction to be avoided shall be identified with temporary fencing or other markers that are clearly visible to construction personnel.
2. A USFWS-approved Biological Monitor shall be on site during any clearing of riparian vegetation. The Project Applicant shall advise the USFWS at least 7 calendar days—but preferably 14 calendar days—prior to the clearing of riparian vegetation. The Biological Monitor shall flush avian or other mobile species from habitat areas immediately prior to brush-clearing and earth-moving activities. It shall be the responsibility of the monitoring biologist to ensure that identified bird species are not directly impacted by brush-clearing and earth-moving equipment in a manner that also allows for construction activities to continue on a timely basis.
3. Following the completion of initial clearing activities, all areas of Corps and CDFW jurisdiction to be avoided by construction equipment and personnel shall be marked with temporary fencing or other clearly visible, appropriate markers. No construction access, parking, or storage of equipment shall be permitted within such marked areas.

6.5 Mitigation for Nesting Birds Protected Under the Migratory Bird Treaty Act

No vegetation removal shall occur between March 15 to August 31 unless a qualified biologist surveys the Project's impact area prior to disturbance to confirm the absence of active nests. If an active nest is discovered, vegetation removal within a particular buffer surrounding the nest shall be prohibited until nesting is complete; the buffer distance shall be determined by the biologist (in consultation with either the CDFW or USFWS, if applicable) and in consideration of species sensitivity and existing nest site conditions. Limits of avoidance, which can be up to 300 feet for nesting raptors, shall be demarcated with flagging or fencing. The Biologist shall record the results of the recommended protective measures described above and shall submit a memo summarizing any nest avoidance measures to the County of Orange to document compliance with applicable State and federal laws pertaining to the protection of native birds, including nesting raptors.

For birds not covered by the MBTA (e.g, European starlings, house sparrow), impacts to nests (should such occur), would not be considered significant under CEQA as such impacts are not prohibited by the MBTA and also because such species are not native and their presence can result in harm to native species due to increase competition.

6.6 Mitigation for Indirect Impacts to Least Bell's Vireo

No clearing, grubbing, grading, or other construction activities shall occur within and in the vicinity of riparian habitat occupied by least Bell's vireo between March 15 and September 15, the breeding season of the least Bell's vireo, until the following requirements have been met:

A. A qualified biologist shall survey riparian areas that would potentially be subject to construction noise levels exceeding 60 decibels [dB(A)] hourly average for the presence of least Bell's vireo. Surveys for this species shall be conducted pursuant to the protocol survey guidelines established by the U.S. Fish & Wildlife Service within the breeding season prior to the commencement of construction. If the least Bell's vireo is present, then the following conditions must be met:

1. Between March 15 and September 15, no clearing, grubbing, or grading of occupied least Bell's vireo habitat shall be permitted. Areas restricted from such activities shall be staked or fenced under the supervision of a qualified biologist;

2. Between March 15 and September 15, no construction activities shall occur within any portion of the site where construction activities would result in noise levels exceeding 60 dB(A) hourly average at the edge of occupied least Bell's vireo habitat. An analysis showing that noise generated by construction activities would not exceed 60 dB(A) hourly average at the edge of occupied habitat must be completed by a qualified acoustician and/or qualified biologist (possessing current noise engineer license or registration with monitoring noise level

experience with listed animal species) and approved by the U.S. Fish & Wildlife Service at least two weeks prior to the commencement of construction activities. Prior to the commencement of any construction activities during the breeding season, areas restricted from such activities shall be staked or fenced under the supervision of a qualified biologist;

3. If it is desired to conduct construction activities adjacent to habitat determined to be occupied by least Bell's vireo during pre-construction surveys, then at least two weeks prior to the commencement of construction activities, under the direction of a qualified acoustician and/or qualified biologist, noise attenuation measures (e.g., berms, walls) shall be implemented to ensure that noise levels resulting from construction activities will not exceed 60 dB(A) hourly average at the edge of habitat occupied by the least Bell's vireo. Concurrent with the commencement of construction activities and the construction of necessary noise attenuation facilities, noise monitoring shall be conducted at the edge of occupied area to ensure that noise levels do not exceed 60 dB(A) hourly average. If the noise attenuation techniques implemented are determined to be inadequate by the qualified acoustician and/or biologist, then the associated construction activities shall cease until such time that adequate noise attenuation is achieved or until the end of the breeding season (September 16).

Construction noise shall continue to be monitored at least twice weekly on varying days, or more frequently depending on the construction activity, to verify that noise levels at the edge of occupied habitat are maintained below 60 dB(A) hourly average or to the ambient noise level of it already exceeds 60 dB(A) hourly average. If not, other measures shall be implemented in consultation with the biologist as necessary, to reduce noise levels to below 60 dB(A) hourly average or to the ambient noise level if it already exceeds 60 dB(A) hourly average. Such measures may include, but are not limited to, limitations on the placement of construction equipment and the simultaneous use of equipment.

B. If least Bell's vireo are not detected during the protocol survey, the qualified biologist shall submit substantial evidence to the U.S. Fish & Wildlife Service that demonstrates whether or not mitigation measures such as noise walls are necessary between March 15 and September 15 as follows:

If this evidence indicates the potential is high for least Bell's vireo to be present based on historical records or site conditions, then condition A.3 shall be adhered to as specified above.

If this evidence concludes that no impacts to this species are anticipated, no further surveys or monitoring would be necessary.

7.0 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: _____

1050-2_biotech 11202013 FINAL revised

8.0 REFERENCES

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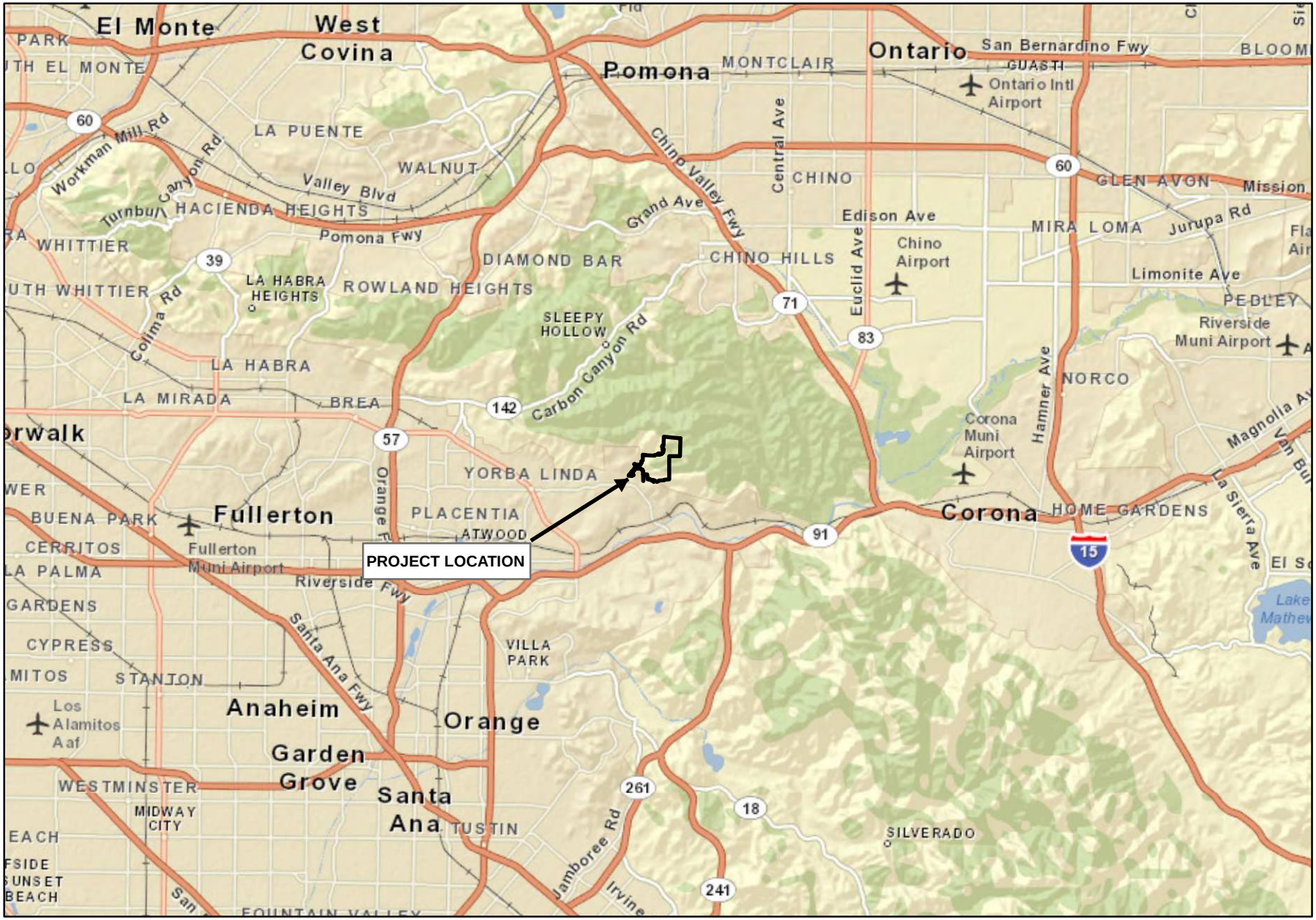


Source: ESRI World Street Map

N

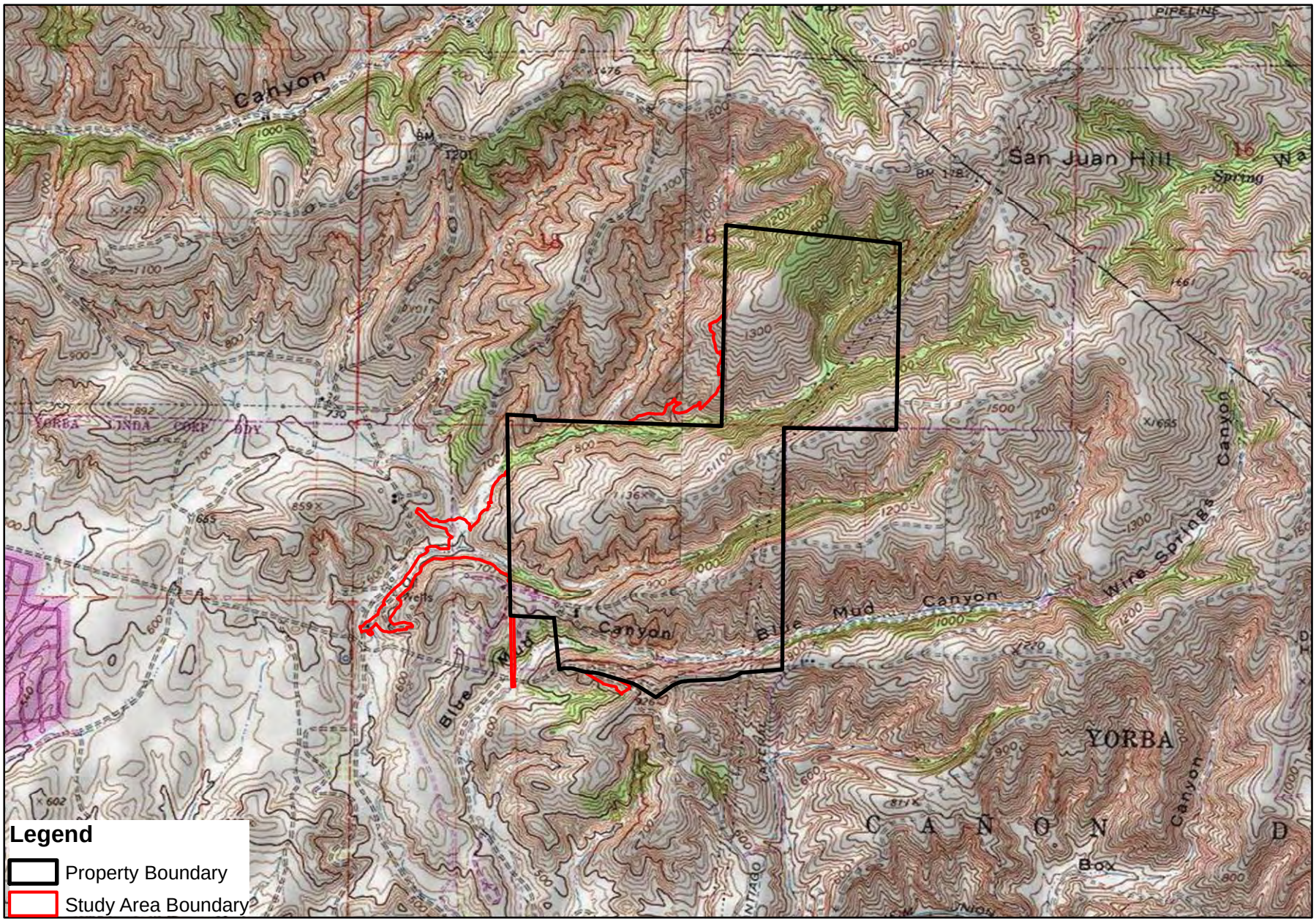
0 2 4 8 Miles

ESPERANZA HILLS SPECIFIC PLAN AREA

Regional Map

GLENN LUKOS ASSOCIATES

Exhibit 1



Adapted from USGS Prado Dam & Yorba Linda, CA quadrangles

N

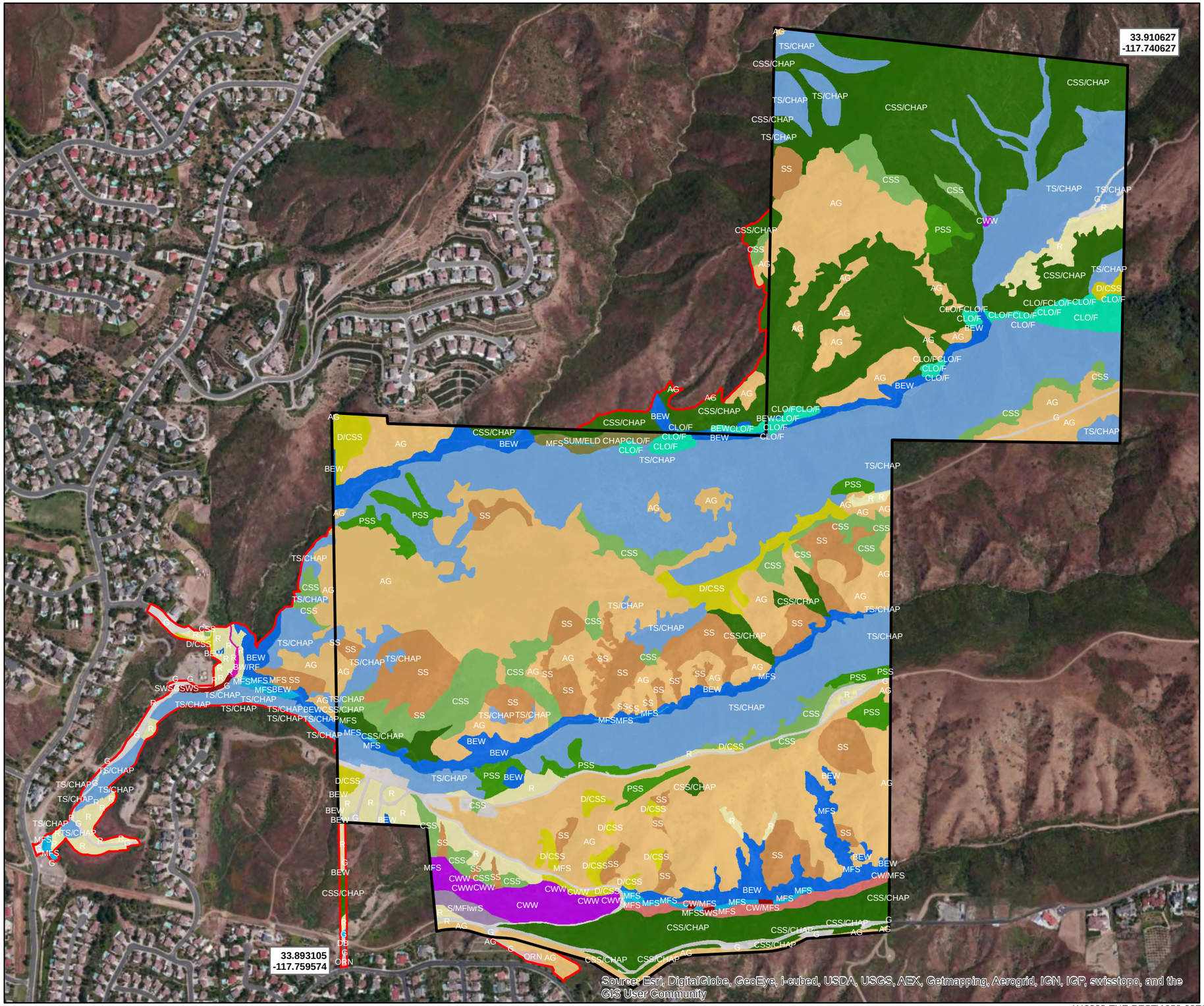
0 1,000 2,000 4,000 Feet

ESPERANZA HILLS SPECIFIC PLAN AREA

Vicinity Map

GLENN LUKOS ASSOCIATES

Exhibit 2



Legend

- Property Boundary
- Study Area Boundary
- AG, Annual grassland
- BEW, Blue elderberry woodland
- BW/RF, Black willow riparian forest
- CLO/F, Coast live oak forest
- CSS, California sagebrush scrub
- CSS/CHAP, Sage scrub-chaparral ecotone
- CW/MFS, California walnut-mulefat scrub
- CWW, California walnut woodland
- D/CSS, disturbed California sagebrush scrub
- DB, Detention Basin
- G, Graded
- MFS, Mulefat scrub
- ORN, Ornamental
- PSS, Purple sage scrub
- R, Ruderal
- S/MFlwrS, Sagebrush-monkey flower scrub
- SS, Sumac savannah
- SUM/ELD CHAP, Sumac/Elderberry Chaparral
- SWS, Southern willow scrub
- TS/CHAP, Toyon-sumac chaparral

N

0 350 700 1,400
Feet

1 inch = 700 feet

Aerial Photo: ESRI Basemaps Bing Hybrid
Reference Elevation Datum: State Plane 6 NAD 83
Map Prepared by: K. Kartunen, GLA
Date Prepared: May 10, 2013

ESPERANZA HILLS SPECIFIC PLAN AREA

Vegetation Map

GLENN LUKOS ASSOCIATES

Exhibit 3

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Photograph 1: View looking south from just inside northern site boundary.

Photograph 2: View of senescent Braunton's milkvetch (*Astragalus brauntonii*) on January 9, 2013.

Photograph 3: View of typical steep slope common to much of site.

Photograph 4: View looking east of disturbed scrub near western property boundary.

GLENN LUKOS ASSOCIATES

Exhibit 4

ESPERANZA HILLS SPECIFIC PLAN AREA

Site Photographs

Legend

- Property Boundary Boundary
- Study Area Boundary
- Braunton's Milkvetch Population
- Intermediate Mariposa Lily Population
- Least Bell's Vireo Observed by GLA on July 28, 2012
- Least Bell's Vireo Observed by GLA on June 1, 2010
- Least Bell's Vireo Nest - PCR Services Corporation 2012
- Least Bell's Vireo Observations - PCR Services Corporation 2012
- Location of Golden Eagle Nest
- Location of Grasshopper Sparrow

N

0 350 700 1,400
Feet

1 inch = 800 feet

Aerial Photo: ESRI Basemaps Bing Hybrid
Reference Elevation Datum: State Plane 6 NAD 83
Map Prepared by: K. Kartunen, GLA
Date Prepared: May 10, 2013

ESPERANZA HILLS SPECIFIC PLAN AREA

Special Status Biological Resources Map

GLENN LUKOS ASSOCIATES

Exhibit 5

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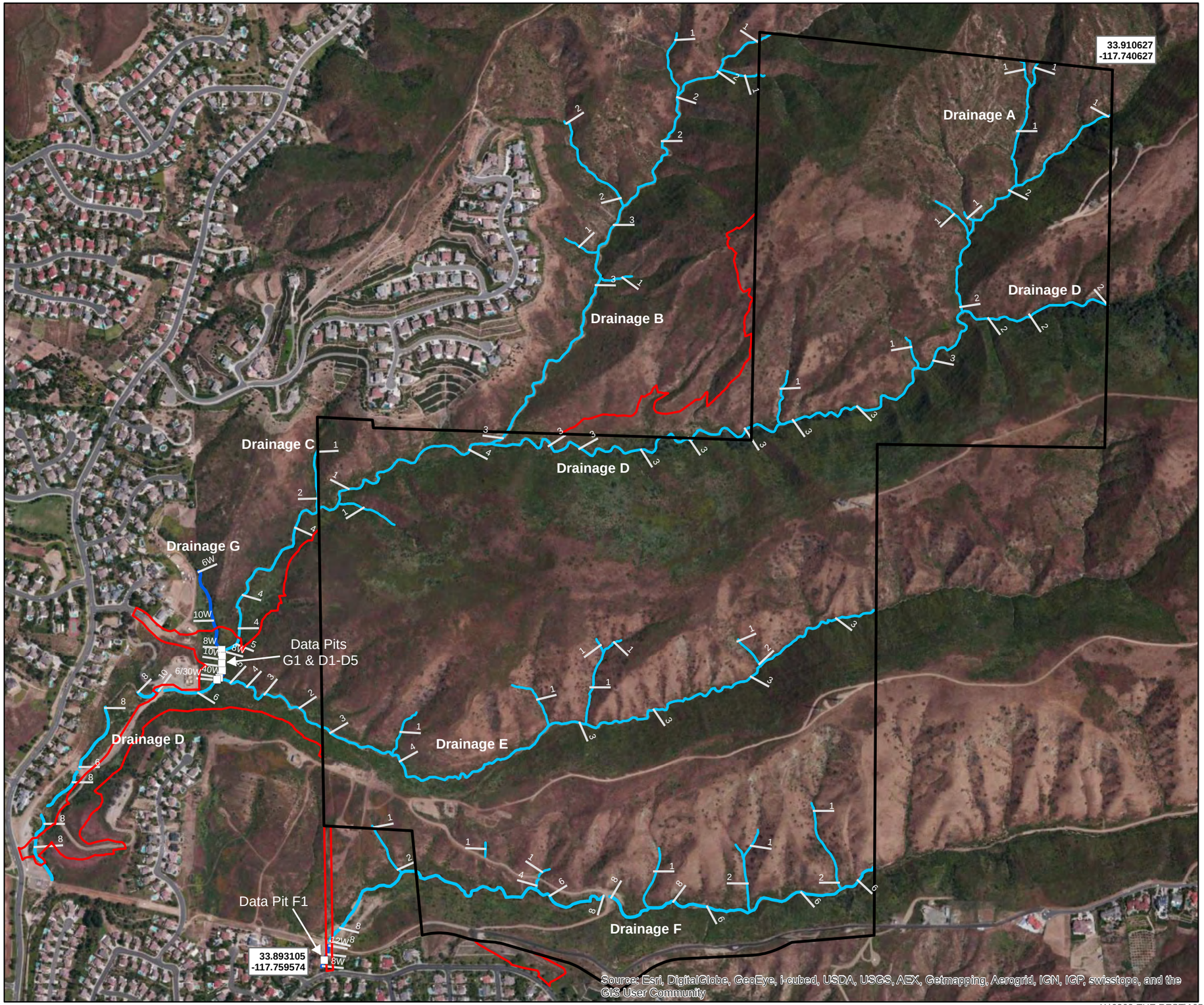

Legend

- Property Boundary
- Study Area Boundary
- Corps Non-Wetland Waters
- Corps Wetland
- Width in Feet (W indicates wetland jurisdiction)
- Data Pit Location

N

0 350 700 1,400

Feet

1 inch = 700 feet

Aerial Photo: ESRI Basemaps Bing Hybrid
Reference Elevation Datum: State Plane 6 NAD 83
Map Prepared by: K. Kartunen, GLA
Date Prepared: May 10, 2013

ESPERANZA HILLS SPECIFIC PLAN AREA

Corps Jurisdictional Delineation Map

GLENN LUKOS ASSOCIATES

Exhibit 6A

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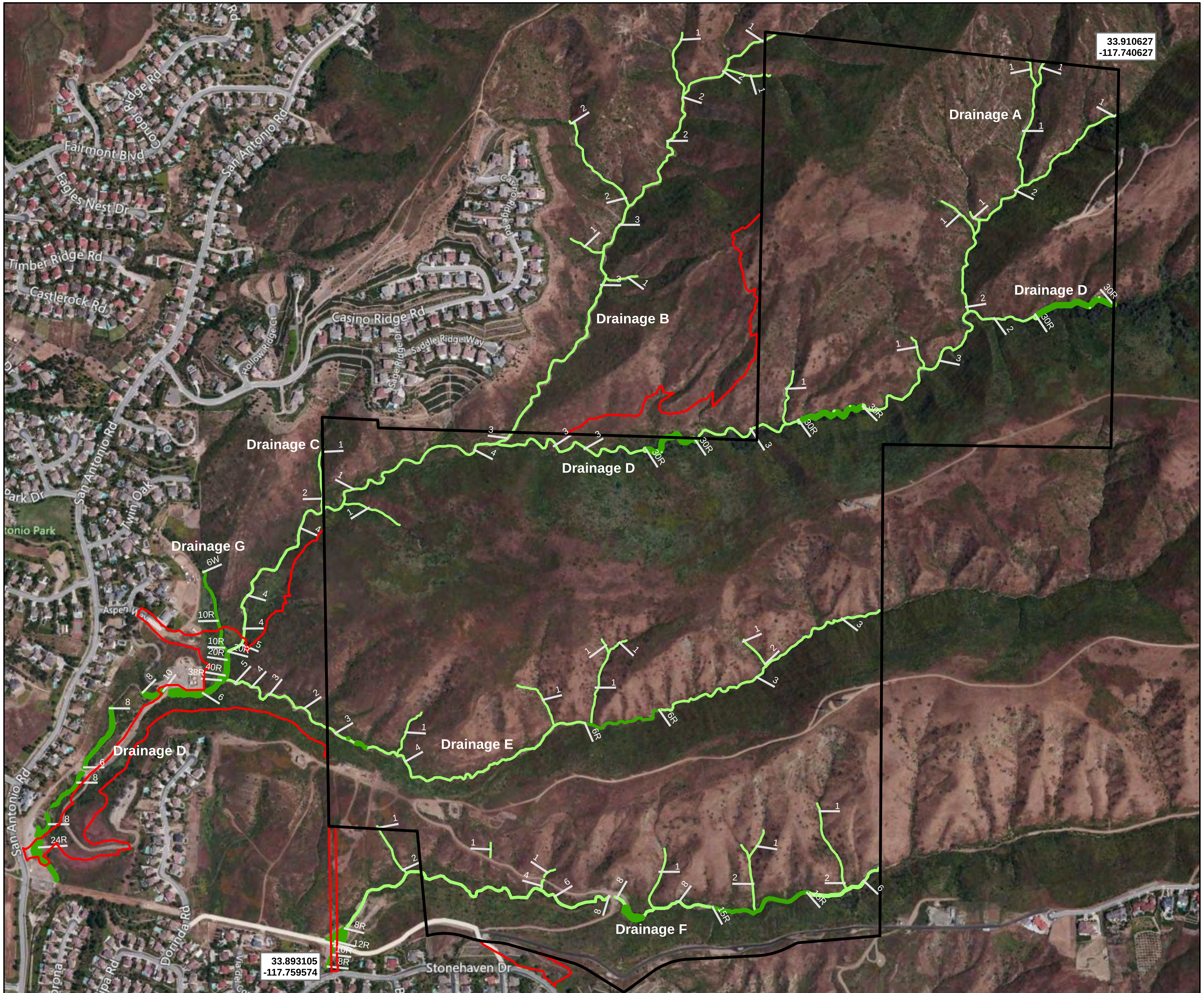

Legend

- Property Boundary
- Study Area Boundary
- CDFW Unvegetated Streambed
- CDFW Riparian
- Width in Feet (R indicates riparian jurisdiction)

N

0 350 700 1,400
Feet

1 inch = 700 feet

Aerial Photo: ESRI Basemaps Bing Hybrid
Reference Elevation Datum: State Plane 6 NAD 83
Map Prepared by: K. Kartunen, GLA
Date Prepared: May 10, 2013

ESPERANZA HILLS SPECIFIC PLAN AREA

CDFW Jurisdictional Delineation Map

GLENN LUKOS ASSOCIATES

Exhibit 6B

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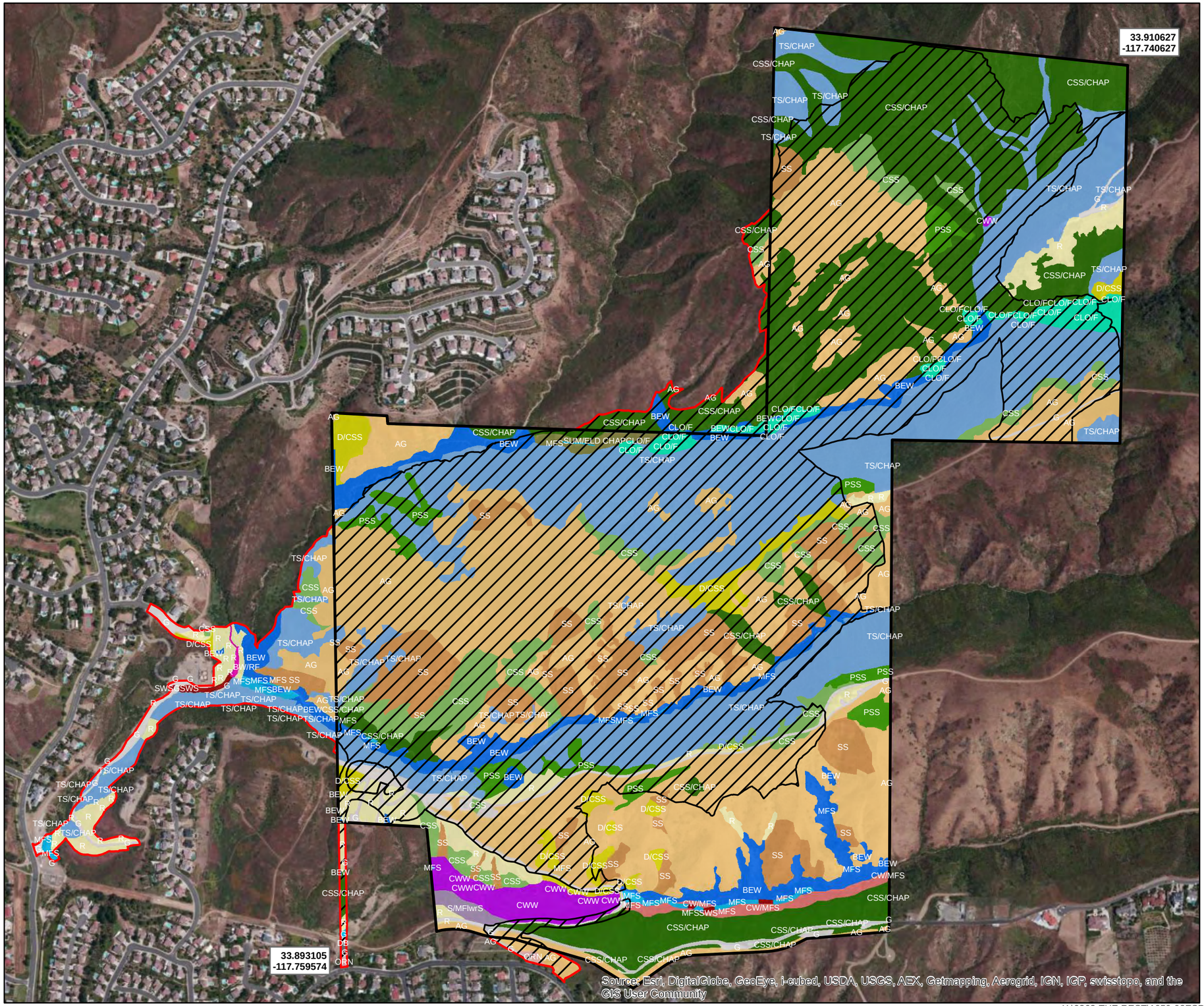

Legend

- Property Boundary
- Study Area Boundary
- Alternative 1 Footprint
- AG, Annual grassland
- BEW, Blue elderberry woodland
- BW/RF, Black willow riparian forest
- CLO/F, Coast live oak forest
- CSS, California sagebrush scrub
- CSS/CHAP, Sage scrub-chaparral ecotone
- CW/MFS, California walnut-mulefat scrub
- CWW, California walnut woodland
- D/CSS, disturbed California sagebrush scrub
- DB, Detention Basin
- G, Graded
- MFS, Mulefat scrub
- ORN, Ornamental
- PSS, Purple sage scrub
- R, Ruderal
- S/MFlwrS, Sagebrush-monkey flower scrub
- SS, Sumac savannah
- SUM/ELD CHAP, Sumac/Elderberry Chaparral
- SWS, Southern willow scrub
- TS/CHAP, Toyon-sumac chaparral

N

0 350 700 1,400
Feet

1 inch = 700 feet

Aerial Photo: ESRI Basemaps Bing Hybrid
Reference Elevation Datum: State Plane 6 NAD 83
Map Prepared by: K. Kartunen, GLA
Date Prepared: May 10, 2013

ESPERANZA HILLS SPECIFIC PLAN AREA

Vegetation Map/Alternative 1 Impact Map

GLENN LUKOS ASSOCIATES

Exhibit 7A

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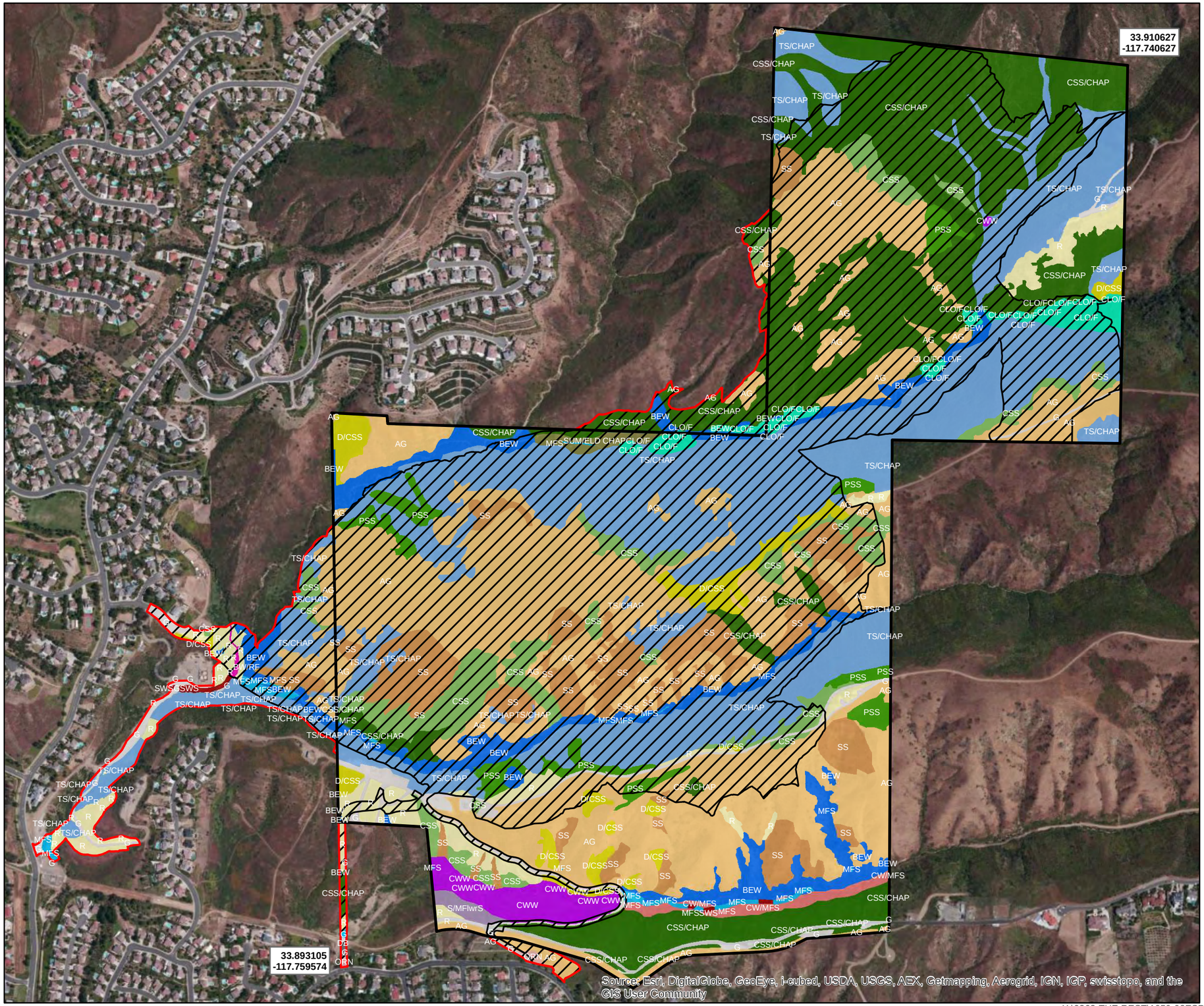

Legend

- Property Boundary
- Study Area Boundary
- Alternative 2 Footprint
- AG, Annual grassland
- BEW, Blue elderberry woodland
- BW/RF, Black willow riparian forest
- CLO/F, Coast live oak forest
- CSS, California sagebrush scrub
- CSS/CHAP, Sage scrub-chaparral ecotone
- CW/MFS, California walnut-mulefat scrub
- CWW, California walnut woodland
- D/CSS, disturbed California sagebrush scrub
- DB, Detention Basin
- G, Graded
- MFS, Mulefat scrub
- ORN, Ornamental
- PSS, Purple sage scrub
- R, Ruderal
- S/MFlwrS, Sagebrush-monkey flower scrub
- SS, Sumac savannah
- SUM/ELD CHAP, Sumac/Elderberry Chaparral
- SWS, Southern willow scrub
- TS/CHAP, Toyon-sumac chaparral

N

0 350 700 1,400
Feet

1 inch = 700 feet

Aerial Photo: ESRI Basemaps Bing Hybrid
Reference Elevation Datum: State Plane 6 NAD 83
Map Prepared by: K. Kartunen, GLA
Date Prepared: May 10, 2013

ESPERANZA HILLS SPECIFIC PLAN AREA

Vegetation Map/Alternative 2 Impact Map

GLENN LUKOS ASSOCIATES

Exhibit 7B

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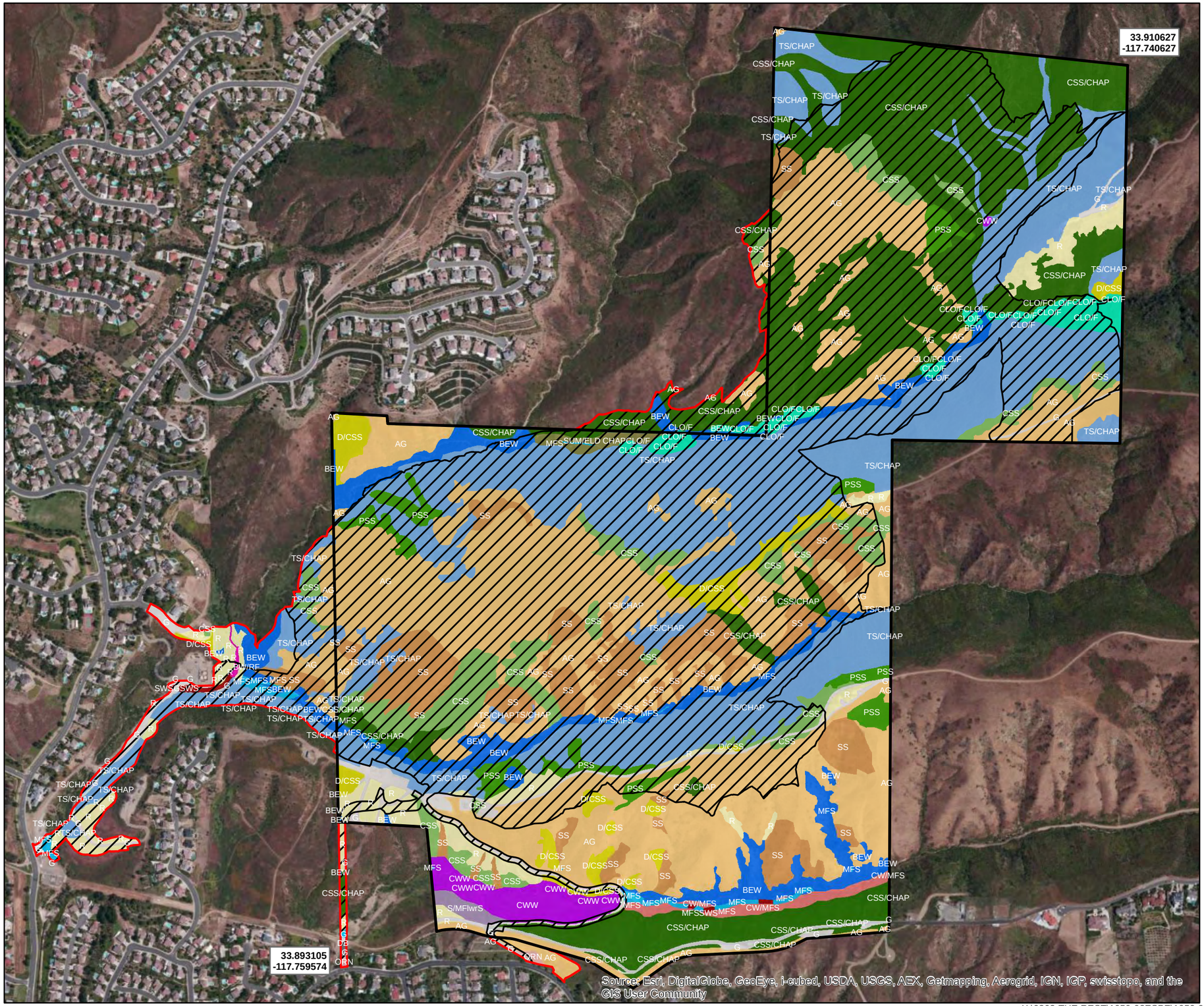

Legend

- Property Boundary
- Study Area Boundary
- Alternative 3 Project Footprint
- AG, Annual grassland
- BEW, Blue elderberry woodland
- BW/RF, Black willow riparian forest
- CLO/F, Coast live oak forest
- CSS, California sagebrush scrub
- CSS/CHAP, Sage scrub-chaparral ecotone
- CW/MFS, California walnut-mulefat scrub
- CWW, California walnut woodland
- D/CSS, disturbed California sagebrush scrub
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- SUM/ELD CHAP, Sumac/Elderberry Chaparral
- SWS, Southern willow scrub
- TS/CHAP, Toyon-sumac chaparral

N

0 350 700 1,400
Feet

1 inch = 700 feet

Aerial Photo: ESRI Basemaps Bing Hybrid
Reference Elevation Datum: State Plane 6 NAD 83
Map Prepared by: K. Kartunen, GLA
Date Prepared: May 10, 2013

ESPERANZA HILLS SPECIFIC PLAN AREA

Vegetation Map/Alternative 3 Impact Map

GLENN LUKOS ASSOCIATES

Exhibit 7C

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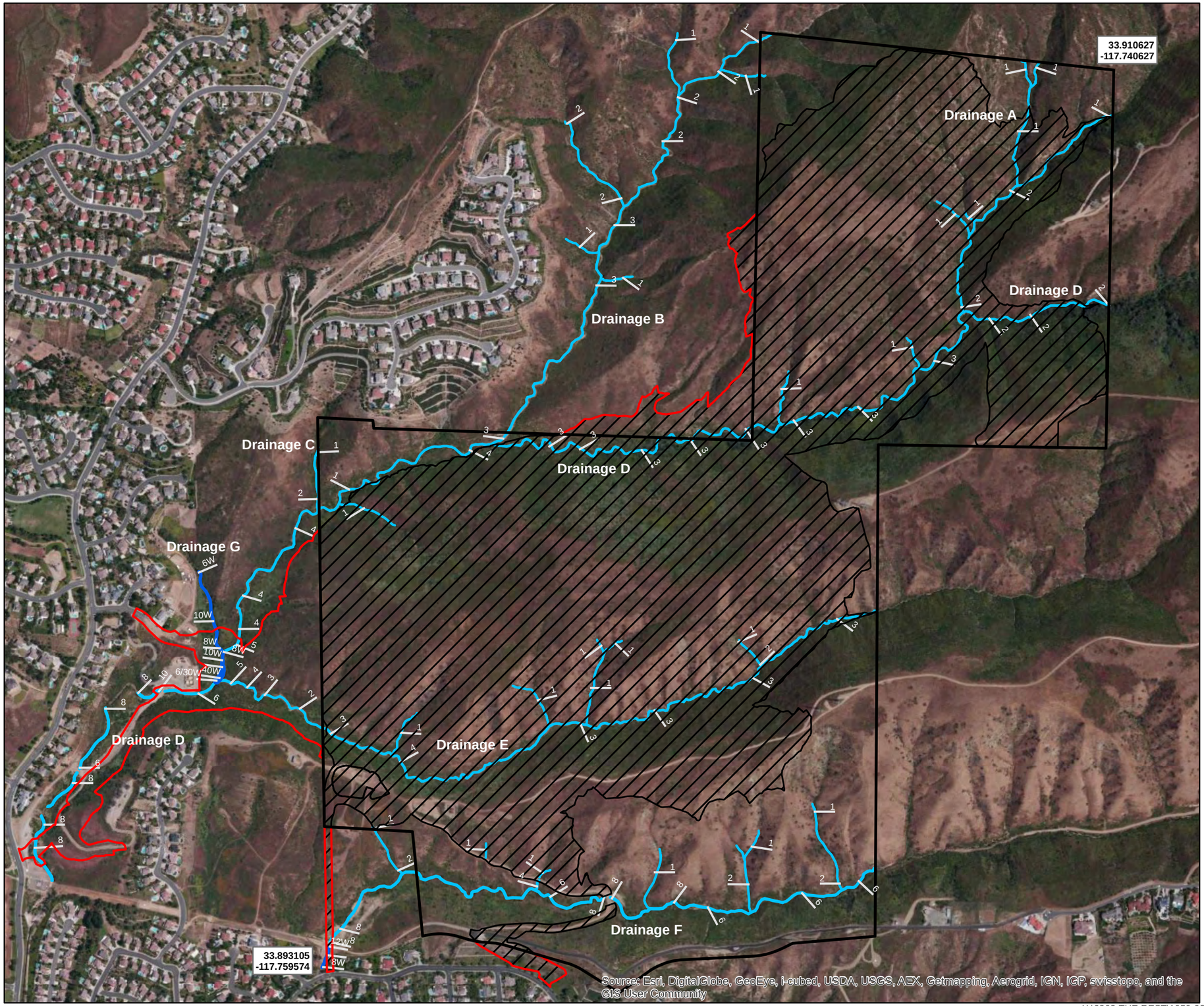


Legend

- Property Boundary
- Study Area Boundary
- Alternative 1 Footprint
- Corps Non-Wetland Waters
- Corps Wetland
- Width in Feet (W indicates wetland jurisdiction)

N

0 350 700 1,400

Feet

1 inch = 700 feet

Aerial Photo: ESRI Basemaps Bing Hybrid
Reference Elevation Datum: State Plane 6 NAD 83
Map Prepared by: K. Kartunen, GLA
Date Prepared: May 10, 2013

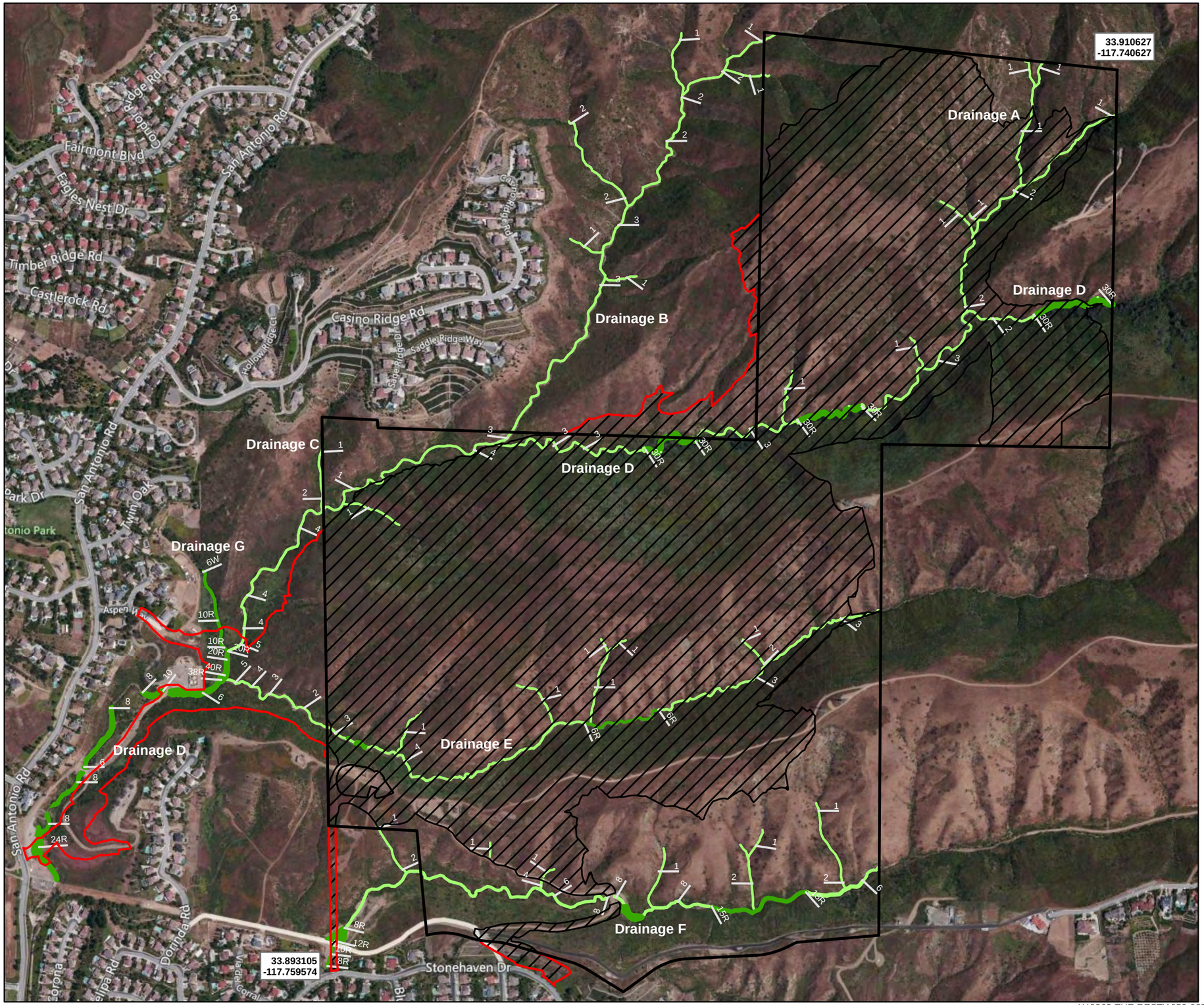
ESPERANZA HILLS SPECIFIC PLAN AREA

Corps Jurisdictional Delineation/Alternative 1 Impact Map

GLENN LUKOS ASSOCIATES

Exhibit 8A

X:\0363-THE REST\1050-02ESPE\1050-02_GIS FINAL_USE THIS FOLDER\ImpactsGIS\1050-2 CorpsAlternative1.mxd



Legend

- Property Boundary
- Study Area Boundary
- Alternative 1 Footprint
- CDFW Unvegetated Streambed
- CDFW Riparian
- Width in Feet (R indicates riparian jurisdiction)

N

0 350 700 1,400

Feet

1 inch = 700 feet

Aerial Photo: ESRI Basemaps Bing Hybrid
Reference Elevation Datum: State Plane 6 NAD 83
Map Prepared by: K. Kartunen, GLA
Date Prepared: May 10, 2013

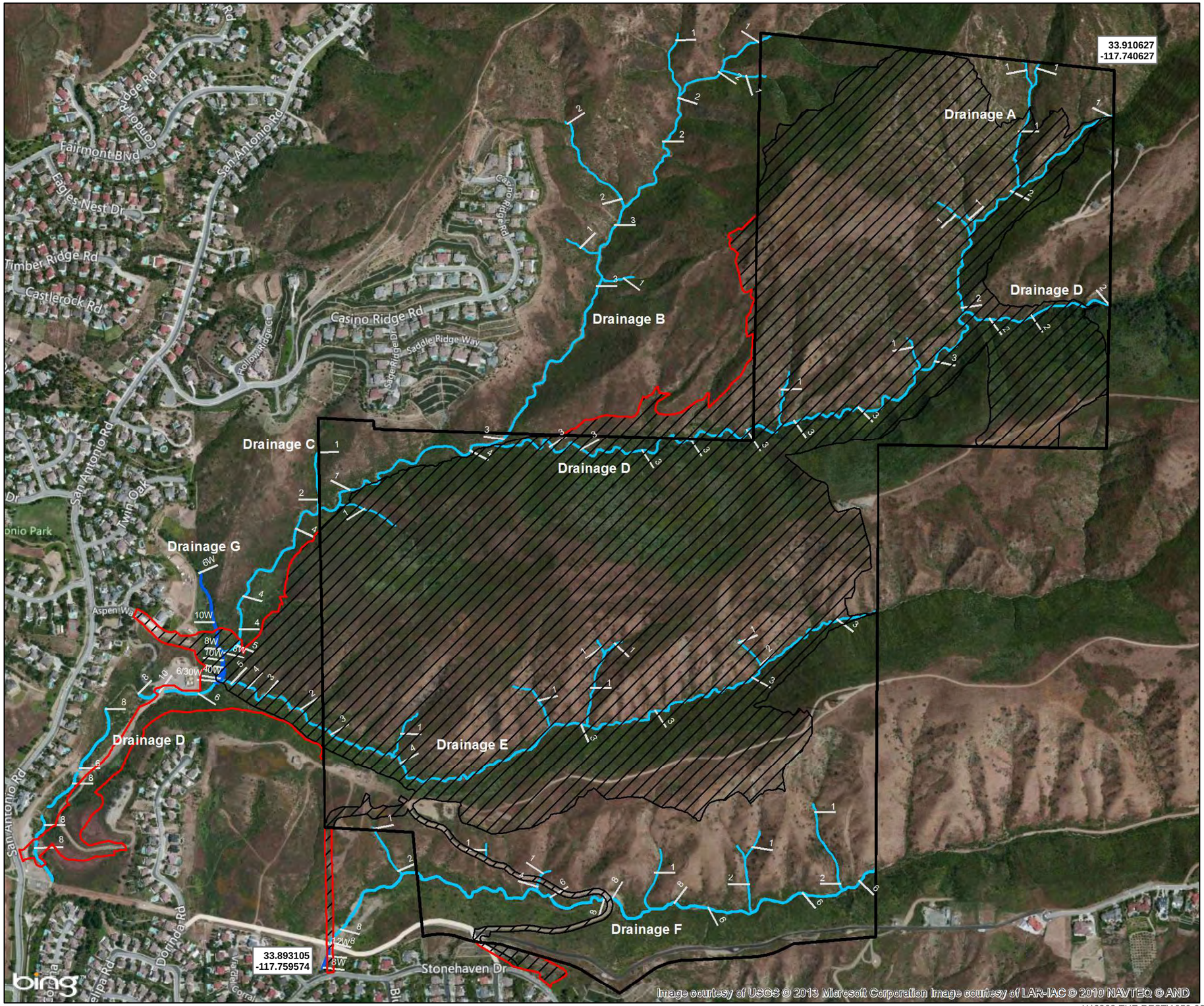
ESPERANZA HILLS SPECIFIC PLAN AREA

CDFW Jurisdictional Delineation/Alternative 1 Impact Map

GLENN LUKOS ASSOCIATES

Exhibit 8B

X:\0363-THE REST\1050-02ESPE\1050-02_GIS FINAL_USE THIS FOLDER\ImpactsGIS\1050-2 CDFWAlternative1.mxd



Legend

- Property Boundary
- Study Area Boundary
- Alternative 2 Footprint
- Corps Non-Wetland Waters
- Corps Wetland
- Width in Feet (W indicates wetland jurisdiction)

N

0 350 700 1,400

Feet

1 inch = 700 feet

Aerial Photo: ESRI Basemaps Bing Hybrid
Reference Elevation Datum: State Plane 6 NAD 83
Map Prepared by: K. Kartunen, GLA
Date Prepared: May 10, 2013

ESPERANZA HILLS SPECIFIC PLAN AREA

Corps Jurisdictional Delineation/Alternative 2 Impact Map

GLENN LUKOS ASSOCIATES

Exhibit 9A

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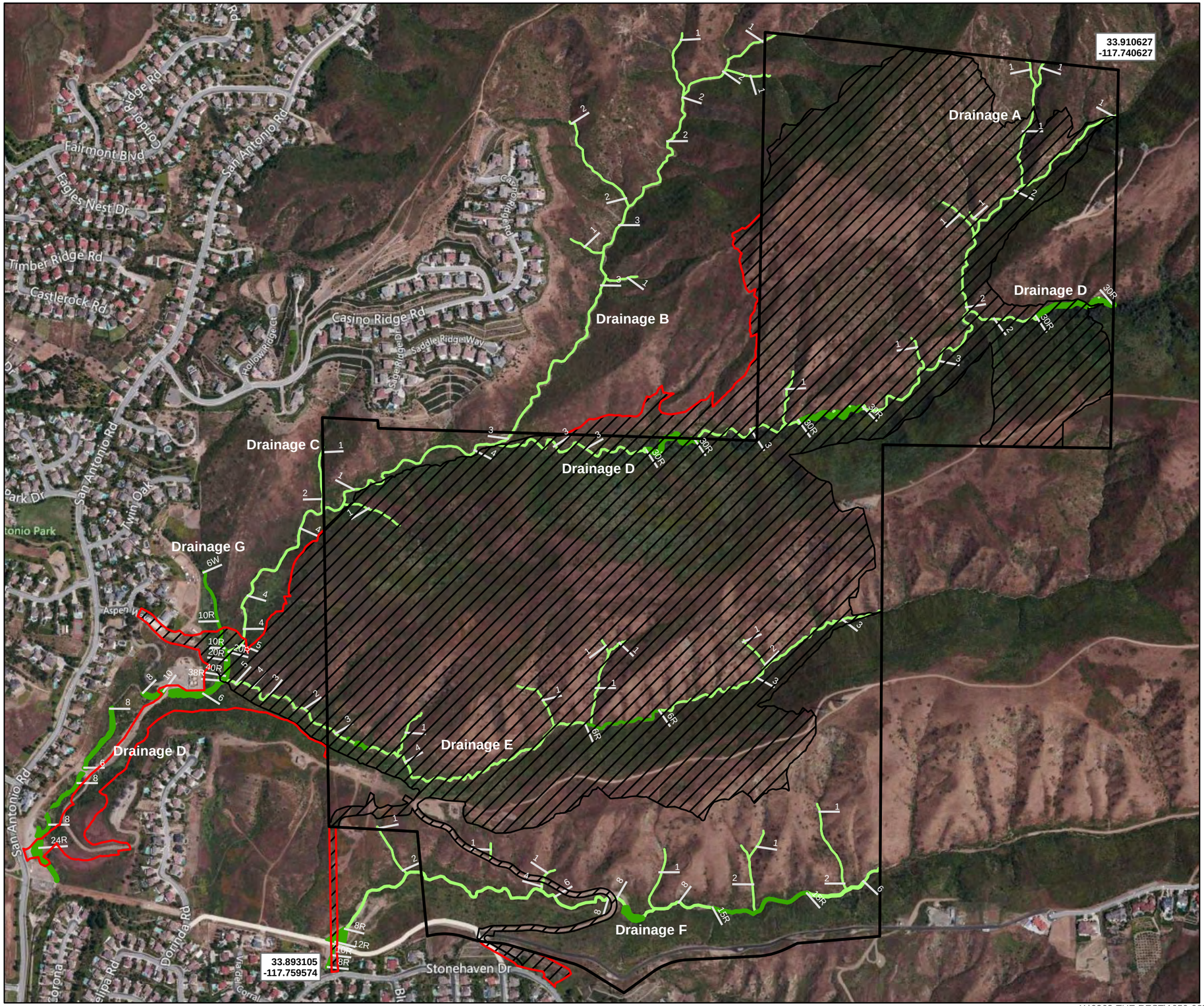


Legend

- Property Boundary
- Study Area Boundary
- Alternative 2 Footprint
- CDFW Unvegetated Streambed
- CDFW Riparian
- Width in Feet (R indicates riparian jurisdiction)

N

0 350 700 1,400

Feet

1 inch = 700 feet

Aerial Photo: ESRI Basemaps Bing Hybrid
Reference Elevation Datum: State Plane 6 NAD 83
Map Prepared by: K. Kartunen, GLA
Date Prepared: May 10, 2013

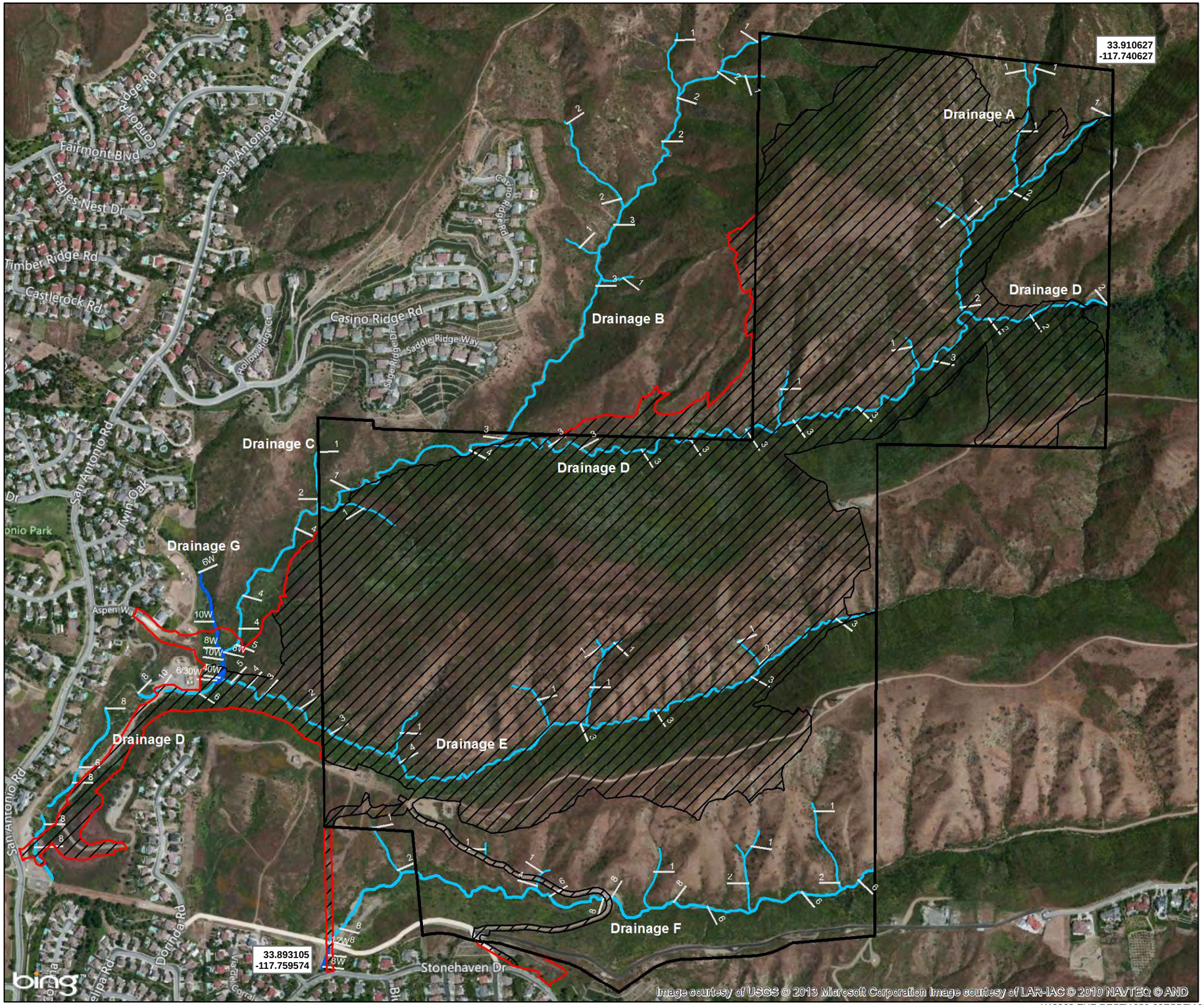
ESPERANZA HILLS SPECIFIC PLAN AREA

CDFW Jurisdictional Delineation/Alternative 2 Impact Map

GLENN LUKOS ASSOCIATES

Exhibit 9B

X:\0363-THE REST\1050-02ESPE\1050-02_GIS FINAL_USE THIS FOLDER\ImpactsGIS\1050-2 CDFWAlternative2.mxd



Legend

- Property Boundary
- Study Area Boundary
- Alternative 3 Project Footprint
- Corps Non-Wetland Waters
- Corps Wetland
- Width in Feet (W indicates wetland jurisdiction)

N

0 350 700 1,400

Feet

1 inch = 700 feet

Aerial Photo: ESRI Basemaps Bing Hybrid
Reference Elevation Datum: State Plane 6 NAD 83
Map Prepared by: K. Kartunen, GLA
Date Prepared: March 14, 2013

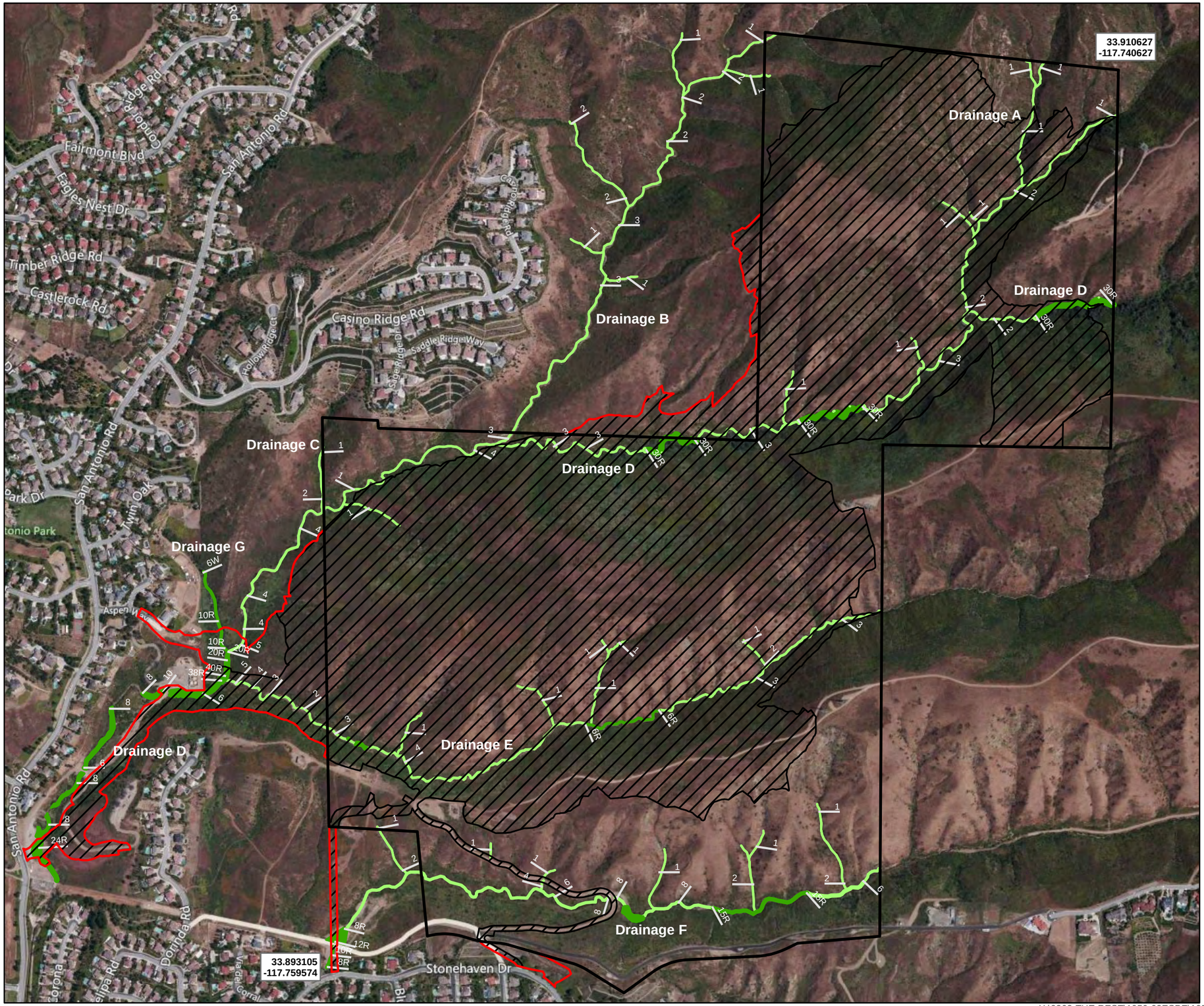
ESPERANZA HILLS SPECIFIC PLAN AREA

Corps Jurisdictional Delineation/Alternative 3 Impact Map

GLENN LUKOS ASSOCIATES

Exhibit 10A

X:\0363-THE REST\1050-02ESPE\1050-02_GIS FINAL_USE THIS FOLDER\ImpactsGIS\1050-2 CorpsAlternative3 05 10 13.mxd



Legend

- Property Boundary
- Study Area Boundary
- Alternative 3 Project Footprint
- Width in Feet (R indicates riparian jurisdiction)
- CDFW Unvegetated Streambed
- CDFW Riparian

N

0 350 700 1,400

Feet

1 inch = 700 feet

Aerial Photo: ESRI Basemaps Bing Hybrid
Reference Elevation Datum: State Plane 6 NAD 83
Map Prepared by: K. Kartunen, GLA
Date Prepared: May 10, 2013

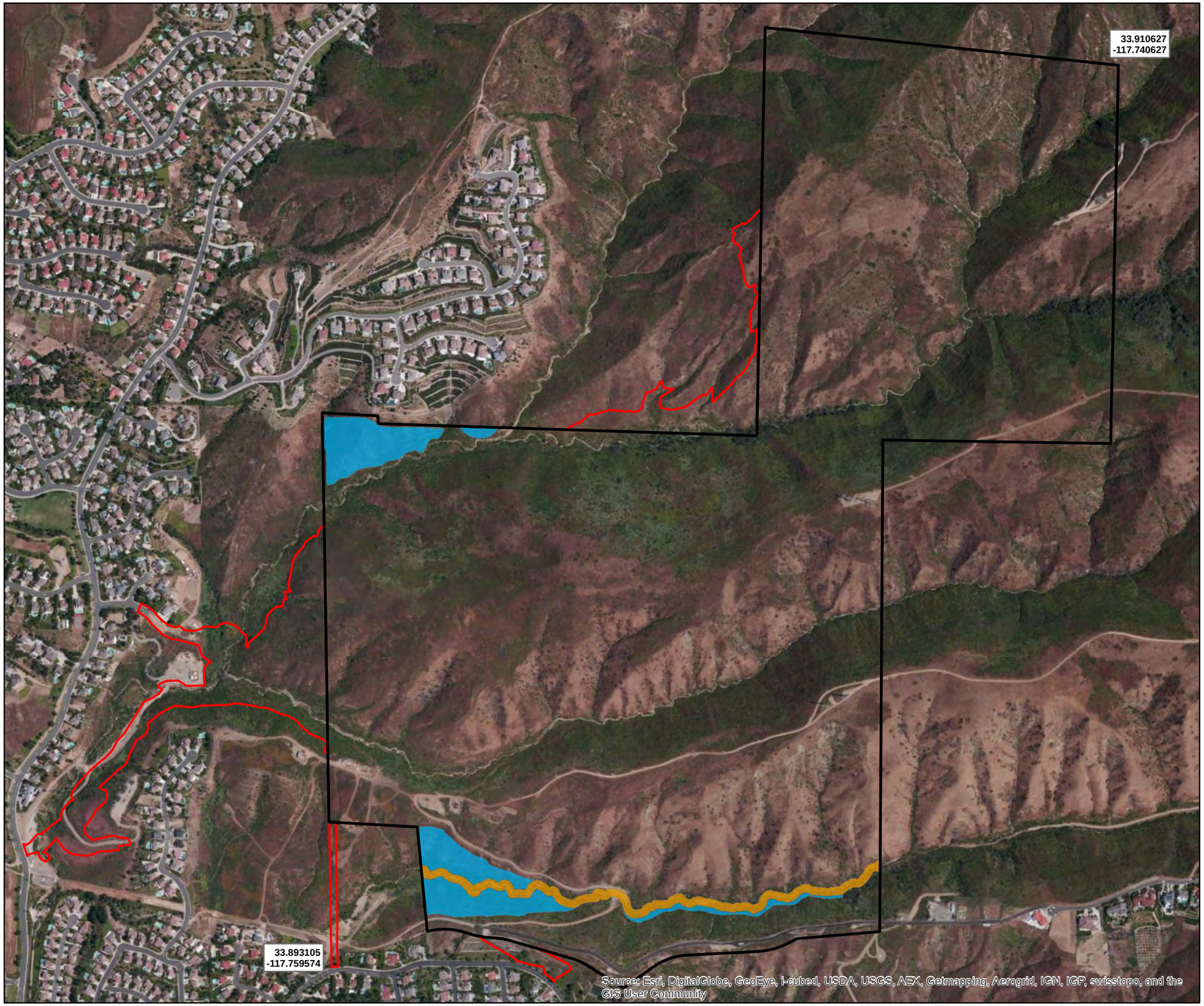
ESPERANZA HILLS SPECIFIC PLAN AREA

CDFW Jurisdictional Delineation/Alternative 3 Impact Map

GLENN LUKOS ASSOCIATES

Exhibit 10B

X:\0363-THE REST\1050-02ESPE\1050-02_GIS FINAL_USE THIS FOLDER\ImpactsGIS\1050-2 CDFWAlternative3 05 10 13.mxd



Legend

- Property Boundary
- Study Area Boundary
- Proposed Elderberry/Walnut Mitigation Area - 13.63 ac.
- Proposed Ripiarian Mitigation Area - 5.27 ac.

N

0 350 700 1,400

Feet

1 inch = 700 feet

Aerial Photo: ESRI Basemaps
Reference Elevation Datum: State Plane 6 NAD 83
Map Prepared by: K. Kartunen, GLA
Date Prepared: November 20, 2013

ESPERANZA HILLS SPECIFIC PLAN AREA

Proposed Mitigation Area

GLENN LUKOS ASSOCIATES

Exhibit 11

X:\0363-THE REST\1050-02ESPE\1050-2_GIS\MitigationGIS\1050-2Mitigation.mxd

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 Munz (1974) and Roberts (1998). An asterisk (*) denotes a non-native species.

SCIENTIFIC NAME	COMMON NAME
GYMNOSPERMS	
Pinaceae	**Pine Family**
**Pinus halepensis*	aleppo pine
ANGIOSPERMS-DICOTS	
Adoxaceae	**Muskroot Family**
Sambucas nigra ssp. *caerulea*	blue elderberry
Aizoaceae	**Carpet-weed Family**
**Aptenia cordifolia*	iceplant
**Carpobrotus edulis*	hottentot fig
Amaranthaceae	**Amaranth Family**
**Amaranthus albus*	tumbleweed
Anacardiaceae	**Sumac Family**
Malosma laurina	laurel sumac
Rhus integrifolia	lemonade berry
Rhus ovata	sugar bush
**Schinus molle*	Peruvian pepper tree
Toxicodendron diversilobum	poison oak
Apiaceae	**Carrot Family**
**Anthriscus caucalis*	bur chervil
**Apium graveolens*	common celery
**Conium maculatum*	poison hemlock
Daucus pusillus	rattlesnake weed
**Foeniculum vulgare*	sweet fennel
Sanicula crassicaulis	Pacific sanicle
Asclepiadaceae	**Milkweed Family**
Asclepias fascicularis	narrow-leaved milkweed

Asteraceae	**Sunflower Family**
Achillea millefolium	common yarrow
Acourtia microcephala	sacapellote
Ambrosia acanthicarpa	annual sand bur
Ambrosia psilostachya	western ragweed
Artemisia californica	California sagebrush
Artemisia douglasiana	mugwort
Baccharis pilularis	coyote bush
Baccharis salicifolia	mulefat
Brickellia californica	California brickellbush
**Carduus pycnocephalus*	Italian thistle
**Centaurea melitensis*	tocalote
Cirsium occidentale	cobweb thistle
**Cirsium vulgare*	bull thistle
Conyza canadensis	common horseweed
Corethrogyne filaginifolia	California aster
**Cynara cardunculus*	artichoke thistle
Deinandra fasciculata	fascicled tarplant
Encelia californica	California encelia
Ericameria palmeri var. *pachylepis*	box springs goldenbush
Eriophyllum confertiflorum var. *confertiflorum*	golden yarrow
**Gazania linearis*	gazania
Grindelia camporum var. *camporum*	big gumplant
Gutierrezia californica	California matchweed
Hazardia squarrosa	saw-toothed goldenbush
**Hedypnois cretica*	crete hedypnois
Helianthus annus	annual sunflower
Helminthotheca echioides	bristly ox-tongue
Heterotheca grandiflora	telegraph weed
**Hypochaeris glabra*	smooth cat's ear
Isocoma menziesii var. *menziesii*	Menzies' goldenbush
**Lactuca serriola*	prickly lettuce
Lasthenia californica	coastal goldfields
Malacothrix saxatilis ssp. *tenuifolia*	cliff malacothrix
Microseris douglasii ssp. *platycarpha*	small-flowered microseris
Matricaria discoidea	pineapple weed
Pseudognaphalium biolettii	two-color rabbit tobacco
Pseudognaphalium californicum	California everlasting
**Pseudognaphalium luteoalbum*	Jersey cudweed
Pseudognaphalium microcephalum	white everlasting
Rafinesquia californica	California chicory
**Senecio vulgaris*	common groundsel
**Silybum marianum*	milk thistle
**Sonchus asper*	prickly sow thistle

**Sonchus oleraceus*	common sow thistle
Stebbinsoseris heterocarpha	derived microseris
Stephanomeria virgata ssp. *virgata*	tall wreath-plant
Uropappus lindleyi	silver puffs
Xanthium spinosum	spiny cocklebur
Xanthium strumarium	common cocklebur
Boraginaceae	**Borage Family**
Amsinckia menziesii	fiddleneck
Cryptantha intermedia	common cryptantha
Heliotropium curassavicum	salt heliotrope
Brassicaceae	**Mustard Family**
**Brassica nigra*	black mustard
**Brassica geniculata*	summer mustard
**Capsella bursa-pastoris*	shepherd's purse
**Lobularia maritima*	sweet alyssum
Nasturtium officinale	water cress
**Raphanus sativus*	wild radish
**Sisymbrium irio*	London rocket
**Sisymbrium officinale*	hedge mustard
**Sisymbrium orientale*	hare's ear cabbage
Cactaceae	**Cactus Family**
Opuntia littoralis	coastal prickly pear
Caprifoliaceae	**Honeysuckle Family**
**Loniceria japonica*	Japanese honeysuckle
Lonicera subspicata	southern honeysuckle
Caryophyllaceae	**Pink Family**
**Cerastium glomeratum*	sticky mouse-eared chickweed
**Stellaria media*	chickweed
Chenopodiaceae	**Goosefoot Family**
Atriplex lentiformis	big saltbush
Chenopodium californicum	California goosefoot
**Chenopodium murale*	nettle-leaved goosefoot
**Dysphania ambrosioides*	Mexican tea
**Salsola tragus*	Russian thistle
Convolvulaceae	**Morning-Glory Family**
Calystegia macrostegia	morning-glory
**Convovulus arvensis*	field bindweed
Cuscuta californica	chaparral dodder

Crassulaceae	**Stonecrop Family**
Crassula connata	pygmy sand weed
Dudleya lanceolata	lance-leaved dudleya
Cucurbitaceae	**Gourd Family**
Cucurbita foetidissima	calabazilla
Marah macrocarpus	wild cucumber
Euphorbiaceae	**Spurge Family**
Chamaesyce albomarginata	rattlesnake weed
**Chamaesyce maculata*	spotted spurge
Chamaesyce polycarpa	small-seed sandmat
Croton californicus	California croton
Croton setigerus	doveweed
**Euphorbia peplus*	petty spurge
**Ricinis communis*	castor bean
Fabaceae	**Legume Family**
**Acacia redolens*	acacia
Acmispon brachycarpus	hill lotus
Acmispon micranthus	grab lotus
Acmispon americanus var. *americanus*	Spanish clover
Acmispon maritimus	alkali lotus
Acmispon glaber	deerweed
Acmispon strigosus	hirsute lotus
Astragalus brauntonii	Braunton's milkvetch
Astralagus didymocarpus	two-seeded milkvetch
Astralagus trichopodus	Santa Barbara milkvetch
Lupinus bicolor	miniature lupine
Lupinus concinnus	bajada lupine
Lupinus excubitus ssp. *hallii*	guard lupine
Lupinus hirsutissimus	stinging lupine
Lupinus longifolius	bush lupine
Lupinus succelentus	arroyo lupine
Lupinus truncatus	collar lupine
**Medicago polymorpha*	California burclover
**Melilotus alba*	white sweetclover
**Melilotus indica*	yellow sweetclover
Trifolium gracilentum	pin-point clover
Trifolium willdenovii	tomcat clover
Fagaceae	**Beech Family**
Quercus agrifolia var. *agrifolia*	coast live oak

Geraniaceae	**Geranium Family**
**Erodium botrys*	long-beaked filaree
**Erodium cicutarium*	red-stemmed filaree
**Erodium moschatum*	greenstem filaree
Grossulariaceae	**Gooseberry Family**
Ribes speciosum	fuchsia-flowered gooseberry
Hydrophyllaceae	**Waterleaf Family**
Emmemanthe penduliflora	whispering bells
Eucrypta chrysanthemifolia	common eucrypta
Phacelia cicutaria	caterpillar phacelia
Phacelia ramosissima var. *suffrutescens*	branching phacelia
Phacelia parryi	Parry's phacelia
Pholistoma auritum	blue fiesta flower
Juglandaceae	**Walnut Family**
Juglans californica var. *californica*	southern California black walnut
Lamiaceae	**Mint Family**
**Marrubium vulgare*	horehound
Salvia apiana	white sage
Salvia columbariae	chia
Salvia leucophylla	purple sage
Salvia mellifera	black sage
Stachys rigida	rigid hedge nettle
Trichostema lanceolatum	vinegar weed
Malvaceae	**Mallow Family**
Malacothamnus fasciculatus	chaparral bush mallow
**Malva parviflora*	cheeseweed
Myoporaceae	**Myoporum Family**
**Myoporum laetum*	myoporum
Myrsinaceae	**Myrsine Family**
**Anagallis arvensis*	scarlet pimpernel
Myrtaceae	**Myrtle Family**
**Eucalyptus* sp.	gum tree
**Eucalyptus sideroxylon*	red ironbark
Nyctaginaceae	**Four O'Clock Family**
Mirabilis californica var. *californica*	California wishbone bush

Onagraceae	**Evening Primrose Family**
Camissonia bistorta	southern suncup
Camissonia ignota	petioled primrose
Clarkia purpurea ssp. *quadrivulnera*	four-spot clarkia
Epilobium canum	California fuchsia
Epilobium ciliatum ssp. *ciliatum*	green willow herb
Orobanchaceae	**Broomrape Family**
Castilleja affinis	coastal paintbrush
Castilleja exserta	purple Owl's-clover
Oxalidaceae	**Oxalis Family**
**Oxalis pres-caprae*	Bermuda buttercup
Paeoniaceae	**Peony Family**
Paeonia californica	California peony
Papaveraceae	**Poppy Family**
Eschscholzia californica	California poppy
Phrymaceae	**Lopseed Family**
Mimulus aurantiacus	bush monkey flower
Mimulus guttatus	seep monkey flower
Plantaginaceae	**Plantain Family**
Antirrhinum nuttallianum	Nuttall's snapdragon
Plantago erecta	California plantain
**Plantago major*	common plantain
Platanaceae	**Sycamore Family**
Platanus racemosa	western sycamore
Plumbaginaceae	**Leadwort family**
**Limomium perezii*	Perez's sea lavender
Polemoniaceae	**Phlox Family**
Eriastrum sapphirinum	sapphire woolly star
Gilia angelensis	grassland gilia
Linanthus dianthiflorus	ground pink
Polygonaceae	**Buckwheat Family**
Eriogonum elongatum	long-stemmed buckwheat
Eriogonum fasciculatum	California buckwheat
Pterostegia drymarioides	granny's hairnet
**Rumex crispus*	curly dock

Rumex salicifolius	willow dock
Portulacaceae	**Purslane Family**
Calandrinia ciliata	red maids
Claytonia perfoliata	miner's lettuce
Ranunculaceae	**Crawfoot Family**
Clematis pauciflora	small-leaved virgin's bower
Delphinium parryi	Parry's larkspur
Ranunculus californicus	California buttercup
Thalictrum polycarpum	meadow rue
Rhamnaceae	**Buckthorn Family**
Rhamnus ilicifolia	Holly-leaved redberry
Rosaceae	**Rose Family**
Cercocarpus betuloides	mountain mahogany
Heteromeles arbutifolia	toyon
Prunus ilicifolia	holly-leaved cherry
Rubiaceae	**Madder Family**
Galium angustifolium	narrowly leaved bedstraw
Galium aparine	goose grass
Galium porrigens	climbing bedstraw
Salicaceae	**Willow Family**
Populus fremontii ssp. *fremontii*	western cottonwood
Salix exigua	narrow-leaved willow
Salix gooddingii	Goodding's black willow
Salix lasiolepis	arroyo willow
Salix laevigata	red willow
Saururaceae	**Lizard-Tail Family**
Anemopsis californica	yerba mansa
Saxifragaceae	**Saxifrage Family**
Jepsonia parryi	coast jepsonia
Scrophulariaceae	**Figwort Family**
Scrophularia californica	California figwort
Simaroubaceae	**Simarouba Family**
**Ailanthus altissima*	tree of heaven

Solanaceae	**Nightshade Family**
Datura wrightii	jimsonweed
**Nicotiana glauca*	tree tobacco
Solanum americanum	white nightshade
Solanum xanti	chaparral nightshade
Tamaricaceae	**Tamarisk Family**
**Tamarix ramosissima*	Mediterranean tamarix
Urticaceae	**Nettle Family**
Hesperocnide tenella	western nettle
Parietaria hespera	western pellitory
Urtica dioica ssp. *holosericea*	hoary nettle
**Urtica urens*	dwarf nettle
Verbenaceae	**Vervain Family**
Verbena lasiostachys	western verbena
Violaceae	**Violet Family**
Viola pedunculata	Johnny jump-up
ANGIOSPERMS-MONOCOTS	
Agavaceae	**Century Plant Family**
Chlorogalum pomeridianum	wavy-leaved soap plant
Hesperoyucca whipplei	our Lord's candle
Arecaceae	**Palm Family**
Washingtonia robusta	Mexican fan palm
Cyperaceae	**Sedge Family**
Carex sp.	sedges
Cyperus eragrostis	tall umbrella sedge
Cyperus involucratus	African umbrella sedge
Eleocharis palustris	common spikerush
Iridaceae	**Iris Family**
Sisyrinchium bellum	blue-eyed grass
Liliaceae	**Lily Family**
Chalochortus catalinae	Catalina mariposa lily
Chalochortus weedii var. *intermedius*	intermediate mariposa 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
**Cortaderia selloana*	pampas grass
**Cynodon dactylon*	Bermuda grass
Distichlis spicata	saltgrass
Elymus condensatus	giant wild rye
Festuca microstachys	Pacific fescue
**Festuca myuros*	foxtail fescue
**Fesctuca perennis*	Italian ryegrass
**Hordeum murinum* ssp. *leporinum*	hare barley
**Lamarckia aurea*	goldentop
Melica imperfecta	coast melic
**Pennisetum setaceum*	African fountain grass
Poa secunda	malpais bluegrass
**Polypogon monspeliensis*	rabbitfoot grass
**Polypogon viridis*	water beard grass
**Schismus barbatus*	schismus
**Sorghum halepense*	Johnson grass
Stipa coronata	giant stipa
Stipa lepida	foothill needlegrass
**Stipa miliaceum*	smilo grass
Stipa pulchra	purple needlegrass
Themidaceae	
Bloomeria crocea	common golden stars
Dichelostemma capitatum	blue dicks
Typhaceae	**Cat-Tail Family**
Typha domingensis	slender-leaved cat-tail
Typha latifolia	broad-leaved cat-tail

APPENDIX B

FAUNAL COMPENDIUM

Scientific nomenclature and common names for vertebrate species referred to in this report follow Collins (1997) for amphibians and reptiles, Jones, et al. (1992) for mammals, and AOU Checklist (1998) for birds. A"*" denotes non-native.

SCIENTIFIC NAME	COMMON NAME
AMPHIBIANS	
HYLIDAE	**Treefrogs and Relatives**
Pseudacris hypochondriaca	Baja California treefrog
REPTILES	
ANGUIDAE	**Alligator Lizards**
Elgaria multicarinata	southern alligator lizard
PHRYNOSOMATIDAE	**Phrynosomatid Lizards**
Sceloporus occidentalis	western fence lizard
Uta stansburiana	common side-blotched lizard
BIRDS	
ACCIPITRIDAE	**Hawks, Old World Vultures, and Harriers**
Accipiter cooperii	Cooper's hawk
Accipiter striatus	sharp-shinned hawk
Aquila chrysaetos	golden eagle
Buteo jamaicensis	red-tailed hawk
Circus cyaneus	northern harrier
AEGITHALIDAE	**Bushtit**
Psaltriparus minimus	bushtit
ANATIDAE	**Swans, Geese, and Ducks**
Anas platyrhynchos	mallard
APODIDAE	**Swifts**
Aeronautes saxatalis	white-throated swift
Chaetura vauxi	Vaux's swift
CARDINALIDAE	**Cardinals, Grosebeaks, and Allies**
Passerina amoena	lazuli bunting

Passerina caerulea	blue grosbeak
Pheucticus melanocephalus	black-headed grosbeak
Piranga ludoviciana	western tanager
CATHARTIDAE	**New World Vultures**
Cathartes aura	turkey vulture
COLUMBIDAE	**Pigeons and Doves**
**Columba livia*	rock pigeon
Zenaida macroura	mourning dove
CORVIDAE	**Jays, Magpies, and Crows**
Aphelocoma californica	western scrub-jay
Corvus brachyrhynchos	American crow
Corvus corax	common raven
CUCULIDAE	**Cuckoos, Roadrunners, and Anis**
Geococcyx californianus	greater roadrunner
EMBERIZIDAE	**Wood Warblers, Tanagers, Buntings, and Blackbirds**
Aimophila ruficeps	rufous-crowned sparrow
Ammodramus savannarum	grasshopper sparrow
Melospiza lincolnii	Lincoln's sparrow
Melospiza melodia	song sparrow
Melozone crissalis	California towhee
Passerella iliaca	fox sparrow
Pipilo maculatus	spotted towhee
Zonotrichia leucophrys	white-crowned sparrow
FALCONIDAE	**Falcons**
Falco peregrinus	peregrine falcon
Falco sparverius	American kestrel
FRINGILLIDAE	**Finches**
Haemorhaus mexicanus	house finch
Spinus lawrencei	Lawrence's goldfinch
Spinus psaltria	lesser goldfinch
Spinus tristis	American goldfinch
HIRUNDINIDAE	**Swallows**
Petrochelidon pyrrhonota	cliff swallow
ICTERIDAE	**Blackbirds, Orioles, Etcetera**
Icterus bullockii	Bullock's oriole

Icterus cucullatus	hooded oriole
Molothrus ater	brown-headed cowbird
MIMIDAE	**Mockingbirds and Thrashers**
Mimus polyglottos	northern mockingbird
Toxostoma redivivum	California thrasher
ODONTOPHORIDAE	**Quail**
Callipepla californica	California quail
PARULIDAE	**Wood Warblers and Relatives**
Cardellina pusilla	Wilson's warbler
Geothlypis trichas	common yellowthroat
Icteria virens	yellow-breasted chat
Oreothlypis celata	orange-crowned warbler
Setaphaga coronata	yellow-rumped warbler
Setophaga petechia	yellow warbler
PICIDAE	**Woodpeckers and Wrynecks**
Colaptes auratus	northern flicker
Picoides nuttallii	Nuttall's woodpecker
POLIOPTILIDAE	**Gnatcatchers**
Polioptila caerulea	blue-gray gnatcatcher
PTILOGONATIDAE	**Phainopepla**
Phainopepla nitens	phainopepla
STRIGIDAE	**Typical Owls**
Bubo virginianus	great horned owl
TIMALIIDAE	**Babblers**
Chamaea fasciata	wrentit
TROCHILIDAE	**Hummingbirds**
Archilochus alexandri	black-chinned hummingbird
Calypte anna	Anna's hummingbird
Calypte costae	Costa's hummingbird
Selasphorus rufus	rufous hummingbird
Selasphorus sasin	Allen's hummingbird
TROGLODYTIDAE	**Wrens**
Thryomanes bewickii	Bewick's wren
Troglodytes aedon	house wren

TURDIDAE	**Thrushes**
Catharus guttatus	hermit thrush
Catharus ustulatus	Swainson's thrush
Turdus migratorius	American robin
TYRANNIDAE	**Tyrant Flycatchers**
Empidonax difficilis	Pacific-slope flycatcher
Empidonax traillii	willow flycatcher
Myiarchus cinerascens	ash-throated flycatcher
Sayornis nigricans	black phoebe
VIREONIDAE	**Vireo**
Vireo bellii pusillus	least Bell's vireo
Vireo gilvus	warbling vireo
MAMMALS	
CANIDAE	**Foxes, Wolves, and Coyotes**
**Canis familiaris*	domestic dog
Canis latrans	coyote
Urocyon cinereoargenteus	gray fox
CERVIDAE	**Deer, Elk, and Allies**
Odocoileus hemionus	mule deer
DIDELPHIDAE	**Opossums**
***Didelphis virginiana*	Virginia opossum
EQUIDAE	**Horses**
Equus caballus	domestic horse
FELIDAE	**Cats**
***Felis cattus*	domestic cat
Felis rufus	bobcat
GEOMYIDAE	**Pocket Gophers**
Thomomys bottae	Botta's pocket gopher
HETEROMYIDAE	**Pocket Mice and Kangaroo Rats**
Dipodomys sp.	kangaroo rat
LEPORIDAE	**Hares and Rabbits**
Lepus californicus	black-tailed jackrabbit
Sylvilagus audubonii	Audubon's (desert) cottontail

MURIDAE	**Mice, Rats, and Voles**
Neotoma fuscipes	dusky-footed woodrat
SCIURIDAE	**Squirrels**
Otospermophilus beecheyi	California ground squirrel

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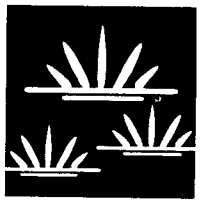

July 5, 2007

Sandra Marquez
U.S. Fish and Wildlife Service
6010 Hidden Valley Road
Carlsbad, California 92011

SUBJECT: Submittal of 45-Day Report for Coastal California Gnatcatcher Surveys for the 635-acre Property Located in the City of Yorba Linda, Orange County, California

Dear Ms. Marquez:

This letter report summarizes the methodology and findings of presence/absence surveys for the federally listed threatened coastal California gnatcatcher (*Polioptila californica californica*) conducted by Glenn Lukos Associates, Inc. (GLA) at the above-mentioned Yorba Linda Property (Project). Surveys were conducted on site from March 20 through May 9, 2007 in all areas of potentially suitable habitat in accordance with U.S. Fish and Wildlife Service (USFWS) guidelines. Over the course of surveys, no coastal California gnatcatchers were observed.

SITE LOCATION AND DESCRIPTION

The Yorba Linda site (Project) is approximately 635 acres and is located in the City of Yorba Linda in Orange County, California (Exhibit 1, Regional Map). The Project is depicted on U.S. Geological Survey (USGS) topographic maps Yorba Linda, California (Yorba Linda, 1988) and Prado Dam, California (Prado Dam, 1981) [Exhibit 2, Vicinity Map]. The topography of the study area is dominated by three ridgelines. The largest ridgeline occupies the northern portion of the study area and is bordered on the north by an unnamed drainage. A smaller secondary ridgeline runs east to west through the central portion of the study area and is separated from the Green Crest ridgeline on the southern border by Blue Mud Canyon. Elevation ranges from approximately 550 feet at the southwestern boundary to 1,550 feet at the northern boundary. The property immediately north and east of the study area is currently open space (Chino Hills State Park), while the properties bordering the western and southern boundaries are residential developments.

The central portion of the site contains two east-west tending ridgelines with the smaller ridgeline to the south (Old Edison Road) and a larger ridgeline to the north (Old Edison Spur Road). The northern portion of the site consists of a large, south tending ridgeline with a large unnamed drainage at its base. This ridgeline is found roughly 1,000 feet south of the upper

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ridgeline of Telegraph Canyon. The southern boundary is formed by Blue Mud Canyon and the Green Crest Drive ridgeline.

Vegetation on the northern portion of the site is dominated by sage scrub-chaparral ecotone and annual grasslands consisting predominantly of black sage (*Salvia mellifera*), purple sage (*Salvia leucophylla*), and brome grass (B*romus diandrus*). Between the grassland and ecotonal areas are smaller communities consisting of disturbed and undisturbed coastal sage scrub dominated by California sagebrush (*Artemesia californica*), black sage (*Salvia mellifera*), and purple sage (*Salvia leucophylla*). The areas of coastal sage scrub form a mosaic with Mexican elderberry (*Sambucus mexicanus*), laurel sumac (*Malosma laurina*), and toyon-sumac chaparral (*Heteromeles arbutofolia, Rhus integrifolia,* and *Malosma laurina*). While suboptimal due to both species composition and structure, these areas were determined to exhibit the highest potential for the coastal California gnatcatcher and were the focus of the survey. However, other transitional/ecotonal habitats containing black sage, purple sage and chaparral species were also surveyed as they exhibit at least minimal potential for the gnatcatcher.

In the southern portion of the property toyon-sumac chaparral and annual grasslands dominate. The remaining portions of the southern property contain a mosaic of fragmented communities composed predominantly of disturbed and undisturbed California coastal sage scrub, Mexican elderberry woodland, sage-scrub chaparral ecotone, and purple sage scrub. The areas containing California sage scrub were the focus of the survey in the south.

METHODOLOGY

Protocol surveys for the coastal California gnatcatcher were performed in all areas of suitable habitat on site. Surveys were conducted in accordance with the 1997 U.S. Fish and Wildlife Service (USFWS) guidelines, which stipulate that during the breeding season, six surveys shall be conducted in all areas of suitable habitat with at least seven days between site visits. The USFWS survey guidelines also stipulate that no more than 80 acres of suitable habitat shall be surveyed per biologist per day. Since least marginally suitable habitat was spread across the entire 635-acre property, the Project site was divided into two survey polygons for the presence/absence survey. As depicted in Exhibit 3, Polygon A included potentially suitable habitat north of the Old Edison Spur Road. Polygon B included the southern portion of the property extending east of San Antonio and Dorinda Roads to Blue Mud Canyon to the south.

GLA biologists Jeff Ahrens (TE-052159-2), David Moskovitz (TE-084606-0) and Ingrid Chlup (TE-092469-0) conducted the protocol surveys between March 20 and May 9, 2007. All surveys were conducted during the morning hours and were completed before 12:00 P.M. Surveys were conducted during appropriate weather conditions. All areas of potentially suitable habitat were

surveyed on foot by walking slowly and methodically. Taped vocalizations and "pishing" sounds were utilized to elicit a response from gnatcatchers that might be present. No coastal California gnatcatchers were detected on site. Tables 1 and 2 summarize survey dates and weather conditions recorded for survey polygons A and B.

Table 1. Summary of Survey Dates and Weather Conditions for Polygon A, Yorba Linda Project.

Date	Start Time	End Time	Permitted Surveyor	Temp °F (start/end)	Avg. Wind Speed (mph)	Cloud Cover (start/end)
03-20-2007	0730	1205	JA	61/70	0-3	Overcast/broken
03-27-2007	0700	1155	JA	50/64	1-3	Scattered/isolated
04-03-2007	0630	1200	JA	61/70	2-4	Overcast/broken
04-10-2007	0620	1205	JA	63/79	1-3	Clear/clear
4-17-2007	0620	1155	JA	65/79	2-3	Clear/clear
05-09-2007	0645	1155	JA	66/81	2-5	Overcast/clear

JA – Jeff Ahrens

Table 2. Summary of Survey Dates and Weather Conditions for Polygon B, Yorba Linda Project.

Date	Start Time	End Time	Permitted Surveyor	Temp °F (start/end)	Avg. Wind Speed (mph)	Cloud Cover (start/end)
03-20-2007	0730	1045	DM	61/70	0-3	Overcast/broken
03-27-2007	0845	1115	DM	63/68	0	Broken/scattered
04-03-2007	0815	1100	DM	65/68	0	Broken/scattered
04-10-2007	0725	1050	DM	58/70	0	Clear/clear
4-17-2007	0810	1045	DM	62/67	0-2	Scattered/clear
04-24-2007	0700	1135	IC	59/72	0-1	Clear/clear

DM – David Moskovitz, IC – Ingrid Chlup

RESULTS

GLA biologists detected no California gnatcatchers on the Yorba Linda property. A list of bird species identified on the project site is provided in Appendix A. As noted in the vegetation descriptions above, the coastal sage scrub on the site is heavily dominated by black and purple sage and is suboptimal for the gnatcatcher thus explaining the lack of detection over this fairly large site.

Special-status species observed while conducting California gnatcatcher surveys included Cooper's hawk (*Accipiter cooperii*), sharp-shinned hawk (*Accipeter striatus*), northern harrier (*Circus cyaneus*), California thrasher (*Toxostoma redivivum*), rufous-crowned sparrow (*Aimophila ruficeps*), and peregrine falcon (*Falco peregrinus*)[1]. A golden eagle (*Aquila chrysaetos*) and its nest were identified off site in the cliffs beyond the eastern boundary.

If you have any questions regarding the methodology or findings of this report, please contact me at (949) 837-0404.

Sincerely,

GLENN LUKOS ASSOCIATES, INC.

David Moskovitz
Senior Biologist

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[1] The Coopers hawk, sharp-shinned hawk, northern harrier and peregrine falcon were observed foraging only. Furthermore, the peregrine falcon was observed as a flyover in the area adjacent to the project area.

APPENDIX A

AVIAN COMPENDIUM

The avian compendium lists bird species identified on the project site.

ACCIPITRIDAE	**HAWKS**
Accipeter cooperii	Cooper's hawk
Accipiter striatus	Sharp-shinned hawk
Aquila chrysaetos	Golden eagle
Buteo jamaicensis	Red-tailed hawk
Buteo lineatus	Red-shouldered hawk
Circus cyaneus	Northern Harrier
Pandion haliaetus	Osprey
FALCONIDAE	**FALCONS**
Falco peregrinus	Peregrine falcon
Falco sparverius	American kestrel
ODONTOPHORIDAE	**QUAIL**
Callipepla californica	California quail
CATHARTIDAE	**NEW WORLD VULTURES**
Cathartes aura	Turkey vulture
COLUMBIDAE	**PIGEONS AND DOVES**
Zenaida macroura	Mourning dove
CUCULIDAE	**ROADRUNNER**
Geococcyx californianus	Greater roadrunner

CORVIDAE	**JAYS AND CROWS**
Aphelocoma californica	Western scrub jay
Corvus brachyrhynchos	American crow
Corvus corax	Common raven
PICIDAE	**WOODPECKERS**
Colaptes auratus	Northern flicker
Picoides nuttallii	Nuttall's woodpecker
HIRUNDINIDAE	**SWALLOWS**
Hirundo rustica	Barn swallow
Petrochelidon pyrrhonota	Cliff swallow
Stelgidopteryx serripennis	Northern rough-winged swallow
APODIDAE	**SWIFTS**
Aeronautes saxatalis	White-throated swift
Chaetura vauxi	Vaux's swift
TIMALIIDAE	**WRENTIT**
Chamaea fasciata	Wrentit
TYRANNIDAE	**TYRANT FLYCATCHERS**
Contopus cooperi	Olive-sided flycatcher
Myiarchus cinerascens	Ash-throated flycatcher
Sayornis nigricans	Black phoebe
Sayornis saya	Say's phoebe
Tyrannus verticalis	Western kingbird
Tyrannus vociferans	Cassin's kingbird
TROCHILIDAE	**HUMMINGBIRDS**
Calypte anna	Anna's hummingbird
Selasphorus sasin	Allen's hummingbird
AEGITHALIDAE	**BUSHTITS**
Psaltriparus minimus	bushtit

TROGLODYTIDAE	**WRENS**
Troglodytes aedon	House wren
Thryomanes bewickii	Bewick's wren
VIREONIDAE	**VIREOS**
Vireo gilvus	Warbling vireo
REGULIDAE	**KINGLETS**
Regulus calendula	Ruby-crowned kinglet
SYLVIIDAE	**GNATCATCHERS**
Polioptila caerulea	Blue-gray gnatcatcher
MIMIDAE	**THRASHERS**
Mimus polyglottos	Northern mockingbird
Toxostoma redivivum	California thrasher
PTILOGONATIDAE	**SILKY-FLYCATCHER**
Phainopepla nitens	Phainopepla
EMBERIZIDAE	**EMBERIZIDS**
Aimophila ruficeps	Rufous-crowned sparrow
Melospiza lincolnii	Lincoln's sparrow
Melospiza melodia	Song sparrow
Passer domesticus	House sparrow
Passerella iliaca	Fox sparrow
Pipilo crissalis	California towhee
Pipilo maculatus	Spotted towhee
Zonotrichia leucophrys	White-crowned sparrow

PARULIDAE	**WARBLERS**
Geothlypis trichas	Common yellowthroat
Vermivora celata	Orange-crowned warbler
Wilsonia pusilla	Wilson's warbler
Dendroica coronata	Yellow-rumped warbler
ICTERIDAE	**BLACKBIRDS, ORIOLES**
Agelaius phoeniceus	Red-winged blackbird
Icterus cucullatus	Hooded oriole
Icterus bullockii	Bullock's oriole
CARDINALIDAE	**GROSBEAKS, CARDINALS**
Pheucticus melanocephalus	Black-headed grosbeak
FRINGILLIDAE	**FINCHES**
Carpodacus mexicanus	House finch
Carduelis psaltria	Lesser goldfinch
Carduelis tristis	American goldfinch

YORBA LINDA HILLS

Regional Map

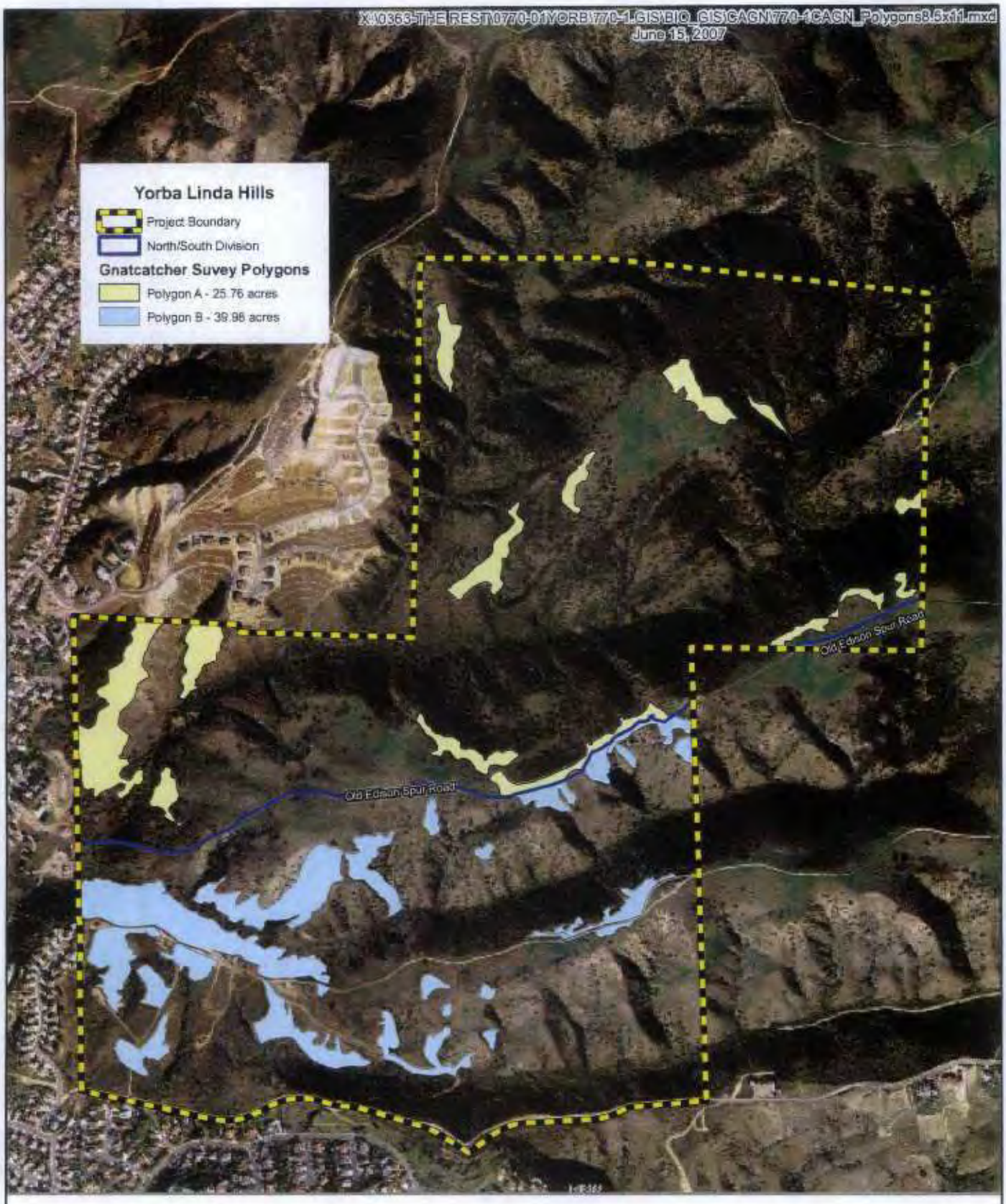
GLENN LUKOS ASSOCIATES

EXHIBIT 1

YORBA LINDA HILLS
Vicinity Map

GLENN LUKOS ASSOCIATES

Exhibit 2



YORBA LINDA HILLS

Gnatcatcher Survey Polygons

GLENN LUKOS ASSOCIATES

Exhibit 3

GLENN LUKOS ASSOCIATES
Regulatory Services

August 28, 2007

Sandra Marquez
U.S. Fish and Wildlife Service
6010 Hidden Valley Road
Carlsbad, California 92011

SUBJECT: Submittal of Southwestern Willow Flycatcher Report for the approximately 635-acre Yorba Linda Hills Property Located in the City of Yorba Linda, Orange County, California

Dear Ms. Marquez:

This letter report summarizes the methodology and findings of presence/absence surveys for the federally listed endangered southwestern willow flycatcher (*Empidonax traillii extimus*) conducted by Glenn Lukos Associates, Inc. (GLA) for the above-mentioned site (Project) in Yorba Linda, California. GLA was retained to conduct surveys for the Murdock Specific Plan Area to determine the presence or absence of the southwestern willow flycatcher on the 635-acre Project Site.

Surveys were conducted on site from May 21, 2007 through July 13, 2007 in all areas of suitable habitat in accordance with U.S. Fish and Wildlife Service (USFWS) guidelines (July 11, 2000).

SITE LOCATION AND DESCRIPTION

The Murdock Specific Plan Site (Site) comprises approximately 635 acres adjacent to the city of Yorba Linda within unincorporated Orange County, California [Exhibit 1 – Regional Map]. The Project Site is located within Section 17, 18 of Township 3S, Range 8W, of the Yorba Linda (dated 1964 and photorevised in 1981) and Prado Dam (dated 1967 and photorevised in 1981) USGS 7.5" Quadrangle Maps. The Site also includes un-sectioned portions of Township 3S, Range 8W [Exhibit 2 – Vicinity Map]. Elevation ranges from approximately 550 feet at the southwest boundary to 1,550 feet at the north boundary. The Site is bordered by Blue Mud Canyon and Green Crest Drive to the south, Chino Hills State Park to the north and east, and residential areas adjacent to San Antonio Rd. to the west. The property immediately north and east of the study area is currently open space, while property bordering the west and southern boundary is residential development.

The topography of the study area is dominated by three ridgelines. The largest ridgeline occupies the northern portion of the study area and is bordered on the north by an unnamed drainage. A

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smaller secondary ridgeline runs east to west through the central portion of the study area and is separated from the Green Crest ridgeline on the southern border by Blue Mud Canyon. The property immediately north and east of the study area is currently open space (Chino Hills State Park), while the properties bordering the western and southern boundaries are residential developments.

The central portion of the site contains two east-west tending ridgelines with the smaller ridgeline to the south (Old Edison Road) and a larger ridgeline to the north (Old Edison Spur Road). The northern portion of the site consists of a large, south tending ridgeline with a large unnamed drainage at its base. This ridgeline is found roughly 1,000 feet south of the upper ridgeline of Telegraph Canyon. The southern boundary is formed by Blue Mud Canyon and the Green Crest Drive ridgeline.

Vegetation on the northern portion of the site is dominated by sage scrub-chaparral ecotone and annual grasslands consisting predominantly of black sage (*Salvia mellifera*), purple sage (*Salvia leucophylla*), and brome grass (*Bromus diandrus*). Between the grassland and ecotonal areas are smaller communities consisting of disturbed and undisturbed coastal sage scrub dominated by California sagebrush (*Artemesia californica*), black sage (*Salvia mellifera*), and purple sage (*Salvia leucophylla*). The areas of coastal sage scrub form a mosaic with Mexican elderberry (*Sambucus mexicana)*, laurel sumac (*Malosma laurina*), and toyon-sumac chaparral (*Heteromeles arbutofolia, Rhus integrifolia,* and *Malosma laurina*).

In the southern portion of the property toyon-sumac chaparral and annual grasslands dominate. The remaining portions of the southern property contain a mosaic of fragmented communities composed predominantly of disturbed and undisturbed California coastal sage scrub, Mexican elderberry woodland, sage-scrub chaparral ecotone, and purple sage scrub.

The willow flycatcher surveys were conducted primarily within black willow riparian forest and mulefat scrub located along an unnamed drainage near the western property boundary [Exhibit 3 – Site Photographs]. Dominant plant species include Goodding's black willow (*Salix gooddingii*), arroyo willow (*Salix lasiolepis*), Mexican elderberry (*Sambucus mexicana*), mulefat (*Baccharis salicifolia*), poison oak (*Toxicodendron diversilobum*), California mugwart (*Artemesia douglasiana*), and giant stinging nettle (*Urtica dioica*).

EXISTING INFORMATION

In 2002, Campbell BioConsulting conducted southwestern willow flycatcher surveys on the Site (previously referred to as Murdock Project) and detected one willow flycatcher on May 15 (Survey Period 1) and one willow flycatcher on June 3 (Survey Period 2). They concluded that

because (1) the date of the observations, (2) the lack of observations on the other visits, (3) the lack of breeding behavior or interactions with any other birds, and (4) the lack of response of the individual(s) to taped vocalizations, that the individuals detected were migrant willow flycatchers of another subspecies.

METHODOLOGY

Protocol surveys for the southwestern willow flycatcher were performed in all areas of suitable habitat on site. Surveys were conducted in accordance with the 2000 U.S. Fish and Wildlife Service (USFWS) guidelines, which stipulate that for Projects, five surveys (divided into three survey periods) shall be conducted in all areas of suitable habitat. One survey was conducted during the first survey period (May 15 to May 31). One survey was conducted during the second survey period (June 1 to June 21), and three surveys, spaced at least five days apart were conducted during the third survey period (June 22 to July 17).

GLA biologist Jeff Ahrens (TE052159-2) conducted the protocol surveys on May 21, June 1, June 29, July 8, and July 13, 2007. GLA biologist Paul Schwartz (non-permitted) accompanied Jeff Ahrens on May 21. All surveys were conducted during the morning hours and were completed before 11:00 A.M. No surveys were conducted during extreme weather conditions (i.e., winds exceeding 15 miles per hour, rain, or temperatures in excess of 95°F). All areas of suitable habitat were surveyed on foot by walking slowly and methodically. Taped vocalizations and "pishing" sounds were utilized to elicit a response from willow flycatchers that might be present. The detection of willow flycatchers on site was based on both sight and call. Table 1 summarizes survey dates and weather conditions recorded at the Project site.

Table 1. Summary of Survey Dates and Weather Conditions for Southwestern Willow Flycatcher Surveys at the Murdock Specific Plan Site.

Date	Start Time	End Time	Permitted Surveyor	Temp °F, (start/end)	Wind Speed (MPH) (start/end)	% Cloud Cover (start/end)
5/21/07	0700	0920	JA & PS	61 - 65	2	Overcast
6/1/07	0640	0850	JA	59 - 67	1	Overcast
6/29/07	0610	0810	JA	62 - 70	4 - 2	30 - 10
7/8/07	0605	0900	JA	66 - 72	2 - 3	20 - 10
7/13/07	0620	0840	JA	66 - 70	3 - 2	30 - 15

JA – Jeff Ahrens, PS – Paul Schwartz (non-permitted)

RESULTS

During the course of the surveys, two willow flycatchers were detected on site in close proximity to each other on June 1, 2007 (Survey Period 2). One willow flycatcher responded briefly to tape playback with one weak semi-broken fitz-bew, followed by a few whit notes approximately one minute later from a Mexican elderberry, where it was foraging. A second willow flycatcher was briefly observed foraging in a black willow and Mexican elderberry approximately 10 meters from the first willow flycatcher. This willow flycatcher repeated a few whit notes followed by two fitz-bews, after which it flew approximately 20 meters upstream and out of site. Neither willow flycatcher appeared to interact with the other. The first willow flycatcher was detected again approximately 30 minutes later in close proximity to its original location, foraging in Mexican elderberries and black willows. Neither willow flycatcher vocalized again. Please refer to Exhibit 4 and Exhibit 5 [Willow Flycatcher Location Maps] for detailed willow flycatcher locations depicted on both topographic and aerial maps.

Because willow flycatchers were not detected during the last three surveys (Survey Period 3) and the two willow flycatchers detected did not exhibit any nesting behavior, results indicate that these willow flycatchers were migrants and did not attempt to establish nesting territories on site.

In addition, brown-headed cowbirds (*Molothrus ater*) were not detected during the focused willow flycatcher surveys, although they have been documented during other biological surveys on site.

Avian species commonly observed on site included California towhee (*Pipilo crissalis*), song sparrow (*Melospiza melodia*), Anna's hummingbird (*Calypte anna*), lesser goldfinch (*Carduelis psaltria*), bushtit (*Psaltriparus minimus*), house finch (*Carpodacus mexicanus*), northern mockingbird (*Mimus polyglottos*), common raven (*Corvus corax*), and mourning dove (*Zenaida macroura*). Please refer to Appendix A for a complete list of all avian species documented on site.

Special-status species observed while conducting southwestern willow flycatcher surveys included the yellow warbler (*Dendroica petechia*) and yellow breasted chat (*Icteria virens*).

Mammals detected on site either by direct observation or by physical evidence included Audubon's cottontail (*Sylvilagus audubonii*), raccoon (*Procyon lotor*), coyote (*Canis latrans*), Virginia opossum (*Didelphis Virginiana*), domestic cat (*Felis catus*), and domestic dog (*Canis lupus familiaris*).

Herpetofauna observed included Pacific tree frog (*Hyla regilla*), western fence lizard (*Sceloporus occidentalis*) and side-blotched lizard (*Uta stansburiana*).

If you have any questions regarding the methodology or findings of this report, please contact me at (949) 837-0404, ext 40.

Sincerely,

GLENN LUKOS ASSOCIATES, INC.

Jeff Ahrens

Jeff Ahrens
Biologist

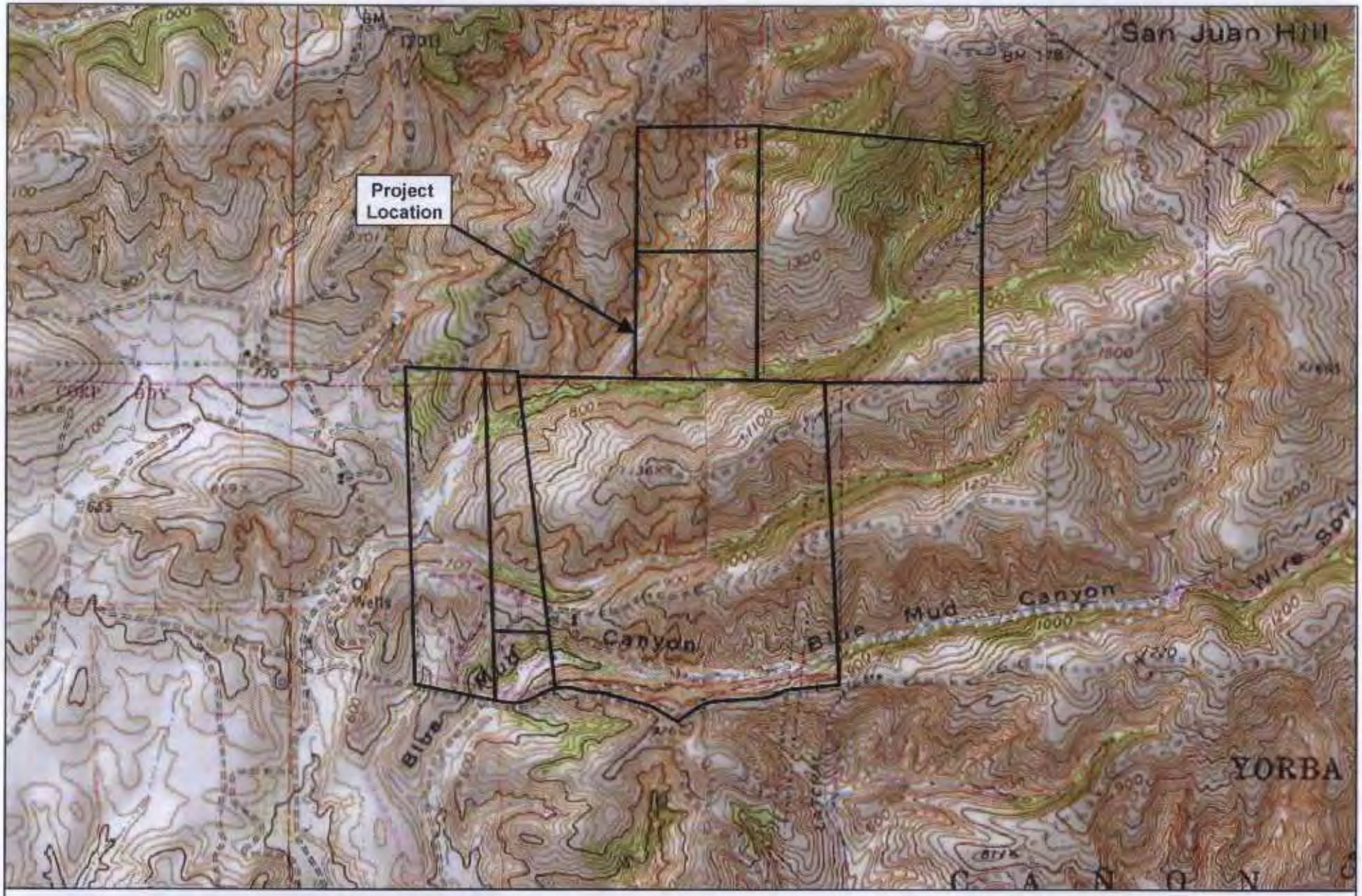
s:0770-1a.WILF.RPT.doc

MURDOCK SPECIFIC PLAN AREA

Regional Map

GLENN LUKOS ASSOCIATES

EXHIBIT 1



MURDOCK SPECIFIC PLAN AREA

Vicinity Map

N

0 750 1,500

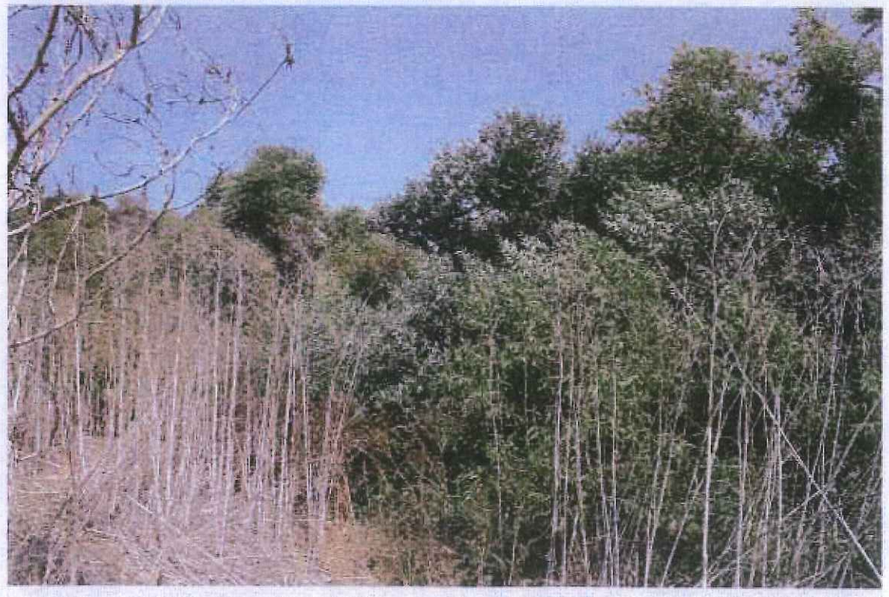
Feet

GLENN LUKOS ASSOCIATES

Exhibit 2

Photograph 1. View looking east at an unnamed tributary to Blue Mud Canyon.

Photograph 2. View looking east at riparian vegetation including black willow (*Salix gooddingii*) and mulefat (*Baccharris salicifolia*).



Photograph 3. View looking northeast at riparian vegetation including black willow (*Salix gooddingii*) and mulefat (*Baccharris salicifolia*).

Photograph 4. View looking northeast at an unnamed tributary to Blue Mud Canyon.

GLENN LUKOS ASSOCIATES

Exhibit 3

MURDOCK SPECIFIC PLAN AREA

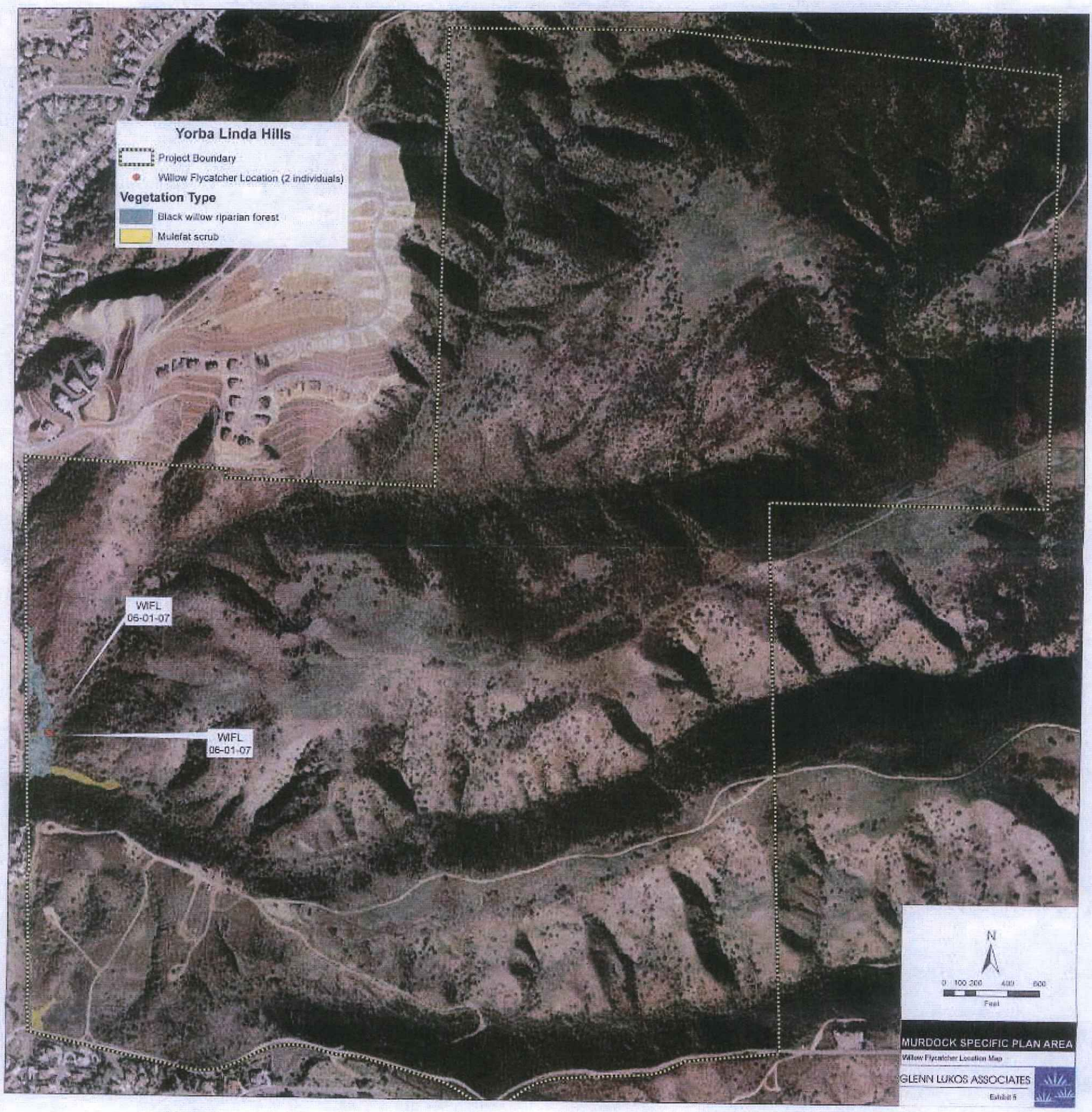
Site Photographs

MURDOCK SPECIFIC PLAN AREA

Willow Flycatcher Location Map

GLENN LUKOS ASSOCIATES

Exhibit 4


Yorba Linda Hills
Project Boundary
Willow Flycatcher Location (2 individuals)
Vegetation Type
Black willow riparian forest
Mulefat scrub
WIFL
06-01-07
WIFL
06-01-07
N
0 100 200 400 600
Feet
MURDOCK SPECIFIC PLAN AREA
Willow Flycatcher Location Map
GLENN LUKOS ASSOCIATES
Exhibit 5

APPENDIX A
MURDOCK SPECIFIC PLAN SITE
AVIAN COMPENDIUM

SCIENTIFIC NAME	COMMON NAME
CATHARTIDAE	**NEW WORLD VULTURES**
Cathartes aura	turkey vulture
ACCIPITRIDAE	**HAWKS, OLD WORLD VULTURES AND HARRIERS**
Accipiter cooperii	Cooper's hawk (CSC –nesting)
ODONTOPHORIDAE	**QUAILS**
Callipepla californica	California quail
COLUMBIDAE	**PIGEONS AND DOVES**
Zenaida macroura	mourning dove
APODIDAE	**SWIFTS**
Aeronautes saxatalis	white-throated swift
TROCHILIDAE	**HUMMINGBIRDS**
Archilochus alexandri	black-chinned hummingbird
Calypte anna	Anna's hummingbird
Selasphorus sasin	Allen's hummingbird
PICIDAE	**WOODPECKERS AND WRYNECKS**
Picoides pubescens	downy woodpecker
Picoides nuttallii	Nuttall's woodpecker
TYRANNIDAE	**TYRANT FLYCATCHERS**
Contopus sordidulus	western wood-pewee
Empidonax traillii	willow flycatcher
Myiarchus cinerascens	ash-throated flycatcher
Sayornis nigricans	black phoebe

Sayornis saya	Say's phoebe
Tyrannus verticalis	western kingbird
VIREONIDAE	**VIREOS**
Vireo gilvus	warbling vireo
CORVIDAE	**JAYS, MAGPIES, AND CROWS**
Corvus brachyrhynchos	American crow
Corvus corax	common raven
HIRUNDINIDAE	**SWALLOWS**
Stelgidopteryx serripennis	northern rough-winged swallow
AEGITHALIDAE	**BUSHTIT**
Psaltriparus minimus	bushtit
TROGLODYTIDAE	**WRENS**
Troglodytes aedon	house wren
SYLVIIDAE	**OLD WORLD WARBLERS AND GNATCATCHERS**
Polioptila caerulea	blue-gray gnatcatcher
TURDIDAE	**THRUSHES**
Catharus guttatus	hermit thrush
Catharus ustulatus	Swainson's thrush
TIMALIIDAE	**BABBLERS**
Chamaea fasciata	wrentit
MIMIDAE	**MOCKINGBIRDS AND THRASHERS**
Aphelocoma californica	western scrub-jay
Mimus polyglottos	northern mockingbird
Toxostoma redivivum	California thrasher

PTILOGONATIDAE	**SILKY FLYCATCHERS**
Phainopepla nitens	phainopepla
PARULIDAE	**WOOD WARBLERS AND RELATIVES**
Dendroica petechia	yellow warbler
Vermivora celata	orange-crowned warbler
Icteria virens	yellow-breasted chat
Geothlypis trichas	common yellowthroat
EMBERIZIDAE	**EMBERIZINES**
Aimophila ruficeps	rufous-crowned sparrow
Melospiza melodia	song sparrow
Pipilo crissalis	California towhee
Pipilo maculatus	spotted towhee
CARDINALIDAE	**CARDINALS, GROSBEAKS AND ALLIES**
Passerina caerulea	blue grosbeak
Pheuticus melanocephalus	black-headed grosbeak
ICTERIDAE	**BLACKBIRDS, ORIOLES, ETC.**
Icterus galbula	Bullock's oriole
Agelaius phoeniceus	red-winged blackbird
FRINGILLIDAE	**FINCHES**
Carduelis psaltria	lesser goldfinch
Carduelis tristis	American goldfinch
Carpodacus mexicanus	house finch

Willow Flycatcher Survey and Detection Form (rev. 4/98)

Site Name Murdock Specific Plan Site Was site surveyed in previous year? (Yes) No 2002
If yes, what site name was used? Murdock project by Campbell BioConsulting

County Unincorporated Orange State CA USGS Quad Name Prado Dam & Yorba Linda

Is copy of USGS map marked with survey area and WIFL sightings attached (as required)? ☒ *Yes* ☐ *No*

Site Coordinates: Start: N 3751360 E 429573 UTM
Stop: N 3751124 E 429579 UTM Zone 11 NAD83
Elevation 665 feet / meters (circle one)

***** Fill in additional site information on back of this page *****

Survey # / Observer(s)	Date (m/d/y) / Survey time	Number of WIFLs Found	Estimated Number of Pairs	Estimated Number of Territories	Nest(s) Found? Y or N	Cowbirds Detected? Y or N	Presence of Livestock, Recent sign Y or N	Comments about this survey (e.g., evidence of pairs or breeding, number of nests, nest contents or number of fledges seen; potential threats)
1 Jeff Ahrens, Paul Schwartz	Date 5/2/07 start 0700 stop 0915 total hrs 2.25	0	0	0	N	N	N	No Detections
2 Jeff Ahrens	Date 6/1/07 Start 0640 Stop 0920 total hrs 2.6	2	Did not appear to be paired.	?	N	N	N	WIFL 1 = N 3751204, E 429618 WIFL 2 = N 3751178, E 429620 Two flycatchers were located near each other but appeared to act independent of each other & vocalized minimally.
3 Jeff Ahrens	Date 6/29/07 Start 0610 Stop 0810 total hrs 2.0	0	0	0	N	N	N	NO WIFL's were detected during subsequent surveys.
4 Jeff Ahrens	Date 7/18/07 start 0605 stop 0900 total hrs 2.9	0	0	0	N	N	N	" "
5 Jeff Ahrens	Date 7/13/07 start 0620 stop 0840 total hrs 2.3	0	0	0	N	N known to occur on site. not detected during surveys.	N	" "

Overall Site Summary (Total only resident WIFLs)	Adults	Pairs	Territories	Nests	Were any WIFLs color-banded? Yes (No)
Total survey hrs 12.05	2	0	0	0	If yes, report color combination(s) in the comments section on back of form

Name of Reporting Individual Jeff Ahrens Date Report Completed Aug 28, 2007

Submit the original of this form. Retain a copy for your records.

Fill in the following information completely. Submit original form. Retain copy for your records.

Name of Reporting Individual Jeffrey L. Ahrens Phone # (949) 837-0404 ext 40

Affiliation Glenn Lukos Associates Email jahrens@wetlandpermitting.com

Site Name Murdock Specific Plan Site

Did you verify that this site name is consistent with that used in previous years? (Yes) No (circle one) The Site was surveyed in 2002 under the Murdock Project by Campbell Bioconsulting

Management Authority for Survey Area (circle one): Federal Municipal/County State Tribal (Private)

Name of Management Entity or Owner (e.g., Tonto National Forest) Murdock Specific Plan Project

Length of area surveyed: ~1000 feet (specify units, e.g., miles = mi, kilometers = km, meters = m)

Did you survey the same general area during each visit to this site this year? (Yes) No If no, summarize in comments below.

If site was surveyed last year, did you survey the same general area this year? Yes / No If no, summarize in comments below.

Site surveyed in 2002 by Campbell Bioconsulting

Vegetation Characteristics: Overall, are the species in tree/shrub layer at this site comprised predominantly of (check one):

- ☒ Native broadleaf plants (entirely or almost entirely, includes high-elevation willow)
- ☐ Mixed native and exotic plants (mostly native)
- ☐ Mixed native and exotic plants (mostly exotic)
- ☐ Exotic/introduced plants (entirely or almost entirely)

Identify the 2-3 predominant tree/shrub species: black willow, arroyo willow, mule fat (Salix gooddingii, S. lasiolepis, Baccharis salicifolia)

Average height of canopy: 30 feet (specify units)

Was surface water or saturated soil present at or adjacent to site? (Yes) No (circle one)
Distance from the site to surface water or saturated soil: ~ (specify units)

Did hydrological conditions change significantly among visits (did the site flood or dry out)? Yes (No) (circle one)
If yes, describe in comments section below.

Remember to attach a xerox copy of a USGS quad/topographical map (REQUIRED) of the survey area, noting the survey site and location of WIFL detections. You may also include a sketch or aerial photograph showing details of site location, patch shape, survey route in relation to patch, and location of any willow flycatchers or willow flycatcher nests detected. Such sketches or photographs are welcomed, but DO NOT substitute for the required USGS quad map.

Comments (attach additional sheets if necessary): Please refer to results in report for detailed observation account.

GLENN LUKOS ASSOCIATES
Regulatory Services

March 18, 2013 [Revised May 9, 2013] [Revised July 15, 2013]

Douglas G. Wymore
Yorba Linda Estates, LLC
7114 East Stetson, Suite 350
Scottsdale, Arizona 85251

SUBJECT: Jurisdictional Delineation for Esperanza Hills Specific Plan Area, Unincorporated Orange County, California.

Dear Mr. Wymore:

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

The Esperanza Hills Specific Plan Area Project Site (Project) in Unincorporated Orange County [Exhibit 1], comprises approximately 504.20 acres. Within the 504.20-acre Project Site Study Area, 468.94 acres is on-site, and an additional 35.26 acres consists of off-site areas necessary for emergency access and utilities. The site contains four blue-line drainages (as depicted on the U.S. Geological Survey (USGS) topographic map (dated 1964 and photorevised in 1981) and Prado Dam (dated 1967 and photorevised in 1981]) [Exhibit 2]. On August 17, 21, and 22, 2007 and January 9 and 11, and February 11 and 22, 2013 regulatory specialists of Glenn Lukos Associates, Inc. (GLA) examined the project site to determine the limits of (1) Corps jurisdiction pursuant to Section 404 of the Clean Water Act, (2) CDFW jurisdiction pursuant to Division 2, Chapter 6, Section 1600 of the Fish and Game Code, and 3) Regional Board jurisdiction pursuant to Section 401 of the Clean Water Act. A field verification with the Corps was conducted on July 12, 2013, and this report reflects the results of that site visit. Enclosed are two 700-scale maps that depict the areas of Corps (and Regional Board) [Exhibit 3a] and CDFW [Exhibit 3b] jurisdiction. Photographs to document the topography, vegetative communities, and general widths of each of the waters are provided as Exhibit 4. Wetland data sheets are attached as Appendix A. Preliminary Jurisdictional Determination forms are included as Appendix B.

[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. This report reflects the results of a verification visit with a representative of the Corps on July 12, 2013.

Areas of potential Corps jurisdiction within the Study Area total approximately 2.08 acres of which 0.19 acre is wetlands. With the exception of Drainage G and offsite portions of Drainage D, which exhibit intermittent flows, all of the drainages depicted on Exhibit 3a consist of non-relatively permanent (i.e., ephemeral) waters.

CDFW jurisdiction within the Study Area totals approximately 4.15 acres of which 2.57 acres consist of vegetated riparian habitat.

All of the drainages on the site are tributary to downstream navigable waters and as such are not isolated and therefore subject to Section 401 Certification by the Regional Board.

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/CDFW jurisdiction. Potential 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), the 2008 Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region (Arid West Region, Version 2.0),[3] and the 2008 Field Guide to the Identification of the Ordinary High Water Mark (OHWM) in the Arid West Region of the Western United States. [4] While in the field the limits of CDFW jurisdiction were recorded onto a 300-scale color aerial photograph using visible landmarks. Other data were recorded onto wetland data sheets. A representative of the Corps visited the site on July 12, 2013 and this report reflects the determination of the extent of jurisdictional waters, including wetlands, during the field verification visit.

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

[3] U.S. Army Corps of Engineers. 2008. Interim Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Supplement. Ed. J.S. Wakeley, R.W. Lichevar, and C.V. Noble. ERDC/EL TR-06-16. Vicksburg, MS: U.S. Army Engineer Research and Development Center.

[4] U.S. Army Corps of Engineers. 2008. A Field Guide to the Identification of the Ordinary High Water Mark (OHWM) in the Arid West Region of the Western United States. Ed. R.W. Lichvar and S.M. McColley ERDC/CRREL TR-08-12. Hanover, NH: U.S. Army Engineer Research and Development Center.

The Soil Conservation Service (SCS)[5] indicates the following soil types as occurring in the general vicinity of the project site [Exhibit 5]:

Alo Series

The Alo series consists of well-drained soils in the foothills. Slopes range from 9 to 50 percent. These soils formed in material weathered from calcareous sandstone and shale. Vegetation typically associated with the Alo series includes annual grasses, mustard and other forbs. In a typical profile, the surface layer is dark grayish brown clay 25 inches thick. Underlying this is light yellowish brown lime coated weathered shale. The soil is slightly acidic to moderately alkaline, and is slowly permeable. The Alo soils are used for dryland barley, dryland pasture, irrigated citrus, and urban development.

Within the Project Site, areas mapped as Alo Clay soils occur on hillsides and hill tops at higher elevations in the central portion of the property and currently supports grasslands, coastal sage scrub, and ruderal vegetation. Alo soils mapped within the Project Site include:

- Alo Clay, 9 to 15 percent slopes (100)
- Alo Clay, 15 to 30 percent slopes (101)

Alo Variant Clay

The Alo Variant Clay series consists of well-drained soils on uplands. Slopes range from 9 to 50 percent. These soils are formed in material weathered from calcareous sandstone and shale. Vegetation typically associated with the Alo Variant Clay series includes annual grasses, mustard and other forbs. In a typical profile the upper 26 inches is reddish brown light clay. The next 14 inches of reddish brown calcareous light clay with 10 to 20 percent lime threads and soft lime masses. The underlying material is fractured weathered soft sandstone and shale to a depth of 66 inches or more; the upper 8 inches is coated with lime threads and soft lime masses. Alo Variant Clay Soils are used for citrus, dryland barley, range, dryland pasture, and urban development.

Within the Project Site, areas mapped as Alo Variant Clay soils occur in a lower elevationsof the southwestern portion of the property and currently supports Coastal sage scrub. Alo Variant Clay soils mapped within the Project Site include:

- Alo Variant Clay; 15 to 30 percent slopes (104)

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

Anaheim Series

The Anaheim series consists of well drained soils on foothills. Slopes range from 15 to 75 percent. These soils developed in weathered material from soft sandstone or shale. Vegetation typically associated with the Anaheim series soils include sage, flattopped buckwheat, sumac or other brush, mustard, live oak, and annual grasses. Typically, the surface layer is grayish brown clay loam 26 inches thick. The underlying material is weathered fractured sandstone or shale. The soil is slightly acidic and mildly alkaline. The Anaheim soils are used for dryland pasture range, field crops and watershed.

Within the Project Site, areas mapped as Anaheim soils occur in a variety of elevations and consist of ridgetops, hillsides, and drainages. These areas support grassland, riparian, chaparral, coastal sage scrub, and ruderal vegetation. Anaheim soils mapped within the Project Site include:

- Anaheim Loam, 30 to 50 percent slopes (107)
- Anaheim Clay Loam, 15 to 30 percent slopes (108)
- Anaheim Clay Loam, 30 to 50 percent slopes (109)
- Anaheim Clay Loam, 50 to 75 percent slopes (110)

Calleguas Series

The Calleguas series are well-drained soils of the uplands. Slopes range from 50 to 75 percent. These soils developed on material weathered from lime coated shale or lime coated sandstone, or both. Vegetation typically associated with the Calleguas soils includes annual grasses, forbs, and some brush. Typically, the surface layer consists of pale brown clay loam and shaly clay loam 15 inches thick. The underlying material is soft fractured shale with lime coatings. This soil is moderately akaline and calcareous throughout. Calleguas soils are used for range, watershed, wildlife, and urban development.

Within the Project Site, areas mapped as Calleguas soils occur on hillsides, riparian, and ridgelines throughout the property. Calleguas soils support coastal sage scrub, chaparral, sage scrub chaparral ecotone, grassland and ruderal vegetation types. Calleguas soils mapped within the Project Site include:

- Calleguas Clay Loam, 50 to 75 percent slopes (134)

Cieneba Series

The Cieneba series are somewhat excessively drained soils. Slopes range from 9 to 75 percent. These soils developed in material weathered from granitic rocks of the Santa Ana Mountains and

from sandstone of the coastal foothills. Vegetation typically associated with the Cieneba soils is mostly brush. Typically, the surface layer consists of light brownish gray and pale brown sandy loam 7 inches thick. The underlying material is weathered granodiorite. The soil is medium acid throughout and is moderately rapidly permeable. Cieneba soils are used for watershed, wildlife habitat, and range.

Within the Project Site, areas mapped as Cieneba soils occur on hillsides, riparian, and ridgelines throughout the property. Cieneba soils support coastal sage scrub, chaparral, and ruderal vegetation types. Cieneba soils mapped within the Project Site include:

- Cieneba-Rock Outcrop Complex, 30 to 75 percent slopes (145)

Mocho Series

The Mocho series consist of well-drained soils on alluvial fans and floodplains. Slopes range from 0 to 9 percent. These soils developed in alluvium derived from sedimentary rocks. Vegetation typically associated with the Mocho soils is annual grasses, forbs and Sycamore trees. Typically, the surface layer consists of brown and grayish brown loam 31 inches thick. The underlying materials are light brownish gray, brown, and pale brown stratified fine sandy loam, silty clay loam, and loam to a depth of 61 inches or more. The soil is moderately alkaline and calcareous throughout. Mocho soils are used for irrigated crops, citrus, and urban development.

Within the Project Site, areas mapped as Mocho soils occur on low elevation hills in the extreme southern portion of the property. Mocho soils support coastal sage scrub, and sage scrub-chaparral ecotone. Mocho soils mapped within the Project Site include:

- Mocho Loam, 2 to 9 percent slopes (167)

Myford Series

The Myford series consist of well-drained soils on maritime terraces. Slopes range from 0 to 30 percent. These soils developed in sandy sediments. Vegetation typically associated with the Myford soils is annual grasses, forbs and low-lying brush. Typically, the surface layer consists of a pale brown and pinkish gray, medium acid sandy loam 4 inches thick. The underlying material consists of pinkish gray, medium acid sandy loam 8 inches thick. The substratum is very pale brown slightly acid sandy loam to a depth of 79 inches or more. The soil is very slowly permeable. Myford soils are used for citrus, pasture, range, barley, and urban development.

Within the Project Site, areas mapped as Myford soils occur on moderate elevation hilltops in the south central portion of the property. Myford soils on the property support coastal sage scrub,

sage scrub-chaparral ecotone, ruderal and developed land. Myford soils mapped within the Project Site include:

- Myford Sandy Loam, 2 to 9 percent slopes (173)
- Myford Sandy Loam, 9 to 15 percent slopes (175)

Nacimiento Series

The Nacimiento series consist of well-drained soils on foothills. Slopes range from 15 to 50 percent. These soils developed in material weathered from soft sandstone or shale, or both. Vegetation typically associated with the Nacimiento soils is sagebrush and annual grasses. Typically, the surface layer consists of a brown clay loam 28 inches in depth. The underlying material consists of light yellowish brown and very pale brown shale or sandstone, or both. The soil is moderately alkaline and calcareous throughout. Nacimiento soils are used for pasture, range, and watershed.

Within the Project Site, areas mapped as Nacimiento soils occur on ridgetops in the southwestern portion of the property. Nacimiento soils on the property support coastal sumac savannah, grassland, and ruderal vegetation types. Nacimiento soils mapped within the Project Site include:

- Nacimiento Clay Loam, 15 to 30 percent slopes (180)

Soper Series

The Soper series consist of well-drained soils on foothills. Slopes range from 15 to 75 percent. These soils developed in weakly consolidated sandstone and conglomerate. Vegetation typically associated with the Soper series consist of cactus, brush, and annual grassland. Typically, the surface layer consists of a brown, slightly acid, gravelly loam 8 inches thick. The sub-soil is reddish brown and yellowish red, neutral gravelly clay loam, and gravelly loam 21 inches thick. Soper soils are used for pasture, range, wildlife habitat, and watershed.

Within the Project Site, areas mapped as Soper soils occur on a ridgetop in the extreme western portion of the property. Soper soils on the property support coastal sumac savannah, grassland, and ruderal vegetation types. Soper soils mapped within the Project Site include:

- Soper Gravelly Loam, 15 to 30 percent slopes (201)

Sorrento Series

The Sorrento series consist of well-drained soils on alluvial fans and floodplains. Slopes range from 0 to 9 percent. These soils developed from alluvium derived from sedimentary rocks. Vegetation typically associated with the Sorrento soils is annual grasses, forbs and Sycamore trees. Typically, the surface layer consists of a grayish brown loam 12 inches thick. The underlying material consists of grayish brown, light brownish gray, and pale brown silty clay loam to a depth of 62 inches and light brown gray sandy loam to a depth of 72 inches. The soil is neutral in the upper 6 inches and becomes moderately alkaline and calcareous below. Sorrento soils are used for irrigated crops, citrus and urban development.

Within the Project Site, areas mapped as Sorrento soils occur on hill sides, and riparian areas in the western portion of the property and supports riparian, sage scrub, and sage scrub-chaparral ecotone vegetation types. Sorrento soils mapped within the Project Site include:

- Sorrento Clay Loam, 2 to 9 percent slopes (209)

None of these soil units are identified as hydric in the SCS's publication, Hydric Soils of the United States[6], or the local hydric soils list for Orange County, California.

II. JURISDICTION

A. Army Corps of Engineers

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

[6] 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.)

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.

1. 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 Wetland Manual and Arid West Region Version 2.0 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[7]);

- 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

[7] U.S. Army Corps of Engineers. 2012. The National Wetland Plant List. Ed. R.W. Lichvar. ERDC/CRREL TR-12-11. Hanover, NH: U.S. Army Engineer Research and Development Center.

- 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.

B. California Department of Fish and Wildlife

Pursuant to Division 2, Chapter 6, Sections 1600-1603 of the California Fish and Wildlife 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 Wildlife 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.

C. Regional Water Quality Control Board

All of the drainages within the Study Area are tributary to downstream navigable waters and as such are subject to Regional Board jurisdiction under Section 401 of the Clean Water Act. There are no isolated drainages within the Study Area subject to Regional Board jurisdiction in accordance with the Porter-Cologne Act.

III. RESULTS

A. Corps Jurisdiction

The Esperanza Hills Specific Plan Study Area contains 2.08 acres of waters on-site, of which 0.19 acre consist of wetlands. All of the drainages with the exception of Drainage G and offsite portions of Drainage D, below its confluence with Drainage G, are ephemeral, meaning that they are non-relatively permanent waters (Non-RPWs). There are seven main drainage systems within the Project Study Area (A–G). Drainage System D, E, F, and G and their tributaries are the main features on site. All of these drainages exhibit signs of an OHWM, which is indicated by physical characteristics such as a clear, natural line impressed on the bank, shelving, changes in the character of soil, destruction of terrestrial vegetation, and/or the presence of litter and debris. Table 1 below summarizes Corps jurisdiction. The drainages potentially subject to Corps jurisdiction are depicted on the enclosed delineation map (Exhibit 3a) and includes onsite and offsite areas.

Drainage System A

Corps jurisdiction associated with Drainage System A totals approximately 0.12 acre, none of which consists of wetlands. Drainage System A is located in the northeastern portion of the Project area and is tributary to Drainage System D which traverses the site and then exits the property to the south-west. Drainage A extends from the north to south for approximately 3,630 linear feet before the confluence with Drainage D. The OHWM associated with this drainage system varies in width from one to two feet. Drainage System A exhibits an OHWM that is indicated by the presence of shelving, debris wrack, and/or destruction of terrestrial vegetation.

The banks of Drainage System A are generally vegetated with Toyon-Sumac Chaparral. In general drainage A is characterized by a dominance of evergreen chaparral species including toyon (*Heteromeles arbutifolia*, UPL), laurel sumac (*Malosma laurina* UPL), lemonade berry (*Rhus integrifolia* UPL), holly-leaved redberry (*Rhamnus ilicifolia*, UPL), poison oak (*Toxicodendrom diversilobium*, UPL), and southern honeysuckle (*Lonicera subspicata*, UPL).

Drainage System B

Corps jurisdiction within the Study Area associated with Drainage System B totals approximately 436 square feet (0.01 acre), all of which occurs on-site. None of Drainage B consists of wetlands. From where it enters the site, Drainage B flows from the north to south for approximately 281 linear feet to the confluence with Drainage D. The OHWM associated with this drainage system varies in width from one to two feet and is indicated by the presence of shelving, debris wrack, and/or destruction of terrestrial vegetation.

In general, Drainage B is characterized by a dominance of bush mallow (*Malacothamnus fasciculatus*, UPL),), coyote bush (*Baccharis pilularis*, UPL), laural sumac (*Malosma laurina*, UPL), giant wild rye (*Leymus condensatus*, FACU), poison oak (*Toxicodendron diversilobium*, UPL), sweet fennel (*Foeniculum vulgare*, UPL), southern honeysuckle (*Lonicera subspicata*, UPL), poison hemlock (*Conium maculatum*, FAC), chaparral nightshade (*Solanum xanti*, UPL), stinging nettle (*Urtica dioica*, FAC), and fuchsia flowered gooseberry (*Ribes speciosum*, UPL).

Drainage System C

Corps jurisdiction associated with Drainage System C totals approximately 44 square feet (0.001 acre), none of which consist of wetlands. Drainage System C is located in the northwestern portion of the Project area and is tributary to Drainage System D as noted above. This drainage system flows from the north to south for approximately 415 linear feet more-or-less straddling the property line, such that only 14 linear feet are actually located within the Study Area. The OHWM in this drainage system averages approximately two feet in width. Drainage System C exhibits an OHWM that is indicated by the presence of shelving, debris wrack, and/or destruction of terrestrial vegetation.

The banks of Drainage System C generally support a mix of native scrub species and herbaceous weedy species including laurel sumac (*Malosma laurina*, UPL), poison oak (*Toxicodendron diversilobium*, UPL), sweet fennel (*Foeniculum vulgare*, UPL), southern honeysuckle (*Lonicera subspicata*, UPL), poison hemlock (*Conium maculatum*, FAC), chaparral nightshade (*Solanum xanti*, UPL), and California sage brush (*Artemisia californica* UPL).

Drainage System D

Corps jurisdiction associated with Drainage System D within the Study Area totals approximately 0.74 acre, of which approximately 0.13 acre consist of wetlands. Drainage System D is located in the north-central portion of the Project and traverses the site flowing east to west before exiting the property at the western edge of the site and extending to the limits of the Study Area at San Antonio Road. This Drainage extends for 9,409 linear through the Study

Area. The OHWM in this drainage system varies in width from one to five feet within the project boundaries. Drainage System D exhibits an OHWM that is indicated by the presence of shelving, debris wrack, and/or destruction of terrestrial vegetation.

Drainage System D generally contains coast live oak riparian forest as well as several small areas of mulefat scrub. The extreme southern portion of Drainage D, which is within offsite portions of the study area is characterized by Black Willow Riparian Forest. In general Drainage D is characterized by a dominance of bush mallow (*Malacothamnus fasciculatus*, UPL), coyote bush (*Baccharis pilularis*, UPL), laurel sumac (*Malosma laurina*, UPL), giant wild rye (*Leymus condensatus*, FACU), poison oak (*Toxicodendron diversilobium*, UPL), sweet fennel (*Foeniculum vulgare*, UPL), southern honeysuckle (*Lonicera subspicata*, UPL), poison hemlock (*Conium maculatum*, FAC), chaparral nightshade (*Solanum xanti*, UPL), mulefat (*Baccharis salicifolia*, FAC), coast live oak (*Quercus agrifolia*, UPL), stinging nettle (*Urtica dioica*, FAC), fuchsia flowered gooseberry (*Ribes speciosum*, UPL), and within the southernmost extent, black willow (*Salix gooddingii*, FACW) and arroyo willow (*Salix lasiolepis*, FACW) with areas immediately adjacent exhibit high levels of disturbance due to dense stands of non-native species such as poison hemlock that is mixed with other non-native invasive species such as castor bean (*Ricinus communis*, FACU) and tree tobacco (*Nicotiana glauca*, FACU).

The reach of Drainage D in the vicinity of the offsite access road right-of-way connection to San Antonio Road consists of an intermittent drainage and adjacent wetlands that vary in width from eight to 40 feet with an earthen bank and bottom with the bottom exhibiting small cobbles. The channel is mostly unvegetated, with limited small patches of southern cattail (*Typha domingensis*, OBL), and non-natives such white watercress (*Rorippa nasturtium-aquaticum*, OBL), yerba mansa (*Anemopsis californica*, OBL), and African umbrella sedge (*Cyperus involucratus*, FACW). The banks support southern arroyo willow forest dominated by black willow (*Salix gooddingii*, FACW), occasional arroyo willow (*Salix lasiolepis*, FACW), and mulefat (*Baccharis salicifolia*, FAC). Large areas of the bank and adjacent terrace exhibit substantial disturbance and are dominated by non-natives such as poison hemlock (*Conium maculatum*, FAC), castor bean (*Ricinus communis*, FACU), summer mustard (*Hirschfeldia incana*, UPL), sweet fennel (*Foeniculum vulgare*, UPL), and tree tobacco (*Nicotiana glauca*, FACU).

Drainage System E

Corps jurisdiction associated with Drainage System E totals approximately 0.47 acre, none of which consists of wetlands. Drainage System E is located in the southern portion of the Project area and converges with Drainage System G, as noted above. This drainage system flows from the east to west for approximately 7,563 linear feet before its confluence with Drainage G. The

OHWM varies in width from one to five feet as indicated by the presence of shelving, debris wrack, and/or destruction of terrestrial vegetation.

The banks of Drainage System E are vegetated with scrub and non-native grasses including bush mallow (*Malacothamnus fasciculatus,* UPL) a few surviving blue elderberry (*Sambucus nigra* subsp. *caerulea*, FACU), coyote bush (*Baccharis pilularis*, UPL), laurel sumac (*Malosma laurina* UPL), giant wild rye (*Leymus condensatus*, FACU), poison oak (*Toxicodendron diversilobium,* UPL), sweet fennel (*Foeniculum vulgare*, UPL), poison hemlock (*Conium maculatum*, FAC), chaparral nightshade (*Solanum xanti*, UPL), mulefat (*Baccharis salicifolia*, FAC), and fuchsia flowered gooseberry (*Ribes speciosum*, UPL).

Drainage System F

Corps jurisdiction associated with on-site segments of Drainage System F total approximately 0.70 acre, of which 0.02 acre consists of wetlands. The Corps jurisdictional wetland associated with Drainage F is within the off-site portion of the Study Area and is associated with a small debris basin. Drainage System F is located in the southern portion of the Project area and extends from the east to west for approximately 6,076 linear feet before exiting the Study Area at the southwest corner. The OHWM in this drainage system varies in width from one to 25 feet. Drainage System F exhibits an OHWM that is indicated by the presence of shelving, debris wrack, and/or destruction of terrestrial vegetation.

Drainage System F is generally vegetated with mulefat scrub, remnant California walnut woodland (most were killed by the 2008 Freeway Complex Fire), California walnut woodland/mulefat scrub, and limited amounts of blue elderberry woodland (also largely killed by the fire). In general drainage F is characterized by a dominance of bush mallow (*Malacothamnus fasciculatus*, UPL), limited areas of Arroyo willow (*Salix lasiolepis*, FACW), mulefat (*Baccharis salicifolia*, FAC), coyote bush (*Baccharis pilularis*, UPL), laural sumac (*Malosma laurina* UPL), giant wild rye (*Leymus condensatus*, FACU), poison oak (*Toxicodendron diversilobium,* UPL), sweet fennel (*Foeniculum vulgare*, UPL), stinging nettle (*Urtica dioica*, FAC), and fuchsia flowered gooseberry (*Ribes speciosum*, UPL).

Drainage System G

Corps jurisdiction associated with Drainage System G is all in the off-site portion of the Study Area and could be affected by development of an emergency access road connecting to the existing Aspen Way cul-de-sac. Drainage G totals approximately 0.04 acre, all of which consist of jurisdictional wetlands. Drainage System G is located in the western portion of the Project area. The Drainage flows from the north to south for approximately 187 linear feet and is tributary to Drainage D, which is noted above. The OHWM in this drainage system varies in

width from six to ten feet. Drainage System G supports an OHWM consisting of shelving, debris wracks, and/or destruction of terrestrial vegetation.

Drainage System G is generally vegetated with Black Willow Riparian Forest. In general drainage g is characterized by a dominance of black willow (*Salix gooddingii*, FACW), arroyo willow (*Salix lasiolepis*, FACW), mulefat (*Baccharis salicifolia*, FACW), common celery (*Apium graveolens*, FACW), sweet fennel (*Foeniculum vulgare*, UPL), blue elderberry (*Sambucus nigra* subsp. *caerulea* FACU), coyote bush (*Baccharis pilularis*, UPL), mugwort (*Artemisia douglasiana*, FACW), and poison hemlock (*Conium maculatum*, FAC),

TABLE 1. Total Corps Jurisdiction within Study Area (acres)

	Total Study Area			
Drainage	**Total Non-Wetland Waters**	**Total Wetland**	**Total Corps Jurisdiction (acres)**	**Linear Length (ft)**
A	0.12	0	0.12	3,630
B	0.01	0	0.01	281
C	0.001	0	0.001	14
D	0.61	0.13	0.74	9,409
E	0.47	0	0.47	7,563
F	0.68	0.02	0.70	6,076
G	0	0.04	0.04	187
Total	**1.89**	**0.19**	**2.08**	**27,161**

B. CDFW Jurisdiction

CDFW jurisdiction associated with the Esperanza Hills Specific Plan Area totals approximately 4.15 acres of which 2.57 acres consist of vegetated riparian habitat. As described above, there are seven drainages or drainage systems within the Project Study Area. All of the drainage systems support the presence of a bed, bank, and/or channel. For descriptions of CDFW jurisdictional areas and associated vegetation see the descriptions for Corps above. Table 2 below summarizes CDFW jurisdiction for the entire Study Area that includes offsite areas as well. The limits of CDFW jurisdiction are depicted on Exhibit 3b for both onsite and offsite areas.

TABLE 2. Total CDFW Jurisdiction within Study Area (acres)

	Total Study Area			
Drainage	**Total Unvegetated Streambed**	**Riparian Streambed**	**Total CDFW Jurisdiction (acres)**	**Linear Length (ft)**
A	0.12	0	0.12	3,630
B	0.01	0	0.01	281
C	0.001	0	0.001	14
D	0.41	1.89	2.30	9,409
E	0.42	0.13	0.55	7,563
F	0.62	0.51	1.13	6,076
G	0	0.04	0.04	187
Total	**1.58**	**2.57**	**4.15**	**27,161**

If you have any questions about this letter report, please contact either Glenn Lukos or Tony Bomkamp at (949) 837-0404.

Sincerely,

GLENN LUKOS ASSOCIATES, INC.

Tony Bomkamp
Regulatory Specialist

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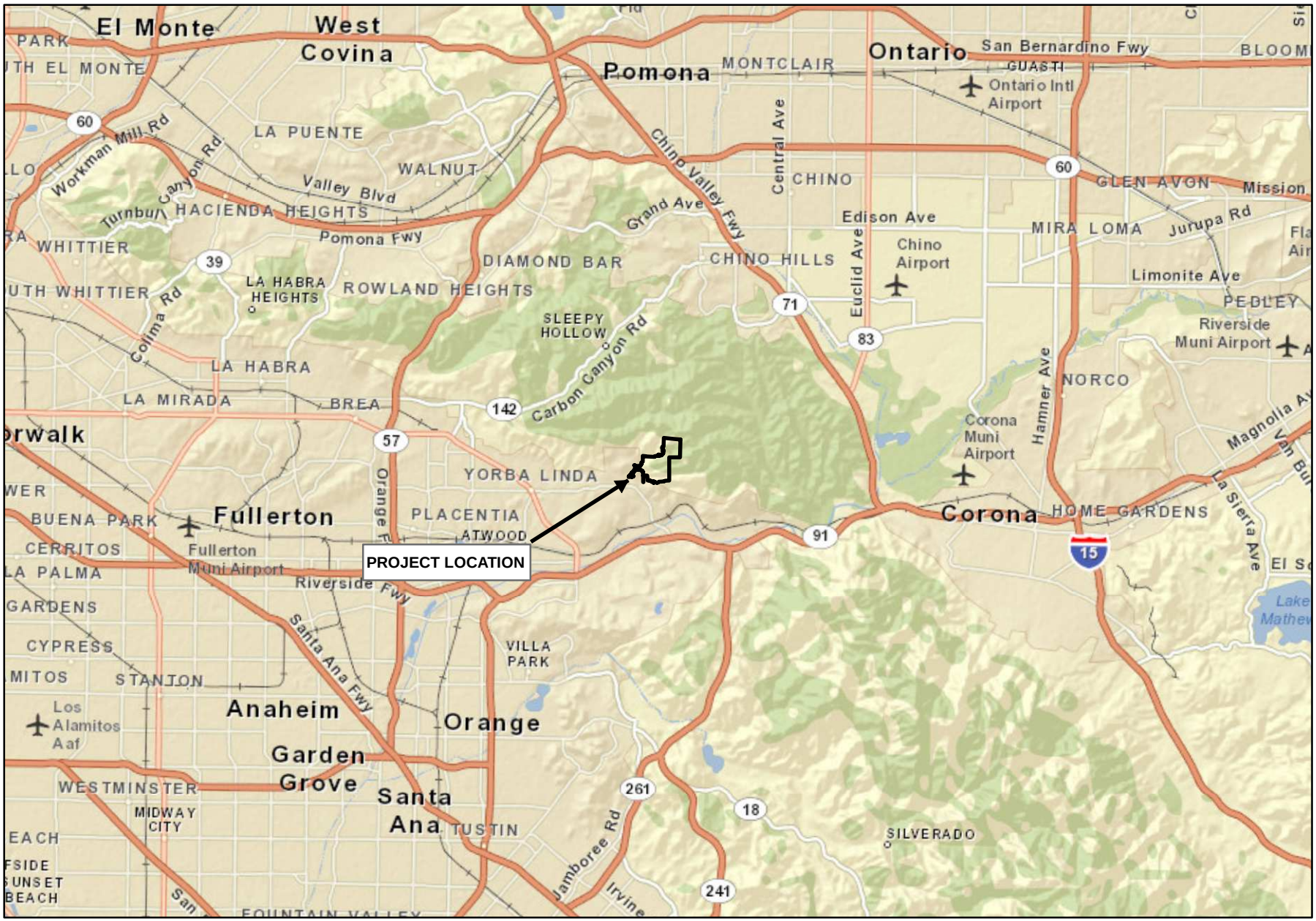


Source: ESRI World Street Map

N

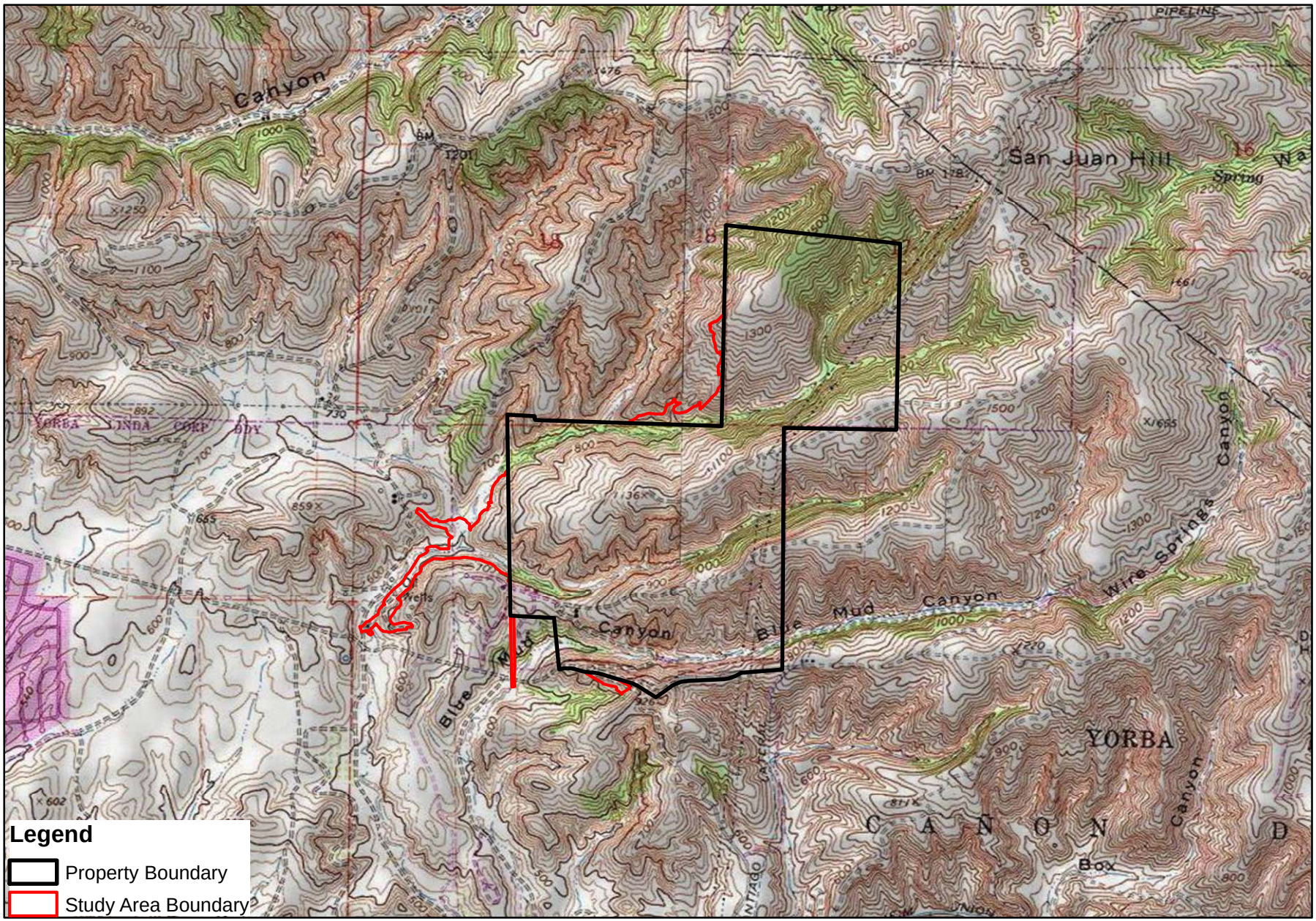
0 2 4 8 Miles

ESPERANZA HILLS SPECIFIC PLAN AREA

Regional Map

GLENN LUKOS ASSOCIATES

Exhibit 1

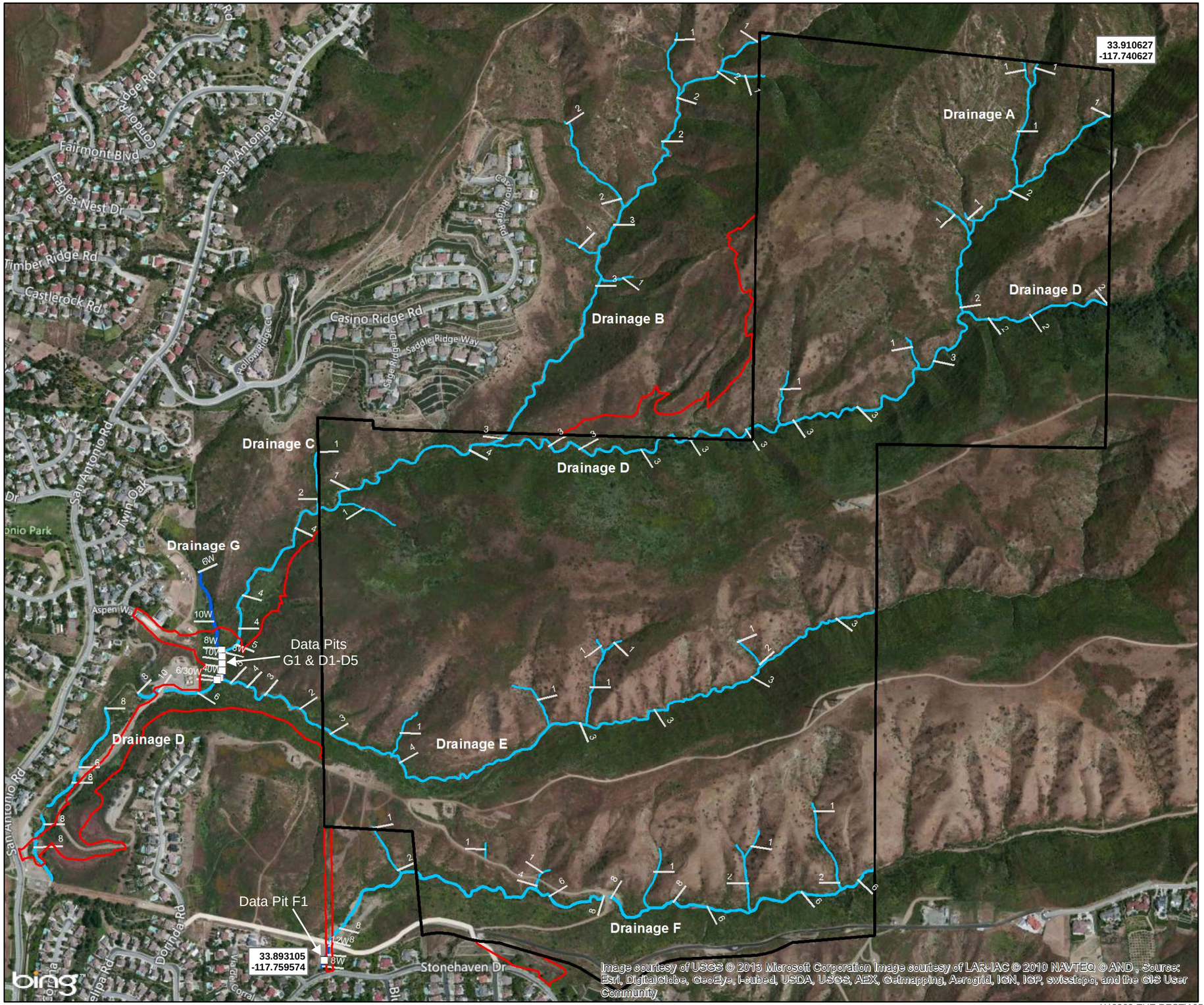


ESPERANZA HILLS SPECIFIC PLAN AREA

Vicinity Map

GLENN LUKOS ASSOCIATES

Exhibit 2



Legend

- Property Boundary
- Study Area Boundary
- Corps Non-Wetland Waters
- Corps Wetland
- Width in Feet (W indicates wetland jurisdiction)
- Data Pit Location

N

0 350 700 1,400

Feet

1 inch = 700 feet

Aerial Photo: ESRI Basemaps Bing Hybrid
Reference Elevation Datum: State Plane 6 NAD 83
Map Prepared by: K. Kartunen, GLA
Date Prepared: May 10, 2013

ESPERANZA HILLS SPECIFIC PLAN AREA

Corps Jurisdictional Delineation Map

GLENN LUKOS ASSOCIATES

Exhibit 3A

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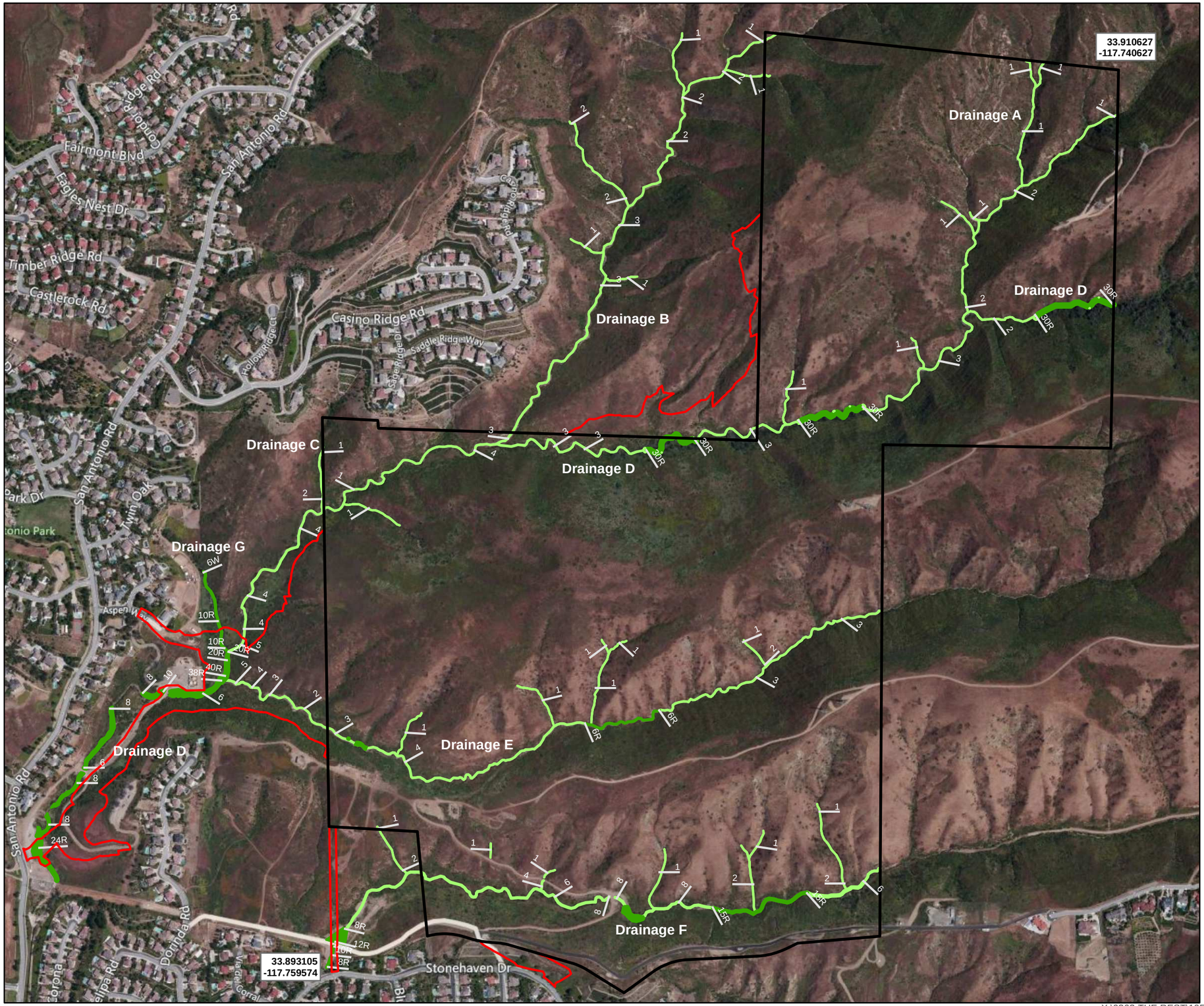


Legend

- Property Boundary
- Study Area Boundary
- CDFW Unvegetated Streambed
- CDFW Riparian
- Width in Feet (R indicates riparian jurisdiction)

N

0 350 700 1,400

Feet

1 inch = 700 feet

Aerial Photo: ESRI Basemaps Bing Hybrid
Reference Elevation Datum: State Plane 6 NAD 83
Map Prepared by: K. Kartunen, GLA
Date Prepared: May 10, 2013

ESPERANZA HILLS SPECIFIC PLAN AREA

CDFW Jurisdictional Delineation Map

GLENN LUKOS ASSOCIATES

Exhibit 3B

X:\0363-THE REST\1050-02ESPE\1050-02_GIS FINAL_USE THIS FOLDER\DelineationGIS\1050-2 Exhibit 3B.mxd

Photograph 1: View of Drainage D near middle of site looking east.

Photograph 2: View of Drainage D showing burned oaks looking west.

Photograph 3: View of Drainage D, immediately below confluence with Drainage G, offsite.

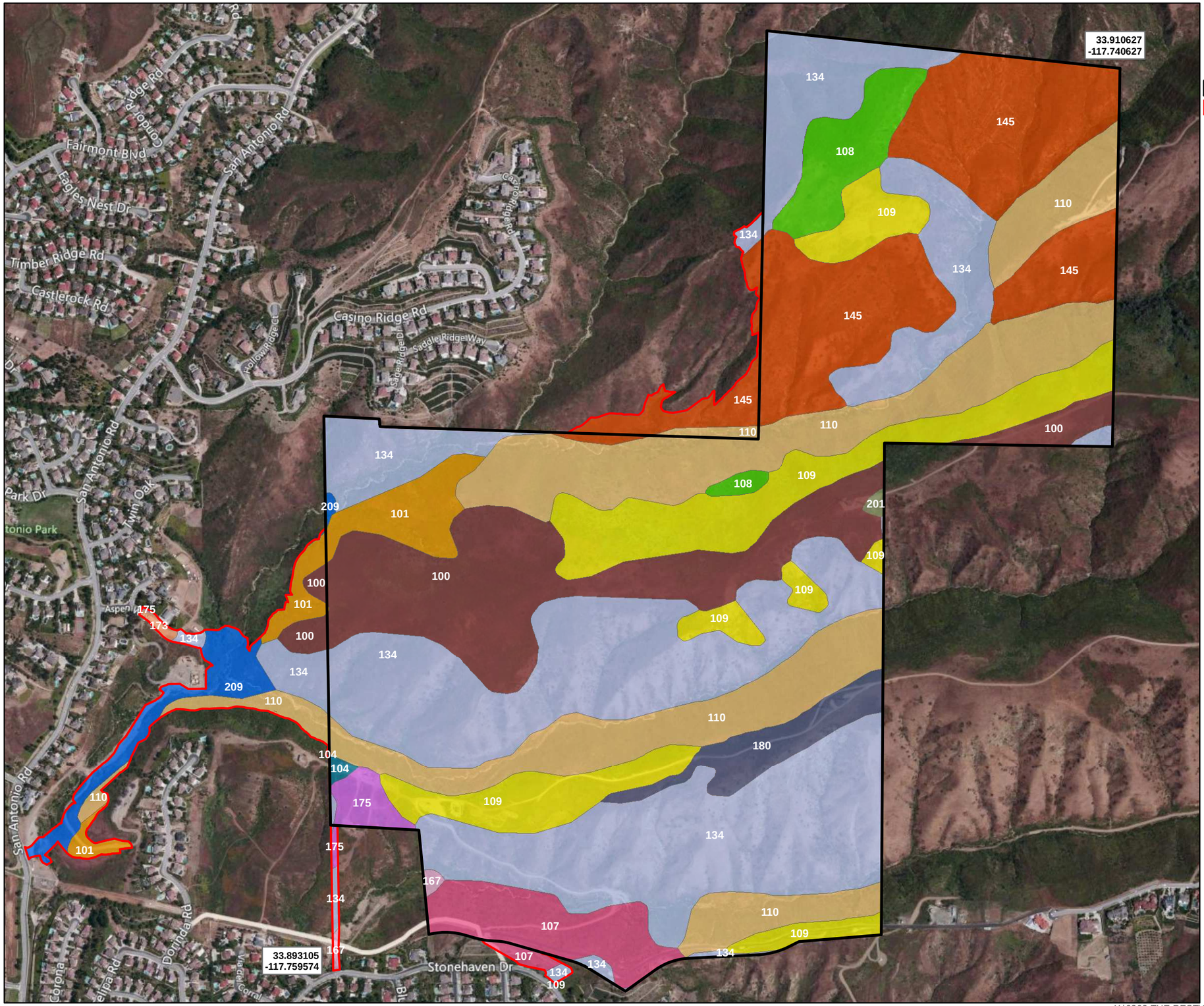
Photograph 4: View of Blue Mud Canyon Drainage looking east before Freeway Complex Fire.

GLENN LUKOS ASSOCIATES

Exhibit 4

ESPERANZA HILLS
SITE SPECIFIC PLAN

Site Photographs



Legend

- Property Boundary
- Study Area Boundary

Soils

- 100 - ALO CLAY, 9 TO 15 PERCENT SLOPES
- 101 - ALO CLAY, 15 TO 30 PERCENT SLOPES
- 104 - ALO VARIANT CLAY, 15 TO 30 PERCENT SLOPES
- 107 - ANAHEIM LOAM, 30 TO 50 PERCENT SLOPES
- 108 - ANAHEIM CLAY LOAM, 15 TO 30 PERCENT SLOPES
- 109 - ANAHEIM CLAY LOAM, 30 TO 50 PERCENT SLOPES
- 110 - ANAHEIM CLAY LOAM, 50 TO 75 PERCENT SLOPES
- 134 - CALLEGUAS CLAY LOAM, 50 TO 75 PERCENT SLOPES, ERODED
- 145 - CIENEBA-ROCK OUTCROP COMPLEX, 30 TO 75 PERCENT SLOPES
- 167 - MOCHO LOAM, 2 TO 9 PERCENT SLOPES
- 173 - MYFORD SANDY LOAM, 2 TO 9 PERCENT SLOPES
- 175 - MYFORD SANDY LOAM, 9 TO 15 PERCENT SLOPES
- 180 - NACIMIENTO CLAY LOAM, 15 TO 30 PERCENT SLOPES
- 201 - SOPER GRAVELLY LOAM, 15 TO 30 PERCENT SLOPES
- 209 - SORRENTO CLAY LOAM, 2 TO 9 PERCENT SLOPES

N

0 350 700 1,400

Feet

1 inch = 700 feet

Aerial Photo: ESRI Basemaps Bing Hybrid
Reference Elevation Datum: State Plane 6 NAD 83
Map Prepared by: K. Kartunen, GLA
Date Prepared: May 10, 2013

ESPERANZA HILLS SPECIFIC PLAN AREA

Soils Map

GLENN LUKOS ASSOCIATES

Exhibit 5

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WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Esperanza Hills City/County: Yorba Linda Sampling Date: 7-12-13

Applicant/Owner: Esperanza Hills LLC State: CA Sampling Point: D2

Investigator(s): TBonkamp Section, Township, Range:

Landform (hillslope, terrace, etc.): Canyon Local relief (concave, convex, none): Concave Slope (%): <5%

Subregion (LRR): LRRC Lat: 33.898649 Long: -117.761113 Datum:

Soil Map Unit Name: Sorrento clay loam 2-9% slopes NWI classification: None L5780 # Palustrine

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

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? NO Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? NO (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 X No ____	**Is the Sampled Area within a Wetland?** Yes X No ____
Hydric Soil Present?	Yes X No ____	
Wetland Hydrology Present?	Yes X No ____	

Remarks:

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30'-radius)	Absolute % Cover	Dominant Species?	Indicator Status
1. Salix lasiolepis	80	Y	FACW
2. Salix laevigata	10	N	FACW
3.			
4.			
	90	= Total Cover	
Sapling/Shrub Stratum (Plot size: ____)			
1. Baccharis salicifolia	30	Y	FAC
2. Artemisia douglasiana	5	N	FAC
3.			
4.			
5.			
	35	= Total Cover	
Herb Stratum (Plot size: ____)			
1. Typha domingensis	10	Y	OBL
2.			
3.			
4.			
5.			
6.			
7.			
8.			
	10	= Total Cover	
Woody Vine Stratum (Plot size: ____)			
1.			
2.			
	100+	= 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: 3 (A)

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

X 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 X No ____

Remarks:

SOIL

Sampling Point: D2

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 3/2	95	7.5Y 4/6	5	C	M	Cobbly	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)
- X 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): NONE

Hydric Soil Present? Yes X No _____

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

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

- ___ Surface Water (A1)
- X 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)**
- X Drift Deposits (B3) **(Riverine)**
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Shallow Aquitard (D3)
- X FAC-Neutral Test (D5)

Field Observations:

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

Water Table Present? Yes X No _____ Depth (inches): 9"

Saturation Present? (includes capillary fringe) Yes X No _____ Depth (inches): 6"

Wetland Hydrology Present? Yes X No _____

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

Remarks:

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Esperanza Hills City/County: Yorba Linda Sampling Date: 7-12-13

Applicant/Owner: Esperanza Hills LLC State: CA Sampling Point: D3

Investigator(s): TBornkamp Section, Township, Range:

Landform (hillslope, terrace, etc.): Canyon Local relief (concave, convex, none): Concave Slope (%): 5-10%

Subregion (LRR): LRR C Lat: 33.898649 Long: -117.761113 Datum:

Soil Map Unit Name: Sorrento Clay loam NWI classification: NONE LISTED = Palustrine

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

Are Vegetation NO, Soil NO, or Hydrology NO significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation NO, Soil NO, or Hydrology NO naturally problematic? (If needed, explain any answers in Remarks.)

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

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

Remarks:

VEGETATION – Use scientific names of plants.

	Absolute % Cover	Dominant Species?	Indicator Status
Tree Stratum (Plot size: 30' radius)			
1. Salix lasiolepis	80	Y	FACW
2.			
3.			
4.			
	80 = Total Cover		
Sapling/Shrub Stratum (Plot size: 30' rad.)			
1. Baccharis salicifolia	10	Y	FAC
2.			
3.			
4.			
5.			
	10 = Total Cover		
Herb Stratum (Plot size: 30' rad.)			
1. Typha domingensis	15	Y	OBL
2. Artemisia californica	40	Y	OBL
3.			
4.			
5.			
6.			
7.			
8.			
	55 = Total Cover		
Woody Vine Stratum (Plot size: ____)			
1.			
2.			
	100+ = 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: 4 (A)

Total Number of Dominant Species Across All Strata: 4 (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:

X 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 X No ____

Remarks:

SOIL

Sampling Point: D3

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	10YR3/2	90	7.5Y 4/6	10	C	M	Cobbly	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)
- X 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): NONE

Hydric Soil Present? Yes X No ___

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

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

- ___ Surface Water (A1)
- X 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**)
- X Drift Deposits (B3) (**Riverine**)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Shallow Aquitard (D3)
- X FAC-Neutral Test (D5)

Field Observations:

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

Water Table Present? Yes X No ___ Depth (inches): 10"

Saturation Present? (includes capillary fringe) Yes X No ___ Depth (inches): 7"

Wetland Hydrology Present? Yes X No ___

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

Remarks:

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Esperanza Hills City/County: Yorba Linda Sampling Date: 7-12-13

Applicant/Owner: Esperanza Hills LLC State: CA Sampling Point: D4

Investigator(s): TBornkamp Section, Township, Range:

Landform (hillslope, terrace, etc.): Canyon Local relief (concave, convex, none): Concave Slope (%): 5-7%

Subregion (LRR): LRR C Lat: 33.898649 Long: -117.761113 Datum:

Soil Map Unit Name: Sorrento Clay loam NWI classification: NONE LISTED = Palustrine

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

Are Vegetation NO, Soil NO, or Hydrology NO significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation NO, Soil NO, or Hydrology NO naturally problematic? (If needed, explain any answers in Remarks.)

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

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

Remarks:

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30' rad.)	Absolute % Cover	Dominant Species?	Indicator Status
1. Salix lasiolepis	90	Y	FACW
2.			
3.			
4.			
	90 = Total Cover		
Sapling/Shrub Stratum (Plot size: 30' rad.)			
1. Baccharis salicifolia	25	Y	FAC
2.			
3.			
4.			
5.			
	25 = Total Cover		
Herb Stratum (Plot size: 30' rad.)			
1. Typha domingensis	5	Y	OBL
2.			
3.			
4.			
5.			
6.			
7.			
8.			
	5 = Total Cover		
Woody Vine Stratum (Plot size: ____)			
1.			
2.			
	100 = 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: 3 (A)

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

X 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 X No ____

Remarks:

SOIL

Sampling Point: D4

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	10YR3/2	95	7.5Y 4/6	5	C	M	Cobbly 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)
- X 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): None

Hydric Soil Present? Yes X No ___

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

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

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- X 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**)
- X Drift Deposits (B3) (**Riverine**)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Shallow Aquitard (D3)
- X FAC-Neutral Test (D5)

Field Observations:

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

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

Saturation Present? (includes capillary fringe) Yes X No ___ Depth (inches): 10"

Wetland Hydrology Present? Yes X No ___

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

Remarks:

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Esperanza Hills City/County: Yorba Linda Sampling Date: 7-12-13
Applicant/Owner: Esperanza Hills LLC State: CA Sampling Point: DS
Investigator(s): TBormkamp Section, Township, Range:
Landform (hillslope, terrace, etc.): Canyon Local relief (concave, convex, none): Concave Slope (%): 5-7%
Subregion (LRR): LRR C Lat: 33.898649 Long: -117.761113 Datum:
Soil Map Unit Name: Sorrento Clay loam NWI classification: NONE LISTED = Palustrine
Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No ____ (If no, explain in Remarks.)
Are Vegetation NO, Soil NO, or Hydrology NO significantly disturbed? Are "Normal Circumstances" present? Yes X No ____
Are Vegetation NO, Soil NO, or Hydrology NO naturally problematic? (If needed, explain any answers in Remarks.)

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

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

Remarks:

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30' radius)	Absolute % Cover	Dominant Species?	Indicator Status
1. Salix lasiolepis	100	Y	FACW
2.			
3.			
4.			
	= Total Cover		
Sapling/Shrub Stratum (Plot size: ____)			
1. Baccharis salicifolia	40	Y	FAC
2.			
3.			
4.			
5.			
	= Total Cover		
Herb Stratum (Plot size: ____)			
1. Rorippa nasturtium-aquaticum	20	Y	OBL
2. Typha domingensis	10	Y	OBL
3.			
4.			
5.			
6.			
7.			
8.			
	= Total Cover		
Woody Vine Stratum (Plot size: ____)			
1.			
2.			
	= Total Cover		

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

Dominance Test worksheet:
Number of Dominant Species That Are OBL, FACW, or FAC: 4 (A)
Total Number of Dominant Species Across All Strata: 4 (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:
X 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 X No ____

Remarks:

SOIL

Sampling Point: D5

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
	Sulfidic odor – Color not Taken							

[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)
- X 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): None

Hydric Soil Present? Yes X No _____

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

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

- ___ Surface Water (A1)
- X High Water Table (A2)
- X 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)
- X 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)
- X FAC-Neutral Test (D5)

Field Observations:

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

Water Table Present? Yes X No _____ Depth (inches): 3"

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

Wetland Hydrology Present? Yes X No _____

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

Remarks:

PRELIMINARY JURISDICTIONAL DETERMINATION FORM

This preliminary JD finds that there *"may be"* waters of the United States on the subject project site, and identifies all aquatic features on the site that could be affected by the proposed activity, based on the following information:

District Office: Los Angeles District | File/ORM #: | PJD Date: Jul 15, 2013

State: CA | City/County: Orange

Nearest Waterbody: Santa Ana River

Location: TRS, LatLong or UTM: 33.898327 -117.749752

Name/ Address of Person Requesting PJD: Tony Bomkamp, Glenn Lukos Associates
29 Orchard
Lake Forest, CA 92630

Identify (Estimate) Amount of Waters in the Review Area:

Non-Wetland Waters: 26,149 linear ft | 3 width | 1.89 acres | Stream Flow: Intermittent

Wetlands: 0.19 acre(s) | Cowardin Class: Palustrine, forested

Name of Any Water Bodies on the Site Identified as Section 10 Waters: Tidal: none | Non-Tidal: none

☐ Office (Desk) Determination
☑ Field Determination: Date of Field Trip: 7/12/2013

SUPPORTING DATA: Data reviewed for preliminary JD (check all that apply - checked items should be included in case file and, where checked and requested, appropriately reference sources below):

- ☑ Maps, plans, plots or plat submitted by or on behalf of the applicant/consultant: See attached
- ☑ Data sheets prepared/submitted by or on behalf of the applicant/consultant.
  - ☑ Office concurs with data sheets/delineation report.
  - ☐ Office does not concur with data sheets/delineation report.
- ☐ Data sheets prepared by the Corps
- ☐ Corps navigable waters' study:
- ☑ U.S. Geological Survey Hydrologic Atlas:
  - ☐ USGS NHD data.
  - ☑ USGS 8 and 12 digit HUC maps.
- ☑ U.S. Geological Survey map(s). Cite quad name: Prado Dam and Yorba Linda
- ☑ USDA Natural Resources Conservation Service Soil Survey. Citation: http://websoilsurvey.sc.egov.usda.gov/App/HomeP
- ☐ National wetlands inventory map(s). Cite name:
- ☐ State/Local wetland inventory map(s):
- ☑ FEMA/FIRM maps: 060212-0069J and 060212-0090J
- ☐ 100-year Floodplain Elevation is:
- ☑ Photographs: ☑ Aerial (Name & Date): ESRI Basemaps Bing Hybrid
  ☑ Other (Name & Date): Site photographs, January and February 2013
- ☐ Previous determination(s). File no. and date of response letter:
- ☑ Other information (please specify): See attachment

IMPORTANT NOTE: The information recorded on this form has not necessarily been verified by the Corps and should not be relied upon for later jurisdictional determinations.

Signature and Date of Regulatory Project Manager (REQUIRED)

Tony Bomkamp / Glenn Lukos Assoc.
Signature and Date of Person Requesting Preliminary JD (REQUIRED, unless obtaining the signature is impracticable)

EXPLANATION OF PRELIMINARY AND APPROVED JURISDICTIONAL DETERMINATIONS:

1. The Corps of Engineers believes that there may be jurisdictional waters of the United States on the subject site, and the permit applicant or other affected party who requested this preliminary JD is hereby advised of his or her option to request and obtain an approved jurisdictional determination (JD) for that site. Nevertheless, the permit applicant or other person who requested this preliminary JD has declined to exercise the option to obtain an approved JD in this instance and at this time.

2. In any circumstance where a permit applicant obtains an individual permit, or a Nationwide General Permit (NWP) or other general permit verification requiring "preconstruction notification" (PCN), or requests verification for a non-reporting NWP or other general permit, and the permit applicant has not requested an approved JD for the activity, the permit applicant is hereby made aware of the following: (1) the permit applicant has elected to seek a permit authorization based on a preliminary JD, which does not make an official determination of jurisdictional waters; (2) that the applicant has the option to request an approved JD before accepting the terms and conditions of the permit authorization, and that basing a permit authorization on an approved JD could possibly result in less compensatory mitigation being required or different special conditions; (3) that the applicant has the right to request an individual permit rather than accepting the terms and conditions of the NWP or other general permit authorization; (4) that the applicant can accept a permit authorization and thereby agree to comply with all the terms and conditions of that permit, including whatever mitigation requirements the Corps has determined to be necessary; (5) that undertaking any activity in reliance upon the subject permit authorization without requesting an approved JD constitutes the applicant's acceptance of the use of the preliminary JD, but that either form of JD will be processed as soon as is practicable; (6) accepting a permit authorization (e.g., signing a proffered individual permit) or undertaking any activity in reliance on any form of Corps permit authorization based on a preliminary JD constitutes agreement that all wetlands and other water bodies on the site affected in any way by that activity are jurisdictional waters of the United States, and precludes any challenge to such jurisdiction in any administrative or judicial compliance or enforcement action, or in any administrative appeal or in any Federal court; and (7) whether the applicant elects to use either an approved JD or a preliminary JD, that JD will be processed as soon as is practicable. Further, an approved JD, a proffered individual permit (and all terms and conditions contained therein), or individual permit denial can be administratively appealed pursuant to 33 C.F.R. Part 331, and that in any administrative appeal, jurisdictional issues can be raised (see 33 C.F.R. 331.5(a)(2)). If, during that administrative appeal, it becomes necessary to make an official determination whether CWA jurisdiction exists over a site, or to provide an official delineation of jurisdictional waters on the site, the Corps will provide an approved JD to accomplish that result, as soon as is practicable.

PRELIMINARY JURISDICTIONAL DETERMINATION FORM

This preliminary JD finds that there *"may be"* waters of the United States on the subject project site, and identifies all aquatic features on the site that could be affected by the proposed activity, based on the following information:

Appendix A - Sites

District Office	Los Angeles District	File/ORM #		PJD Date:	7/15/2013
State	CA	City/County	Orange	Person Requestinq PJD	Tony Bomkamp, GLA

Site Number	Latitude	Longitude	Cowardin Class	Est. Amount of Aquatic Resource in Review Area	Class of Aquatic Resource
A	33.906987	-117.743804	Riverine	0.12	Non-Section 10, Non-Wet
B	33.905809	-117.752835	Riverine	0.01	Non-Section 10, Non-Wet
C	33.902586	-117.758956	Riverine	0.001	Non-Section 10, Non-Wet
D	33.902536	-117.755738	Riverine	0.61	Non-Section 10, Non-Wet
D - wet	33.898633	-117.760950	Palustrine, forested	0.13	Non-Section 10, Wetland
E	33.899327	-117.749752	Riverine	0.47	Non-Section 10, Non-Wet

Notes:

This Preliminary Jurisdictional Determination Form covers a total of 27,161 linear feet and 2.08 acres, of which 26,149 linear feet and 1.89 acres are non-wetland and 1,012 linear feet and 0.19 acres are wetland.

Please see attachment for detailed drainage information.

Esperanza Hills Specific Plan Project; Near the City of Yorba Linda; Orange County, California

Information for Preliminary Jurisdictional Determination Form

Site Number	Latitude	Longitude	Cowardin Class	Estimated Amount of Aquatic Resource in Review Area (Acres)	Class of Aquatic Resource
Drainage A	33.906987	-117.743804	Riverine	0.12	Non-Section 10 Non-Wetland
Drainage B	33.905809	-117.752835	Riverine	0.01	Non-Section 10 Non-Wetland
Drainage C	33.902586	-117.758956	Riverine	0.001	Non-Section 10 Non-Wetland
Drainage D Non-Wetland	33.902536	-117.755738	Riverine	0.61	Non-Section 10 Non-Wetland
Drainage D Wetland	33.898633	-117.760950	Palustrine, Forested	0.13	Non-Section 10 Wetland
Drainage E	33.898327	-117.749752	Riverine	0.47	Non-Section 10 Non-Wetland
Drainage F Non-Wetland	33.893868	-117.751491	Riverine	0.68	Non-Section 10 Non-Wetland
Drainage F Wetland	33.893255	-117.758320	Palustrine, Forested	0.02	Non-Section 10 Wetland
Drainage G Wetland	33.900255	-117.761586	Palustrine, Forested	0.04	Non-Section 10 Wetland
TOTAL				**2.08**	

GLENN LUKOS ASSOCIATES

Regulatory Services

July 1, 2013

Ms. Susie Tharratt
Recovery Permit Coordinator
U.S. Fish and Wildlife Service
2177 Salk Avenue, Suite 250
Carlsbad, California 92008

SUBJECT: Submittal Requirements for Coastal California Gnatcatcher Surveys for the Esperanza Hills Project, City of Yorba Linda, Orange County, California.

Dear Ms. Tharratt:

This letter report summarizes the methodology and findings of surveys for the federally listed threatened coastal California gnatcatcher (*Polioptila californica californica*) conducted by Glenn Lukos Associates, Inc. (GLA) in Orange County, California. GLA was retained to determine the presence or absence of the coastal California gnatcatcher within the Survey Area; which constituted approximately 40 acres of coastal sage scrub habitat. The Survey Area is depicted on Exhibit 3: Gnatcatcher Survey Area Map.

Focused surveys for the coastal Californica gnatcatcher were conducted from May 9 through June 13, 2013 in areas of potentially suitable habitat in accordance with U.S. Fish and Wildlife Service (USFWS) guidelines. No coastal California gnatcatchers were detected within or adjacent to the Survey Area during the 2013 breeding season survey.

SURVEY LOCATION

The Survey Area is located in an unsectioned portion of Township 3 South, Range 8 West, of the Prado Dam and Yorba Linda, California USGS 7.5 minute topographical maps [Exhibits 1 & 2 – Regional and Vicinity Maps]. The Survey Area is east of San Antonio Road and north of Green Crest Drive. To the north and east the area is bounded by open space. To the south and west the area is bounded by residential development.

PLANT COMMUNITIES

As a result of a wildfire that swept through this area in November 2008, the vegetation is in an early successional state dominated by fire followers and non-native grasses. Dominant species include chaparral mallow (*Malacothamnus fasciculatus*), wild oat (*Avena fatua*), ripgut brome

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

(*Bromus diandrus*), and sweet fennel (*Foeniculum vulgare*). The area also contains chaparral species that exhibit post-fire regeneration through basal sprouting. These native species include lemonade berry (*Rhus integrifolia*), laurel sumac (*Malosma laurina*), and blue elderberry (*Sambucus nigra* ssp. *caerulea*). Isolated patches of California sage brush (*Artemisia californica*) occur in the vicinity of the Study Area, but contiguous blocks of coastal sage scrub (CSS) are rare and occur only sporadically. In general, the site does not contain habitat suitable for the California gnatcatcher, particularly habitat suitable for breeding.

METHODOLOGY

Protocol surveys for the coastal California gnatcatcher were performed across the Survey Area, with an emphasis on areas containing suitable coastal sage scrub habitat. Surveys were conducted in accordance with the 1997 USFWS guidelines, which stipulate that during the breeding season six surveys shall be conducted in all areas of suitable habitat with at least seven days between site visits. Kevin Livergood (TE-172638-1) and David Moskovitz (TE-084606-1) conducted the protocol surveys on May 9 through June 13, 2013. No surveys were conducted during extreme weather conditions (i.e., winds exceeding 15 miles per hour, rain, or temperatures in excess of 35°C/95°F). All areas of suitable habitat were surveyed on foot by walking slowly and methodically. Taped vocalizations and "pishing" sounds were utilized to elicit a response from gnatcatchers that might be present. Table 1 provides a summary of gnatcatcher survey dates and ambient conditions.

Table 1: Dates and Weather Data Recorded for the Esperanza Hills Project Site Surveys

Date	Biologist	Start Time	End Time	Temp °F (Start/End)	Cloud Cover (Start/End)	Wind (Mph)
May 9, 2013	K. Livergood/ D. Moskovitz	0700	1100	50/64	Broken/Isolated	0-1
May 16, 2013	K. Livergood	0700	1130	57/69	Overcast/ Overcast	0-1
May 23, 2013	K. Livergood	0730	1130	63/64	Overcast/Broken	4-6
May 30, 2013	K. Livergood	0845	1130	66/71	Overcast/Clear	4-6
June 6, 2013	K. Livergood	0810	1030	65/68	Overcast/Scattered	0-4
June 13, 2013	K. Livergood	0615	0845	63/65	Overcast/Overcast	3

RESULTS

No California gnatcatchers were observed within or adjacent to the Survey Area during the 2013 breeding season protocol survey.

Other birds commonly observed during the focused survey included red-tailed hawk (*Buteo jamaicensis*), California towhee (*Pipilo crissalis*), spotted towhee (*Pipilo maculatus*), wrentit (*Chamaea fasciata*), northern mockingbird (*Mimus polyglottos),* Anna's hummingbird (*Calypte anna),* Allen's hummingbird (*Selasphorus sasin),* California quail (*Callipepla californica*), black-headed grosbeak (*Pheucticus melanocephalus*), blue grosbeak (*Passerina caerulea*), bushtit (*Psaltriparus minimus*), song sparrow (*Melospiza melodia),* Say's phoebe (*Sayornis saya*), phainopepla (*Phainopepla nitens*), mourning dove (*Zenaida macroura*), house finch (*Carpodacus mexicanus*), and lesser goldfinch (*Carduelis psaltria).* See Appendix A for a complete list of birds observed on site.

Least Bell's vireo (*Vireo bellii pusillus*) was observed in an off-site location as depicted on the attached California Native Diversity Database (CNDDB) Field Survey Form and CDFW BIOS Map.

No brown-headed cowbirds (*Molothrus ater*) were identified during surveys.

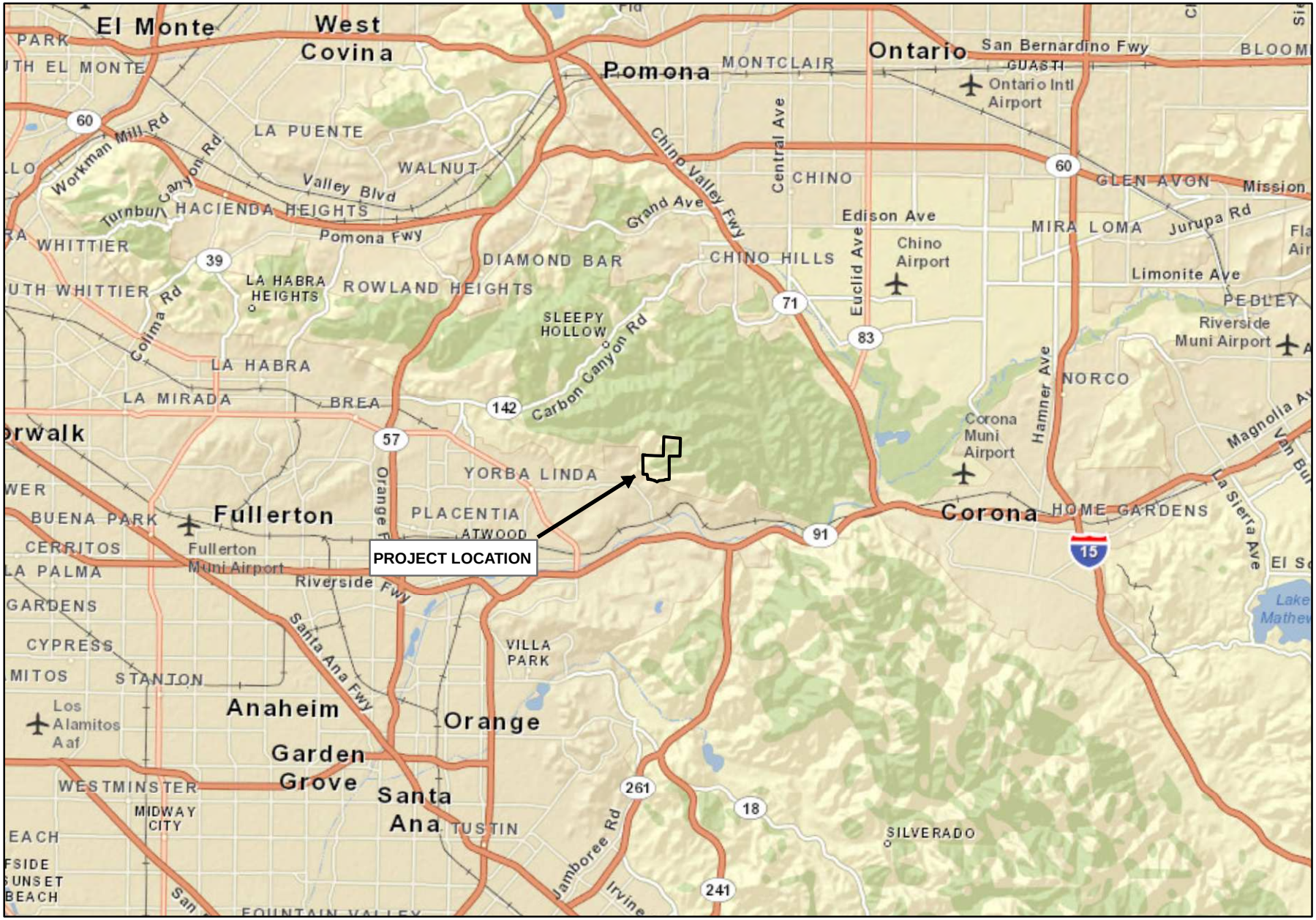
Should you have any questions regarding the methodology or findings of this report, please contact me at (949) 837-0404, extension 36 or via email at klivergood@wetlandpermitting.com.

I certify that the information in this survey report and attached exhibits fully and accurately represents my work.

GLENN LUKOS ASSOCIATES, INC.

Kevin S. Livergood	TE-172638-1	7/2/13
Biologist	Permit #	Date

David F. Moskovitz	TE-084606-1	7/2/13
Biologist	Permit #	Date



Source: ESRI World Street Map

N

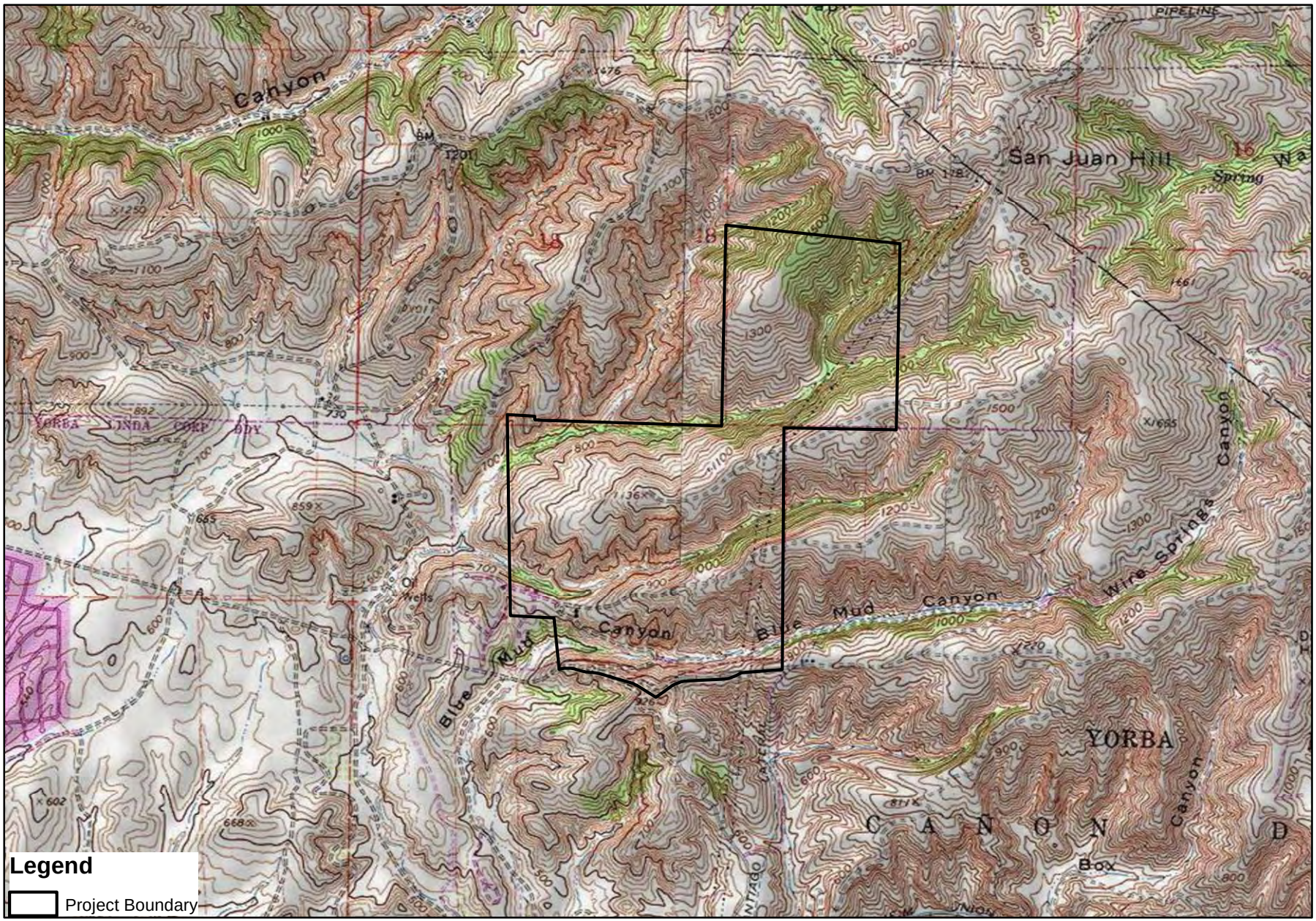
0 2 4 8 Miles

ESPERANZA HILLS SPECIFIC PLAN AREA

Regional Map

GLENN LUKOS ASSOCIATES

Exhibit 1



ESPERANZA HILLS SPECIFIC PLAN AREA

Vicinity Map

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Exhibit 2

Legend

- Property Boundary
- Study Area Boundary
- CAGN Survey Area - 40.23 ac.

N

0 350 700 1,400

Feet

1 inch = 700 feet

ESPERANZA HILLS SPECIFIC PLAN AREA

CAGN Survey Areas

GLENN LUKOS ASSOCIATES

X:\0363-THE REST\1050-02ESPE\1050-02_GIS FINAL_USE THIS FOLDER\CAGN GIS\1050-2 CAGN Survey Areas.mxd

APPENDIX A
AVIAN COMPENDIUM

AVES	BIRDS
ACCIPITRIDAE	**Hawks And Old World Vultures**
Buteo jamaicensis	red-tailed hawk
Circus cyaneus	northern harrier
AEGITHALIDAE	**Long-Tailed Tits And Bushtits**
Psaltriparus minimus	bushtit
APODIDAE	**Swifts**
Aeronautes saxatilis	white-throated swift
CARDINALIDAE	**Cardinals, Grosbeaks And Allies**
Passerina caerulea	blue grosbeak
Pheucticus melanocephalus	black-headed grosbeak
COLUMBIDAE	**Pigeons And doves**
Columba livia	rock pigeon
Zenaida macroura	mourning dove
CORVIDAE	**Crows And Jays**
Aphelocoma californica	western scrub-jay
Corvus brachyrhynchos	American crow
Corvus corax	common raven
EMBERIZIDAE	**Emberizids**
Ammodramus savannarum	grasshopper sparrow
Melospiza melodia	song sparrow
Melozone crissalis	California towhee
Pipilo maculatus	spotted towhee
FRINGILLIDAE	**Fringilline Finches and Allies**
Haemorhous mexicanus	house finch
Spinus psaltria	lesser goldfinch
HIRUNDINIDAE	**Swallows**
Hirundo rustica	barn swallow
Petrochelidon pyrrhonota	cliff swallow
Stelgidopteryx serripennis	northern rough-winged swallow
ICTERIDAE	**Blackbirds**
Icterus cucullatus	hooded oriole

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
Geothlypis trichas	common yellowthroat
Icteria virens	yellow-breasted chat
Setophaga petechia	yellow warbler
PICIDAE	**Woodpeckers And Allies**
Picoides nuttallii	Nuttall's woodpecker
PTILOGONATIDAE	**Silky-flycatchers**
Phainopepla nitens	phainopepla
TIMALIIDAE	**Babblers**
Chamaea fasciata	wrentit
TROCHILIDAE	**Hummingbirds**
Calypte anna	Anna's hummingbird
Calypte costae	Costa'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 nigricans	black phoebe
Sayornis saya	Say's phoebe
Tyrannus verticalis	western kingbird
Tyrannus vociferans	Cassin's kingbird
VIREONIDAE	**Vireos**
Vireo bellii pusillus	least Bell's vireo

Birds: American Ornithologists' Union (2013. Online 7th Edition Checklist. Accessed: July 1, 2013).

Mail to:
California Natural Diversity Database
California Dept. of Fish & Wildlife
1807 13th Street, Suite 202
Sacramento, CA 95811
Fax: (916) 324-0475 email: CNDDB@wildlife.ca.gov

Date of Field Work (mm/dd/yyyy): 06/13/2013

For Office Use Only
Source Code _____ Quad Code _____
Elm Code _____ Occ. No. _____
EO Index No. _____ Map Index No. _____

Reset

California Native Species Field Survey Form

Send Form

Scientific Name: *Vireo bellii pusillus*

Common Name: least Bell's vireo

Species Found? ☑ Yes ☐ No _____ If not, why?

Total No. Individuals 1 Subsequent Visit? ☐ yes ☐ no

Is this an existing NDDB occurrence? _____ Yes, Occ. # ☐ no ☑ unk.

Collection? If yes: _____ Number _____ Museum / Herbarium

Reporter: Kevin Livergood
Address: 29 Orchard
Lake Forest, CA 92630
E-mail Address: klivergood@wetlandpermitting.com
Phone: (949) 837-0404

Plant Information

Phenology: _____% vegetative _____% flowering _____% fruiting

Animal Information

1 # adults _____ # juveniles _____ # larvae _____ # egg masses _____ # unknown

☐ wintering ☐ breeding ☐ nesting ☐ rookery ☐ burrow site ☐ other

***Location Description* (please attach map *AND/OR* fill out your choice of coordinates, below)**

East of San Antonio road and north of Green Crest Drive in Yorba Linda, CA

County: Orange Landowner / Mgr.: Private

Quad Name: Yorba Linda Elevation: 600

T 3S R 8W Sec ____, ____ ¼ of ____ ¼, Meridian: H☐ M☐ S☐ Source of Coordinates (GPS, topo. map & type): GoogleEarth

T____ R____ Sec ____, ____ ¼ of ____ ¼, Meridian: H☐ M☐ S☐ GPS Make & Model _____

DATUM: NAD27 ☐ NAD83 ☐ WGS84 ☑ Horizontal Accuracy _____ meters/feet

Coordinate System: UTM Zone 10 ☐ UTM Zone 11 ☐ *OR* Geographic (Latitude & Longitude) ☑

Coordinates: Lat. 33.900469; Long. -117.761704

Habitat Description (plants & animals) *plant communities, dominants, associates, substrates/soils, aspects/slope:*
Animal Behavior *(Describe observed behavior, such as territoriality, foraging, singing, calling, copulating, perching, roosting, etc., especially for avifauna):*

Disturbed riparian drainage vegetated with willow species and blue elderberry.
Vireo was observed calling from various perches. Observations occurred east of an existing residential development.

Please fill out separate form for other rare taxa seen at this site.

Site Information Overall site/occurrence quality/viability (site + population): ☐ Excellent ☐ Good ☑ Fair ☐ Poor

Immediate AND surrounding land use: Open space to the east, resdiential to the north, south, and west.

Visible disturbances: Area surrounding riparian drainage impacted by 2008 wildfire. Dominated by non-native grasses.

Threats: Resdiential development and non-native plant species encroachment.

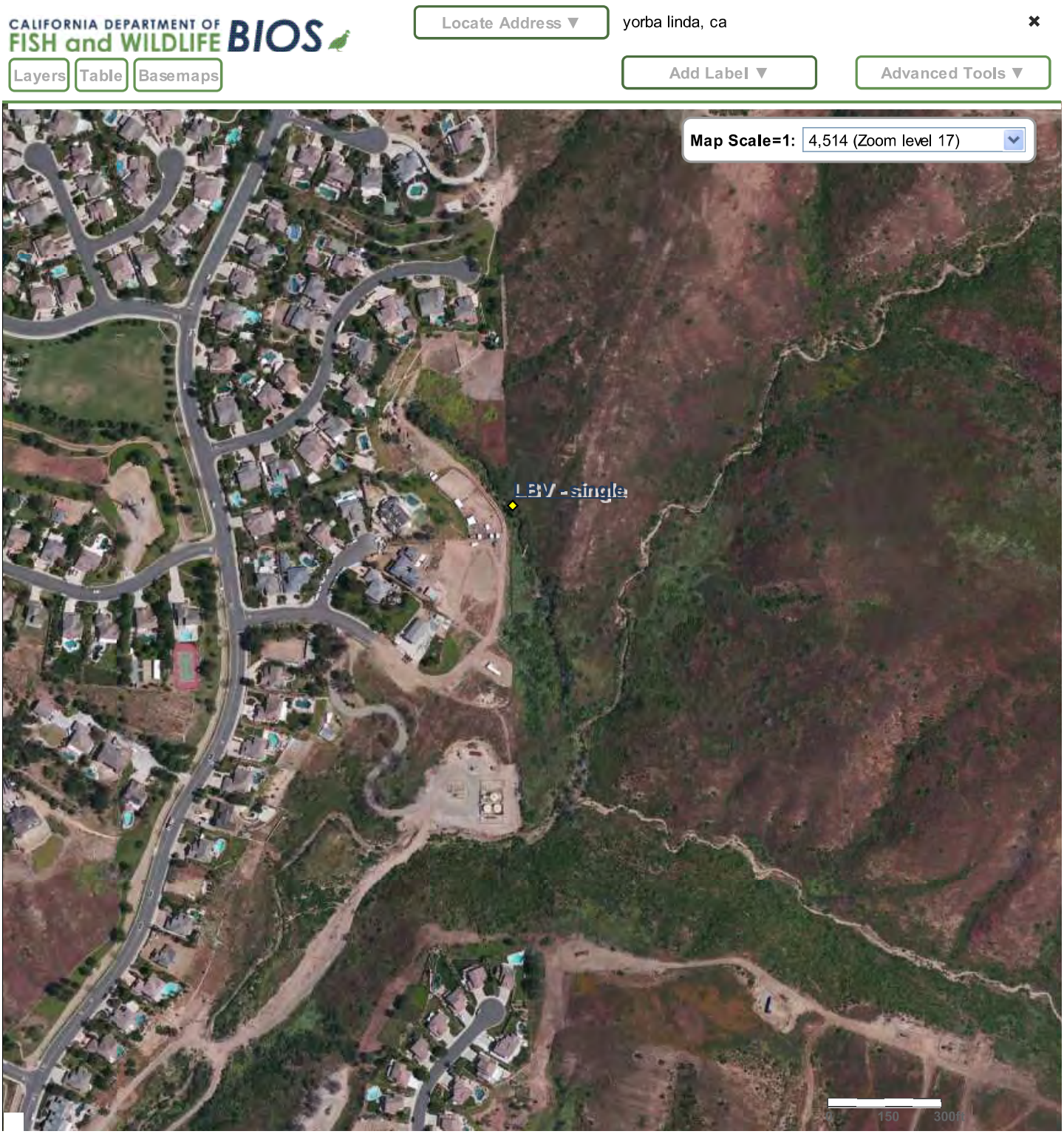
Comments:

Determination: *(check one or more, and fill in blanks)*
- ☐ Keyed (cite reference): _____
- ☐ Compared with specimen housed at: _____
- ☐ Compared with photo / drawing in: _____
- ☐ By another person (name): _____
- ☐ Other: _____

Photographs: *(check one or more)*

	Slide	Print	Digital
Plant / animal	☐	☐	☐
Habitat	☐	☐	☐
Diagnostic feature	☐	☐	☐

May we obtain duplicates at our expense? yes ☐ no ☐


CALIFORNIA DEPARTMENT OF FISH and WILDLIFE BIOS
Layers
Table
Basemaps
Locate Address ▼
yorba linda, ca
Add Label ▼
Advanced Tools ▼
Map Scale=1: 4,514 (Zoom level 17)
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150
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