

## Appendix C: Biological Technical Report

# Bouquet Canyon Project (Tentative Tract No. 82126)

## Biological Technical Report

August 26, 2019 | IPQ-25

*Prepared for:*

**Integral Communities**

888 San Clemente Drive, Suite 100  
Newport Beach, CA 92660

*Prepared by:*

**HELIX Environmental Planning, Inc.**

16485 Laguna Canyon Road, Suite 150  
Irvine, CA 92618



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## ACRONYMS AND ABBREVIATIONS

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AMSL	Above Mean Sea Level
BMPs	Best Management Practices
BUOW	Burrowing Owl
CAGN	Coastal California Gnatcatcher
CDFW	California Department of Fish and Wildlife
CEQA	California Environmental Quality Act
CESA	California Endangered Species Act
CFG	California Fish and Game
City	City of Santa Clarita
CNDDDB	California Natural Diversity Database
CNPS	California Native Plant Society
County	County of Los Angeles
CRPR	California Rare Plant Rank
CWA	Clean Water Act
EPA	Environmental Protection Agency
FESA	Federal Endangered Species Act
G	Global
GPS	Global Positioning System
HELIX	HELIX Environmental Planning, Inc.
ISA	International Society of Arboriculture
MBTA	Migratory Bird Treaty Act
MCV	A Manual of California Vegetation
NPPA	Native Plant Protection Act
NRCS	Natural Resources Conservation Service
OHWM	Ordinary High Water Mark
Project	Bouquet Canyon
RPW	Relatively Permanent Water Body
RWQCB	Regional Water Quality Control Board
S	State
SFP	State Fully Protected
SMEA	San Marino Environmental Associates

SSC	Species of Special Concern
TNW	Traditional Navigable Waters
USACE	U.S. Army Corps of Engineers
USFWS	U.S. Fish and Wildlife Service
USGS	U.S. Geological Survey
UTS	Unarmored Threespine Stickleback
WUS	Waters of the U.S.

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# EXECUTIVE SUMMARY

HELIX Environmental Planning, Inc. (HELIX) completed this biological technical report for the Bouquet Canyon Project (project), which is proposed by Integral Communities in the City of Santa Clarita (City), Los Angeles County, California. Integral Communities is proposing a residential development and road improvements to Bouquet Canyon Road on an approximately 94-acre study area. The study area is generally located 5.5 miles to the northeast of Interstate 5 and 3.8 miles to the northwest of California State Route 14.

The study area is located in the foothills of the Sierra Pelona Mountains. The topography in the southern and western portions of the study area is predominantly steep hillsides, while the northern portion is primarily flat. Bouquet Canyon Creek flows from east to west in the northern portion of the study area. The steep hills throughout the southern and western portions of the site are predominated by Riversidean upland sage scrub while the flatter portions of the study area are dominated by non-native grassland. HELIX conducted a general biological survey (including vegetation mapping and a general habitat assessment) and a jurisdictional assessment in 2017. Focused surveys for rare plant species, burrowing owl (*Athene cunicularia*; BUOW), and coastal California gnatcatcher (*Poliophtila californica californica*; CAGN) surveys and an oak tree survey were conducted in 2018.

A total of 20 vegetation communities were mapped on the study area. Native communities totaled 29.19 acres, which included big sagebrush scrub, chamise chaparral/non-native grassland, elderberry savanna, Riversidean upland sage scrub, Riversidean upland sage scrub/non-native grassland, scrub oak chaparral, scrub oak chaparral/non-native grassland, southern north slope chaparral, and southern willow scrub/giant reed stand. Elderberry savanna and southern riparian scrub/giant reed stand are considered sensitive communities pursuant to the California Department of Fish and Wildlife (CDFW). A total of 496 slender mariposa lilies (*Calochortus clavatus* var. *gracilis*) were observed throughout the north-facing slopes in the eastern and southern portions of the study area during the rare plant surveys. Eight sensitive animal species were determined to have a potential occur on the study area, including three species with a low potential (California glossy snake [*Arizona elegans occidentalis*], Townsend's big-eared bat [*Corynorhinus townsendii*; foraging only], and southern grasshopper mouse [*Onychomys torridus ramona*]), one species with a moderate potential (California legless lizard [*Anniella* sp.]), four species with a high potential (coastal whiptail [*Aspidoscelis tigris stejnegeri*], coast horned lizard [*Phrynosoma blainvillii*], loggerhead shrike [*Lanius ludovicianus*], and San Diego black-tailed jackrabbit [*Lepus californicus bennettii*]). Two sensitive animal species are presumed absent due to negative focused surveys (BUOW and CAGN). Bouquet Canyon Creek is an ephemeral stream that runs east to west through the northern portion of the study area and is dominated by the invasive grass species giant reed (*Arundo donax*). The study area supports a total of 0.65 acre of U.S. Army Corps of Engineers (USACE)/Regional Water Quality Control Board (RWQCB) waters of the U.S. (WUS) and 9.80 acres of CDFW jurisdictional streambed and associated vegetation. A total of 64 oak trees meet the City's definition of a protected tree, including two coast live oaks (*Quercus agrifolia*), six scrub oaks (*Quercus berberidifolia*), two blue oaks (*Quercus douglasii*), and 54 Tucker oaks (*Quercus john-tuckeri*). The study area is not considered a regional wildlife corridor.

Potential significant impacts were identified for rare plants, BUOW (if present during the take avoidance survey), jurisdictional resources, nesting bird species, and City-protected oak trees. Permanent impacts are proposed to approximately 462 slender mariposa lilies and 28.68 acres of native-dominated vegetation. The project would permanently impact 0.19 acre and temporarily impact 0.46 acre of non-

wetland USACE/RWQCB WUS. The project would also permanently impact 9.33 acres and temporarily impact 0.47 acre of CDFW jurisdictional streambed and associated vegetation (mostly invasive giant reed). Following construction, the majority of the central channel within CDFW jurisdiction will be returned to pre-project topographic contours. The project would permanently remove 26 City-protected oak trees. The proposed project would not impact wildlife corridors or conflict with regional conservation plans.

Measures related to the following topics are proposed herein to fully mitigate potential impacts of the project: rare plants, BUOW, jurisdictional resources, nesting birds, and City-protected oak trees. Successful implementation of these measures would mitigate potential impacts to below a level of significance.

# 1.0 INTRODUCTION

## 1.1 PURPOSE OF THE REPORT

This report provides the City of Santa Clarita (City; California Environmental Quality Act [CEQA] lead agency), resource agencies, and the public with current biological data to satisfy review of the proposed Bouquet Canyon Project (Tentative Tract No. 82126; project) located in the City of Santa Clarita, Los Angeles County, California. The purpose of this report is to document the existing biological conditions on and in the immediate vicinity of the project and provide an analysis of potential impacts to sensitive biological resources with respect to local, state, and federal policy. This report provides the biological resources technical documentation necessary for project review under CEQA by the lead agency.

## 1.2 PROJECT LOCATION

The proposed project is located within an approximately 93.47-acre study area in the Saugus Community in the northern portion of the City. The study area is generally located 5.5 miles to the northeast of Interstate 5 and 3.8 miles to the northwest of California State Route 14 (Figure 1, *Regional Location*). The study area is within Section 6 of Township 4 North, Range 15 West of the Mint Canyon U.S. Geological Survey (USGS) 7.5-minute topographic quadrangle (Figure 2, *USGS Topography*). Specifically, the study area is located directly south of the intersection of David Way and Bouquet Canyon Road (Figure 3, *Aerial Photograph*).

## 1.3 PROJECT DESCRIPTION

The proposed project is a residential development that would consist of a gated community comprising several neighborhoods and common area amenities (Figure 4, *Proposed Project*). The development would consist of private residences and would include a combination of detached single-family lots, auto court detached bungalow units, attached row townhomes, and attached motor court condominiums. The project would also require some slope stabilization in addition to implementing fuel modification zones in accordance with the County of Los Angeles (County) Fire Department regulations (County of Los Angeles 2017). A flood control channel would be constructed to south of existing Bouquet Canyon Creek. Downstream flows within Bouquet Canyon Creek would feed into the flood control channel, which would ultimately tie into the existing concrete-lined portion of Bouquet Canyon Creek to the northwest of the proposed project.

The project would construct a new alignment of Bouquet Canyon Road, which would improve a heavily-traveled route that connects to Copper Hill Drive and the northern portion of the City. The new road alignment would be constructed approximately 1,500 feet north of Plum Canyon Road on the south end to a connection point at the existing Bouquet Canyon Road approximately 700 feet south of Shadow Valley Lane. Construction of the new Bouquet Canyon alignment would implement a portion of the City's General Plan Circulation Element (City of Santa Clarita [City] 2011). The new alignment would include widened lane and shoulder areas, a full-width bridge over Bouquet Canyon Creek, pedestrian walkways, and a multi-use trail accessible to both existing neighborhoods and the proposed development.

## 2.0 METHODS

Project evaluation included a review of project plans; a literature review of biological resources occurring on the study area and surrounding vicinity; a general biological survey, including vegetation mapping and a general habitat assessment; focused surveys for rare plant species, burrowing owl (*Athene cunicularia*; BUOW), and coastal California gnatcatcher (*Polioptila californica californica*; CAGN); an oak tree (*Quercus* spp.) survey; and a jurisdictional assessment. The methods used to evaluate the biological resources present on the study area are discussed in this section.

### 2.1 NOMENCLATURE

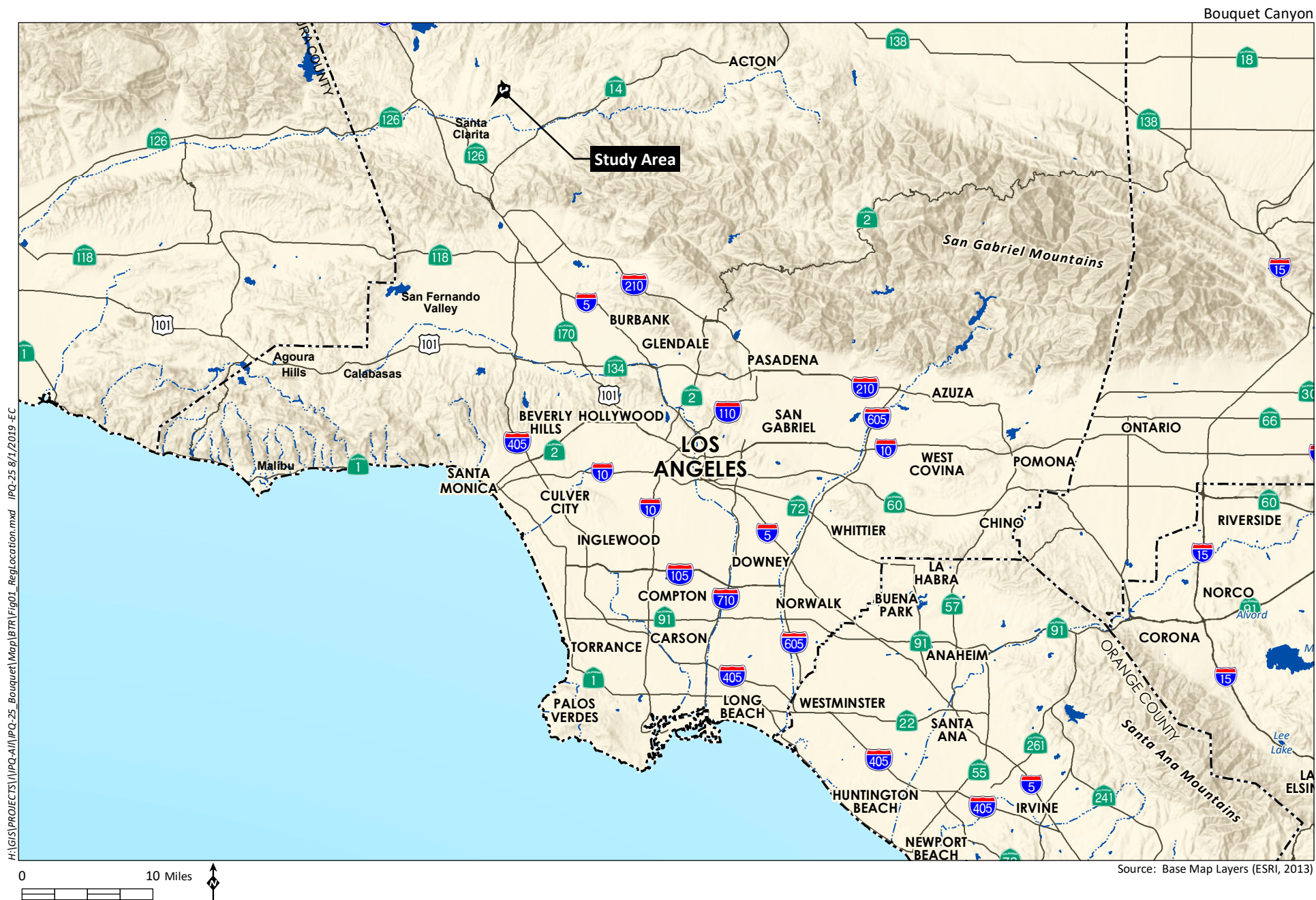
Nomenclature for this report follows Baldwin et al. (2012) for plants. Plant communities were classified in accordance with Holland (1986) and Oberbauer (1996), with additional vegetation community information taken from Manual of California Vegetation, Second Edition (MCV; Sawyer et al. 2009). Animal nomenclature follows Emmel and Emmel (1973) for butterflies, Center for North American Herpetology (Taggart 2016) for reptiles and amphibians, American Ornithologists' Union (2018) for birds, and Baker et al. (2003) for mammals. Rare plant and sensitive animal statuses are from the Inventory of Rare and Endangered Plants of California (California Native Plant Society [CNPS] 2017, 2018) and the California Natural Diversity Database (CNDDB; California Department of Fish and Wildlife [CDFW] 2017, 2018a). Rare plant species' habitats and flowering periods are from the Jepson Manual (Baldwin et al. 2012), the Inventory of Rare and Endangered Plants of California (CNPS 2018), and California Natural Diversity Database (CDFW 2018a). Soil classifications were obtained from the Web Soil Survey (Natural Resources Conservation Service [NRCS] 2017).

### 2.2 LITERATURE REVIEW

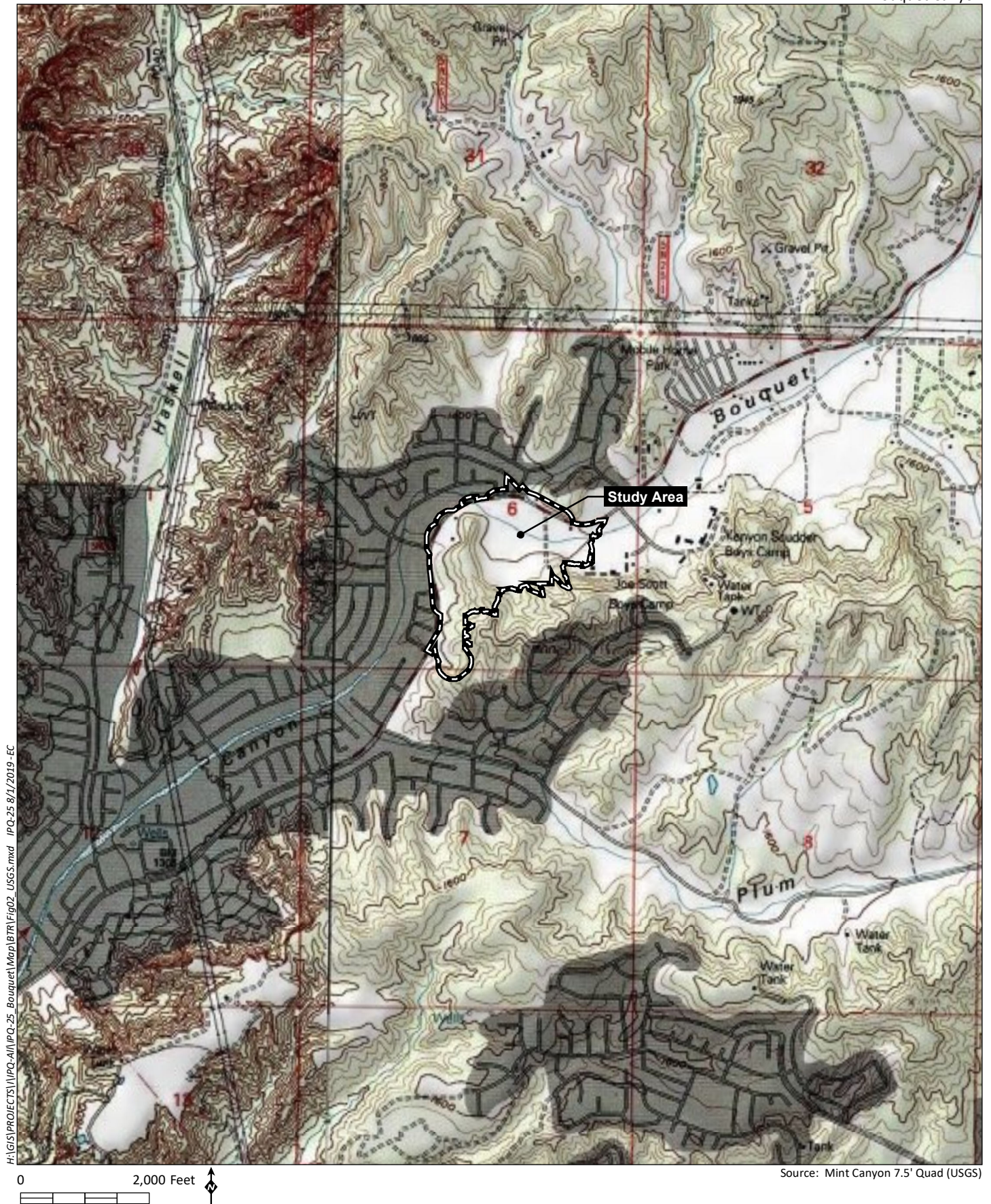
Prior to conducting the site visit, HELIX Environmental Planning, Inc. (HELIX) reviewed regional planning documents, Google Earth aerials (2017), Web Soil Survey (NRCS 2017), and sensitive species database records, including the Inventory of Rare and Endangered Plants of California (CNPS 2017, 2018), CNDDB (CDFW 2017, 2018a), and critical habitat maps for endangered and threatened species (U.S. Fish and Wildlife Service [USFWS] 2017a). A nine-quadrangle database search was conducted on CNDDB and CNPS, which included the following quadrangles: Agua Dulce, Green Valley, Mint Canyon, Newhall, Oat Mountain, San Fernando, Sleepy Valley, Sunland, and Warm Springs Mountain.

### 2.3 FIELD SURVEYS

Field surveys were conducted to document the existing condition of the study area and surrounding lands. A general biological survey and habitat assessment were conducted on the study area to map existing vegetation communities and to determine habitat suitability for sensitive plant and animal species. A list of plant and animal species observed and/or detected during the field surveys are provided as Appendix A, *Plant Species Observed* and Appendix B, *Animal Species Observed and/or Detected*. Noted animal species were identified by direct observation, vocalizations, or the observance of scat, tracks, or other signs. However, the list of animal species identified is not necessarily a comprehensive account of all species that use the study area as species that are nocturnal, secretive, or seasonally restricted may not have been observed. Focused surveys for rare plant species, oak trees, BUOW, and CAGN were conducted. A jurisdictional assessment was also conducted to determine the

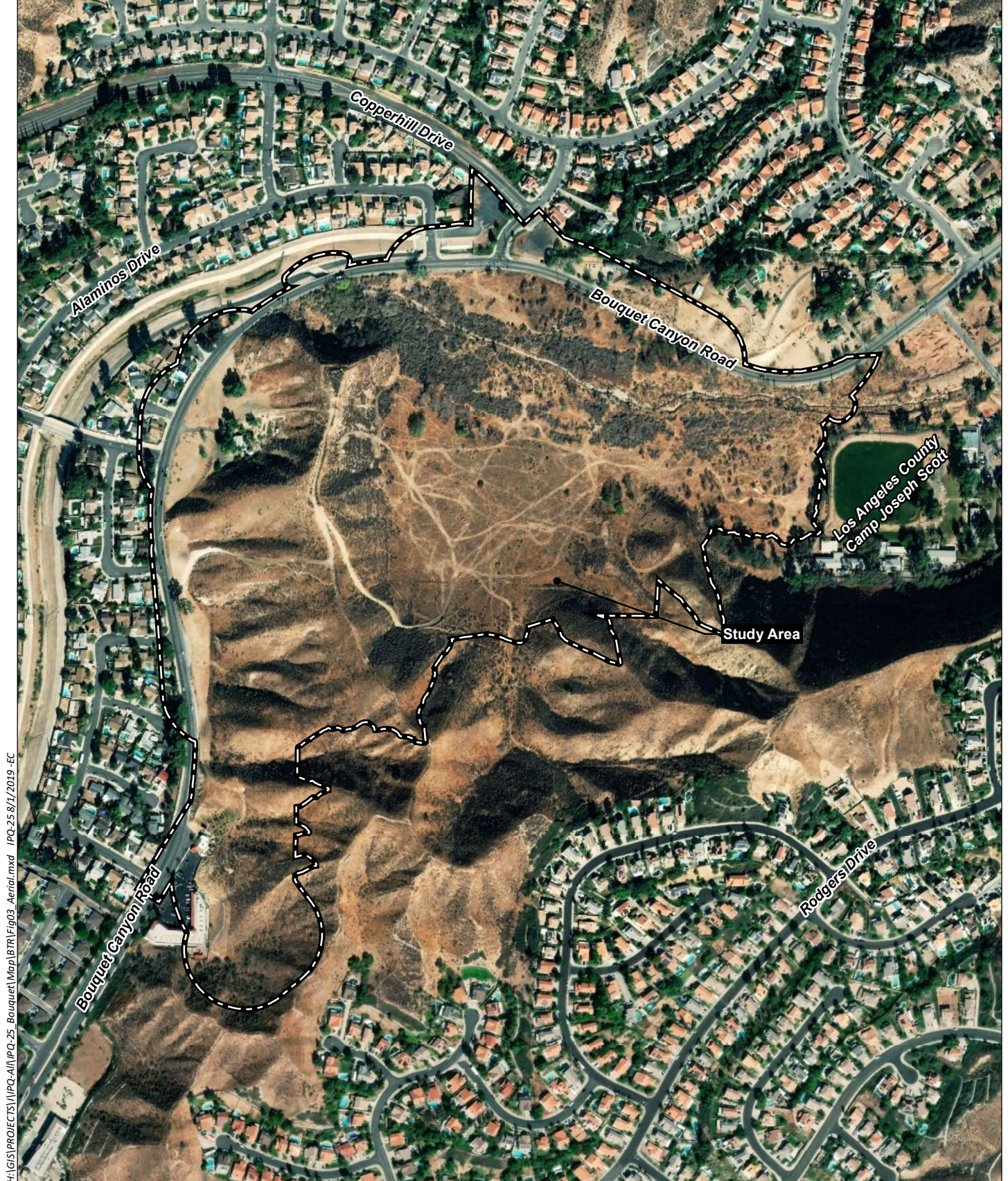






H:\GIS\PROJECTS\IPQ-All\IPQ-25 Bouquet Map\BTR\Fig02 USGS.mxd IPQ-25 8/1/2019 - EC





H:\GIS\PROJECTS\IPQ-25 Bouquet Map\BTR\Fig03 Aerial.mxd IPQ-25 8/1/2019 -EC



Source: Base Map Layers (NAIP, 2016)



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# BOUQUET CANYON

SANTA CLARITA | CALIFORNIA

DATE 01 | 29 | 19



Source: Urban Arena, 2019



existing jurisdictional limits regulated by the U.S. Army Corps of Engineers (USACE), Regional Water Quality Control Board (RWQCB), and CDFW.

### **2.3.1 General Biological Survey**

HELIX Biologist and Regulatory Specialist Ezekiel Cooley and Biologist Lauren Singleton conducted a general biological survey of the study area on June 13, 2017. Vegetation communities were classified and mapped in accordance with Holland (1986) and Oberbauer (1996). Vegetation was mapped on a 125-foot (1 inch = 125 feet) aerial photograph of the site. Vegetation communities were mapped by HELIX to one-hundredth of an acre (0.01 acre). The entire site was surveyed on foot with the aid of binoculars. Representative photographs of the site were taken, with select photographs included in this report as Appendix C, *Representative Site Photographs*. Plant and animal species observed or otherwise detected were recorded in field notebooks. Animal identifications were made in the field by direct, visual observation or indirectly by detection of calls, burrows, tracks, or scat. Plant identifications were made in the field or in the lab through comparison with voucher specimens or photographs.

### **2.3.2 Rare Plant Species Surveys**

Rare plants investigated include those that are listed as threatened or endangered by USFWS or CDFW and those afforded a California Rare Plant Rank (CRPR) of 1 through 3 by CNPS.

Mr. Cooley, Ms. Singleton, and HELIX Biologist Daniel Torres conducted spring rare plant surveys on May 15, 2018 and May 9, 2019, and a summer rare plant survey on August 8, 2018. The surveys were conducted in accordance with published agency guidelines (CDFW 2009, 2000; USFWS 2000) and during the appropriate flowering period to maximize the detection of those rare plant species with the potential occur on the study area. Survey methods incorporated a combination of meandering transects and focused searches in areas with the greatest potential to support rare plant species with the potential to occur on the study area. If observed, individual rare plants were mapped using a handheld Global Positioning System (GPS) unit. HELIX also recorded any rare plant species incidentally encountered during other field surveys.

### **2.3.3 Burrowing Owl**

A habitat assessment was conducted on the study area by Ms. Singleton and Mr. Torres on March 27, 2018, to identify areas with potential BUOW habitat and eliminate those that did not contain habitat suitable to support the species. A focused burrow survey was conducted concurrently with the habitat assessment. All suitable burrows (i.e., greater than approximately four inches [11 cm] in height and width and greater than approximately 59 inches [50 cm] in depth) and burrow surrogates were recorded using a handheld GPS unit. The assessment was conducted on the study area and included an approximately 500-foot (150-m) buffer zone around the periphery of the study area. The study area was determined to support suitable BUOW habitat and burrows; therefore, a focused survey was conducted as described below.

A focused survey for BUOW was conducted between April 13 and June 26, 2018, by Mr. Cooley. The survey consisted of four breeding season (February 1 through August 31) surveys that were performed in accordance with the current CDFW survey guidelines (California Department of Fish and Game [CDFG] 2012). The surveys were spaced at least three weeks apart, with at least one survey conducted between February 15 and April 15 and one survey conducted between June 15 and July 15. Biologists visually

searching for BUOW sign and individuals with the aid of binoculars by slowly walking meandering transects spaced no more than 65 feet (20 meters) apart through areas of potential habitat. Fence posts, rocks, and other possible perching locations as well as mammal burrows (especially those of California ground squirrel [*Otospermophilus beecheyi*]) potentially suitable for use by BUOW were inspected. Burrows were searched for sign of recent BUOW occupation, including pellets with regurgitated fur, bones, and insect parts; white wash (excrement); tracks; and feathers. If observed, BUOW sign and/or individuals were recorded with a handheld GPS unit. The findings for the BUOW survey are included as Appendix D, *Burrowing Owl Focused Survey Report*.

### 2.3.4 Coastal California Gnatcatcher

A focused survey for CAGN was conducted between March 15 and June 30 by HELIX Biologist Tara Baxter (TE 87004B-0) in accordance with the current USFWS protocols (USFWS 1997). The survey consisted of six breeding season (February 15 through August 30) surveys conducted at least one week apart between March 15 and June 30. The CAGN survey area encompassed suitable habitat and a 100-foot buffer area. The CAGN survey area totaled approximately 33 acres of potential CAGN habitat within the survey area, which comprised big sagebrush scrub, Riversidean upland sage scrub, Riversidean upland sage scrub/non-native grassland, and adjacent habitat.

The surveys were conducted by walking within and along the perimeter of suitable CAGN habitat. The survey route was arranged to ensure complete survey coverage of habitat with potential for occupancy by CAGN. Surveys were conducted with binoculars to aid in bird detection. Recorded CAGN vocalizations were played sparingly and only if other means of detection had failed. If a CAGN was detected before playing recorded vocalizations, the recordings were not played. Once CAGNs were initially detected in an area, use of playback was discontinued. The CAGN survey findings are documented in a separate letter report included as Appendix E, *Coastal California Gnatcatcher Focused Survey Report*.

### 2.3.5 Jurisdictional Assessment

Prior to beginning fieldwork, aerial photographs (1 inch = 75 feet), topographic maps (1 inch = 75 feet), USGS quadrangle maps, and National Wetlands Inventory maps (USFWS 2017b) were reviewed to assist in determining the location of potential jurisdictional waters on the study area. Mr. Cooley and HELIX Principal Regulatory Specialist Amir Morales conducted the jurisdictional assessment field work on July 6, 2017. The assessment was conducted to identify and jurisdictional waters potentially subject to USACE jurisdiction pursuant to Section 404 of the Clean Water Act (CWA), RWQCB jurisdiction pursuant to Section 401 of the CWA, and streambed habitats potentially subject to CDFW jurisdiction pursuant to Sections 1600 *et seq.* of the California Fish and Game (CFG) Code. Data collection was targeted in areas that were deemed to have the potential to support jurisdictional resources, such as the presence of an ordinary high water mark (OHWM), the presence of a bed/bank and streambed associated vegetation and/or other surface indications of streambed hydrology. Representative photographs were taken of the drainage features and are included as Appendix F, *Representative Drainage Photographs*. The findings of the jurisdictional assessment are included as Appendix G, *Jurisdictional Delineation Report*.

#### 2.3.5.1 U.S. Army Corps of Engineers and Regional Water Quality Control Board Jurisdiction

The USACE waters of the U.S. (WUS) were determined using current USACE guidelines (Environmental Laboratory 1987, USACE 2008a). Areas were determined to be WUS if there was evidence of regular

surface flow (e.g., bed and bank). Jurisdictional limits for these areas were measured according to the presence of a discernible OHWM, which is defined in 33 Code of Federal Regulations Section 329.11 as “that line on the shore established by the fluctuations of water and indicated by physical characteristics such as a clear, natural line impressed on the bank; shelving; changes in the character of the soil; destruction of terrestrial vegetation; the presence of litter or debris; or other appropriate means that consider the characteristics of the surrounding areas.” The USACE has issued further guidance on the OHWM (Riley 2005; USACE 2008b), which also was considered in this jurisdictional assessment.

The jurisdictional delineation was conducted in accordance with court decisions (i.e., *Rapanos v. United States*, *Carabell v. United States*, and *Solid Waste Agency of Northern Cook County v. USACE*), as outlined and applied by the USACE (USACE 2007; Grumbles and Woodley 2007); the USACE and U.S. Environmental Protection Agency (EPA; 2007), and the 2015 Clean Water Rule (USACE 2015). These publications explain that the EPA and USACE will assert jurisdiction over traditional navigable waters (TNW) and tributaries to TNWs that are a relatively permanent water body (RPW), which has year-round or continuous seasonal flow. For water bodies that are not RPWs, a significant nexus evaluation is used to determine if the non-RPW is jurisdictional. As an alternative to the significant nexus evaluation process, a preliminary jurisdictional delineation may be submitted to the USACE. The preliminary jurisdictional delineation treats all waters and wetlands on a site as if they are jurisdictional WUS (USACE 2008a). A significant nexus evaluation or preliminary jurisdictional delineation are typically only required for projects that propose impacts to potentially jurisdictional features and, therefore, require a Section 404 permit from the USACE.

The RWQCB asserts regulatory jurisdiction over activities affecting wetland and non-wetland waters of the State pursuant to Section 401 of the CWA and the State Porter-Cologne Water Quality Control Act. Potential RWQCB jurisdiction found within the study area follows the boundaries of potential USACE jurisdiction for WUS. There are no areas supporting isolated waters of the State subject to exclusive RWQCB jurisdiction pursuant to the State Porter-Cologne Water Quality Control Act.

### **2.3.5.2 California Department of Fish and Wildlife Jurisdiction**

The CDFW jurisdictional boundaries were determined based on the presence of riparian vegetation or regular surface flow, if present. Streambeds within CDFW jurisdiction were delineated based on the definition of streambed as “a body of water that flows at least periodically or intermittently through a bed or channel having banks and supporting fish or other aquatic life. This includes watercourses with surface or subsurface flow that supports riparian vegetation” (Title 14, Section 1.72). This definition for CDFW jurisdictional habitat allows for a wide variety of habitat types to be jurisdictional, including some that do not include wetland species (e.g., oak woodland and alluvial fan sage scrub). Jurisdictional limits for CDFW streambeds were defined by the top of bank. Vegetated CDFW habitats were mapped at the limits of streambed-associated vegetation, if present.

### **2.3.6 Oak Tree Survey**

An oak tree survey was conducted by Mr. Cooley and Mr. Torres (International Society of Arboriculture [ISA] WE-12249) on December 19 and 20, 2018 to identify oak trees that are protected under the City’s Oak Tree Preservation ordinance (Title 17, Chapter 51, Section 40; City of Santa Clarita [City] 1990). Under these guidelines, all oak trees in the genus *Quercus* at least six inches in circumference measured at 4.5 feet above the natural grade are protected by the City. Heritage oak trees are given special consideration and may be fully protected or subject to requirements stricter than those of a standard

protected oak tree. A heritage oak tree is defined as any oak tree measuring 108 inches in circumference measured at 4.5 feet above the tree's natural grade. In the case of trees with multiple trunks, two or more trunks must measure 72 inches each or greater in circumference when measured at 4.5 feet above the tree's natural grade.

All oak trees within the survey area that satisfied the previously mentioned criteria were identified to species. An aluminum tag with a unique number was affixed to the north side of each tree at approximately three feet above natural grade, with the exception of those trees located outside of the study area where the Applicant does not own the property. The location of each individual tree and the canopy extent were recorded with a GPS with sub-meter accuracy. Physical and horticultural evaluations were performed for each tree according to the City's Oak Tree Preservation and Protection Guidelines (City 1990). The rating system is outlined below in Table 1, *Oak Tree Rating System*. The findings of the oak tree survey are included as Appendix H, *Oak Tree Survey Report*.

**Table 1**  
**OAK TREE RATING SYSTEM**

Rating	Description
A – Outstanding	A healthy and vigorous tree characteristic of its species and reasonably free of any visible signs of stress, disease, or pest infestation.
B – Above Average	A healthy and vigorous tree with minor visible signs of stress, disease, or pest infestation.
C – Average	Although healthy in overall appearance there is an abnormal amount of stress or disease and/or pest infestation.
D – Below Average/Poor	This tree is characterized by exhibiting a greater degree of stress, disease, and/or pest infestation than normal and appears to be in a state of rapid decline. The degree of decline may vary greatly in signs of dieback, disease, and pest infestation and appears to be in an advanced state of decline.
F – Dead	This tree exhibits no signs of life whatsoever.

Source: City of Santa Clarita (1990)

## 3.0 RESULTS

### 3.1 ENVIRONMENTAL SETTING

The study area is located in the foothills of the Sierra Pelona Mountains and portions were historically used as school, ranch, and hog farm from the early 1900s through the 1970s (Historic Aerials 1948). The

topography in the southern and western portions of the study area is predominantly steep hillsides, while the northern portion is primarily flat. The steep hills throughout the southern and western portions of the site are predominated by Riversidean upland sage scrub while the flatter portions of the study area are dominated by non-native grassland due to historic disturbance from ranching activities. Bouquet Canyon Creek flows from east to west in the northern portion of the study area. Elevations on the study area range from approximately 1,365 feet above mean sea level (AMSL) near the western boundary of the study area to approximately 1,600 feet above AMSL near the southeastern corner. Seven soil types are mapped on the study area, including Hanford sandy loam (HcC), Metz loam sandy (MfA), Mocho loam (MpA), Ojai loam (OgF), Saugus loam (ScF2), Sorrento loam (SsA), and Yolo loam (YoC; NRCS 2017).

Immediate surrounding land uses include existing residential development to the north and west, a mixture of undeveloped land and residential development to the south, and a juvenile camp (Los Angeles County Camp Joseph Scott) to the east. The study area is located approximately 0.20 mile to the southeast of Haskell Canyon Open Space and 1.40 miles to the south of Angeles National Forest.

### 3.2 VEGETATION COMMUNITIES

A total of 20 vegetation communities were mapped on the study area (Table 2, *Vegetation Communities*, Figure 5, *Vegetation*). The Holland/Oberbauer Element Codes and CDFW CaCodes are provided in parentheses next to each MCV community name in Table 2. Sensitive habitats pursuant to CDFW's Natural Communities List (2018b) are also identified in Table 2. A brief description of each vegetation community and land uses mapped on the study area is provided below.

**Table 2**  
**VEGETATION COMMUNITIES**

Habitat Type (Holland/Oberbauer)	Habitat Type (Manual of California Vegetation)	Acres
Big Sagebrush Scrub (H <sup>1</sup> 35210)	Big Sagebrush (35.110.02)	1.91
Chamise Chaparral (H 37200)/Non-native Grassland (H 42200)	Chamise Chaparral (37.101.16)/Red Brome Grasslands (42.024.02)	2.98
Developed (O <sup>2</sup> 12000)	Developed (N/A)	9.37
Disturbed (O 11300)	Disturbed (N/A)	5.32
Disturbed-Riversidean Upland Sage Scrub	Disturbed-California Buckwheat Scrub	0.62
Elderberry Savanna (H 63430)	Blue Elderberry Stands (63.410.00) <sup>3</sup>	0.56
Giant Reed Stand (O 65100)	Giant Reed Breaks (42.080.01)	7.08
Mule Fat Scrub (H 63310)	Mule Fat Thickets (63.510.01)	0.27
Non-native Grassland (H 42200)	Red Brome Grasslands (42.024.02)	22.06
Non-native Grassland (H 42200)/ Riversidean Upland Sage Scrub (H 32710)	Red Brome Grasslands (42.024.02)/California Sagebrush Scrub (32.010.01)	7.75
Non-native Vegetation (O 42210)	Upland Mustards (42.011.05)	8.06
Non-native Vegetation (O 42210)/ Elderberry Savanna (H 63430)	Red Brome Grasslands (42.024.02)/Blue Elderberry Stands (63.410.00)	0.97
Ornamental (N/A)	Ornamental (N/A)	2.69
Riversidean Upland Sage Scrub (H 32710)	California Sagebrush Scrub (32.010.01)	7.06
Riversidean Upland Sage Scrub (H 32710)/Non-native Grassland (H 42200)	California Sagebrush Scrub (32.010.01)/Non-native Grassland	13.10
River Wash (O 64140)	River Wash (N/A)	0.36
Scrub Oak Chaparral (H 37900)	Scrub Oak Chaparral (37.407.02)	0.26

**Table 2 (cont.)**  
**VEGETATION COMMUNITIES**

<b>Habitat Type (Holland/Oberbauer)</b>	<b>Habitat Type (Manual of California Vegetation)</b>	<b>Acres</b>
Scrub Oak Chaparral (H 37900)/Non-native Grassland (H 42200)	Scrub Oak Chaparral (37.407.02)/Red Brome Grasslands (42.024.02)	2.01
Southern North Slope Chaparral (H 37E20)	Tucker Oak Chaparral (37.418.04)	0.34
Southern Willow Scrub (H 63320)/Giant Reed Stand (O 65100)	Red Willow Thickets (61.205.01) <sup>3</sup>	0.70
<b>TOTAL</b>		<b>93.47</b>

<sup>1</sup> Holland Element Code

<sup>2</sup> Oberbauer Element Code

<sup>3</sup> Sensitive habitats pursuant to the California Department of Fish and Wildlife (CDFW) Natural Communities List (2018b).

### 3.2.1 Big Sagebrush Scrub

Big sagebrush scrub comprises mostly soft-woody shrubs usually with bare ground underneath and between the shrubs. This vegetation community occurs on a wide variety of soils and terrain, from rocky, well-drained slopes to fine-textured valley soils with high water tables. Big sagebrush scrub usually occurs between 4,000 feet and 9,000 feet in scattered localities within and along the margins of the Mojave and Sonoran deserts, on desert mountain ranges. Great Basin sagebrush (*Artemisia tridentata*) is the dominant plant species.

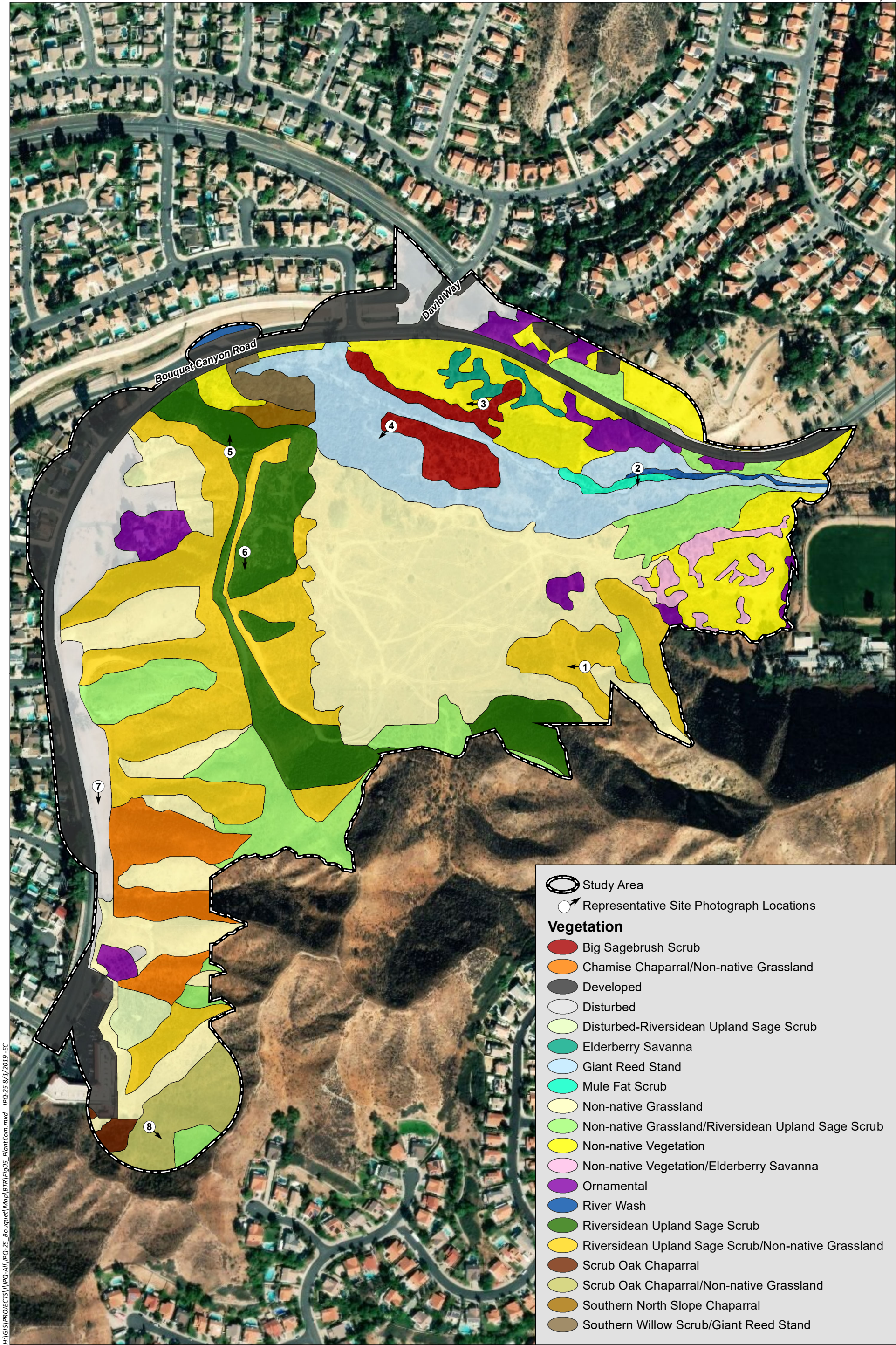
Big sagebrush scrub totaled 1.91 acres and was observed adjacent to portions of Bouquet Canyon Creek. This plant community was dominated by big sagebrush with scattered non-native species in the understory, including giant reed (*Arundo donax*), Mediterranean grass (*Schismus barbatus*), and short-pod mustard (*Hirschfeldia incana*).

### 3.2.2 Chamise Chaparral/Non-native Grassland

Chamise chaparral is the most widely distributed chaparral shrub and is dominated by the species chamise (*Adenostoma fasciculatum*). This vegetation community is found from Baja to northern California in pure or mixed stands. Chamise chaparral's ubiquitous distribution may be the result of chamise being the only chaparral species that regenerates from fire from both an underground root crown and the production of seeds. This community can be found on variable landforms, but soils are usually fairly shallow over bedrock. Chamise chaparral often dominates at low elevations and on xeric south facing slopes with 60 to 90 percent canopy cover. Along its lower elevation limit, chamise chaparral intergrades with coastal sage scrub. Mission manzanita (*Xylococcus bicolor*) and black sage (*Salvia mellifera*) are minor plant species associated within this vegetation community.

Chamise chaparral/non-native grassland was observed on some of the steep north-facing slopes in the southwestern portion of the study area, totaling 2.98 acres. Chamise was the dominant shrub observed in this community. The shrubs were fairly well-spaced with understory comprising many non-native grassland species (see Section 3.2.10 below). A few other native shrubs were observed in this community, including California buckwheat (*Eriogonum fasciculatum*), chaparral mallow (*Malacothamnus fasciculatus*), and Tucker oak (*Quercus john-tuckeri*).





Source: Base Map Layers (NAIP, 2016)

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### **3.2.3 Developed**

Developed land is where permanent structures and/or pavement have been placed, which prevents the growth of vegetation, or where landscaping is clearly tended and maintained.

Developed areas were observed near the northern and western study area boundaries, totaling 9.37 acres. The developed areas consisted of the existing Bouquet Canyon Road right-of-way.

### **3.2.4 Disturbed**

Disturbed habitat includes land cleared of vegetation (e.g., dirt roads) or actively maintained or heavily disturbed areas that are mostly unvegetated but may support scattered non-native plant species, such as ornamentals or ruderal exotic species that take advantage of disturbance. Disturbed habitat is similar to the non-native vegetation community described below (see Section 3.2.11), although disturbed areas generally support little to no vegetative cover.

Disturbed habitat was observed adjacent to Bouquet Canyon Road along the northern and western study area boundary, totaling 5.32 acre. The disturbed habitat mainly consisted of fuel modification areas for existing adjacent residential homes and were mostly void of vegetation.

### **3.2.5 Disturbed/Riversidean Upland Sage Scrub**

This community is dominated by disturbed habitat described in Section 3.2.4 above and is intermixed with species associated with Riversidean upland sage scrub described in Section 3.2.14 below.

Disturbed/Riversidean upland sage scrub was observed in the southern portion of the study area, totaling 0.62 acre. This community consisted of widely-spaced California buckwheat shrubs. The interstitial spaces between the shrubs were mostly unvegetated due to fuel modification that was implemented for the adjacent shopping center.

### **3.2.6 Elderberry Savanna**

Elderberry savanna is dominated by widely-spaced blue elderberry (*Sambucus nigra* ssp. *caerulea*) with a grassy understory. This plant community is associated with stream terraces and bottomlands, which may be intermittently flooded.

One small patch of elderberry savanna was observed adjacent to the northern study area boundary, totaling 0.56 acre. This plant community was dominated by blue elderberry trees in the overstory and California buckwheat and short-pod mustard (*Hirschfeldia incana*) in the understory.

### **3.2.7 Giant Reed Stand**

Giant reed stand occurs within sandy or gravelly soils that are deposited near stream channels during flood events and are densely vegetated by giant reed. These dense stands generally exclude most other plant life. This community typically associated with riparian areas along low-gradient streams and in ditches.

The giant reed stands on the study area were densely vegetated by giant reed, and the community totaled 7.08 acres on the study area. Native species, such as thick-leaved yerba santa (*Eriodictyon*



*crassifolium*), fourwing saltbush (*Atriplex canescens*), and caterpillar phacelia (*Phacelia cicutaria*), were observed within the openings of this plant community. One Fremont cottonwood (*Populus fremontii* ssp. *fremontii*) was also observed in this community. Non-native species observed within these openings included prickly lettuce (*Lactuca serriola*), red brome (*Bromus madritensis* ssp. *rubens*), short-pod mustard, and tree tobacco (*Nicotiana glauca*).

### 3.2.8 Mule Fat Scrub

Mule fat scrub is a shrubby riparian scrub community dominated by mule fat (*Baccharis salicifolia*) interspersed with small willows. This early seral community is dominated by frequent flooding, the absence of which would lead to a cottonwood or sycamore dominated woodland or forest. In some environments, limited hydrology may favor the persistence of mule fat.

The study area supports one patch of mule fat scrub along Bouquet Canyon Creek in the northeastern corner of the study area, which totaled 0.27 acre. In addition to mule fat, other species observed included California sagebrush (*Artemisia californica*) with and understory of non-native species such as Jersey cudweed (*Pseudognaphalium luteo-album*), red brome (*Bromus madritensis* ssp. *rubens*), common ripgut grass (*Bromus diandrus*), and short-podded mustard.

### 3.2.9 Non-native Grassland

Non-native grassland is a dense to sparse cover of annual grasses, often associated with numerous species of showy-flowered native annual forbs. Characteristic species include oats (*Avena* spp.), brome grasses (*Bromus* spp.), and mustards (*Brassica* spp., *Hirschfeldia incana*). Most of the annual introduced species within the non-native grassland originated from the Mediterranean region, an area with a long history of agriculture and a climate similar to California. Intensive grazing and agricultural practices combined with severe droughts in California contributed to the successful invasion and establishment of these species and the replacement of native grasslands with annual-dominated non-native grasslands (Jackson 1985).

Non-native grassland is the predominant plant community observed on the study area, totaling 22.06 acres. This community was observed in the flatter portions of the study area, including the valleys in the center and western parts of the study area. This plant community consisted most of red brome. Other non-native grass species included common ripgut grass, Mediterranean grass, and oats. A few annual native species were also observed within these areas, including common sandaster (*Corethrogyne filaginifolia*), fascicled tarplant (*Deinandra fasciculata*), and Menzies' fiddleneck (*Amsinckia menziesii*) and.

### 3.2.10 Non-native Grassland/Riversidean Upland Sage Scrub

This community is dominated by non-native grassland described in Section 3.2.9 above and is intermixed with some species associated with Riversidean upland sage scrub described in Section 3.2.14 below.

Non-native grassland/Riversidean upland sage scrub was observed on some of the south- and southwest-facing slopes in the southern portion of the study area, totaling 7.75 acres. This community was dominated by non-native grasses with widely-spaced California buckwheat shrubs.

### 3.2.11 Non-native Vegetation

Non-native vegetation community is typically associated with land that has been heavily influenced by human activities, including areas adjacent to roads, manufactured slopes, and abandoned lots. Non-native vegetation areas are dominated by ornamental and non-native species that take advantage of previously cleared or abandoned landscaping or land showing signs of past or present animal usage that removes any capability of providing viable habitat.

Non-native vegetation was observed in several patches within the study area, totaling 8.06 acres. These areas were dominated by short-podded mustard with other scattered non-native species such as annual yellow sweetclover (*Melilotus indicus*), foxtail barely (*Hordeum murinum*), red brome, and redstem filaree (*Erodium cicutarium*).

### 3.2.12 Non-native Vegetation/Elderberry Savanna

This community is dominated by non-native herbaceous species described in Section 3.2.11 above and is intermixed with some species associated with elderberry savanna described in Section 3.2.6 above.

Non-native vegetation/elderberry savanna was observed as scattered patches in the eastern portion of the study area, totaling 0.97 acre. This community was dominated by mustard with widely-spaced blue elderberry shrubs.

### 3.2.13 Ornamental

Ornamental vegetation is characterized as stands of naturalized trees and shrubs, many of which are also used in landscaping.

Ornamental vegetation was observed in small patches throughout the study area, totaling 2.69 acres. Most of the ornamental vegetation was associated with existing development adjacent to the study area, such as Bouquet Canyon Road, residences, and commercial businesses. Ornamental species observed included black locust (*Robinia pseudoacacia*), chinaberry (*Melia azedarach*), blue gum (*Eucalyptus globulus*), Italian cypress (*Cupressus sempervirens*), river red gum (*Eucalyptus camaldulensis*), silver dollar gum (*Eucalyptus polyanthemus*), and tree of heaven (*Ailanthus altissima*).

### 3.2.14 Riversidean Upland Sage Scrub

Riversidean sage scrub is the most xeric expression of coastal sage scrub south of Point Conception, California. This community occupies xeric sites, such as steep slopes, severely drained soils, or clays that slowly release stored soil moisture. This community is dominated by subshrubs with leaves that are deciduous during drought, an adaptation that allows the habitat to withstand the prolonged drought period in the summer and fall. Sage scrub species have relatively shallow root systems and open canopies that allow for the occurrence of a substantial herbaceous (annual plant) component. Typical stands are fairly open and dominated by species such as California sagebrush, brittlebush (*Encelia farinosa*), and California buckwheat.

Several patches of Riversidean upland sage scrub were observed on the east- and north-facing hillsides in the western portion of the study area, totaling 7.06 acres. In addition to California sagebrush and California buckwheat, other native shrubs included black sage, basket-brush (*Rhus aromatica*), purple sage (*Salvia leucophylla*), chaparral mallow, and Our Lord's candle (*Hesperoyucca whipplei*). Native

annuals included common goldenstar (*Bloomeria crocea*), elegant clarkia (*Clarkia unguiculata*), gilia (*Gilia angelensis*), and Menzies' fiddleneck.

### **3.2.15 Riversidean Upland Sage Scrub/Non-native Grassland**

This community is dominated by species associated with the Riversidean upland sage scrub community described above in Section 3.2.7 above with a significant component of species associated with non-native grassland described in Section 3.2.9 above.

Riversidean upland sage scrub/non-native grassland was observed on the north-facing hillsides in the western portion of the study area, totaling 13.10 acres. This community mostly consisted of California sagebrush and California buckwheat shrubs, but contributed less cover than those observed in the Riversidean upland sage scrub community. The understory was made up mostly of non-native brome grasses, such as red brome and common ripgut grass.

### **3.2.16 River Wash**

River wash is mostly unvegetated streambed that typically consists of coarse-textured substrate, which ranges from sand to gravel. The coarse-textured substrate is transported and deposited by stream flows.

River wash was observed in the upstream portion of Bouquet Canyon, totaling 0.36 acre. The river wash consisted of mostly unvegetated sandy streambed. Some thick-leaved yerba santa and non-native grasses were scattered throughout this area.

### **3.2.17 Scrub Oak Chaparral**

Scrub oak chaparral is a dense, evergreen chaparral with shrubs up to 20 feet tall and is dominated by scrub oak (*Quercus berberidifolia*) with considerable mountain mahogany (*Cercocarpus betuloides*). Scrub oak chaparral occurs in somewhat more mesic areas than other chaparrals, such as north facing slopes, and recovers more rapidly from fires than other chaparrals due to resprouting capabilities of scrub oak (Holland 1986). This vegetation community often occurs at slightly higher elevations (to 5,000 feet) and substantial leaf litter accumulates.

Two small areas of scrub oak chaparral were observed on a steep north-facing slope in the southwestern corner of the study area, totaling 0.26 acre. Scrub oak was the dominant shrub species while the understory consisted of non-native brome grasses.

### **3.2.18 Scrub Oak Chaparral/Non-native Grassland**

This community is dominated by species associated with the scrub oak chaparral community described above in Section 3.2.17 above with a significant component of species associated with non-native grassland described in Section 3.2.9 above.

Scrub oak chaparral/non-native grassland was observed on the north-facing hillsides in the western portion of the study area, totaling 13.10 acres. This community mostly consisted of scrub oak, but contributed less cover than those observed in the scrub oak chaparral. The understory was made up mostly of non-native brome species, such as red brome and common ripgut grass. The study area supports one patch of scrub oak chaparral/non-native grassland totaling 2.01 acres adjacent to the southern corner of the study area.

### 3.2.19 Southern North Slope Chaparral

Southern north slope chaparral is generally a mixed chaparral community on more mesic, shady slopes with well-drained soil. Codominant species or minor components of this plant community may include chamise, manzanita (*Arcostaphylos* spp.), California lilac (*Ceanothus* spp.), and basket-bush.

One patch of southern north slope chaparral was observed on the upper portion of a north-facing slope near the northwestern corner of the study area, totaling 0.34 acre. Tucker oak was the dominant shrub in this plant community. Other species observed included basket-bush, California bee plant (*Scrophularia californica*), and chamise. The understory of this plant community comprised non-native grasses.

### 3.2.20 Southern Willow Scrub/Giant Reed Stand

Southern willow scrub consists of dense, broad-leaved, winter-deciduous stands of trees dominated by shrubby willows (*Salix* spp.) in association with mule fat and with scattered emergent Fremont cottonwood and western sycamores (*Platanus racemosa*). This vegetation community occurs on loose, sandy or fine gravelly alluvium deposited near stream channels during flood flows. Frequent flooding maintains this early seral community, preventing succession to a riparian woodland or forest (Holland 1986). In the absence of periodic flooding, this early seral type would be succeeded by southern cottonwood or western sycamore riparian forest.

The study area supports one patch of southern riparian scrub/giant reed stand located along in the downstream (western) portion of Bouquet Canyon Creek, totaling 0.70 acre. Red willow (*Salix laevigata*) dominated the canopy in this community with a strong presence of giant reed in the understory. The canopy also included a few dying Fremont cottonwoods and scattered patches of mule fat were observed in the shrub layer.

## 3.3 PLANTS

HELIX identified a total of 151 plant species within the study area during surveys to date, of which 53 (35 percent) are non-native species (Appendix A).

## 3.4 ANIMALS

A total of 45 animal species were identified on the study area during biological surveys, including one reptile species, 40 bird species, and four mammal species (Appendix B).

## 3.5 SENSITIVE BIOLOGICAL RESOURCES

### 3.5.1 Rare Plant Species

Rare plant species are uncommon or limited in that they: (1) are only found in the Santa Clarita region; (2) are a local representative of a species or association of species not otherwise found in the region; or (3) are severely depleted within their ranges or within the region. Rare plant species include those species listed by CNPS with a CRPR of 1, 2, or 3 or federally and state listed endangered and threatened species. Species with CRPR of 4 may be considered rare if a population is locally uncommon, at the periphery of the species' range, sustained heavy losses, shows unusual morphology, or occurs on

unusual substrates (CNPS 2019). Focused surveys concentrated on the identification of CRPR 1, 2, and 3 species.

A total of eight rare plant species were recorded within the Mint Canyon quadrangle database search conducted on CNDDDB (CDFW 2018a) and CNPS (2018). These species are included in Appendix I, *Rare Plant Species Potential to Occur*. Of the eight rare plant species recorded within the vicinity of the study area, four species were considered to have no potential to occur on the study area based on elevation range and/or lack of suitable habitat on the study area. The remaining four species were considered to have a potential to occur on the study area, primarily based on the presence of chaparral and coastal scrub habitats (see Appendix I). These species include Nevin's barberry (*Berberis nevinii*), slender mariposa lily (*Calochortus clavatus* var. *gracilis*), slender-horned spineflower (*Dodecahema leptoceras*), and Piute Mountains navarretia (*Navarretia setiloba*).

Spring rare plant surveys were conducted on May 15, 2018 and May 9, 2019, and a summer rare plant survey was conducted on August 8, 2018. Nevin's barberry, slender-horned spineflower, and Piute Mountains navarretia were not observed during the rare plant surveys and are therefore presumed absent from the study area. A total of 496 slender mariposa lilies were observed throughout the north-facing slopes in the eastern and southern portions of the study area during the spring rare plant survey (Figure 6, *Impacts to Rare Plants*).

### 3.5.2 Sensitive Animal Species

Sensitive animal species include federally and state listed endangered and threatened species, candidate species for listing by USFWS or CDFW, and/or are species of special concern (SSC) pursuant to CDFW.

A total of 15 sensitive animal species were recorded within the Mint Canyon database search conducted on CNDDDB (CDFW 2018a). These species are included in Appendix J, *Sensitive Animal Species Potential to Occur*. An evaluation of each sensitive animal species' potential to occur on the study area is also provided in Appendix J and discussed in further detail below.

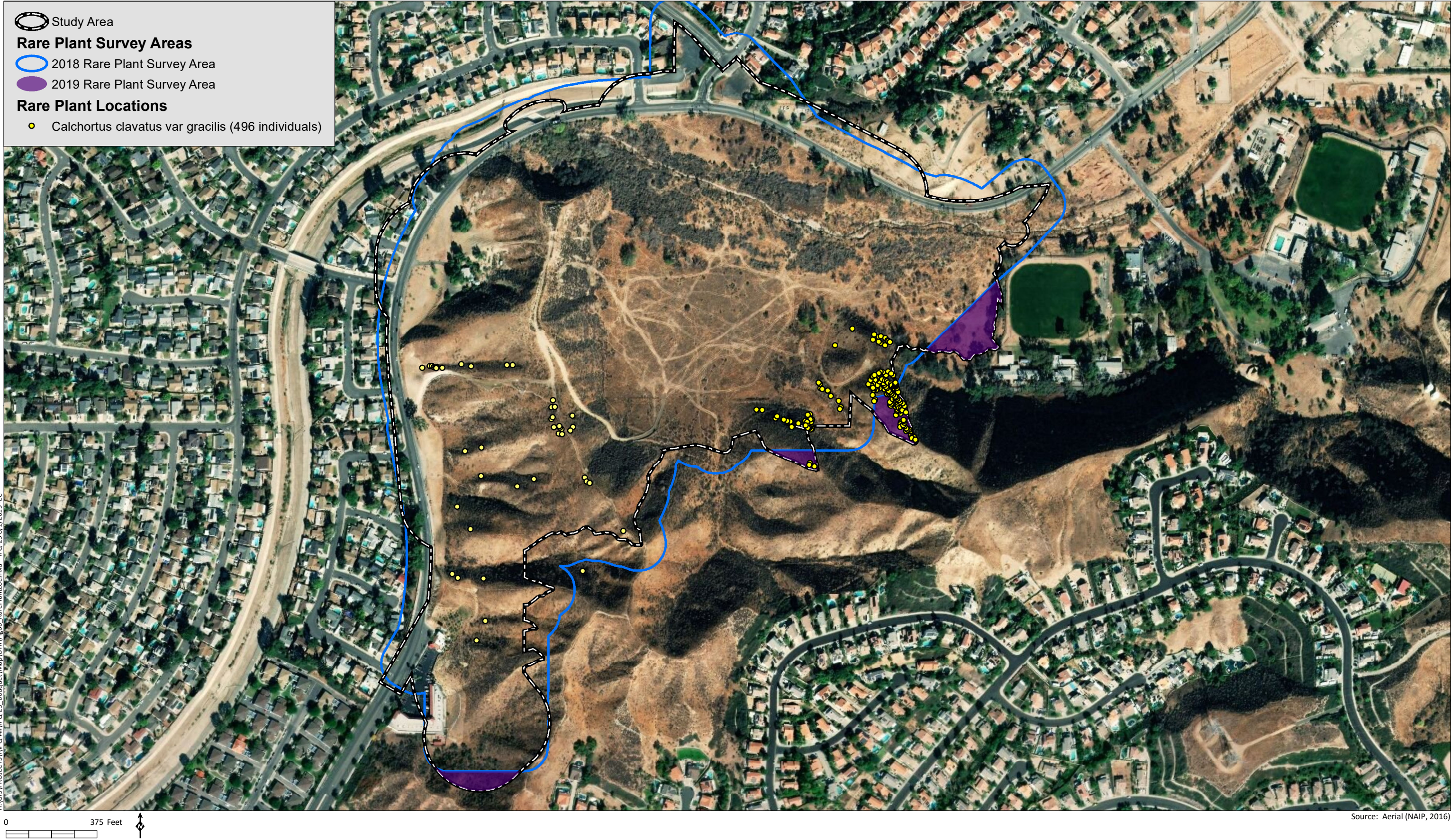
#### No Potential to Occur

Of the 15 sensitive animal species recorded within the vicinity of the study area, five species (Quino checkerspot butterfly [*Euphydryas editha quino*], two-striped gartersnake [*Thamnophis hammondi*], unarmored threespine stickleback [*Gasterosteus aculeatus williamsoni*], vernal pool fairy shrimp [*Branchinecta lynchi*], and western spadefoot [*Spea hammondi*]) were considered to have no potential to occur on the study area due to lack of suitable habitat and/or the study area is located outside of the species' known geographical range. Due to historical documentation of unarmored threespine stickleback (UTS) in Bouquet Canyon Creek, this species is discussed in further detail below.

#### Unarmored Threespine Stickleback

Currently, there are three recognized subspecies of threespine stickleback (*Gasterosteus aculeatus*), which are differentiated by the number of plates on the sides of their bodies. The subspecies include: (1) fully plated threespine stickleback (*Gasterosteus aculeatus aculeatus*), which have up to 36 plates; (2) low-plated threespine stickleback (*Gasterosteus aculeatus microcephalus*), which have 3 to 7 plates; and (3) UTS, which lack plates (Richmond et al. 2015). The UTS adults prefer slow-moving streams with a constant flow of water, but will occupy faster moving water if algal mats or other forms of protection







are available (USFWS 2009). The UTS require sheltered pools at least 15 inches in depth with dense aquatic vegetation for breeding.

The UTS has been historically documented in Bouquet Canyon Creek. Although there is no written record, low-plated threespine stickleback were believed to have been introduced from the Fillmore State Fish Hatchery on the lower Santa Clara River into Bouquet Canyon Creek during rainbow trout (*Oncorhynchus mykiss*) stocking in the 1970s. This resulted in intergrades between the low-plated threespine stickleback and the UTS (San Marino Environmental Associates [SMEA] 2008; Richmond et al. 2015). San Marino Environmental Associates (SMEA) conducted multiple surveys for stickleback in Bouquet Canyon Creek. They identified an intergrade zone just upstream of the U.S. Forest Service Texas Canyon Station near the end of Bouquet Canyon. SMEA also conducted a number of surveys downstream of this intergrade zone where Bouquet Canyon Creek crosses Vasquez Canyon Road, which is approximately 1.70 miles upstream of the study area. SMEA collected 27 UTS in 1998 and only 3 UTS in 2001. In 2005, three sticklebacks were captured and plates were counted on two of the individuals. One of the individuals was unarmored while the other individual had one plate. This reach of Bouquet Canyon Creek was also surveyed in 2000, but was entirely dry. SMEA notes that this stretch of UTS habitat has clearly become more ephemeral since the 1998 survey, which is reflected in the drop in stickleback individuals collected between 1998 and 2005. SMEA concluded that the population located near Vasquez Canyon Road has likely been extirpated and only the intergrade zone remains upstream at the U.S. Forest Service Texas Canyon Station.

Richmond et al. (2015) also conducted a genetic study of sticklebacks in Bouquet Canyon Creek. They determined that the genotype and phenotype of sticklebacks in Bouquet Canyon Creek resemble a low-plated threespine stickleback population as opposed to the unarmored populations they observed in adjacent streams (e.g., San Francisquito Canyon, Santa Ana River near Valencia, and Soledad Canyon). They also discovered that although sticklebacks sampled near the juncture of Bouquet Canyon Creek and Texas Canyon Creek were the most similar to the unarmored populations, plates have steadily increased since at least the 1980s. This is the near the same location SMEA (2008) identified an intergrade zone between UTS and the low-plated threespine stickleback.

Although UTS have historically been documented upstream of the study area, findings by SMEA (2008) and Richmond et al. (2015) indicate that many stickleback in Bouquet Canyon Creek have a low plate count due to introduction of partially armored stickleback upstream. Richmond et al. (2015) indicates that downstream movement of stickleback through Bouquet Canyon Creek into the Santa Clara River is not likely due to channel alteration at the base of Bouquet Canyon (i.e., approximately 3.2 miles upstream of the study area). Upstream movement of stickleback from the Santa Clara River to Bouquet Canyon Creek and into the study area is restricted as a result of the channelization of Bouquet Canyon Creek just downstream of the study area. Existing drop structures would prohibit stickleback movement upstream into the study area.

The reach of Bouquet Canyon Creek that occurs within the study area does not support suitable live-in habitat for stickleback. Bouquet Canyon Creek within the study area is characterized as an ephemeral drainage comprising somewhat excessively drained sandy loam soil of the Metz series. Due to its ephemeral nature, the drainage only supports flowing water for a brief period following rainfall. The drainage does not support dense vegetation or algal mats. No ponding or surface water was documented during any of the site visits conducted between 2017 and 2019. Since this portion of Bouquet Canyon Creek only supports water for a short period following rainfall, the study area does not support suitable live-in habitat for UTS.

## Potential to Occur

Of the 15 sensitive animal species recorded within the vicinity of the study area, eight species were considered to have potential occur. Three species were determined to have a low potential to occur on the study area based on the presence of low quality habitat, limited acreage of habitat, and lack of recent observations within the immediate vicinity of the study area, including California glossy snake (*Arizona elegans occidentalis*), Townsend's big-eared bat (*Corynorhinus townsendii*; foraging only), and southern grasshopper mouse (*Onychomys torridus ramona*). California glossy snake and southern grasshopper mouse are SSC. Townsend's big-eared bat is an SSC and state candidate threatened species; no suitable roosting habitat is present for this species, although this species may use the site as foraging habitat.

One species (California legless lizard [*Anniella* sp.]) was determined to have a moderate potential to occur on the study area based on the presence of low-quality habitat and recent observations within the immediate vicinity.

Four species were determined to have a high potential to occur on the study area based on the presence of suitable habitat and recent observations within the immediate vicinity of the study area, including coastal whiptail (*Aspidoscelis tigris stejnegeri*), coast horned lizard (*Phrynosoma blainvillii*), loggerhead shrike (*Lanius ludovicianus*), and San Diego black-tailed jackrabbit (*Lepus californicus bennettii*). All four species are SSC and were recorded within the last 15 years less than five miles from the study area.

## Presumed Absent

Focused surveys were conducted for two sensitive bird species with the potential to occur on the study area, including BUOW and CAGN. Focused surveys for both species were negative. Survey results are discussed further below.

### Burrowing Owl

The BUOW is an SSC. A focused survey for BUOW was conducted between March and June 2018. No BUOWs were observed during the surveys; therefore, this species is presumed absent from the study area. The detailed report findings for the BUOW surveys are included as Appendix D.

### Coastal California Gnatcatcher

The CAGN is a federally threatened species and a SSC. A focused survey for CAGN was conducted between March and May 2018. No CAGN were observed during the surveys; therefore, this species is presumed absent from the study area. The detailed report findings for the CAGN surveys are included as Appendix E.

## 3.5.3 Sensitive Vegetation Communities/Habitats

Sensitive vegetation communities/habitats are considered either rare within the region or sensitive by CDFW (2018b). Communities are given a Global (G) and State (S) ranking on a scale of 1 to 5. Communities afforded a rank of 5 are most common while communities with a rank of 1 are considered highly periled. The CDFW considers sensitive communities as those with a rank between S1 and S3.



The study area supports two sensitive plant communities. Elderberry savanna and southern willow scrub/giant reed stand are considered sensitive habitats pursuant to CDFW. Approximately 0.56 acre of elderberry savanna and 0.70 acre of southern riparian scrub/giant reed stand were mapped on the study area (Figure 5). Both communities are small, isolated habitat patches with a non-native understory.

### **3.5.4 Jurisdictional Waters and Wetlands**

One major drainage feature, Bouquet Canyon Creek, occurs within the study area. The drainage features are described in detail below. The study area supports approximately 0.65 acre of USACE/RWQCB jurisdictional WUS and 9.80 acres of CDFW jurisdictional streambed and riparian vegetation (Figure 7, *Jurisdictional Features*).

#### **3.5.4.1 Bouquet Canyon Creek**

Bouquet Canyon Creek, which is mapped by USGS as a blueline stream, is an ephemeral drainage that runs from east to west near the northern study area boundary. The headwaters of the Bouquet Canyon drainage feature originate approximately 10 miles to the northeast of the study area in the Sierra Pelona Mountains, and non-storm related flows through the wash are often controlled via regulated releases from Bouquet Reservoir. The Bouquet Canyon streambed enters the study area at the northeastern boundary and exits at the northwestern boundary. The drainage continues under Bouquet Canyon Road at the northwestern corner of the study area boundary where the drainage has been channelized. The Bouquet Canyon drainage is a tributary to the Santa Clara River, which ultimately drains into the Pacific Ocean approximately 35 miles to the southwest of the study area. The on-site floodplain of Bouquet Canyon Creek is infested with invasive giant reed. Historical imagery and evidence of grinded material observed on the study area suggest that giant reed removal has previously occurred on the study area. Bouquet Canyon Creek supports somewhat excessively drained sandy loam of the Metz soil series. Aside from Bouquet Canyon Creek, no other surface water features were observed and the study area is predominantly upland habitat. The jurisdictional delineation report is included as Appendix G, *Jurisdictional Delineation Report*.<sup>1</sup>

Within the study area, Bouquet Canyon Creek supports approximately 0.65 acre of USACE/RWQCB non-wetland WUS ephemeral streams. In addition, Bouquet Canyon Creek supports approximately 9.80 acres of CDFW jurisdictional streambed and riparian vegetation.

### **3.5.5 Oak Tree Survey**

A total of 64 oak trees meet the City's definition of a protected tree (Figure 8, *Oak Tree Locations*). Of the 64 trees, two were coast live oaks (*Quercus agrifolia*), six were scrub oaks, two were blue oaks (*Quercus douglasii*), 53 were Tucker oaks, and one was a valley oak (*Quercus lobata*). Six trees (9 percent) were assigned an A rating, 22 trees (34 percent) were assigned a B rating, 25 trees (40 percent) were assigned a C rating, and 11 trees (17 percent) were assigned a D rating. No dead trees or heritage oak trees were observed during the survey. The detailed report findings are included as Appendix H.

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<sup>1</sup> The study area evaluated in the Jurisdictional Delineation Report increased slightly following report completion. The jurisdictional resources were extended based on previous delineation results and confirmed in the field during subsequent site visits.

### 3.5.6 Habitat and Wildlife Corridor Evaluation

Wildlife corridors connect otherwise isolated pieces of habitat and allow movement or dispersal of plants and animals. Corridors can be local or regional in scale; their functions may vary temporally and spatially based on conditions and species presence. Local wildlife corridors allow access to resources such as food, water, and shelter within the framework of their daily routine. Animals use these corridors, which are often hillsides or tributary drainages, to move between different habitats. Regional corridors provide these functions over a larger scale and link two or more large habitat areas, allowing the dispersal of organisms and the consequent mixing of genes between populations.

Regionally, the study area is situated in the foothills of the Sierra Pelona Mountains and supports the lower portion of Bouquet Canyon Creek just upstream of where the creek becomes channelized. The study area is located approximately 0.20 mile to the southeast of Haskell Canyon Open Space and 1.40 miles to the south of Angeles National Forest, although existing development separates the study area from these open space areas. The study area is mostly surrounded by development with the exception of the eastern portion of the study area, which connects to undeveloped land located to the east. Bouquet Canyon Creek supports limited native habitat for wildlife, including small patches of mule fat and red willows. The majority of Bouquet Canyon Creek on the study area is vegetated with giant reed, which provides limited resources for wildlife. The remainder of the study area supports a number of native upland habitats that provide live-in resources for wildlife, such as big sagebrush scrub, elderberry savanna, Riversidean upland sage scrub, scrub oak chaparral, and southern north slope chaparral. The dominant habitat on the study area is non-native grassland, which also provides low-value foraging habitat for some bird species.

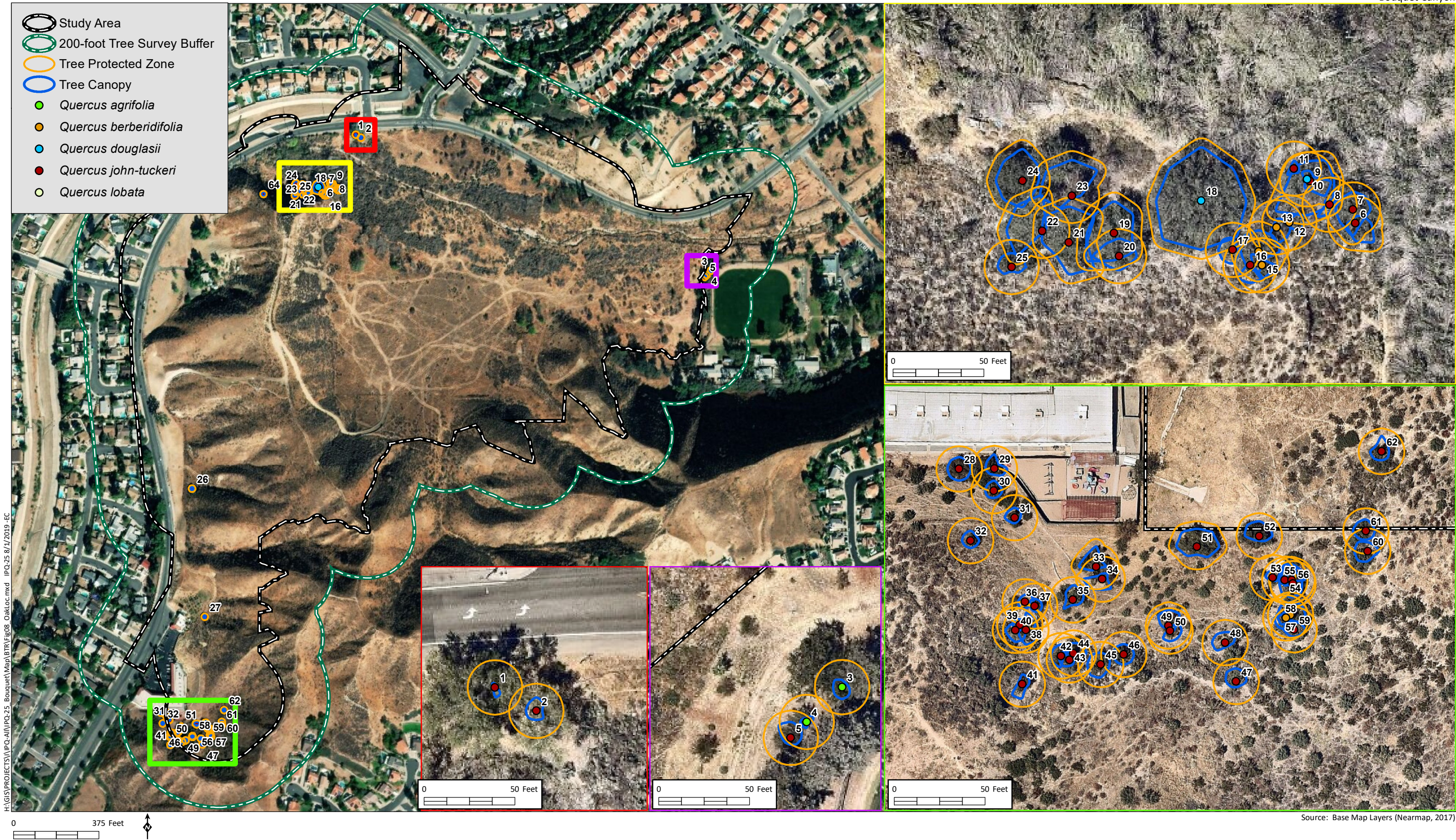
As previously described, corridors can be local or regional in scale. The study area is not considered a regional corridor since it does not directly connect two or more large blocks of habitat that would otherwise be fragmented or isolated from one another. The areas immediately adjacent to the study area are highly urbanized and support limited cover for wildlife moving through the area. Wildlife may access the study area via undeveloped land to the east. Access to the study area from the east is quite constrained, but could occur along Bouquet Canyon Creek or along the ridgeline to the south of the Camp Joseph Scott facility. Development of the project would not impede wildlife access to other undeveloped land in the region since the study area is located at the edge of existing development. Although wildlife likely use Bouquet Canyon Creek for local movement through the area, the lower portion of Bouquet Canyon would not be considered a regional corridor for wildlife since the creek becomes channelized and unvegetated just downstream of the study area. The study area is essentially a “dead end” for wildlife moving through the area since it does not directly connect two or more large blocks of habitat and the northern, southern, and western portions of the study area are confined by existing development. The study area is not within any wildlife corridors or linkages identified by the South Coast Missing Linkages Project (South Coast Wildlands 2008). The nearest wildlife movement corridor to the study area identified by the South Coast Missing Linkages Project is the San Gabriel – Castaic Connection located approximately 4.3 miles to the northeast of the study area.

While the study area is not considered a regional wildlife movement corridor, the study area does support habitat suitable for local wildlife movement. Common mammals that are adapted to human disturbance (e.g., raccoon [*Procyon lotor*], skunk [*Mephitis* sp.], cottontail rabbits [*Sylvilagus* spp.], and coyote [*Canis latrans*]) may use the study area for local movement within the area. Birds species may fly over surrounding development to nest and/or forage within study area. Mountain lions (*Puma concolor*) are known to occur within the vicinity of the study area and one bobcat (*Lynx rufus*) was observed on











the study area during field surveys. These larger mammals require large expanses of undeveloped land for their territories, such as land to the east. Although the study area is not large enough to solely support live-in habitat for these larger mammals, the study area could be on the edge of their territories and they may occasionally wander onto the study area. As discussed above, the study area supports opportunities for local wildlife movement but does not function as a wildlife corridor since it does not directly connect to two or more blocks of large habitat.

## **4.0 REGIONAL AND REGULATORY CONTEXT**

Biological resources located within the study area are subject to regulatory review by federal, state, and local agencies. Biological resources-related laws and regulations that apply to the project include the Federal Endangered Species Act (FESA), Migratory Bird Treaty Act (MBTA), CWA, California Endangered Species Act (CESA), and CFG Code.

### **4.1 FEDERAL REGULATIONS**

#### **4.1.1 Federal Endangered Species Act**

Administered by the USFWS, the FESA provides the legal framework for the listing and protection of species (and their habitats) identified as being endangered or threatened with extinction. Actions that jeopardize endangered or threatened species and the habitats upon which they rely are considered a “take” under the FESA. Section 9(a) of the FESA defines take as “to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or attempt to engage in any such conduct.” “Harm” and “harass” are further defined in federal regulations and case law to include actions that adversely impair or disrupt a listed species’ behavioral patterns.

Sections 4(d), 7, and 10(a) of the FESA regulate actions that could jeopardize endangered or threatened species. Section 7 describes a process of federal interagency consultation for use when federal actions may adversely affect listed species. A biological assessment is required for any major construction activity if it may affect listed species. In this case, take can be authorized via a letter of biological opinion issued by the USFWS for non-marine related listed species issues. A Section 7 consultation is required when there is a nexus between federally listed species’ use of the site and impacts to USACE jurisdictional areas. Section 10(a) allows issuance of permits for “incidental” take of endangered or threatened species. The term “incidental” applies if the taking of a listed species is incidental to and not the purpose of an otherwise lawful activity.

#### **4.1.2 Federal Clean Water Act**

Federal wetland regulation (non-marine issues) is guided by the Rivers and Harbors Act of 1899 and the CWA. The Rivers and Harbors Act deals primarily with discharges into navigable waters, while the purpose of the CWA is to restore and maintain the chemical, physical, and biological integrity of all WUS. Permitting for projects filling WUS, including wetlands and vernal pools, is overseen by USACE under Section 404 of the CWA. Projects may be permitted on an individual basis or may be covered under one of several approved Nationwide Permits. Individual Permits are assessed individually based on the type of action, amount of fill, etc. Individual Permits typically require substantial time (often longer than six months) to review and approve, while Nationwide Permits are pre-approved if a project meets the

appropriate conditions. A CWA Section 401 Water Quality Certification, which is administered by the State Water Resources Control Board, must be issued prior to any 404 Permit.

### **4.1.3 Migratory Bird Treaty Act**

All migratory bird species that are native to the United States or its territories are protected under the federal MBTA, as amended under the Migratory Bird Treaty Reform Act of 2004 (FR Doc. 05-5127). The MBTA is generally protective of migratory birds but does not actually stipulate the type of protection required. In common practice, the MBTA is used to place restrictions on disturbance of active bird nests during the nesting season, which is generally defined as February 15 to August 31 for songbirds. In addition, the USFWS commonly places restrictions on disturbances allowed near active raptor nests, which the nesting season is generally defined as January 15 to August 31.

### **4.1.4 Critical Habitat**

As described by the FESA, critical habitat is the geographic area occupied by a threatened or endangered species essential to species conservation that may require special management considerations or protection. Critical habitat also may include specific areas not occupied by the species but that have been determined to be essential for species conservation.

Critical habitat does not occur on the study area. The nearest critical habitat to the study area is spreading navarretia (*Navarretia fossalis*) critical habitat, which is approximately 2.25 miles to the east (USFWS 2017a).

## **4.2 STATE REGULATIONS**

### **4.2.1 California Environmental Quality Act**

Primary environmental legislation in California is found in CEQA and its implementing guidelines (State CEQA Guidelines), which require that projects with potential adverse effects (i.e., impacts) on the environment undergo environmental review. Adverse environmental impacts are typically mitigated as a result of the environmental review process in accordance with existing laws and regulations.

### **4.2.2 California Endangered Species Act**

The CESA is similar to the FESA in that it contains a process for listing of species and regulating potential impacts to listed species. Section 2081 of the CESA authorizes the CDFW to enter into a memorandum of agreement for take of listed species for scientific, educational, or management purposes. The golden eagle (*Aquila chrysaetos*) and white-tailed kite (*Elanus leucurus*) are considered State Fully Protected (SFP) species. A SFP species may not be taken or possessed at any time, and no state licenses or permits may be issued for their take except for collecting the species necessary for scientific research and relocation of the bird species for the protection of livestock (Fish and Game Code Sections 3511, 4700, 5050, and 5515).

The Native Plant Protection Act (NPPA) enacted a process by which plants are listed as rare or endangered. The NPPA regulates the collection, transport, and commerce of plants that are listed. The CESA followed the NPPA and covers both plants and animals that are determined to be endangered or

threatened with extinction. Plants listed as rare under NPPA were designated threatened under the CESA.

### **4.2.3 California Fish and Game Code**

#### **4.2.3.1 Protection of Raptor Species**

Raptors (birds of prey) and owls and their active nests are protected by CFG Code Section 3503.5, which states that it is unlawful to take, possess, or destroy any birds of prey or to take, possess, or destroy the nest or eggs of any such bird unless authorized by the CDFW.

#### **4.2.3.2 Streambed Alteration Agreement**

The CFG Code (Section 1600 et seq.) requires an agreement with the CDFW for projects affecting riparian and wetland habitats through the issuance of a Streambed Alteration Agreement.

## **4.3 LOCAL REGULATIONS**

### **4.3.1 Oak Tree Protection**

The City has implemented regulatory measures to protect and preserve oak trees that occur within the City's jurisdiction. The City's Oak Tree Preservation ordinance states, "No person shall cut, prune, remove, relocate, endanger, damage, or encroach into the protected zone of any oak tree on any public or private property within the City" (City 2013). The protected zone of the oak tree includes the area within five feet of the dripline (canopy extent), but no less than 15 feet from the trunk. Encroachment is defined as intrusion into the protected zone of an oak tree, which includes but is not limited to, intrusion by trenching, paving, pruning, dumping, parking of commercial vehicles. Major encroachment is defined by the City as "an area between the outer edge of the trunk and fifty percent of the diameter of the protected zone" and minor encroachment is defined as an area between the outermost edge of the protected zone and fifty percent of the diameter of the protected zone" (2013).

To remove any oak tree or to subject its protected zone to major encroachment, an Oak Tree Permit must be obtained. Trees subject to the permit include all oak trees in the genus *Quercus* that exceed six inches in circumference when measured at 4.5 feet above the tree's natural grade. Heritage oak trees are given special consideration and may be fully protected or subject to requirements stricter than those of a standard protected oak tree. A heritage oak tree is defined as any oak tree measuring 108 inches in circumference measured at 4.5 feet above the tree's natural grade. In the case of trees with multiple trunks, two or more trunks must measure 72 inches each or greater in circumference when measured at 4.5 feet above the tree's natural grade.

To obtain an Oak Tree Permit, an application must be submitted to the City Manager or designated representative ("Director") and a filing fee as established by the City Council must be paid. The conditions of the Oak Tree Permit will require native oak trees at a minimum of 24-inch box size to be planted for each protected oak tree removed and for each tree whose protected zone will be subject to major encroachment. Minor encroachment does not require mitigation, but a number of protection measures are required during construction as outlined in Section VII. Standards for Performance of Permitted Work of the Oak Tree Preservation Guidelines (City 1990). The number of replacement trees required is dependent upon the circumference of the tree to be impacted, which are described in

Subsection B of the Oak Tree Preservation Ordinance. For those trees with multiple stems, the average circumference was used to determine the number of replacement trees.

#### 4.3.2 Fuel Modification Zones

The County Fire Department requires fuel modification zones to create a defensible space in the event a wildfire breaks out (County of Los Angeles N.D.). There are three difference zones, which are outlined below:

1. **Zone A (Setback Zone)** – This zone extends 20 feet beyond the edge of any structures. The only allowed vegetation within this zone is green lawns, ground cover not exceeding six inches in height, and well-spaced shrubs. The landscape must be irrigated to promote healthy vegetation and fire resistance.
2. **Zone B (Irrigated Zone)** – This zone extends from the outermost edge of Zone A to 100 feet from structures. Green lawn, ground cover not exceeding six inches in height, and well-spaced shrubs and trees are allowed in this zone. The landscape must be irrigated to promote healthy vegetation and fire resistance.
3. **Zone C (Native Brush Thinning Zone)** – This zone extends from the outermost edge of Zone B to 200 feet from the structures. Well-spaced native vegetation and ornamental shrubs and trees are allowed. Vegetation must be thinned and species that constitute a fire risk are not allowed (e.g., chamise, sages [*Salvia* spp.], California sagebrush, and California buckwheat). This zone does not require irrigation.

## 5.0 PROJECT EFFECTS

This section describes potential direct and indirect impacts associated with the proposed project. Direct impacts immediately alter the affected biological resources such that those resources are eliminated temporarily or permanently. Indirect impacts consist of secondary effects of a project, including noise, decreased water quality (e.g., through sedimentation, urban contaminants, or fuel release), fugitive dust, colonization of non-native plant species, animal behavioral changes, and night lighting. The magnitude of an indirect impact can be the same as a direct impact; however, the effect usually takes a longer time to become apparent.

The significance of impacts to biological resources present or those with potential to occur was determined based upon the sensitivity of the resource and the extent of the anticipated impacts. For certain highly sensitive resources (e.g., a federally listed species), any impact would be significant. Conversely, other resources that are of low sensitivity (e.g., species with a large, locally stable population in the region but declining elsewhere) could sustain some impact with a less than significant effect.



## 5.1 SENSITIVE SPECIES

### 5.1.1 Rare Plant Species

#### Less than Significant Impacts with Mitigation Incorporated

A total of four of the eight rare plant species recorded within the Mint Canyon quadrangle were not considered to have a potential to occur based on geographic range, elevation range, and/or lack of suitable habitat (see Appendix I). The remaining four species were considered to have a potential to occur on the study area primarily based on the presence of chaparral and coastal scrub habitats. Rare plant surveys were conducted in May and August 2018 and May 2019.

Nevin's barberry, Piute Mountains navarretia, and slender-horned spineflower were not observed on the study area during any of the rare plant surveys. Therefore, these species are presumed absent from the study area. Project grading and fuel modification associated with the residential development would impact approximately 142 slender mariposa lilies (Figure 9, *Impacts to Rare Plants*). Construction of the new alignment of Bouquet Canyon Road would impact approximately 320 slender mariposa lilies. The remaining 34 individuals would be avoided by the project.

Slender mariposa lily is a CRPR 1B.2 species, which are species considered rare throughout their range and have declined significantly over the last century. This species is not federally or state listed as endangered or threatened. Project impacts to this species would be significant and mitigation would be required to reduce impacts to less than significant. Required mitigation for potential impacts to slender mariposa lily is described in mitigation measure BIO-1 in Section 6.0 below.

### 5.1.2 Sensitive Animal Species

#### Less than Significant Impacts with Mitigation Incorporated

Of the 15 sensitive animal species recorded within the vicinity of the study area, five species (Quino checkerspot butterfly, two-striped gartersnake, UTS, vernal pool fairy shrimp, and western spadefoot) were considered to have no potential to occur on the study area due to lack of suitable habitat and/or the study area is located outside of the species' known geographical range (Appendix J). Although UTS was determined to have no potential to occur on the study area (see discussion in Section 3.5.2 above), populations of UTS do occur downstream in portions of the Santa Margarita River. The project would not indirectly affect downstream water quality or surface water flows. The project would prevent sedimentation and potential impacts to water quality downstream during construction and post-construction by preparing and implementing a project-specific Stormwater Pollution Prevention Plan (SWPPP) and Water Quality Management Plan (WQMP), respectively. Potential impacts to water quality due to pollutants from residential uses will be addressed through the use of infiltration basins where feasible and biofiltration basins where infiltration is not feasible due to low percolation rates in the underlying soil. The SWPPP and WQMP will also be provided to the resource agencies (USACE, RWQCB, and CDFW) during the regulatory permitting process. Most of the flow within the Bouquet Creek is from upstream waters. Per the project engineer, the water surface flows within the project reach will only contribute an additional 100 cubic feet per second, which represents approximately 0.5 percent of the overall flow within this reach of Bouquet Canyon Creek. Potential increases to surface flow rates due to project construction of impervious surfaces (e.g., roads, roofs, sidewalks, etc.) would be offset by the construction of desilting basins upstream of the realigned Bouquet Canyon Road. Since the project

would not indirectly affect downstream water quality or surface water flows, the project would not indirectly impact any UTS downstream of the study area.

As discussed above, the project would not impact Quino checkerspot butterfly, two-striped gartersnake, UTS, vernal pool fairy shrimp, or western spadefoot. Of the remaining 10 species, three species have a low potential to occur, one species has a moderate potential to occur, four species have a high potential to occur, and two species are presumed absent from the study area. These species are discussed in further detail below.

### **Low Potential Species**

Three species were determined to have a low potential to occur on the study area based on the presence of low quality habitat, limited acreage of habitat, and lack of recent observations within the immediate vicinity. These species include California glossy snake, Townsend's big-eared bat, and southern grasshopper mouse. California glossy snake and southern grasshopper mouse are SSC. Although suitable habitat is present on the study area, these species have not been recorded within the vicinity of the study area (five- to 10-mile radius) in over 50 years, indicating that regionally significant populations of these species are not present. Therefore, the study area is not expected to support large populations of California glossy snake or southern grasshopper mouse and a loss of a few individuals, if present, would not be expected to reduce regional population numbers. Townsend's big-eared bat is a State Candidate Threatened species and an SSC. There is no suitable roosting habitat on the study area. This species could use the study area for foraging habitat since it uses a variety of habitats, although it is a low potential since this species prefers mesic habitats. Impacts to these species would be less than significant and no mitigation measures are considered required.

### **Moderate Potential Species**

California legless lizard, which is an SSC, was determined to have a moderate potential to occur on the study area based on the presence of low quality habitat on the study area and recent observations within the immediate vicinity. Although the study area supports suitable sandy wash habitat within Bouquet Canyon Creek, the habitat is considered low quality since the banks are infested with giant reed, leaving little open areas for the lizard to burrow and no leaf litter for protection. Since the study area supports low quality habitat, the study area is not expected to support large populations of this species and a loss of a few individuals, if present, would not be expected to reduce regional population numbers. Impacts to these species would be less than significant and no mitigation measures are considered required.

### **High Potential Species**

Four species were determined to have a high potential to occur on the study area based on the presence of suitable habitat and recent observations within the immediate vicinity. These species include coastal whiptail, coast horned lizard, loggerhead shrike, and San Diego black-tailed jackrabbit, which are all SSC. None of these species were observed during any of the field surveys conducted on the study area. Coastal whiptail, coast horned lizard, loggerhead shrike, and San Diego black-tailed jackrabbit are highly mobile and the majority are expected to disperse to undeveloped land to the east of the proposed project. These species are not afforded a state or federal listing. Displacement or loss of a few individuals, if present, would not be expected to reduce regional population numbers. Impacts to these







species would be less than significant and no mitigation measures are proposed. Loggerhead shrike eggs and young are protected under MBTA, which is discussed in Section 5.4.2 below.

## **Presumed Absent Species**

Focused surveys for BUOW (SSC) and CAGN (federally threatened and SSC) were conducted in 2018. Survey results were negative, and these species are presumed absent from the study area. Therefore, no direct or indirect impacts are anticipated to these species.

Since the study area supports suitable BUOW habitat, a take avoidance survey is required prior to ground disturbance in accordance with CDFW's *Staff Report on Burrowing Owl Mitigation* (CDFG 2012). An avoidance and minimization measure is included as BIO-2 in Section 6.0 below, which requires a take avoidance survey and avoidance of active nests and/or relocation of BUOW (if BUOWs are observed).

## **5.2 SENSITIVE VEGETATION COMMUNITIES**

### **5.2.1 California Department of Fish and Wildlife Sensitive Vegetation Communities/Habitats**

#### **Less than Significant Impacts with Mitigation Incorporated**

The study area supports native-dominated habitat totaling 29.19 acres, including big sagebrush scrub (1.91 acres), chamise chaparral/non-native grassland (2.98 acres), elderberry savanna (0.56 acre), Riversidean upland sage scrub (7.06 acres), Riversidean upland sage scrub/non-native grassland (13.10 acres), scrub oak chaparral (0.26 acre), scrub oak chaparral/non-native grassland (2.01 acres), southern north slope chaparral (0.34 acre), and southern willow scrub/giant reed stand (0.70 acre). The remainder of the study area (64.28 acres) supports habitat dominated by non-native species and sparsely vegetated developed, disturbed, and river wash.

Permanent impacts to vegetation are proposed for project development and to implement County-required fuel modification (Figure 10, *Impacts to Vegetation*). Permanent impacts are proposed to 28.68 acres of native-dominated habitat and 55.55 acres of habitat dominated by non-native species, developed, disturbed, and river wash (Table 3, *Impacts to Vegetation Communities*). Although some native vegetation will be avoided in Zones B and C, such as protected oak trees, all fuel modification impacts were assessed as permanent impacts.

**Table 3**  
**IMPACTS TO VEGETATION COMMUNITIES**

<b>Habitat Type (Holland/Oberbauer)</b>	<b>Existing (acres)</b>	<b>Permanent Impacts (acres)</b>
Big Sagebrush Scrub	1.91	1.91
Chamise Chaparral/Non-native Grassland	2.98	2.77
Developed	9.37	4.50
Disturbed	5.32	3.83
Disturbed-Riversidean Upland Sage Scrub	0.62	0.54
Elderberry Savanna <sup>1</sup>	0.56	0.56
Giant Reed Stand	7.08	7.08
Mule Fat Scrub	0.27	0.27
Non-native Grassland	22.06	21.76
Non-native Grassland/Riversidean Upland Sage Scrub	7.75	7.34
Non-native Vegetation	8.06	7.06
Non-native Vegetation/Elderberry Savanna	0.97	0.97
Ornamental	2.69	2.11
Riversidean Upland Sage Scrub	7.06	6.90
Riversidean Upland Sage Scrub/Non-native Grassland	13.10	12.96
River Wash	0.36	0.36
Scrub Oak Chaparral	0.26	0.26
Scrub Oak Chaparral/Non-native Grassland	2.01	2.01
Southern North Slope Chaparral	0.34	0.34
Southern Willow Scrub/Giant Reed Stand <sup>1</sup>	0.70	0.70
	<b>93.47</b>	<b>84.23</b>

<sup>1</sup> Sensitive habitats pursuant to the California Department of Fish and Wildlife (CDFW) Natural Communities List (2018b).

Two of the vegetation communities described above are considered sensitive pursuant to CDFW (2018b): elderberry savanna (0.56 acre) and southern willow scrub/giant reed stand (0.70 acre; Table 3; Figure 10). Both communities will be permanently impacted. The sensitive natural community designation is generally reserved for high-quality habitats, such as those that lack invasive species, do not show signs of human-caused disturbance, and show signs of reproduction (i.e., sprouts and seedlings present). Mitigation for impacts to elderberry savanna is not proposed since the habitat is considered low quality. The elderberry savanna is small and isolated from other native habitat, with the exception of a small patch of big sagebrush scrub. The understory is dominated by non-native short-pod mustard, which is likely due to historic disturbance from ranching activities, fuel modification over the years, and its proximity to Bouquet Canyon Road. No sprouts or seedlings were noted during field surveys. Based on the low-quality characteristics of the elderberry scrub, impacts to these species would be less than significant and no mitigation is proposed. The southern willow scrub/giant reed stand on the project appears to be associated with relict floodplain conditions that no longer exist on the site. However, for the purpose of this biological technical report, this habitat is presumed to be regulated as CDFW jurisdiction. Although southern willow scrub/giant reed stand is considered low-quality habitat due to the prevalence of giant reed, the project will provide mitigation for permanent impacts to 0.70 acre through compensatory mitigation for impacts to CDFW jurisdiction as outlined in BIO-3 included in Section 6.0 below.





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## 5.2.2 California Department of Fish and Wildlife Riparian Habitat and Streambed

### Less than Significant Impacts with Mitigation Incorporated

Bouquet Canyon Creek flows through the northern portion of the study area, which is considered a jurisdictional streambed pursuant to Section 1602 of the CFG Code as regulated by CDFW. The project would result in permanent impacts to 9.33 acres and temporary impacts to 0.47 acre of CDFW jurisdictional streambed and associated vegetation (Table 4, *Impacts to California Department of Fish and Wildlife Jurisdiction*; Figure 11, *Impacts to Jurisdictional Features*). The streambed is characterized as an ephemeral floodplain with a central channel that conveys the majority of flows through the site. Permanent impacts are necessary to construct the development, complete slope grading, implement County-required fuel modification, and construct a new flood control channel to the south of Bouquet Canyon Creek. The majority of the central channel within CDFW jurisdiction will be returned to pre-project topographic contours following completion of construction. Most of the permanent impacts to streambed-associated vegetation would be to giant reed, which is rated highly invasive by the California Invasive Plant Council (2006, 2007). Only small areas of native-dominated habitat would be permanently impacted, including southern willow scrub/giant reed stand and mule fat scrub. The remaining permanent impacts would be to mostly invasive giant reed stands and unvegetated river wash. The project would remove approximately 7.08 acres of giant reed stand, eliminating it as possible seed source to downstream habitats. Temporary impacts include those proposed to existing concrete within Bouquet Canyon Creek at the downstream (west) end and disturbance for bridge installation at the upstream (east) end.

**Table 4**  
**IMPACTS TO CALIFORNIA DEPARTMENT OF FISH AND WILDLIFE JURISDICTION**

Drainage	Existing (acres)	Permanent Impacts (acres)	Temporary Impacts (acres)
Bouquet Canyon Creek	9.80	9.33	0.47

Impacts to CDFW jurisdiction will require a Section 1602 Stream Alteration Agreement from the CDFW, as described in BIO-3 included in Section 6.0 below. Compensatory streambed mitigation for permanent impacts to CDFW jurisdiction will be required as part of subsequent Section 1602 permitting requirements.

## 5.3 U.S. ARMY CORPS OF ENGINEERS/REGIONAL WATER QUALITY CONTROL BOARD JURISDICTION

### Less than Significant Impacts with Mitigation Incorporated

Bouquet Canyon Creek is considered a jurisdictional streambed pursuant to Sections 404/401 of the CWA as regulated by USACE and RWQCB, respectively. The project would result in permanent impacts to 0.19 acre and temporary impacts to 0.46 acre of non-wetland WUS (Table 5, *Impacts to U.S. Army Corps of Engineers/Regional Water Quality Control Board Jurisdiction*; Figure 11). Permanent impacts are proposed within Bouquet Canyon Creek at the downstream (west) end for improvements to the outlet

for the proposed flood control channel and construction of a park as well as at the upstream (east) end to install a culvert associated within the new Bouquet Canyon Road alignment. The remainder of the Bouquet Canyon Creek central channel will be temporarily impacted to construct a new flood control channel to the south of Bouquet Canyon Creek. Temporary impact areas within Bouquet Canyon Creek will be returned to pre-project topographic contours following completion of construction.

**Table 5**  
**IMPACTS TO U.S. ARMY CORPS OF ENGINEERS/  
REGIONAL WATER QUALITY CONTROL BOARD JURISDICTION**

<b>Drainage</b>	<b>Existing (acres)</b>	<b>Permanent Impacts (acres)</b>	<b>Temporary Impacts (acres)</b>
Bouquet Canyon Creek	0.65	0.19	0.46

Impacts to USACE/RWQCB jurisdiction will require a Section 404 permit from USACE and a Section 401 permit from RWQCB, as described in BIO-4 included in Section 6.0 below. Compensatory streambed mitigation for permanent impacts to USACE/RWQCB jurisdiction will be required as part of subsequent Section 404/401 permitting requirements.

## **5.4 WILDLIFE MOVEMENT AND MIGRATORY SPECIES**

### **5.4.1 Wildlife Movement**

#### **Less than Significant**

The study area is not part of a regional corridor and does not serve as a nursery site. The study area is not identified as being part of a local or regional corridor or linkage by the South Coast Missing Linkages (South Coast Wildlands 2008). The study area currently has no direct connectivity to two or more large blocks of habitat and is constrained by existing development. The study area does support native upland vegetation and small patches of native riparian vegetation, which provide habitat for local wildlife movement and migratory birds passing through the study area. Some reptiles, small mammals, and occasionally larger mammals may access the study area from undeveloped land to the east via Bouquet Canyon Creek or the ridgeline to the south of the Camp Joseph Scott facility. Birds may fly over existing development to access the study area for foraging and/or nesting. Therefore, the study area provides habitat for local wildlife movement, but does not serve as a regional wildlife corridor.

The study area is confined by existing development to the north, south, and west. Wildlife movement through Bouquet Canyon Creek downstream of the study area is limited since the stream becomes channelized to the north of Bouquet Canyon Road, just downstream (west) of the study area. Although vegetation will be removed from Bouquet Canyon Creek due to fuel modification requirements, the majority of the stream will be recontoured to pre-project topographic contours following construction. Although implementation of the project may result in some temporary disturbance to local wildlife movement from construction noise, the project would have a less than significant impact to wildlife movement and no mitigation measures would be required.







## 5.4.2 Migratory Species

### Less than Significant Impacts with Mitigation Incorporated

The study area has the potential to support songbird and raptor nests due to the presence of shrubs, ground cover, and trees on the study area. Project activities could disturb or destroy active migratory bird nests including eggs and young. Disturbance to or destruction of migratory bird eggs, young, or adults is in violation of the MBTA and is considered a potentially significant impact. The nesting season is generally defined as February 15 through August 31 for songbirds and January 15 to August 31 for raptors. An avoidance and minimization measure is provided as BIO-5 in Section 6.0 below, which would ensure the project is in compliance with MBTA regulations.

## 5.5 LOCAL POLICIES AND ORDINANCES

### Less than Significant with Mitigation Incorporated

The project would remove 26 oak trees, including four scrub oaks, two blue oaks, and 20 Tucker oaks (Table 6, *Impacts to Oak Trees*; Figure 12, *Impacts to Oak Trees*). In addition, one Tucker oak would be subjected to major encroachment and two Tucker oaks would be subjected to minor encroachment. The remaining 35 oak trees would be completely avoided by the project.

**Table 6**  
**IMPACTS TO OAK TREES**

Species Name	Common Name	Number of Trees			
		Removed	Major Encroachment	Minor Encroachment	Avoided
<i>Quercus agrifolia</i>	coast live oak	0	0	0	2
<i>Quercus berberidifolia</i>	scrub oak	4	0	0	2
<i>Quercus douglasii</i>	blue oak	2	0	0	0
<i>Quercus john-tuckeri</i>	Tucker oak	20	1	2	30
<i>Quercus lobata</i>	valley oak	0	0	0	1
<b>TOTAL</b>		<b>26</b>	<b>1</b>	<b>2</b>	<b>35</b>

Impacts to City-protected oak trees will require an Oak Tree Permit prior to project construction to mitigate for proposed impacts. The conditions of the Oak Tree Permit will require native oak trees at a minimum of 24-inch box size to be planted for each protected oak tree removed and for each tree whose protected zone will be subject to major encroachment. The number of replacement trees required is dependent upon the circumference of the tree to be impacted. These guidelines are described in Subsection B of the Oak Tree Preservation Ordinance, reproduced in Table 7, *Number of Replacement Trees*. Replacement trees must be placed on the same property. If there is no appropriate location on site, the replacement trees may be donated to the City or the monetary value of the required replacement trees may be paid to the City at the discretion of the Director.

**Table 7**  
**NUMBER OF REPLACEMENT TREES**

Circumference of Tree Destroyed (4 feet above ground level)	Number of Replacement Trees Required for Each Tree Destroyed
Under 12 inches	2
12 to 18 inches	3
18 to 24 inches	4
24 to 30 inches	5
30 to 36 inches	6
Over 36 inches	1 additional replacement tree per incremental increase of 6 inches

Source: City of Santa Clarita (2013)

For the purpose of this assessment, oak trees located within the grading footprint and/or Fuel Modification Zone A were considered impacted while oak trees located within Zones B or C were considered avoided. Based on the impacts to oak trees as quantified by the impact assessment, 27 oak trees will be removed or subjected to major encroachment and would require replacement trees (Table 8, *Oak Tree Mitigation*). In order to receive an Oak Tree Removal Permit for these impacts, it is anticipated the City will require 91 replacement trees to be planted or the equivalent monetary value of the replacement trees to be paid, as described in mitigation measure BIO-6 included in Section 6.0 below. Replacement trees must be approved by the City and consist of the following tree species: coast live oak, valley oak, canyon live oak (*Quercus chrysolepis*), or interior live oak (*Quercus wislizenii*).

**Table 8**  
**OAK TREE MITIGATION**

Species Name	Common Name	Number of Trees	
		Removed/Major Encroachment	Replacement Trees Required
<i>Quercus berberidifolia</i>	scrub oak	4	9
<i>Quercus douglasii</i>	blue oak	2	19
<i>Quercus john-tuckeri</i>	Tucker oak	21	63
<b>TOTAL</b>		<b>27</b>	<b>91</b>

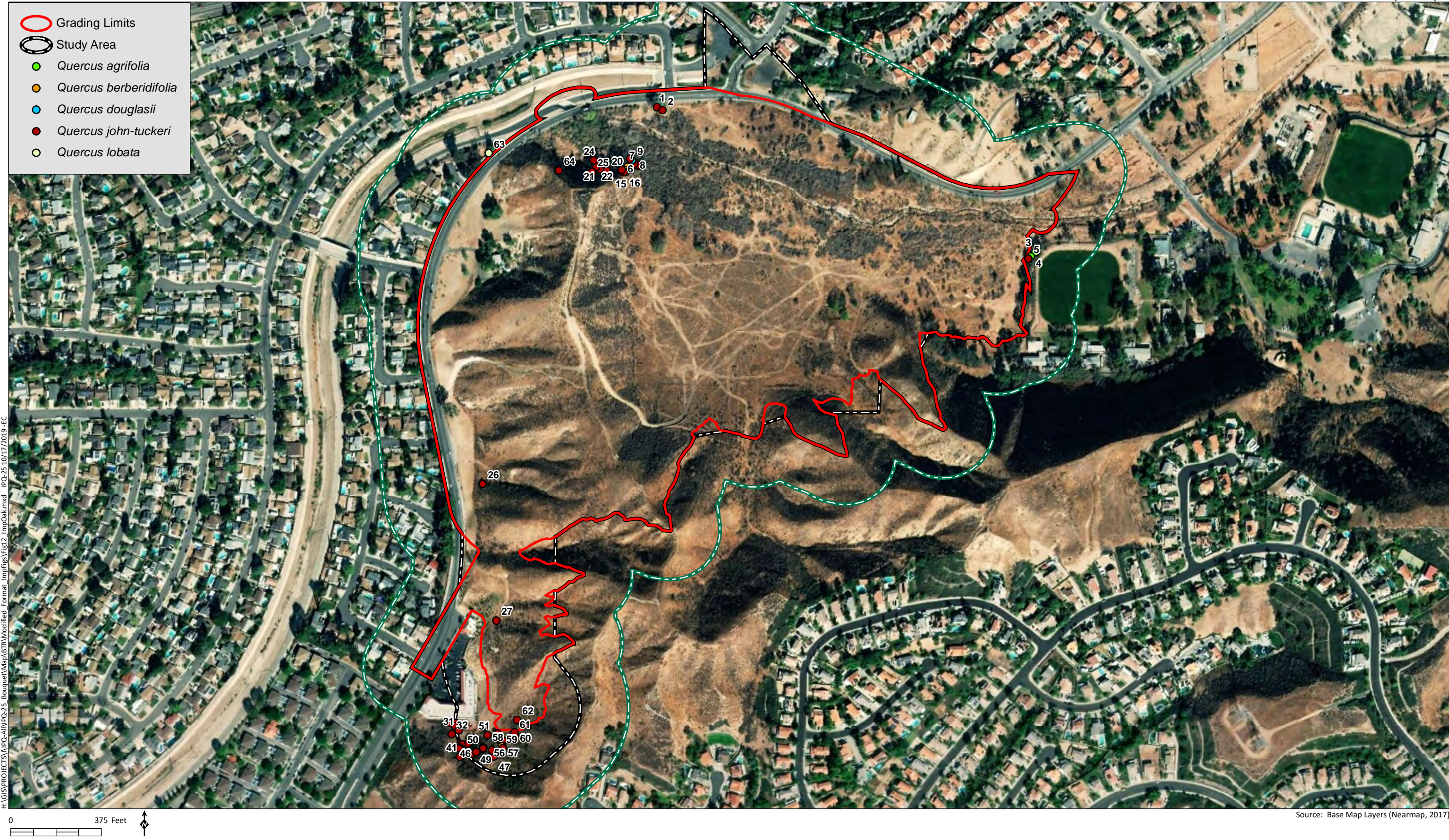
Thirty-seven oak trees will be completely avoided or subject to minor encroachment and would not require replacement trees. During construction, avoided trees and trees subject to encroachment will require protection measures, including but not limited to those outlined within Section VII. Standards for Performance of Permitted Work of the Oak Tree Preservation Guidelines (City 1990).

## 5.6 ADOPTED HABITAT CONSERVATION PLANS

### No Impacts

The study area is not located within any adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan. As such, implementation of the project would not conflict with any adopted habitat conservation plans.







## 6.0 MITIGATION MEASURES

The following provides recommended measures intended to minimize or avoid impacts to biological resources:

**BIO-1** Mitigation for project impacts to slender mariposa lily shall include one or more of the following:

- Prior to construction, a mitigation plan shall be developed that describes methods to mitigate for impacts to slender mariposa lily at a 1:1 ratio. The mitigation plan shall include a description of the mitigation site, bulb collection and planting methods, maintenance and monitoring requirements, and performance standards to measure the success of the mitigation. Slender mariposa lily bulbs shall be collected at the end of the growing season and prior to ground disturbance, or bulbs shall be obtained from a native plant nursery if available. The bulbs shall be planted within an appropriate on-site or off-site mitigation area, which will be conserved as open space in perpetuity.
- Payment into a mitigation bank and/or in-lieu fee program that has mitigation available for slender mariposa lily at a 1:1 ratio; and/or
- Preservation of land that contains slender mariposa lily at a 1:1 ratio.

Mitigation for significant impacts to slender mariposa lily shall be implemented in consultation with the City and CDFW prior to construction.

**BIO-2** **Burrowing Owl:** In compliance with the CDFW *Staff Report on Burrowing Owl Mitigation* (2012), a take avoidance survey shall be conducted on the study area within 14 days prior to ground disturbance to determine presence of BUOW. If the take avoidance survey is negative and BUOW is confirmed absent, then ground-disturbing activities shall be allowed to commence, and no further mitigation would be required.

If BUOW are observed during the take avoidance survey, active burrows shall be avoided by the project in accordance with the CDFW's Staff Report (2012). The CDFW shall be immediately informed of any BUOW observations. A Burrowing Owl Protection and Relocation Plan (plan) shall be prepared by a qualified biologist, which must be sent for approval by CDFW prior to initiating ground disturbance. The plan shall detail avoidance measures that shall be implemented during construction and passive or active relocation methodology. Relocation shall only occur outside of the nesting season (September 1 through January 31).

**BIO-3** **Southern Willow Scrub/Giant Reed Stand and CDFW Jurisdiction:** Prior to the City's issuance of a grading permit, the Project Applicant shall demonstrate that a Streambed Alteration Agreement has been issued by CDFW. Temporary impacts to CDFW jurisdiction shall be returned to pre-project topographic contours once the project has been completed. Permanent impacts to CDFW jurisdiction for southern willow scrub/giant reed stand (0.70 acre) shall be mitigated through on-site or off-site enhancement, restoration, and/or creation of CDFW jurisdictional streambed at ratio of

no less than 1:1. Given that the remaining portion of Bouquet Canyon Creek is dominated by invasive giant reed stands, which is of extremely low biological function and value and contributes to downstream infestation of giant reed, the remaining permanent impacts to CDFW jurisdiction (8.63 acres) shall be mitigated through on-site or off-site enhancement, restoration, and/or creation of CDFW jurisdictional streambed at a ratio of no less than 0.5:1. Best Management Practices (BMPs) to minimize and avoid impacts to CDFW jurisdiction during and after construction will be addressed as part in the Streambed Alteration Agreement. Minimization and avoidance measures may include, but are not limited to, the following:

- Construction-related equipment will be stored in developed areas, outside of drainages. No equipment maintenance will be done within or adjacent to the drainage.
- Mud, silt, spoil sites, raw cement, asphalt, or other pollutants from construction activities will not be placed within or adjacent to the drainage.
- Open trenches or other excavated areas will be properly secured at the end of the day to avoid entrapment of animals, or an escape ramp will be provided.
- To avoid attracting predators during construction, the project will be kept clean of debris to the extent possible. All food-related trash items will be enclosed in sealed containers and regularly removed from site.
- Construction personnel will strictly limit their activities, vehicles, equipment and construction material to the proposed project footprint, staging areas, and designated routes of travel.
- Exclusion fencing will be installed to demarcate the limits of disturbance. The exclusion fencing should be maintained until the completion of construction activities.
- To the extent feasible, construction will be conducted outside of the nesting bird season (see MM BIO-5 below).

**BIO-4**

**USACE and RWQCB Jurisdiction:** Prior to the City's issuance of a grading permit, the Project Applicant shall demonstrate that the appropriate regulatory permits have been issued by USACE and RWQCB. Temporary impacts to WUS shall be returned to pre-project topographic contours once the project has been completed. Compensatory mitigation for permanent impacts to WUS shall be required as part of subsequent permitting requirements. Permanent impacts to WUS shall be mitigated through on-site or off-site enhancement, restoration, and/or creation of jurisdictional streambed at a ratio of no less than 1:1. BMPs to minimize and avoid impacts to WUS during and after construction will be addressed as part of the USACE and RWQCB permitting process. Minimization and avoidance measures may include, but are not limited to, the following:



- Construction-related equipment will be stored in developed areas, outside of the drainage. No equipment maintenance will be done within or adjacent to the drainage.
- Source control and treatment control BMPs will be implemented to minimize the potential contaminants that are generated during and after construction. Water quality BMPs will be implemented throughout the project to capture and treat potential contaminants.
- Substances harmful to aquatic life will not be discharged into the drainage. All hazardous substances will be properly handled and stored.
- A Storm Water Pollution Prevention Plan will be prepared to prevent sediment from entering the drainage during construction.
- To avoid attracting predators during construction, the project will be kept clean of debris to the extent possible. All food-related trash items will be enclosed in sealed containers and regularly removed from site.
- Construction personnel will strictly limit their activities, vehicles, equipment and construction material to the proposed project footprint, staging areas, and designated routes of travel.
- Exclusion fencing will be installed to demarcate the limits of disturbance. The exclusion fencing should be maintained until the completion of construction activities.

**BIO-5**

**Nesting Birds:** Construction activities (i.e., earthwork, clearing, and grubbing) shall occur outside of the general bird nesting season for migratory birds, which is February 15 through August 31 for songbirds and January 15 to August 31 for raptors.

If construction activities (i.e., earthwork, clearing, and grubbing) must occur during the general bird nesting season for migratory birds and raptors, a qualified biologist shall perform a pre-construction survey of potential nesting habitat to confirm the absence of active nests belonging to migratory birds and raptors afforded protection under the MBTA and CFG Code. The pre-construction survey shall be performed no more than seven days prior to the commencement of construction activities. The results of the pre-construction survey shall be documented by the qualified biologist. If construction is inactive for more than seven days, an additional survey shall be conducted.

If the qualified biologist determines that no active migratory bird or raptor nests occur, the activities shall be allowed to proceed without any further requirements. If the qualified biologist determines that an active migratory bird or raptor nest is present, no impacts within 300 feet (500 feet for raptors) of the active nest shall occur until the young have fledged the nest and the nest is confirmed to no longer be active, or as determined by the qualified biologist. The biological monitor may modify the buffer or propose other recommendations in order to minimize disturbance to nesting birds.

**BIO-6**

**Protected Oak Trees:** Prior to construction, the Applicant shall obtain an Oak Tree Permit in accordance with the City's Oak Tree Preservation ordinance (City 2013) to impact protected oak trees. The following measures shall be required:

- **Impacted Trees:** All tree removals shall be conducted in the presence of a qualified arborist approved by the City. The Applicant shall replace impacted City-protected oak trees proposed for removal by planting replacement trees on-site, donating trees to the City, or to pay the City an equivalent monetary value of the replacement trees. Replacement ratios shall be determined based requirements described in Subsection B of the Oak Tree Preservation Ordinance (City 2013). Unless otherwise approved by the City, replacement trees shall be at a minimum of 24-inch box size and consist of the following tree species: coast live oak, valley oak, canyon live oak, or interior live oak. All replacement trees shall be approved by the City.
- **Encroached Trees:** The Applicant shall notify the City and qualified arborist 48 hours prior to beginning work within the protected zone of an oak tree. All work conducted within the protected zone shall be monitored by a qualified arborist and verified by the City. Work shall be done with hand tools only. Once work within the protected zones is complete, the qualified arborist shall submit a certification letter to the City within 10 working days demonstrating the work was conducted in accordance with project's permit. Other protection measures may be required by the City.
- **Encroached/Avoided Trees:** A minimum five-foot chain link fence in concrete footings with posts installed every eight feet and two feet deep shall be installed at the outermost edge of the protected zone of each oak or oak grove. Trees on steep slopes that will not be impacted by vegetation removal or graded may be exempt from fencing requirement. Fencing shall be inspected and approved by the City prior to construction initiation. Signs shall be placed on the fence in four locations around each tree or every 50 feet around oak groves. Signs shall be a minimum of two feet by two with the following language: "Warning: This fence is for the protection of this tree and shall not be removed or relocated without written authorization for the City of Santa Clara Community Development Department." The fence shall remain in place for the duration of construction and shall not be removed until receiving written authorization from the City. Planting within the protected zone is discouraged. If planting within the protected zone, only drought tolerant species shall be permitted and no spray-type irrigation shall be used. A maintenance and care program shall be implemented to ensure continued health and care of oak trees on the proposed development. Other protection measures may be required by the City.

## 7.0 CERTIFICATION/QUALIFICATION

The following individuals contributed to the fieldwork and/or preparation of this report:

Tara Baxter	B.A., Ecology and Evolutionary Biology, University of Colorado at Boulder, 2009
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## Appendix A

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### Plant Species Observed

## Appendix A Plant Species Observed

Family	Scientific Name	Common Name
<b>GYMNOSPERMS</b>		
Cupressaceae	<i>Cupressus sempervirens</i> *	Italian cypress
<b>ANGIOSPERMS – EUDICOTS</b>		
Adoxaceae	<i>Sambucus nigra</i> ssp. <i>caerulea</i>	blue elderberry
Aizoaceae	<i>Carpobrotus edulis</i> *	hottentot-fig
Anacardiaceae	<i>Malosma laurina</i>	laurel sumac
	<i>Rhus aromatica</i>	basket-brush
	<i>Rhus ovata</i>	sugar bush
	<i>Schinus molle</i> *	Peruvian pepper tree
	<i>Toxicodendron diversilobum</i>	poison oak
Apocynaceae	<i>Nerium oleander</i> *	oleander
Asteraceae	<i>Acourtia microcephala</i>	sacapellote
	<i>Ambrosia acanthicarpa</i>	annual bur-sage
	<i>Artemisia californica</i>	California sagebrush
	<i>Artemisia douglasiana</i>	mugwort
	<i>Artemisia tridentata</i>	Great Basin sagebrush
	<i>Baccharis pilularis</i>	coyote brush
	<i>Baccharis salicifolia</i>	mule fat
	<i>Centaurea benedicta</i> *	blessed thistle
	<i>Centaurea melitensis</i> *	totalote
	<i>Corethrogyne filaginifolia</i>	common sand aster
	<i>Deinandra fasciculata</i>	fascicled tarplant
	<i>Encelia farinosa</i>	brittlebush
	<i>Ericameria pinifolia</i>	pine goldenbush
	<i>Erigeron canadensis</i>	horseweed
	<i>Eriophyllum confertiflorum</i>	golden-yarrow
	<i>Gutierrezia californica</i>	California matchweed
	<i>Hazardia squarrosa</i>	saw-toothed goldenbush
	<i>Helianthus annuus</i>	western sunflower
	<i>Heterotheca grandiflora</i>	telegraph weed
	<i>Isocoma menziesii</i>	goldenbush
	<i>Iva axillaris</i>	povertyweed
	<i>Lactuca serriola</i> *	wild lettuce
	<i>Lepidospartum squamatum</i>	scale-broom
	<i>Malacothrix saxatilis</i>	cliff aster
	<i>Osteospermum</i> sp.*	African daisy
	<i>Pseudognaphalium californicum</i>	California everlasting
	<i>Pseudognaphalium luteoalbum</i> *	everlasting cudweed
	<i>Silybum marianum</i> *	milk thistle
	<i>Sonchus asper</i> *	prickly sow thistle
	<i>Stephanomeria virgata</i>	virgate wreath-plant
	<i>Taraxacum officinale</i> *	dandelion
	<i>Uropappus lindleyi</i>	silver puffs
Boraginaceae	<i>Amsinckia intermedia</i>	rancher's fiddleneck
	<i>Emmenanthe penduliflora</i>	whispering bells
<b>ANGIOSPERMS – EUDICOTS (cont.)</b>		
Boraginaceae (cont.)	<i>Eucrypta chrysanthemifolia</i>	common eucrypta
	<i>Eriodictyon crassifolium</i>	felt-leaf yerba santa
	<i>Heliotropium curassavicum</i> var. <i>occulatum</i>	salt heliotrope



## Appendix A (cont.) Plant Species Observed

Family	Scientific Name	Common Name
	<i>Phacelia brachyloba</i>	short lobed phacelia
	<i>Phacelia cicutaria</i>	caterpillar phacelia
	<i>Phacelia distans</i>	wild heliotrope
Brassicaceae	<i>Hirschfeldia incana</i> *	short-pod mustard
	<i>Sisymbrium irio</i> *	London rocket
	<i>Sisymbrium orientale</i> *	hare's ear cabbage
Cactaceae	<i>Opuntia basilaris</i>	beavertail cactus
Chenopodiaceae	<i>Atriplex canescens</i>	fourwing saltbush
	<i>Atriplex semibaccata</i> *	Australian saltbush
	<i>Chenopodium californicum</i>	California pigweed
	<i>Chenopodium murale</i> *	nettle-leaf goosefoot
	<i>Salsola tragus</i> *	Russian thistle
Convolvulaceae	<i>Calystegia peirsonii</i> <sup>1</sup>	Peirson's morning-glory
	<i>Cuscuta</i> sp.	dodder
Crassulaceae	<i>Dudleya lanceolata</i>	coastal dudleya
Cucurbitaceae	<i>Cucurbita foetidissima</i>	calabazilla
	<i>Marah macrocarpa</i>	wild cucumber
Euphorbiaceae	<i>Euphorbia albomarginata</i>	rattlesnake weed
	<i>Croton setigerus</i>	dove weed
	<i>Euphorbia serpens</i> *	matted sandmat
	<i>Stillingia linearifolia</i>	linear leaf stillingia
Fabaceae	<i>Acemisson glaber</i>	deerweed
	<i>Astragalus pomonensis</i>	Pomona locoweed
	<i>Lupinus bicolor</i>	miniature lupine
	<i>Lupinus succulentus</i>	arroyo lupine
	<i>Melilotus indicus</i> *	Indian sweet clover
	<i>Robinia pseudoacacia</i> *	black locust
Fagaceae	<i>Quercus berberidifolia</i>	scrub oak
	<i>Quercus douglasii</i>	blue oak
	<i>Quercus john-tuckeri</i>	Tucker oak
	<i>Quercus lobata</i>	valley oak
Geraniaceae	<i>Erodium cicutarium</i> *	redstem filaree
Lamiaceae	<i>Marrubium vulgare</i> *	horehound
	<i>Salvia apiana</i>	white sage
	<i>Salvia columbariae</i>	chia
	<i>Salvia leucophylla</i>	purple sage
	<i>Salvia mellifera</i>	black sage
	<i>Trichostema lanatum</i>	woolly blue-curls
<b>ANGIOSPERMS – EUDICOTS (cont.)</b>		
Malvaceae	<i>Malacothamnus fasciculatus</i>	chaparral mallow
	<i>Malva parviflora</i> *	cheeseweed
	<i>Malvella leprosa</i>	alkali-mallow
Meliaceae	<i>Melia azaderach</i> *	chinaberry
Myrtaceae	<i>Eucalyptus camaldulensis</i> *	river red gum
	<i>Eucalyptus globulus</i> *	blue gum
	<i>Eucalyptus polyanthemus</i> *	silver dollar gum
Nyctaginaceae	<i>Mirabilis laevis</i> ssp. <i>crassifolia</i>	wishbone bush
Onagraceae	<i>Clarkia purpurea</i>	purple clarkia
	<i>Clarkia unguiculata</i>	elegant clarkia

## Appendix A (cont.) Plant Species Observed

Family	Scientific Name	Common Name
	<i>Eulobus californicus</i>	California primrose
Orobanchaceae	<i>Castilleja exserta</i>	purple owl's clover
Papaveraceae	<i>Eschscholzia californica</i>	California poppy
Plantaginaceae	<i>Penstemon centranthifolius</i>	scarlet bugler
Polemoniaceae	<i>Allophyllum divaricatum</i>	purple false gilia
	<i>Eriastrum densifolium</i>	giant eriastrum
	<i>Gilia angelensis</i>	gilia
Polygonaceae	<i>Chorizanthe staticoides</i>	Turkish rugging
	<i>Eriogonum fasciculatum</i>	buckwheat
	<i>Polygonum aviculare</i> *	common knotweed
	<i>Rumex crispus</i> *	curly dock
Portulacaceae	<i>Portulaca oleracea</i> *	common purslane
Ranunculaceae	<i>Delphinium parryi</i>	San Bernardino larkspur
Rhamnaceae	<i>Rhamnus crocea</i>	spiny redberry
Rosaceae	<i>Adenostoma fasciculatum</i>	chamise
	<i>Heteromeles arbutifolia</i>	toyon
	<i>Prunus ilicifolia</i>	holly-leaved cherry
Rubiaceae	<i>Galium angustifolium</i>	narrow-leaved bedstraw
Salicaceae	<i>Populus fremontii</i> ssp. <i>fremontii</i>	Fremont cottonwood
	<i>Salix gooddingii</i>	Goodding's black willow
	<i>Salix laevigata</i>	red willow
Santalaceae	<i>Phoradendron</i> sp.	mistletoe
Sapindaceae	<i>Koeleruteria paniculata</i> *	goldenrain tree
Scrophulariaceae	<i>Scrophularia californica</i>	California figwort
	<i>Verbascum virgatum</i> *	wand mullein
Simaroubaceae	<i>Ailanthus altissima</i> *	tree-of-heaven
Solanaceae	<i>Datura wrightii</i>	jimson weed
	<i>Nicotiana glauca</i> *	tree tobacco
	<i>Nicotiana quadrivalvis</i>	Indian tobacco
	<i>Solanum xanti</i>	purple nightshade
Tamaricaceae	<i>Tamarix ramosissima</i> *	saltcedar
Ulmaceae	<i>Ulmus pumila</i> *	Siberian elm
Urticaceae	<i>Urtica dioica</i>	stinging nettle
Verbenaceae	<i>Verbena lasiostachys</i>	verbena
<b>ANGIOSPERMS – EUDICOTS (cont.)</b>		
Vitaceae	<i>Vitis vinifera</i> *	cultivated grape
Zygophyllaceae	<i>Tribulus terrestris</i> *	puncture vine
<b>ANGIOSPERMS – MONOCOTS</b>		
Agavaceae	<i>Hesperoyucca whipplei</i>	Our Lord's candle
Arecaceae	<i>Washingtonia robusta</i> *	Mexican fan palm
Liliaceae	<i>Calochortus clavatus</i> var. <i>clavatus</i> <sup>2</sup>	club-haired mariposa lily
	<i>Calochortus clavatus</i> var. <i>gracilis</i> <sup>3</sup>	slender mariposa lily
	<i>Calochortus splendens</i>	lilac mariposa lily
	<i>Calochortus venustus</i>	butterfly mariposa lily



## Appendix A (cont.) Plant Species Observed

Family	Scientific Name	Common Name
Poaceae	<i>Arundo donax</i> *	giant reed
	<i>Avena barbata</i> *	slender oat
	<i>Avena fatua</i> *	wild oats
	<i>Bromus diandrus</i> *	common ripgut grass
	<i>Bromus hordeaceus</i> *	soft brome
	<i>Bromus madritensis</i> ssp. <i>rubens</i> *	red brome
	<i>Bromus tectorum</i> *	cheatgrass
	<i>Cynodon dactylon</i> *	Bermuda grass
	<i>Distichlis spicata</i>	saltgrass
	<i>Elymus condensatus</i>	giant wild rye
	<i>Festuca myuros</i> *	fescue
	<i>Hordeum murinum</i> *	hare barley
	<i>Polypogon monspeliensis</i> *	annual beardgrass
	<i>Schismus barbatus</i> *	Mediterranean grass
Themidaceae	<i>Bloomeria crocea</i>	common goldenstar
	<i>Dichelostemma capitatum</i>	blue dicks

\* Non-native species

<sup>1</sup> California Rare Plant Rank (CRPR) 4.2

<sup>2</sup> CRPR 4.3

<sup>3</sup> CRPR 1B.2

## Appendix B

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### Animal Species Observed or Detected



## Appendix B

### Animal Species Observed or Detected

Order	Family	Scientific Name	Common Name
<b>Insects</b>			
Lepidoptera	Pieridae	<i>Anthocharis sara sara</i>	Sara orangetip
	Riodinidae	<i>Apodemia mormo virgulti</i>	Behr's metalmark
<b>Reptiles</b>			
Squamata	Phrynosomatidae	<i>Sceloporus occidentalis</i>	western fence lizard
<b>Birds</b>			
Accipitriformes	Accipitridae	<i>Accipiter cooperii</i>	Cooper's hawk
		<i>Buteo jamaicensis</i>	red-tailed hawk
	Cathartidae	<i>Cathartes aura</i>	turkey vulture
Apodiformes	Apodidae	<i>Aeronautes saxatalis</i>	white-throated swift
	Trochilidae	<i>Calypte anna</i>	Anna's hummingbird
		<i>Calypte costae</i>	Costa's hummingbird
		<i>Selasphorus</i> sp.	hummingbird sp.
Charadriiformes	Charadriidae	<i>Charadrius vociferus</i>	killdeer
Columbiformes	Columbidae	<i>Columba livia</i>	rock pigeon
		<i>Streptopelia decaocto</i>	Eurasian collared-dove
		<i>Zenaida macroura</i>	mourning dove
Cuculiformes	Cuculidae	<i>Geococcyx californianus</i>	greater roadrunner
Falconiformes	Falconidae	<i>Falco sparverius</i>	American kestrel
Galliformes	Odontophoridae	<i>Callipepla californica</i>	California quail
Passeriformes	Aegithalidae	<i>Psaltirparus minimus</i>	bushtit
	Alaudidae	<i>Eremophila alpestris</i>	horned lark
	Cardinalidae	<i>Passerina caerulea</i>	blue grosbeak
		<i>Pheucticus melanocephalus</i>	black-headed grosbeak
		<i>Piranga ludoviciana</i>	western tanager
	Corvidae	<i>Aphelocoma californica</i>	California scrub-jay
		<i>Corvus brachyrhynchos</i>	American crow
		<i>Corvus corax</i>	common raven
	Emberizidae	<i>Aimophila ruficeps</i>	rufous-crowned sparrow
		<i>Chondestes grammacus</i>	lark sparrow
		<i>Melospiza melodia</i>	song sparrow
		<i>Pipilo crissalis</i>	California towhee
		<i>Pipilo maculatus</i>	spotted towhee
		<i>Zonotrichia leucophrys</i>	white-crowned sparrow
	Fringillidae	<i>Haemorhous mexicanus</i>	house finch
		<i>Spinus psaltria</i>	lesser goldfinch
		<i>Spinus tristis</i>	American goldfinch
	Hirundinidae	<i>Hirundo rustica</i>	barn swallow
		<i>Petrochelidon pyrrhonota</i>	cliff swallow
		<i>Stelgidopteryx serripennis</i>	northern rough-winged swallow
	Icteridae	<i>Agelaius phoeniceus</i>	red-winged blackbird
		<i>Icterus cucullatus</i>	hooded oriole
		<i>Molothrus ater</i>	brown-headed cowbird
		<i>Sturnella neglecta</i>	western meadowlark
		<i>Mimus polyglottos</i>	northern mockingbird
	Mimidae	<i>Toxostoma redivivum</i>	California thrasher
	Paradoxornithidae	<i>Chamaea fasciata</i>	wrentit
	Paridae	<i>Baeolophus inornatus</i>	oak titmouse

## Appendix B (cont.)

### Animal Species Observed or Detected

Order	Family	Scientific Name	Common Name
Birds (cont.)			
Passeriformes (cont.)	Parulidae	<i>Cardellina pusilla</i>	Wilson’s warbler
		<i>Geothlypis trichas</i>	common yellowthroat
		<i>Oreothlypis celata</i>	orange-crowned warbler
		<i>Setophaga coronate</i>	yellow-rumped warbler
	Passerellidae	<i>Aimophila ruficeps</i>	rufous-crowned sparrow
		<i>Melospiza melodia</i>	song sparrow
		<i>Melospiza crissalis</i>	California towhee
		<i>Pipilo maculatus</i>	spotted towhee
		<i>Zonotrichia leucophrys</i>	white-crowned sparrow
	Poliotilidae	<i>Poliottila caerulea</i>	blue-gray gnatcatcher
	Ptilonotidae	<i>Phainopepla nitens</i>	Phainopepla
	Sturnidae	<i>Sturnus vulgaris</i>	European starling
	Troglodytidae	<i>Thryomanes bewickii</i>	Bewick's wren
	Turdidae	<i>Sialia mexicana</i>	western bluebird
		<i>Turdus migratorius</i>	American robin
	Tyrannidae	<i>Contopus sordidulus</i>	western wood-pewee
		<i>Empidonax difficilis</i>	pacific-slope flycatcher
<i>Myiarchus cinerascens</i>		ash-throated flycatcher	
<i>Sayornis nigricans</i>		black phoebe	
<i>Sayornis saya</i>		Say's phoebe	
<i>Tyrannus verticalis</i>		western kingbird	
<i>Tyrannus vociferans</i>		Cassin's kingbird	
Piciformes	Picidae	<i>Colaptes auratus</i>	northern flicker
		<i>Melanerpes formicivorus</i>	acorn woodpecker
		<i>Picoides nuttallii</i>	Nuttall's woodpecker
		<i>Picoides pubescens</i>	Downy woodpecker
Mammals			
Carnivora	Canidae	<i>Canis latrans</i>	coyote
	Felidae	<i>Lynx rufus</i>	bobcat
	Procyonidae	<i>Procyon lotor</i>	raccoon
Lagomorpha	Leporidae	<i>Sylvilagus audubonii</i>	desert cottontail
Rodentia	Sciuridae	<i>Otospermophilus beecheyi</i>	California ground squirrel



## Appendix C

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### Representative Site Photographs



Photograph 1: Overview of the study area, facing west. Note the flatter portions of the study area support mostly non-native grass species due to historical ranching activities and the steeper hillsides support native Riversidean upland sage scrub.



Photograph 2: View of the mule fat scrub community, facing south.



Photograph 3: View of the non-native vegetation community (left) and elderberry savanna community (right), facing west.



Photograph 4: View of the big sagebrush scrub community (foreground) and giant reed stand community (background), facing south-west.

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Note: See Figure 5 for photograph locations.

Source: HELIX 2017





Photograph 5: View of the non-native vegetation community (left) and the southwestern willow scrub/giant reed stand community (right), facing north.



Photograph 6: View of non-native grassland community (left) and Riversidean upland sage scrub community (right), facing south. The non-native grassland/Riversidean upland sage scrub can be seen on the hillsides in the background.



Photograph 7: View of the Riversidean upland sage scrub/non-native grassland community (left) and disturbed habitat (right), facing south.



Photograph 8: View of the scrub oak chaparral community, facing southeast.

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Note: See Figure 5 for photograph locations.

Source: HELIX 2017

## Appendix D

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### Burrowing Owl Focused Survey Report



HELIX Environmental Planning, Inc.  
16485 Laguna Canyon Road  
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Irvine, CA 92618  
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September 7, 2018

IPQ-25

Mr. Scott Covington  
Integral Communities  
888 San Clemente Drive, Suite 100  
Newport Beach, CA 92660

Subject: 2018 Burrowing Owl (*Athene cunicularia*) Survey Report for the Bouquet Canyon Road Project

Dear Mr. Covington:

This letter report presents the results of the 2018 focused burrowing owl (*Athene cunicularia*; BUOW) survey conducted by HELIX Environmental Planning, Inc. (HELIX) for the Bouquet Canyon Road Project (project) located in the City of Santa Clarita, Los Angeles County, California. The survey was conducted in accordance with the California Department of Fish and Wildlife (CDFW; previously California Department of Fish and Game [CDFG]) Staff Report on Burrowing Owl Mitigation (CDFG 2012). This letter report describes the methods used to perform the survey and the survey results.

## PROJECT SITE LOCATION

The 78.10-acre project site is generally located 6.9 miles to the east of Interstate 5 and 3.8 miles to the northwest of California State Route 14 in the City of Santa Clarita (Figure 1, *Regional Location*). The project site is within Section 6 of Township 4 North, Range 15 West of the Mint Canyon, California U.S. Geological Survey (USGS) 7.5-minute topographic quadrangle (Figure 2, *Vicinity Map*). Specifically, the project site is located directly south of the intersection of David Way and Bouquet Canyon Road (Figure 3, *Aerial Photograph*).

## PROJECT SITE DESCRIPTION

The project site is located in the foothills of the Sierra Pelona Mountains. The topography in the southern and western portions of the project site is predominantly steep hillsides, while the northern portion is primarily flat. Elevations on the project site range from approximately 1,365 feet above mean sea level (AMSL) near the northwest corner of the project to approximately 1,520 feet above AMSL near the southeastern corner. The steep hills throughout the southern and western portions of the site are predominated by Riversidean upland sage scrub while the flatter portions of the project site are dominated by non-native grassland. Seven soil types are mapped on the project site, including Hanford

sandy loam (HcC), Metz loam sandy (MfA), Mocho loam (MpA), Ojai loam (OgF), Saugus loam (ScF2), Sorrento loam (SsA), and Yolo loam (YoC).

Immediate surrounding land uses include existing residential development to the north and west, a mixture of undeveloped land and residential development to the south, and undeveloped land and juvenile detention schools to the east (Figure 3). The project site is located approximately 0.20 mile to the southeast of Haskell Canyon Open Space and 1.40 miles to the south of Angeles National Forest.

Representative photographs of the project site are shown on Attachment A, *Site Photographs*.

## METHODS

The focused BUOW survey was conducted according to the CDFW BUOW survey guidelines (CDFG 2012), which includes Part I Habitat Assessment and Focused Burrow Survey and Part II Focused BUOW Surveys. The CDFW BUOW survey guidelines are described in further detail below.

### Part I: Habitat Assessment and Focused Burrow Survey

Prior to conducting the habitat assessment, HELIX consulted the California Natural Diversity Database (CNDDDB) to determine the nearest BUOW occurrence(s). A habitat assessment was conducted by HELIX biologists Lauren Singleton and Daniel Torres on March 27, 2018, to determine whether the project site supports suitable BUOW habitat. A focused burrow survey was conducted concurrently with the habitat assessment. All suitable burrows (i.e., greater than 11 centimeters [cm] in height and width and greater than 150 cm in depth) and burrow surrogates were recorded using a handheld Global Positioning System (GPS) unit (Figure 4, *Suitable Burrow and Transect Locations*). The habitat assessment and focused burrow survey were conducted prior to commencement of the BUOW focused surveys. The assessment was conducted on the project site and within a 150-meter (approximately 500-foot) buffer zone around the periphery of the project site (survey area). The survey area was slowly walked and assessed for suitable BUOW habitat, including:

- disturbed low-growing vegetation within grassland and shrublands (less than 30 percent canopy cover);
- gently rolling or level terrain;
- areas with abundant small mammal burrows, especially California ground squirrel (*Otospermophilus beecheyi*) burrows;
- fence posts, rocks, or other low perching locations; and
- man-made structures, such as earthen berms, debris piles, and cement culverts.

All potential burrows were checked for signs of recent owl occupation. Signs of occupation include:

- pellets/casting (regurgitate fur, bones, and/or insect parts);
- white wash (excrement); and/or
- feathers.



## Part II: Locating Burrowing Owls

Since suitable habitat and burrows were observed within the survey area, focused BUOW surveys were conducted to determine whether the survey area supports BUOW. The focused surveys consisted of four breeding season surveys that were performed by HELIX biologist Ezekiel Cooley between April 13 and June 26, 2018. The surveys were spaced at least three weeks apart, with at least one survey conducted between February 15 and April 15 and three surveys conducted between April 15 and July 15 (Table 1, *Survey Information*)

The biologist walked transects spaced no greater than 20 meters apart (approximately 65 feet) to allow for 100 percent visual coverage of all suitable habitat within the survey area (Figure 4). The biologist walked slowly and methodically, closely checking suitable habitat within the survey area for BUOW diagnostic sign (e.g., molted feathers, pellets/castings, or whitewash at or near a burrow entrance) and individual BUOW. If observed, BUOW sign and BUOW observations were recorded with a GPS unit. Inaccessible areas of the survey area were visually assessed using binoculars.

**Table 1**  
**SURVEY INFORMATION**

Site Visit	Survey Date	Biologist	Start/Stop Time	Start/Stop Weather Conditions	Survey Results
HA <sup>1</sup>	03/27/18	Lauren Singleton Daniel Torres	0800-1300	54°F, wind 6-7 mph, 0% clouds 66°F, wind 6-7 mph, 0% clouds	Suitable habitat and burrows present.
1	04/13/18	Ezekiel Cooley	0630-1000	48°F, wind 2-3 mph, 100% clouds 63°F, wind 2-4 mph, 5% clouds	No BUOW detected.
2	05/11/18	Ezekiel Cooley	0625-1000	58°F, wind 2-3 mph, 100% clouds 61°F, wind 1-2 mph, 100% clouds	No BUOW detected.
3	06/08/18	Ezekiel Cooley	0600-1000	56°F, wind 2-3 mph, 0% clouds 73°F, wind 1-2 mph, 0% clouds	No BUOW detected.
4	06/26/18	Ezekiel Cooley	0630-0950	61°F, wind 0-1 mph, 0% clouds 70°F, wind 0-1 mph, 5% clouds	No BUOW detected.

<sup>1</sup> Part I Habitat Assessment and focused burrowing survey.

## RESULTS

No BUOW have been previously recorded on the project site. The nearest BUOW observation record in CNDDB was observed in 2005, approximately three miles to the southeast of the survey area (California Department of Fish and Wildlife 2018).

Suitable BUOW habitat was observed within the survey area, including low-growing vegetation within disturbed areas and non-native grasslands (Attachment A). Several burrows that could potentially be used by BUOW were observed within the survey area and suitable foraging habitat was observed within and adjacent to the survey area. No BUOW or sign of BUOW occupation were observed within the survey area during the four focused surveys. Therefore, BUOW do not currently occupy the survey area. Observed burrow locations and transects walked are show on Figure 4.

## CONCLUSION

No BUOW were observed or detected within the survey area during the focused surveys. Burrows with potential to support BUOW were noted on the project site, but no sign of BUOW occupation was observed. A take avoidance (pre-construction) survey is required to be conducted within 14 days prior to ground disturbance in accordance with CDFW Staff Report on Burrowing Owl Mitigation (2012). If ground-disturbing activities are delayed more than 14 days after the pre-construction survey has been completed, the project site must be resurveyed.

If you have any questions regarding the information presented in this letter report, please contact Ezekiel Cooley (EzekielC@helixepi.com) at (949) 234-8770.

Sincerely,



Ezekiel Cooley  
Biologist

### Enclosures:

Figure 1: Regional Location  
Figure 2: Vicinity Map  
Figure 3: Aerial Photograph  
Figure 4: Suitable Burrow and Transect Locations  
Attachment A: Site Photographs

## REFERENCES

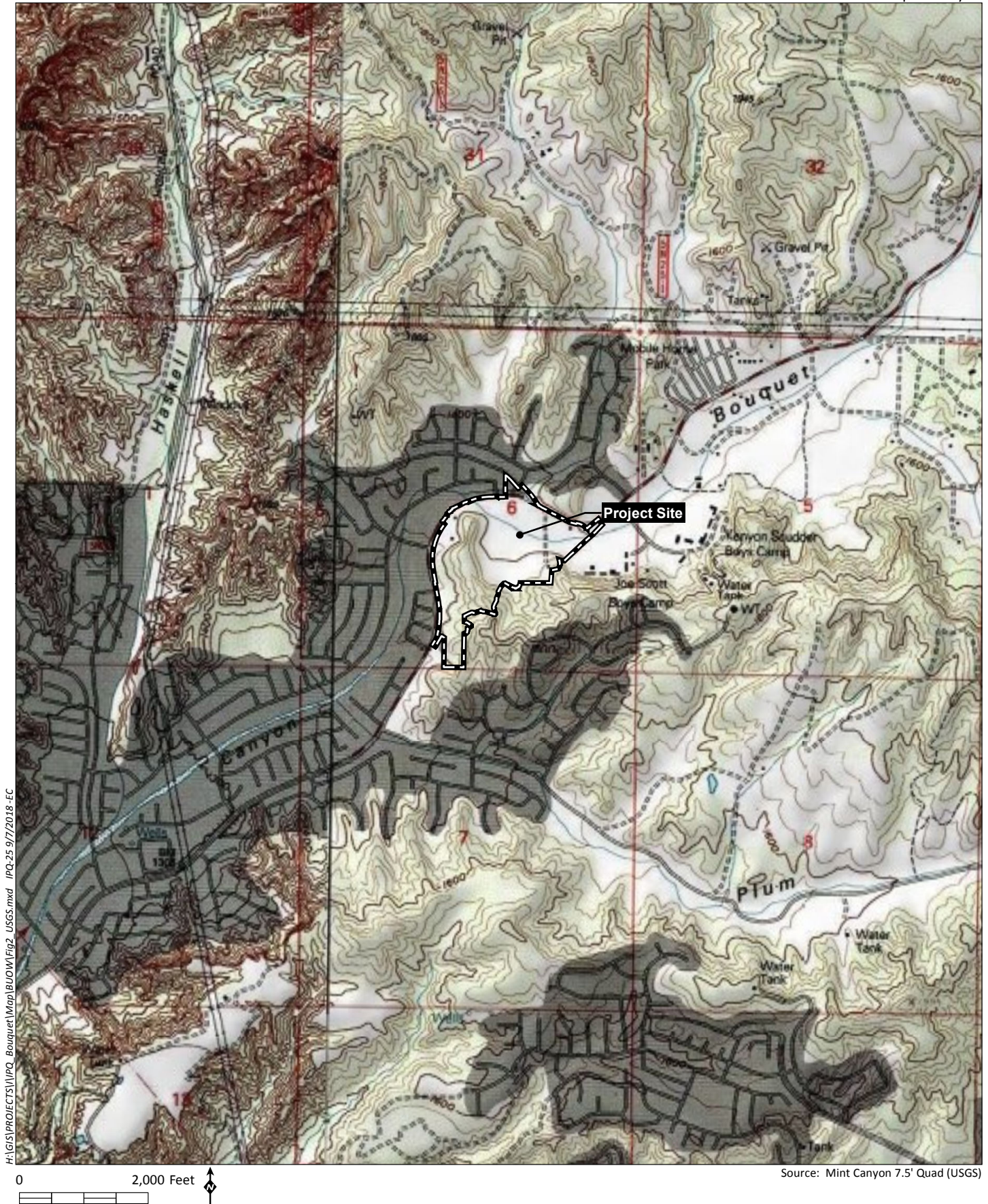
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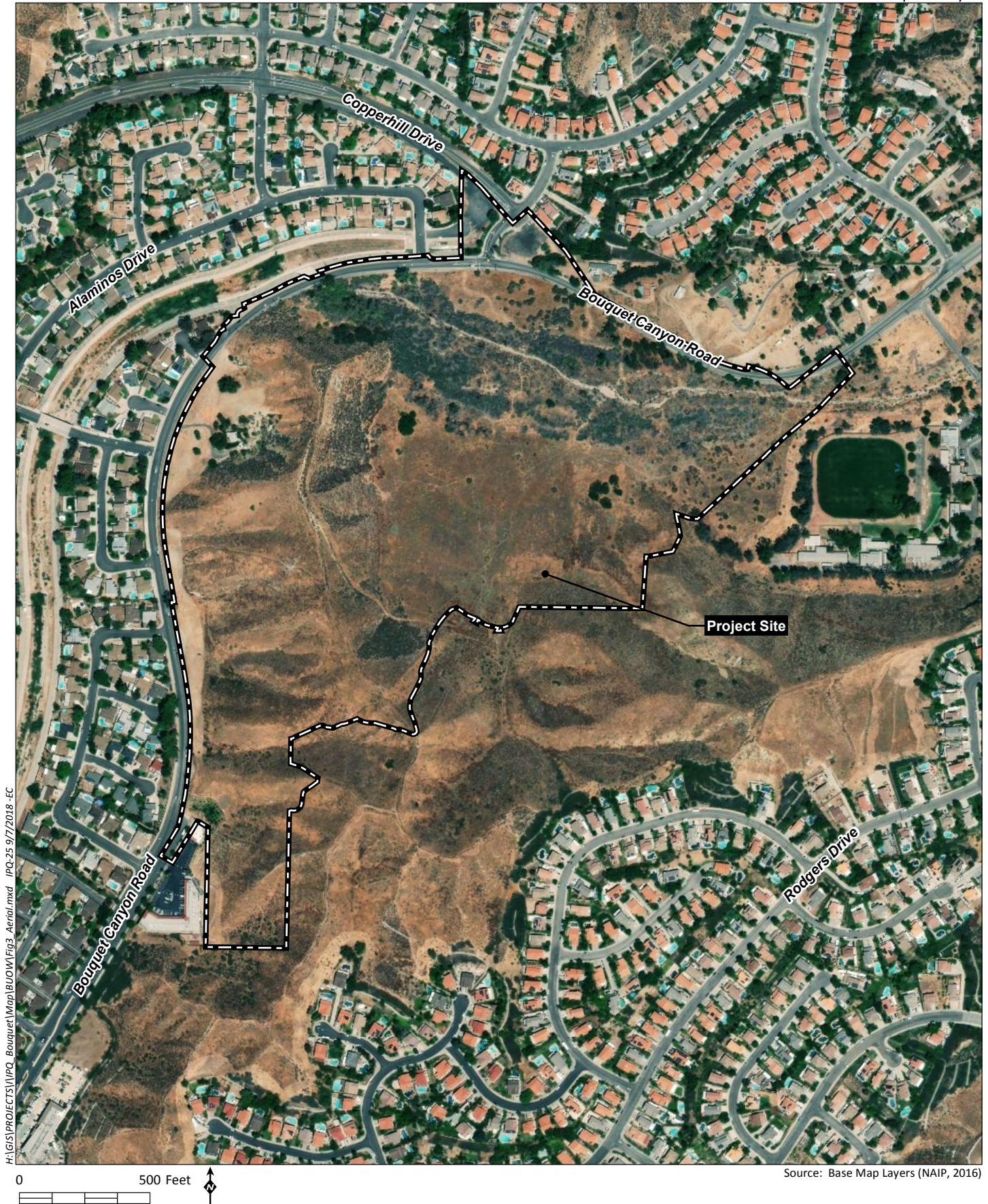




















Photograph 1: View of the non-native grassland located in the center of the study area, facing east.



Photograph 2: View of the non-native grassland located in the center of the study area, facing south.



Photograph 3: View of disturbed-riversidean upland sage scrub in foreground, chamise chaparral/non-native grassland, non-native grassland, and disturbed area in the background, facing southwest.



Photograph 4: View of disturbed areas located adjacent to Bouquet Canyon Road, facing south.

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Note: See Figure 4 for photograph locations.

Source: HELIX 2018



## Appendix E

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### Coastal California Gnatcatcher Focused Survey Report

June 22, 2018

IPQ-25

Mr. Chris Kofron  
US Fish & Wildlife Service  
2493 Portola Road, Suite B  
Ventura, California 93003

**Subject: 2018 Coastal California Gnatcatcher (*Poliophtila californica californica*) Survey Report for the Bouquet Canyon Project**

Dear Mr. Kofron:

This letter presents the results of a US Fish and Wildlife Service (USFWS) protocol presence/absence survey of the federally listed threatened coastal California gnatcatcher (*Poliophtila californica californica*; CAGN) conducted by HELIX Environmental Planning, Inc. (HELIX) for the Bouquet Canyon Project (project). The project site is comprised of four parcels with Assessor Parcel Numbers (APNs) 2812-008-03, -013, -022, and -031 located in the City of Santa Clarita, Los Angeles County, California. The project site also includes the northwest corner of the parcel with APN 2812-038-022, which may be considered for slope stabilization associated with the proposed development, and a road easement that extends through the southern portion of the parcel with APN 2812-008-022. In addition, a 100-foot buffer around the project site was evaluated. This report describes the methods used to perform the survey and the results, which is being submitted to the USFWS as a condition of HELIX's Threatened and Endangered Species Permit TE-778195-13.

## PROJECT LOCATION

The approximately 78-acre project site and 24-acre buffer is generally located 6.9 miles to the east of Interstate 5 and 3.8 miles to the northwest of California State Route 14 in the City of Santa Clarita (Figure 1). Specifically, the project site is located directly south of the intersection of David Way and Bouquet Canyon Road (Figure 2). The project site is within Section 6 of Township 4 North, Range 15 West of the Mint Canyon, California US Geological Survey (USGS) 7.5-minute topographic quadrangle (Figure 3).

Immediate surrounding land uses include existing residential development to the north and west, a mixture of undeveloped land and residential development to the south, and undeveloped land and juvenile detention schools to the east. The project site is located approximately 0.20 mile to the southeast of Haskell Canyon Open Space and 1.40 miles to the south of Angeles National Forest.



## METHODS

The survey consisted of six visits that were performed by HELIX biologist Tara Baxter (TE 87004B-0) in accordance with the current (1997) USFWS protocol. Approximately 32.83 acres of potential CAGN habitat occurs within the survey area, which consists of big sagebrush scrub, Riversidean upland sage scrub, disturbed-Riversidean upland sage scrub, Riversidean upland sage scrub/non-native grassland, and non-native grassland/Riversidean upland sage scrub mapped within the project site and 100-foot buffer (Figure 4). Table 1 details the survey dates, times, and conditions.

The surveys were conducted by walking within and along the perimeter of suitable CAGN habitat within the project site. Suitable habitat in areas adjacent to the project site were surveyed from the project site boundary. The survey route was arranged to ensure complete survey coverage of habitat with potential for occupancy by CAGN. Surveys were conducted with binoculars to aid in bird detection. Recorded CAGN vocalizations were played sparingly and only if other means of detection had failed. If a CAGN was detected before playing recorded vocalizations, the recordings were not played. Once CAGNs were initially detected in an area, use of playback was discontinued. The approximate survey route followed is depicted on Figure 4.

**Table 1**  
**GNATCATCHER SURVEY INFORMATION**

Site Visit	Survey Date	Biologist(s)	Start/Stop Time	Approx. Acres Surveyed/ Acres per Hour	Start/Stop Weather Conditions	Survey Results
1	03/24/18	Tara Baxter	0715/1045	32.83 ac/ 9.38 ac/hr	46°F, wind 2-4 mph, 20% cloud cover 64°F, wind 3-5 mph, 40% cloud cover	No CAGN detected
2	04/07/18	Tara Baxter	0630/0930	32.83 ac/ 9.38 ac/hr	56°F, wind 0-2 mph, 15% cloud cover 70°F, wind 1-3 mph, 20% cloud cover	No CAGN detected
3	04/14/18	Tara Baxter	0830/1130	32.83 ac/ 9.38 /hr	67°F, wind 0-2mph, 0% cloud cover 77°F, wind 0-2 mph, 0% cloud cover	No CAGN detected
4	04/21/18	Tara Baxter	0700/1000	32.83 ac/ 9.38 ac/hr	50°F, wind 0-2mph, 0% cloud cover 68°F, wind 1-3 mph, 0% cloud cover	No CAGN detected
5	05/05/18	Tara Baxter	0600/0900	32.83 ac/ 9.38 ac/hr	57°F, wind 0-2 mph, 5% cloud cover 74°F, wind 1-3 mph, 10% cloud cover	No CAGN detected
6	05/12/18	Tara Baxter	0645/0945	32.83 ac/ 9.38 ac/hr	59°F, wind 1-4 mph, 95% cloud cover 63°F, wind 1-4 mph, 100% cloud cover	No CAGN detected



## COASTAL CALIFORNIA GNATCATCHER HABITAT

### Big Sagebrush Scrub

Big sagebrush scrub comprises mostly soft-woody shrubs up to two meters tall, and usually has bare ground underneath and between the shrubs. This vegetation community is dominated by big sagebrush (*Artemisia tridentata*) and occurs on a wide variety of soils and terrain, from rocky, well-drained slopes to fine-textured valley soils with high water tables. Other species observed in this community included mostly non-native species, such as giant reed (*Arundo donax*), short-pod mustard (*Hirschfeldia incana*), and tree tobacco (*Nicotiana glauca*).

### Riversidean Upland Sage Scrub

Riversidean upland sage scrub (including disturbed-Riversidean sage scrub, Riversidean sage scrub/non-native grassland, and non-native grassland/Riversidean sage scrub) occupies xeric sites such as steep slopes, severely drained soils, or clays that slowly release stored soil moisture. This vegetation community is dominated by California sagebrush (*Artemisia californica*) and California buckwheat (*Eriogonum fasciculatum*). Other species observed in this community included basket-brush (*Rhus aromatica*), purple sage (*Salvia leucophylla*), and rancher's fiddleneck (*Amsinckia intermedia*).

Disturbed-Riversidean sage scrub has been subjected to human disturbance and has a lower percent cover of Riversidean sage scrub species and a higher percent cover of bare ground. Riversidean sage scrub/non-native grassland is dominated by California sagebrush and California buckwheat with several non-native grass species interspersed between shrubs, including red brome (*Bromus madritensis* ssp. *rubens*), ripgut (*Bromus diandrus*), and soft chess (*Bromus hordeaceus*). Non-native grassland/Riversidean sage scrub is dominated by non-native grass species with interspersed California sagebrush and California buckwheat shrubs.

## RESULTS

No coastal California gnatcatchers were detected during the survey (Figure 4). CAGN is assumed to be absent from the survey area.

## CERTIFICATION

I certify that the information in this survey report and enclosed exhibit fully and accurately represent our work.

Sincerely,



Tara Baxter

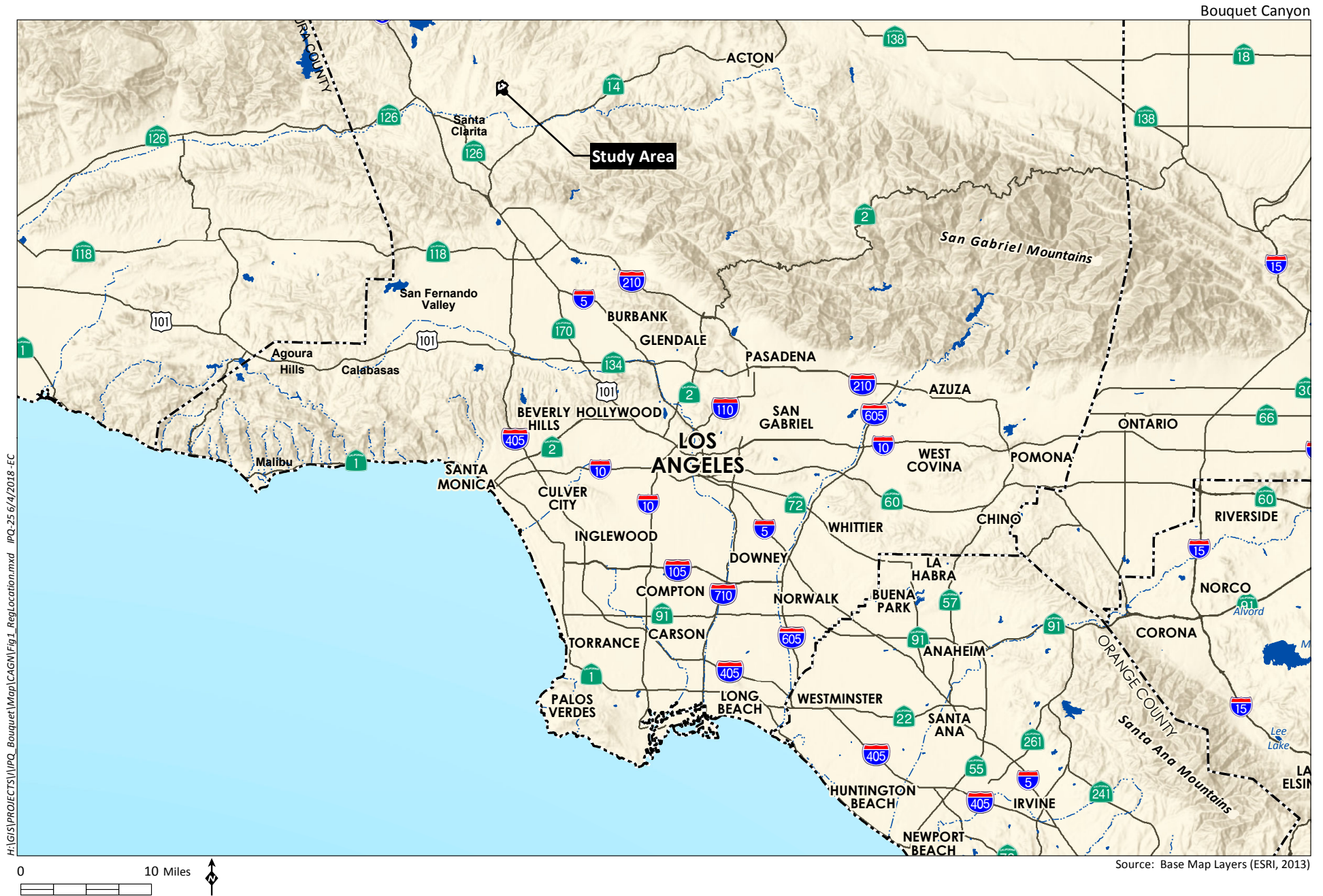
### Enclosures:

- Figure 1 Regional Location
- Figure 2 Project Vicinity (Aerial Photograph)
- Figure 3 Project Vicinity (USGS Topography)
- Figure 4 2018 Coastal California Gnatcatcher Survey Results

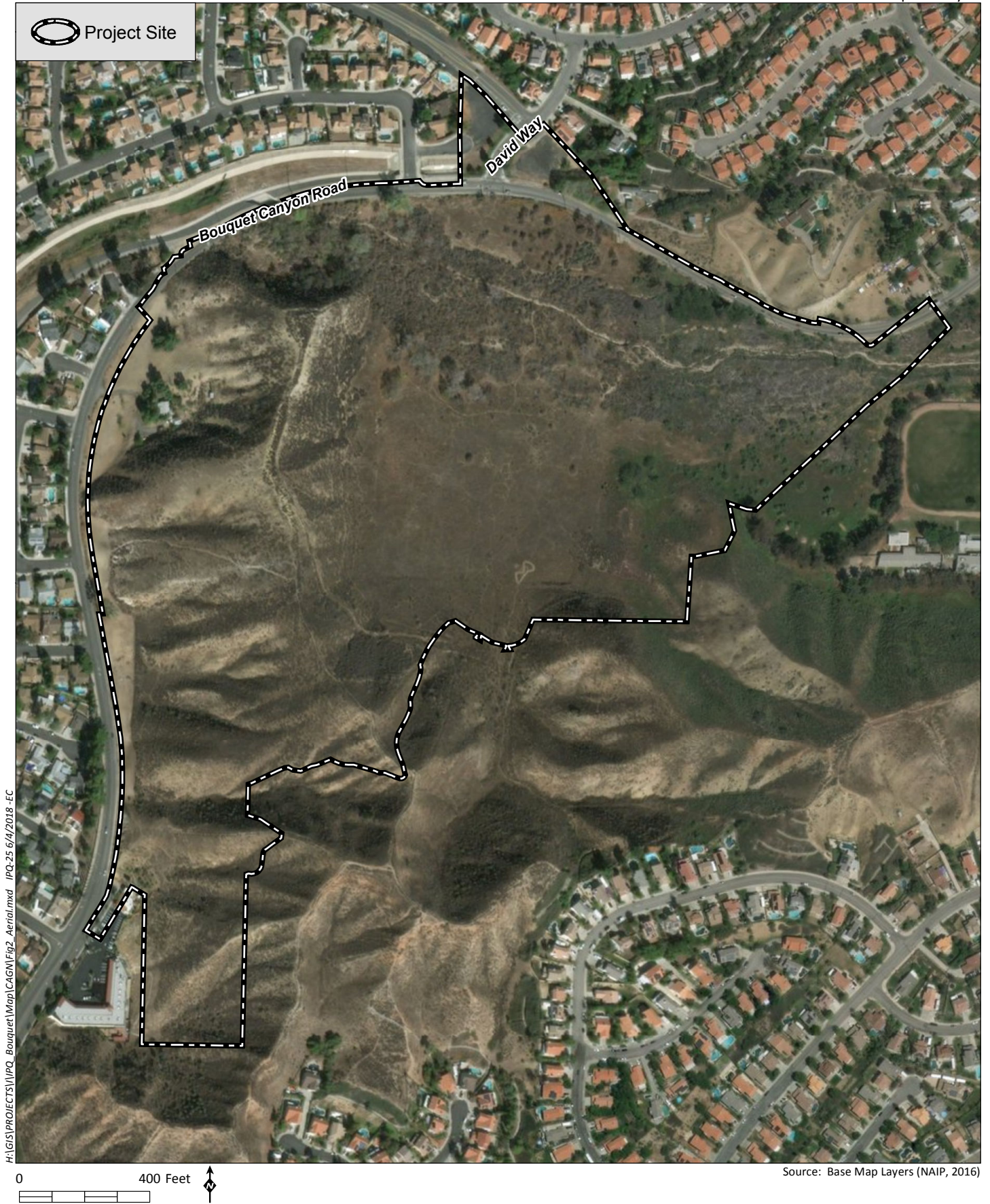
## REFERENCES

US Fish and Wildlife Service (USFWS). 1997. Coastal California Gnatcatcher (*Polioptila californica californica*) Presence/Absence Survey Protocol. 5pp.

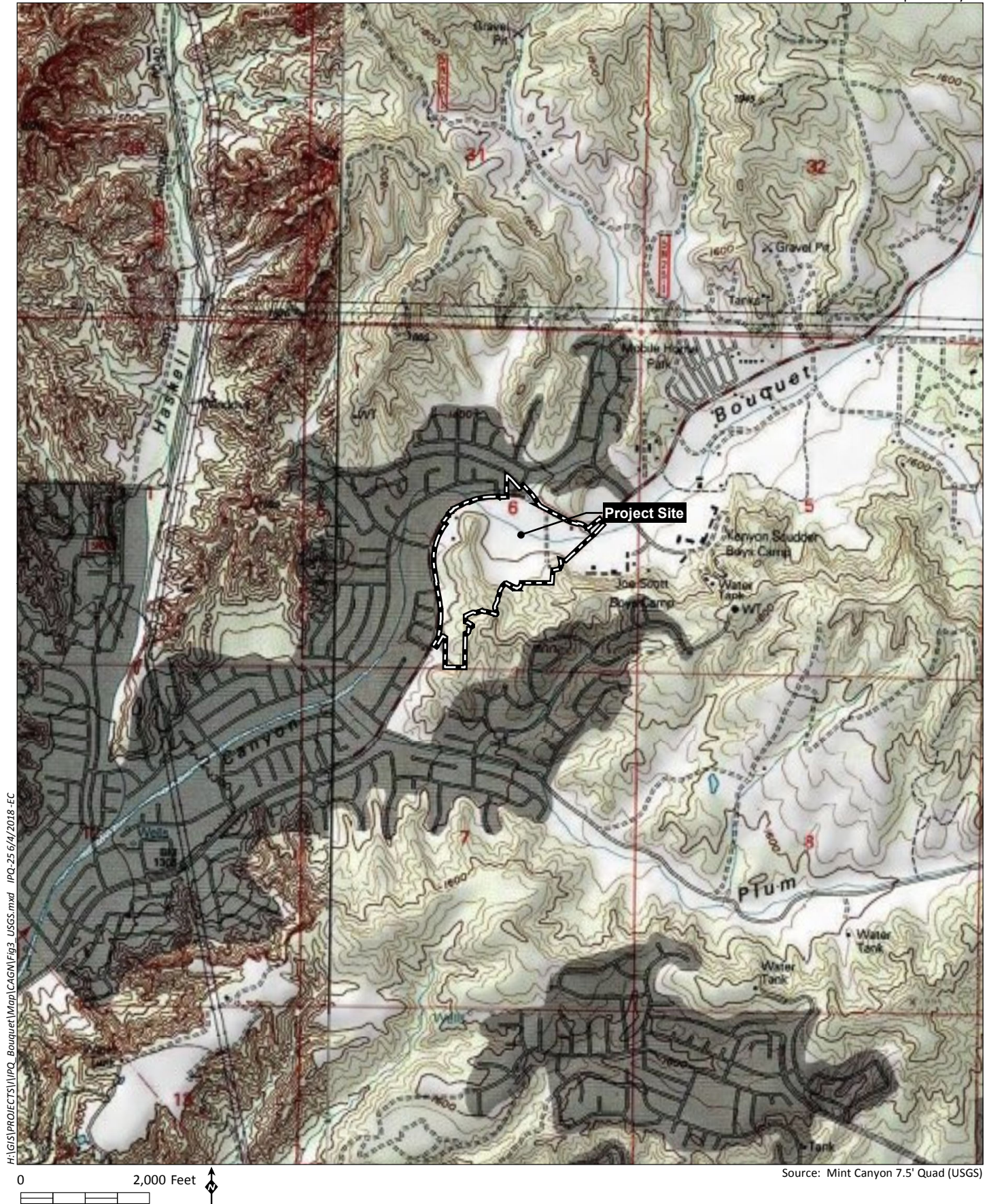




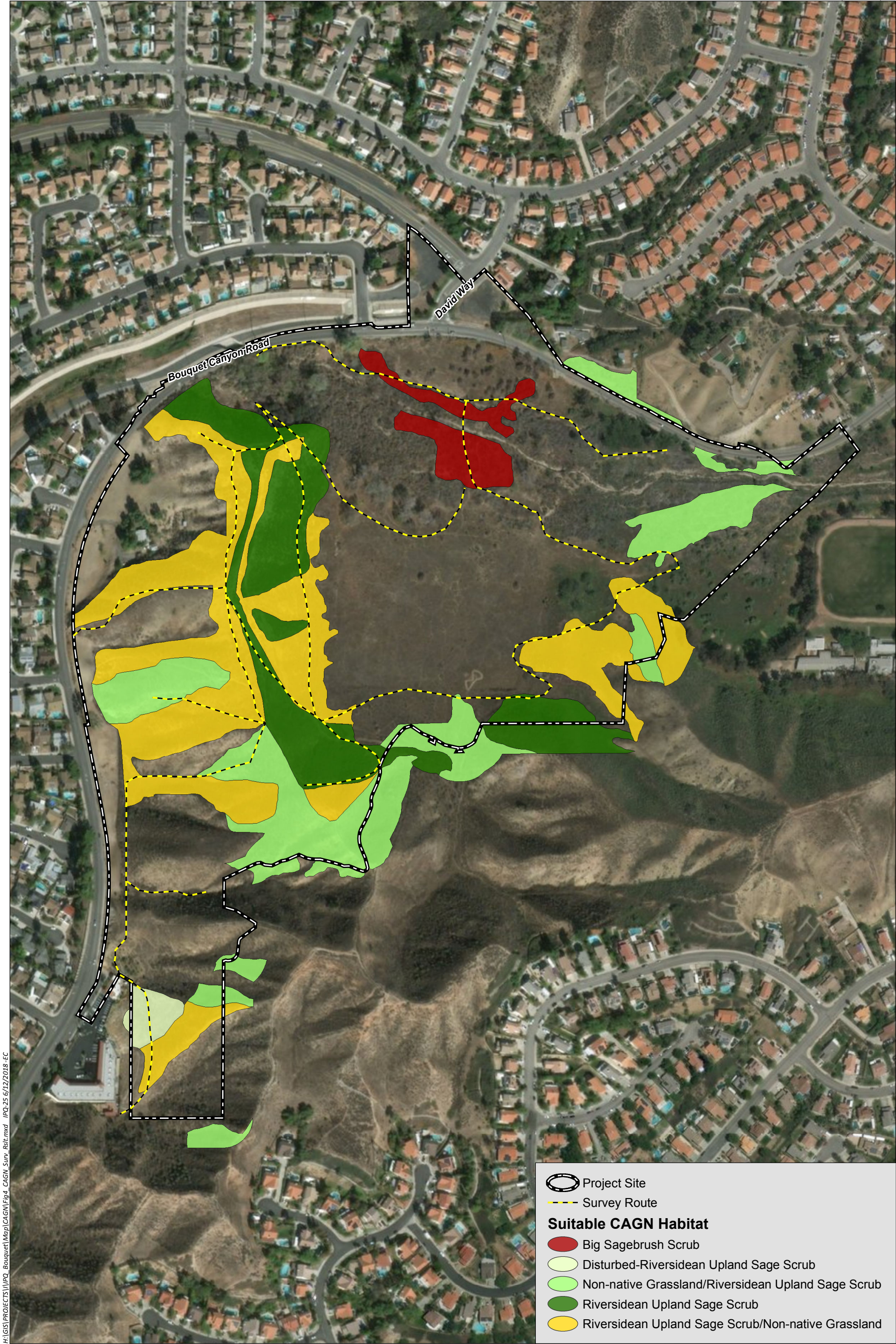












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## Appendix F

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### Representative Drainage Photographs



Photograph 1: View of the eastern portion of Bouquet Canyon Creek, facing downstream. The unvegetated river wash can be seen in the foreground and the mule fat scrub community can be seen in the distance.



Photograph 2: View of the central portion of Bouquet Canyon Creek within the study area, facing upstream. The unvegetated river wash can be seen in the foreground and the giant reed stand vegetation community can be seen along the banks.



Photograph 3: View of the western portion of Bouquet Canyon Creek within the study area, facing upstream. The giant reed stand vegetation community can be seen along the banks.



Photograph 4: View of the western most portion of Bouquet Canyon Creek within the study area, facing upstream. The giant reed stand vegetation community can be seen along the banks.

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Note: See Figure 7 for photograph locations.

Source: HELIX 2017



## Appendix G

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### Jurisdictional Delineation Report

# Bouquet Canyon Project

## Jurisdictional Delineation Report

September 20, 2017 | IPQ-25



Ezekiel Cooley  
Project Manager

*Prepared for:*

**Integral Communities**  
888 San Clemente Drive, Suite 100  
Newport Beach, CA 92660

*Prepared by:*

**HELIX Environmental Planning, Inc.**  
7578 El Cajon Boulevard  
La Mesa, CA 91942



# Bouquet Canyon Project

## Jurisdictional Delineation Report

*Prepared for:*

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September 20, 2017 | IPQ-25





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## ACRONYMS AND ABBREVIATIONS

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AMSL	Above mean sea level
CDFW	California Department of Fish and Wildlife
CEQA	California Environmental Quality Act
CFR	Code of Federal Regulations
CWA	Clean Water Act
EPA	Environmental Protection Agency
HELIX	HELIX Environmental Planning, Inc.
IP	Individual Permit
MCV	A Manual of California Vegetation
NWP	Nationwide Permit
OHWM	Ordinary high water mark
Project	Bouquet Canyon Residential Development Project
RPW	Relatively Permanent Waterbody
RWQCB	California Regional Water Quality Control Board
SAA	Stream Alteration Agreement
TNW	Traditional Navigable Waters
U.S.	United States
U.S.C.	United States Code
USGS	U.S. Geological Survey
USACE	U.S. Army Corps of Engineers
WUS	Waters of the U.S.

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# 1.0 INTRODUCTION

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This report presents the results of a jurisdictional delineation for the proposed Bouquet Canyon Residential Development (Project), which is proposed on an approximately 56.77-acre undeveloped property located in the City of Santa Clarita, Los Angeles County, California (study area). The Project proposes a residential development, along with associated infrastructure improvements.

This delineation was conducted to identify and map existing areas within the study area that are Waters of the U.S. (WUS) under U.S. Army Corps of Engineers (USACE) jurisdiction pursuant to Section 404 of the Clean Water Act ([CWA] 33 United States Code [U.S.C.] 1344); and wetland and streambed habitats under California Department of Fish and Wildlife (CDFW) jurisdiction pursuant to Section 1600 of the California Fish and Game Code. This information is necessary to evaluate effects on jurisdictional areas and determine permit requirements for the proposed Project. This report presents HELIX Environmental Planning, Inc.'s (HELIX's) best efforts to quantify the amount of WUS and state jurisdictional habitats in the study area using the current regulations, written policies, and guidance from the agencies. The results presented here are subject to confirmation by the USACE and CDFW.

## 1.1 STUDY AREA LOCATION

The 56.77-acre study area is generally located 6.9 miles to the east of Interstate 5 and 3.8 miles to the northwest of California State Route 14 in the City of Santa Clarita (Figure 1, *Regional Location*). Specifically, the study area is located directly south of the intersection of David Way and Bouquet Canyon Road. The study area is within Section 6 of Township 4 North, Range 15 West of the Mint Canyon, California U.S. Geological Survey (USGS) 7.5-minute topographic quadrangle (Figure 2, *Vicinity Map*).

Immediate surrounding land uses include existing residential development to the north and west, a mixture of undeveloped land and residential development to the south, and undeveloped land and juvenile detention schools to the east (Figure 3, *Aerial Photograph*). The study area is located approximately 0.20 mile to the southeast of Haskell Canyon Open Space and 1.40 miles to the south of Angeles National Forest.

## 2.0 METHODS

Prior to beginning fieldwork, aerial photographs (1"=75' scale), topographic maps (1"=125' scale), USGS quadrangle maps, and National Wetlands Inventory maps (U.S. Fish and Wildlife Service 2017) were reviewed to assist in determining the location of potential jurisdictional waters and wetlands in the study area. HELIX regulatory specialists Amir Morales and Ezekiel Cooley conducted the jurisdictional delineation field work on July 6, 2017. Data were collected in areas that were judged likely to support potential jurisdictional resources. Mapping of drainage features was performed in the field based on ordinary high water mark (OHWM) and other surface indications, as defined below.

### 2.1 U.S. ARMY CORPS OF ENGINEERS AND REGIONAL WATER QUALITY CONTROL BOARD JURISDICTION

Areas were determined to be potential USACE WUS wetland if the three criteria (vegetation, soils, and hydrology) established for wetland delineations, as described within the Wetlands Delineation Manual (Environmental Laboratory 1987) and Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region (U.S. Army Corps of Engineers [USACE] 2008a) were met. Plants were identified according to Baldwin et al. (2012), and Calflora (2017) was used to augment common names. Wetland affiliations of plant species follow the National Wetland Plant List (Lichvar et al. 2016). Soils information was taken from the Natural Resource Conservation Services' Web Soil Survey (2017). Areas were determined to be potential non-wetland WUS if there was evidence of regular surface flow (e.g., bed and bank) but either the vegetation or soils criterion was not met. Jurisdictional limits for these areas were measured according to the presence of a discernible OHWM, which is defined in 33 Code of Federal Regulations (CFR) Section 329.11 as "that line on the shore established by the fluctuations of water and indicated by physical characteristics such as a clear, natural line impressed on the bank; shelving; changes in the character of the soil; destruction of terrestrial vegetation; the presence of litter or debris; or other appropriate means that consider the characteristics of the surrounding areas." The USACE has issued further guidance on the OHWM (Riley 2005; USACE 2008b), which also was used for this delineation.

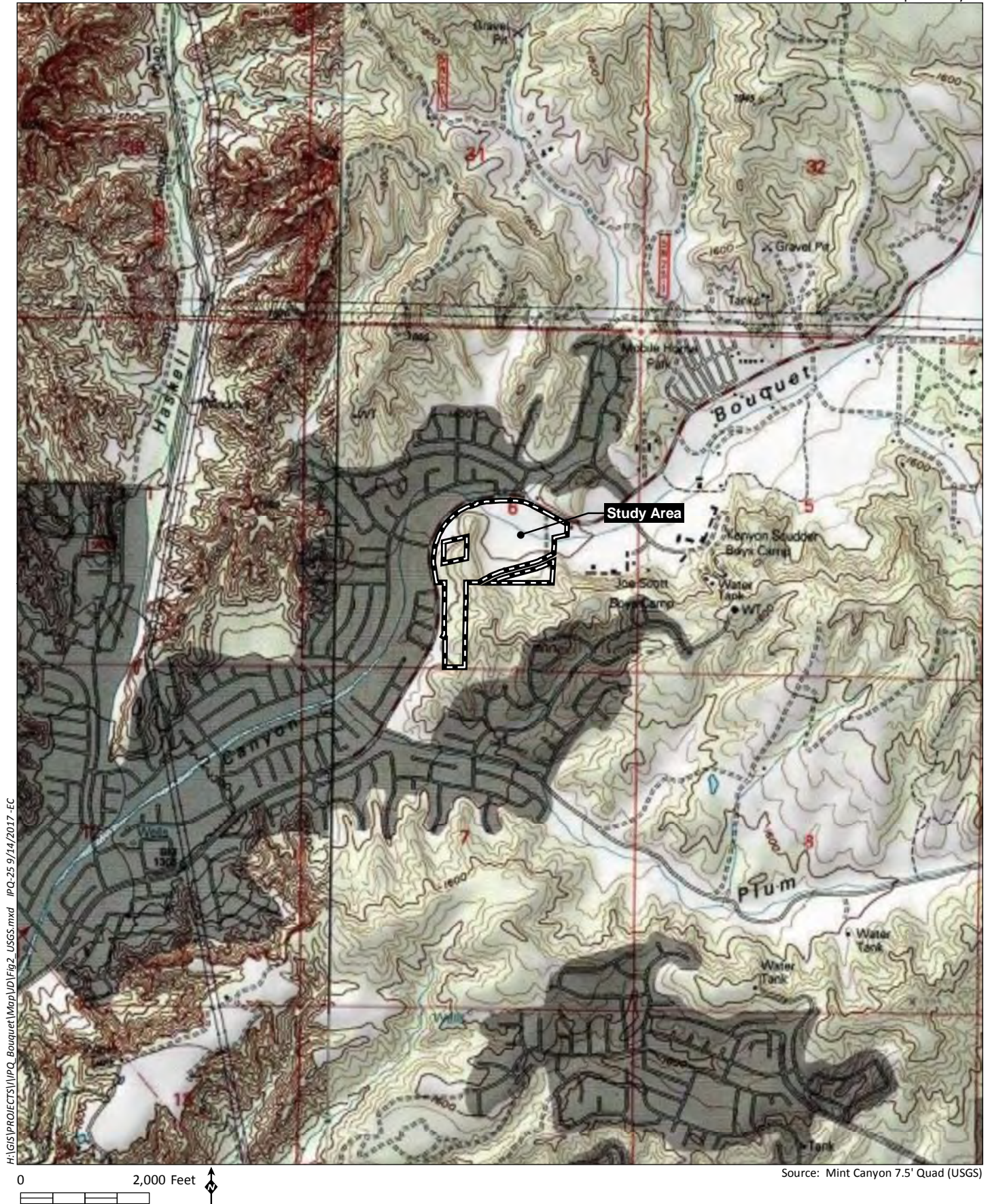
The results presented here are also discussed in light of court decisions (i.e., *Rapanos v. United States*, *Carabell v. United States*, and *Solid Waste Agency of Northern Cook County [SWANCC] v. USACE*), as outlined and applied by the USACE (USACE 2007; Grumbles and Woodley 2007), USACE and Environmental Protection Agency (EPA; 2007), and EPA and USACE (2007). These publications explain that the EPA and USACE will assert jurisdiction over traditional navigable waters (TNW) and tributaries to TNW that are relatively permanent water bodies (RPWs), which have year-round or continuous seasonal flow. For water bodies that are not RPWs, a significant nexus evaluation must be conducted to determine whether the non-RPW is jurisdictional. An overview of USACE wetlands and jurisdictional WUS definitions is presented in Appendix A, *Federal Jurisdictional Information*.

The California Regional Water Quality Control Board (RWQCB) asserts regulatory jurisdiction over activities affecting wetland and non-wetland Waters of the State pursuant to Section 401 of the CWA and the State Porter-Cologne Water Quality Control Act. Potential RWQCB jurisdiction found within the study area follows the boundaries of potential USACE jurisdiction for WUS. There are no areas supporting isolated Waters of the State subject to exclusive RWQCB jurisdiction pursuant to the State Porter-Cologne Water Quality Control Act.





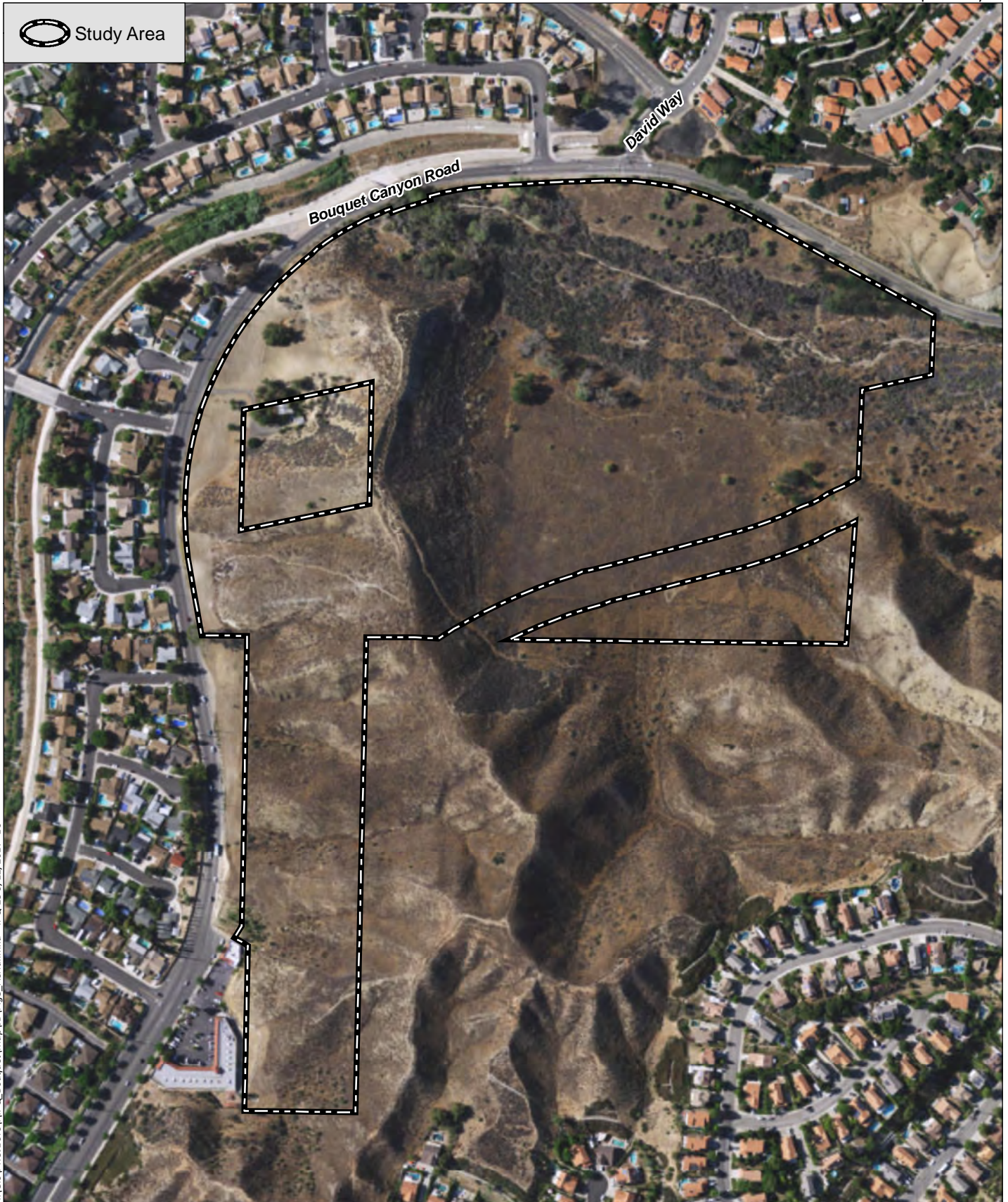




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Source: Mint Canyon 7.5' Quad (USGS)





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## 2.2 CALIFORNIA DEPARTMENT OF FISH AND WILDLIFE JURISDICTION

The CDFW jurisdictional boundaries were determined based on the presence of riparian vegetation or regular surface flow. Streambeds within CDFW jurisdiction were delineated based on the definition of streambed as “a body of water that flows at least periodically or intermittently through a bed or channel having banks and supporting fish or other aquatic life. This includes watercourses having a surface or subsurface flow that supports riparian vegetation” (Title 14, Section 1.72). This definition for CDFW jurisdictional habitat allows for a wide variety of habitat types to be jurisdictional, including some that do not include wetland species (e.g., oak woodland and alluvial fan sage scrub). Streambed widths were measured to the nearest foot at various locations along the channel. The CDFW guidance on dryland watersheds (Vyverberg 2010) was also used to understand fluvial actions and map jurisdictional areas in the study area. Definitions of CDFW jurisdictional areas are presented in Appendix B, *State Jurisdictional Information*.



## 3.0 RESULTS

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### 3.1 STUDY AREA DESCRIPTION

The study area is located in the foothills of the Sierra Pelona Mountains. The topography in the southern and western portions of the study area is predominantly steep hillsides, while the northern portion is primarily flat. Elevations on the study area range from approximately 1,365 feet above mean sea level (AMSL) near the northwest corner of the study area to approximately 1,520 feet above AMSL near the southeastern corner. The steep hills throughout the southern and western portions of the site are predominated by Riversidean upland sage scrub while the flatter portions of the study area are dominated by non-native grassland.

Seven soil types are mapped on the study area, including Hanford sandy loam (HcC), Metz loam sandy (MfA), Mocho loam (MpA), Ojai loam (OgF), Saugus loam (ScF2), Sorrento loam (SsA), and Yolo loam (YoC; Figure 4, *Soils*).

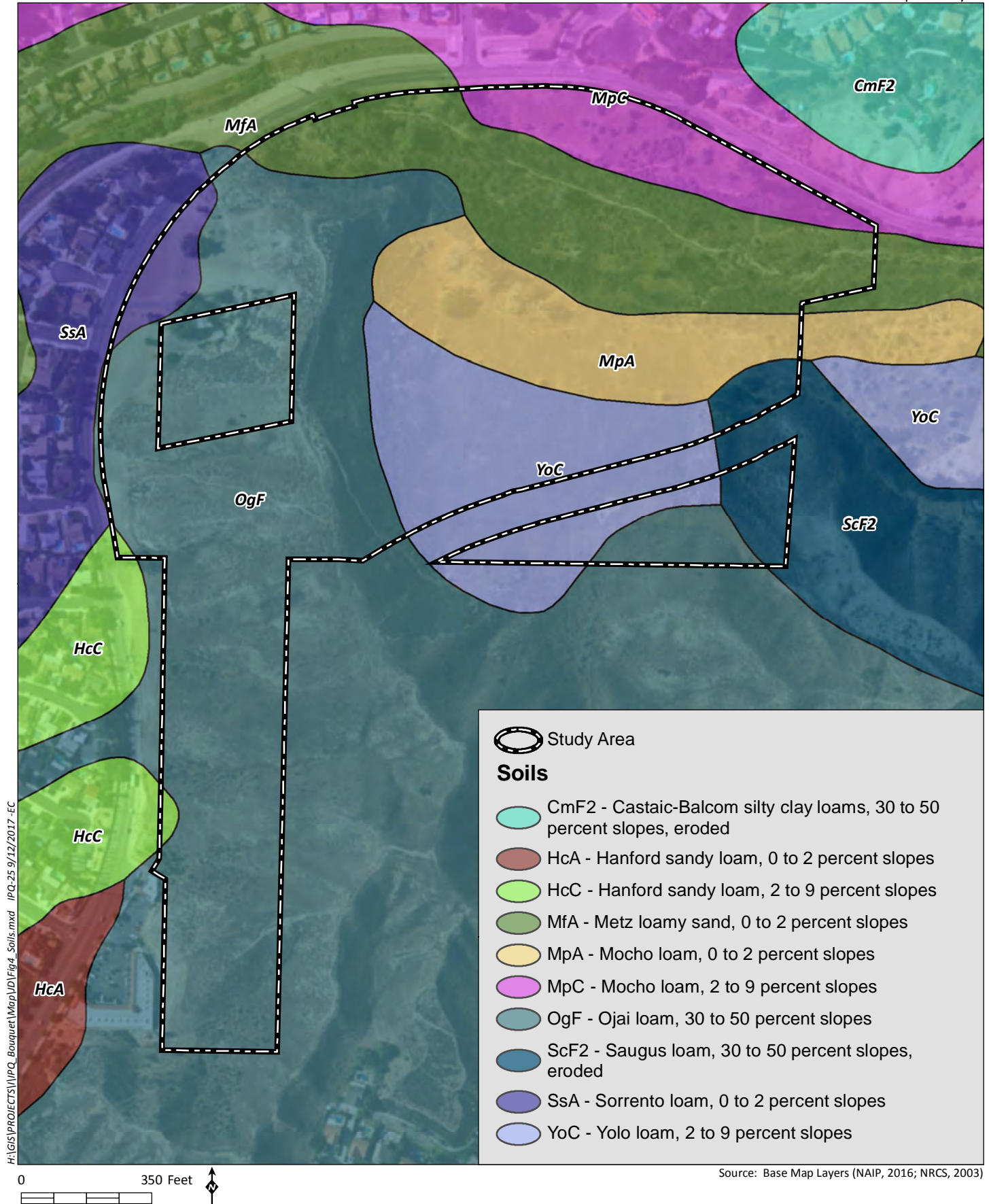
### 3.2 DRAINAGE FEATURE DESCRIPTION

Bouquet Canyon Creek, which is a blueline stream mapped by USGS, is an ephemeral drainage that runs from east to west near the northern study area boundary. The headwaters of the Bouquet Canyon drainage feature originate approximately 10 miles to the northeast of the study area in the Sierra Pelona Mountains, and non-storm related flows through the wash are often controlled via regulated releases from Bouquet Reservoir. The Bouquet Canyon streambed enters the study area at the northeastern boundary and exits at the northwestern boundary. The drainage continues under Bouquet Canyon Road at the northwestern corner of the study area boundary where the drainage has been channelized. The Bouquet Canyon drainage is a tributary to the Santa Clara River, which ultimately drains into the Pacific Ocean approximately 35 miles to the southwest of the study area. The on-site floodplain of the Bouquet Canyon drainage is infested with invasive giant reed (*Arundo donax*). Historical imagery and evidence of grinded material observed on the study area suggest giant reed removal has occurred on the study area. Bouquet Canyon supports somewhat excessively drained sandy loam of the Metz soil series. Aside from Bouquet Canyon, no other surface water feature was observed and the study area is predominantly made up of upland habitat.

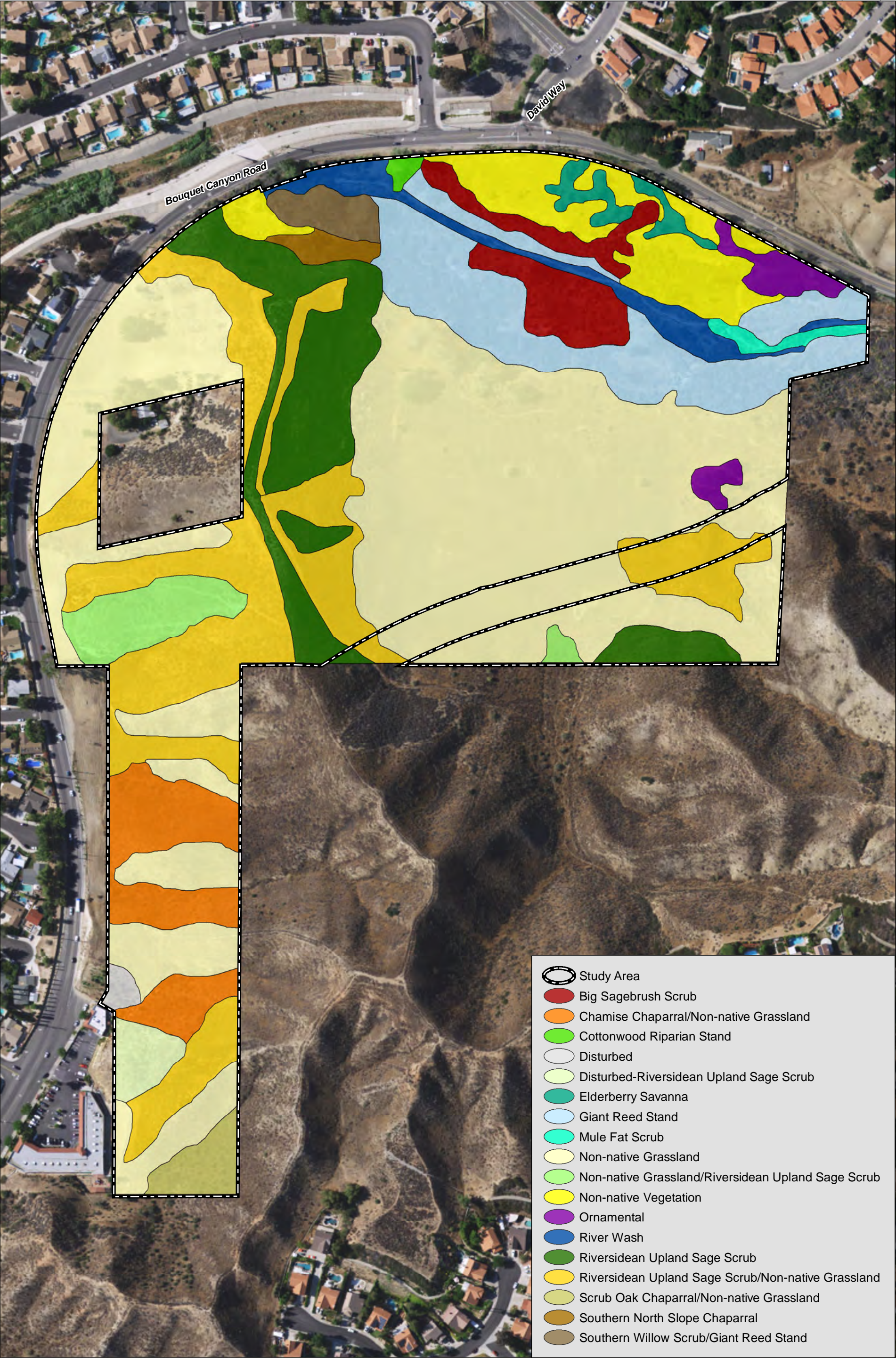
Representative photographs were taken of the drainage and are included as Appendix C, *Representative Drainage Photographs*.

### 3.3 VEGETATION COMMUNITIES

The study area supports 18 vegetation communities, which are shown on Figure 5, *Vegetation* and listed in Table 1, *Vegetation Communities*. Plant communities are classified in accordance with Holland (1986) and Oberbauer (1996). Community names consistent with A Manual of California Vegetation, Second Edition (MCV; Sawyer et al. 2009) are also provided. Sensitive habitats pursuant to CDFW's Natural Communities List (California Department of Fish and Wildlife 2010) are also identified in Table 1.







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**Table 1**  
**VEGETATION COMMUNITIES**

Habitat Type (Holland/Oberbauer)	Habitat Type (MCV)	Acres
Big Sagebrush Scrub	Big Sagebrush	1.91
Chamise Chaparral/Non-native Grassland	Chamise Chaparral/Non-native Grassland	2.70
Cottonwood Riparian Stand	Fremont Cottonwood Forest	0.13
Elderberry Savannah	Blue Elderberry Stands <sup>1</sup>	0.56
Mule Fat Scrub	Mule Fat Thickets	0.29
Riversidean Upland Sage Scrub	California Sagebrush Scrub	4.87
Riversidean Upland Sage Scrub/Non-native Grassland	California Sagebrush Scrub/Non-native Grassland	8.86
Scrub Oak Chaparral/Non-native Grassland	Scrub Oak Chaparral/Non-native Grassland	0.67
Southern North Slope Chaparral	Tucker Oak Chaparral	0.34
Southern Willow Scrub/Giant Reed Stand	Red Willow Thickets <sup>1</sup> /Giant Reed Breaks	0.61
Disturbed	Disturbed	0.18
Disturbed-Riversidean Upland Sage Scrub	Disturbed-California Buckwheat Scrub	0.58
Giant Reed Stand	Giant Reed Breaks	5.12
Non-native Grassland	Non-native Grassland	23.02
Non-native Grassland/Riversidean Upland Sage Scrub	Non-native Grassland/California Sagebrush Scrub	1.49
Non-native Vegetation	Upland Mustards	3.30
Ornamental	Ornamental	0.78
River Wash	River Wash	1.36
<b>TOTAL</b>		<b>56.77</b>

Source: HELIX (2017)

<sup>1</sup> These communities are considered sensitive habitats pursuant to CDFW's Natural Communities List.

### 3.3.1 Description of Jurisdictional Habitats

Potential jurisdictional habitats observed on the study area include big sagebrush scrub, cottonwood riparian stand, giant reed stand, mule fat scrub, river wash, and southern willow scrub/giant reed stand.

#### 3.3.1.1 Big Sagebrush Scrub

Big sagebrush scrub is dominated by big sagebrush (*Artemisia tridentata*). Big sagebrush scrub is typically associated with plains, alluvial fans, lower slopes, and dry washes in well-drained sandy and loamy soils. Associated species observed within this community include shadscale (*Atriplex canescens*), giant reed, Mediterranean grass (*Schismus barbatus*). Big sagebrush scrub/non-native grassland was observed along the eastern boundary of the study area.

#### 3.3.1.2 Cottonwood Riparian Stand

Cottonwood riparian stand consists of tall, open, broad-leaved, winter-deciduous cottonwood (*Populus fremontii* ssp. *fremontii*), with non-native herbaceous species and giant reed comprising the understory. Most of the understory of this community is heavily disturbed due to the community's proximity to Bouquet Canyon Road and the roads associated weed abatement activities. A small cottonwood riparian stand was observed in the northeastern portion of the study area.



### 3.3.1.3 Giant Reed Stand

Giant reed stand is completely dominated by dense stands of giant reed. Giant reed stand is associated with low-gradient streams, ditches, and coastal marshes. Giant reed is an invasive species that outcompetes native riparian species. Other scattered species observed in this community included native big sagebrush and red willow (*Salix laevigata*) and non-native foxtail chess (*Bromus madritensis* ssp. *rubens*) and short podded mustard (*Hirschfeldia incana*). Giant reed stand extends the length of the drainage atop the banks on both sides.

### 3.3.1.4 Mule Fat Scrub

Mule fat scrub is a shrubby riparian scrub community dominated by mule fat (*Baccharis salicifolia*) and interspersed with small willows (*Salix* spp.). This vegetation community occurs along stream channels with a fairly coarse substrate and moderate depth to the water table. Mule fat scrub is present in the downstream most portion of the drainage near the eastern boundary of the study area.

### 3.3.1.5 River Wash

River wash is predominately unvegetated; however, some sparse upland species and giant reed do persist in the wash. River wash is present in the most upstream portion of the drainage near the northern boundary of the study area.

### 3.3.1.6 Southern Willow Scrub/Giant Reed Stand

Southern willow scrub/giant reed stand consists of dense, broad-leaved, winter-deciduous stands of trees dominated by shrubby willows in association with mule fat, and also contains scattered stands of giant reed. This vegetation community occurs on loose, sandy or fine gravelly alluvium deposited near stream channels during flood flows (Holland 1986). Southern willow scrub/giant reed stand is present in the most upstream portion of the drainage near the northern boundary of the study area.

### 3.3.1.7 Riversidean Upland Sage Scrub

Riversidian sage scrub is the most xeric expression of coastal sage scrub south of Point Conception, California. Typical stands are fairly open and dominated by California sagebrush (*Artemisia californica*), California buckwheat (*Eriogonum fasciculatum* ssp. *fasciculatum*), and foxtail chess, each attaining at least 20 percent cover. Riversidean sage scrub is typically found on xeric sites such as steep slopes, severely drained soils, or clays that release stored soil moisture only slowly. Intergrades at slightly higher elevations with several southern Californian chaparrals. Characteristic species of Riversidean upland sage scrub in the study area include California buckwheat, California sagebrush, and black sage (*Salvia melifera*), with a sparse understory of non-native grasses.

### 3.3.1.8 Southern North Slope Chaparral

Southern north slope chaparral is a dense, evergreen chaparral up to 20 feet tall, dominated by scrub oak (*Quercus berberidifolia*). Southern north slope chaparral occurs in somewhat more mesic areas than many other chaparrals, such as north facing slopes, and recovers more rapidly from fires than other chaparrals due to resprouting capabilities of scrub oak (Holland 1986; Keeley and Keeley 1988).

Characteristic species of southern north slope chaparral in the study area include scrub oak, with an understory of non-native grasses.

#### **3.3.1.9 Non-native Vegetation**

Non-native vegetation includes land containing a preponderance of non-native plant species such as ornamentals or ruderal exotic species that take advantage of disturbance (previously cleared or abandoned landscaping), or land showing signs of past or present animal usage. Characteristic species of non-native vegetation in the study area include short podded mustard, foxtail chess, and Mediterranean grass.

#### **3.3.1.10 Non-native Grassland**

Non-native grassland is a dense to sparse cover of annual grasses, sometimes associated with native annual forbs. Most of the species that occur in non-native grassland originated from the Mediterranean region, an area with a long history of agriculture and a climate similar to California. Characteristic species of non-native grassland in the study area include oats (*Avena* sp.), bromes (*Bromus* spp.), and mustards (*Brassica* spp.).

### **3.4 JURISDICTIONAL SUMMARY**

#### **3.4.1 Federal Jurisdiction**

Areas under USACE jurisdiction within the study area consist of a total of 0.35 acre of non-wetland WUS ephemeral streams (Figure 6, *USACE Waters of the U.S.*; Table 2, *Jurisdictional Habitats Occurring on the Study Area*).

#### **3.4.2 State Jurisdiction**

Areas under CDFW jurisdiction within the study area total 8.14 acres, including 0.57 acre of big sagebrush scrub, 0.11 acre of cottonwood riparian stand, 4.09 acres of giant reed stand, 0.29 acre of mule fat scrub, 0.68 acre of non-native grassland, 0.35 acre of non-native vegetation, 0.01 acre of Riverisdean upland sage scrub, 1.20 acre of river wash, 0.26 acre of southern north slope chaparral, and 0.58 acre of southern willow scrub/giant reed stand (Figure 7, *CDFW Waters of the State*; Table 2).



**Table 2**  
**JURISDICTIONAL HABITATS OCCURRING ON THE STUDY AREA**

<b>Habitat</b>	<b>CDFW (Acres)<sup>1</sup></b>	<b>USACE/RWQCB (Acres)<sup>1</sup></b>
Big Sagebrush Scrub	0.57	<0.01
Cottonwood Riparian Stand	0.11	<0.01
Giant Reed Stand	4.09	0.00
Mule Fat Scrub	0.29	0.07
Non-native Grassland	0.68	0.00
Non-native Vegetation	0.35	0.00
Riversidean Upland Sage Scrub	0.01	0.00
River Wash	1.20	0.27
Southern North Slope Chaparral	0.26	0.00
Southern Willow Scrub/Giant Reed Stand	0.58	0.00
<b>TOTAL</b>	<b>8.14</b>	<b>0.35</b>

Source: HELIX (2017)

<sup>1</sup> Acres are rounded to the nearest hundredth.











## 4.0 CONCLUSION

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### 4.1 FEDERAL PERMITTING

Federal jurisdictional areas occurring within the study area total 0.35 acre. Impacts to WUS are regulated by the USACE under Section 404 of the CWA (33 U.S.C. 401 et seq.; 33 U.S.C. 1344; U.S.C. 1413; and U.S. Department of Defense, Department of the Army, USACE 33 CFR Part 323). A federal CWA Section 404 Permit would be required for the proposed Project. A CWA Section 401 Water Quality Certification administered by the RWQCB must be issued prior to any 404 Permit.

Projects may be permitted on an individual basis or may be covered under one of several approved Nationwide Permits (NWP), which is based on the type of action, amount of fill, and size and length of impact. Individual Permits (IPs) typically require substantial time (often longer than 12 months) to review and approve, while NWPs are pre-approved if a project meets appropriate conditions.

#### 4.1.1 404 Permit

A CWA Section 404 Permit is required by the USACE for impacts to WUS. The type of 404 Permit required from the USACE would depend primarily on the quantity of jurisdictional areas to be impacted. If the Project affects less than 0.5 acre of jurisdictional areas, it may qualify for a NWP 29 for residential developments under current regulations. The NWP's are pre-issued permits for certain activities resulting in no more than minimal adverse effects to USACE jurisdictional streambeds. If implementation of the Project on the study area would impact less than 0.5 acre of jurisdictional areas but exceed the 300-foot threshold for linear streambed impacts under NWP 29, an IP could be required if USACE does not grant a waiver of the 300-foot limit for the Project. Based on the preliminary site plan, our sense is that a NWP may be obtainable if unavoidable impacts to USACE waters are required. An IP application generally takes significantly longer to process than a NWP and requires preparation of a biological assessment, a detailed Section 404(b)(1) on- and off-site alternatives analysis, an environmental assessment, and issuance of a public notice.

#### 4.1.2 401 Certification

A 401 Water Quality Certification (Certification) is required by the RWQCB for impacts to Waters of the State. The 401 Certification is tied to the 404 Permit, and the 404 Permit cannot be issued until the 401 Certification is issued. The 401 Certification cannot be issued until the adopted or certified California Environmental Quality Act (CEQA) document is completed by the lead CEQA agency. In HELIX's experience, RWQCB is one of the most challenging regulatory agencies to obtain a regulatory permit from, as the 401 Certification evaluates impacts to jurisdictional WUS and Waters of the State, and also ensures that adequate pre- and post-construction water quality measures are implemented by a proposed project. Early planning and coordination between the design engineer and regulatory consultant is highly recommended to minimize impacts to RWQCB jurisdiction, ensure adequate water quality measures, and determine potential mitigation obligations.



## 4.2 STATE PERMITTING

The CDFW jurisdictional areas occurring within the study area total 8.14 acres, including 0.57 acre of big sagebrush scrub, 0.11 acre of cottonwood riparian stand, 4.09 acres of giant reed stand, 0.29 acre of mule fat scrub, 0.68 acre of non-native grassland, 0.35 acre of non-native vegetation, 0.01 acre of Riverisdean upland sage scrub, 1.20 acre of river wash, 0.26 acre of southern north slope chaparral, and 0.58 acre of southern willow scrub/giant reed stand. The CDFW regulates alterations or impacts to streambeds or lakes under California Fish and Game Code 1602 and requires a Streambed Alteration Agreement (SAA) for projects that will divert or obstruct the natural flow of water; change the bed, channel, or bank of any stream; or use any material from a streambed. The SAA is a contract between the applicant and CDFW that includes reasonable measures necessary to protect the resource (California Association of Resource Conservation Districts 2002). Any impacts to CDFW habitat would be regulated under California Fish and Game Code 1602 (Appendix B) and require an SAA.

### 4.2.1 1602 Agreement

Notification of Lake or Streambed Alteration is required to CDFW for impacts to jurisdictional streambed and riparian habitat. For projects with minor minimal streambed impacts, CDFW may waive their right to issue a formal SAA and issue an Operation of Law authorization, which requires compliance with the terms proposed as part of the SAA notification. For projects in which CDFW takes action and requires a SAA, the SAA cannot be issued until the certified CEQA document or determination is completed by the lead CEQA agency.

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## Appendix A

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### Federal Jurisdictional Information



# WETLANDS AND “WATERS OF THE U.S.” DEFINITIONS

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## WETLANDS

The U.S. Army Corps of Engineers (USACE; 33 CFR 328.3) and the Environmental Protection Agency (EPA; 40 CFR 230.3) jointly define wetlands as “[t]hose areas that are inundated or saturated by surface or ground water at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions” (Environmental Laboratory 1987).

## WATERS OF THE U.S.

The official definition of “Waters of the U.S.” and their limits of jurisdiction (as they may apply) are defined by the USACE’ Regulatory Program Regulations (33 CFR 328.3, paragraphs [a] 1-3 and [e], and Section 328.4, paragraphs [c] 1 and 2) as follows:

1. All waters which are currently used, or were used in the past, or may be susceptible to use in interstate or foreign commerce, including all waters which are subject to the ebb and flow of the tide;
2. All interstate waters including interstate wetlands;
3. All other waters such as intrastate lakes, rivers, streams (including intermittent streams), mudflats, sandflats, wetlands, sloughs, prairie potholes, wet meadows, playa lakes, or natural ponds, the use, degradation or destruction of which could affect interstate or foreign commerce including any such waters,
  - i. which are or could be used by interstate or foreign travelers for recreation or other purposes; or
  - ii. from which fish or shellfish are or could be taken and sold in interstate 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;
6. The territorial seas;
7. Wetlands adjacent to waters (other than waters that are themselves wetlands)...

## Appendix A (cont.) Federal Jurisdictional Information

### NON-TIDAL WATERS OF THE U.S.

The limits of jurisdiction in non-tidal waters: In the absence of adjacent wetlands, the jurisdiction extends to the OHWM, or when adjacent wetlands are present, the jurisdiction extends to the limit of the adjacent wetlands.

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

Waters of the U.S. must exhibit an OHWM or other evidence of surface flow created by hydrologic physical changes. These physical changes include (Riley 2005):

- Natural line impressed on the bank
- Sediment sorting
- Shelving
- Leaf litter disturbed or washed away
- Changes in the character of soil
- Scour
- Destruction of terrestrial vegetation
- Deposition
- Presence of litter and debris
- Multiple observed flow events
- Wracking
- Bed and banks
- Vegetation matted down, bent, or absent
- Water staining
- Change in plant community

Further guidance on identifying the OHWM in the Arid Southwest (Lichvar and McColley 2008). This publication provided geomorphic and vegetation OHWM indicators specific to the Arid Southwest.

Jurisdictional areas also must be connected to Waters of the U.S. (Guzy and Anderson 2001; U.S. Supreme Court 2001).

As a consequence of the U.S. Supreme Court decision in *Rapanos v. United States*, a memorandum was developed regarding Clean Water Act jurisdiction (Grumbles and Woodley 2007). The memorandum states that the EPA and the USACE will assert jurisdiction over traditional navigable waters (TNW), wetlands adjacent to TNW, tributaries to TNWs that are a relatively permanent water body (RPW), and wetlands adjacent to TNW. An RPW has year-round flow or a continuous seasonal flow (i.e., typically for three months or longer). Jurisdiction over other waters (i.e., non TNW and RPW) will be based on a fact-specific analysis to determine if they have a significant nexus to a TNW.

Pursuant to the USACE Instructional Guidebook (USACE and EPA 2007), the significant nexus evaluation will cover the subject reach of the stream (upstream and downstream) as well as its adjacent wetlands (Illustrations 2 through 6, USACE and EPA 2007). The evaluation will include the flow characteristics,



## Appendix A (cont.)

### Federal Jurisdictional Information

annual precipitation, ability to provide habitat for aquatic species, ability to retain floodwaters and filter pollutants, and proximity of the subject reach to a TNW, drainage area, and the watershed.

### WETLAND CRITERIA

Wetland boundaries are determined using three mandatory criteria (hydrophytic vegetation, wetland hydrology, and hydric soil) established for wetland delineations and described within the Wetlands Delineation Manual (Environmental Laboratory 1987) and the Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region (USACE 2008). Following is a brief discussion of the three criteria and how they are evaluated.

#### Vegetation

“Hydrophytic vegetation is defined herein as the sum total of macrophytic plant life that occurs in areas where the frequency and duration of inundation or soil saturation produce permanently or periodically saturated soils of sufficient duration to exert a controlling influence on the plant species present” (Environmental Laboratory 1987).

The wetland indicator status (obligate upland, facultative upland, facultative, facultative wetland, obligate wetland, or no indicator status) of the dominant plant species of all vegetative layers is determined. Species considered to be hydrophytic include the classifications of facultative, facultative wetland, and obligate wetland as defined in the current list of wetland plants of the Arid Southwest (Lichvar, et al. 2016; Table A-1). The percent of dominant wetland plant species is calculated. The hydrophytic vegetation criterion is considered to be met if it meets the “Dominance Test,” “Prevalence Index,” or the vegetation has morphological adaptations for prolonged inundation.

**Table A-1**  
**DEFINITIONS OF PLANT INDICATOR CATEGORIES**

Indicator Categories	Abbreviation	Qualitative Description
Obligate	OBL	Almost always occur in wetlands
Facultative Wetland	FACW	Usually occur in wetlands but may occur in non-wetlands
Facultative	FAC	Occur in wetlands and non-wetlands
Facultative Upland	FACU	Usually occur in non-wetlands but may occur in wetlands
Upland	UPL	Almost never occur in wetlands

#### Hydrology

“The term ‘wetland hydrology’ encompasses all hydrologic characteristics of areas that are periodically inundated or have soils saturated to the surface at some time during the growing season. Areas with evident characteristics of wetland hydrology are those where the presence of water has an overriding influence on characteristics of vegetation and soils due to anaerobic reducing conditions, respectively” (Environmental Laboratory 1987).

Hydrologic characteristics must 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 (approximately 18 days for most of low-lying southern California). Hydrology criteria are evaluated based on the characteristics

## Appendix A (cont.) Federal Jurisdictional Information

listed below (USACE 2008). Where positive indicators of wetland hydrology are present, the limit of the OHWM (or the limit of adjacent wetlands) is noted and mapped. Evidence of wetland hydrology is met by the presence of a single primary indicator or two secondary indicators.

### Primary

- surface water (A1)
- high water table (A2)
- saturation (A3)
- water marks (B1; non-riverine)
- sediment deposits (B2; non-riverine)
- drift deposits (B3; non-riverine)
- 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)

### Secondary

- watermarks (B1; riverine)
- sediment deposits (B2; riverine)
- drift deposits (B3; riverine)
- drainage patterns (B10)
- dry-season water table (C2)
- crayfish burrows (C8)
- saturation visible on aerial imagery (C9)
- shallow aquitard (D3)
- FAC-neutral test (D5)

In the absence of all other hydrologic indicators and in the absence of significant modifications of an area's hydrologic function, positive hydric soil characteristics are assumed to indicate positive wetland hydrology. This assumption applies unless the site visit was done during the wet season of a normal or wetter-than-normal year. Under those circumstances, wetland hydrology would not be present.

### Soils

The USACE and EPA, in their administration of Section 404 of the Clean Water Act, rely on the National Technical Committee for Hydric Soils (NTCHS) for a definition of hydric soils. According to the NTCHS, "A hydric soil is a soil that formed under conditions of saturation, flooding, or ponding long enough during the growing season to develop anaerobic conditions in the upper part." (Federal Register 1994)



## Appendix A (cont.) Federal Jurisdictional Information

Soils must exhibit physical and/or chemical characteristics indicative of permanent or periodic saturation. Soil matrix and mottle colors are identified at each sampling plot using a Munsell soil color chart (Kollmorgen 1994). Generally, an 18-inch or deeper pit is excavated with a shovel at each sampling plot unless refusal occurs above 18 inches.

Soils in each area are closely examined for hydric soil indicators, including the characteristics listed below. Hydric soil indicators are presented in three groups. Indicators for “All Soils” (A) are used in any soil regardless of texture, indicators for “Sandy Soils” (S) are used in soil layers with USDA textures of loamy fine sand or coarser, and indicators for “Loamy and Clayey Soils” (F) are used with soil layers of loamy very fine sand and finer (USACE 2008 and Vasiliadis et al. 2017).

- |                                     |                              |
|-------------------------------------|------------------------------|
| • histosols (A1)                    | • stripped matrix (S6)       |
| • histic epipedons (A2)             | • loamy mucky mineral (F1)   |
| • black histic (A3)                 | • loamy gleyed matrix (F2)   |
| • hydrogen sulfide (A4)             | • depleted matrix (F3)       |
| • stratified layers (A5)            | • redox dark surface (F6)    |
| • 1 cm muck (A9)                    | • depleted dark surface (F7) |
| • depleted below dark surface (A11) | • redox depressions (F8)     |
| • thick dark surface (A12)          | • vernal pools (F9)          |
| • sandy mucky mineral (S1)          | • 2 cm muck (A10)            |
| • sandy gleyed matrix (S4)          | • reduced vertic (F18)       |
| • sandy redox (S5)                  | • red parent material (TF2)  |

Hydric soils may be assumed to be present in plant communities that have complete dominance of obligate or facultative wetland species. In some cases, there is only inundation during the growing season and determination must be made by direct observation during that season, recorded hydrologic data, testimony of reliable persons, and/or indication on aerial photographs.

### NON-WETLAND WATERS OF THE U.S.

The non-wetland Waters of the U.S. designation is met when an area has periodic surface flows but lacks sufficient indicators to meet the hydrophytic vegetation and/or hydric soils criteria. For purposes of delineation and jurisdictional designation, the non-wetland Waters of the U.S. boundary in non-tidal areas is the OHWM as described in the Section 404 regulations (33 CFR Part 328).

## **Appendix A (cont.)**

### **Federal Jurisdictional Information**

#### **U.S. Geological Survey Mapping**

The U.S. Geological Survey (USGS) quad maps are one of the resources used to aid in the identification and mapping of jurisdictional areas. Their primary uses include understanding the subregional landscape position of a site, major topographical features, and a project's position in the watershed.

In our experience, the designation of watercourse as a blue-line stream (intermittent or perennial) on USGS maps has been unreliable and typically overstates the hydrology of most streams. This has also been the experience of others, including the late Dr. Luna Leopold. Dr. Leopold was a hydrologist with USGS from 1952 to 1972, professor in the Department of Geology and Geophysics and Department of Landscape Architecture, University of California, Berkeley from 1972 to 1986, and Professor Emeritus from 1987 until his death in 2006. In regard to USGS maps, Dr. Leopold wrote, "I tried to devise a way of defining hydrologic criteria for the channels shown on topographic maps and developed some promising procedures. None were acceptable to the topographers, however. I learned that the blue lines on a map are drawn by non-professional, low-salaried personnel. In actual fact, they are drawn to fit a rather personalized aesthetic" (Leopold 1994).



**Appendix A (cont.)**  
**Federal Jurisdictional Information**

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## Appendix B

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### State Jurisdictional Information

# CALIFORNIA FISH AND WILDLIFE REGULATIONS

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The California Department of Fish and Wildlife (CDFW) regulates alterations or impacts to streambeds or lakes (wetlands) under Fish and Game Code Sections 1600 through 1616 for any private, state, or local government or public utility-initiated projects. The Fish and Game Code Section 1602 requires any entity to notify the CDFW before beginning any activity that will do one or more of the following: (1) substantially obstruct or divert the natural flow of a river, stream, or lake; (2) substantially change or use any material from the bed, channel, or bank of a river, stream, or lake; or (3) deposit or dispose of debris, waste, or other material containing crumbled, flaked, or ground pavement where it can pass into a river, stream, or lake. Fish and Game Code Section 1602 applies to all perennial, intermittent, and ephemeral rivers and streams as well as lakes in the state.

In order to notify the CDFW, a person, state, or local governmental agency or public utility must submit a complete notification package and fee to the CDFW regional office that serves the county where the activity will take place (CDFW 2016). A fee schedule is included in the notification package materials. Under the Permit Streamlining Act (Government Code Sections 65920 et seq.), the CDFW has 30 days to determine whether the package is complete. If the requestor is not notified within 30 days, the application is automatically deemed to be complete.

Once the notification package is deemed to be complete, the CDFW will determine whether the applicant will need a Lake or Streambed Alteration Agreement (SAA) for the activity, which will be required if the activity could substantially adversely affect an existing fish and wildlife resource. If an SAA is required, the CDFW will conduct an on-site inspection, if necessary, and submit a draft SAA that will include measures to protect fish and wildlife resources while conducting the project. If the applicant is applying for a regular SAA (less than five years), the CDFW will submit a draft SAA within 60 calendar days after notification is deemed complete. The 60-day time period does not apply to notifications for long-term SAAs (greater than five years).

After the applicant receives the SAA, the applicant has 30 calendar days to notify the CDFW whether the measures in the draft SAA are acceptable. If the applicant agrees with the measures included in the draft SAA, the applicant will need to sign the SAA and submit it to the CDFW. If the applicant disagrees with any measures in the draft SAA, the applicant must notify the CDFW in writing and specify the measures that are not acceptable. Upon written request, the CDFW will meet with the applicant within 14 calendar days of receiving the request to resolve the disagreement. If the applicant fails to respond in writing within 90 calendar days of receiving the draft SAA, the CDFW may withdraw that SAA. The time periods described above may be extended at any time by mutual agreement.

After the CDFW receives the signed draft SAA, the CDFW will make it final by signing the SAA; however, the CDFW will not sign the SAA until it both receives the notification fee and ensures that the SAA complies with the California Environmental Quality Act (Public Resources Code Section 21000 et seq.). After the applicant receives the final agreement, the applicant may begin the project, provided that the applicant has obtained any other necessary federal, state, and/or local authorizations.



# **WATER RESOURCE CONTROL BOARD REGULATIONS**

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## **SECTION 401 WATER QUALITY CERTIFICATION**

Whenever a project requires a federal Clean Water Act (CWA) Section 404 permit or a Rivers and Harbors Act Section 10 permit, it must first obtain a CWA Section 401 Water Quality Certification. The Regional Water Quality Control Board (RWQCB) administers the 401 Certification program. Federal CWA Section 401 requires that every applicant for a Section 404 permit must request a Water Quality Certification that the proposed activity will not violate state and federal water quality standards.

## **PORTER-COLOGNE WATER QUALITY CONTROL ACT**

The State Water Resource Control Board (SWRCB) and the RWQCB regulate the discharge of waste to waters of the State via the 1969 Porter-Cologne Water Quality Control Act (Porter-Cologne) as described in the California Water Code (SWRCB 2017). The California Water Code is the State's version of the federal CWA. Waste, according to the California Water Code, includes sewage and any and all other waste substances, liquid, solid, gaseous, or radioactive, associated with human habitation, or of human or animal origin, or from any producing, manufacturing, or processing operation, including waste placed within containers of whatever nature prior to, and for purposes of, disposal. State waters that are not federal waters may be regulated under Porter-Cologne. A Report of Waste Discharge must be filed with the RWQCB for projects that result in discharge of waste into waters of the State. The RWQCB will issue Waste Discharge Requirements (WDRs) or a waiver. The WDRs are the Porter-Cologne version of a CWA 401 Water Quality Certification.

**Appendix B (cont.)**  
**State Jurisdictional Information**

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## Appendix C

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### Representative Drainage Photographs





Photograph 1: View of the eastern portion of Bouquet Canyon Creek, facing downstream. The unvegetated river wash can be seen in the foreground and the mule fat scrub community can be seen in the distance.



Photograph 2: View of the central portion of Bouquet Canyon Creek within the project site, facing upstream. The unvegetated river wash can be seen in the foreground and the giant reed stand vegetation community can be seen along the banks.



Photograph 3: View of the western portion of Bouquet Canyon Creek within the project site, facing upstream. The giant reed stand vegetation community can be seen along the banks.



Photograph 4: View of the western most portion of Bouquet Canyon Creek within the project site, facing upstream. The giant reed stand vegetation community can be seen along the banks.

Source: HELIX 2017

## Appendix H

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### Oak Tree Survey Report

March 21, 2019

IPQ-25

Mr. Scott Covington  
Integral Communities  
888 San Clemente Drive  
Newport Beach, CA 92660

Subject: Oak Tree Survey Report for the Bouquet Canyon Road Project

Dear Mr. Covington:

HELIX Environmental Planning, Inc. (HELIX) prepared this report to document the results of an oak tree survey conducted for the proposed Bouquet Canyon Road Project (project) located the City of Santa Clarita (City), Los Angeles County, California. The purpose of this report is to provide an inventory of all species of oak tree (*Quercus* spp.) within 200-feet of the project footprint with at least one trunk over 6 inches in circumference at a point 4.5 feet above natural grade and to determine the presence of Heritage Trees as defined under the City's Oak Tree Preservation Ordinance (17.51.040; ordinance). This report was also prepared to provide supporting information for obtaining an Oak Tree Permit if sought in the future.

## STUDY AREA LOCATION

The approximately 94-acre study area is generally located 6.9 miles to the east of Interstate 5 and 3.8 miles to the northwest of California State Route 14 in the City of Santa Clarita (Figure 1, *Regional Location*). Specifically, the study area is located directly south of the intersection of David Way and Bouquet Canyon Road. The study area is within Section 6 of Township 4 North, Range 15 West of the Mint Canyon, USGS 7.5-minute topographic quadrangle (Figure 2, *USGS Topography*).

Immediate surrounding land uses include existing residential developments to the north and west, a mixture of undeveloped land and residential development to the south, and undeveloped land and juvenile detention schools to the east (Figure 3, *Aerial Photograph*). The study area is located approximately 0.20 mile to the southeast of Haskell Canyon Open Space and 1.40 miles to the south of Angeles National Forest.

## REGULATORY FRAMEWORK

The City's Oak Tree Preservation ordinance states, "No person shall cut, prune, remove, relocate, endanger, damage, or encroach into the protected zone of any oak tree on any public or private property within the City" (City of Santa Clarita [City] 2013). The protected zone of the oak tree includes



the area within five feet of the dripline (canopy extent), but no less than 15 feet from the trunk. To remove any oak tree or to subject its protected zone to major encroachment, an Oak Tree Permit must be obtained. Trees subject to the permit include all trees of the oak species (*Quercus* sp.) exceeding 6 inches in circumference when measured at a point 4.5 feet above the tree's natural grade. Encroachment is defined as intrusion into the protected zone of an oak tree, which includes but is not limited to, intrusion by trenching, paving, pruning, dumping, parking of commercial vehicles. Major encroachment is defined by the City's ordinance as "an area between the outer edge of the trunk and fifty percent of the diameter of the protected zone" and minor encroachment is defined as an area between the outermost edge of the protected zone and fifty percent of the diameter of the protected zone" (City 2013).

To obtain an Oak Tree Permit, an application must be submitted to the City Manager or designated representative ("Director") and a filing fee as established by the City Council must be paid. The conditions of the Oak Tree Permit will require native oak trees at a minimum of 24-inch box size to be planted for protected trees that are removed or subjected to major encroachment. The number of replacement trees required is dependent upon the circumference of the tree to be impacted. These guidelines are described in Subsection B of the Oak Tree Preservation Ordinance (City 2013), and reproduced below in Table 1, *Number of Replacement Trees*.

**Table 1**  
**NUMBER OF REPLACEMENT TREES**

<b>Circumference of Tree Destroyed (4 feet above ground level)</b>	<b>Number of Replacement Trees Required for Each Tree Destroyed</b>
Under 12 inches	2
12 to 18 inches	3
18 to 24 inches	4
24 to 30 inches	5
30 to 36 inches	6
Over 36 inches	1 additional replacement tree per incremental increase of 6 inches

Source: City of Santa Clarita (2013)

Replacement trees must be placed on the same property. If there is no appropriate location on-site, the replacement trees may be donated to the City or the monetary value of the required replacement trees may be paid to the City at the discretion of the Director.

Heritage Oak Trees are given special consideration and may be fully protected or subject to requirements stricter than those of a standard protected oak tree. A Heritage Oak Tree is defined as any oak tree measuring 108 inches in circumference when measured 4.5 feet above the tree's natural grade. In the case of trees with multiple trunks, two or more trunks each must measure 72 inches or greater in circumference when measured 4.5 feet above the tree's natural grade.

## **METHODS**

HELIX International Society of Arboriculture (ISA) Certified Arborist Daniel Torres (WE-12249) and HELIX Biologist/Regulatory Specialist Ezekiel Cooley completed an oak tree survey on the study area and within a 200-foot buffer of the study area (survey area) on December 19 and 20, 2018. The purpose of the

survey was to document the presence of: (1) oak trees with at least one trunk over 6 inches in circumference at a point 4.5 feet above natural grade and (2) Heritage Oak Trees.

All oak trees within the survey area that satisfied the previously mentioned criteria were identified to species. The circumference at a point 4.5 feet above natural grade was measured. For trees with co-dominant stems at 4.5 feet above natural grade, the circumference of each stem was measured at this height. The average circumference of all the stems was calculated in order to determine the number of replacement trees required if the tree was to be removed or subject to major encroachment, as outlined in Table 1 above. Next, the height of each tree was estimated and an aluminum tag with a unique number was affixed to the north side of the tree at approximately three feet above natural grade. Trees located outside of the study area but located within the buffer area were not tagged since Integral Communities does not own this property. Finally, the location of each individual tree and the canopy extent were recorded with a global positioning system device with sub-meter accuracy. The collected data are not considered survey-grade accuracy and should not be used for construction purposes.

Physical and horticultural evaluations were performed for each protected tree according to the City's Oak Tree Preservation and Protection Guidelines (City 1990). The physical evaluation included the assessment of structure, terrain, and general appearance. The horticultural evaluation included the detection of any disease or pathogens and an assessment of the tree's overall vigor. The physical and horticultural evaluations were used to rate each tree on a scale ranging from A to F as outlined in the City's Preservation and Protection Guidelines. The rating system is reproduced below in Table 2, *Oak Tree Rating System*.

**Table 2**  
**OAK TREE RATING SYSTEM**

Rating	Description
A – Outstanding	A healthy and vigorous tree characteristic of its species and reasonably free of any visible signs of stress, disease or pest infestation.
B – Above Average	A healthy and vigorous tree with minor visible signs of stress, disease or pest infestation.
C – Average	Although healthy in overall appearance there is an abnormal amount of stress or disease and/or pest infestation.
D – Below Average/Poor	This tree is characterized by exhibiting a greater degree of stress, disease and/or pest infestation than normal and appears to be in a state of rapid decline. The degree of decline may vary greatly in signs of dieback, disease and pest infestation and appears to be in an advanced state of decline.

F – Dead	This tree exhibits no signs of life whatsoever.
Source: City of Santa Clarita (1990)	

Following the oak tree survey, an impact assessment was conducted using the most recent project grading plans. The impact assessment was used to determine the number of oak trees that would be required to be removed or whose protected zone would be subject to major encroachment to complete project activities.

## RESULTS

A total of 64 oak trees subject to an Oak Tree Permit were located within the survey area (Figure 4, *Oak Tree Locations*). Of these trees, 2 were coast live oak (*Quercus agrifolia*), 6 were scrub oak (*Quercus berberidifolia*), 2 were blue oak (*Quercus douglasii*), 53 were Tucker oak (*Quercus john-tuckeri*), and one was a valley oak (*Quercus lobata*). Six trees (approximately 9 percent) were assigned a rating of A – Outstanding, 22 trees (approximately 34 percent) were B – Above Average, 25 trees (approximately 40 percent) were C – Average, and 11 trees (approximately 17 percent) were D – Below Average. No dead trees were observed during the survey. Overall, there was very little disease noted on the oak trees within the survey area. The majority of trees (37 trees, approximately 58 percent) showed evidence of stress-related growth such as epicormic sprouting and suckers. No Heritage Oak Trees were found during the survey. The locations of all oak tree surveyed are shown in Figure 4. The data collected during the survey is included as Attachment A, *Oak Tree Survey Data*. Representative site and tree photographs are included as Attachment B, *Representative Photographs*.

## IMPACT ASSESSMENT

All oak trees within the project footprint will be removed. In addition, the project will be required to implement fuel medication. The County Fire Department requires fuel modification zones to create a defensible space in the event a wildfire breaks out (County of Los Angeles N.D.). There are three different zones, which are outlined below:

**Zone A (Setback Zone)** – This zone extends 20 feet beyond the edge of any structures. The only allowed vegetation within this zone is green lawns, ground cover not exceeding six inches in height, and well-spaced shrubs. The landscape must be irrigated to promote healthy vegetation and fire resistance.

**Zone B (Irrigated Zone)** – This zone extends from the outermost edge of Zone A to 100 feet from structures. Green lawn, ground cover not exceeding six inches in height, and well-spaced shrubs and trees are allowed in this zone. The landscape must be irrigated to promote healthy vegetation and fire resistance.

**Zone C (Native Brush Thinning Zone)** – This zone extends from the outermost edge of Zone B to 200 feet from the structures. Well-spaced native vegetation and ornamental shrubs and trees are allowed. Vegetation must be thinned and species that constitute a fire risk are not allowed (e.g., chamise [*Adenostoma fasciculatum*], sages [*Salvia* spp.], California sagebrush, and California buckwheat). This zone does not require irrigation.



For the purpose of this assessment, oak trees located within Fuel Modification Zone A were considered impacted while oak trees located within Zones B and C were considered avoided.

Based on analyzing each surveyed oak's location in respect to the project grading plans and fuel modification zones, the project would require the removal of 26 oak trees, including 4 scrub oaks (*Quercus berberidifolia*), 2 blue oaks (*Quercus douglasii*), and 20 Tucker oaks (*Quercus john-tuckeri*). In addition, one Tucker oak would be subjected to major encroachment and two Tucker oaks would be subjected to minor encroachment. The remaining 35 oak trees would be completely avoided by the project (Table 3, *Impacts to Oak Trees*). A map with the location and protected zone of the oak trees assessed during this survey is included as Figure 5, *Impacts to Oak Trees*.

**Table 3**  
**IMPACTS TO OAK TREES**

Species Name	Common Name	Number of Trees			
		Removed	Major Encroachment	Minor Encroachment	Avoided
<i>Quercus agrifolia</i>	coast live oak	0	0	0	2
<i>Quercus berberidifolia</i>	scrub oak	4	0	0	2
<i>Quercus douglasii</i>	blue oak	2	0	0	0
<i>Quercus john-tuckeri</i>	Tucker oak	20	1	2	30
<i>Quercus lobata</i>	valley oak	0	0	0	1
<b>TOTAL</b>		<b>26</b>	<b>1</b>	<b>2</b>	<b>35</b>

## MITIGATION

Based on the impacts to oak trees as quantified by the impact assessment, 27 oak trees will be removed or subjected to major encroachment. In order to receive an Oak Tree Removal Permit for these impacts, it is anticipated that the City will require 91 replacement trees to be planted or the equivalent monetary value of the replacement trees to be paid (Table 4, *Oak Tree Mitigation*). Trees that will be completely avoided or subject to minor encroachment will not require replacement trees.

**Table 4**  
**OAK TREE MITIGATION**

Species Name	Common Name	Number of Trees	
		Removed/Major Encroachment	Replacement Trees Required
<i>Quercus berberidifolia</i>	scrub oak	4	9
<i>Quercus douglasii</i>	blue oak	2	19
<i>Quercus john-tuckeri</i>	Tucker oak	21	63
<b>TOTAL</b>		<b>27</b>	<b>91</b>

## CONCLUSION

Sixty-four (64) oak trees on the survey area were considered City-protected trees. Construction of the project will require 27 of these trees to be removed or to be subjected to major encroachment. It is anticipated that the City will require mitigation for these impacts through the purchase of 91 replacement trees or payment to the City of their equivalent monetary value. Thirty-seven (37) of these trees will be completely avoided or subjected to minor encroachment during project activities and will not require replacement trees.

During construction, trees subject to minor or major encroachment will require protection measures, including but not limited to those outlined within Section VII. Standards for Performance of Permitted Work of the Oak Tree Preservation Guidelines. Other general guidelines to protect trees during for project construction are included as Attachment C, *Tree Protection Recommendations*.

Should you have any questions or require additional information, please do not hesitate to contact me at (949) 234-1515 or DanielT@helixepi.com.

Sincerely,



Daniel Torres  
ISA Certified Arborist (WE-12249A)

### Enclosures:

- Figure 1: Regional Location
- Figure 2: USGS Topography
- Figure 3: Aerial Vicinity
- Figure 4: Oak Tree Locations
- Figure 5: Impacts to Oak Trees

- Attachment A: Oak Tree Survey Data
- Attachment B: Representative Photos
- Attachment C: Tree Protection Recommendations

## REFERENCES

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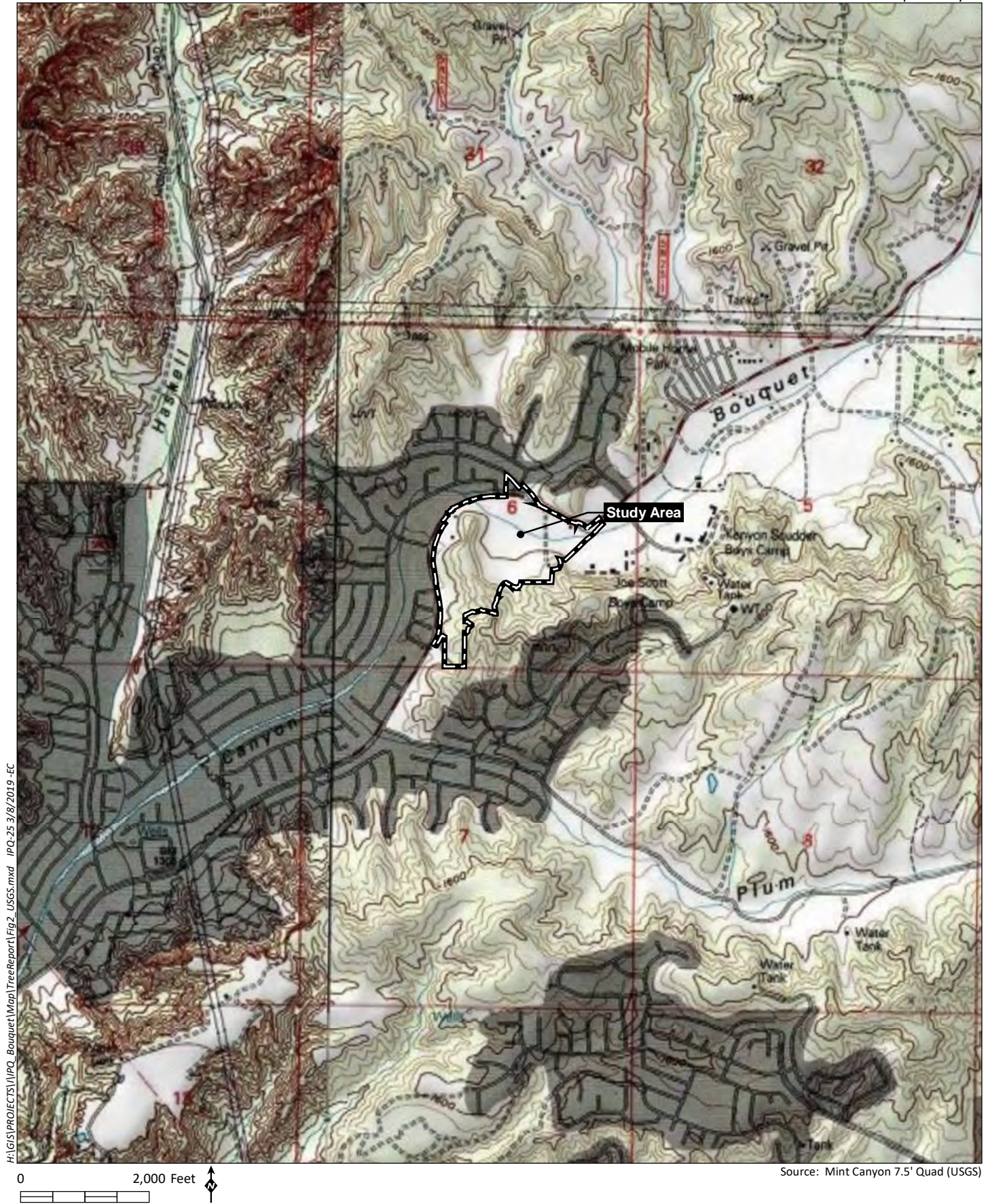
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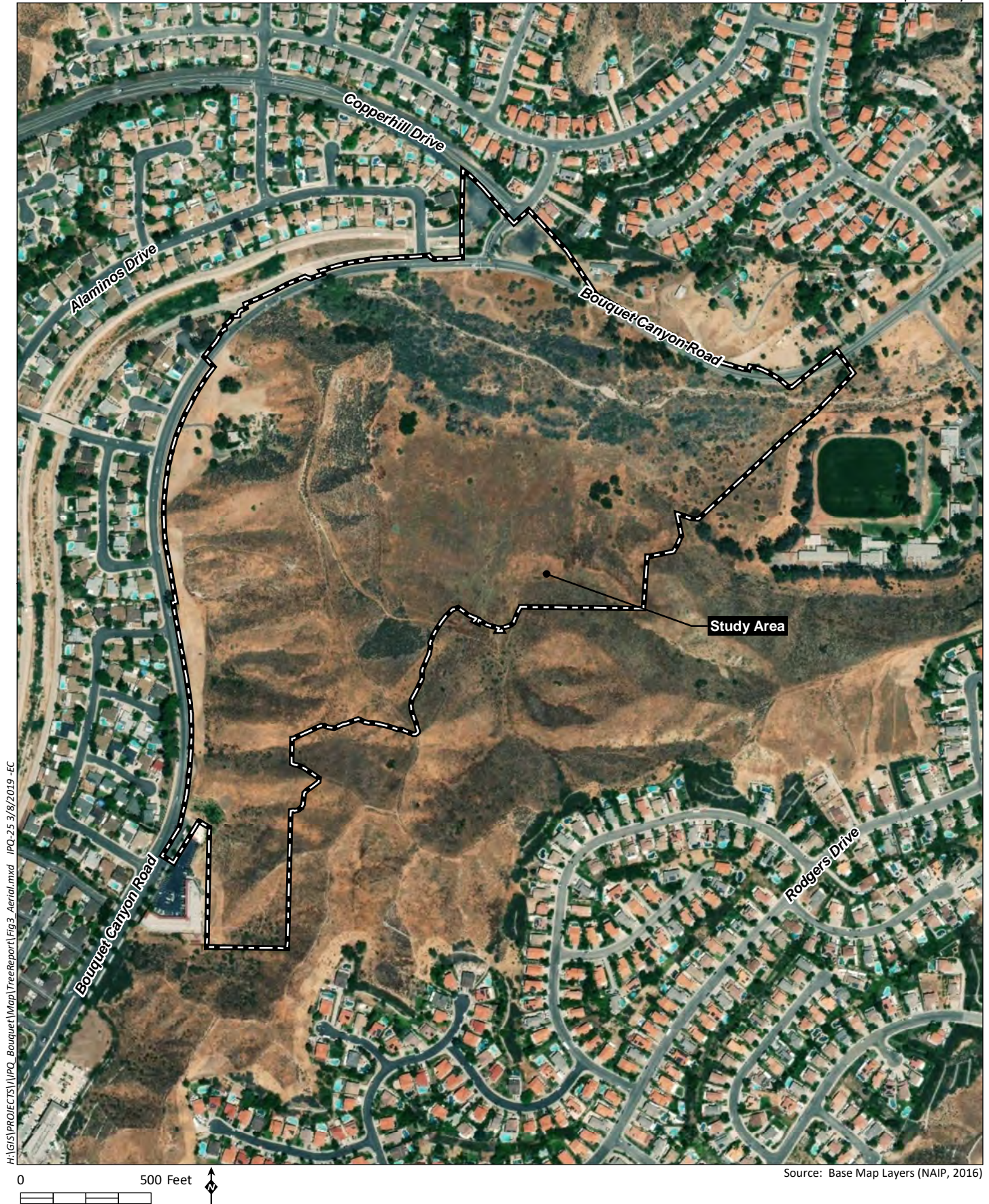




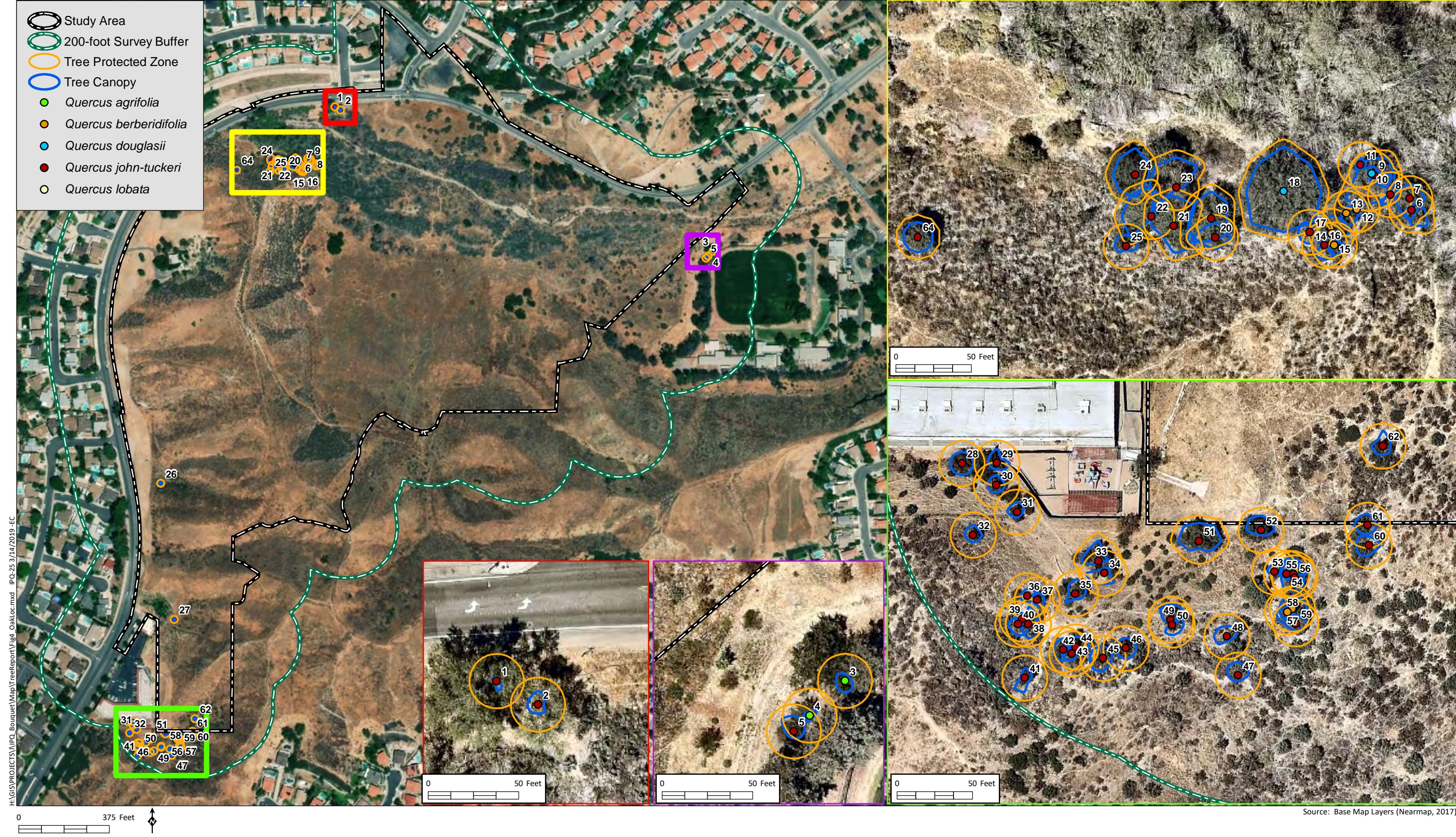
## USGS Topography

Figure 2

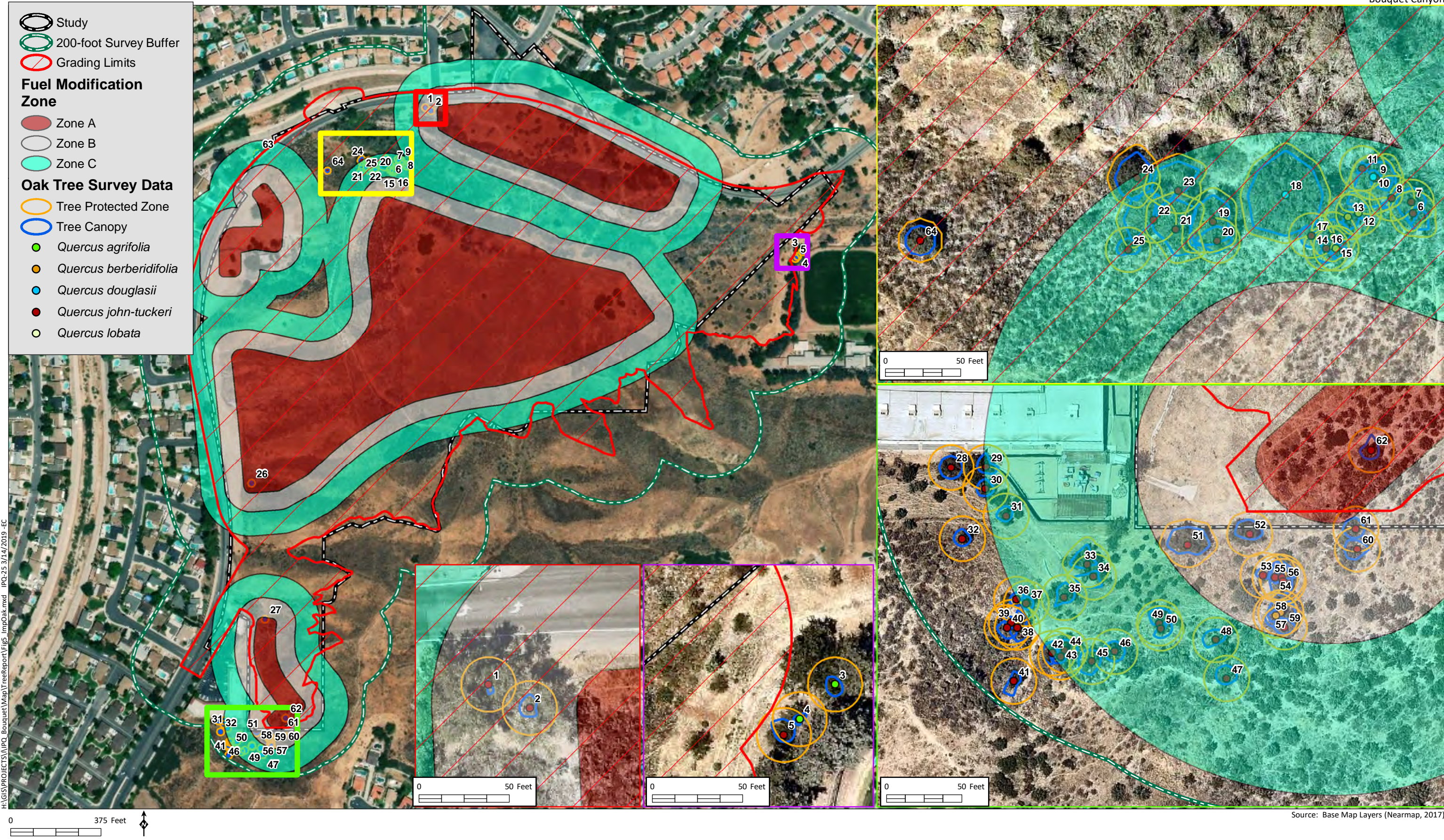














Tree Tag No.	Species	Circumference (in)	Height (ft)	Canopy Extent (feet)								Physical Evaluation	Horticultural Evaluation	Oak Tree Rating	Comments	Proposed Impacts
				N	NE	E	SE	S	SW	W	NW					
1	Tucker oak <i>Quercus john-tuckeri</i>	6	10	3	1	1	5	6	1	1	3	Deep v-crotch at 7", canopy is N-S oriented, does not extend E-W.	Appears vigorous, some small galls present, some old, healed trunk injuries.	B		Removal
2	Tucker oak <i>Quercus john-tuckeri</i>	7.5	9	8	6	3	6	5	6	6	6	Trunk leaning northeast, canopy overall well-distributed.	Galls, insect damage.	B		Removal
3	coast live oak <i>Quercus agrifolia</i>	12.75	16	4	3	4	6	7	6	5	6	Tree leaning south.	Has stress-related suckers, sapsucker holes.	B	No tag; off-site.	Avoided
4	coast live oak <i>Quercus agrifolia</i>	10, 9, 7	9	2	6	3	1	4	3	4	3	Tree has been topped.	All epicormic growth, tree in severe decline.	D	No tag; off-site.	Avoided
5	Tucker oak <i>Quercus john-tuckeri</i>	11.75, 12, 8.5	15	9	8	6	5	4	4	5	10	Tree leaning north, away from adjacent eucalyptus.	Some galls present, bark damage present (chainsaw cut)-healing.	B	No tag; off-site.	Minor Encroachment
6	Tucker oak <i>Quercus john-tuckeri</i>	9, 13, 13	16	4	6	9	15	10	5	5	2	Large failure at v-crotch with decay (old main stem), exposed roots.	Declining, significant amount of epicormic sprouting.	D		Removal
7	Tucker oak <i>Quercus john-tuckeri</i>	18, 19, 24	22	10	10	10	8	15	10	10	9	Exposed roots, wide angle crotch at base.	Declining, epicormic sprouting, canopy dieback.	D		Removal



Tree Tag No.	Species	Circumference (in)	Height (ft)	Canopy Extent (feet)								Physical Evaluation	Horticultural Evaluation	Oak Tree Rating	Comments	Proposed Impacts
				N	NE	E	SE	S	SW	W	NW					
8	Tucker oak <i>Quercus john-tuckeri</i>	9.75, 6	5	2	8	2	2	5	10	2	4	Severe lean to south, on steep slope.	Tree is being shaded, very sparse canopy, canopy dieback.	D	Stump shoots from old dead tree.	Removal
9	Tucker oak <i>Quercus john-tuckeri</i>	20	15	6	3	12	12	5	5	2	7	Exposed roots, on steep slope.	Large split with internal decay in trunk, internal decay throughout.	D		Removal
10	blue oak <i>Quercus douglasii</i>	85, 36	45	10	15	15	20	20	25	10	10	Main trunk split long ago, large trunk leaning north, southern-most trunk with severe lean south, on steep slope.	Lots of mistletoe, canopy very sparse.	D		Removal
11	Tucker oak <i>Quercus john-tuckeri</i>	9	16	5	3	3	4	2	6	2	2	On steep slope.	Most of canopy is dead, mistletoe present, epicormic sprouting.	D	Tree is almost completely dead.	Removal
12	scrub oak <i>Quercus berberidifolia</i>	10	15	2	8	8	8	2	2	2	2	Trunk leaning to north, multi-stem, one stem is dead, on steep slope.	Epicormic growth, very sparse canopy.	D		Removal

Tree Tag No.	Species	Circumference (in)	Height (ft)	Canopy Extent (feet)								Physical Evaluation	Horticultural Evaluation	Oak Tree Rating	Comments	Proposed Impacts
				N	NE	E	SE	S	SW	W	NW					
13	scrub oak <i>Quercus berberidifolia</i>	12, 9.5, 10, 10	15	5	6	8	8	9	5	2	2	One dead stem, on steep slope.	Epicormic sprouting, severe decline, some galls present.	D		Removal
14	scrub oak <i>Quercus berberidifolia</i>	22.5, 22, 17, 10, 7.5	20	12	12	12	5	12	10	10	12	Some stems have internal decay, on steep slope.	Epicormic sprouting, mistletoe present, tree in decline.	D		Removal
15	scrub oak <i>Quercus berberidifolia</i>	7.5, 7.5, 8, 5.5	14	5	3	8	6	8	5	5	9	Good balance, on steep slope.	Some mistletoe present, significant amount of epicormic sprouting, some canopy dieback.	C		Removal
16	Tucker oak <i>Quercus john-tuckeri</i>	9.5	10	1	1	1	10	10	10	2	1	Most of canopy is in the south, shaded in the north, on steep slope.	Some dieback present, significant amount of epicormic sprouting.	C		Removal
17	Tucker oak <i>Quercus john-tuckeri</i>	5.5, 6.5, 7, 9	12	7	3	3	4	8	8	8	8	Some included bark at v-crotch about 5" above ground, tree on steep slope.	Small amounts of dieback and epicormic sprouting present.	B		Removal

Tree Tag No.	Species	Circumference (in)	Height (ft)	Canopy Extent (feet)								Physical Evaluation	Horticultural Evaluation	Oak Tree Rating	Comments	Proposed Impacts
				N	NE	E	SE	S	SW	W	NW					
18	blue oak <i>Quercus douglasii</i>	40.5, 24, 47, 52.5, 48	35	30	25	25	28	27	30	25	25	Large multi-stem tree with big split and decay, all stems leaning towards the south, tree on steep slope.	Tree is experiencing some dieback, epicormic sprouting, sap sucker and borer holes present.	C	Tree tagged 61 in old survey, probably burned.	Removal
19	Tucker oak <i>Quercus john-tuckeri</i>	22, 16.5, 17, 13, 10, 11	30	18	15	10	15	15	22	15	15	Included bark in all crotches, tree on a steep slope.	Appears vigorous, some cankers, canopy is somewhat sparse.	B		Removal
20	Tucker oak <i>Quercus john-tuckeri</i>	17.5, 17, 14, 14	15	10	10	10	7	8	8	15	10	Tree on steep slope, nexus of stems is 1' above ground.	Some canopy dieback present.	B		Removal
21	Tucker oak <i>Quercus john-tuckeri</i>	21, 25, 20.5, 9	20	20	20	10	20	18	10	15	20	Multiple trunks all leaning in different directions, tree on a steep slope.	Most of canopy is epicormic sprouting, borer and sapsucker holes are present.	C		Removal
22	Tucker oak <i>Quercus john-tuckeri</i>	15, 19, 18.5, 19, 20	25	20	3	2	1	1	20	20	20	Tree is on a steep slope, included bark present.	Tree appears healthy but is being shaded, canopy is somewhat sparse, significant dieback is present.	C		Removal



Tree Tag No.	Species	Circumference (in)	Height (ft)	Canopy Extent (feet)								Physical Evaluation	Horticultural Evaluation	Oak Tree Rating	Comments	Proposed Impacts
				N	NE	E	SE	S	SW	W	NW					
23	Tucker oak <i>Quercus john-tuckeri</i>	44.5	35	20	20	5	1	1	10	18	20	Strong lean to the north.	Significant amount of dieback in the lower canopy.	B		Removal
24	Tucker oak <i>Quercus john-tuckeri</i>	18, 12.5, 42, 22.5	30	18	12	9	9	15	15	15	15	V-crotch with included bark at 7", 1.5', and 2' above ground.	Some galls are present.	B	Tree tagged 60 in old survey.	Removal
25	Tucker oak <i>Quercus john-tuckeri</i>	9, 9, 10, 6	9	8	8	8	5	2	6	8	8	Tree is on a steep slope.	Some epicormic sprouting is present, fairly even canopy.	B		Removal
26	Tucker oak <i>Quercus john-tuckeri</i>	6.5	10	8	8	8	8	8	8	8	8	Even canopy spread, tree growing in the open.	Some galls are present, canopy is dense and healthy.	A	Shrub form, more than 25 stems, all 1-3 inches in circumference.	Removal
27	Tucker oak <i>Quercus john-tuckeri</i>	6	9	6	4	4	4	6	6	4	5	Structurally good, open, even canopy.	Significant amount of epicormic growth, most leaves are affected by aphids.	D	Some mechanical damage on the east side of the trunk.	Removal
28	Tucker oak <i>Quercus john-tuckeri</i>	6.5	8	8	8	8	8	8	8	8	8	Tree is on a steep slope.	Some galls are present.	B	No tag; off-site.	Avoided
29	Tucker oak <i>Quercus john-tuckeri</i>	10, 6, 6.5, 5.5, 11	9	10	4	9	7	4	5	6	7		Dense canopy, tree appears vigorous.	A	No tag; off-site.	Avoided
30	Tucker oak <i>Quercus john-tuckeri</i>	9, 11	12	7	5	6	5	5	6	6	6		Dense canopy, tree appears vigorous.	A	No tag; off-site.	Avoided

Tree Tag No.	Species	Circumference (in)	Height (ft)	Canopy Extent (feet)								Physical Evaluation	Horticultural Evaluation	Oak Tree Rating	Comments	Proposed Impacts
				N	NE	E	SE	S	SW	W	NW					
31	Tucker oak <i>Quercus john-tuckeri</i>	6.5, 8, 6.5	8	7	6	4	3	4	4	7	6		Dense canopy, tree appears vigorous.	A	No tag; off-site.	Avoided
32	Tucker oak <i>Quercus john-tuckeri</i>	6	9	7	5	6	5	5	5	6	6		Dense canopy, tree appears vigorous.	A	No tag; off-site.	Avoided
33	Tucker oak <i>Quercus john-tuckeri</i>	12, 9.5, 14.5	13	14	5	7	1	1	4	12	10	Strong lean downhill.	Tree is vigorous, some minor boring insect damage, significant amount of stress-related sprouting at base.	C	No tag; off-site.	Avoided
34	Tucker oak <i>Quercus john-tuckeri</i>	14.5, 11	14	4	5	3	9	7	10	13	3	Good structure.	Tree appears vigorous, lots of stress-related sprouting at base, epicormic sprouting present.	C	No tag; off-site.	Avoided
35	Tucker oak <i>Quercus john-tuckeri</i>	8, 13, 16, 9.5	15	10	10	7	5	3	9	4	7	Internal decay present in one main trunk.	Significant amount of stress-related sprouting at base.	C	No tag; off-site.	Avoided
36	Tucker oak <i>Quercus john-tuckeri</i>	6	12	5	6	6	4	5	5	5	4		Significant amount of epicormic sprouting, some galls present.	C	No tag; off-site.	Avoided

Tree Tag No.	Species	Circumference (in)	Height (ft)	Canopy Extent (feet)								Physical Evaluation	Horticultural Evaluation	Oak Tree Rating	Comments	Proposed Impacts
				N	NE	E	SE	S	SW	W	NW					
37	Tucker oak <i>Quercus john-tuckeri</i>	8	12	5	5	5	5	4	3	3	5		Significant amount of epicormic sprouting, some galls present.	C	No tag; off-site.	Avoided
38	Tucker oak <i>Quercus john-tuckeri</i>	9.5, 10, 8.5	12	12	10	5	10	10	6	5	2	Lean is causing bark to split.	Some internal decay and stress-related sprouting at the base is present.	C	No tag; off-site.	Avoided
39	Tucker oak <i>Quercus john-tuckeri</i>	7	10	4	3	3	3	4	4	5	5		Stress-related sprouting at the base and epicormic sprouting is present.	C	No tag; off-site.	Avoided
40	Tucker oak <i>Quercus john-tuckeri</i>	6, 5	12	5	4	7	8	8	6	7	5		Some galls are present, tree is in good health overall.	B	No tag; off-site.	Avoided
41	Tucker oak <i>Quercus john-tuckeri</i>	8, 6	15	7	6	5	3	10	10	3	3	Bark has a healing fissure down the middle of the trunk.	Some epicormic sprouting is present.	B	No tag; off-site.	Avoided
42	Tucker oak <i>Quercus john-tuckeri</i>	6.5, 6	12	8	8	2	2	8	7	7	7	Several branches are rubbing against each other.	Some galls are present.	B	No tag; off-site.	Avoided
43	Tucker oak <i>Quercus john-tuckeri</i>	6, 4	12	5	5	3	4	4	6	7	7		Some epicormic sprouting is present.	B	No tag; off-site.	Avoided



Tree Tag No.	Species	Circumference (in)	Height (ft)	Canopy Extent (feet)								Physical Evaluation	Horticultural Evaluation	Oak Tree Rating	Comments	Proposed Impacts
				N	NE	E	SE	S	SW	W	NW					
44	Tucker oak <i>Quercus john-tuckeri</i>	6, 6	12	7	8	9	5	3	3	7	7		Some canopy dieback is present.	C	No tag; off-site.	Avoided
45	Tucker oak <i>Quercus john-tuckeri</i>	7, 6, 6, 6, 5	13	8	8	6	6	9	10	9	9	Tree is in shrub form, several widely-spaced branches.	Some epicormic sprouting and galls are present.	B	No tag; off-site.	Avoided
46	Tucker oak <i>Quercus john-tuckeri</i>	6, 6, 6, 6, 8, 8.5	9	7	7	7	7	7	7	7	7	Tree is in shrub form, several widely-spaced branches.	Some epicormic sprouting is present, tree exhibiting vigorous growth.	B	No tag; off-site.	Avoided
47	Tucker oak <i>Quercus john-tuckeri</i>	6.5, 4	9	9	8	7	4	4	5	7	9	Tree is leaning downslope causing fissures in some stems.	Main stem has a large fissure with internal decay.	C	No tag; off-site.	Avoided
48	Tucker oak <i>Quercus john-tuckeri</i>	6, 5, 5	9	7	9	6	3	3	8	9	8	Some healing cracks are present at the base of main stems.	Some galls are present, some canopy dieback.	B	No tag; off-site.	Avoided
49	Tucker oak <i>Quercus john-tuckeri</i>	10, 6.5, 9.5	13	11	11	5	5	5	2	5	10	Good structure.	Some dieback and significant amounts of epicormic sprouting are present.	C	No tag; off-site.	Avoided

Tree Tag No.	Species	Circumference (in)	Height (ft)	Canopy Extent (feet)								Physical Evaluation	Horticultural Evaluation	Oak Tree Rating	Comments	Proposed Impacts
				N	NE	E	SE	S	SW	W	NW					
50	Tucker oak <i>Quercus john-tuckeri</i>	9, 7, 6, 6	13	2	8	8	7	7	7	2	2	Good structure.	Significant amount of epicormic sprouting is present.	C	No tag; off-site.	Avoided
51	Tucker oak <i>Quercus john-tuckeri</i>	15, 16, 16, 17	18	12	14	15	10	5	9	14	14	V-crotches are 1' above ground, some chainsaw wounds are present.	Significant amount of epicormic sprouting is present.	C	No tag; off-site.	Avoided
52	Tucker oak <i>Quercus john-tuckeri</i>	16.5, 10, 9.5, 17, 6, 9, 8.5	17	10	9	9	5	3	4	10	11	Many stems, but good structure.	Significant amount of epicormic sprouting and some canopy dieback are present.	C		Minor Encroachment
53	Tucker oak <i>Quercus john-tuckeri</i>	13	19	5	8	6	3	2	2	5	5	V-crotch at 6" and 4' above ground, tree has a slight lean.	Most of canopy is epicormic sprouting.	C	No tag; off-site.	Avoided
54	Tucker oak <i>Quercus john-tuckeri</i>	10, 8, 10	17	11	11	5	5	3	3	5	5		Most of canopy is epicormic sprouting, significant canopy dieback is present.	C	No tag; off-site.	Avoided
55	Tucker oak <i>Quercus john-tuckeri</i>	12	17	11	9	9	1	1	6	8	9	Tree is leaning northeast.	Borer holes and internal decay are present.	C	No tag; off-site.	Avoided



Tree Tag No.	Species	Circumference (in)	Height (ft)	Canopy Extent (feet)								Physical Evaluation	Horticultural Evaluation	Oak Tree Rating	Comments	Proposed Impacts
				N	NE	E	SE	S	SW	W	NW					
56	Tucker oak <i>Quercus john-tuckeri</i>	12, 11, 7, 7, 8, 10.5	15	8	8	6	8	9	10	9	7		Borer holes, some epicormic sprouting, internal decay, and canopy dieback are present.	C	No tag; off-site.	Avoided
57	scrub oak <i>Quercus berberidifolia</i>	9.5, 9.5, 7, 10, 8, 6.5, 6	12	9	10	10	7	5	9	9	9	Tree is in shrub form, mostly shaded by surrounding trees.	Some galls and epicormic sprouting are present.	B	No tag; off-site.	Avoided
58	scrub oak <i>Quercus berberidifolia</i>	7, 6	11	5	1	3	8	8	8	8	3	Tree is in shrub form.	Canopy is dying back, significant amount of epicormic sprouting is present.	C	No tag; off-site.	Avoided
59	Tucker oak <i>Quercus john-tuckeri</i>	8, 8, 8, 8, 8, 12.5	11	6	6	8	5	5	5	7	7	Tree is in shrub form.	A healing fissure and internal decay are present in one of the main stems.	C	No tag; off-site.	Avoided
60	Tucker oak <i>Quercus john-tuckeri</i>	6, 6, 6, 9, 4	8	6	6	8	5	7	9	9	9	Stems are all widely-spaced, spread out, tree is in shrubby form.	Some canopy dieback is present.	B	No tag; off-site, there is a packrat midden in the middle of the trunks.	Avoided

Tree Tag No.	Species	Circumference (in)	Height (ft)	Canopy Extent (feet)								Physical Evaluation	Horticultural Evaluation	Oak Tree Rating	Comments	Proposed Impacts
				N	NE	E	SE	S	SW	W	NW					
61	Tucker oak <i>Quercus john-tuckeri</i>	6, 6, 4, 5, 8, 6, 4, 4	9	8	6	6	6	6	7	9	8	Tree is in shrub form, stems are spread out.	Some canopy dieback, epicormic sprouting, and galls are present.	B		Major Encroachment
62	Tucker oak <i>Quercus john-tuckeri</i>	9, 7.5, 5.5, 6.5, 5.5, 8.5, 8, 6.5, 4, 5, 6	9	11	6	5	6	6	7	8	5		Cankers, galls, epicormic sprouting, and canopy dieback are present.	C		Removal
63	valley oak <i>Quercus lobata</i>	12, 22	20	5	7	7	7	7	7	7	7	V-crotch at 1.5' and 5' with included bark, tree is growing straight.	Vigorous growth, healthy specimen, no obvious signs of disease.	A	Circumference and canopy were estimated- tree is on private property.	Avoided
64	Tucker oak <i>Quercus john-tuckeri</i>	17, 32.5	19	10	10	10	10	10	8	8	10	Included bark, exposed roots, tree is growing on a steep slope.	Vigorous growth, some canopy dieback is present.	B		Removal



**Photo 1:** Tree 10 (blue oak, *Quercus douglasii*) adjacent to the northwestern corner of the study area.



**Photo 2:** Tucker oak (*Quercus john-tuckeri*) scrub adjacent to the southwestern corner of the study area.





**Photo 3:** Tree 51 (Tucker oak, *Quercus john-tuckeri*) assigned an oak tree rating of C for displaying significant amounts of epicormic growth.



**Photo 4:** Tree 62 (Tucker oak, *Quercus john-tuckeri*) assigned an oak tree rating of C for displaying canopy dieback and significant amounts of epicormic growth.

## General Construction Site Recommendations

- A minimum 4-foot tall, brightly colored, synthetic fence should be installed around the outermost edge of the protected zone of trees that are designated for retention on-site. Encroachment into the fenced areas should be restricted to the minimum amount feasible and fencing should remain in place until all construction activities have ceased
- The fenced area should be kept clear of building materials, waste, and excess soil.
- No digging, trenching, compaction, or other soil disturbance should be allowed in the fenced area.
- The storage of construction equipment or hazardous materials such as gasoline, oil, or other toxic chemicals should not be allowed in or adjacent to the fenced area.
- Storage areas for equipment, soil, and construction materials as well as burn sites (if permitted), cement washout pits, and construction work zones should be kept away from protected trees and outside the fenced in area.
- Cable, chain, rope or signage should not be attached to retained trees.
- Designated roads and parking areas should be established. All construction personnel should be restricted to driving and parking in designated areas. Discharge of exhaust from construction vehicles and equipment should not be allowed near the protected zone of trees.
- Grade changes should be avoided near fenced areas to the maximum extent possible.

## Recommendations for Construction Activities in the Vicinity of Retained Trees

- All necessary clearance pruning should be conducted by a Certified Tree Worker or Certified Arborist.
- Trenching within the dripline of retained trees should be avoided to the maximum extent practicable and kept a minimum distance of 10 times the diameter of the tree away from its trunk. If necessary, this trenching should be conducted using hand excavation or compressed air to reduce impacts to tree roots. Machine trenching should not be allowed within the dripline of retained trees. If pipes must be installed closer to the tree than a distance of 10 times the diameter of the tree away from its trunk, they should be bored beneath the tree a minimum of 3 feet below the ground surface to reduce impacts to roots.
- Excavation should also be minimized within the dripline of retained trees. Construction within the dripline of retained trees should be conducted in a manner that minimizes excavation and provides for the best preservation of roots as determined by the Project Arborist.
- If tree roots are severed outside of the fenced area, they should be severed cleanly and kept moist. All exposed roots outside of fenced areas should be covered with protective material during construction such as mulch or plywood sheets to reduce soil

compaction. Protective material should be removed upon completion of construction activities.

- Trenching and excavation should be avoided during hot, dry, weather and trees shall be watered before, during, and after trenching and excavation within the dripline of retained trees to offset water loss due to cut roots.
- Grading within the driplines of retained trees should be avoided wherever feasible.
- To prevent soil compaction, several inches of wood chips should be spread in the root zone area and covered with steel plates.

## **Recommendations for Protection of Trees Post-Construction**

- Post-construction inspections of the trees should be conducted by a Certified Arborist or Certified Tree Worker to determine if retained trees are stressed (e.g., water stress, nutrient stress) or damaged (e.g., broken branches, trunk damage). Appropriate corrective actions should be implemented as necessary. Such corrective actions may include application of root stimulant to encourage new root growth in trees that have a significant portion of their roots lost due to cutting or soil compaction.
- Aeration of soil by vertical mulching or similar technique should be implemented around retained trees to offset the impacts of soil compaction that has already occurred due to construction activities and other site uses.
- Long term maintenance should also be conducted by a Certified Arborist or tree care specialist to assist the trees with recovering from construction related stress and may include watering, fertilization, pruning, and/or pest/disease control.



## Appendix I

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Rare Plant Species Potential to Occur

## Appendix I

### Rare Plant Species Potential to Occur<sup>1</sup>

Species Name	Common Name	Status <sup>2</sup>	Habitat, Ecology, and Life History	Potential to Occur <sup>3</sup>
<i>Berberis nevinii</i>	Nevin's barberry	FE/SE CRPR 1B.1	Shrub. Occurs on steep, north-facing slopes or washes within chaparral, cismontane woodland, coastal scrub, and riparian scrub. Elevation range 70-825 m. Flowering period Mar-May.	<b>Presumed absent.</b> The study area supports suitable habitat for this species. The nearest observation of this species was recorded in 1987 within the Santa Clara river, approximately 4.25 miles to the southwest of the study area. This species was not observed during the rare plant surveys.
<i>Calochortus clavatus</i> var. <i>gracilis</i>	slender mariposa-lily	CRPR 1B.2	Medium perennial herb. Occurs in shaded foothills and canyons within chaparral, coastal scrub, and valley grassland. Elevation range below 1000 m. Flowering period May-Jun.	<b>Observed.</b> A total of 496 individuals were observed on the study area during the rare plant surveys.
<i>Calochortus palmeri</i> var. <i>palmeri</i>	Palmer's mariposa-lily	CRPR 1B.2	Medium perennial herb. Occurs in mesic and vernal moist areas within chaparral, lower montane coniferous forest, and meadows. Also occurs within seeps. Elevation range 1200-2200 m. Flowering period May-Jul.	<b>None.</b> The study area does not support mesic or vernal moist areas. There are no records of this species in the Santa Clarita area; Los Angeles County records are confined to the San Gabriel Mountains. This study area is below the elevation range for this species.

**Appendix I (cont.)**  
**Rare Plant Species Potential to Occur<sup>1</sup>**

Species Name	Common Name	Status <sup>2</sup>	Habitat, Ecology, and Life History	Potential to Occur <sup>3</sup>
<i>Dodecahema leptoceras</i>	slender-horned spineflower	FE/SE CRPR 1B.1	Small annual herb. Occurs in sandy or gravelly places within chaparral, cismontane woodland, and coastal scrub associated with alluvial fans. Elevation range 200-700 m. Flowering period May-Jun.	<b>Presumed absent.</b> The study area supports suitable habitat for this species. The nearest observation of this species was recorded in 1979, approximately 3.75 miles to the east of the study area within a non-specific area of Mint Canyon. This species was not observed during the rare plant surveys.
<i>Navarretia fossalis</i>	spreading navarretia	FT CRPR 1B.1	Small annual herb. Occurs in vernal pools, vernal swales, or roadside depressions. Population size is strongly correlated with rainfall. Depth of pool appears to be a significant factor as this species is rarely found in shallow pools. Elevation range 30-1300 m. Flowering period Apr-Jun.	<b>None.</b> The study area does not support vernal moist areas.
<i>Navarretia setiloba</i>	Piute Mountains navarretia	CRPR 1B.1	Small annual herb. Occurs on depressions in clay or gravelly loam within valley grassland, foothill woodland, and pinyon-juniper woodland. Elevation range 500-2100 m. Flowering period Apr-Jul.	<b>Presumed absent.</b> The study area contains suitable habitat for the species. The nearest observation of this species was recorded in 2001, approximately 2.25 miles to the east of the study area within Plum Canyon. This species was not observed during the rare plant surveys.
<i>Opuntia basilaris</i> var. <i>brachyclada</i>	short-joint beavertail	CRPR 1B.2	Medium succulent. Occurs on sandy or coarse granitic soil within chaparral, Joshua tree woodland, and oak/pine woodland. Elevation range 1200-1800 m. Flowering period Apr-Jun.	<b>None.</b> The study area is below the elevation range for this species.



## Appendix I (cont.) Rare Plant Species Potential to Occur<sup>1</sup>

Species Name	Common Name	Status <sup>2</sup>	Habitat, Ecology, and Life History	Potential to Occur <sup>3</sup>
<i>Orcuttia californica</i>	California Orcutt grass	FE/SE CRPR 1B.1	Small annual herb. Occurs in or near vernal pools. This species tends to grow in wetter portions of the vernal pool basin but does not show much growth until the basins become somewhat desiccated. Elevation range 0-700 m. Flowering period Apr-Aug.	<b>None.</b> The study area does support vernal pools.

Source: HELIX (2018)

<sup>1</sup> Sensitive species reported within the Mint Canyon quadrangle on CNDDDB and CNPS databases.

<sup>2</sup> Listing is as follows: F = Federal; S = State of California; E = Endangered; T = Threatened.

CRPR = California Rare Plant Rank: 1A – presumed extinct; 1B – rare, threatened, or endangered in California and elsewhere; 2A – rare, threatened, or endangered in California and elsewhere; 2B – rare, threatened, or endangered in California but more common elsewhere; 3 – more information on distribution, endangerment, ecology, and/or taxonomic validity is needed. Extension codes: .1 – seriously endangered; .2 – moderately endangered; .3 – not very endangered.

<sup>3</sup> Potential to Occur is assessed as follows: **None:** Habitat suitable for species survival does not occur on the study area, the study area is not within geographic range of the species, and/or the study area is not within the elevation range of the species; **Low:** Suitable habitat is present on the study area but of low quality and/or small extent. The species has not been recorded recently on or near the study area. Although the species was not observed during surveys for the current project, the species cannot be excluded with certainty; **Moderate:** Suitable habitat is present on the study area and the species was recorded recently near the study area; however, the habitat is of moderate quality and/or small extent. Although the species was not observed during surveys for the current project, the species cannot be excluded with certainty; **High:** Suitable habitat of sufficient extent is present on the study area and the species has been recorded recently on or near the study area, but was not observed during surveys for the current project. However, focused/protocol surveys are not required or have not been completed; **Presumed Present:** The species was observed during focused surveys for the current project and is assumed to occupy the study area; **Presumed Absent:** Suitable habitat is present on the study area but focused surveys for the species were negative.

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## Appendix J

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### Sensitive Animal Species Potential to Occur



## Appendix J

### Sensitive Animal Species Potential to Occur<sup>1</sup>

Species Name	Common Name	Status <sup>2</sup>	Habitat, Ecology, and Life History	Potential to Occur <sup>3</sup>
<b>Invertebrates</b>				
<i>Branchinecta lynchi</i>	vernal pool fairy shrimp	FT	Most commonly found in swale, earth slump, or basal-flow depression pools in unplowed grasslands. Requires cool-water pools.	<b>None.</b> The study area does not support vernal pools or other depressional pool habitat.
<i>Euphydryas editha quino</i>	Quino checkerspot butterfly	FE	Primary larval host plants in San Diego are dwarf plantain ( <i>Plantago erecta</i> ) at lower elevations, woolly plantain ( <i>P. patagonica</i> ) and white snapdragon ( <i>Antirrhinum coulterianum</i> ) at higher elevations. Owl's clover ( <i>Castilleja exserta</i> ) is considered a secondary host plant if primary host plants have senesced. Potential habitat includes vegetation communities with areas of low-growing and sparse vegetation. These habitats include open stands of sage scrub and chaparral, adjacent open meadows, old foot trails and dirt roads.	<b>None.</b> The study area is located outside of this species' current range. A historical record of this species was documented on CNDDB in 1920, approximately 2.25 miles to the east of the study area within non-specific area in Mint Canyon. The study area does not support this species' primary larval host plant, although a few scattered owl's clover individuals were observed.
<b>Fish</b>				
<i>Gasterosteus aculeatus williamsoni</i>	unarmored threespine stickleback	FE/SE	Occurs in weedy ponds, backwaters, and among emergent vegetation in small, south coast-flowing streams.	<b>None.</b> The study area does not support suitable perennial water for this species.
<b>Amphibians</b>				
<i>Spea hammondi</i>	western spadefoot	SSC	Occurs in open coastal sage scrub, chaparral, and grassland, along sandy or gravelly washes, floodplains, alluvial fans, or playas; require temporary pools for breeding and friable soils for burrowing; generally excluded from areas with bullfrogs ( <i>Rana catesbiana</i> ) or crayfish ( <i>Procambarus</i> spp.)	<b>None.</b> The study area does not support suitable temporary pools required for breeding.

**Appendix J (cont.)**  
**Sensitive Animal Species Potential to Occur<sup>1</sup>**

Species Name	Common Name	Status <sup>2</sup>	Habitat, Ecology, and Life History	Potential to Occur <sup>3</sup>
<b>Reptiles</b>				
<i>Anniella</i> sp.	California legless lizard	SSC	Occurs in a variety of habitats, such as coastal dunes, sandy washes, and alluvial fans within chaparral, pine-oak woodlands, stream terraces with cottonwoods, sycamores or oaks. Prefers areas with leaf litter under trees and bushes with generally moist and loose soil.	<b>Moderate.</b> The study area supports suitable habitat for this species, particularly within and adjacent to Bouquet Canyon Creek. However, the site is relatively free of leaf litter due to presence of giant reed ( <i>Arundo donax</i> ) along the banks of Bouquet Canyon Creek. The nearest CNDDDB occurrence was recorded in 2010, approximately 1.5 miles to the northwest of the study area along Pettinger Canyon Road.
<i>Arizona elegans occidentalis</i>	California glossy snake	SSC	Most common in desert habitats but also occur in chaparral, sagebrush, valley-foothill hardwood, pine-juniper, and annual grass. Prefers open sandy areas with scattered brush, but also found in rocky areas.	<b>Low.</b> The study area supports suitable chaparral habitat, although there has not been a CNDDDB occurrence record in the area in over 50 years.
<i>Aspidoscelis tigris stejnegeri</i>	coastal whiptail	SSC	Open coastal sage scrub, chaparral, and woodlands. Frequently found along the edges of dirt roads traversing its habitats. Important habitat components include open, sunny areas, shrub cover with accumulated leaf litter, and an abundance of insects, spiders, or scorpions.	<b>High.</b> The study area supports suitable sage scrub, chaparral, and woodland habitat for this species. The nearest CNDDDB occurrence was recorded in 2008, approximately 1.25 miles to the east of the study area along Hayfork Road.

**Appendix J (cont.)**  
**Sensitive Animal Species Potential to Occur<sup>1</sup>**

Species Name	Common Name	Status <sup>2</sup>	Habitat, Ecology, and Life History	Potential to Occur <sup>3</sup>
<b>Reptiles (cont.)</b>				
<i>Phrynosoma blainvillii</i>	coast horned lizard	SSC	Coastal sage scrub and open areas in chaparral, oak ( <i>Quercus</i> sp.) woodlands, and coniferous forests with sufficient basking sites, adequate scrub cover, and areas of loose soil; require native ants, especially harvester ants ( <i>Pogonomyrmex</i> spp.), and are generally excluded from areas invaded by Argentine ants ( <i>Linepithema humile</i> ).	<b>High.</b> The study area supports suitable sage scrub, chaparral, and oak woodland habitats. The nearest CNDDDB occurrence was recorded in 2005, approximately 4.5 miles to the southwest of the study area within the Santa Clara River.
<i>Thamnophis hammondi</i>	two-striped gartersnake	SSC	Occurs along perennial and intermittent streams bordered by dense riparian vegetation, but occasionally associated with vernal pools or stock ponds.	<b>None.</b> The study area does not support perennial or intermittent streams or other aquatic habitats.
<b>Birds</b>				
<i>Athene cunicularia</i>	burrowing owl	SSC	Typical habitat is grasslands, open scrublands, agricultural fields, and other areas where there are ground squirrel burrows or other areas in which to burrow.	<b>Presumed Absent.</b> Although the study area supports suitable habitat and burrows, no burrowing owls were observed during the focused survey.



**Appendix J (cont.)**  
**Sensitive Animal Species Potential to Occur<sup>1</sup>**

Species Name	Common Name	Status <sup>2</sup>	Habitat, Ecology, and Life History	Potential to Occur <sup>3</sup>
<b>Birds (cont.)</b>				
<i>Lanius ludovicianus</i>	loggerhead shrike	SSC	Nests in dense, often thorny shrubs or trees. Will nest within brush piles or tumbleweeds when trees or shrubs are not present. Feeds on a wide variety of animals, including arthropods, amphibians, reptiles, small mammals, and small songbirds within open habitats such as grasslands, agricultural fields, pastures, shrublands, and ruderal areas with adequate perching locations.	<b>High.</b> Some portions of the study area support dense shrubs and trees suitable for nesting. The majority of the site supports suitable foraging habitat. The nearest CNDDB occurrence was recorded in 2005, approximately 1.25 miles to the northeast of the study area.
<i>Polioptila californica californica</i>	coastal California gnatcatcher	FT/SSC	Occurs in coastal sage scrub and very open chaparral.	<b>Presumed Absent.</b> The study area supports coastal scrub and chaparral habitat. This species was not observed during focused surveys.
<b>Mammals</b>				
<i>Corynorhinus townsendii</i>	Townsend's big-eared bat	SCT/SSC	Occurs in a wide variety of habitats, although more common in mesic habitats. Usually roosts in caves, abandoned mines, and occasionally buildings. Forages for small moths along the edge of vegetation, such as riparian and woodland habitats.	<b>Low.</b> The study area does not contain suitable roosting habitat but may be used by foraging individuals.
<i>Lepus californicus bennettii</i>	San Diego black-tailed jackrabbit	SSC	Occurs primarily in open habitats including coastal sage scrub, chaparral, grasslands, croplands, and open, disturbed areas if there is at least some shrub cover present.	<b>High.</b> The study area contains suitable habitat for this species. The nearest CNDDB occurrence was recorded in 2015, approximately 5.5 miles to the southeast of the study area.

## Appendix J (cont.)

### Sensitive Animal Species Potential to Occur<sup>1</sup>

Species Name	Common Name	Status <sup>2</sup>	Habitat, Ecology, and Life History	Potential to Occur <sup>3</sup>
<b>Mammals (cont.)</b>				
<i>Onychomys torridus ramona</i>	southern grasshopper mouse	SSC	Sandy valley floors within desert scrub habitat with low to moderate shrub cover and friable soils, but also found in coastal scrub and chaparral habitats.	<b>Low.</b> The study area contains suitable habitat for this species. However, the nearest CNDDDB occurrence was recorded in 1930, approximately 7 miles to the northeast of the study area within the Angeles National Forest.

<sup>1</sup> Sensitive species reported within the Mint Canyon quadrangle on CNDDDB.

<sup>2</sup> Listing is as follows: F = Federal; S = State of California; E = Endangered; T = Threatened; CE = Candidate Endangered; CT = Candidate Threatened; FP = Fully Protected; SSC = State Species of Special Concern.

<sup>3</sup> Potential to Occur is assessed as follows. **None:** Species is so limited to a particular habitat that it cannot disperse across unsuitable habitat (e.g. aquatic organisms), and habitat suitable for its survival does not occur on the study area; **Not Expected:** Species moves freely and might disperse through or across the study area, but suitable habitat for residence or breeding does not occur on the study area (includes species recorded during surveys but only as transients); **Low:** Suitable habitat is present on the study area but of low quality and/or small extent. The species has not been recorded recently on or near the study area. Although the species was not observed during surveys for the current project, the species cannot be excluded with certainty; **Moderate:** Suitable habitat is present on the study area and the species was recorded recently near the study area; however, the habitat is of moderate quality and/or small extent. Although the species was not observed during surveys for the current project, the species cannot be excluded with certainty; **High:** Suitable habitat of sufficient extent for residence or breeding is present on the study area and the species has been recorded recently on or near the study area, but was not observed during surveys for the current project. However, focused/protocol surveys are not required or have not been completed; **Presumed Present:** The species was observed during biological surveys for the current project and is assumed to occupy the study area; **Presumed Absent:** Suitable habitat is present on the study area but focused/protocol surveys for the species were negative.

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