Ocean Breeze Ranch Project

Biological Resources Technical Report

PDS2016-TM-5615
PDS2016-MUP-16-012
PDS2016-MUP-16-013

August 7, 2019 | OBR-01

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Prepared for:

County of San Diego
Planning & Development Services
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Project Proponent:

Ocean Breeze Ranch, LLC
1550 South Coast Highway, Suite 201
Laguna Beach, CA 92561

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7578 El Cajon Boulevard
La Mesa, CA 91942

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ACRONYMS AND ABBREVIATIONS

amsl	above mean sea level
APN	Assessor's Parcel Number
BCC	Bird of Conservation Concern
BGEPA	Bald and Golden Eagle Protection Act
BMO	Biological Mitigation Ordinance
BRCA	Biological Resource Core Area
Cal-IPC	California Invasive Plant Council
CalFire	California Department of Forestry and Fire Protection
Caltrans	California Department of Transportation
CDFW	California Department of Fish and Wildlife
CEQA	California Environmental Quality Act
CESA	California Endangered Species Act
CFG	California Fish and Game
CNDDB	California Natural Diversity Database
CNPS	California Native Plant Society
County	County of San Diego
CRPR	California Rare Plant Rank
CWA	Clean Water Act
dB	decibel
FE	Federal Endangered
FESA	Federal Endangered Species Act
ft	feet
FT	Federal Threatened
HCP	Habitat Conservation Plan
HELIX	HELIX Environmental Planning, Inc.
HLP	Habitat Loss Permit
HOA	Homeowners Association
I-	Interstate
IER	Interim Evacuation Route
MBTA	Migratory Bird Treaty Act
MCB	Marine Corps Base
MSCP	Multiple Species Conservation Program
MUP	Major Use Permit
NC	North County
NCCP	Natural Communities Conservation Planning
NPPA	Native Plant Protection Act

NRCS	Natural Resource Conservation Service
NWI	National Wetland Inventory
OHWM	Ordinary High Water Mark
PAMA	Pre-Approved Mitigation Area
PCE	Primary Constituent Element
PDS	Planning and Development Services
PMP	Pasture Management Plan
RMWD	Rainbow Municipal Water District
RMP	Resource Management Plan
RPO	Resource Protection Ordinance
RWQCB	Regional Water Quality Control Board
SAA	Streambed Alteration Agreement
SDCWA	San Diego County Water Authority
SE	State Endangered
SR	State Road
SSC	Species of Special Concern
TM	Tentative Map
USACE	U.S. Army Corps of Engineers
USDOT	U.S. Department of Transportation
USFWS	U.S. Fish and Wildlife Service
USGS	U.S. Geological Survey
WL	Watch List

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SUMMARY

At the request of Ocean Breeze Ranch, LLC, HELIX Environmental Planning, Inc. (HELIX) has completed this biological resources technical report for the proposed Ocean Breeze Ranch Project (project), which is proposed in the unincorporated community of Bonsall in San Diego County, California. The proposed project will consist of a 396-lot single-family residential community and separate, privately owned and operated equestrian facility, park and recreational uses, open space, and related roadway and utility infrastructure improvements.

The purpose of this report is to document the existing biological conditions within the project site 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 review under the California Environmental Quality Act by the County of San Diego (County) Planning & Development Services (PDS).

HELIX and/or HELIX-subcontracted biologists conducted general biological surveys, jurisdictional delineations, rare plant surveys, and protocol-level surveys for the Hermes copper butterfly (*Lycaena hermes*), burrowing owl (*Athene cunicularia*), coastal California gnatcatcher (*Polioptila californica californica*), least Bell's vireo (*Vireo bellii pusillus*), southwestern willow flycatcher (*Empidonax traillii extimus*), and Stephens' kangaroo rat (*Dipodomys stephensi*), in addition to habitat assessments for arroyo toad (*Anaxyrus californicus*) and coastal cactus wren (*Camphylorhynchus brunneicapillus*) during the period of October 2013 to April 2017.

The 1,402.5-acre project site supports 22 vegetation communities/habitat types: southern cottonwood-willow riparian forest, southern willow scrub, mule fat scrub, freshwater marsh, herbaceous wetland, tamarisk scrub, open water/freshwater pond, coast live oak woodland, Diegan coastal sage scrub, flat-topped buckwheat scrub, coastal sage-chaparral scrub, southern mixed chaparral, non-native grassland, pasture, row crops, agricultural pond, eucalyptus woodland, orchard, fallow orchard, non-native vegetation, disturbed habitat, and developed lands.

Four special status plant species were observed on the project site: Brewer's calandrinia (*Calandrinia breweri*), delicate clarkia (*Clarkia delicata*), graceful tarplant (*Holocarpha virgata* ssp. *elongata*), and smooth tarplant (*Centromadia pungens* ssp. *laevis*).

Focused surveys for Hermes copper, burrowing owl, southwestern willow flycatcher and Stephens' kangaroo rat were negative. Twenty-seven special status animal species have been observed or detected on or directly adjacent to the project site during biological surveys conducted for the project: barn owl (*Tyto alba*), California horned lark (*Eremophila alpestris actia*), Canada goose (*Branta canadensis*), coastal California gnatcatcher, coastal western whiptail (*Aspidoscelis tigris stejnegeri*), Cooper's hawk (*Accipiter cooperii*), golden eagle (*Aquila chrysaetos*), great blue heron (*Ardea herodias*), green heron (*Butorides virescens*), least Bell's vireo, loggerhead shrike (*Lanius ludovicianus*), northern harrier (*Circus cyaneus*), northwestern San Diego pocket mouse (*Chaetodipus fallax fallax*), osprey (*Pandion haliaetus*), red-shouldered hawk (*Buteo lineatus*), snow goose (*Chen caerulescens*), southern California rufous-crowned sparrow (*Aimophila ruficeps canescens*), southern mule deer (*Odocoileus hemionus fuliginata*), turkey vulture (*Cathartes aura*), vermilion flycatcher (*Pyrocephalus rubinus*), western bluebird (*Sialia mexicana*), western spadefoot (*Spea hammondii*), white-faced ibis (*Plegadis chihi*), white-tailed kite (*Elanus leucurus*), willow flycatcher (*Empidonax traillii*), yellow-breasted chat (*Icteria virens*), and yellow warbler (*Setophaga petechia*).

The project site supports wetland and non-wetland waters of the U.S. subject to the regulatory jurisdiction of the U.S. Army Corps of Engineers pursuant to Section 404 of the federal Clean Water Act (CWA); wetland and non-wetland waters of the State subject to the regulatory jurisdiction of the Regional Water Quality Control Board pursuant to Section 401 of the CWA; riparian-vegetated and unvegetated streambed subject to the regulatory jurisdiction of the California Department of Fish and Wildlife (CDFW) pursuant to Section 1600 et seq. of California Fish and Game Code; and wetlands subject to the regulatory jurisdiction of the County pursuant to the Resource Protection Ordinance.

The project site occurs within the boundaries of the County's proposed Draft Multiple Species Conservation Program (MSCP) North County (NC) Plan (Draft NC MSCP Plan), which has not yet been approved or adopted. In May of 2014, the County, U.S. Fish and Wildlife Service and CDFW entered into a Planning Agreement for the Draft NC MSCP Plan (County 2008a, amended 2014) which identifies preliminary conservation objectives and establishes an interim review process for development projects prior to approval of the NC MSCP Plan. Under the proposed NC MSCP Plan, 84 percent of the project site (1,176.9 of 1,402.5 acres) would become designated as Pre-Approved Mitigation Area (PAMA). The dominant habitat type on site is Diegan coastal sage scrub, which covers approximately 509.2 acres (36 percent) of the site. Approximately 659.0 acres (47 percent) of the site is in active agricultural or equestrian use, or is otherwise disturbed by past land uses, including row crops, avocado orchard, fallow orchard, horse pasture, and disturbed habitat and developed lands containing a combination of horse corrals, barns and other outbuildings, farm worker housing, staging areas, roads, and sparsely vegetated areas that retain a soil substrate.

Potential significant impacts were identified for special-status species, sensitive natural communities and riparian habitat, and local policies. Following County Guidelines, a total of 326.4 acres (23 percent) of the 1,402.5-acre site would be considered impacted by the project, along with an additional 2.2 acres of off-site impacts. The total impact acreage includes all fuel modification zones as well as all temporary and permanent impacts, in addition to 19.4 acres of existing equestrian facility improved areas (barns, stables, exercise and veterinary facilities, etc.) that would remain on site as part of the ongoing ranch activities. The existing 203.6-acre equestrian facility would be formalized with a Major Use Permit. Impact neutral lands comprise approximately 36.0 acres on site, including 13.3 acres of existing utility easements that would remain over the property. Approximately 832.7 acres of the site would be placed in biological open space, which would protect the resources in perpetuity. Mitigation measures are proposed to fully mitigate potential significant impacts on special status species, sensitive vegetation communities/habitats, and local policies. Implementation of these mitigation measures would mitigate potential impacts to below a level of significance.

1.0 INTRODUCTION

1.1 PURPOSE OF THE REPORT

At the request of Ocean Breeze Ranch, LLC, HELIX Environmental Planning, Inc. (HELIX) has completed this biological resources technical report for the proposed Ocean Breeze Ranch Project (project). The purpose of this report is to document the existing biological conditions within the project site 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 review under the California Environmental Quality Act (CEQA) by County of San Diego (County) Planning and Development Services (PDS).

1.2 PROJECT LOCATION AND DESCRIPTION

1.2.1 Project Location

The approximately 1,402.5-acre project site (site) is located west of Interstate (I-) 15, south of State Route (SR) 76, in the unincorporated community of Bonsall in north San Diego County, California (Figure 1). More specifically, the site occurs immediately north of portions of West Lilac Road and south of the San Luis Rey River, at 5820 West Lilac Rd., Bonsall, California (Figure 2). The site is depicted within Sections 13, 14, 15, 20, 21, 22, and 23 of Township 10 South, Range 3 West of the Bonsall, California U.S. Geological Survey (USGS) 7.5-minute topographic quadrangle map (Figure 3). Primary access to the site is provided by West Lilac Road. The project site occurs within the following twelve Assessor Parcel Numbers (APNs) 124-150-3400, 124-150-3500, 124-150-2800, 125-131-4800, 125-131-4900, 125-131-5400, 125-080-2100, 126-060-7800, 127-191-2000, 127-230-5900, 127-271-0100, and 127-271-0200.

The site occurs within the boundaries of the Draft North County (NC) Multiple Species Conservation Program (MSCP) Plan (herein referred to as NC MSCP Plan), which has not yet been approved or adopted. In May of 2014, the County, U.S. Fish and Wildlife Service (USFWS) and California Department of Fish and Wildlife (CDFW) entered into a Planning Agreement for the Draft NC MSCP Plan (County 2008a, amended 2014) which defines the geographic scope of the Planning Area, identifies preliminary conservation objectives, ensures coordination between the wildlife agencies (USFWS and CDFW) and establishes a process to review interim development within the Planning Area to help achieve the preliminary conservation objectives and preserve options for establishing a viable reserve system or equivalent long-term conservation measures. Within the Draft NC MSCP Plan, portions of the site occur within areas identified as Pre-Approved Mitigation Area (PAMA; Figure 4).

1.2.2 Project Description

The proposed project consists of a 396-lot single-family residential community, related roadway and utility infrastructure improvements, associated park and recreational uses, open space, and a separate, privately-owned and operated equestrian facility. Following County Guidelines, the project's total on-site disturbance area is approximately 326.4 acres, including 19.4 acres of existing equestrian improved areas (i.e., barns, stables, exercise and veterinary facilities, and a small office). The site has been in use first as a cattle ranch and later as a stallion breeding farm for many decades, spanning from the Gird Ranch in the late 1800s, to the purchase of the property by the Vessels Family in 1981. The existing equestrian use has been in place since the 1980s and would continue as part of the proposed project.

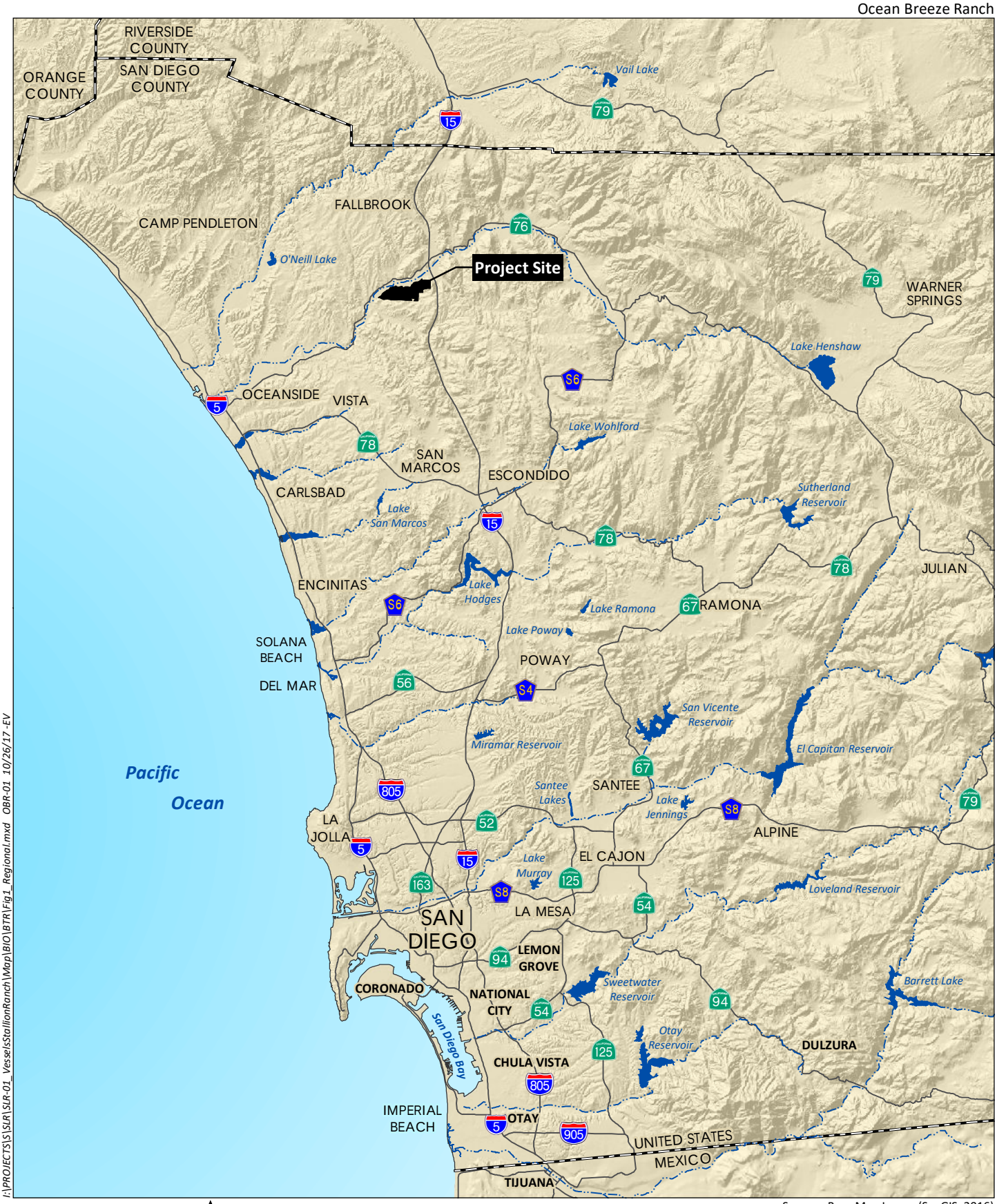
The residential development is divided into three distinct planning areas, with conventional lot sizes in Planning Areas 1 and 2 located in the western portion of the site, and larger lots in Planning Area 3 located in the eastern site area. Specifically, residential areas in Planning Areas 1 and 2 would include 381 lots, with associated lot sizes ranging from approximately 4,500 to 6,000 square feet. Proposed residential development in the western site area also includes water/wastewater systems and two sewer pump stations, with associated connections to existing adjacent (off-site) Rainbow Municipal Water District (RMWD) facilities. Additional uses in the western residential areas include seven park sites, as well as trail segments that extend within the project site and connect to the future off-site San Luis Rey River Trail alignment (which will be constructed by the County as a separate project). The off-site San Luis Rey River Trail is planned to be constructed adjacent to the northern project boundary and will run roughly parallel to the existing equestrian facility, including the pasture areas. To buffer horses from trail users, visual/sound barriers may be constructed along the northern portions of the equestrian facility. These barriers may include measures such as vegetation screening and fencing, as well as discrete, discontinuous sections of berm adjacent to areas with horse stalls and training areas.

Proposed residential development in the eastern portion (Planning Area 3) includes a gated neighborhood consisting of 13 lots with sizes ranging from approximately 5 to 7.5 acres, as well as one 19-acre estate parcel (westernmost lot in Planning Area 3). Water service in the eastern site area would be provided by the RMWD via connections to existing off-site facilities, while wastewater disposal would be provided by septic systems located on the individual residential lots. This portion of the project proposes private roads, including a primary access road connecting to two loop roads in the western portion of the project, and also connecting to the existing segment of Dulin Road at the project's eastern boundary. Both ends of this spine road will be gated and are not intended to provide public access from West Lilac Road to Old Highway 395. Planning Area 3 also includes a 28.3-acre Homeowners Association (HOA) Open Space lot (Lot DD) located in the southeastern portion of the site, directly west of Sullivan Middle School.

In addition to residential development in Planning Areas 1, 2, and 3, a 24.2-acre single large estate parcel ("Hillside Estate Parcel") is proposed on land northeast of the Sullivan Middle School site, with access from West Lilac Road. Further, all or part of the land immediately adjacent to the middle school and west of the Hillside Estate Parcel (i.e., the Remainder Parcel) may be sold to the school district for potential future school site expansion, however, no school-related facilities would be developed under the proposed project.

To meet County and North County Fire Protection District requirements, the project must provide an interim secondary emergency access/evacuation route after the first 50 homes are constructed in Planning Area 1. Ultimately the project would extend Dulin Road westward on site through Planning Area 3 and connect to other proposed internal roadways. Until the Dulin Road secondary access is fully constructed, an interim access route (IER) is identified, which would use selected existing roads within the equestrian facility to provide an emergency evacuation route that connects between the existing reach of Dulin Road in the northeastern portion of the site and the existing paved Vessels Ranch Road in the western portion of the site. The IER through the equestrian facility would overlap existing dirt roads (Figure 5).

The project also includes establishing a 15-foot wide trail easement over an existing dirt road connecting the east end of Planning Area 1 southeast to HOA Lot DD, and then eastward along the southern edge of HOA Lot DD toward Sullivan Middle School. Outside of HOA Lot DD, the trail easement crosses biological open space, and would be fenced on either side. The easement would incorporate a 6-foot wide



I:\PROJECTS\S\SLR\SLR-01_VesselsStallionRanch\Map\BIO\BTR\Fig1_RegionalLmxd OBR-01 10/26/17 -EV

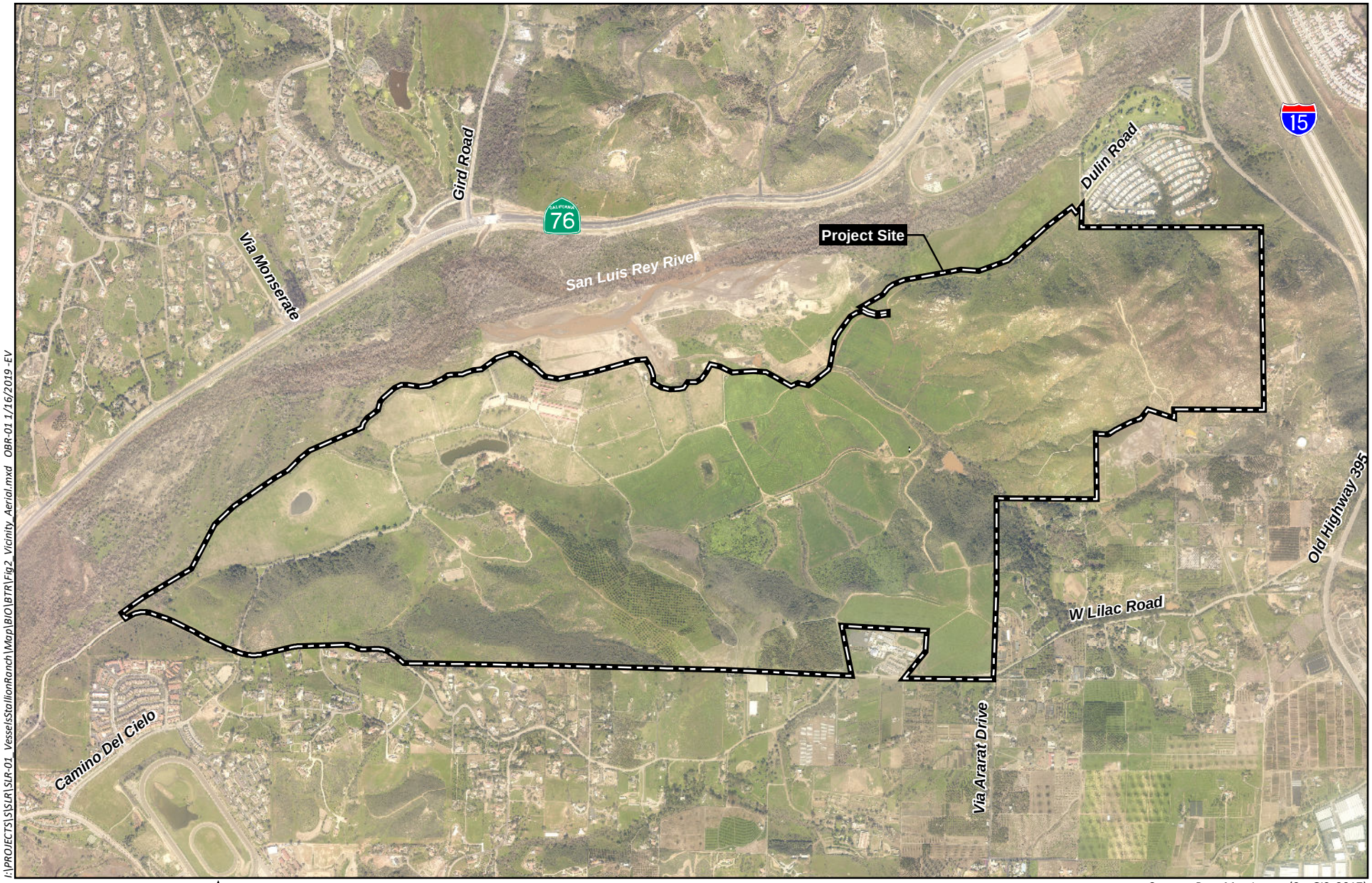
0 8 Miles

Source: Base Map Layers (SanGIS, 2016)

HELIX Environmental Planning

Regional Location

Figure 1



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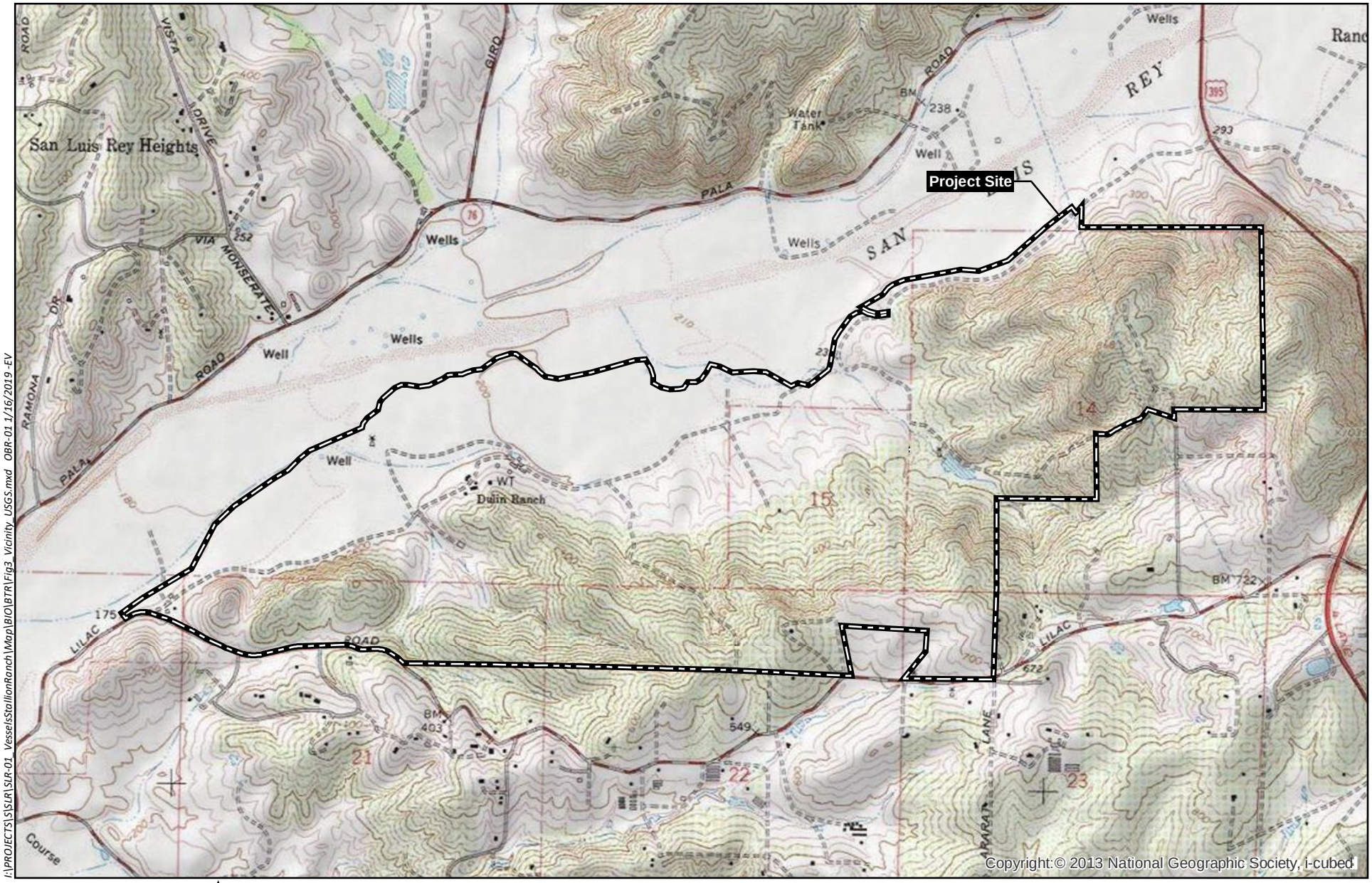
0 2,000 Feet

Source: Base Map Layers (SanGIS, 2017)

HELIX Environmental Planning

Project Vicinity (Aerial Photograph)

Figure 2



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HELIX Environmental Planning

Project Vicinity (USGS Topography)

Figure 3

Ocean Breeze Ranch

Project Boundary

Draft North County MSCP

- Outside Pre-Approved Mitigation Area (PAMA)
- Pre-Approved Mitigation Area (PAMA)
- Preserve Area
- Special Districts

Flowerwood Lane
Gird Road
Monserate Hill Road
San Luis Rey River
Dulin Road
South Old Highway 395
San Rey Lane
Mountain View Road
Ranchos Ladera Road
West Lilac Road
Via Vera
Via Ararat Drive
Camino Del Cielo
Redondo Drive

0 2,000 Feet

N

Source: Aerial (SanGIS, 2017)

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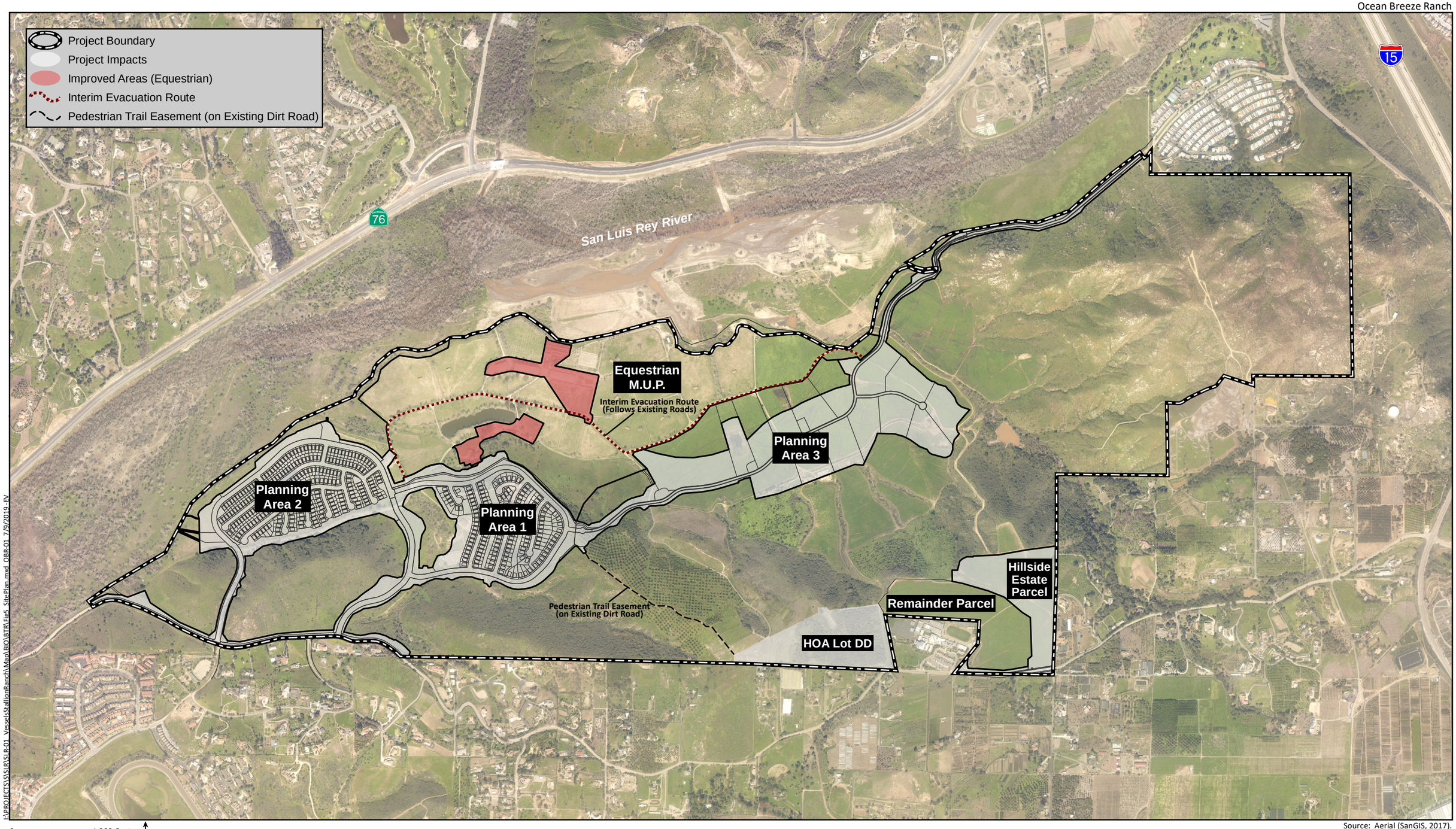
HELIX Environmental Planning

Draft North County MSCP Designations

Figure 4

Ocean Breeze Ranch



H:\PROJECTS\SSI\GIS\SLR-01_VesselStallionRanch\Map\BIO\ETRL\Fig5_SitePlan.mxd OBR-01 7/9/2019 EV

0 1,200 Feet

N

Source: Aerial (SanGIS, 2017).

HELIX Environmental Planning

Site Plan

Figure 5

decomposed granite trail and would be gated at either end to prevent unauthorized vehicle access into biological open space.

Proposed project development, including residential lots, fuel modification, landscaping, HOA open space lots, roads, stormwater infrastructure, etc., combined with the 19.4 acres of improved equestrian areas, comprises 326.4 acres on site, and 2.2 acres off site. The 2.2 acres of off-site impacts include 0.9 acre of impacts immediately adjacent to the project site and 1.3 acre of impacts for road improvements at the intersection of West Lilac Road and Camino del Rey. Improved equestrian areas on the project site consist of existing barns, stables, exercise and veterinary facilities, and a small office on 19.4 acres of the 203.6-acre equestrian facility. Refer to Figure 5, Proposed Project Site Plan, for the location of proposed uses.

The proposed project design includes a network of internal access roads within the described disturbance area, including public streets in the western residential sites (Planning Areas 1 and 2), and private/gated roadways in the eastern residential sites (Planning Area 3). Connections to existing off-site roadways would include two connections to West Lilac Road from the western (public) access roads, one gated (private) connection to Dulin Road from Planning Area 3 at the northeastern site boundary, and one connection to West Lilac Road from the estate parcel adjacent to Sullivan Middle School. Nearly 60 percent of the property (832.7 acres) will be preserved in a biological open space easement, which will protect these lands in perpetuity and will restrict future uses to preserve their biological value. In addition, existing equestrian pastures that are outside the residential development footprint will continue in use as pastures as part of the ongoing equestrian operations within the equestrian MUP area, and a limited use easement will be recorded over these areas specifying restrictions on future usage to preserve the current biological value of the pastures.

Project approvals are expected to include a Tentative Map (TM), a Major Use Permit (MUP) for all residential areas, a second MUP solely for the equestrian facility, and various other subordinate, related permits and approvals.

1.3 METHODS

1.3.1 Literature Review

Prior to conducting biological field surveys, HELIX conducted a search of sensitive species and habitats databases for information regarding sensitive species known to occur within 5 miles of the project site, including the USFWS species records (USFWS 2018), CDFW California Natural Diversity Database (CNDDB; CDFW 2016a), and California Native Plant Society (CNPS) Electronic Inventory (CNPS 2016). Recent aerial imagery, topographic maps, soils maps (Natural Resource Conservation Service [NRCS] 2016 and Bowman 1973), and other maps of the project site and vicinity were acquired and reviewed to obtain updated information on the natural environmental setting.

1.3.2 General Biological Surveys

General biological surveys of the project site were conducted according to County Requirements (2010a) by HELIX on October 16, 2013, on four days between March 18 and April 11, 2014, and on January 26 and 28, 2016 (Table 1, *Biological Surveys*), with additional mapping conducted on May 6, 2019 for the offsite Camino del Rey project component. Vegetation was mapped on a 1"=400' scale aerial of the site, and on a 1"=100' scale area for the offsite Camino del Rey area. The site was surveyed on foot and with

the aid of binoculars. Representative photographs of the site were taken, with select photographs included in this report as Appendix F. 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. The locations of special status plant and animal species incidentally observed or otherwise detected were mapped. The project site was examined for evidence of potential jurisdictional waters and wetlands.

In addition to the general biological surveys, HELIX conducted a formal jurisdictional delineation, rare plant surveys, habitat assessments for burrowing owl (*Athene cunicularia*), Stephens' kangaroo rat (*Dipodomys stephensi*), arroyo toad (*Anaxyrus californicus*), Hermes copper butterfly (*Lycaena hermes*), coastal cactus wren (*Camphylorhynchus brunneicapillus*), and coastal California gnatcatcher (*Polioptila californica californica*), and protocol-level surveys for Hermes copper butterfly, burrowing owl, coastal California gnatcatcher, least Bell's vireo (*Vireo bellii pusillus*), southwestern willow flycatcher (*Empidonax traillii extimus*), and Stephens' kangaroo rat. Focused surveys were also conducted for western spadefoot (*Spea hammondii*). Table 1 provides a summary of biological surveys conducted for the project. Focused species survey reports are included in this report as Appendices G through J.

Table 1
BIOLOGICAL SURVEYS

Survey Type	Date/Weather Conditions[1]	Personnel[2]
Year 2013		
General biological survey, vegetation community/habitat type mapping, basic wetland mapping	October 16	Stacy Nigro
Year 2014		
Habitat assessments for burrowing owl, Stephens' kangaroo rat, arroyo toad	March 17	Stacy Nigro, Ben Rosenbaum, Philippe Vergne[3], Ruben Ramirez[4]
General biological survey, vegetation community/habitat type mapping, formal jurisdictional delineation	March 18	Stacy Nigro, George Aldridge
	April 7	Stacy Nigro
	April 8	Stacy Nigro, George Aldridge
	April 11	
Rare plant	April 21	Larry Sward, Jasmine Bakker, George Aldridge
	April 24	
Year 2015		
Rare plant	August 5	Larry Sward, Talaya Rachels
	August 6	Talaya Rachels

Table 1 (cont.)
BIOLOGICAL SURVEYS

Survey Type	Date/Weather Conditions[1]			Personnel[2]
Year 2015 (cont.)				
Burrowing owl	April 23	Start/End: 0620-0930; 64-68°F; wind 0-0 mph; 100-55% cloud cover	Survey 1	Ben Rosenbaum, George Aldridge
	April 24	Start/End: 0620-0910; 58-60°F; wind 1-2 mph; 100% cloud cover		
	May 13	Start/End: 1745-2005; 66-62°F; wind 0-2 mph; 80-20% cloud cover	Survey 2	Erica Harris, Katie Bellon
	May 19	Start/End: 1720-1950; 66-61°F; wind 1-5 mph; 0-10% cloud cover		Ben Rosenbaum, Katie Bellon, Talaya Rachels
	June 1	Start/End: 1740-1950; 72-64°F; wind 1-5 mph; 30% cloud cover		Ben Rosenbaum
	June 23	Start/End: 0530-0935; 57-72°F; wind 0-1 mph; 50-0% cloud cover	Survey 3	Ben Rosenbaum, Laura Moreton
	June 24	Start/End: 0530-0920; 57-70°F; wind 1-2 mph; 0% cloud cover		Ben Rosenbaum, Amy Mattson
	July 14	Start/End: 0550-0940; 63-72°F; wind 1-5 mph; 100-5% cloud cover	Survey 4	Ben Rosenbaum, Talaya Rachels
	July 15	Start/End: 0550-0900; 64-70°F; wind 1-2 mph; 100-60% cloud cover		Ben Rosenbaum, Katie Bellon
Coastal California gnatcatcher	May 13	Start/End: 0755-1200; 63-72°F; wind 1-6 mph; 60-50% cloud cover	Survey 1	Erica Harris, Jason Kurnow
	May 14	Start/End: 0705-1145; 63-63°F; wind 0-4 mph; 70-15% cloud cover		
	May 20	Start/End: 0715-1115; 59-67°F; wind 0-5 mph; 100-80% cloud cover	Survey 2	Erica Harris, Jason Kurnow
	May 21	Start/End: 0710-1120; 63-66°F; wind 0-3 mph; 100% cloud cover		
	May 27	Start/End: 0730-1115; 60-67°F; wind 1-2 mph; 100% cloud cover	Survey 3	Jason Kurnow, Tara Baxter
	May 28	Start/End: 0745-1200; 64-76°F; wind 0-2 mph; 100-0% cloud cover		

Table 1 (cont.)
BIOLOGICAL SURVEYS

Survey Type	Date/Weather Conditions[1]			Personnel[2]
Year 2015 (cont.)				
Least Bell's vireo	April 27	Start/End: 0540-1215; 47-85°F; wind 3-5 mph; 100% cloud cover	Survey 1	John Konecny[5]
	May 12	Start/End: 0610-=1200; 60-72°F; wind 3-9 mph; 100% cloud cover	Survey 2	
	May 24	Start/End: 0535-1150; 58-68°F; wind 1-5 mph; 100% cloud cover	Survey 3	
	June 12	Start/End: 0530-1155; 63-70°F; wind 1-3 mph; 100% cloud cover	Survey 4	
	June 22	Start/End: 0545-1130; 59-82°F; wind 1-5 mph; 100% cloud cover	Survey 5	
	July 3	Start/End: 0535-1150; 66-79°F; wind 3-5 mph; 60% cloud cover	Survey 6	
	July 14	Start/End: 0535-1135; 66-82°F; wind 3-5 mph; 40% cloud cover	Survey 7	
	July 25	Start/End: 0530-1135; 65-88°F; wind 1-3 mph; 100% cloud cover	Survey 8	
Southwestern willow flycatcher	May 24	Start/End: 0535-1150; 58-68°F; wind 1-5 mph; 100% cloud cover	Survey 1	John Konecny
	June 12	Start/End: 0530-1155; 63-70°F; wind 1-3 mph; 100% cloud cover	Survey 2	
	June 22	Start/End: 0545-1130; 59-82°F; wind 1-5 mph; 100% cloud cover	Survey 3	
	July 3	Start/End: 0535-1150; 66-79°F; wind 3-5 mph; 60% cloud cover	Survey 4	
	July 14	Start/End: 0535-1135; 66-82°F; wind 3-5 mph; 40% cloud cover	Survey 5	
Stephens' kangaroo rat	July 3	64°F; wind 3 mph; 0% cloud cover	Survey 1	Philippe Vergne
	July 4	66°F; wind 0 mph; 0% cloud cover	Survey 2	
	July 5	64°F; wind 0-3 mph; 0% cloud cover	Survey 3	
	July 6	67°F; wind 0 mph; 0% cloud cover	Survey 4	Philippe Vergne, Katie Bellon
	July 7	64°F; wind 0-3 mph; 0% cloud cover	Survey 5	
	July 8	65°F; wind 0-3 mph; 0% cloud cover	Survey 6	
Year 2016				
General biological survey, vegetation community/habitat type mapping, coastal cactus wren habitat assessment	January 26			Stacy Nigro, Erica Harris, Katie Bellon
General biological survey, vegetation community/habitat type mapping, coastal cactus wren habitat assessment	January 28			Stacy Nigro

Table 1 (cont.)
BIOLOGICAL SURVEYS

Survey Type	Date/Weather Conditions[1]			Personnel[2]
Year 2016 (cont.)				
Coastal cactus wren habitat assessment	February 9			Stacy Nigro
Rare plant	April 4			Talaya Rachels, Stacy Nigro, Ben Rosenbaum, Jasmine Bakker, Summer Schlageter
	April 5			Talaya Rachels, Ben Rosenbaum, Jasmine Bakker
	April 6			Talaya Rachels, Ben Rosenbaum, Summer Schlageter
	April 12			Larry Sward, Talaya Rachels, Stacy Nigro, Hannah Sadowski
	April 13			Stacy Nigro, Hannah Sadowski
	April 21			Larry Sward, Ben Rosenbaum
	April 22			Jasmine Bakker, Hannah Sadowski
	June 14			Talaya Rachels, Stacy Nigro
	June 17			Talaya Rachels
Hermes copper	May 19	Start/End: 1135-1610; 74-79°F; wind 0-2 mph; 15-0% cloud cover	Survey 1	Jasmine Bakker, Hannah Sadowski
	May 20	Start/End: 1300-1500; 77-70°F; wind 2-6 mph; 10-15% cloud cover		Hannah Sadowski
	June 6	Start/End: 1105-1505; 76-84°F; wind 0-2 mph; 15-20% cloud cover	Survey 2	Hannah Sadowski
	June 7	Start/End: 1035-1345; 76-85°F; wind 2-5 mph; 25-20% cloud cover		
	June 21	Start/End: 1045-1315; 81-79°F; wind 1-5 mph; 25-50% cloud cover	Survey 3	
	June 23	Start/End: 1015-1340; 81-94°F; wind 0-2 mph; 0% cloud cover		
	July 8	Start/End: 1000-1450; 80-80°F; wind 1-5 mph; 0% cloud cover	Survey 4	

Table 1 (cont.)
BIOLOGICAL SURVEYS

Survey Type	Date/Weather Conditions[1]			Personnel[2]
Year 2016 (cont.)				
Least Bell's vireo	April 15	Start/End: 0730-1100; 58-63°F; wind 1-3 mph; 100-5% cloud cover	Survey 1	Erica Harris
	April 25	Start/End: 0800-1100; 63-69°F; wind 2-6 mph; 100-65% cloud cover	Survey 2	
	May 5	Start/End: 0730-1100; 60-63°F; wind 0-2 mph; 100% cloud cover	Survey 3	
	May 16	Start/End: 0730-1100; 63-66°F; wind 0-4 mph; 100% cloud cover	Survey 4	
	May 26	Start/End: 0720-1100; 60-68°F; wind 1-5 mph; 100-80% cloud cover	Survey 5	
	June 9	Start/End: 0700-1030; 66-67°F; wind 0-3 mph; 100% cloud cover	Survey 6	
	June 20	Start/End: 0730-1100; 76-101°F; wind 0-5 mph; 0% cloud cover	Survey 7	
	June 30	Start/End: 0725-1100; 68-77°F; wind 1-5 mph; 100-0% cloud cover	Survey 8	
Coastal California gnatcatcher habitat assessment	June 6			Erica Harris
	June 23			
	July 8			
Year 2017				
Western spadefoot	Jan 17	Start/End: 1600-2130; 58-50°F; wind 0-4 mph	Survey 1	Ruben Ramirez[4]
	Jan 31	Start/End: 1600-2200; 72-55°F; wind 2-6 mph	Survey 2	
	Feb 15	Start/End: 1500-2130; 75-56°F; wind 0-4 mph	Survey 3	
	Feb 22	Start/End: 1530-2200; 60-52°F; wind 2-8 mph	Survey 4	
	March 14	Start/End: 1700-2230; 75-65°F; wind 2-4 mph	Survey 5	
Coastal California gnatcatcher	March 20	Start/End: 0715-1140; 60-62°F; wind 0-1 mph; 100% cloud cover	Survey 1	Erica Harris, Jason Kurnow, Katie Bellon[6]
	March 21	Start/End: 0700-1200; 58-63°F; wind 0-4 mph; 5-20% cloud cover		Jason Kurnow
	March 27	Start/End: 0700-1145; 57-66°F; wind 0-4 mph; 30-70% cloud cover	Survey 2	Erica Harris, Jason Kurnow, Summer Schlageter[6]
	March 28	Start/End: 0700-1145; 63-68°F; wind 2-5 mph; 0% cloud cover		Jason Kurnow
	April 3	Start/End: 0700-1115; 57-63°F; wind 0-7 mph; 100-5% cloud cover	Survey 3	Erica Harris, Jason Kurnow
	April 4	Start/End: 0740-1140; 60-65°F; wind 3-7 mph; 20-0% cloud cover		Jason Kurnow

Table 1 (cont.)
BIOLOGICAL SURVEYS

Survey Type	Date/Weather Conditions[1]	Personnel[2]
Year 2019		
General biological survey, vegetation community/habitat type mapping – Camino del Rey Offsite Impacts	May 6	Stacy Nigro

[1] Weather conditions included for focused animal surveys.
[2] All HELIX biologists unless otherwise noted.
[3] Biologist with ENVIRA
[4] Biologist with Cadre Environmental
[5] Biologist with Kidd Biological
[6] Supervised individual

1.3.3 Focused Species Surveys

Rare Plant Surveys

Rare plant surveys were conducted on the project site by HELIX on April 21 and 24, 2014, August 5 and 6, 2015, and April 4 through 22, June 14, and June 17, 2016 (Table 1), which included focused surveys for San Diego ambrosia (*Ambrosia pumila*). A nearby reference population of San Diego ambrosia was field-verified for detectability prior to the June 2016 surveys. Opportunistic inspections for target rare plant species were also made during the other biological surveys performed to date (Table 1). Searches were made for those species that are listed as threatened or endangered by the USFWS or CDFW; those with a Rare Plant Rank 1 through 4 designated by the CNPS; and those that are on the County Sensitive Plant List (County 2010b). The surveys were conducted on foot and included 100 percent visual coverage of the site. Special status plant species encountered were mapped using a hand-held Global Positioning System (GPS) unit and/or on an aerial photograph.

Least Bell's Vireo

Surveys for least Bell's vireo were conducted in 2015 and 2016 in accordance with *Least Bell's Vireo Survey Guidelines* (USFWS 2001). HELIX subcontractor John Konecny (Kidd Biological, Inc.) conducted the 2015 survey, which consisted of eight site visits made from April 27 through July 25, 2015 (Table 1). HELIX biologist Erica Harris conducted the 2016 survey, which consisted of eight site visits made from April 15 through June 30, 2016 (Table 1). The survey area consisted of potential least Bell's vireo riparian habitat (i.e., southern cottonwood-willow riparian forest, southern willow scrub, and mule fat scrub), and covered all areas of potential habitat within the property. The survey was conducted by walking along the edges of, as well as within, potential least Bell's vireo habitat while listening for least Bell's vireo vocalizations and while viewing birds with the aid of binoculars. All least Bell's vireo locations, along with other special status riparian bird species locations (and those of the brown-headed cowbird [*Molothrus ater*; a nest parasite] were mapped on an aerial photograph.

Southwestern Willow Flycatcher

HELIX subcontractor John Konecny (Kidd Biological, Inc.) conducted a survey for the southwestern willow flycatcher in accordance with USFWS-approved survey protocol (Sogge, et al. 2010). The survey

consisted of five site visits made from May 24 through July 14, 2015 (Table 1). The survey area consisted of potential southwestern willow flycatcher riparian habitat (i.e., southern cottonwood-willow riparian forest, southern willow scrub, and mule fat scrub), and covered all areas of potential habitat within the property. The survey was conducted by walking along the edges of, as well as within, potential southwestern willow flycatcher habitat while listening for flycatcher vocalizations and viewing birds with the aid of binoculars. All flycatcher locations, along with other special status riparian bird species locations (and those of the brown-headed cowbird, a nest parasite] were mapped on an aerial photograph.

Coastal California Gnatcatcher

HELIX biologists conducted surveys for the coastal California gnatcatcher in 2015 and 2017 in accordance with the *Coastal California Gnatcatcher Presence/Absence Survey Protocol* (USFWS 1997). The 2015 survey consisted of three two-day site visits made from May 13 through May 28, 2015 (Table 1). The 2015 survey area consisted of all potential coastal California gnatcatcher habitat occurring on site (i.e., Diegan coastal sage scrub, Diegan coastal sage scrub-disturbed, flat-topped buckwheat scrub, and coastal sage-chaparral scrub), except for the eastern hills, which burned in May 2014. The 2017 survey was conducted only in the eastern hills (area that burned in May 2014) and consisted of three two-day visits made from March 20 to April 4, 2017 (Table 1). The surveys were conducted by walking through the vegetation or on adjacent paths, and viewing birds with the aid of binoculars, where necessary. If the coastal California gnatcatcher was not detected passively, a digital coastal California gnatcatcher call-prompt was briefly played. Coastal California gnatcatcher locations were mapped on an aerial photograph.

Burrowing Owl

HELIX biologists conducted a nesting season survey for the burrowing owl in accordance with the survey guidelines in the *CDFW 2012 Staff Report on Burrowing Owl Mitigation* (CDFW 2012) and consistent with *Strategy for Mitigating Impacts to Burrowing Owls in the Unincorporated County* (Attachment A to County 2010a). Four two-day site visits were made from April 23 through July 15, 2015 by teams of two to three biologists (Table 1) to survey potential burrowing owl habitat (i.e., non-native grassland, disturbed habitat, pasture, and fallow orchard).

The biologists slowly walked meandering transects through areas of potential habitat on site. 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 burrowing owls were inspected. Burrows were specifically searched for sign of recent burrowing owl occupation including pellets with regurgitated fur, bones, and insect parts; white wash (excrement); and feathers. In addition, structures such as concrete culverts/piles, wood debris piles, trash piles, and openings beneath cement or asphalt pavement that were present were checked for burrowing owl sign.

Hermes Copper

Surveys for Hermes copper (*Lycaena hermes*) were conducted May 19 through July 8, 2016 (Table 1). Surveys were conducted in accordance with the survey guidelines outlined in Attachment B of the County's Report Format and Content Requirements for Biological Resources (County 2010a). Surveys were conducted in all suitable habitat on site, consisting of discrete areas of sage scrub habitat

supporting spiny redberry (*Rhamnus crocea*) within 15 feet of California buckwheat (*Eriogonum fasciculatum*); these areas are located in the south-central portion of the site.

Stephens' Kangaroo Rat

Field surveys and focused trapping for Stephens' kangaroo rat were performed in accordance with USFWS protocol by permitted biologist Mr. Philippe Vergne of ENVIRA in July 3 through 8, 2015 (Table 1). HELIX biologist Katie Bellon assisted with the surveys conducted on July 6 through 8. Trapping was conducted on five consecutive nights. Trapping lines of 250 traps, set 5 to 10 meters apart, were set at each trapping area. Traps were placed in suitable habitat areas on the project site, concentrating on locating traps in areas containing small mammal sign and/or suitable soils and vegetation. Each trap was baited with a mixture of birdseed placed at the back of the traps. The traps were left in place and opened at dusk each night and inspected once during the night and at dawn each morning. All animals were identified and released at the point of capture. Photographs were taken of the habitat conditions, and weather conditions at the time of the trapping also were noted.

Western Spadefoot

Surveys for western spadefoot were conducted by Mr. Ruben Ramirez of Cadre Environmental on January 17, 31, February 15, 22, and March 14, 2017 (Table 1). Focused surveys included five monitoring events during the breeding season including a daytime and nighttime component. Daytime surveys were conducted during or immediately following measurable rain events and were focused on documenting suitable breeding pools and the presence/absence of clutches, larvae, juveniles and/or adults. Nighttime surveys were conducted immediately following the daytime survey between one hour after dusk and midnight and focused on the detection and identification of calling males in suitable breeding locations and/or individuals by eye-shine within the property.

1.3.4 Jurisdictional Delineation

Prior to beginning fieldwork, aerial photographs (1"=200' scale), topographic maps (1"=200' scale), and National Wetland Inventory (NWI) maps were reviewed to assist in determining the location of potential jurisdictional areas in the study area. HELIX biologists performed the formal jurisdictional delineation on March 18, and April 7, 8, and 11, 2014 (Table 1). The delineation was conducted to identify and map water and wetland resources potentially subject to U.S. Army Corps of Engineers (USACE) jurisdiction pursuant to Section 404 of the Clean Water Act (CWA; 33 USC 1344) and streambed habitats potentially subject to CDFW jurisdiction pursuant to Sections 1600 et seq. of the California Fish and Game Code (CFG Code). The delineation was also conducted to determine the presence or absence of County Resource Protection Ordinance (RPO) wetlands. Areas generally characterized by depressions, drainage features, and riparian and wetland vegetation were evaluated.

Waters of the U.S.

Potential USACE-jurisdictional waters of the U.S. were delineated in accordance with the Wetlands Delineation Manual (Environmental Laboratory 1987) and Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region (USACE 2008). Sampling points were located within representative uplands and wetlands, and mapping of drainage features was performed in the field based on the ordinary high water mark (OHWM) and surface indications of hydrology. Areas were determined to be potential wetland waters of the U.S. if there was a dominance of hydrophytic

vegetation, hydric soils, and wetland hydrology indicators. Areas were determined to be non-wetland waters of the U.S. if there was evidence of regular surface flow within an OHWM, but the vegetation and/or soils criterion were not met.

California Department of Fish and Wildlife Jurisdictional Areas

Potential CDFW-jurisdictional waters of the State 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). Riparian habitat is not defined in Title 14, but the section refers to vegetation and habitat associated with a stream. The CDFW jurisdictional habitat includes all riparian shrub or tree canopy that may extend beyond the banks of a stream.

County Resource Protection Ordinance Wetlands

County RPO wetlands were mapped pursuant to the County's definition (County 2011), which defines RPO wetlands as lands having one or more of the following attributes:

- At least periodically, the land supports a predominance of hydrophytes (plants whose habitat is water or very wet places);
- The substratum is predominantly undrained, hydric soil; or
- An ephemeral or perennial stream is present, whose substratum is predominately non-soil, and such lands contribute substantially to the biological functions or values of wetlands in the drainage system.

According to the RPO, the following are not considered RPO wetlands:

- Lands which have attribute(s) specified above, solely due to man-made structures (e.g., culverts, ditches, road crossings, or agricultural ponds), provided that the Director of PDS determines that they:
    - Have negligible biological function or value as wetlands;
    - Are small and geographically isolated from other wetland systems;
    - Are not vernal pools; and
    - Do not have substantial or locally important populations of wetland dependent sensitive species.
- Lands that have been degraded by past legal land disturbance activities to the point that they meet the following criteria as determined by the Director of PDS:
    - Have negligible biological function or value as wetlands even if restored to the extent feasible; and,

- Do not have substantial or locally important populations of wetland dependent sensitive species.

1.3.5 Survey Limitations

Noted animal species were identified by direct observation, vocalizations, or the observance of scat, tracks, or other signs. However, the lists of species identified are not necessarily comprehensive accounts of all species that utilize the site as species that are nocturnal, secretive, or seasonally restricted may not have been observed. Those species that are of special status and have potential to occur on site, however, are still addressed in this report.

1.3.6 Nomenclature

Nomenclature used in this report generally comes from Holland (1986) and Oberbauer (2008) for vegetation; Baldwin, et al. (2012) for plants; Glassberg (2001) for butterflies; Collins and Taggart (2006) for reptiles and amphibians; American Ornithologists' Union (2014) for birds; and Baker, et al. (2003) for mammals. Plant species status is from the CNPS (2016), CDFW (2016b), and County (2010b). Animal species status is from CDFW (2016c and 2016d) and County (2010b).

1.4 ENVIRONMENTAL SETTING

1.4.1 Regional Context

The site is generally located within the coastal foothills ecoregion of north San Diego County. It occurs within the northeastern portion of the Bonsall Community Planning Area. Generalized climate in the region is regarded as dry, subhumid mesothermal, with warm dry summers and cold moist winters. Mean annual precipitation is between 14 and 18 inches, and the mean annual temperature is between 60 and 62 degrees Fahrenheit. The frost-free season is 260 to 300 days.

Important biological resources in the region generally include the San Luis Rey River and associated wetland and riparian habitat, and numerous creeks and canyons connecting to the San Luis Rey River, including Couser Creek/Canyon, Keys Creek/Canyon, Moosa Creek/Canyon, and Gopher Creek/Canyon. Core blocks of sage scrub and chaparral occur further south of the site, in the San Marcos and Merriam Mountains.

In the context of the Draft NC MSCP Plan, the majority of the project site (1,176.9 of 1,402.5 acres, or 84 percent) occurs within areas identified as PAMA within the Lower San Luis Rey River Linkage, as identified in the draft plan. The dominant habitat type present on site is Diegan coastal sage scrub, which covers approximately 509.2 acres (36 percent) of the site. Approximately 659.0 acres (47 percent) of the site is in active agricultural or equestrian use, or is otherwise disturbed by past land uses, including 265.9 acres of row crops, 102.8 acres of avocado orchard, 32.1 acres of fallow orchard, 178.3 acres of horse pasture, and 79.9 acres of disturbed habitat and developed lands containing a combination of horse corrals, barns and other outbuildings, farm worker housing, staging areas, roads, and sparsely vegetated areas that retain a soil substrate.

1.4.2 General Land Uses

General land uses on site include agriculture and equestrian uses, and undeveloped land. Cattle-ranching began on the property in the late 1800s, and the site has been an active horse ranch since the 1980s, in addition to orchards, row crops, and other agricultural uses going back several decades. Undeveloped areas are concentrated in the eastern and southwestern portions of the site, consisting of hills primarily supporting native scrub communities. Diegan coastal sage scrub is the dominant vegetation community on site. Surrounding land uses generally include the San Luis Rey River to the north, with SR 76 and rural residential development occurring to the north side of the river, I-15 and rural residential development to the east, and rural residential development to the south and west. In addition, a California Department of Transportation (Caltrans) mitigation site is located along the northern property boundary, extending to the San Luis Rey River. This site is associated with the SR 76 East – South Mission Road to Interstate 15 project. Sullivan Middle School abuts the southern boundary of the site, adjacent to West Lilac Road.

1.4.3 Disturbance

A large portion of the project site was affected by the December 2017 Lilac Fire, which burned habitat in the eastern hills and traveled westward across the site, affecting native wetland and upland habitats, non-native grassland, and agricultural lands, including orchard. Off-site habitat along the San Luis Rey River also burned in the fire. On-site pastures, which are irrigated, did not burn in the fire.

Except for the easternmost hills, the majority of the site has been subjected to some level of recent or ongoing disturbance associated with agricultural, ranching, or equestrian uses on site. Large portions of the property's lower elevations have been used over many decades, first as grazing area for cattle dating back to the Gird Ranch beginning in the late 1800s, and subsequently as pastures for horses. The site has been in use as a stallion breeding farm for several decades, dating to the purchase of the property by the Vessels Family in 1981. Portions of the property have also been utilized for agriculture. Extensive slope areas along the hillsides to the south have been farmed for avocados for many decades. In addition, portions of the lower valley have been converted from pastures to row crops, including tomatoes over the past several years and currently planted as oat grass.

Horse pastures, row crops, and orchards occupy most of the northern half of the site, as well as the central and north-central portions of the site. Several roads traverse the project site, associated primarily with the ongoing equestrian and agricultural uses. A large estate home sits on a hilltop in the west-central portion of the site, and a handful of smaller residences occupied by ranch employees are present near the base of the hill. The southwestern hills, which are primarily Diegan coastal sage scrub and non-native grassland, were grazed by cattle until 2010.

The primary disturbances that have occurred in the eastern hills were the May 2014 Highway Fire (California Department of Forestry and Fire Protection [CalFire] 2016) that burned nearly this entire area, and the December 2017 Lilac Fire which burned this area again. The single-lane Dulin Road extends east-west along the northern base of the eastern hills and is used for farm worker access to the site. The road is gated at the eastern end of the site next to an existing mobile home park. Although most other habitat in the easternmost portion of the site is native, there is a small stand of olive trees occurring along the south side of this road. A San Diego County Water Authority (SDCWA) access road and appurtenant structures are present in the central portion of the eastern hills, traversing the highest ridgeline. This gated SDCWA access road enters the site at the northern terminus of Mountain

View Road. The SDCWA will continue to have access to their easement in the eastern hills, and the RMWD will continue to have access to their two easements located (1) within a narrow paved road through the central portion of the biological open space, and (2) within the western tip of the biological open space.

1.4.4 Topography and Soils

The property includes a variety of terrain, from relatively flat alluvial plain near the river along the northern site boundary to ridges and hillsides near the property's southern boundaries. Elevations on the project site range from approximately 190 feet (ft) above mean sea level (amsl) to 960 ft amsl. Elevation generally increases from north to south across the site, with the lowest elevations occurring in the westernmost pastures, and the highest elevations in the easternmost hills. The site is part of the San Luis Rey River valley, which generally trends northeast to southwest across the site, surrounded by hills to the east and south, as well as off-site to the north on the opposite side of SR 76. On-site ephemeral and intermittent tributaries convey runoff in a generally northern direction toward the San Luis Rey River, which is off site, although these tributaries terminate prior to reaching the river. The San Luis Rey River extends from its headwaters above Warner Springs (east of the site) to the Pacific Ocean, approximately 13 miles downstream of the site.

Twelve soil series, which comprise 28 soil types, have been mapped on site (NRCS 2016; Table 2; Figure 6), with the majority classified as sandy loams. Those soils types covering the most area on site include those in the Cieneba series (437.6 acres), Vista series (201.1 acres), and Fallbrook series (229.1 acres).

Table 2
SOIL TYPES MAPPED ON SITE[1]

Map Symbol	Map Unit Name	Acreage[2]
BlC	Bonsall sandy loam, 2 to 9 percent slopes	24.6
BlD2	Bonsall sandy loam, 9 to 15 percent slopes, eroded	7.3
ClD2	Cieneba coarse sandy loam, 5 to 15 percent slopes, eroded	6.5
ClG2	Cieneba coarse sandy loam, 30 to 65 percent slopes, eroded	143.0
CmE2	Cieneba rocky coarse sandy loam, 9 to 30 percent slopes, eroded	31.0
CmrG	Cieneba very rocky coarse sandy loam, 30 to 75 percent slopes	257.1
FaC	Fallbrook sandy loam, 5 to 9 percent slopes	34.5
FaD2	Fallbrook sandy loam, 9 to 15 percent slopes, eroded	18.6
FaE2	Fallbrook sandy loam, 15 to 30 percent slopes, eroded	91.3
FaE3	Fallbrook sandy loam, 9 to 30 percent slopes, severely eroded	6.7
FvD	Fallbrook-Vista sandy loams, 9 to 15 percent slopes	30.8
FvE	Fallbrook-Vista sandy loams, 15 to 30 percent slopes	47.2
GoA	Grangeville fine sandy loam, 0 to 2 percent slopes	14.0
PeA	Placentia sandy loam, 0 to 2 percent slopes	17.0
PeC	Placentia sandy loam, 2 to 9 percent slopes	110.4
PeD2	Placentia sandy loam, 9 to 15 percent slopes, eroded	6.6
RaC	Ramona sandy loam, 5 to 9 percent slopes	14.0
RaD2	Ramona sandy loam, 9 to 15 percent slopes, eroded	28.1
RcD	Ramona gravelly sandy loam, 9 to 15 percent slopes	2.8
Rm	Riverwash	33.1
StG	Steep gullied land	31.2

Table 2 (cont.)
SOIL TYPES MAPPED ON SITE[1] (cont.)

Map Symbol	Map Unit Name	Acreage[2]
TuB	Tujunga sand, 0 to 5 percent slopes	135.8
VaA	Visalia sandy loam, 0 to 2 percent slopes	96.0
VaB	Visalia sandy loam, 2 to 5 percent slopes	13.9
VsD	Vista coarse sandy loam, 9 to 15 percent slopes	10.7
VsE	Vista coarse sandy loam, 15 to 30 percent slopes	142.0
VsE2	Vista coarse sandy loam, 15 to 30 percent slopes, eroded	13.9
VsG	Vista coarse sandy loam, 30 to 65 percent slopes	34.5
	TOTAL	**1,402.5**

[1] Pursuant to the NRCS Web Soil Survey (2016).
[2] Rounded to the nearest tenth acre.

1.4.5 Vegetation Communities/Land Use Types

Twenty-two vegetation communities/land use types occur on the project site (Table 3, Figure 7). The numeric codes in parentheses following each community/land use type name are from the Holland classification system (Holland 1986) and as added to by Oberbauer (2008) as presented in the County's Biology Guidelines (County 2010b).

Table 3
EXISTING VEGETATION COMMUNITIES/LAND USE TYPE OCCURRING ON SITE

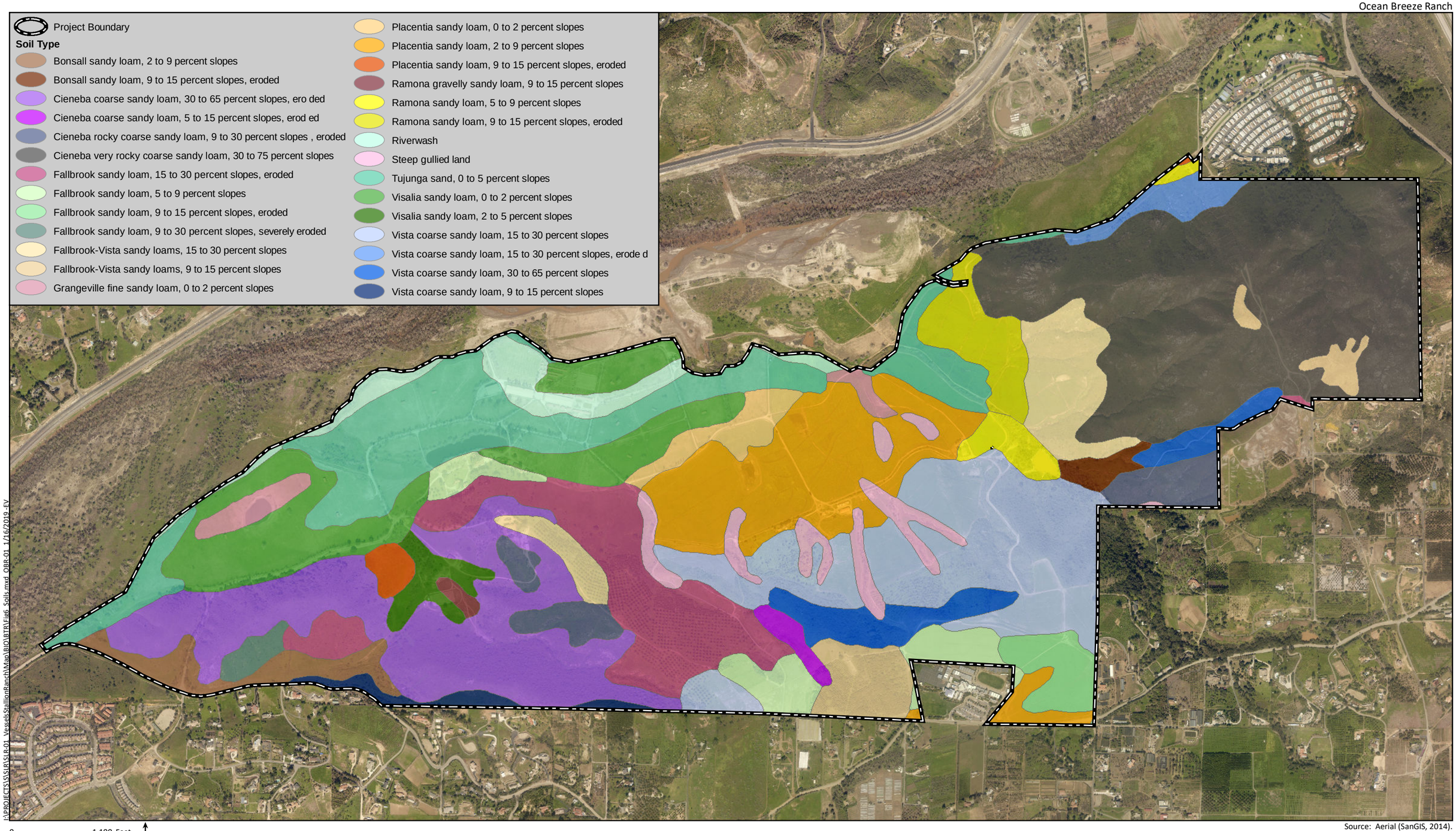
Vegetation Community[1]	Acre(s)[2]
Southern Cottonwood-willow Riparian Forest (61330)[3]	18.18
Southern Willow Scrub (63320)[3]	3.03
Mule Fat Scrub (63310)[3]	1.30
Freshwater Marsh (52400)	0.98
Herbaceous Wetland (52510)[3]	0.24
Tamarisk Scrub (63810)[3]	0.09
Freshwater Pond/Open Water (64140)	1.16
Coast Live Oak Woodland (71160)[3]	29.2
Diegan Coastal Sage Scrub – including disturbed (32500)[3]	509.2
Flat-topped Buckwheat Scrub (32800)[3]	1.4
Coastal Sage-chaparral Scrub (37G00)[3]	31.5
Southern Mixed Chaparral (37120)[3]	31.8
Non-Native Grassland (42200)[3]	104.2
Extensive Agriculture: Pasture (18310)	178.3
Extensive Agriculture: Row Crops (18320)[3]	265.9
Agricultural Pond/Open Water (64100)	8.0
Eucalyptus Woodland (79100)	1.8
Orchard (18100)[3]	102.8
Fallow Orchard (18100)[3]	32.1
Non-native Vegetation (79100)[3]	1.3

Ocean Breeze Ranch

Project Boundary

Soil Type

- Bonsall sandy loam, 2 to 9 percent slopes
- Bonsall sandy loam, 9 to 15 percent slopes, eroded
- Cieneba coarse sandy loam, 30 to 65 percent slopes, ero ded
- Cieneba coarse sandy loam, 5 to 15 percent slopes, erod ed
- Cieneba rocky coarse sandy loam, 9 to 30 percent slopes , eroded
- Cieneba very rocky coarse sandy loam, 30 to 75 percent slopes
- Fallbrook sandy loam, 15 to 30 percent slopes, eroded
- Fallbrook sandy loam, 5 to 9 percent slopes
- Fallbrook sandy loam, 9 to 15 percent slopes, eroded
- Fallbrook sandy loam, 9 to 30 percent slopes, severely eroded
- Fallbrook-Vista sandy loams, 15 to 30 percent slopes
- Fallbrook-Vista sandy loams, 9 to 15 percent slopes
- Grangeville fine sandy loam, 0 to 2 percent slopes
- Placentia sandy loam, 0 to 2 percent slopes
- Placentia sandy loam, 2 to 9 percent slopes
- Placentia sandy loam, 9 to 15 percent slopes, eroded
- Ramona gravelly sandy loam, 9 to 15 percent slopes
- Ramona sandy loam, 5 to 9 percent slopes
- Ramona sandy loam, 9 to 15 percent slopes, eroded
- Riverwash
- Steep gullied land
- Tujunga sand, 0 to 5 percent slopes
- Visalia sandy loam, 0 to 2 percent slopes
- Visalia sandy loam, 2 to 5 percent slopes
- Vista coarse sandy loam, 15 to 30 percent slopes
- Vista coarse sandy loam, 15 to 30 percent slopes, erode d
- Vista coarse sandy loam, 30 to 65 percent slopes
- Vista coarse sandy loam, 9 to 15 percent slopes



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0 1,100 Feet

N

Source: Aerial (SanGIS, 2014).

HELIX Environmental Planning

Soils

Figure 6

Project Boundary

Vegetation Communities/Land Use Types**

- Southern Cottonwood-willow Riparian Forest (61330)*
- Southern Willow Scrub (63320)*
- Mule Fat Scrub (63310)*
- Freshwater Marsh (52400)
- Herbaceous Wetland (52510)*
- Open Water/Freshwater Pond (64140)
- Tamarisk Scrub (63810)*
- Coast Live Oak Woodland (71160)*
- Diegan Coastal Sage Scrub (32500)*
- Diegan Coastal Sage Scrub - Disturbed (32500)*
- Coastal Sage-Chaparral Scrub (37G00)*
- Flat-topped Buckwheat Scrub (32800)*
- Southern Mixed Chaparral (37120)*
- Non-native Grassland (42200)*
- Pasture (18310)
- Row Crops (18320)*
- Orchard (18100)*
- Fallow Orchard (18100)*
- Open Water/AG Pond (64100)
- Eucalyptus Woodland (11000)
- Non-native Vegetation (79100)*
- Disturbed Habitat (11300)
- Urban/Developed (12000)

*All or most of this vegetation community burned during the December 2017 Lilac Fire.

** Numeric codes following the community/habitat type names are from the County's Biological Resources Guidelines (County 2010) and are based on the "Preliminary Descriptions of the Terrestrial Natural Communities of California" (Holland 1996, Oberbauer 2008).

Other

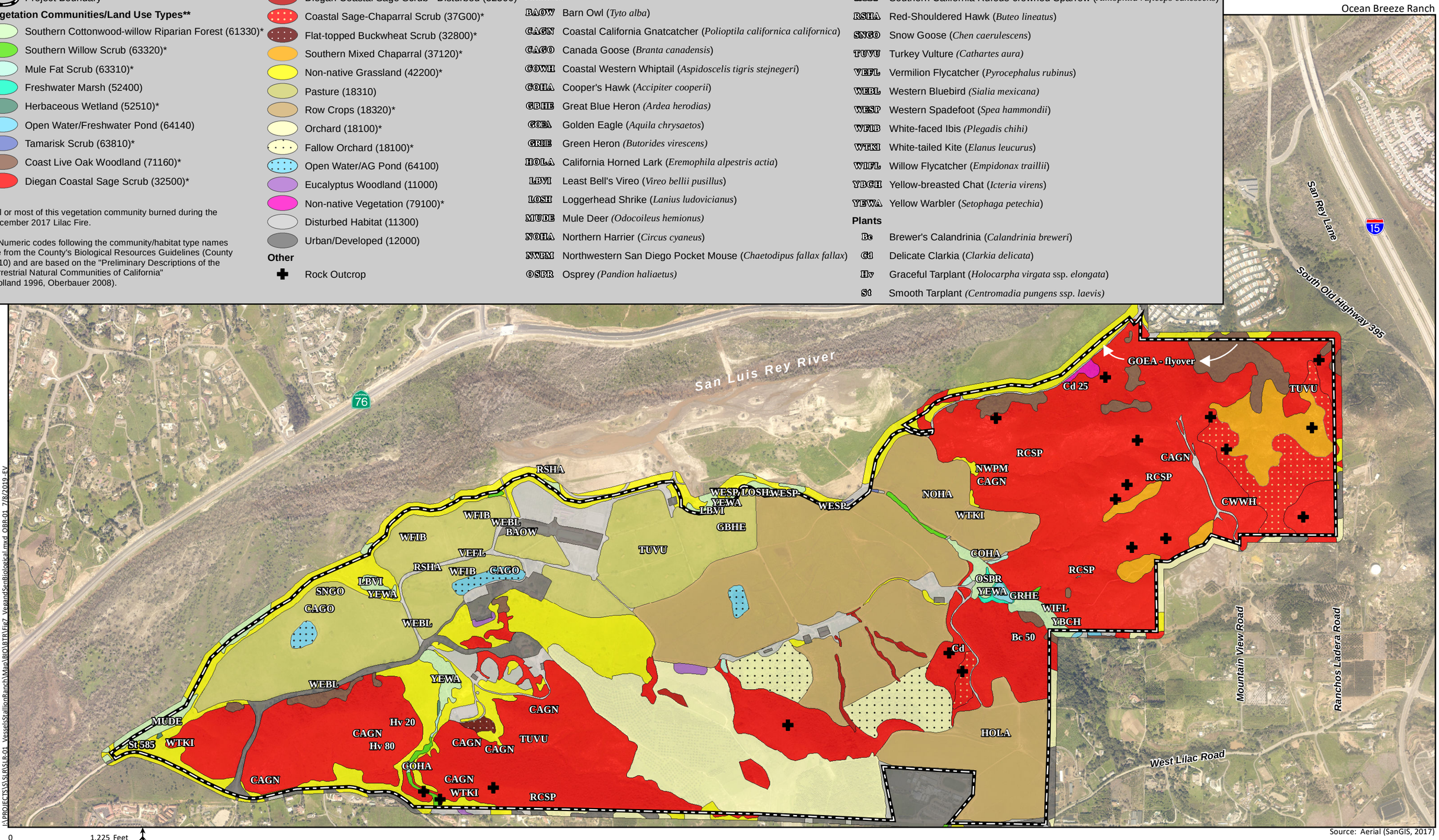
- Rock Outcrop

Animals

- BAOW Barn Owl (*Tyto alba*)
- CAGN Coastal California Gnatcatcher (*Polioptila californica californica*)
- CAGO Canada Goose (*Branta canadensis*)
- COWH Coastal Western Whiptail (*Aspidoscelis tigris stejnegeri*)
- COHA Cooper's Hawk (*Accipiter cooperii*)
- GBHE Great Blue Heron *(Ardea herodias)*
- GOEA Golden Eagle (*Aquila chrysaetos*)
- GRHE Green Heron *(Butorides virescens)*
- HOLA California Horned Lark (*Eremophila alpestris actia*)
- LBVI Least Bell's Vireo (*Vireo bellii pusillus*)
- LOSH Loggerhead Shrike (*Lanius ludovicianus*)
- MUDE Mule Deer *(Odocoileus hemionus)*
- NOHA Northern Harrier (*Circus cyaneus*)
- NWPM Northwestern San Diego Pocket Mouse (*Chaetodipus fallax fallax*)
- OSPR Osprey *(Pandion haliaetus)*
- RCSP Southern California Rufous-crowned Sparrow (*Aimophila ruficeps canescens*)
- RSHA Red-Shouldered Hawk (*Buteo lineatus*)
- SNGO Snow Goose (*Chen caerulescens*)
- TUVU Turkey Vulture *(Cathartes aura)*
- VEFL Vermilion Flycatcher (*Pyrocephalus rubinus*)
- WEBL Western Bluebird *(Sialia mexicana)*
- WESP Western Spadefoot (*Spea hammondii*)
- WFIB White-faced Ibis *(Plegadis chihi)*
- WTKI White-tailed Kite (*Elanus leucurus*)
- WIFL Willow Flycatcher (*Empidonax traillii*)
- YBCH Yellow-breasted Chat (*Icteria virens*)
- YEWA Yellow Warbler (*Setophaga petechia*)

Plants

- Bc Brewer's Calandrinia (*Calandrinia breweri*)
- Cd Delicate Clarkia (*Clarkia delicata*)
- Hv Graceful Tarplant (*Holocarpha virgata* ssp. *elongata*)
- St Smooth Tarplant *(Centromadia pungens ssp. laevis)*



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Source: Aerial (SanGIS, 2017)

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HELIX Environmental Planning

Vegetation and Sensitive Resources

Figure 7

Table 3 (cont.)
EXISTING VEGETATION COMMUNITIES/LAND USE TYPE OCCURRING ON SITE

Vegetation Community[1]	Acre(s)[2]
Disturbed Habitat (11300)	49.6
Developed Land (12000)	30.3
TOTAL	**1,402.5**

[1] Vegetation categories and numerical codes are from Holland (1986) and Oberbauer (2008).
[2] Upland habitats are rounded to the nearest 0.1 acre, while wetland habitats are rounded to the nearest 0.01; thus, total reflects rounding.
[3] All or most of this vegetation community burned during the December 2017 Lilac Fire.

Southern Cottonwood-Willow Riparian Forest

Southern cottonwood-willow riparian forest consists of tall, open, broad-leaved, winter-deciduous riparian species and is dominated by cottonwood species (e.g., *Populus fremontii* and *Populus trichocarpa*), with willow species (*Salix* spp.) composing the main understory. This vegetation community is dense, structurally diverse, and similar to southern arroyo willow riparian forest, although it contains a greater number of cottonwoods and western sycamores (*Platanus racemosa*; Holland 1986).

This habitat occurs along two riparian corridors in the western and central portions of the site, as well as scattered isolated stands near and along the northern property boundary. Typical species occurring within southern cottonwood-willow riparian forest on site include western cottonwood (*P. fremontii*) and arroyo willow (*Salix lasiolepis*), with an understory composed primarily of annual grasses. Approximately 18.18 acres of southern cottonwood-willow riparian forest occur on site. This vegetation community was affected by the 2017 Lilac Fire.

Southern Willow Scrub

Southern willow scrub consists of dense, broad-leaved, winter-deciduous stands of trees dominated by shrubby willows in association with mule fat (*Baccharis salicifolia*), and with scattered emergent 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.

This habitat occurs within two on-site drainages in the western and central portions of the site, as well as an isolated stand along the northern property boundary. Arroyo willow is the dominant species present. A total of 3.03 acres of southern willow scrub occur on site. This vegetation community was affected by the 2017 Lilac Fire.

Mule Fat Scrub

Mule fat scrub is a shrubby riparian scrub community dominated by mule fat and interspersed with small willows (*Salix* spp.). This vegetation community occurs along intermittent stream channels with a fairly coarse substrate and moderate depth to the water table. This community may be maintained by frequent flooding, the absence of which would lead to a cottonwood or sycamore dominated riparian

woodland or forest (Holland 1986). In other places, the limited hydrology may be unsuitable for anything more mesic than mule fat scrub.

This habitat occurs within three on-site drainages in the western and central portions of the site. Mule fat is the dominant species present, with an understory of annual grasses. A total of 1.30 acres of mule fat scrub occurs on site. This vegetation community was affected by the 2017 Lilac Fire.

Freshwater Marsh

Freshwater marsh is dominated by perennial, emergent monocots, 5 to 13 ft tall, forming incomplete to completely closed canopies. This vegetation type occurs along the coast and in coastal valleys near river mouths and around the margins of lakes and springs, freshwater or brackish marshes. These areas are semi- or permanently flooded yet lack a significant current (Holland 1986). Dominant species include cattails (*Typha* sp.) and bulrushes (*Scirpus* sp.), along with umbrella sedges (*Cyperus* sp.), rushes (*Juncus* sp.), and spike-sedge (*Eleocharis* sp.).

Freshwater occurs in a single location on site: near and adjacent to the pond in the eastern riparian corridor. Cattail is the dominant species present. A total of 0.98 acre of freshwater marsh occurs on site.

Herbaceous Wetland

Herbaceous wetland is a low-growing, herbaceous community that is dominated by a variety of native wetland species. It typically occurs in seasonally wet areas. Dominant species usually include wrinkled rush (*Juncus rugulosus*), toad rush (*Juncus bufonius*), and wetland grasses.

Herbaceous wetland occurs as small patches of habitat in two locations on site: (1) in the extreme southwestern corner and (2) along the western riparian corridor. Both stands are adjacent to southern cottonwood-willow riparian forest. Common species of this habitat observed on site include yerba mansa (*Anemopsis californica*), Mexican rush (*Juncus mexicanus*), and curly dock (*Rumex crispus*). A total of 0.24 acre of herbaceous wetland occurs on site. This vegetation community was affected by the 2017 Lilac Fire.

Tamarisk Scrub

Tamarisk scrub typically comprises shrubs and/or small trees of non-native, invasive tamarisk species (*Tamarix* spp.) but may also contain willows, salt bushes (*Atriplex* spp.), and salt grass (*Distichlis spicata)*. This habitat occurs along intermittent streams in areas where high evaporation rates increase the salinity level of the soil. Tamarisk is a phreatophyte, a plant that can obtain water from an underground water table. Because of its deep root system and high transpiration rates, tamarisk can substantially lower the water table to below the root zone of native species, thereby competitively excluding them. As a prolific seeder, it may rapidly displace native species within a drainage (Holland 1986).

A single small stand of tamarisk scrub occurs along a short reach of drainage in the northeastern portion of the site. Salt cedar (*Tamarix ramosissima*) is the dominant species present. A total of 0.09 acre of tamarisk scrub occurs on site. This vegetation community was affected by the 2017 Lilac Fire.

Freshwater Pond/Open Water

Freshwater pond on site consists of an impoundment of a natural stream channel in the eastern portion of the site. This open water feature is surrounded by native riparian habitat. A total of 1.16 acres of freshwater pond occurs on site.

Coast Live Oak Woodland

Coast live oak woodland is an open to dense evergreen woodland or forest community, dominated by coast live oak (*Quercus agrifolia*), that may reach a height of 35 to 80 ft. The shrub layer consists of toyon (*Heteromeles arbutifolia*), blue elderberry (*Sambucus nigra* ssp. *caerulea*), laurel sumac (*Malosma laurina*), fuchsia-flowered gooseberry (*Ribes speciosum*), monkeyflower (*Mimulus aurantiacus*), and poison oak (*Toxicodendron diversilobum*). A dense herbaceous understory is often dominated by miner's lettuce (*Claytonia perfoliata* var. *perfoliata*), chickweed (*Stellaria media*), and annual grasses. This community occurs along the coastal foothills of the Peninsular Ranges, typically on north-facing slopes and shaded ravines (Holland 1986).

This habitat occurs as several scattered stands in the hills in the eastern and western portions of the site, mostly near the bases of north-facing slopes. Coast live oak, poison oak, and miner's lettuce are the dominant species present. Coast live oak woodland occurring in the eastern hills burned in the May 2014 Highway Fire, and coast live oak woodland in the western portion of the site was affected by the 2017 Lilac Fire. A total of 29.2 acres of coast live oak woodland occur on site.

Diegan Coastal Sage Scrub (including Disturbed and Burned)

Coastal sage scrub is one of the two major shrub types that occur in southern California, occupying xeric sites characterized by shallow soils (the other is chaparral). Diegan coastal sage scrub may be dominated by a variety of species depending upon soil type, slope, and aspect. Typical species found within Diegan coastal sage scrub include California sagebrush (*Artemisia californica*), California buckwheat, laurel sumac (*Malosma laurina*), lemonadeberry (*Rhus integrifolia*), white sage (*Salvia apiana*), and black sage (*Salvia mellifera*; Holland 1986). Disturbed Diegan coastal sage scrub contains many of the same shrub species as undisturbed Diegan coastal sage scrub but is sparser and has a higher proportion of non-native, annual species.

This habitat occurs in large swaths in the eastern and southern portions of the site. California sagebrush, laurel sumac, and California buckwheat are the dominant species present. The southwestern hills also support coast prickly pear (*Opuntia littoralis*) as a subdominant species. Disturbed coastal sage scrub on site occurs as narrow bands of habitat along the slopes of three incised drainages within lands used for row crops. These areas consist of scattered California buckwheat and laurel sumac growing among cut tree limbs and woody debris deposited on the slopes. Sage scrub in the eastern hills burned in the May 2014 Highway Fire, and nearly all sage scrub on site burned in the December 2017 Lilac Fire. Diegan coastal sage scrub covers 509.2 acres on site.

Flat-topped Buckwheat Scrub

Flat-topped buckwheat scrub is a community characterized by a near monoculture of California buckwheat usually resulting from disturbance. This community may transition to coastal sage scrub or chaparral, and often intergrades with Diegan coastal sage scrub. One small patch of flat-topped

buckwheat scrub occurs in the west-central portion of the site, comprising 1.4 acres. This vegetation community was affected by the 2017 Lilac Fire.

Coastal Sage-Chaparral Scrub

Coastal sage-chaparral scrub is a mixture of sclerophyllous chaparral shrubs and drought-deciduous sage scrub species regarded as an ecotone (transition) between two vegetation communities. This singular community contains floristic elements of both communities, typically including California buckwheat, black sage, California sagebrush, San Diego honeysuckle (*Lonicera subspicata* var. *denudata*), and chamise (*Adenostoma fasciculatum*).

This community occupies a portion of a slope in the east-central portion of the site, as well a portion of the easternmost hills. Characteristic species present include California sagebrush, California buckwheat, chamise, laurel sumac, and rock rose (*Helianthemum scoparium*). Coastal sage-chaparral scrub occurring in the eastern hills burned in the May 2014 Highway Fire and portions were affected by the 2017 Lilac Fire. A total of 31.5 acres of coastal sage-chaparral scrub occurs on site.

Southern Mixed Chaparral

Southern mixed chaparral is typically found on granitic soils and is composed of broad-leaved, sclerophyllous shrubs that can reach six to 10 ft in height and form dense, often nearly impenetrable stands with poorly developed understories. Depending upon relative proximity to the coast, characteristic species may include, for example, chamise, ceanothus (*Ceanothus* spp.), scrub oak (*Quercus dumosa* or *Q. berberidifolia*), toyon (*Heteromeles arbutifolia*), mission manzanita (*Xylococcus bicolor*), sugar bush (*Rhus ovata*), spiny redberry, bushrue (*Cneoridum dumosum*), and San Diego honeysuckle (Holland 1986).

This habitat occurs within portions of the eastern hills. Characteristic species present include chamise, mission manzanita, rock rose, and scrub oak (*Q. berberidifolia*). Southern mixed chaparral occurring in the eastern hills burned in the May 2014 Highway Fire and portions were affected by the 2017 Lilac Fire. A total of 31.8 acres of southern mixed chaparral occurs on site.

Non-native Grassland

Non-native grassland is a mixture of annual grasses and broad-leaved, herbaceous species. Annual species comprise from 50 percent to more than 90 percent of the vegetative cover, and most annuals are non-native species. Non-native grasses typically comprise at least 30 percent of the vegetative cover, although this percentage can be much higher in some years and lower in others, depending on land use and climatic conditions. Usually, the grasses are less than three ft in height and form a continuous or open cover. Emergent shrubs and trees may be present but do not comprise more than 15 percent of the total cover (County 2010a). Most of the non-native grasses originated from the Mediterranean region, an area with a long history of agriculture and a climate similar to California.

Non-native grassland occurs in a scattered distribution on site, with the largest areas occurring in the western/central portions of the site on slopes just south of the pastures. Typical species observed in this habitat on site include ripgut grass (*Bromus diandrus*), soft chess (*Bromus hordaceus*), barley (*Hordeum murinum*), and oats (*Avena* sp.). A variety of other non-native grasses and forbs are also present. A total

of 104.2 acres of non-native grassland occurs on site. This vegetation community was affected by the 2017 Lilac Fire.

Pasture/Extensive Agriculture

Pasture is considered a subtype of extensive agriculture. These areas are typically used by grazing farm animals such as horses and cattle. Fields and pastures may or may not be irrigated and are often made up primarily of non-native grasses and forbs. Several irrigated horse pastures occur within the northwestern portion of the property, surrounded by split-rail fences. They support a variety of non-native annual grasses and forbs, including soft chess, ripgut grass, barley, and cheeseweed (*Malva parviflora*). Several wildlife species (primarily birds) have been observed within the horse pastures, including non-sensitive species such as California ground squirrel (*Otospermophilus beecheyi*), Botta's pocket gopher (*Thomomys bottae*), and coyote, as well as the following six sensitive[1] avian species: Canada goose (*Branta canadensis*), great blue heron (*Aldea herodias*), snow goose (*Chen caerulescens*), vermilion flycatcher (*Pyrocephalus rubinus*), western bluebird (*Sialia mexicana*), and white-faced ibis (*Plegadis chihi*). Canada goose, great blue heron, snow goose, and white-faced ibis have each has been observed foraging within the pastures. Vermilion flycatcher and western bluebird have been observed nesting in trees near the pastures and foraging over the pastures (catching insects in flight). Several species of raptors have been observed on the property and the pastures also may serve as foraging habitat for some of these species (e.g., northern harrier [*Circus cyaneus*], red-tailed hawk [*Buteo jamaicensis*], and white-tailed kite [*Elanus leucurus*]). No bird species are anticipated to nest within the pastures given that these areas are regularly maintained, including, but not limited to, seeding, aeration, irrigation, and mowing. A total of 178.3 acres of pasture occurs on site.

Row Crops/Extensive Agriculture

Row crops are considered a subtype of extensive agriculture, consisting of densely planted rows of agricultural crops such as tomatoes, strawberries, melons, etc., that are harvested seasonally. Soil in row crop areas is typically re-worked with each crop. Row crops occupy the central portion of the site, both in the valley and on hillsides, as well as adjacent to Sullivan Middle School along West Lilac Road. Tomatoes and oats are the primary crops grown on the project site. A total of 265.9 acres of row crops occur on site. This vegetation community was affected by the 2017 Lilac Fire.

Agricultural Pond/Open Water

Agricultural ponds on site consist of open water habitat excavated in uplands. A total of three agricultural ponds are present on site, two of which are actively maintained and one of which has been abandoned. The water level in these artificial ponds is maintained by pumping groundwater into them. Two ponds are located within/adjacent to pastures, and one pond is located in a field of row crops. Pumping of water into the pond located within row crops has ceased. A total of 8.0 acres of agricultural pond occurs on site.

[1] Refers to species that have been afforded special status and/or recognition by the USFWS, CDFW, and/or the County. In general, the principal reason an individual taxon (species or subspecies) is given such recognition is the documented or perceived decline or limitations of its population size or geographical extent and/or distribution, resulting in most cases from habitat loss.

Eucalyptus Woodland

Eucalyptus woodland is dominated by eucalyptus (*Eucalyptus* sp.), an introduced genus that produces a large amount of leaf and bark litter. The chemical and physical characteristics of this litter, combined with the shading effects of the trees, limit the ability of other species to grow in the understory, thereby decreasing floristic diversity. If sufficient moisture is available, eucalyptus becomes naturalized and can reproduce and expand its cover. Eucalyptus woodland occurs as two small stands of trees in the central portion of the site, adjacent to row crops and grassland. Scattered eucalyptus trees also occur within some developed areas of the site. A total of 1.8 acres of eucalyptus woodland occur on site.

Orchard

Orchards are active, intensive agricultural uses, typically consisting of fruit or nut trees densely planted, irrigated, and maintained. The majority of orchard planted on site consists of avocado trees (*Persea americana*), with occasional citrus (*Citrus* sp.) also present. Small areas of nursery stock shrubs are also grown in these areas, including protea (*Protea* sp.). Orchards are planted on the hillsides in the south-central portion of the site, totaling 102.8 acres. This vegetation community was affected by the 2017 Lilac Fire and orchard uses have since been abandoned.

Fallow Orchard

Fallow orchards are previously active orchards that are no longer being irrigated. The trees become stressed and die; they may either be left in place or stumped (tops cut off, but stumps remain). Fallow orchard on site consists of a combination of cut avocado trees and areas where irrigation has ceased, with dead trees left standing or fallen over, and an unmaintained understory of non-native grasses and forbs. Fallow orchard occurs on a hillside in the southern portion of the site, totaling 32.1 acres. This vegetation community was affected by the 2017 Lilac Fire.

Non-native Vegetation

Non-native vegetation is a category describing stands of naturalized trees and shrubs (e.g., acacia [*Acacia* sp.], peppertree [*Schinus* sp.]), many of which are also used in landscaping. On site, this habitat consists of a small stand of olive trees (*Olea europaea*) growing at the base of a slope in the eastern portion of the property, totaling 1.3 acres on site. This vegetation community burned in the May 2014 Highway Fire and 2017 Lilac Fire.

Disturbed Habitat

Disturbed habitat includes areas in which the vegetative cover comprises less than 10 percent of the surface area (disregarding natural rock outcrops) and where there is evidence of soil surface disturbance. Disturbed habitat supports a predominance of non-native and/or weedy species that are indicators of such surface disturbance (County 2010a).

Disturbed habitat on site consists of dirt roads and parking areas, and areas made up of non-native, weedy vegetation such as shortpod mustard (*Hirschfeldia incana*), redstem filaree (*Erodium cicutarium*), Russian thistle (*Salsola tragus*), and pineapple weed (*Matricaria discoidea*). A total of 49.6 acres of disturbed habitat occurs on site.

Urban/Developed

Urban/developed land includes areas that have been constructed upon or otherwise covered with a permanent, unnatural surface and may include, for example, structures, pavement, irrigated landscaping, or hardscape to the extent that no natural land is evident. These areas no longer support native or naturalized vegetation (County 2010a). Developed portions of the site consist of ranch buildings, paved roads, residences, and maintained landscaping. A total of 30.3 acres of urban/ developed land occurs on site.

1.4.6 Flora

HELIX identified a total of 302 plant species on the project site, of which 207 (69 percent) are native species and 95 (31 percent) are non-native species (Appendix A).

1.4.7 Fauna

A total of 163 animal species were observed or otherwise detected on the project site during the biological surveys, including 30 invertebrate, four amphibian, six reptile, 107 bird, and 16 mammal species (Appendix B).

1.4.8 Sensitive Vegetation Communities/Habitat Types

Sensitive vegetation communities/habitat types are defined as land that supports unique vegetation communities or the habitats of rare or endangered species or subspecies of animals or plants as defined by Section 15380 of the State CEQA Guidelines. Table 5 of the County guidelines (County 2010a, 2010b) provides a list of habitat mitigation ratios for each vegetation community type.

Sensitive vegetation communities/habitat types mapped on the project site include southern cottonwood-willow riparian forest, southern willow scrub, mule fat scrub, freshwater marsh, herbaceous wetland, tamarisk scrub, open water/freshwater pond, coast live oak woodland, Diegan coastal sage scrub, flat-topped buckwheat scrub, coastal sage-chaparral scrub, southern mixed chaparral, and non-native grassland. Impacts to sensitive habitats require mitigation.

Pasture, row crops, eucalyptus woodland, orchard, fallow orchard, non-native vegetation, disturbed habitat, and developed lands do not meet the definition of sensitive habitat under CEQA. Although pasture is not considered a sensitive habitat, mitigation for impacts is required pursuant to County guidelines as it is considered foraging habitat for raptors.

1.4.9 Special Status Plant Species

Special status plant species have been afforded special status and/or recognition by the USFWS, CDFW, and/or the County and may also be included in the CNPS' Inventory of Rare and Endangered Plants (see Section 1.3.6 for references). Their status is often based on one or more of three distributional attributes: geographic range, habitat specificity, and/or population size. A species that exhibits a small or restricted geographic range (such as those endemic to the region) is geographically rare. A species may be abundant but occur only in very specific habitats. Lastly, a species may be widespread but exist naturally in small populations.

Special Status Plant Species Observed

Four special status plant species were observed on the project site, as listed below in alphabetical order by common name. Each is also described below and shown on Figure 7.

Brewer's Calandrinia (*Calandrinia breweri*)
Listing: --/--; CRPR 4.2; County List D
Distribution: Widely scattered throughout coastal California but otherwise uncommon
Habitat: Chaparral and coastal scrub; burned areas
Presence on Site: A total of 50 individuals were observed in the southeastern portion of the site upslope of the eastern riparian corridor.

Delicate Clarkia (*Clarkia delicata*)
Listing: --/--; CRPR 1B.2; County List A
Distribution: San Diego County; Baja California, Mexico
Habitat: Shaded areas or the periphery of oak woodlands and cismontane chaparral
Presence on Site: A total of 26 individuals were observed on site. This species was recorded in the eastern hills near the northern property boundary, and on a slope in the southeastern portion of the site.

Graceful Tarplant (*Holocarpha virgata* ssp. *elongata*)
Listing: --/--; CRPR 4.2; CA Endemic; County List D
Distribution: San Diego, Orange, and Riverside counties
Habitat: Coastal mesas and foothills with grassland habitats
Presence on Site: Approximately 100 individuals were observed in openings in coastal sage scrub in the western portion of the site.

Smooth Tarplant (*Centromadia pungens* ssp. *laevis*)
Listing: --/--; CRPR 1B.1; CA Endemic; County List A
Distribution: San Diego, Orange, Riverside, Los Angeles, Kern, and San Bernardino counties below approximately 1,500 ft in elevation
Habitat: Valley and foothill grasslands, particularly near alkaline locales
Presence on Site: Approximately 585 individuals were observed in grassland habitat adjacent to southern willow riparian forest in the extreme westerly tip of the site.

Special Status Plant Species with Potential to Occur

Special status plant species that were not observed but may have potential to occur on site are listed in Appendix C. Apart from the species observed on site, no additional special status plant species were considered to have high potential to occur based on results of focused surveys conducted in 2015 and 2016, general surveys conducted in multiple years, and analysis of species with potential to occur in the region.

Special Status Animal Species

Special status animal species include those that have been afforded special status and/or recognition by the USFWS, CDFW, and/or the County (see Section 1.3.6 for references). In general, the principal reason an individual taxon (species or subspecies) is given such recognition is the documented or perceived

decline or limitations of its population size or geographical extent and/or distribution, resulting in most cases from habitat loss.

Special Status Animal Species Observed or Otherwise Detected

Twenty-seven special status animal species have been observed or detected on or directly adjacent to the project site, or flying over the project site, during biological surveys conducted for the project. Each species is listed below in alphabetical order by common name, described, and shown on Figure 7. Status codes are defined in Appendix E.

Barn Owl (*Tyto alba*)
Status: --/--; County Group 2
Distribution: Occurs throughout much of San Diego County
Habitat: Woodland habitats and open areas with trees or other structures that can offer shelter
Presence on Site: One individual was observed roosting in a farm building in the northwestern portion of the property. Suitable nesting habitat occurs on site for this species.

California Horned Lark (*Eremophila alpestris actia*)
Status: --/WL; County Group 2
Distribution: Observed year-round scattered throughout San Diego County
Habitat: Coastal strand, arid grasslands, and sandy desert floors
Presence on Site: Four individuals observed foraging in tilled row crop areas and associated dirt roads. Suitable nesting habitat occurs on site for this species.

Canada Goose (*Branta canadensis*)
Status: --/--; County Group 2 (winter)
Distribution: Observed in winter in San Diego County near wetland habitats, often in flocks
Habitat: Mixed fresh and brackish water habitats with low grass or succulent leaves
Presence on Site: Flocks of up to approximately 200 individuals were observed in scattered locations within the pastures and near the agricultural ponds. This species was observed multiple times during surveys. Long-term ranch staff has observed several hundred Canada geese overwintering on site. A few individuals are reported to stay year-round.

Coastal California Gnatcatcher (*Polioptila californica californica*)
Status: FT/SSC; County Group 1; Draft NC MSCP Covered
Distribution: In San Diego County, occurs throughout coastal lowlands.
Habitat: Coastal sage scrub, coastal bluff scrub, and coastal sage-chaparral scrub
Presence on Site: Gnatcatcher pairs were observed in four locations in the southwestern portion of the site during the 2015 protocol survey, though not all pairs were detected during each of the three surveys. A pair of gnatcatchers also was observed in the eastern hills in early July 2016, and two separate sightings of single male individuals were noted in the eastern hills in March 2017. This species breeds on site.

Coastal Western Whiptail (*Aspidoscelis tigris stejnegeri*)
Status: --/--, County Group 2
Distribution: Ventura County south, in cismontane California, to south-central Baja California

Habitat: 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.
Presence on Site: One individual was observed in sage scrub in the eastern hills.

Cooper's Hawk (*Accipiter cooperii*)
Status: --/WL; County Group 1
Distribution: Occurs year-round throughout San Diego County's coastal slope where stands of trees are present
Habitat: Oak groves, mature riparian woodlands, and eucalyptus stands or other mature forests
Presence on Site: One individual was observed on multiple days in the western riparian corridor and heard calling near eucalyptus woodland, as well as flying over the eastern riparian corridor. Suitable nesting habitat occurs on site for this species.

Golden Eagle (*Aquila chrysaetos*)
Status: BCC, BGEPA/WL, Fully Protected; County Group 1; Draft NC MSCP Covered
Distribution: In San Diego County, has the largest territory and lowest population density of any bird (Unitt 2004). Scattered throughout undeveloped San Diego County year-round.
Habitat: Nesting occurs on cliff ledges or in trees on steep slopes, with foraging occurring primarily in grassland and sage scrub. Not typically observed near development.
Presence on Site: Two juvenile eagles were observed flying over the extreme northeastern portion of the site on a single occasion in April 2016. The individuals were observed coming from the northeast, flew over a small portion of the eastern hills, and continued off site to the northwest. No suitable nesting habitat occurs on site. Nearest known nest location is 3.5 miles northeast of the project site on Gregory Mountain; species has been recorded on Gregory Mountain as recently as February 2016 (Tracey, et al. 2016).

Great Blue Heron (*Ardea herodias*)
Status: County Group 2
Distribution: Occurs throughout San Diego County
Habitat: Wetland habitats, but can be observed foraging away from water
Presence on Site: Four great blue herons have been observed foraging in on-site pastures, with two pairs observed nesting in trees adjacent to the middle agricultural pond near the farm manager's residence.

Green Heron (*Butorides virescens*)
Status: County Group 2
Distribution: In San Diego County, most widespread in the northern part of coastal lowlands
Habitat: Small ponds in the northern part of the County or major rivers and lakes in the southern part (Unitt 2004).
Presence on Site: One green heron was observed in the eastern riparian area near the freshwater pond. This species could potentially nest in marsh habitat surrounding the eastern pond; no other suitable nesting habitat occurs on site.

Least Bell's Vireo (*Vireo bellii pusillus*)
Status: FE/SE; County Group 1; Draft NC MSCP Covered
Distribution: Observed throughout coastal southern California in the breeding season, south of Santa Barbara, but in smaller numbers in foothills and mountains

Habitat: Riparian woodland, riparian forest, mule fat scrub, and southern willow scrub
Presence on Site: Two solitary males were detected in isolated stands of riparian forest along the northern property boundary in late June and July 2015. One solitary male was detected on two occasions in riparian forest in the southwestern portion of the site during 2016 surveys (one in late April and one in early May), and two other individuals were detected off site to the north, along the San Luis Rey river corridor. No breeding individuals were detected on site.

Loggerhead Shrike (*Lanius ludovicianus*)
Status: BCC/SSC; County Group 1
Distribution: An uncommon year-round resident observed throughout San Diego County but absent from pinyon woodlands in higher elevations of the Santa Rosa and Vallecito mountains
Habitat: Grassland, open sage scrub, chaparral, and desert scrub
Presence on Site: One individual observed perched near pasture along the northern site boundary.

Northern Harrier (*Circus cyaneus*)
Status: --/SSC; Draft NC MSCP Covered; County Group 1
Distribution: In San Diego County, distribution primarily scattered throughout lowlands but can also be observed in foothills, mountains, and desert
Habitat: Open grassland and marsh
Presence on site: One individual observed foraging over fallow row crops in the eastern portion of the site.

Northwestern San Diego Pocket Mouse (*Chaetodipus fallax fallax*)
Listing: --/SSC; County Group 2
Distribution: Los Angeles County and southern San Bernardino County south into west-central Baja California, Mexico
Habitat: Open areas of coastal sage scrub and weedy growth, often on sandy substrates
Presence on Site: Observed in sage scrub in the eastern portion of the property during kangaroo rat surveys.

Osprey (*Pandion haliaetus*)
Status: --/WL; County Group 1; Draft NC MSCP Covered
Distribution: Occurs throughout San Diego County in small numbers year-round but more common during winter. Nesting occurs in close proximity to water
Habitat: Coasts and inland lakes
Presence on Site: One individual observed flying overhead of the eastern riparian area near the freshwater pond. There is potential for this species to nest in riparian forest near the eastern pond.

Red-shouldered Hawk (*Buteo lineatus*)
Status: --/--; County Group 1
Distribution: In San Diego County, observed throughout coastal slope
Habitat: Riparian woodland, oak woodland, orchards, eucalyptus groves, or other areas with tall trees
Presence on Site: Two red-shouldered hawks were observed in and near the northwestern portion of the site. One individual was perched in a tree just off site, and a second individual was observed perched in a tree on site, between the pastures. This species could breed on site.

Snow Goose (*Chen caerulescens*)
Status: --/--; County Group 2 (winter)
Distribution: Rare winter visitor to San Diego County
Habitat: Lakes, reservoirs, coastal wetlands, rivers, and wetland habitats
Presence on Site: Four individuals observed in a mixed flock with Canada geese in the westernmost pasture. This species is a winter visitor and does not breed on site.

Southern California Rufous-crowned Sparrow (*Aimophila ruficeps canescens*)
Status: --/WL; Draft NC MSCP Covered; County Group 1
Distribution: Observed throughout coastal lowlands and foothills of San Diego County
Habitat: Coastal sage scrub and open chaparral as well as shrubby grasslands
Status on site: One individual was detected in sage scrub in the southwestern portion of the site, in addition to several observations in the eastern hills during gnatcatcher surveys conducted in 2017. This species is presumed to breed on site.

Southern Mule Deer (*Odocoileus hemionus fuliginata*)
Listing: --/--; County Group 2
Distribution: Southern Riverside County (Tahquitz Valley), south on the coastal slope to the vicinity of San Quintin, Baja California, Mexico
Habitat: Coastal sage scrub, riparian and montane forests, chaparral, grasslands, croplands, and open areas if there is at least some scrub cover present. Crepuscular activity and movements are along routes that provide the greatest amount of protective cover.
Presence on Site: Dried scat observed in the far western tip of the site on a single occasion in 2013. No other detections of this species occurred during multiple field surveys conducted between 2013 and 2016.

Turkey Vulture (*Cathartes aura*)
Status: --/--; County Group 1
Distribution: Observed throughout San Diego County with the exception of extreme coastal San Diego where development is heaviest.
Habitat: Foraging habitat includes most open habitats with breeding occurring in crevices among boulders.
Presence on Site: Multiple sightings of this species soaring overhead in the various portions of the property, with up to two vultures observed at any one time. Two vultures also were observed perched on top of a rock outcrop in the easternmost hills. This species could potentially breed on site, in the higher portions of the eastern hills where rock outcrops are present. No other potentially suitable breeding habitat is present on site.

Vermilion Flycatcher (*Pyrocephalus rubinus*)
Status: --/SSC; County Group 1
Distribution: Rare and scattered in San Diego County year-round
Habitat: Open riparian woodland and mesquite bosques in desert
Presence on Site: Multiple observations of this species perched in trees and along fences adjacent to the pastures, as well as foraging in these areas. One pair with two fledglings was observed in 2015 in the northwestern portion of the site adjacent to a pasture.

Western Bluebird (*Sialia mexicana*)
Status: --/--; County Group 2
Distribution: Occurs throughout much of San Diego County but concentrated in foothills and mountains.
Habitat: Open woodlands and areas where meadows or grasslands occur among groves of oak or pine
Presence on Site: Multiple observations of this species perched in trees and along fences adjacent to the pastures, as well as foraging in these areas. This species is presumed to breed on site.

Western Spadefoot (*Spea hammondii*)
Status: --/SSC; County Group 2; Draft NC MSCP Covered
Distribution: Endemic to California and northern Baja California. Ranges from near Redding south throughout the Great Valley and its associated foothills, through the South Coast Ranges into coastal southern California south of the Transverse mountains and west of the Peninsular mountains, into northwest Baja California.
Habitat: Occurs in open coastal sage scrub, chaparral and grassland, along sandy or gravelly washes, floodplains, alluvial fans, or playas; requires temporary pools for breeding and friable soils for burrowing. Species prefers areas of open vegetation and short grasses, where the soil is sandy or gravelly. Grasslands with shallow temporary pools are optimal habitat (CDFW 2000).
Presence on Site: A total of seven adult western spadefoot were documented adjacent to the north-central project site boundary. No breeding was documented on site.

White-faced Ibis (*Plegadis chihi*)
Status: --/WL; County Group 1; Draft NC MSCP Covered
Distribution: Primarily observed in northwestern San Diego County but also observed elsewhere in the County in winter
Habitat: Nests in freshwater marshes and forages in shallow waters and wet, grassy habitats
Presence on Site: Flocks of up to approximately 50 individuals observed foraging in maintained pasture in the northwestern portion of the site. Species was observed multiple times on site, always foraging within pastures or occasionally in the feed barn near the pastures. This species was not observed breeding on site and is unlikely to do so given the limited area of freshwater marsh present.

White-tailed Kite (*Elanus leucurus*)
Status: --/Fully Protected; County Group 1
Distribution: Primarily occurs throughout coastal slopes of San Diego County
Habitat: Riparian woodlands and oak or sycamore groves adjacent to grassland
Presence on site: White-tailed kites were observed foraging in three locations on site: the far western corner, the southwest portion of the site near the western riparian corridor, and over agricultural lands abutting the eastern hills. Observations were of single individuals except in the southwestern portion of the site, where a family group of three individuals were observed foraging. No nests or breeding activity were observed on site.

Willow Flycatcher (*Empidonax traillii*)
Status: --/SE;
Distribution: Three subspecies of willow flycatcher occur in California, with *extimus* (southwestern willow flycatcher) being the only subspecies that breeds in southern California. Subspecies *brewsteri* (little willow flycatcher) and *adastus* breed in northern and central California but may pass through southern California during migration.

Habitat: Breeds within thickets of willows or other riparian understory usually along streams, ponds, lakes, or canyons. Migrants may be found among other shrubs in wetter areas.
Presence on site: One individual of an undetermined subspecies of willow flycatcher (*brewsterii* or *adastus*) was detected on a single survey day (May 24) in the eastern riparian corridor during 2015 protocol flycatcher surveys. Neither of these subspecies breed in southern California. No southwestern willow flycatchers (subspecies *extimus*) were detected on site.

Yellow-breasted Chat (*Icteria virens*)
Status: --/SSC; County Group 1; Draft NC MSCP Covered
Distribution: Occurs throughout San Diego County's coastal lowlands in the breeding season.
Habitat: Mature riparian woodland
Presence on Site: Two individuals were detected in riparian forest in the eastern riparian corridor. This species is presumed to breed on site.

Yellow Warbler (*Setophaga petechia*)
Status: BCC/SSC; County Group 2
Distribution: Observed throughout California during the breeding season with rare sightings in winter.
Habitat: Riparian woodland, riparian forest, mule fat scrub, and southern willow scrub
Presence on Site: Yellow warbler was detected in riparian forest in four locations on site, in both the eastern and western riparian corridors and within a small stand of trees along the northern property boundary. This species is presumed to breed on site.

Special Status Animal Species with Potential to Occur

Special status animal species present on site or with potential to occur on site are included in Appendix D. The species are grouped into invertebrates and vertebrates (fish, amphibians, reptiles, birds, and mammals) and alphabetized by scientific name. Refer to Appendix E for an explanation of status codes.

Special status animal species that were not observed but may have potential to occur on the project site are listed in Appendix D. The 10 additional special status animal species that were not observed but still are considered to have a high potential to occur on site are coastal rosy boa (*Charina trivirgata roseofusca*), orange-throated whiptail (*Cnemidophorus hyperythrus*), red diamond rattlesnake (*Crotalus ruber ruber*), Coronado skink (*Eumeces skitonianus interparietalis*), coast patch-nosed snake (*Salvadora hexalepis virgultea*), south coast garter snake (*Thamnophis sirtalis novum*), pallid bat (*Antrozous pallidus*), western red bat (*Lasiurus blosservillii*), small-footed myotis (*Myotis cilolabrum*), and San Diego black-tailed jackrabbit (*Lepus californicus bennettii*). These species are further discussed in Appendix D.

Focused species surveys conducted on site for Hermes copper, burrowing owl, southwestern willow flycatcher, and Stephens' kangaroo rat were negative, and the potential for these species to occur on site is further discussed below.

Hermes copper surveys conducted in 2016 were negative. Although suitable habitat on site burned in the December 2017 Lilac Fire, the habitat is regenerating and larval host plants (spiny redberry) in proximity to preferred adult nectar sources (California buckwheat) have been observed growing in this area. However, Hermes copper has not been observed on site and is not currently known from the surrounding area. The largest extant populations of Hermes copper are concentrated south of I-8, from the Jamul area east into the Cleveland National Forest; only small populations are known north of I-8,

roughly between Mission Trails Regional Park and Elfin Forest (Marschalek and Deutschman 2017). Although suitable habitat is present on site, the species is considered to have low potential to occur on site given the negative survey results, lack of observations in the vicinity, and potential effects of fire on this species (e.g., wild fires in 2003 and 2007 extirpated several local populations of Hermes copper in southern San Diego [Marschalek and Klein 2010]). Refer to Section 3.2.2.K and Appendix D for additional information.

Burrowing owl surveys conducted in 2015 were negative and this species is not known from the site or surrounding area; all records of burrowing owl in northwestern San Diego County are prior to 1997 (Unitt 2004). The potential for this species to occur on site is considered low (Appendix D).

Southwestern willow flycatcher surveys conducted in 2015 were negative. Although potentially suitable habitat occurs in the eastern riparian corridor, as well as offsite along the San Luis Rey River, this species has not been documented on site, and the only record for this species in the adjacent reach of river dates from 2007 in a location approximately 1,400 ft north of the project site (USFWS 2018). The potential for this species to occur on site is considered low (Appendix D).

Stephens' kangaroo rat surveys conducted in 2015 were negative. Most records for this species are northwest of the site on Marine Corps Base (MCB) Camp Pendleton. Although suitable habitat is present on site, protocol surveys were negative and the potential for this species to occur on site is considered low.

Raptor Foraging

Several raptors were observed, on occasion, during the biological surveys conducted between 2013 and 2016. On most occasions, these raptors were observed flying and soaring over coastal sage scrub, non-native grassland, and pasture within the project site or perching on taller trees in stands of riparian forest or in trees lining the roads adjacent to the pastures. Raptors observed during surveys include turkey vulture, barn owl, red-shouldered hawk, red-tailed hawk, American kestrel, white-tailed kite, golden eagle, and Cooper's hawk.

The County (2010b) defines raptor foraging habitat as, "Land that is a minimum of 5 acres (not limited to project boundaries) of fallow or open areas with any evidence of foraging potential (i.e., burrows, raptor nests, etc.)." Pasture and non-native grassland in the project site are considered raptor foraging habitat based on this definition since they occupy greater than 40 acres and support burrows of common small mammals, including California ground squirrel. Sage scrub that burned in May 2014 and/or December 2017 could also be used by foraging raptors until the recovering scrub habitat becomes taller and denser, and therefore less suitable. The use of the pastures and non-native grassland as foraging habitat for raptors is explained in greater detail below.

The turkey vulture is widespread through San Diego County and commonly observed soaring over rugged terrain and open areas. While pastures and non-native grassland in the project site could potentially be used by the turkey vulture for foraging, this species is an opportunistic scavenger, feeding on carrion and other prey items that can be found over a wide variety of habitat types.

The barn owl is an uncommon resident in San Diego County. It requires open ground over which it can hunt and feeds primarily upon a variety of mice, rats, voles, pocket gophers, and ground squirrels (Zeiner et al. 1990b). Botta's pocket gopher (*Thomomys bottae)* and California ground squirrel were observed and detected on site. Barn owls are "abundant" and "very common," respectively, in

California, however (Zeiner, et al. 1990a), and the species has likely benefited from the clearing of scrub and the erection of structures that accompany low-intensity development (Unitt 2004), as is evident in the local area. Ample foraging opportunities for the barn owl occur within the project site, including pastures and non-native grassland, as well as foraging opportunities off site in the local area.

The red-tailed hawk is the most widespread bird of prey in San Diego County and in the United States. The red-shouldered hawk is an uncommon resident of rural and urbanized areas of San Diego County, often found using within open woodlands in urbanized areas. Both species use any open area for foraging, despite disturbance, and will take advantage of small patches of undeveloped land, although they favor grasslands with scattered trees. Both species are known to tolerate considerable urbanization. Pastures and non-native grassland in the project site are potentially used by the red-tailed hawk and red-shouldered hawk for foraging.

The American kestrel is a common and widespread falcon, well distributed across San Diego County. It eats mostly insects and other invertebrates, as well as small rodents and birds. The American kestrel forages over a wide range of habitats, including pasture and non-native grassland on the project site.

The white-tailed kite is a non-migratory raptor, whose distribution is widespread over the coastal slope of San Diego County, preferring riparian woodland, oak groves, or sycamore groves adjacent to grassland. This species is less common in the foothills than in the coastal lowlands but is still fairly widespread (Unitt 2004). Small mammals, such as voles and mice, are the preferred prey. Ample foraging opportunities for the white-tailed kite occur within the pastures and non-native grassland on the project site in addition to foraging opportunities off site in the local area.

The golden eagle is an uncommon permanent resident and migrant throughout most of California. This species has the largest territory and lowest population density of any San Diego County bird (Unitt 2004). The species forages over open terrain, including grasslands and early successional stages of forest and scrub habitats; it commonly hunts in pairs (Zeiner, et al. 1990b). Typical prey consists of rabbits and rodents, but may also take other mammals, birds, reptiles, and some carrion. Golden eagle hunts over a very large area and pasture and non-native grassland in the project site could be used by foraging eagles.

The Cooper's hawk is widespread within San Diego's coastal slope wherever stands of trees are present. Historically, this species was associated with oak groves and riparian woodlands; however, it is now commonly encountered in stands of eucalyptus in addition to native oak and riparian woodlands. The species is most numerous in lowland and foothill canyons and in the urban areas of the city of San Diego (Unitt 2004). Typical prey includes birds and small rodents, which are hunted in woodlands and along habitat edges. Pastures and non-native grassland are not habitat types that are characteristic of prime foraging habitat for Cooper's hawk and are not likely to be used by this species.

The northern harrier is an uncommon resident of San Diego County that hunts on the wing, flying low over the ground. Prey include mostly small mammals and birds; in addition to large insects, snakes, lizards, toads and frogs. Ample foraging opportunities for the northern harrier occur within the pastures and non-native grassland on the project site in addition to foraging opportunities off site in the local area.

1.4.10 Jurisdictional Waters and Wetlands

Potential waters of the U.S., CDFW jurisdictional habitat, and County RPO wetlands are present on site and are further discussed below. Wetland habitat on site is primarily associated with two roughly south-north riparian corridors, one in the western portion of the site and one in the eastern portion of the site. Small stands of riparian habitat also occur along the property's northern boundary, in association with the San Luis Rey River floodplain. Several non-vegetated, ephemeral drainages are also present on site, primarily on the slopes south of the pastures and row crops, as well as in the eastern hills.

The western riparian corridor is fairly narrow along its upper reaches, broadening out as it comes down the slope north of the existing paved ranch access road. The riparian habitat ends abruptly at this road. Typical plant species present include arroyo willow and mule fat. Prior to the December 2017 fire, habitat quality was considered fair, as numerous trees exhibited signs of stress and some had died, and the habitat had a poorly developed understory. This riparian corridor burned in December 2017 and recovery is expected to occur over several years. All burned vegetation was removed from the downstream (i.e., northern) portion of the habitat following the fire to reduce the risk of property damage from debris flows associated with heavy rain forecasts.

The eastern riparian corridor is very narrow and disturbed along its northern reach, where it is directly adjacent to farm roads and row crops. The resulting habitat is of poor quality due to narrow width, invasive species, and adjacency to farming operations, which contributes to noise and affects water quality. Riparian habitat along this corridor is wider along its southern reach, extending into a canyon vegetated on both sides by coastal sage scrub. An earthen dam constructed decades ago is present along this corridor and has resulted in formation of an open water pond, fringed by a narrow band of freshwater marsh, and then transitioning to riparian forest. Typical plant species present include arroyo willow, mule fat, and cattail. Several special status bird species were detected within the southern reach of this riparian corridor, where it is flanked by coastal sage scrub-covered slopes. Habitat quality was considered high in this southern reach of the eastern riparian corridor prior to the December 2017 fire, as it supported dense cover by native plant species and was adjacent to broad expanses of native upland habitat. The habitat is expected to recover from the fire over several years.

Waters of the U.S.

Potential waters of the U.S. under the jurisdiction of the USACE in the project site include wetland waters of the U.S. and non-wetland waters of the U.S. within unnamed tributaries (Table 4; Figure 8). Waters of the U.S. total 7.98 acres on site, made up of 4.96 acres of wetlands and 3.03 acres of non-wetland waters. The waters of the U.S. summarized above would also represent waters of the State subject to Regional Water Quality Control Board (RWQCB) jurisdiction pursuant to CWA Section 401.

Table 4
WATERS OF THE U.S.

Waters of the U.S.	Acreage[1]
Wetland Waters	
Southern Cottonwood-willow Riparian Forest	3.63
Southern Willow Scrub	0.32
Mule Fat Scrub	0.03
Freshwater Marsh	0.98
Subtotal	4.96
Non-wetland Waters	
Freshwater Pond	1.16
Streambed	1.87
Subtotal	3.03
TOTAL	7.98

[1] Acres rounded to the nearest hundredth. Total may not sum due to rounding.

California Department of Fish and Wildlife Jurisdiction

Potential waters of the State under the jurisdiction of the CDFW within the project site consist of southern cottonwood-willow riparian forest, southern willow scrub, mule fat scrub, freshwater marsh, herbaceous wetland, tamarisk scrub, open water/freshwater pond, and unvegetated streambed (Table 5; Figure 9). The CDFW jurisdiction totals 27.37 acres on site.

Table 5
CALIFORNIA DEPARTMENT OF FISH AND WILDLIFE JURISDICTION

Habitat Type	Acreage[1]
Southern Cottonwood-willow Riparian Forest	18.18
Southern Willow Scrub	3.03
Mule Fat Scrub	1.30
Freshwater Marsh	0.98
Herbaceous Wetland	0.24
Tamarisk Scrub	0.09
Freshwater Pond	1.16
Streambed	2.39
TOTAL	**27.37**

[1] Acres rounded to the nearest hundredth.

County Resource Protection Ordinance Wetlands

Areas meeting the criteria to be considered County RPO wetlands (County 2011) in the project site include southern cottonwood-willow riparian forest, freshwater marsh, herbaceous wetland, tamarisk scrub, freshwater pond/open water, and portions of southern willow scrub and mule fat scrub (Table 6; Figure 10). County RPO wetlands total 24.67 acres on site.

Ocean Breeze Ranch

- Project Boundary
- Sampling Point
- Culvert
- Southern Cottonwood Willow Riparian Forest
- Freshwater Marsh
- Pond
- Mule Fat Scrub
- Non-wetland Waters of the U.S. (width in feet)
- Southern Cottonwood Willow Riparian Forest
- Southern Willow Scrub

Flowerwood Lane
Gird Road
Monserate Hill Road
San Luis Rey River
San Rey Lane
Dulin Road
South Old Highway 395
Mountain View Road
Rancho's Ladera Road
West Lilac Road
Via Vera
Via Ararat Drive
Redondo Drive
Camino Del Cielo

SP1 SP2 SP3 SP4 SP5 SP6 SP7 SP8 SP9 SP10

0 1,200 Feet

Source: Aerial (SanGIS, 2017)

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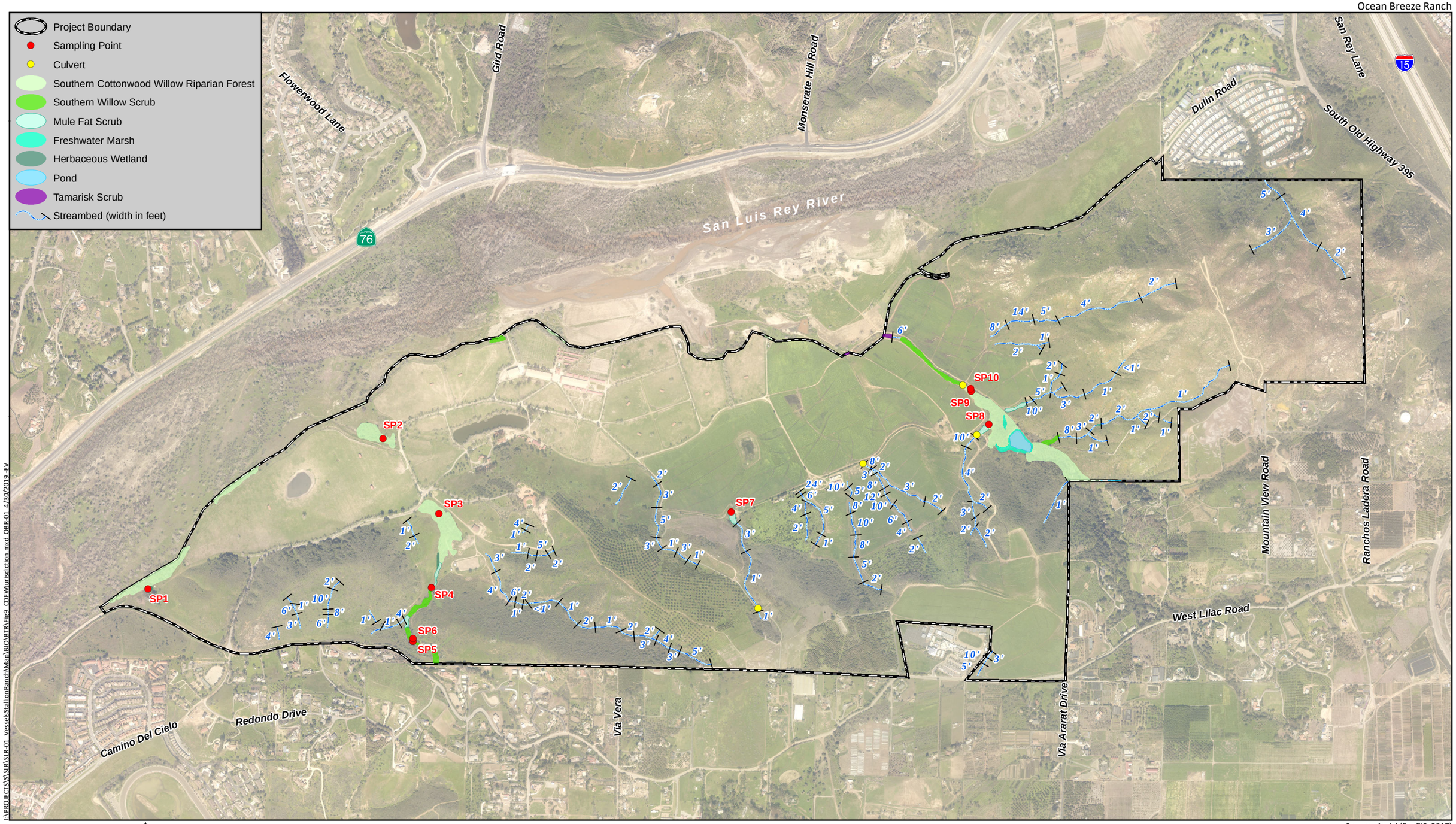
USACE Jurisdiction/Waters of the U.S.

Figure 8

Ocean Breeze Ranch



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0 1,200 Feet

N

Source: Aerial (SanGIS, 2017)

HELIX Environmental Planning

CDFW Jurisdiction

Figure 9

Ocean Breeze Ranch

Project Boundary

Wetland

- Southern Cottonwood Willow Riparian Forest
- Southern Willow Scrub
- Mule Fat Scrub
- Freshwater Marsh
- Herbaceous Wetland
- Pond
- Tamarisk Scrub

Flowerwood Lane
Gird Road
Monserate Hill Road
San Rey Lane
Dulin Road
South Old Highway 395
San Luis Rey River
76
15
Mountain View Road
Ranchos Ladera Road
West Lilac Road
Via Vera
Via Ararat Drive
Redondo Drive
Camino Del Cielo

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0 1,200 Feet

N

Source: Aerial (SanGIS, 2017)

HELIX Environmental Planning

County RPO Wetlands

Figure 10

Table 6
COUNTY RESOURCE PROTECTION ORDINANCE WETLANDS

Habitat Type	Acreage[1]
Southern Cottonwood-willow Riparian Forest	18.18
Southern Willow Scrub	3.03
Mule Fat Scrub	0.99
Freshwater Marsh	0.98
Herbaceous Wetland	0.24
Tamarisk Scrub	0.09
Freshwater Pond/Open Water	1.16
TOTAL	**24.67**

[1] Acres rounded to the nearest hundredth.

A total of 0.31 acre of mule fat scrub occurring on site does not meet RPO wetland criteria. This area consists of a single stand of mule fat and tamarisk in a small basin at the southern terminus of a narrow, ephemeral drainage channel in the central portion of the site. The basin formed at the southern terminus of the drainage channel because of an agricultural road crossing, which obstructs water conveyance and resulted in the establishment of mule fat and tamarisk in the basin. This area supports wetland vegetation (mule fat and tamarisk) only because of the construction of the man-made road crossing, has negligible biological function as a wetland, is isolated from other wetland systems, and does not support sensitive species. Thus, pursuant to Section 86.602(q)(2)(aa), this area is not considered a RPO wetland.

Prior to the December 2017 Lilac Fire, 0.20 acre of southern willow scrub and 0.22 acre of mule fat scrub occurred within a narrow drainage channel in the central portion of the site and were potential RPO wetlands (see Photos 17-19 in Appendix F). However, site conditions in this area changed following the 2017 fire and the thin strips of riparian vegetation that were previously present in this channel are no longer there and are not expected to re-establish. Riparian vegetation formerly present in the lower reach of this channel was supported by irrigation runoff from the upstream orchards/agricultural activities on the project site. Vegetation within this channel burned in the 2017 Lilac Fire, as did the upstream avocado orchards/agricultural areas. Prior to the fire, a portion of the channel supported a narrow band of mule fat and shrubby willows, intermixed with non-native annual grasses (Appendix F, Photo 17). During a site visit conducted on April 10, 2019 it was noted that the riparian vegetation is no longer present, and the channel is vegetated with upland-associated non-native grasses (e.g., ripgut grass [*Bromus diandrus*]), similar to adjacent areas outside of the channel (Appendix F, Photos 18 and 19). As the upstream orchards/agricultural areas burned and have since been abandoned, there is no artificial source of irrigation to support re-establishment of riparian vegetation in the channel. A potential RPO wetland no longer exists in this area. This area does not currently meet the RPO wetland criteria, per Section 86.602(q)(1)(aa)(bb)(cc) of the County's Resource Protection Ordinance.

1.4.11 Habitat Connectivity and Wildlife Corridors

Wildlife corridors connect otherwise isolated pieces of habitat and allow movement or dispersal of plants and animals. Local wildlife corridors allow access to resources such as food, water, and shelter within the framework of their daily routine. 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. A corridor is a specific route that is used for the movement and migration of species and may be different from a linkage in that it represents a smaller or narrower

avenue for movement. A linkage is an area of land that supports or contributes to the long-term movement of animals and genetic exchange by providing live-in habitat that connects to other habitat areas. Many linkages occur as stepping-stone linkages that are made up of a fragmented archipelago arrangement of habitat over a linear distance.

The PAMA in the region is based on the core and linkage concept of landscape-level conservation. The configuration of preserve lands includes large, contiguous areas of habitat supporting important species populations or habitat areas and important functional linkages and movement corridors between them. The project site occurs mostly within lands identified as PAMA under the Draft NC MSCP Plan (Figure 4), within an area identified in the plan as the Lower San Luis Rey River Linkage (County 2009). The Lower San Luis Rey River Linkage extends southwest from the project site along the river to the City of Oceanside, and northeast of the site along the river, connecting to the Pala Core Area east of I-15, and to a narrower linkage extending south along I-15 to the San Marcos – Merriam Mountains Core Area. It also connects to the northern terminus of the Moosa Canyon Linkage, which begins south of West Lilac Road and ends in Valley Center.

With respect to wildlife movement in the region, conservation targets generally include conserving riparian habitats along the San Luis Rey River, and maintaining connection of natural and agricultural lands between the San Luis Rey River and the hills to the south near I-15. Related to these are conserving patches of coastal sage scrub to maintain persistence of coastal California gnatcatcher, as well as conserving access from core upland areas east of I-15 to the San Luis Rey River.

In general, the northern portion of the project site is primarily a flat valley occupied by horse pastures and row crops, transitioning into a range of hills spreading across the southern and eastern portions of the site. The San Luis Rey River and associated floodplain occupies the land directly north of the project site. In the project vicinity, the San Luis Rey River functions to facilitate amphibian, bird, and large mammal movement in the local area. The river provides habitat for both common and special status species, including least Bell's vireo. The presence of SR 76 along the northern side of the river, together with the preponderance of small, privately-owned parcels north of SR 76, greatly limits connectivity to the north. Connectivity to the south of the project site is also limited by fragmentation resulting from residential and semi-rural development and roads. Thus, the greatest opportunity for wildlife movement in the project vicinity occurs in an east-west direction along the San Luis Rey River and associated undeveloped floodplain areas directly north of the site, rather than in the fragmented and developed lands further north and south of the river.

On the project site, the eastern hills provide a large block of natural habitat that connects to grassland just north of the site, and then further north to the river. Dulin Road, a narrow, restricted access road, runs along the base of the hills adjacent to the grassland. Topography in the eastern hills ranges from approximately 300 ft amsl on the gentler-sloping western flanks to over 900 ft amsl in the eastern portion of the hills. Steep north-facing slopes occur along the northern side of the hills, facing the river. The eastern hills consist primarily of coastal sage scrub, with lesser coverage by oak woodland and mixed chaparral; these habitats burned in May 2014 and December 2017. Native habitat is anticipated to regenerate and wildlife use is expected to increase as the habitat recovers from the fires. Observations of coastal California gnatcatcher occurred in the eastern hills in just over two years following the May 2014 fire (a pair was observed in July 2016 and two sightings of individuals occurred in March 2017). Other species expected to use the eastern hills include, coyote (*Canis latrans*), bobcat (*Lynx rufus*), and a variety of lizards, snakes, and other birds.

The eastern hills connect to a range of hills that extends westward across the southern portion of the project site, connecting to riparian habitat along the river at the site's western tip. Habitat on these hills comprises a mosaic of large stands of coastal sage scrub interspersed with expanses of orchard, fallow orchard, and row crops. These hills provide opportunities for east-west wildlife movement across the site, as well as connectivity to important resources associated with the San Luis Rey River. Prior to the December 2017 Lilac Fire, coastal sage scrub in these hills was known to support coastal California gnatcatcher, southern California rufous-crowned sparrow, California towhee (*Melozone crissalis*), California quail (*Callipepla californica*), western scrub-jay (*Aphelocoma californica*), greater roadrunner (*Geococcyx californianus*), and numerous other bird species, as well as coyote, western rattlesnake (*Crotalus oreganus*), side-blotched lizard (*Uta stansburiana*), and many other common mammal and reptile species. Wildlife usage of these areas is anticipated to increase as the habitat recovers from the December 2017 fire.

The hills stretching across the southern portion of the site are bisected by two relatively narrow north-south riparian corridors. The western riparian corridor terminates before reaching off-site riparian habitat along the river; thus it does not provide a contiguous connection of habitat across the site for wildlife movement. The eastern riparian corridor does extend across the width of the site but is very narrow and disturbed along its northern reach where it is constrained between areas used for row crops and provides little in terms of wildlife resources and cover along this reach. Both riparian corridors, particularly the eastern corridor where it is adjacent to native habitat in the southeastern portion of the site, are used by numerous bird species for foraging and breeding and are likely used for local movement within the site by other wildlife. However, both riparian corridors are constrained along portions of their length by narrow widths, adjacency to agricultural operations, and discontinuity with the San Luis Rey River. The pond in the eastern riparian corridor also provides a water source for wildlife.

Pastures on the project site, while used by a variety of bird species for foraging, are also used by coyotes moving to and from the off-site river area to the southern portions of the site. Despite multiple field surveys conducted from 2013 to 2016, evidence of deer on site was observed only on a single occasion, consisting of dried scat observed in the extreme western corner of the site in 2013. Thus, while suitable expanses of habitat exist for deer to move through the area, this species is considered unlikely to be utilizing the project site.

1.5 APPLICABLE REGULATIONS

Biological resources in the project site are subject to regulatory review by federal, state, and local agencies. Under CEQA, impacts associated with a proposed project or program are assessed with regard to significance criteria determined by the CEQA Lead Agency (in this case, the County) pursuant to CEQA Guidelines. Biological resources-related laws and regulations that apply include federal Endangered Species Act (FESA), Migratory Bird Treaty Act (MBTA), CWA, CEQA, California Endangered Species Act (CESA), CFG Code, and County RPO.

With respect to the proposed project, the USFWS will be responsible for reviewing issues related to the coastal California gnatcatcher, arroyo toad, and least Bell's vireo pursuant to the FESA, migratory birds pursuant to the MBTA, Habitat Loss Permit, and regional conservation planning related to the Draft NC MSCP Plan. The USACE will be responsible for reviewing issues related to waters of the U.S. The RWQCB will be responsible for reviewing issues related to waters of the State pursuant to the CWA. The CDFW will be responsible for reviewing issues related to vegetated and unvegetated streambeds pursuant CFG

Code, nesting birds and raptors pursuant to CFG Code, Habitat Loss Permit, and regional conservation planning related to the Draft NC MSCP Plan.

The County is the lead agency for the CEQA environmental review process in accordance with state law and local ordinances. During CEQA review, the County will be responsible for reviewing project issues per the Guidelines for Determining Significance for Biological Resources (County 2010b) and the County RPO. The County will also be responsible for reviewing the proposed project with respect to Habitat Loss Permit and conservation planning related to the Draft NC MSCP Plan.

1.5.1 Federal Government

Federal Endangered Species Act

Administered by the USFWS, the FESA provides the legal framework for the listing and protection of species (and their habitats) that are 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 ESA 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.

The USFWS designates critical habitat for endangered and threatened species. Critical habitat is a term defined and used in the FESA and refers to specific geographic areas that contain features considered necessary for endangered or threatened species to recover. Critical habitat designations can include areas that are not currently occupied by the species, as the ultimate goal is to restore healthy populations of listed species within their native habitats so they can be removed from the list of threatened or endangered species. Once an area is designated as critical habitat pursuant to the FESA, all federal agencies must consult with the USFWS to ensure that any action they authorize, fund, or carry out is not likely to result in destruction or adverse modification of the critical habitat. Only activities that involve a federal permit, license, or funding require consultation with the USFWS. Designated critical habitat for three species occurs within the project site: southwestern willow flycatcher (20.1 acres), coastal California gnatcatcher (652.2 acres), and arroyo toad (554.6 acres). Refer to Figure 11. Critical habitat lands for southwestern willow flycatcher and arroyo toad within the project site are not currently occupied by these species, and the vast majority of on-site lands identified as critical habitat for arroyo toad are areas that have been in agricultural and equestrian uses for decades.

Sections 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. 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 (formal or informal) is required when there is a nexus between endangered species' use of a site and there is an associated federal action for a proposed impact (e.g. the USACE would initiate a Section 7 consultation with the USFWS for impacts proposed to USACE jurisdictional areas that may also affect listed species or their critical habitat). Section 10(a) allows issuance of permits for incidental take of endangered or threatened species with preparation of a Habitat Conservation Plan (HCP) when there is no federal nexus. The term "incidental" applies if the taking of a listed species is incidental to, and not the purpose of, an otherwise lawful activity. An HCP demonstrating how the taking would be minimized and how steps taken would ensure the species' survival must be submitted for issuance of Section 10(a) permits.

Ocean Breeze Ranch

Project Boundary
Southwestern Willow Flycatcher
Arroyo Toad
Coastal California Gnatcatcher

Flowerwood Lane
Gird Road
Monserate Hill Road
San Rey Lane
Dulin Road
South Old Highway 395
San Luis Rey River
76
15
Camino Del Cielo
Redondo Drive
Via Vera
Via Ararat Drive
West Lilac Road
Mountain View Road
Ranchos Ladera Road

0 1,200 Feet

Source: Aerial (SanGIS, 2017)

\\PROJECTS\SJR\SLR-01_VesselsStallionRanch\Map\BIO\RTA\Fig11_USFWS_Critical_Habitat.mxd OBR-01 1/16/2019 EV

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USFWS Critical Habitat

Figure 11

It is currently presumed that a Section 7 consultation initiated by the USACE during the CWA Section 404 permitting process would address FESA-related issues for the proposed project; however, if the USACE's action area for the project does not include all impacts to gnatcatcher habitat, a Habitat Loss Permit (HLP) also may be required. The HLP process is discussed below in Section 1.5.3.

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 now used to place restrictions on disturbance of active bird nests during the nesting season (generally February 1 to August 31). In addition, the USFWS commonly places restrictions on disturbances allowed near active raptor nests.

Clean Water Act and Rivers and Harbors 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 waters of the U.S. Permitting for projects filling waters of the U.S. is overseen by the USACE under Section 404 of the CWA. Most development projects are permitted using Individual Permit or Nationwide Permit instruments.

1.5.2 State of California

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 (or 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.

California Endangered Species Act

The CESA established that it is state policy to conserve, protect, restore, and enhance state endangered species and their habitats. Under state law, plant and animal species may be formally designated rare, threatened, or endangered by official listing by the California Fish and Game Commission. The CESA authorizes that private entities may "take" plant or wildlife species listed as endangered or threatened under the FESA and CESA, pursuant to a federal Incidental Take Permit if the CDFW certifies that the incidental take is consistent with CESA (CFG Code Section 2080.1[a]). For state-only listed species, Section 2081 of CFG Code authorizes the CDFW to issue an Incidental Take Permit for state listed threatened and endangered species if specific criteria are met.

Native Plant Protection Act

Sections 1900–1913 of the CFG Code (Native Plant Protection Act; NPPA) direct the CDFW to carry out the state legislature's intent to "…preserve, protect, and enhance endangered or rare native plants of this state." The NPPA gives the California Fish and Game Commission the power to designate native plants as "endangered" or "rare" and protect endangered and rare plants from take.

California Fish and Game Code

The CFG Code provides specific protection and listing for several types of biological resources. Section 1600 of CFG Code requires a Streambed Alteration Agreement (SAA) for any activity that would alter the flow, change, or use any material from the bed, channel, or bank of any perennial, intermittent, or ephemeral river, stream, and/or lake. Typical activities that require an SAA include excavation or fill placed within a channel, vegetation clearing, structures for diversion of water, installation of culverts and bridge supports, cofferdams for construction dewatering, and bank reinforcement. Notification is required prior to any such activities.

Pursuant to CFG Code Section 3503, it is unlawful to take, possess, or needlessly destroy the nest or eggs of any bird, except as otherwise provided by this code or any regulation made pursuant thereto. Raptors 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. Section 3513 states that it is unlawful to take or possess any migratory non-game bird as designated in the MBTA. These regulations could require that construction activities (particularly vegetation removal or construction near nests) be reduced or eliminated during critical phases of the nesting cycle unless surveys by a qualified biologist demonstrate that nests, eggs, or nesting birds will not be disturbed, subject to approval by CDFW and/or USFWS.

Natural Communities Conservation Planning Act

The Natural Communities Conservation Planning (NCCP) program is a cooperative effort to protect habitats and species. It began under the state's NCCP Act of 1991, legislation broader in its orientation and objectives than the CESA or FESA. These laws are designed to identify and protect individual species that have already declined significantly in number. The NCCP Act of 1991 and the associated Southern California Coastal Sage Scrub NCCP Process Guidelines (1993), Southern California Coastal Sage Scrub NCCP Conservation Guidelines (1993), and NCCP General Process Guidelines (1998) have been superseded by the NCCP Act of 2003.

The primary objective of the NCCP program is to conserve natural communities at the ecosystem level while accommodating compatible land use. The program seeks to anticipate and prevent the controversies and gridlock caused by species' listings by focusing on the long-term stability of wildlife and plant communities and including key interests in the process.

This voluntary program allows the state to enter into planning agreements with landowners, local governments, and other stakeholders to prepare plans that identify the most important areas for a threatened or endangered species, and the areas that may be less important. These NCCP plans may become the basis for a state permit to take threatened and endangered species in exchange for conserving their habitat. The CDFW and USFWS worked to combine the NCCP program with the federal HCP process to provide take permits for state and federal listed species. Under the NCCP, local governments, such as the County, can take the lead in developing these NCCP plans and become the recipients of state and federal take permits. The County does not yet have an NCCP plan adopted for North County; the NC MSCP Plan is still in draft form (County 2009).

1.5.3 County of San Diego

Habitat Loss Permit Ordinance

The Habitat Loss Permit (HLP) Ordinance was adopted in March of 1994 (County 1994) in response to both the listing of the coastal California gnatcatcher as a federal threatened species and the adoption of the NCCP Act by the state. Pursuant to the Special 4(d) Rule under the FESA, the County is authorized to issue "take permits" for the coastal California gnatcatcher (in the form of Habitat Loss Permits) in lieu of Section 7 or 10(a) permits typically required from the USFWS. Although issued by the County, the USFWS and CDFW must concur with the issuance of an HLP for it to become valid as take authorization under the FESA. The HLP Ordinance states that projects must obtain an HLP prior to the issuance of a grading permit, clearing permit, or improvement plan if the project would directly or indirectly impact any of several coastal sage scrub habitat types. The HLP Ordinance requires an HLP if coastal sage scrub or related habitat will be impacted, regardless of whether it is currently occupied by the coastal California gnatcatcher. An HLP is not required for projects within the boundaries of the MSCP that have an adopted subarea plan since take authorization is conveyed to those projects through compliance with the MSCP. The HLPs are also not required for projects that have separately obtained Section 7 or 10(a) permits for take of the coastal California gnatcatcher.

Approval of an HLP is based on findings made pursuant to the HLP Ordinance. Findings need to demonstrate that a project's loss of coastal sage scrub would not exceed the County's 5 percent interim allowable loss limit. It would also have to demonstrate that the habitat loss would not preclude connectivity between areas of high habitat values or preclude or prevent the preparation of a subregional NCCP plan. Additionally, the findings must show that the habitat loss has been minimized and mitigated to the maximum extent practicable in accordance with Section 4.3 of the Southern California Coastal Sage Scrub NCCP Process Guidelines, and that the habitat loss would not appreciably reduce the likelihood of survival and recovery of listed species in the wild. Finally, the habitat loss must be incidental to otherwise lawful activities. If the extent of take of sage scrub on site is not covered by the USFWS Section 7 consultation for gnatcatcher[2], then an HLP application must be filed with the County if the Draft NC MSCP Plan has not been adopted at the time of environmental review of the proposed project, since impacts to coastal sage scrub and the coastal California gnatcatcher would occur. An HLP requires concurrence from USFWS and CDFW.

Resource Protection Ordinance

The County regulates natural resources (among other resources) as sensitive biological resources via the RPO (County 2011), the regulations of which cover wetlands, wetland buffers, sensitive plant and animal species, sensitive vegetation communities/habitat types, and habitats containing sensitive animals or plants. RPO section 86.604(a) regulates wetlands and wetland buffers as follows:

> (a) Wetlands. The following permitted uses shall be allowed:
>
> (1) Aquaculture, provided that it does not harm the natural ecosystem.

[2] The USACE defines the Action Area that they consider for a project's ESA consultation based on proximity of the impacts to waters of the U.S. and use of the area by listed species. The Action Area does not necessarily coincide with the project boundaries.

(2) Scientific research, educational, or recreational uses, provided that they do not harm the natural ecosystem.

(3) Removal of diseased or invasive exotic plant species as identified and quantified in writing by a qualified biologist and approved in writing by the Director of Planning and Land Use, and removal of dead or detached plant material.

(4) Wetland creation and habitat restoration, revegetation and management projects where the primary goal is to restore or enhance biological values of the habitat, and the activities are carried out pursuant to a written management/enhancement plan approved by the Director of Planning and Land Use.

(5) Crossings of wetlands for roads, driveways, or trails/pathways dedicated and improved to the limitations and standards under the County Trails Program, that are necessary to access adjacent lands, when all of the following conditions are met:

(aa) There is no feasible alternative that avoids the wetland;

(bb) The crossings are limited to the minimum number feasible;

(cc) The crossings are located and designed in such a way as to cause the least impact to environmental resources, minimize impacts to sensitive species and prevent barriers to wildlife movement (e.g., crossing widths shall be the minimum feasible and wetlands shall be bridged where feasible);

(dd) The least-damaging construction methods are utilized (e.g., staging areas shall be located outside of sensitive areas, work shall not be performed during the sensitive avian breeding season, noise attenuation measures shall be included, and hours of operation shall be limited so as to comply with all applicable ordinances and to avoid impacts to sensitive resources);

(ee) The applicant shall prepare an analysis of whether the crossing could feasibly serve adjoining properties and thereby result in minimizing the number of additional crossings required by adjacent development; and

(ff) There must be no net loss of wetlands and any impacts to wetlands shall be mitigated at a minimum ratio of 3:1 (this shall include a minimum 1:1 creation component, while restoration/ enhancement of existing wetlands may be used to make up the remaining requirements for a total 3:1 ratio).

(b) Wetland Buffer Areas. In the wetland buffer areas, permitted uses shall be limited to the following uses provided that there is no overall decrease in biological values and functions of the wetland or wetland buffer:

(1) Improvements necessary to protect adjacent wetlands.

(2) All uses permitted in wetland areas.

Resource Protection Ordinance (RPO) section 86.604(f) regulates Sensitive Habitat Lands as follows:

> (f) Sensitive Habitat Lands. Development, grading, grubbing, clearing or any other activity or use damaging to sensitive habitat lands shall be prohibited. The authority considering an application listed at Section 86.603(a) above may allow development when all feasible measures necessary to protect and preserve the sensitive habitat lands are required as a condition of permit approval and where mitigation provides an equal or greater benefit to the affected species.

Sensitive Habitat Lands are defined by the RPO as:

- Land that supports unique vegetation communities, or the habitats of rare or endangered species or sub-species of animals or plants as defined by Section 15380 of the State CEQA Guidelines (14 Cal. Admin. Code Section 15000 *et seq*.), including the area which is necessary to support a viable population of any of the above species in perpetuity, or which is critical to the proper functioning of a balanced natural ecosystem or which serves as a functioning wildlife corridor.
    - "Unique vegetation community" refers to associations of plant species that are rare or substantially depleted. These may contain rare or endangered species, but other species may be included because they are unusual or limited due to a number of factors, for example: (a) they are only found in the San Diego region; (b) they are a local representative of a species or association of species not generally found in San Diego County; or (c) they are outstanding examples of the community type as identified by the CDFW listing of community associations.

Sensitive Habitat Lands on the project site include lands in the western portion of the site supporting occupied coastal California gnatcatcher habitat, as well as the eastern hills, where one pair of gnatcatchers was observed and which have high potential to support breeding gnatcatcher as the habitat recovers from 2014 and 2017 fires.

2.0 PROJECT EFFECTS

Direct impacts are immediate impacts resulting from permanent habitat removal, including impacts from grading, grubbing, clearing, and fuel modification. Direct impacts were quantified by overlaying the limits of project-related impacts, including fuel modification zones, on the biological resources map of the site. Indirect impacts are actions that are not direct removal of habitat but affect the surrounding biological resources either as a secondary effect of the direct impacts (e.g., construction noise, runoff, nighttime lighting, fugitive dust, etc.) or as the cause of degradation of a biological resource over time (e.g., edge effects and adjacency issues). Cumulative impacts are those caused by numerous projects in the region and their additive effect of multiple direct and indirect impacts to biological resources over time.

Following County Guidelines, a total of 326.4 acres of the approximately 1,402.5-acre project site would be considered impacted (Figure 12), along with an additional 2.2 acres of off-site impacts. This impact total includes 19.4 acres of existing improved equestrian facilities (barns, stables, exercise and veterinary facilities, etc.) that would remain on site as part of the Equestrian Major Use Permit (shown as "Improved Areas (Equestrian)" on Figure 12).

Figure 12 depicts the direct impact areas of the project, including areas where grading, fuel modification, and other physical disturbances to the land are proposed. All impacts were considered permanent, no temporary impacts are proposed. Figure 13 depicts the direct impact areas in relation to the biological resources found within the site, and Figures 14a and 14b depict the proposed biological open space for the project. The project has been designed to provide a wide corridor of biological open space extending from the large block of habitat comprising the eastern hills to the western portion of the site and connecting with off-site conserved habitat along the river. This corridor of biological open space ranges in width from over 900 ft to approximately 3,000 ft (Figure 14a). Proposed development has been designed to allow for continued gnatcatcher connectivity across the site, and to off-site habitat along the San Luis Rey River and to the east of the site along I-15. A total of 832.7 acres of the project site would be conserved in biological open space. Subject to approval by the County and the Wildlife Agencies, up to 308.9 acres of the 832.7-acre total may be sold as preservation lands to another entity to mitigate for the impacts of their projects, which would be unrelated to the proposed Ocean Breeze Ranch project, or incorporated into a mitigation bank through the formal mitigation bank approval process with the USFWS and CDFW. The sale of these lands, which are in the easternmost portion of the biological open space (eastern hills excess biological open space on Figure 14a), would not affect the ability of the project to provide sufficient habitat conservation on site to mitigate for project impacts. Even with the sale of 308.9 acres of biologically preserved lands to another entity, or establishment of this area as a formal habitat mitigation bank, the remaining 523.8 acres of biological open space exceed the acreage and habitat types needed to meet the project's upland mitigation requirements.

It is noted herein that the SDCWA has expressed interest in widening a portion of their existing easement in the eastern hills. The widened easement, if implemented, would increase the overall width of the existing SDCWA easement on the steep north-facing slope of the eastern hills by approximately 200 feet, comprising approximately 6.4 acres. The expanded easement would allow SDCWA to address erosion resulting from the 2014 and 2017 wildfires that could affect buried pipes, as well as allowing for continued pipe maintenance and slope stabilization over the long term. This area is noted as "Future Potential Easement" on Figure 14a and could be a future easement for SDCWA or be part of a future sale for habitat preservation discussed above. The 6.4-acre future potential easement is identified herein as part of the biological open space, however, if the SDCWA acquires the easement, an exception to the biological open space easement would be made for this area, which is not needed to meet the mitigation requirements of the project. In the event SDCWA proceeds with acquisition of the future potential easement area, SDCWA would be responsible for obtaining any applicable regulatory permits or approvals for any impacts associated with work considered or conducted by SDCWA; any such work is not a part of the proposed project.

An Equestrian Major Use Permit will cover the existing equestrian facility, which occupies 203.6 acres. Within the Equestrian MUP area, a limited use equestrian easement would be placed over the existing pastures such that current uses are retained and all pastures within the easement will remain as pasture. The purpose of the limited use equestrian easement is to ensure the continued existence of equestrian pastures on site such that they cannot be converted to developed lands or otherwise built upon. Ongoing management of the pastures, such as seeding, irrigation, fencing, and mowing, would be allowed. The easement would also allow for the conversion of disturbed habitat and row crops to pasture. The easement would preclude development of the pastures but would allow for restoration of pasture to other habitat types for the benefit of native plant and animal species. Any such restoration would be accomplished in coordination with the County and Wildlife Agencies, and subject to their review and approval. A Pasture Management Plan (PMP) has been prepared (HELIX 2019a) for review and approval by County PDS and the Wildlife Agencies. The PMP depicts the boundaries of both the

- Project Boundary
- Limited Building Zone
- Fuel Modification Zone
- Interim Evacuation Route (Follows Existing Roads)
- Existing Equestrian Improved Areas
- Impact
- Biological Open Space
- Equestrian MUP
- Impact Neutral (Rear Portions of Lots in PA-3)
- Impact Neutral/Utility Easements to Remain
- Remainder Parcel
- Pedestrian Trail Easement (on Existing Dirt Road)

Gird Road
Monserate Hill Road
San Luis Rey River
Dulin Road
South Old Highway 395
76
15
Equestrian M.U.P.
Interim Evacuation Route (Follows Existing Roads)
Planning Area 3
Planning Area 2
Planning Area 1
Pedestrian Trail Easement (on Existing Dirt Road)
Hillside Estate Parcel
Remainder Parcel
HOA Lot DD
Mountain View Road
Ranchos Ladera Road
West Lilac Road
Via Ararat Drive
Via Vera
Redondo Drive
Camino Del Cielo

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0 1,100 Feet

Source: Aerial (SanGIS, 2017)

HELIX Environmental Planning

Project Impacts and Equestrian Major Use Permit Area

Figure 12

Project Boundary
Impact
Impact Neutral
Equestrian MUP
Fuel Modification Zone
Limited Building Zone
Interim Evacuation Route (Follows Existing Roads)
Pedestrian Trail Easement (on Existing Dirt Road)
50-ft Oak Root Protection Zone

Vegetation Communities/Land Use Types**

Southern Cottonwood-willow Riparian Forest (61330)*
Southern Willow Scrub (63320)*
Mule Fat Scrub (63310)*
Freshwater Marsh (52400)
Herbaceous Wetland (52510)*
Open Water/Freshwater Pond (64140)
Tamarisk Scrub (63810)*

*All or most of this vegetation community burned during the December 2017 Lilac Fire.

Coast Live Oak Woodland (71160)*
Diegan Coastal Sage Scrub (32500)*
Diegan Coastal Sage Scrub - Disturbed (32500)*
Coastal Sage-Chaparral Scrub (37G00)*
Flat-topped Buckwheat Scrub (32800)*
Southern Mixed Chaparral (37120)*
Non-native Grassland (42200)*
Pasture (18310)
Row Crops (18320)*
Orchard (18100)*
Fallow Orchard (18100)*
Open Water/AG Pond (64100)
Eucalyptus Woodland (11000)
Non-native Vegetation (79100)*
Disturbed Habitat (11300)
Urban/Developed (12000)

** Numeric codes following the community/habitat type names are from the County's Biological Resources Guidelines (County 2010) and are based on the "Preliminary Descriptions of the Terrestrial Natural Communities of California" (Holland 1996, Oberbauer 2008).

Other

✚ Rock Outcrop

Animals

BAOW Barn Owl (*Tyto alba*)
CAGN Coastal California Gnatcatcher (*Polioptila californica californica*)
CAGO Canada Goose (*Branta canadensis*)
COWH Coastal Western Whiptail (*Aspidoscelis tigris stejnegeri*)
COHA Cooper's Hawk (*Accipiter cooperii*)
GBHE Great Blue Heron *(Ardea herodias)*
GOEA Golden Eagle (*Aquila chrysaetos*)
GRHE Green Heron *(Butorides virescens)*
HOLA California Horned Lark (*Eremophila alpestris actia*)
LBVI Least Bell's Vireo (*Vireo bellii pusillus*)
LOSH Loggerhead Shrike (*Lanius ludovicianus*)
MUDE Mule Deer *(Odocoileus hemionus)*
NOHA Northern Harrier (*Circus cyaneus*)
NWPM Northwestern San Diego Pocket Mouse (*Chaetodipus fallax fallax*)
OSPR Osprey *(Pandion haliaetus)*
RCSP Southern California Rufous-crowned Sparrow (*Aimophila ruficeps canescens*)
RSHA Red-Shouldered Hawk (*Buteo lineatus*)
SNGO Snow Goose (*Chen caerulescens*)
TUVU Turkey Vulture *(Cathartes aura)*
VEFL Vermilion Flycatcher (*Pyrocephalus rubinus*)
WEBL Western Bluebird *(Sialia mexicana)*
WESP Western Spadefoot (*Spea hammondii*)
WFIB White-faced Ibis *(Plegadis chihi)*
WTKI White-tailed Kite (*Elanus leucurus*)
WIFL Willow Flycatcher (*Empidonax traillii*)
YBCH Yellow-breasted Chat (*Icteria virens*)
YEWA Yellow Warbler (*Setophaga petechia*)

Plants

Bc Brewer's Calandrinia (*Calandrinia breweri*)
Cd Delicate Clarkia (*Clarkia delicata*)
Hv Graceful Tarplant (*Holocarpha virgata* ssp. *elongata*)
St Smooth Tarplant *(Centromadia pungens ssp. laevis)*

Ocean Breeze Ranch

Camino del Rey Offsite Impacts

West Lilac Road
Camino del Rey
Scale: 1" = 200'

San Luis Rey River
San Rey Lane
South Old Highway 395
Mountain View Road
Rancho Ladera Road
West Lilac Road
Intérim Evacuation Route (Follows Existing Roads)
Pedestrian Trail Easement (on Existing Dirt Road)
GOEA - flyover
Cd 25
TUVU
Bc 50
Cd
Hv 20
Hv 80
St 585

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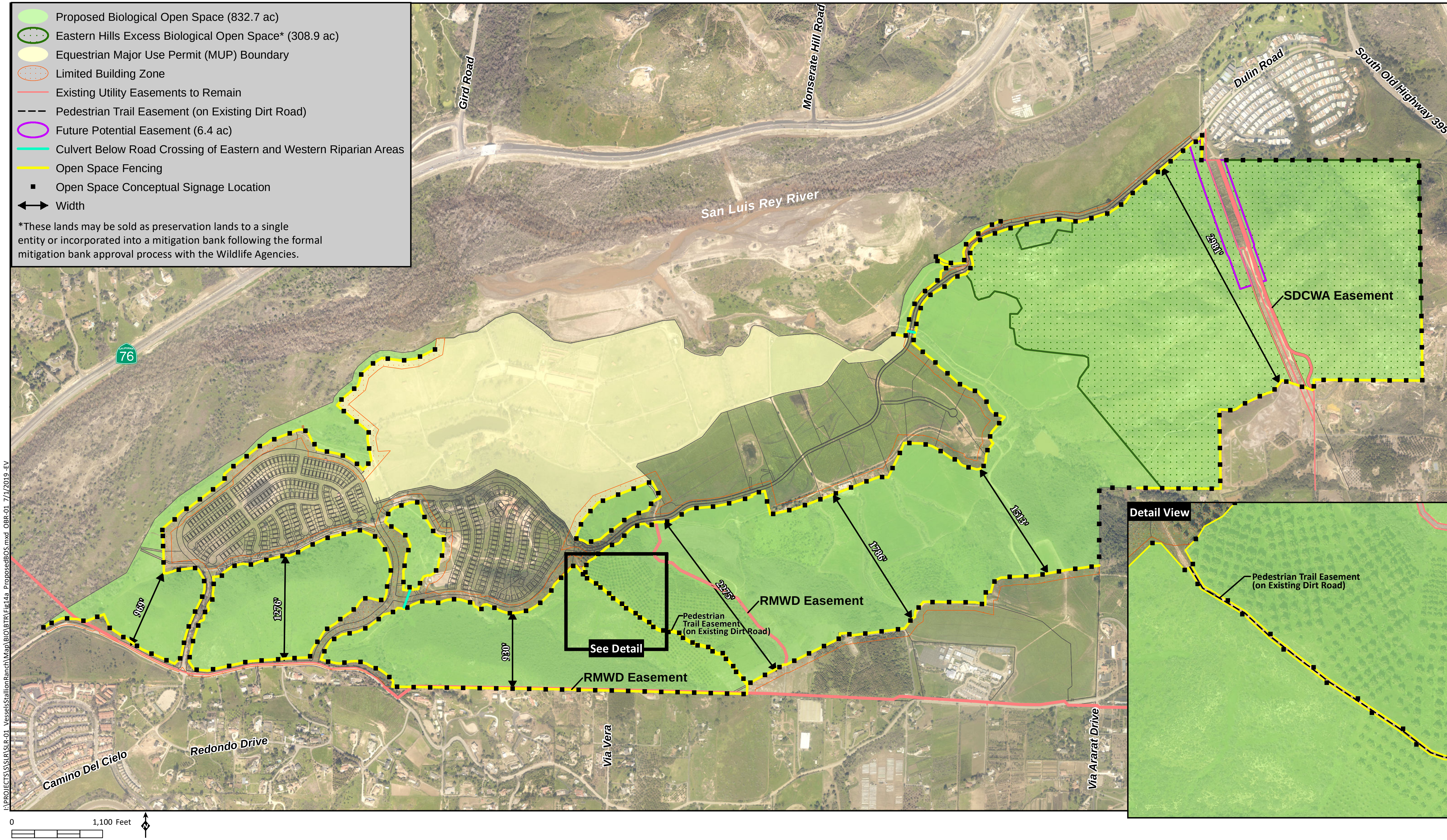
0 1,225 Feet

Source: Aerial (SanGIS, 2014)

HELIX Environmental Planning

Vegetation and Sensitive Resources/Impacts

Figure 13



Proposed Biological Open Space (832.7 ac)
Eastern Hills Excess Biological Open Space* (308.9 ac)
Equestrian Major Use Permit (MUP) Boundary
Limited Building Zone
Existing Utility Easements to Remain
Pedestrian Trail Easement (on Existing Dirt Road)
Future Potential Easement (6.4 ac)
Culvert Below Road Crossing of Eastern and Western Riparian Areas
Open Space Fencing
Open Space Conceptual Signage Location
Width
*These lands may be sold as preservation lands to a single entity or incorporated into a mitigation bank following the formal mitigation bank approval process with the Wildlife Agencies.
Gird Road
Monserrate Hill Road
Dulin Road
South Old Highway 395
San Luis Rey River
76
SDCWA Easement
RMWD Easement
RMWD Easement
Pedestrian Trail Easement (on Existing Dirt Road)
See Detail
Detail View
Pedestrian Trail Easement (on Existing Dirt Road)
969'
1276'
930'
2275'
1786'
1513'
2801'
Camino Del Cielo
Redondo Drive
Via Vera
Via Ararat Drive
0
1,100 Feet
N

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HELIX Environmental Planning

Proposed Biological Open Space

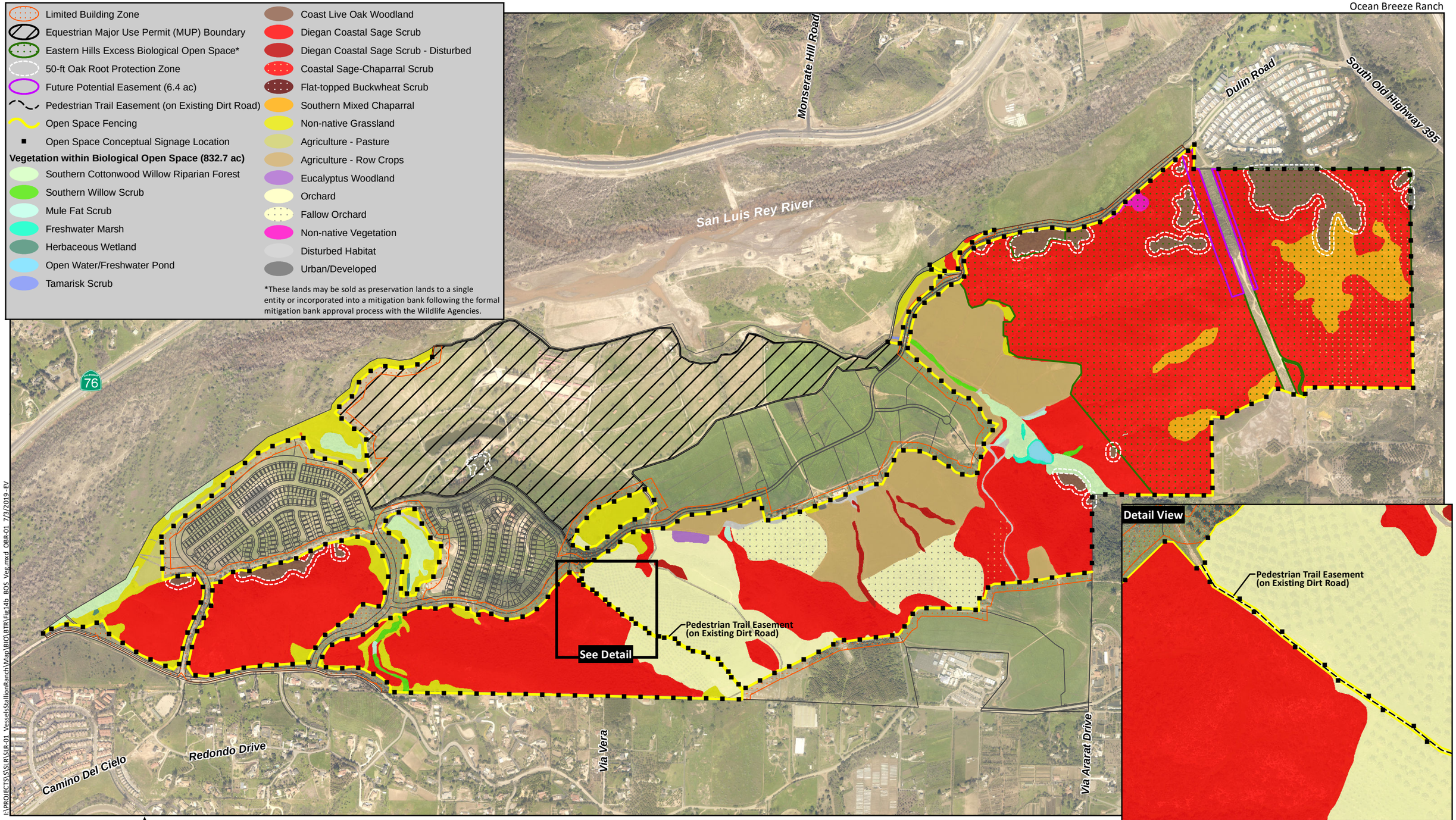
Figure 14a

- Limited Building Zone
- Equestrian Major Use Permit (MUP) Boundary
- Eastern Hills Excess Biological Open Space*
- 50-ft Oak Root Protection Zone
- Future Potential Easement (6.4 ac)
- Pedestrian Trail Easement (on Existing Dirt Road)
- Open Space Fencing
- Open Space Conceptual Signage Location

Vegetation within Biological Open Space (832.7 ac)

- Southern Cottonwood Willow Riparian Forest
- Southern Willow Scrub
- Mule Fat Scrub
- Freshwater Marsh
- Herbaceous Wetland
- Open Water/Freshwater Pond
- Tamarisk Scrub
- Coast Live Oak Woodland
- Diegan Coastal Sage Scrub
- Diegan Coastal Sage Scrub - Disturbed
- Coastal Sage-Chaparral Scrub
- Flat-topped Buckwheat Scrub
- Southern Mixed Chaparral
- Non-native Grassland
- Agriculture - Pasture
- Agriculture - Row Crops
- Eucalyptus Woodland
- Orchard
- Fallow Orchard
- Non-native Vegetation
- Disturbed Habitat
- Urban/Developed

*These lands may be sold as preservation lands to a single entity or incorporated into a mitigation bank following the formal mitigation bank approval process with the Wildlife Agencies.



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HELIX Environmental Planning

Proposed Biological Open Space/Existing Vegetation Communities

Figure 14b

Equestrian MUP and the limited use equestrian easement area that corresponds to existing pastures, and describes management, operations, and administrative tasks, in addition to use restrictions for the pastures. Funding to implement the PMP would be provided by the property owner, and the Ranch Manager would be responsible for implementing the plan, with oversight coordination provided by the Resource Manager responsible for overseeing the management of the biological open space (as implemented through a Resource Management Plan). The PMP is intended to allow for continued use of the pastures by horses and associated management activities, while retaining existing biological values for wildlife that may use these areas (e.g., foraging by birds). The equestrian facility pastures are not part of a biological open space easement; however, there are restrictions on types of uses within the pastures. Allowable and prohibited activities within the pastures are the subject of the PMP so that the pastures retain their compatibility with potential use of these areas by wildlife.

Impact neutral areas also are identified on Figure 12. These include 22.7 acres of former row crops in the rear portions of 6 lots within the northern portion of Planning Area 3, and existing utility easements covering 13.3 acres that will remain in the eastern hills and in the south and southwestern portions of the site, traversing, but not included in the overall acreage of the biological open space. A limited use easement will be placed over the rear portions (i.e., impact neutral portions) of 6 lots in Planning Area 3 such that they would be non-buildable space and equestrian uses could be implemented (e.g., conversion to pasture), thus no development impact would occur.

2.1 SPECIAL STATUS SPECIES

2.1.1 Special Status Plant Species

The project would result in impacts to one special status plant species: graceful tarplant, a County List D species. All other special status plant species observed on site would be conserved in biological open space. Approximately 50 individuals of graceful tarplant would be impacted, with the remaining portion of the population conserved in biological open space.

2.1.2 Special Status Animal Species

The project would result in impacts to suitable breeding or foraging habitat for 21 special status animal species observed or detected on or adjacent to the site, including coastal California gnatcatcher, least Bell's vireo, northern harrier, southern California rufous-crowned sparrow, Cooper's hawk, California horned lark, red-shouldered hawk, vermilion flycatcher, western bluebird, white-tailed kite, loggerhead shrike, white-faced ibis, turkey vulture, barn owl, snow goose, Canada goose, great blue heron, western spadefoot, coastal western whiptail, yellow warbler, and northwestern San Diego pocket mouse.

Federal or State Listed Species

Coastal California Gnatcatcher

Coastal California gnatcatcher is a federally listed threatened, state Species of Special Concern, and County Group 1 species. Gnatcatcher pairs were observed in four locations in the southwestern portion of the site during the 2015 protocol survey, though not all pairs were detected during each of the three surveys. A pair of gnatcatchers also was observed in the eastern hills in early July 2016, and two separate sightings of single male individuals were noted in the eastern hills in March 2017. The project would impact 32.5 acres of Diegan coastal sage scrub, the majority of which is occupied by coastal

California gnatcatcher based on 2015 survey results, as well as impacting 1.4 acres of flat-topped buckwheat scrub. The May 2014 Highway Fire that burned sage scrub habitat in the eastern hills rendered most of this habitat unsuitable for gnatcatchers at the time of the 2015 protocol surveys; thus, 2015 protocol surveys were not conducted in the eastern hills. It is possible that some individuals or pairs relocated from the eastern hills to the western portion of the site following the fire; however, no survey data is available for the eastern hills prior to the 2014 fire and the presence or absence of gnatcatchers in this area prior to the fires is unknown. It is likely, however, that gnatcatchers did utilize portions of the eastern hills prior to the 2014 Highway Fire, given the proximity of gnatcatcher records along I-15, just east of the site, the sighting of one pair of gnatcatchers in the eastern hills in July 2016, and two separate observations of single male individuals at locations in the eastern hills in March 2017. Gnatcatchers in the region could use other scrub-vegetated portions of the site and immediate vicinity for foraging, dispersal, and migration activities. It is noted that nearly all sage scrub on site burned in the 2017 Lilac Fire, thus rendering most of the habitat unsuitable for gnatcatcher occupation until the vegetation sufficiently recovers.

Least Bell's Vireo

Least Bell's vireo is a federally and state listed endangered, County Group 1 species. It was observed on site in riparian forest in the western riparian corridor as well as off site in scattered stands of riparian forest along the site boundary. No vireo breeding sign or activity was observed on site during protocol surveys conducted in 2015 and 2016, or during any other biological survey. The site does not currently support a breeding territory. The project would impact 0.01 acre of southern willow scrub, 0.17 acre of mule fat scrub, and less than 0.01 acre of tamarisk scrub which could be used as foraging habitat by least Bell's vireo. It is noted that riparian habitat on site burned in the 2017 Lilac Fire, thus rendering most of the habitat unsuitable for vireo until the vegetation sufficiently recovers.

California Species of Special Concern and/or County Group 1 Animals

Northern Harrier

Northern harrier is a state Species of Special Concern and County Group 1 animal species. A single individual of this species was observed foraging over fallow row crops in the eastern portion of the site in 2017. The project would impact 37.6 acres of non-native grassland, which is foraging habitat and potential nesting habitat for this species, although nesting pairs were not observed on site. This species was not observed within the proposed impact footprint but could occur in the general vicinity of proposed grassland impacts.

Southern California Rufous-crowned Sparrow

Southern California rufous-crowned sparrow is a CDFW Watch List species and County Group 1 species. The project would impact 332.5 acres of Diegan coastal sage scrub, which is habitat for this species. Although this species was not observed within the proposed impact footprint, it occurs in the general vicinity of proposed impacts to coastal sage scrub in the western portion of the site and could use this area for breeding and/or foraging. The 2017 Lilac Fire burned the majority of sage scrub on site; southern California rufous-crowned sparrows are not expected to reoccupy this habitat until the vegetation sufficiently recovers.

Cooper's Hawk

Cooper's hawk, a County Group 1 and CDFW Watch List species, was observed in the eastern and western riparian corridors. The project would impact 0.4 acre of coast live oak woodland and 0.2 acre of eucalyptus woodland, which are potential nesting and foraging habitats for this species.

Red-Shouldered Hawk

Two red-shouldered hawks, a County Group 1 animal species, were observed perching in trees in the northwestern portion of the site and just off site to the north. Suitable woodland nesting habitat occurs on site for this species, although it was not observed nesting on site. The project would impact 0.4 acre of coast live oak woodland and 0.2 acre of eucalyptus woodland, which are potential nesting and foraging habitats for this species.

Vermilion Flycatcher

Vermilion flycatcher is a County Group 1 animal species that was detected on numerous occasions adjacent to the pastures, where it was observed foraging from perches on tree limbs or fences encircling the pastures. The species was observed nesting on site in 2015 along a tree-lined dirt road adjacent to pasture. Although this species was detected in areas outside the proposed impact footprint, it could forage or breed in habitat to be impacted.

White-tailed Kite

White-tailed kite is a County Group 1, State Fully Protected Species that was detected foraging on site. The project would impact foraging habitat for this species.

Loggerhead Shrike

Loggerhead shrike, a County Group 1, state Species of Special Concern, was observed perched on a single occasion just north of the northern site boundary. The project would impact potential foraging habitat for this species.

White-faced Ibis

White-faced ibis is a County Group 1 animal species that is known to use on-site pastures for foraging. This species has not been observed breeding on site. The project would impact 58.5 acres of pasture, which would reduce foraging habitat for this species.

Turkey Vulture

Turkey vulture is a County Group 1 animal species that has been observed soaring over various portions of the property, with up to two vultures observed at any one time. Two vultures also were observed perched on top of a rock outcrop in the easternmost hills. This species could potentially breed on site, but only in the higher portions of the eastern hills where rock outcrops are present. No other potentially suitable breeding habitat is present on site and no suitable breeding habitat would be impacted by the project. Potential foraging habitat for this species would be impacted by the project.

Yellow Warbler

Yellow warbler is a state Species of Special Concern, County Group 2 animal. This species was observed in riparian forest in several locations on site. No impacts would occur to riparian forest; however, the project would impact southern willow scrub, mule fat scrub, and tamarisk scrub habitats which also could be used by this species.

Northwestern San Diego Pocket Mouse

Northwestern San Diego pocket mouse is a state Species of Special Concern, County Group 2 animal that was observed in the eastern hills, but also may occur in other portions of the site supporting open areas of sage scrub. The project would impact sage scrub habitat which could support this species.

County Group 2 Animals

Coastal Western Whiptail

Coastal western whiptail is a County Group 2 species that was observed in the eastern hills, but also may occur in other portions of the site. The project would impact sage scrub habitat which could support this species.

California Horned Lark

California horned lark is a County Group 2 and CDFW Watch List species. Project impacts would occur to tilled/row crop areas where this species was observed foraging. The project would impact a total of 104.8 acres of existing agriculture/row crops.

Western Bluebird

Western bluebird is a County Group 2 animal species that was observed in multiple locations adjacent to the pastures, wherever trees and fences were present. The project would impact 58.5 acres of pasture where this species is known to forage and may impact trees suitable for nesting.

Barn Owl

Barn owl, a County Group 2 species, was observed roosting in an existing farm building located within the equestrian facility, and potential foraging habitat for this species would be impacted by the project.

Canada Goose and Snow Goose

Canada goose and snow goose, both County Group 2 species, have been observed using the pastures as winter foraging habitat. The project would impact 58.5 acres of pasture.

Great Blue Heron

Great blue heron is a County Group 2 species that has been observed foraging in the pastures, as well as nesting in eucalyptus trees along the north side of the central agricultural pond. No impacts would occur to this pond or adjacent trees. The project would impact 58.5 acres of pasture, which is used as foraging habitat for this species.

Western Spadefoot

Western spadefoot is a County Group 2, state Species of Special Concern. Seven adult individuals were observed along the northern property boundary near the Caltrans mitigation site during focused surveys. Suitable foraging and aestivation habitat is present along the northern project boundary and western tip of the site. Species may occasionally aestivate in row crop areas adjacent to the eastern riparian corridor during fallow (non-plowed) years. Western spadefoot could breed in limited locations on site, including a single small ephemeral depression at the junction of two dirt roads and row crops, agricultural ponds, and in the eastern riparian corridor stream course. However, no breeding was detected on site during focused surveys. Impacts to potential breeding habitat for western spadefoot include the road crossing over the eastern riparian corridor, and filling of the westernmost agricultural pond. However, the likelihood of spadefoot breeding in the agricultural pond is considered low since it is a permanently inundated feature that supports species that prey on spadefoot (e.g., bullfrogs and wading birds), in addition to other potential predators. The project would also impact row crops to the west of the eastern riparian corridor that could be used as aestivation habitat by spadefoot toads during fallow years.

2.2 RIPARIAN HABITAT OR SENSITIVE NATURAL COMMUNITY

The project would result in impacts to a total of 72.1 acres of riparian habitat or other sensitive natural communities, composed of 71.6 acres on site and 0.5 acre off site. Combined on- and off-site impacts to riparian habitat or other sensitive natural communities include 0.01 acre of southern willow scrub, 0.17 acre of mule fat scrub, less than 0.01 acre tamarisk scrub, 0.4 acre of coast live oak woodland, 32.5 acres of Diegan coastal sage scrub (including disturbed), 1.4 acres of flat-topped buckwheat scrub, and 37.6 acres of non-native grassland (Table 7). Impacts to these habitats would require mitigation. Table 7 provides a summary of project impacts to vegetation communities/habitat types, including sensitive habitat.

The proposed IER through the equestrian facility would overlap with existing disturbed habitat/roads and would not impact sensitive habitat. Additionally, the proposed trail easement connecting the east end of Planning Area 1 southeast through biological open space to HOA Open Space Lot DD is entirely within disturbed lands associated with an existing dirt road adjacent to former avocado orchard and would not impact sensitive habitat.

As discussed in Section 2.0, a total of 36.0 acres of impact neutral areas are identified on the project site, consisting of existing utility easements that cross biological open space and are to remain on site (13.3 acres), as well as the rear portions of 6 lots in Planning Area 3 (22.7 acres) where limited use easements would be recorded to preclude development and allow for conversion of former row crops to pasture.

Table 7
PROJECT IMPACTS TO VEGETATION COMMUNITIES/HABITAT TYPES[1]

Vegetation Community[2]	Existing On-site	On-site Impacts[3]		Off-site Impacts		Total Impacts
		Inside PAMA[4]	Outside PAMA	Inside PAMA	Outside PAMA	
Sensitive Vegetation Communities/Habitat Types						
Southern Cottonwood-willow Riparian Forest (61330)[5]	18.18	0	0	0	0	**0**
Southern Willow Scrub (63320)[5]	3.03	0.01	0	0	0	**0.01**
Mule Fat Scrub (63310)[5]	1.30	0.17	0	0	0	**0.17**
Freshwater Marsh (52400)	0.98	0	0	0	0	**0**
Herbaceous Wetland (52510)[5]	0.24	0	0	0	0	**0**
Freshwater Pond/Open Water (64140)	1.16	0	0	0	0	**0**
Tamarisk Scrub (63810)[5]	0.09	<0.01	0	0	0	**<0.01**
Coast Live Oak Woodland (71160)[5]	29.2	0.4	0	0	0	**0.4**[6]
Diegan Coastal Sage Scrub – including disturbed (32500)[5]	509.2	32.0	0.4	0.1	0	**32.5**
Flat-topped Buckwheat Scrub (32800)[5]	1.4	1.4	0	0	0	**1.4**
Coastal Sage-chaparral Scrub (37G00)[5]	31.5	0	0	0	0	**0**
Southern Mixed Chaparral (37120)[5]	31.8	0	0	0	0	**0**
Non-Native Grassland (42200)[5]	104.2	36.2	1.0	0.4	0	**37.6**
Subtotal Sensitive Communities	**732.3**	**70.2**	**1.4**	**0.5**	**0**	**72.1**
Non-sensitive Vegetation Communities/Habitat Types						
Extensive Agriculture: Pasture (18310)[7]	178.3	58.5	0	0	0	**58.5**
Extensive Agriculture: Row Crops (18320)[5]	265.9	71.8	33.0	0	0	**104.8**
Agricultural Pond/Open Water (64100)	8.0	4.1	0	0	0	**4.1**
Eucalyptus Woodland (79100)	1.8	0.2	0	0	0	**0.2**
Orchard (18100)[5]	102.8	6.7	25.2	0	0	**31.9**
Fallow Orchard (18100)[5]	32.1	0	0.3	0	0	**0.3**
Non-native Vegetation (79100)[5]	1.3	0.1	0	0	0	**0.1**
Disturbed Habitat (11300)	49.6	18.9	7.7	0.5	0	**27.1**
Developed Land (12000)	30.3	26.0	2.3	0.4	0.8	**29.5**
Subtotal Non-sensitive Communities	**670.2**	**186.3**	**68.5**	**0.9**	**0.8**	**256.5**
TOTAL	**1,402.5**	**256.5**	**69.9**	**1.4**	**0.8**	**328.6**

1 Upland habitats are rounded to the nearest 0.1 acre, while wetland habitats are rounded to the nearest 0.01; thus, total reflects rounding.
2 Vegetation categories and numerical codes are from Holland (1986) and Oberbauer (2008).
3 Includes proposed residential development impacts and 19.4-acre improved area of the equestrian facility.
4 A total of 1,176.9 acres of Pre-Approved Mitigation Area (PAMA) occurs on site.
5 All or most of this vegetation community burned during the December 2017 Lilac Fire.
6 Direct impacts to oak woodland totals 0.4 acre. An additional 2.2 acres of oak root zone also would be impacted, composed of 0.2 acre of Diegan coastal sage scrub, 0.9 acre of non-native grassland, 0.1 acre of pasture, 0.4 acre of disturbed habitat, and 0.6 acre of developed land. These impact acreages are incorporated into the respective vegetation communities in this table. Impacts to oak root zone are mitigated at 3:1 with oak woodland. See MM BIO-6b in Section 4.4 and Footnote 6 in Table 13.
7 Although not considered a sensitive habitat, impacts to pasture require mitigation for raptor foraging.

Project impacts described above and in Table 7 also include impacts to the oak root protection zone of stands of coast live oak woodland on site. The oak root protection zone is a County-defined zone extending 50-ft outward from stands of oak woodland. Any impacts within this 50-ft zone are treated as

impacts to coast live oak woodland and require 3:1 oak woodland habitat mitigation. The project would impact 2.2 acres of oak root zone outside of directly impacted oak woodland, including 0.2 acre of Diegan coastal sage scrub, 0.9 acre of non-native grassland, 0.1 acre of pasture, 0.4 acre of disturbed habitat, and 0.6 acre of developed land (Figure 14c).

An analysis was completed for project impacts on coast live oak woodland, coastal sage scrub, and non-native grassland compared to those reported for the region in the Draft NC MSCP Plan area. The analysis gives regional context to the project in light of data considered for the Draft NC MSCP Plan, including data related to proposed PAMA designations and conservation targets. Tables 8 and 9 below summarize the results of the analysis.

Table 8
HABITAT REPORTED WITHIN DRAFT NORTH COUNTY MSCP PLAN

Vegetation Community/ Habitat Type	Total Acres in Plan Area	Total Acres in PAMA	Total Percentage in PAMA	Total Expected Conservation Percentage in Plan Area	Expected Conservation Acres in PAMA	Expected Conservation Percentage in PAMA
Coast Live Oak Woodland (71160)	12,684	9,580	76%	78%	7,431	59%
Diegan Coastal Sage Scrub (32500)	29,888	23,463	79%	62%	18,439	79%
Non-native Grassland (42200)	22,355	14,841	66%	48%	10,817	73%

PAMA = Pre-Approved Mitigation Area

Table 9
PROJECT HABITAT COMPARISON TO DRAFT NORTH COUNTY MSCP PLAN

Vegetation Community/ Habitat Type	Existing Project Acres	Existing as Percentage of Total Acres in Plan Area	Existing as Percentage of Total Acres in PAMA	Existing as Percentage of Expected Conservation Acres in Plan Area	Project Impact Acres	Impacts as Percentage of Total Acres in Plan Area	Impacts as Percentage of Total Acres in PAMA	Impacts as Percentage of Expected Conservation in Plan Area
Coast Live Oak Woodland (71160)	29.2	0.23%	0.30%	0.39%	0.4	<0.003	0.004	0.01
Diegan Coastal Sage Scrub (32500)	510.6[1]	1.70%	2.17%	2.76%	33.9[1]	0.11	0.14	0.18
Non-native Grassland (42200)	104.2	0.47%	0.70%	0.96%	37.6	0.17	0.25	0.35

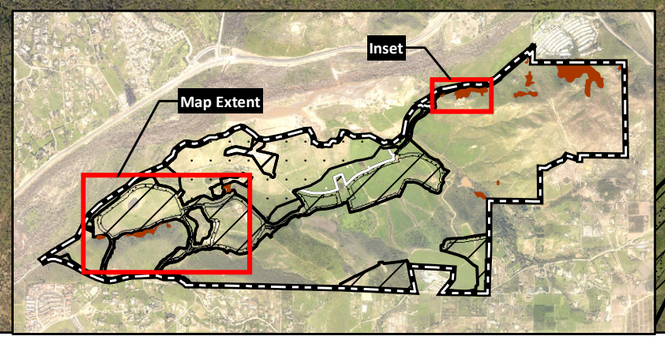
[1]Includes 1.4 acres of flat-topped buckwheat scrub.
PAMA = Pre-Approved Mitigation Area

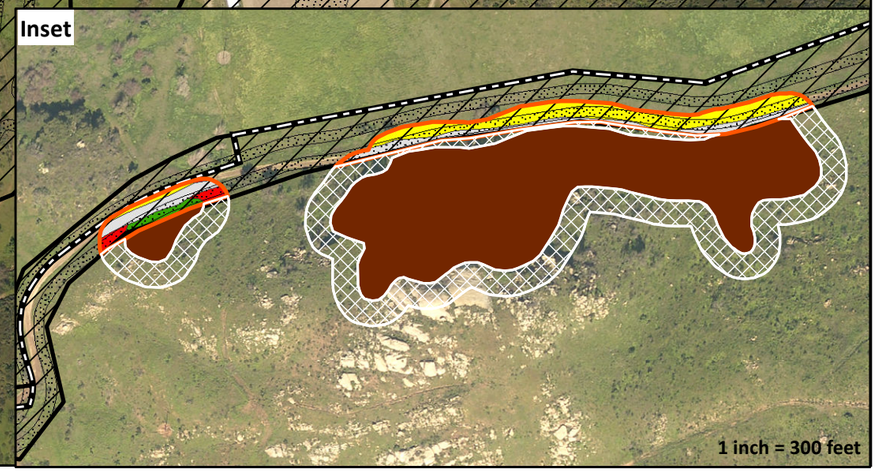
Ocean Breeze Ranch

- Project Boundary
- Impact
- Equestrian MUP
- Fuel Modification Zone
- 50-ft Oak Root Protection Zone
- Impacts to Oak Root Protection Zone
- Conserved Coast Live Oak Woodland

Oak Root Zone Impacts by Vegetation Community

- Coast Live Oak Woodland (0.4 ac)
- Diegan Coastal Sage Scrub (0.2 ac)
- Non-native Grassland (0.9 ac)
- Pasture (0.1 ac)
- Disturbed Habitat (0.4 ac)
- Developed (0.6 ac)





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0 300 Feet

Source: Aerial (SanGIS, 2017)

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Oak Root Zone Impacts and 50-foot Root Protection Zone

Figure 14c

In summary, project impacts to coast live oak woodland represent:

- Less than 0.01 percent of the total regional coast live oak woodland identified in the Draft NC MSCP Plan area;
- Less than 0.01 percent of the total coast live oak woodland identified in areas proposed for PAMA and therefore targeted for conservation in the Draft NC MSCP Plan area; and
- Less than 0.01 percent of the total coast live oak woodland expected to be conserved within the Draft NC MSCP Plan area.

In summary, project impacts to Diegan coastal sage scrub represent:

- 0.11 percent of the total regional Diegan coastal sage scrub identified in the Draft NC MSCP Plan area;
- 0.14 percent of the total Diegan coastal sage scrub identified in areas proposed for PAMA and therefore targeted for conservation in the Draft NC MSCP Plan area; and
- 0.18 percent of the total Diegan coastal sage scrub expected to be conserved within the Draft NC MSCP Plan area.

In summary, project impacts to non-native grassland represent:

- 0.17 percent of the total regional non-native grassland identified in the Draft NC MSCP Plan area;
- 0.25 percent of the total non-native grassland identified in areas proposed for PAMA and therefore targeted for conservation in the Draft NC MSCP Plan area; and
- 0.35 percent of the total non-native grassland expected to be conserved within the Draft NC MSCP Plan area.

As demonstrated, the project impacts on coast live oak woodland, Diegan coastal sage scrub (including 1.4 acres of flat-topped buckwheat scrub), and non-native grassland are small compared to the amount of existing regional habitat reported within the Draft NC MSCP Plan area, including the total expected and targeted for conservation. Overall, the project would impact 256.5 acres of the 1,176.9 acres of PAMA on site, comprising 22 percent of PAMA mapped within the project site.

As discussed in Section 1.4.1 of this report, on-site PAMA is identified in the Draft NC MSCP Plan as part of the Lower San Luis Rey River Linkage. While the project would impact a total of 257.9 acres of land identified as PAMA (256.5 acres on site and 1.4 acres off site), 187.2 acres of impacts within PAMA are to non-sensitive vegetation communities (Table 7), representing nearly three quarters (73 percent) of the project impacts within PAMA. Most of the land supporting sensitive vegetation communities within on-site portions of the linkage would be conserved by the project and placed in biological open space. The proposed project supports the conservation goals and objectives for the Lower San Luis Rey River Linkage by minimizing impacts to sage scrub; providing for conservation of potential foraging and aestivation habitat for arroyo toad and western spadefoot; maintaining and restoring riparian habitat near the San Luis Rey River; incorporating long-term management of biological open space, and

maintaining connectivity for wildlife movement between the project site, San Luis Rey River, and hills offsite to the east near I-15. Further discussion of the project's consistency with the conservation planning goals of the Draft NC MSCP and cumulative effects on PAMA lands is presented in Sections 7.2.2 and 7.3.

2.3 JURISDICTIONAL WETLANDS AND WATERWAYS

As mentioned above, unavoidable impacts would occur to riparian and wetland habitat in order to accommodate necessary road crossings. These areas support jurisdictional waters and wetlands. Impacts to jurisdictional waters and wetlands would require compensatory mitigation through a combination of on- or off-site creation, restoration, enhancement, and/or purchase of credits at an approved wetland mitigation bank.

The project would impact 0.20 acre of non-wetland waters of the U.S. (Figure 15), 0.40 acre of wetlands and waters under CDFW jurisdiction (Figure 16), and 0.19 acre of County RPO wetland (Figure 17a). Table 10 provides a summary of project impacts to jurisdictional wetlands and waterways.

Table 10
IMPACTS TO JURISDICTIONAL WETLANDS AND WATERWAYS (acre[s])[1]

Habitat	Waters of U.S.	CDFW	County RPO
Wetlands/Riparian			
Southern Willow Scrub	0	0.01	0.01
Mule Fat Scrub	0	0.17	0.17
Tamarisk Scrub	0	< 0.01	< 0.01
Subtotal	**0**	**0.19**	**0.19**
Non-wetland Waters			
Non-wetland waters of the U.S./ Streambed	0.20	0.21	0
TOTAL	**0.20**	**0.40**	**0.19**

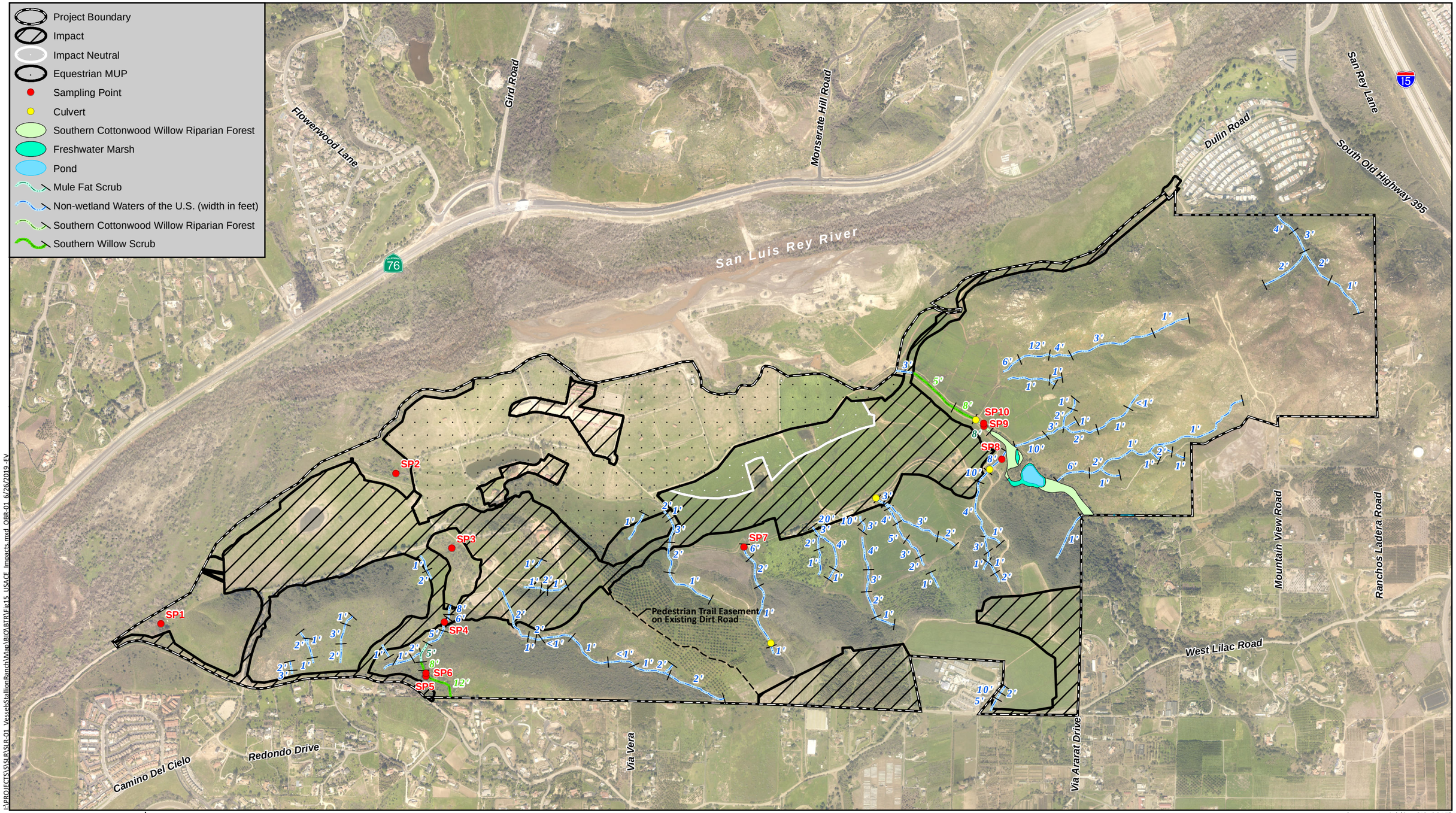
[1]Areas are presented in acre(s) rounded to the nearest 0.01.

Wetland crossings, by their nature, do not have wetland buffers adjacent to the crossing (since the impact crosses through the wetland). Apart from the areas immediately adjacent to the road crossings, the project provides minimum 50- to 100-ft buffers around all RPO wetlands (Figures 17b and 17c), and the conserved wetlands and their buffers are completely contained within the limits of proposed biological open space. Additional discussion of RPO wetland buffers is provided in Section 4.2.2.E.

2.4 WILDLIFE MOVEMENT AND NURSERY SITES

The site is bordered to the north by the San Luis Rey River, which is the major wildlife movement corridor in the project vicinity, particularly for east-west movement. Wildlife can move freely along the river for several miles, as well as having access to adjacent uplands along portions of the corridor, including onto the Ocean Breeze Ranch project site. East-west wildlife movement functions would be maintained on site through conservation of a large block of land beginning in the eastern hills, moving west across the eastern riparian corridor, and continuing westward across the slopes through the central and southern portions of the site to the western tip of the site. This wide swath of on-site biological open space ranges in north-south width from over 900 ft to approximately 3,000 ft and extends across the site for nearly three miles, connecting to conserved lands along the San Luis Rey

Ocean Breeze Ranch



0 1,200 Feet

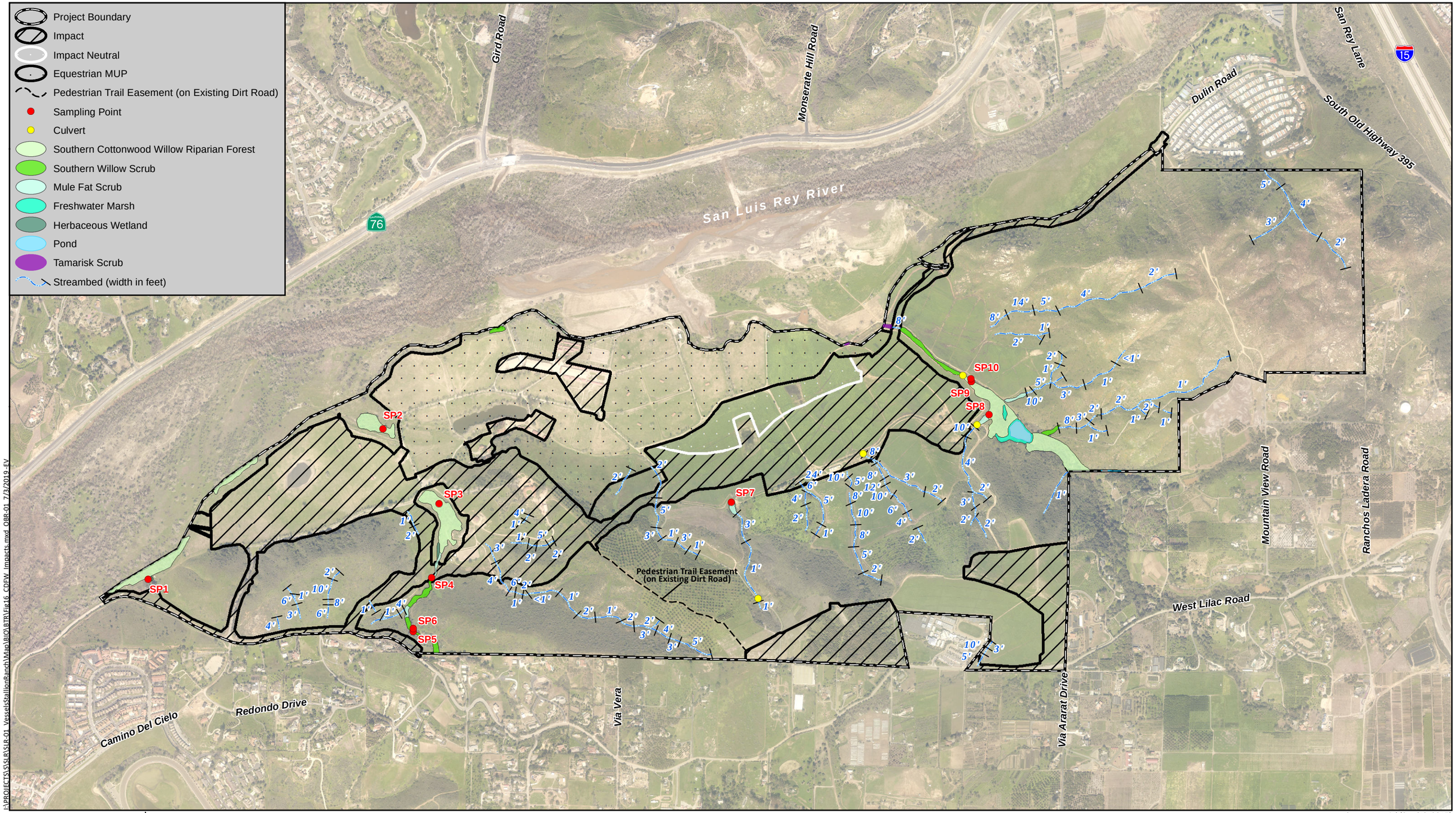
Source: Aerial (SanGIS, 2017)

I:\PROJECTS\SAS\RSLR-01_VesselStallionRanch\Map\BIO\ETR\Fig15_USACE_Impacts.mxd OBR-01 6/26/2019 -EV

HELIX Environmental Planning

USACE Jurisdiction/Waters of the U.S./Impacts

Figure 15



0 1,200 Feet

Source: Aerial (SanGIS, 2017)

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HELIX Environmental Planning

CDFW Jurisdiction/Impacts

Figure 16

Ocean Breeze Ranch

- Project Boundary
- Impact
- Impact Neutral
- Equestrian MUP
- Limited Building Zone
- # RPO Wetland ID

Wetland

- Southern Cottonwood Willow Riparian Forest
- Southern Willow Scrub
- Mule Fat Scrub
- Freshwater Marsh
- Herbaceous Wetland
- Pond
- Tamarisk Scrub

RPO Wetland Buffer Width

- 50' Buffer
- 75' Buffer
- 100' Buffer

Flowerwood Lane
Gird Road
Monserate Hill Road
San Luis Rey River
San Rey Lane
Dulin Road
South Old Highway 395
Pedestrian Trail Easement on Existing Dirt Road
Mountain View Road
Rancho Ladera Road
West Lilac Road
Via Vera
Via Ararat Drive
Redondo Drive
Camino Del Cielo

0 1,200 Feet

Source: Aerial (SanGIS, 2017)

I:\PROJECTS\SSLR\SSLR-01_VesselsStallionRanch\Maps\BIO\BTR\Fig17a_CountyRPO_Wetlands_Impacts.mxd OBR-01 7/3/2019 EV

HELIX Environmental Planning

County RPO Wetlands/Impacts

Figure 17a

Ocean Breeze Ranch

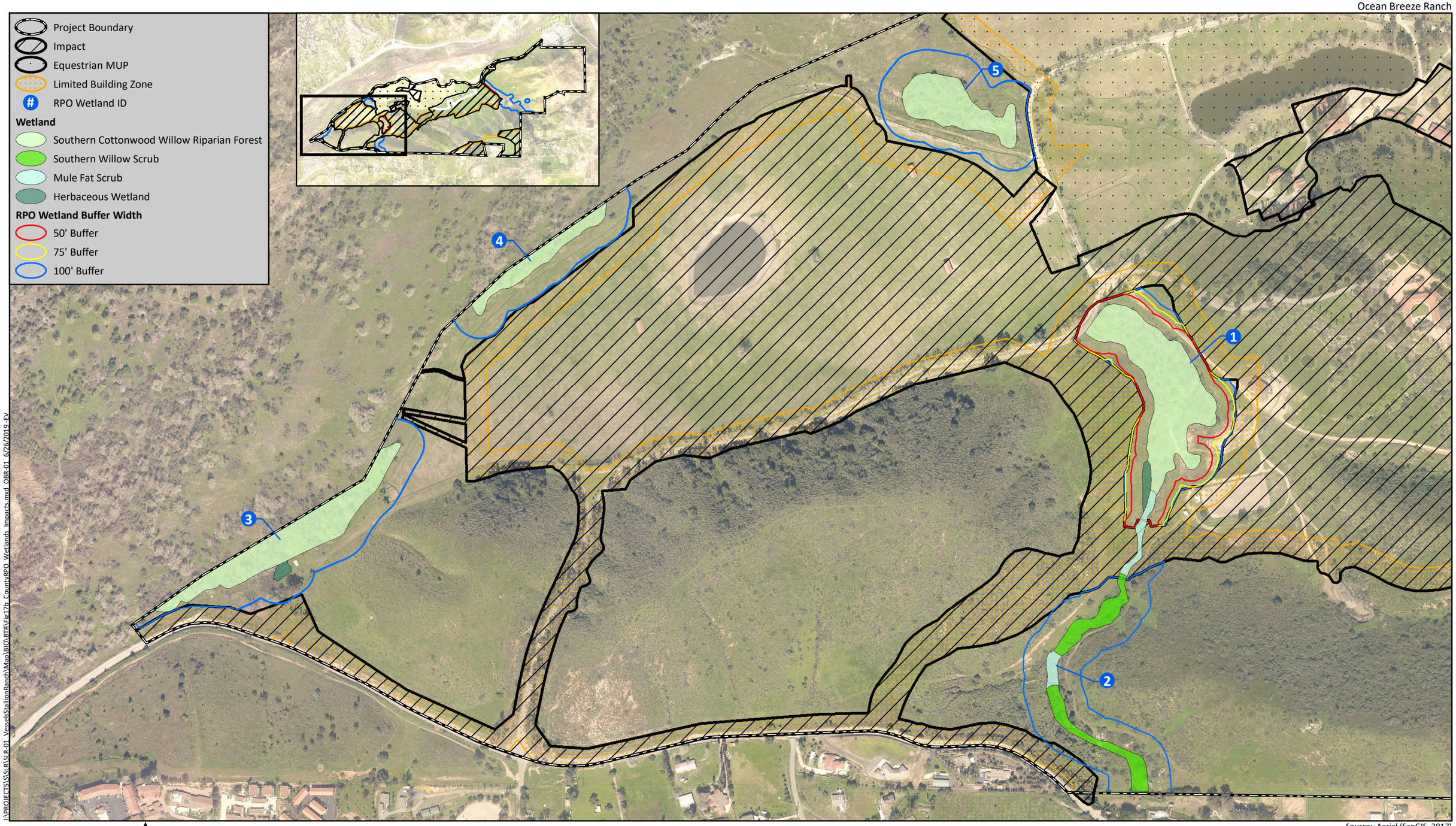
- Project Boundary
- Impact
- Equestrian MUP
- Limited Building Zone
- # RPO Wetland ID

Wetland

- Southern Cottonwood Willow Riparian Forest
- Southern Willow Scrub
- Mule Fat Scrub
- Herbaceous Wetland

RPO Wetland Buffer Width

- 50' Buffer
- 75' Buffer
- 100' Buffer



0 400 Feet

N

Source: Aerial (SanGIS, 2017)

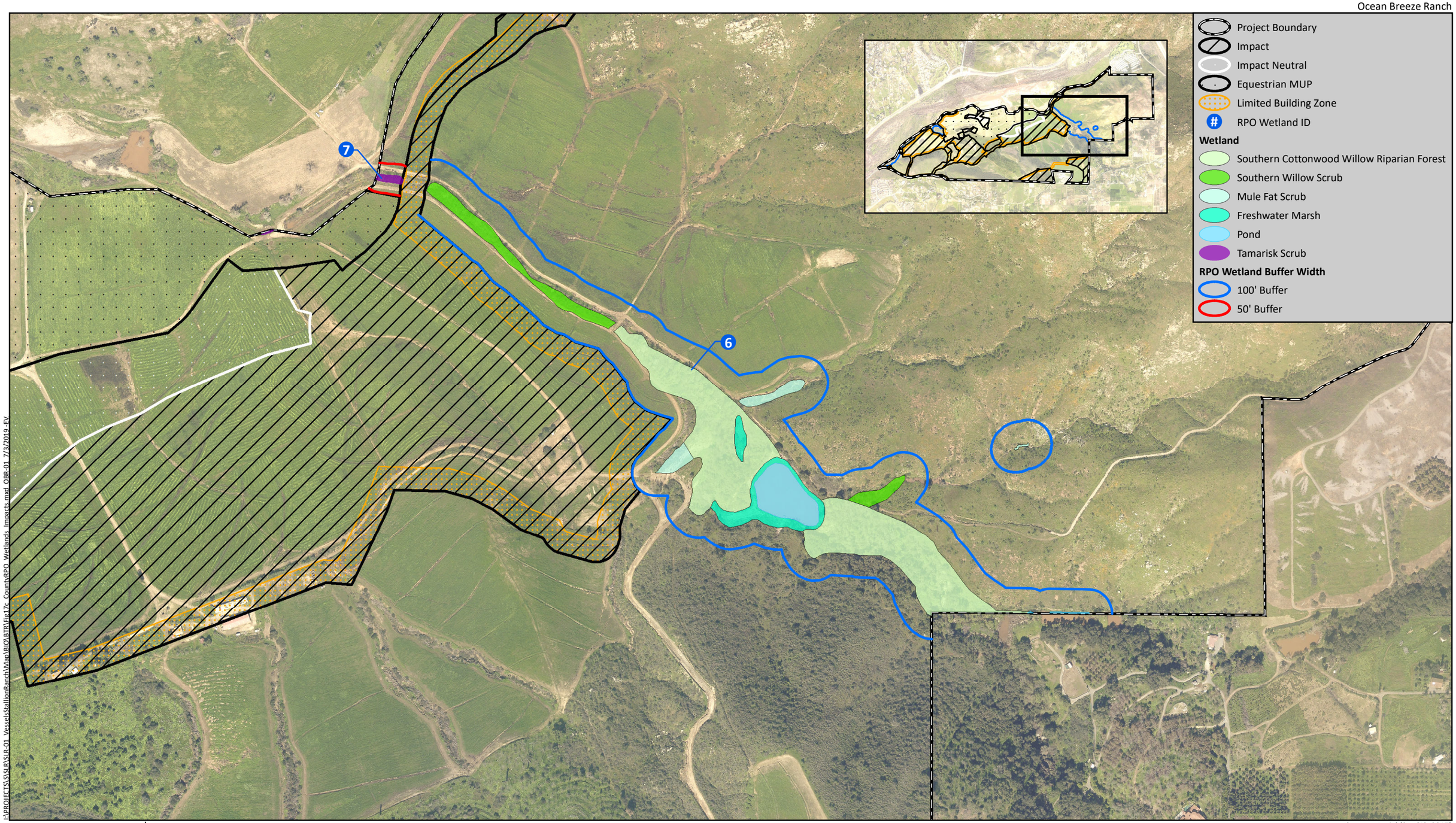
I:\PROJECTS\SRS\R-01 Vessels\StallionRanch\Map\BIO\BTR\Fig17b_CountyRPO_Wetlands_Impacts.mxd OBR-01 6/26/2019 EV

HELIX Environmental Planning

County RPO Wetlands/Impacts

Figure 17b

Ocean Breeze Ranch



0 400 Feet

Source: Aerial (SanGIS, 2017)

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HELIX Environmental Planning

County RPO Wetlands/Impacts

Figure 17c

River in both the western and eastern portions of the site (Figure 14a). Two small interruptions in the continuity of this area would occur in the western portion of the site from improvements to an existing paved access road into the property near the western tip of the property (Vessels Ranch Road), and a proposed access road that would be constructed east of the existing road. Vessels Ranch Road is an existing paved road that enters the western end of the site from West Lilac Road, between two sage scrub-covered hills. The project would widen this existing access road from its current average width of 27 ft to 40 ft. The second (i.e., new) access road is proposed to enter the site from West Lilac Road, approximately 1,900 ft east of the existing Vessels Ranch Road entrance. Both roads would consist of two 12-ft lanes with 8-ft shoulders. The new access road would initially skirt the west side of the western riparian corridor, following a low saddle between adjacent hills, and split north towards Planning Area 2 and east along the southern edge of Planning Area 1 toward Planning Area 3, crossing the narrowest portion of the western riparian corridor. The western riparian corridor ends abruptly at the existing paved ranch access road, north of which are maintained horse pastures, thus the area is restricted in both size and continuity and does not provide a continuous corridor for wildlife movement north across the site. These access roads and associated development would somewhat constrain but not preclude wildlife movement in the western portion of the site. Existing lines-of-sight are maintained across the westernmost entrance road (Vessels Ranch Road) and along most of the newly proposed entrance road with the exception of the area nearest to West Lilac Road. This portion of the road will be built up to connect with existing grades along West Lilac Road. Although this western portion of the site would be crossed by two roads, one of which already exists but would be improved by the project, wildlife movement is not expected to be substantially constrained as (1) topography adjacent to the existing entrance road already constrains wildlife movement due to the steep slopes that abut much of the road on both sides, and improvements to the road will not change this, (2) primary east-west movement of higher mobility, wider-ranging species in the project vicinity is likely to be concentrated along the existing nearby San Luis River, (3) the most likely higher mobility species to move through the western hills is the coyote, a very common, adaptable species that will cross roadways, (4) lands to the south of the project site are developed so there is no movement corridor from the western hills south across West Lilac Road, thus movement would be primarily to/from the San Luis Rey River corridor to which direct connections would remain, and (5) the roads are internal access roads for the residential development and equestrian facility and would have an associated reduced speed limit thus reducing risk of road mortality, and not be so wide or heavily-trafficked as to prevent animals from moving across them. Further, the primary species of concern in this area is coastal California gnatcatcher, which is known to fly across roads and would not be constrained by them. In addition to roads in the western portion of the site, the project would widen the on-site portion of existing Dulin Road, which parallels the toe of slope of the northern flank of the eastern hills in the northeastern portion of the site. This narrow, single lane road would be widened to meet County code; however, it would be a very low traffic volume road as ingress/egress along this private road would be restricted to the handful of large lots proposed in the eastern/central portion of the site on lands currently used for row crops. Thus, biological connectivity between the San Luis Rey River and the hills to the south near I-15 would be maintained.

Construction of Planning Area 2 in the westernmost pasture would not substantially constrain terrestrial wildlife movement in a direct north-south route in the western portion of the site between the San Luis Rey River (off site to the north) and to the southern range of onsite hills. Movement of most medium-sized mammals, such as bobcat, in this portion of the site, is most likely to follow areas with sufficient vegetative cover, which is not provided by the pastures. The project would preserve this type of existing connection in the westernmost portion of the site where sage scrub-covered hills slope north and westward and join with riparian habitat contiguous to the San Luis Rey River corridor, forming a

connection over 1,000 ft wide; as well as in the eastern hills, which slope northward and connect to the river's floodplain. The pastures are likely to be crossed primarily by the commonly occurring, suburban-adapted coyote, which has been observed on site multiple times in various locations, including in the wide open, exposed, irrigated and maintained pasture areas. In addition to the pastures not providing sufficient cover to be used as a general wildlife movement corridor, there is a steep, north-facing slope directly south of Planning Area 2 which is not conducive to wildlife movement due to the existing topography of the slope, further reducing the potential of this westernmost pasture to be used by wildlife for connectivity between on-and off-site habitats. Birds are the primary wildlife species observed within the pastures, and, given their ability to fly, project construction and associated roads that cross through biological open space would not result in a barrier to their movement between pastures and biological open space, or to offsite lands along the river. In addition, the project would avoid the majority of existing pastures and maintain the equestrian uses that currently exist in these areas, thus maintaining foraging areas for many avian species. Coyotes are occasionally observed within the pastures; however, project construction would not substantially interfere with movement of this highly mobile and adaptable species. In terms of amphibians, apart from the non-native, invasive American bullfrog (*Rana catesbeiana*), no other amphibians have been observed in the pastures and maintained pastures are not key habitats for native amphibians on site. Amphibians that inhabit the western riparian corridor, e.g., Pacific treefrog (*Pseudacris regilla*), are not expected to travel northward into pasture areas as these areas do not provide suitable habitat, thus proposed development would not result in a barrier to movement for this species. Further, culverts would be placed below the road crossings through the eastern and western riparian corridors, allowing for movement of amphibians (and other animals) below the roadway. Thus, potential movement paths of amphibians from the eastern riparian corridor toward the offsite Caltrans mitigation site to the north would be maintained, as well as maintaining connectivity within the existing reach of western riparian corridor. Since there is no existing connection of suitable amphibian habitat from the western riparian corridor northward across the site to the San Luis Rey River, no impacts to amphibian movement would result from proposed project construction in this area. General wildlife movement routes would be maintained by the project, and, for the reasons stated above, conversion of the westernmost pasture to developed land would not substantially impact connectivity for wildlife.

2.5 INDIRECT IMPACTS

Potential significant indirect impacts may occur as a result of project implementation, as described further below.

Noise

Construction-related noise from such sources as clearing, grubbing, and grading would be a temporary impact to wildlife. Breeding birds and mammals may temporarily or permanently leave their territories to avoid disturbances from construction activities, which could lead to reduced reproductive success and increased mortality. Potential short-term noise impacts could result from construction for the proposed project. Noise effects would be considered potentially significant if construction noise levels exceed a level of 60 dBA L_{EQ} hourly average or ambient (whichever is greater) adjacent to nesting sensitive bird species, including raptors.

Human Access

Increases in human activity in the area could result in degradation of open space habitat and associated indirect impacts on sensitive species through the creation of unauthorized trails and removal of vegetation. The project would construct a pedestrian trail through proposed biological open space, connecting the east end of Planning Area 1 with HOA Open Space Lot DD (Figures 14a and 14b). While this trail would be constructed within disturbed lands associated with an existing dirt road and not result in any direct impacts to sensitive vegetation communities or sensitive species, indirect impacts could occur from unauthorized access into adjacent areas that would be conserved in biological open space. In addition, illegal dumping of lawn and garden clippings, trash, and other refuse could occur. Resulting habitat degradation and effects on sensitive species in open space areas could result in a significant impact.

Domestic Predators

The project is residential in nature, so domestic predators (e.g., dogs and cats) may be introduced to the surrounding habitat; such introductions have potential to harm native wildlife species. The site is adjacent to existing rural residential development and is already subject to some level of disturbance and predation by domestic animals from adjacent lands, as well as from those residing on the ranch.

Implementation of the proposed project would result in increased potential for encounters between domestic predators and native wildlife. Free-roaming cats are known to injure and/or kill native wildlife, and are of particular threat to small animals, including lizards, birds, and small rodents. This could result in a potentially significant impact, particularly if listed species such as coastal California gnatcatcher, are adversely affected. Although free-roaming cats have the potential to impact native wildlife on site, the robust population of coyotes that occupies the site and nearby areas would likely keep free-roaming cats in check. Further, a homeowner education program will be established that will notify residents of the dangers that free-roaming cats pose to wildlife.

Off-leash dogs can also be a nuisance to wildlife, resulting in changes in wildlife behavior such as alteration in patterns of habitat utilization. The project proposes a pedestrian trail through the biological open space, connecting the east end of Planning Area 1 with HOA Open Space Lot DD (Figures 14a and 14b). While this trail would be constructed within disturbed lands associated with an existing dirt road and not result in any direct impacts to sensitive vegetation communities, indirect impacts to sensitive species could occur if off-leash dogs were allowed on the trail. Off-leash dogs on the trail could result in a significant impact to sensitive wildlife if they were to leave the trail and encroach into habitat areas. However, signage would be posted on the trail prohibiting off-leash dogs, and homeowner education would include reminders that off-leash dogs are not allowed on the trail. The trail would also be fenced on either side,[3] which would further discourage off-leash dogs from leaving the trail. Leashed dogs are anticipated to be allowed on the completed trail, and leashed dogs are not expected to have a significant impact on wildlife since they would be restricted to the established trail. In addition to prohibiting unleashed dogs on the trail, the HOA will also have rules to control off-leash dogs in public areas on site.

[3] Fencing would consist of 3-strand wire or similar fencing that allows for wildlife passage.

Exotic Plant Species

Non-native plants could colonize areas disturbed by construction and development and could potentially spread into adjacent native habitats. Many non-native plants are highly invasive and can displace native vegetation (reducing native species diversity), potentially increase flammability and fire frequency, change ground and surface water levels, and potentially adversely affect native wildlife dependent on native plant species.

Lighting

Night lighting that extends from a developed area onto adjacent wildlife habitat can discourage nocturnal wildlife in habitat and can provide nocturnal predators with an unnatural advantage over their prey, resulting in a potentially significant impact.

Errant Construction Impacts

Errant construction impacts to sensitive vegetation communities outside the approved project impact footprint would result in a potentially significant impact.

Hydrology

Project development could affect hydrology through changes in runoff patterns and contribution of pollutants such as from roadway runoff and application of fertilizers and pesticides.

Increased Fire Risk

Project development could increase the risk of human-induced fires that could affect native habitats and the species dependent upon them.

3.0 SPECIAL STATUS SPECIES

3.1 GUIDELINES FOR DETERMINING SIGNIFICANCE

Would the project have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the USFWS or CDFW?

Any of the following conditions would be considered significant if:

A. The project would impact one or more individuals of a species listed as federally or state endangered or threatened.

B. The project would impact an on-site population of a County List A or B plant species, or a County Group 1 animal species, or a species listed as a state Species of Special Concern.

C. The project would impact the local long-term survival of a County List C or D plant species or a County Group 2 animal species.

D. The project may impact arroyo toad aestivation, foraging, or breeding habitat.

E. The project would impact golden eagle habitat.

F. The project would result in a loss of functional foraging habitat for raptors.

G. The project would impact the viability of a core wildlife area, defined as a large block of habitat (typically 500 acres or more not limited to project boundaries, though smaller areas with particularly valuable resources may also be considered a core wildlife area) that supports a viable population of a sensitive wildlife species or supports multiple wildlife species.

H. The project would cause indirect impacts, particularly at the edge of proposed development adjacent to proposed or existing open space or other natural habitat areas, to levels that would likely harm sensitive species over the long term.

I. The project would impact occupied burrowing owl habitat.

J. The project would impact occupied cactus wren habitat, or formerly occupied coastal cactus wren habitat that has been burned by wildfire.

K. The project would impact occupied Hermes copper butterfly habitat.

L. The project would impact nesting success of the following sensitive bird species through grading, clearing, fire fuel modification, and/or other noise generating activities such as construction:

- Coastal cactus wren
- Coastal California gnatcatcher
- Least Bell's vireo
- Southwestern willow flycatcher
- Tree-nesting raptors
- Ground-nesting raptors
- Golden eagle
- Light-footed clapper rail

3.2 ANALYSIS OF PROJECT EFFECTS

3.2.1 Significant Impacts

The proposed project would result in significant impacts under above guidelines 3.1.A, 3.1.B, 3.1.D, 3.1.F, and 3.1.L for the following reasons:

A. The project would impact one or more individuals of a species listed as federally or state endangered or threatened.

The project would result in significant impacts to the federal listed threatened coastal California gnatcatcher, and potentially significant impacts to the federal and state listed endangered least Bell's vireo, further discussed below.

Coastal California Gnatcatcher

The project would impact 32.5 acres of Diegan coastal sage scrub, the majority of which is occupied by coastal California gnatcatcher, in addition to impacting 1.4 acres of flat-topped buckwheat scrub. Gnatcatcher pairs were observed in four locations in the southwestern portion of the site during the 2015 protocol survey, though not all pairs were detected during each of the three surveys. Two fledglings also were observed in one location in the southwestern hills during the 2015 survey. A pair of gnatcatchers also was observed in the eastern hills in early July 2016, and two separate sightings of single male individuals were noted in the eastern hills in March 2017. The project would impact one location where breeding gnatcatchers were detected, in the southwestern portion of the site. Impacts to breeding gnatcatchers and occupied habitat would be significant.

Least Bell's Vireo

The project would impact 0.01 acre of southern willow scrub, 0.17 acre of mule fat scrub, and less than 0.01 acre of tamarisk scrub, which could be used by least Bell's vireo. Least Bell's vireo was observed on site in the western riparian corridor as well as off site in scattered stands of riparian forest along the site boundary. No vireo breeding sign or activity was observed on site during protocol surveys conducted in 2015 and 2016, or during any other biological survey. The site does not currently support a breeding territory and would not be expected to support a significant population of vireos. Direct impacts of the project are anticipated to be limited to loss of vireo foraging habitat. Vireos are known to breed along the San Luis Rey River, north of the site, which supports higher quality, more extensive habitat for this species, which could breed at off-site locations within 500 ft of the site. Direct impacts to vireo foraging habitat and indirect impacts to nesting vireos within 500 ft of construction areas would be significant.

Non-significant Impacts under County Guideline 3.1.A

The project would not result in significant impacts to willow flycatcher, as further discussed below.

Willow Flycatcher

A single individual of the state listed endangered willow flycatcher was detected in the eastern riparian corridor during protocol surveys. This individual was observed only once, on a single day near the beginning of the survey season. As no further detections of willow flycatcher were made during protocol surveys or other biological surveys, and searches of CNDDB and USFWS database records for this species were negative for the project vicinity and adjacent reach of river, it was determined that this individual was very likely to be one of the two migratory subspecies of willow flycatcher (i.e., ssp. *brewsterii* or *adastus*) that do not breed in southern California, but that may pass through during migration, as the timing of the observation aligns with the migration period for these subspecies. Further, the survey report with negative findings for southwestern willow flycatcher (ssp. *extimus*) was submitted to USFWS for review and was accepted. Southwestern willow flycatcher is the only species of willow flycatcher that breeds in southern California; if the recorded individual was a southwestern willow flycatcher breeding on site, it would have been detected at other times during the survey. This species was not detected on or adjacent to the project site and no significant impact would occur.

B. The project would impact an on-site population of a County List A or B plant species, or a County Group 1 animal species, or a species listed as a state Species of Special Concern.[4]

No impacts would occur to County List A or B plant species. Project impacts to the following County Group 1 animal species and/or state Species of Special Concern are potentially significant: coastal California gnatcatcher, least Bell's vireo, Cooper's hawk, loggerhead shrike, northern harrier, northwestern San Diego pocket mouse, red-shouldered hawk, southern California rufous-crowned sparrow, turkey vulture, vermilion flycatcher, western spadefoot, white-faced ibis, and white-tailed kite. Coastal California gnatcatcher and least Bell's vireo are discussed above in Section 3.2.1.A. since they are listed species, while the other species are discussed below.

Cooper's Hawk

Cooper's hawk, a County Group 1 and CDFW Watch List species, was observed in the eastern and western riparian corridors. Riparian forest/woodland habitat would not be impacted by the project. This species also may use the small areas of eucalyptus woodland that occur on site for nesting, although no nests have been observed to date. The project would impact 32.5 acres of potential foraging habitats, including 0.4 acre of oak woodland, 0.2 acre of eucalyptus woodland, and 31.9 acres of orchard, which together comprise 21 percent of potential on-site foraging habitat. Impacts to 32.5 acres of potential foraging habitat are considered significant. Additionally, if project implementation were to result in direct impacts to nesting Cooper's hawk and/or indirect impacts to Cooper's hawk nesting within 300 ft of construction areas, such impacts would be significant.

Loggerhead Shrike

Loggerhead shrike, a County Group 1, state Species of Special concern, was observed on a single occasion outside the project impact area along the northern site boundary. Potential impacts consist of loss of potential foraging habitat (grassland, sage scrub, coastal sage-chaparral scrub, chaparral, and pasture), comprising 128.1 acres on site, or 15 percent of on-site foraging habitat, and resulting in a potentially significant impact.

Northern Harrier

One northern harrier, a County Group 1 and state Species of Special Concern, was observed in the eastern portion of the site, foraging over fallow agricultural fields. Although the project would not impact habitat where this species was observed foraging, impacts to other areas of the site with suitable foraging habitat (e.g., pasture and non-native grassland) would occur. Non-native grassland on site could also be used for nesting by this species. Impacts to foraging habitat are potentially significant and any direct impacts to nesting northern harrier and/or indirect impacts to northern harrier nesting within 300 ft of construction areas also would be significant.

[4] Per County Guidelines (2010), impacts to County List A or B plant species, a County Group 1 animal species, or a state SSC species are significant except in cases were impacts would occur to less than 5 percent of the individual plants or of the sensitive animal species' habitat on a project site and the project would not result in a substantial adverse effect on the local long-term survival of that plant or animal taxon.

Northwestern San Diego Pocket Mouse

Northwestern San Diego pocket mouse, a state Species of Special Concern and County Group 2 species, was detected in a single location on site, in the eastern hills outside the impact footprint. The project would impact 33.8 acres of potentially suitable on-site habitat for this species (sage scrub, buckwheat scrub, coastal sage-chaparral scrub), which accounts for 6 percent of these combined habitats on site, resulting in a potentially significant impact.

Red-Shouldered Hawk

Two red-shouldered hawks, a County Group 1 animal species, were observed perching in trees in the northwestern portion of the site and just off site to the north. Suitable woodland nesting habitat occurs on site for this species, although it was not observed nesting on site. More extensive stands of suitable nesting habitat are present off site to the north along the San Luis Rey River. This species could nest on or near project impact areas. It may also forage over the site. Potential foraging habitats include riparian forest, oak woodland, eucalyptus woodland, and orchard. The project would impact 32.5 acres of potential foraging habitats, including 0.4 acre of oak woodland, 0.2 acre of eucalyptus woodland, and 31.9 acres of orchard, which together comprise 21 percent of potential on-site foraging habitat. Impacts to 32.5 acres of potential foraging habitat are considered significant. Additionally, if project implementation were to result in direct impacts to nesting red-shouldered hawk and/or indirect impacts to red-shouldered hawk nesting within 300 ft of construction areas, such impacts would be significant.

Southern California Rufous-crowned Sparrow

Southern California rufous-crowned sparrow is a CDFW Watch List species and County Group 1 species. Although this species was not observed within the proposed impact footprint, it occurs in the general vicinity of proposed impacts to coastal sage scrub in the western portion of the site and could use this area for breeding and/or foraging. Potential impacts consist of loss of potential foraging and breeding habitat (Diegan coastal sage scrub), comprising 32.4 acres on site, or 6 percent of on-site habitat; resulting in a potentially significant impact.

Turkey Vulture

Turkey vulture is a County Group 1 animal species that has been observed soaring over portions of the property, with up to two vultures observed at any one time. Two vultures also were observed perched on top of a rock outcrop in the easternmost hills. This species could potentially breed on site, but only in the higher portions of the eastern hills where rock outcrops are present. No other potentially suitable breeding habitat is present on site and no suitable breeding habitat would be impacted by the project. Much of the site (1,122.6 acres) contains potential foraging habitat for this species (sage scrub, buckwheat scrub, coastal sage-chaparral scrub, non-native grassland, pasture, fallow row crops and fallow orchard), of which greater than 5 percent (234.5 acres [21 percent]) would be impacted by the project. These impacts are potentially significant.

Vermilion Flycatcher

Vermilion flycatcher is a County Group 1 animal species that was detected on numerous occasions adjacent to the pastures, where it was observed foraging from perches on tree limbs or fences encircling the pastures. This species was observed breeding on site in 2015. Although this species was detected in

areas outside the proposed impact footprint, it could forage or breed in habitat to be impacted. However, the majority of pasture and tree-lined roads adjacent to the pastures would be retained, and large expanses of suitable breeding and foraging habitat also are present in the river floodplain north of the site. This species is very rare within San Diego County and any impacts to breeding individuals would be considered significant.

Western Spadefoot

Western spadefoot, a state Species of Special Concern and County Group 2 species, was detected just offsite along the northern project boundary, near the Caltrans mitigation site. Seven adult toads were detected. No breeding was documented on site; however, potential breeding habitat is present, and a large breeding population occurs offsite to the north of the project site on Caltrans mitigation lands. Suitable foraging and aestivation habitat also is present in select areas on site. The project would impact potential breeding habitat for western spadefoot, consisting of the proposed road crossing over the eastern riparian corridor and filling of the westernmost agricultural pond. However, the likelihood of spadefoot breeding in the agricultural pond is considered low since it is a permanently inundated feature that supports bullfrogs, wading birds, and other potential predators. This impact is not considered significant. The proposed road crossing over the eastern riparian corridor would utilize box culverts, thus maintaining the ability for toads to move safely between upstream and downstream areas. No significant impact would occur. The project also would impact row crops to the west of the eastern riparian corridor that could be used as aestivation habitat by spadefoot toads during fallow years; these impacts are potentially significant. Indirect impacts to the offsite population of toads could result from sedimentation within breeding habitat during construction, road kill, barriers to movement, and alterations to hydrology. Such impacts are potentially significant.

White-faced Ibis

White-faced ibis is a County Group 1 animal species that is known to use on-site pastures for foraging. This species has not been observed breeding on site and the only potentially suitable breeding habitat is in freshwater marsh around the pond in the eastern riparian corridor. No impacts would occur to the pond or adjacent areas. The project would impact 58.5 acres of pasture, which would reduce foraging habitat for this species and accounts for greater than 5 percent of on-site foraging habitat for this species. This impact is potentially significant.

White-tailed Kite

White-tailed kite is a County Group 1, state Fully Protected species that was detected foraging on site. Ample foraging opportunities for the white-tailed kite will remain on the project site following project implementation, in addition to foraging opportunities off site in the local area. White-tailed kite also could nest in the vicinity of project impact areas. Indirect impacts to white-tailed kite nesting within 300 ft of construction areas would be significant.

Project impacts to County Group 1 species coastal California gnatcatcher and least Bell's vireo are addressed above within Section 3.2.A.

Non-significant impacts under County Guideline 3.1.B

No County Group A or B plant species would be impacted by the project; thus no significant impact would occur. The project would not result in significant impacts to the following County Group 1 animal

species and/or species listed as a state Species of Special Concern: golden eagle, osprey, yellow-breasted chat, and yellow warbler, as further described below.

Golden Eagle

Golden eagle is a County Group 1, State Fully Protected species, and a federal Bird of Conservation Concern. Two juvenile golden eagles were observed on a single occasion flying over the extreme northeastern portion of the site. The nearest known nest location is over 3.5 miles northeast of the project site. The project would not result in impacts to this species, as further discussed below under Section 3.2.E.

Osprey

Osprey, a County Group 1 species and CDFW Watch List species, was observed on a single occasion outside the project impact area and is unlikely to be nesting on site. The only area of potential foraging habitat on site is the easternmost pond within the eastern riparian corridor, as people have reportedly fished in this pond in the past, thus a prey supply may be present for osprey. No impacts would occur to the eastern pond and no significant impact would occur to this species.

Yellow-breasted Chat

Yellow breasted chat is a state Species of Special Concern and County Group 1 species that was detected in the southeastern stand of southern cottonwood-willow riparian forest on site. Mature riparian woodland and forest is typical habitat for this species, no impacts to mature riparian woodland or forest would occur, thus, no significant impact would occur.

Yellow Warbler

Yellow warbler is a state Species of Special Concern and County Group 2 species that was detected in stands of southern cottonwood-willow riparian forest on site. The site contains 22.6 acres of potentially suitable habitat (riparian forest, southern willow scrub, mule fat scrub, and tamarisk scrub), of which less than one percent would be impacted (0.19 ac). These impacts would not affect the local long-term survival of this species, which is widespread in the region and commonly observed in riparian areas. No significant impact would occur.

D. The project may impact arroyo toad aestivation, foraging, or breeding habitat.

The project site does not contain suitable breeding habitat for arroyo toad; however, potentially suitable aestivation and foraging habitat is present. Annual arroyo toad focused surveys and/or monitoring activities have been conducted within the San Luis Rey flood-prone area immediately north of the project site since 2006. The species has not been documented along the San Luis Rey River west of I-15 since 2011, at which time only two toads were observed (AECOM 2011 and 2015). Potential causes are the lack of suitable breeding habitat within the San Luis Rey River adjacent to the project site based on increased tree canopy over the river, dense freshwater marsh conditions, and a prevalence of invasive predatory species. Although it is possible that toads may repopulate the reach of the San Luis Rey River west of I-15 in the future, it is currently unlikely that a self-sustaining population of arroyo toads persists in this region.

Primary constituent elements (PCEs) for this species include (a) rivers or streams that are capable of providing sufficient flowing water, of suitable quality, to provide space, food, and cover needed to sustain eggs, tadpoles, metamorphosing juveniles, and adult breeding toads; (b) gently sloping stream gradients that contain sandy or fine gravel substrates that support formation of shallow pools and sparsely vegetated sand or gravel bars for breeding and rearing of tadpoles and juvenile toads; (c) upland habitat, particularly alluvial terraces and adjacent valley bottomlands, that include areas of loose soil with dependable substrate moisture where toads can burrow underground; and (d) stream channels and upland areas where toads can migrate to overwintering sites, disperse between populations, or recolonize areas that contain suitable habitat. The project site contains no suitable breeding habitat for this species, thus, the first two PCEs listed are not present. The site does not provide stream channels and suitable upland areas for migrating to overwintering sites or for population dispersal or recolonization, thus the fourth PCE is not met. The site contains some areas that could be used as aestivation burrow sites; therefore, the third PCE is potentially present and is further discussed below.

Three small areas of riparian forest along the northwestern property boundary support potential arroyo toad aestivation habitat. These areas would be avoided by the project and placed into biological open space. Existing irrigated pastures that would be impacted by the project are unlikely to be used by arroyo toads for aestivation, as these areas are regularly mowed and maintained for equestrian use; they do not provide the habitat structure and components of typical arroyo toad aestivation habitat; they are located between 1,200 and 1,800 ft from the San Luis Rey river channel; and the intervening mosaic of riparian scrub/forest and grassland habitat occurring between the pastures and the river channel provides higher quality potential aestivation habitat than irrigated pasture, in addition to being within the flood-prone area. Habitat utilization studies conducted from 1999 to 2006 (Ramirez 2007 from USFWS 2014) found the majority of arroyo toads that were tracked burrowed immediately adjacent to the active channel or on sandy terraces within riparian habitat located within flood-prone areas, although toads were also found to use upland habitats up to 1,063 ft from the active channel. Adults and sub-adult arroyo toads spend much of their lives in riparian and upland habitats adjacent to breeding locations (Campbell, et al. 1996 from USFWS 2014), which in the project vicinity are located almost entirely off site, or within proposed biological open space. Thus, although it is possible that arroyo toad (if this species was to repopulate the adjacent reach of the river in the future) could forage on or temporarily burrow into irrigated pasture lands on site, these areas are not the preferred habitat for the species and are not located near the active channel. The project site does not contain habitat critical to the survival of this species; no breeding habitat is present on site, and the adjacent reach of river is currently considered unoccupied by this species. Nevertheless, there is potential for arroyo toad to re-occupy the adjacent reach of river and mitigation efforts for Caltrans' SR 76 project are underway north of the project site for this species. Although project impacts to this species are not anticipated given the lack of observations of this species in the area for several years, any impacts to a breeding subpopulation that reestablishes in the adjacent reach of river would be considered significant. Potential project impacts are limited to foraging and aestivation, as suitable breeding habitat is not present on site.

F. The project would result in a loss of functional foraging habitat for raptors.

The project site supports foraging habitat for raptors known to the local area, including common species such as red-tailed hawk, and sensitive species such as barn owl, Cooper's hawk, northern harrier, red-shouldered hawk, and white-tailed kite. The project would result in the loss of grassland and pasture that provide foraging habitat for these raptors. Impacts would be significant.

L. The project could impact nesting success of coastal California gnatcatcher, least Bell's vireo, and tree-nesting raptors through grading, clearing, fire fuel modification, and/or other noise generating activities such as construction.

Project construction could impact the nesting success of coastal California gnatcatcher, least Bell's vireo, and tree-nesting raptors, all of which have the potential to nest on and/or within 300 ft of construction impact areas. Noise from such sources as clearing, grading, and blasting could result in an impact to wildlife. Noise-related impacts would be considered significant if sensitive species (such as coastal California gnatcatcher, least Bell's vireo, and raptors) were displaced from their nests and failed to breed. Raptors or other sensitive bird species nesting within any area impacted by noise exceeding 60 dBA or ambient could be significantly impacted. If coastal California gnatcatcher, least Bell's vireo, or tree-nesting raptors are nesting within 300 ft of the impact area, effects resulting from construction noise would be significant.

3.2.2 No Impact or Less than Significant Impacts

The project would not result in significant impacts under Guidelines 3.1.C, 3.1.E, 3.1.G, 3.1.H, 3.1.I, 3.1.J, and 3.1.K for the following reasons:

C. The project would not impact the local long-term survival of a County List C or D plant species or a County Group 2 animal species.

The following List D plant would be impacted by project: graceful tarplant, further discussed below.

Graceful Tarplant

The project would impact a location where approximately 80 individuals of graceful tarplant were observed. The local long-term survival of this species would not be impacted, as this relatively widespread species is known to occur elsewhere in the project vicinity (e.g., on MCB Camp Pendleton), and also was detected in another location on site outside of the project footprint. No significant impact would occur.

No other County Group C or D plant species would be impacted by the project.

The following County Group 2 animal species have been detected on or adjacent to the site but their local long-term survival would not be impacted: coastal western whiptail, barn owl, California horned lark, Canada goose, snow goose, great blue heron, green heron, western bluebird, western spadefoot, yellow warbler, northwestern San Diego pocket mouse, and southern mule deer. These species are further discussed below, except for state Species of Special Concern northwestern San Diego pocket mouse, western spadefoot, and yellow warbler, which are discussed above within Section 3.2.B.

Coastal Western Whiptail

Coastal western whiptail, a County Group 2 species, was located outside the impact footprint and adequate conservation of on-site suitable habitat for this species would occur. No significant impact would occur.

Barn Owl

Barn owl, a County Group 2 species, was observed roosting in an existing farm building located within the equestrian facility. No impacts would occur to this location. Ample foraging opportunities for the barn owl will remain on site following project development, in addition to foraging opportunities off site in the local area. The project would not affect the local long-term survival of this species, which is relatively widespread in suburban and rural environments. No significant impact would occur.

California Horned Lark

California horned lark is a County Group 2 and CDFW Watch List species. Project impacts would occur to tilled/row crop areas where this species was observed foraging. The project site does not contain a regionally significant population of horned lark and project impacts would not affect the local long-term survival of this species. No significant impact would occur.

Canada Goose and Snow Goose

Canada goose and snow goose, both a County Group 2 species, were located outside the impact footprint, but could forage in pasture areas proposed to be impacted. However, the project would avoid the majority of pasture present on site; thus, adequate foraging habitat for this species would be retained. No significant impact would occur.

Green Heron and Great Blue Heron

The project would also result in less than significant impacts to green heron and great blue heron, both County Group 2 animals that have the potential to temporarily forage within riparian areas and near the agricultural ponds. Great blue heron also has been observed foraging in on-site pasture. The site would not be expected to support a rookery site or significant population of these two herons, as suitable nesting habitat is limited on site. Additional habitat occurs throughout the off-site San Luis Rey River corridor and other aquatic habitats in the region. Impacts to riparian habitat would be minimal (only for road crossings) and the locations of the two nesting pairs of great blue herons around the central agricultural pond would not be impacted, and foraging habitat would continue to exist under post-project conditions. Therefore, the project would not affect the long-term survival of these two heron species and no significant impact would occur.

Western Bluebird

Western bluebird is a County Group 2 animal species that was observed in multiple locations adjacent to the pastures, wherever trees and fences were present. The project would impact pasture habitat where this species is known to forage and may impact trees suitable for nesting. Numerous individuals of this species were observed on site and the loss of potential nesting and foraging habitat within a portion of the site is not expected to affect the local long-term survival of this widespread species, as significant areas of potential nesting and foraging habitat would remain. No significant impact would occur.

Southern Mule Deer

Southern mule deer, a County Group 2 species, was detected outside the project impact area in the far western portion of the site on a single occasion in 2013, via observation of dried scat. No other

detections of this species occurred during multiple field surveys conducted between 2013 and 2016 and the species is not considered to occupy the site. As such, no significant impact would occur.

E. The project would not impact golden eagle habitat.

The nearest known golden eagle nest is approximately 3.5 miles to the east of the project site on Gregory Mountain. The project would not result in alteration of habitat within 4,000 ft of the nest site. While there was an April 2016 sighting of two golden eagles flying over the far northeastern portion of the project site, the site itself does not support suitable nesting habitat. Portions of the site could be used by golden eagles for foraging, although given the ongoing agricultural and equestrian operations in much of the northern and central portions of the site, the fairly remote eastern hills are the most likely area on site to be used by foraging eagles. Impacts would not occur to this area of the site. Therefore, no impacts would occur to golden eagle or its habitat.

G. The project would not impact the viability of a core wildlife area, defined as a large block of habitat (typically 500 acres or more not limited to project boundaries, though smaller areas with particularly valuable resources may also be considered a core wildlife area) that supports a viable population of a sensitive wildlife species or supports multiple wildlife species.

The site is part of a core wildlife area of 500 acres of wildlife habitat or more and has been known to support viable populations of coastal California gnatcatcher in addition to multiple other wildlife species. Project impacts are limited to 326.4 acres (23 percent) of the 1,402.5-acre project site, plus 2.2 acres off site, for a total impact area of 328.6 acres. Impacts are concentrated in previously disturbed areas of the site to the greatest extent feasible. Impacts to sensitive habitat, including annual grassland, comprise only 72.1 acres (22 percent) of the 328.6 acres of proposed on- and off-site impacts. The project would conserve 832.7 acres in biological open space, including 467.8 acres of Diegan coastal sage scrub, 28.1 acres of coast live oak woodland, 31.5 acres of coastal sage-chaparral scrub, 24.35 acres of wetland and riparian habitat, 42.7 acres of non-native grassland, and other native and naturalized habitats. This wide swath of proposed biological open space supports rare plants such as smooth tarplant, Brewer's calandrinia, delicate clarkia, and graceful tarplant, as well as providing functioning foraging, dispersal and migration habitat for several special status animals.

The project would allow for the continued viability of the core wildlife area by conserving the majority of existing habitat in biological open space and supporting connectivity across the site and to offsite lands along the river as well as to undeveloped lands along the I-15 corridor. Existing Diegan coastal sage scrub and other sage scrub habitats would be largely conserved on site, thus continuing to contribute to live-in and dispersal habitat for coastal California gnatcatcher. Several special status wildlife species may transit through the project site to offsite lands along the San Luis Rey river corridor, or from the river onto the project site, including barn owl, coastal California gnatcatcher, Cooper's hawk, least Bell's vireo, loggerhead shrike, northern harrier, red-shouldered hawk, vermilion flycatcher, western bluebird, western spadefoot, yellow-breasted chat, and yellow warbler. Project implementation would not substantially interfere with the ability of avian species to fly to offsite lands along the river. Raptors, loggerhead shrike, vermilion flycatcher, and western bluebird would continue to be able to fly over the pastures and use existing trees and fences lining the pastures as perches. Riparian bird species such as least Bell's vireo, yellow-breasted chat, and yellow warbler are likely to follow existing riparian connections in the eastern portion of the site offsite to the river, as well as flying short distances between stands of disjunct riparian habitat on site to reach more extensive habitat offsite along the river. Coastal California gnatcatcher will continue to have direct connection to offsite habitat adjacent to

the eastern hills, as well as connections at either end of the site that interface with offsite habitat along the river. Western spadefoot will continue to have available connection between the eastern riparian corridor and offsite land to the north along the river. Although a road crossing is proposed in this area, the crossing will be constructed with box culverts suitable in size and configuration to facilitate movement of toads below the roadway. The proposed biological open space provides adequate space and resources for wildlife known to use the site, maintains connectivity to off-site resources, and functions to facilitate bird and mammal movement through the area, including for species targeted for conservation in the region, such as the gnatcatcher. Therefore, the project would not significantly impact the viability of a core wildlife area.

H. The project would not cause indirect impacts, particularly at the edge of proposed development adjacent to proposed or existing open space or other natural habitat areas, to levels that would likely harm sensitive species over the long term.

Potentially significant indirect impacts to sensitive species resulting from human access, domestic animals, exotic plant species, and lighting would be avoided through the following project design features: (1) permanent fencing shall be installed around biological open space where it abuts existing or proposed development, in addition to either side of the proposed trail easement between Planning Area 1 and HOA Open Space Lot DD, as well as in locations where human intrusion would not be precluded by physical factors such as steep topography or dense vegetation; (2) signs prohibiting access shall be posted along the perimeters of biological open space, including along areas where fencing is not installed; (3) off-leash pets would not be allowed on trails or public areas and signs would be posted along trails notifying pet owners of this regulation, including along the trail easement crossing biological open space between Planning Area 1 and HOA Open Space Lot DD; (4) homeowner education would include reminders that off-leash dogs are not allowed on trails; (5) homeowners with cats would be encouraged to keep cats indoors and a homeowner education program would be implemented to notify residents of the dangers free-roaming cats pose to wildlife, (6) only non-invasive plant species would be included in the landscape plan for the site (species not listed on the California Invasive Plant Inventory prepared by the California Invasive Plant Council [Cal-IPC; 2006]); and (7) all project-related lighting would be required to adhere to Division 9 of the San Diego County Light Pollution Code, and lighting would not be installed for the trail easement between Planning Area 1 and HOA Open Space Lot DD. Lighting within the proposed project footprint adjacent to undeveloped habitat would be of the lowest illumination allowed for human safety, selectively placed, shielded, and directed away from these areas. Potentially significant indirect impacts resulting from alterations of hydrology/water quality would be addressed through capture and treatment of project-generated runoff in accordance with storm water regulations and maintaining flow patterns through existing wetland/riparian areas. Potentially significant indirect impacts resulting from increased risk of human-caused fires would be addressed through incorporation of required fuel management zones and implementation of a 100-foot limited building zone around the biological open space which would provide a buffer between residences and biological open space. Further, management of the biological open space would be conducted by a qualified Resource Manager pursuant to a County-approved Resource Management Plan. The Resource Manager would conduct regular site visits and address management issues as needed, including, but not limited to fence repair, sign replacement, trash removal, and homeowner education. With implementation of the project design features described above and management activities described in the Resource Management Plan, no significant impact to sensitive species resulting from indirect impacts from human access, domestic animals, exotic species, lighting, hydrology/water quality, or increases in fire risk would occur over the long term. Potential indirect impacts from construction noise are discussed under Guideline 3.1.L.

I. The project would not impact occupied burrowing owl habitat.

The project site does not support occupied burrowing owl habitat, as demonstrated by the 2015 protocol-level survey negative findings and lack of records for this species in the project vicinity. The project would have no impact on burrowing owl.

J. The project would not impact occupied cactus wren habitat, or formerly occupied coastal cactus wren habitat that has been burned by wildfire.

Although potentially suitable habitat occurs on site for coastal cactus wren, this readily detectable species was not detected during multiple biological surveys conducted between 2013 and 2016. The most recent occurrence records for this species on the project site are from nearly three decades ago, when the species was documented in the southwestern hills in 1989 and 1990 (CDFW 2016a). Prior to the December 2017 Lilac Fire, the most recent fire in this portion of the site occurred in 1975, fourteen years before the most recent onsite occurrence record for the species, indicating that the habitat had recovered sufficiently from the 1975 fire to support suitable habitat for cactus wren. However, cactus wren has not been documented on site since 1990. The project site is not occupied by cactus wren and would have no impact on cactus wren.

K. The project would not impact occupied Hermes copper butterfly habitat.

The project site supports a limited amount of potential Hermes copper butterfly habitat (spiny redberry within 15 ft of buckwheat [Figure 18]), which burned in the December 2017 Lilac Fire but is regenerating. The project would impact a portion of this habitat; however, focused surveys conducted for Hermes copper in 2016 were negative. Further, there are no on-site records for this species and the vast majority of occurrences are from southwestern San Diego County (Marschalek and Klein 2010); with smaller extant populations occurring only as far north as the Elfin Forest area (Marschalek and Deutschman 2017), which is approximately 15 miles south of the project site. There are historical records of two museum specimens collected in north San Diego County, one from the Bonsall area in 1934 and one from the Pala area in 1932; however, these populations are presumed extirpated (USFWS 2013). Hermes copper has not been observed on site and is not currently known from the surrounding area. The project would not impact occupied Hermes copper habitat; thus, no impact to this species would occur.

3.3 CUMULATIVE IMPACT ANALYSIS

The area of consideration for cumulative impacts on biological resources was based on an approximate 3.0-mile radius from the project site, extending to 5 miles from the site in a northeasterly direction. This study area includes surrounding PAMA connections to the project site, as well as foothills and canyons abutting the San Luis Rey River, and important named creek connections to the river in the project vicinity (i.e., Gopher Canyon Creek, Moosa Creek, Couser Creek, and Keys Creek). The cumulative study area was chosen because it includes areas with similar biological resources as the project site, as well as capturing the local watershed for the site. The area of consideration includes lands within a reasonable distance from the project site that may have a biologically based connection to the site in terms of habitat connectivity and development in the region.

A total of 43 projects (including the proposed project) were reviewed for this cumulative analysis (Table 11; Figure 19). Of these 43 cumulative projects, 20 would result in significant or potentially

- Project Boundary
- Impact
- Impact Neutral
- Equestrian MUP
- Fuel Modification Zone
- Hermes Copper Suitable Habitat (prior to December 2017 Lilac Fire)

Vegetation Communities/Land Use Types**

- Southern Cottonwood-willow Riparian Forest (61330)*
- Southern Willow Scrub (63320)*
- Mule Fat Scrub (63310)*
- Freshwater Marsh (52400)
- Herbaceous Wetland (52510)*
- Open Water/Freshwater Pond (64140)
- Tamarisk Scrub (63810)*
- Coast Live Oak Woodland (71160)*
- Diegan Coastal Sage Scrub (32500)*
- Diegan Coastal Sage Scrub - Disturbed (32500)*
- Coastal Sage-Chaparral Scrub (37G00)*
- Flat-topped Buckwheat Scrub (32800)*
- Southern Mixed Chaparral (37120)*
- Non-native Grassland (42200)*
- Pasture (18310)
- Row Crops (18320)*
- Orchard (18100)*
- Fallow Orchard (18100)*
- Open Water/AG Pond (64100)
- Eucalyptus Woodland (11000)
- Non-native Vegetation (79100)*
- Disturbed Habitat (11300)
- Urban/Developed (12000)

Other

- Rock Outcrop

*All or most of this vegetation community burned during the December 2017 Lilac Fire.
** Numeric codes following the community/habitat type names are from the County's Biological Resources Guidelines (County 2010) and are based on the "Preliminary Descriptions of the Terrestrial Natural Communities of California" (Holland 1996, Oberbauer 2008).

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Source: Aerial (SanGIS, 2017)

Hermes Copper Suitable Habitat and Impacts

Figure 18

significant cumulative impacts to sensitive biological resources. The remaining 23 projects either would not result in impacts to sensitive biological resources or information on impacts is not available. The project has the potential to contribute to the cumulative impact on coastal California gnatcatcher, least Bell's vireo, arroyo toad (foraging and aestivation), western spadefoot (foraging and aestivation), and raptors (i.e., loss of foraging habitat), as discussed below.

The cumulative projects with available data would impact 219.7 acres of coastal sage scrub habitat, including impacts from the proposed project. The loss of coastal sage scrub habitat would represent a potential cumulative impact on the coastal California gnatcatcher. This impact would be potentially significant. The proposed project would result in impacts to 33.9 acres of combined coastal sage scrub/coastal sage transition (includes 32.5 acres of Diegan coastal sage scrub and 1.4 acres of flat-topped buckwheat scrub), a portion of which was determined to support breeding gnatcatcher pairs. Therefore, the proposed project would contribute to the significant cumulative impact on coastal California gnatcatcher.

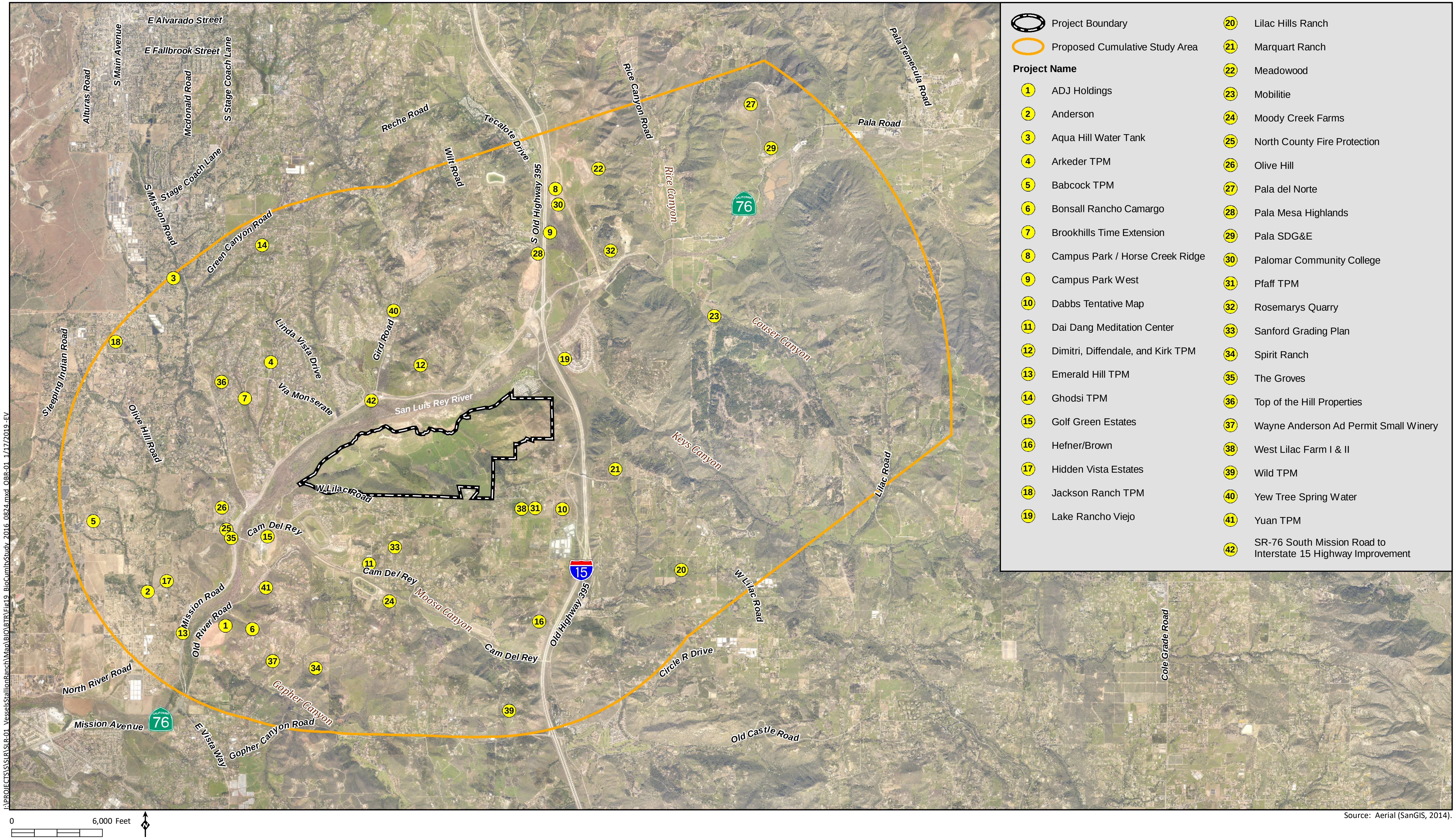
Projects are required to implement avoidance measures so that direct, inadvertent take of gnatcatcher individuals is prevented. In addition, projects are required to compensate impacts on coastal sage scrub at a minimum 1:1 ratio, which ensures that the loss of occupied and suitable habitat for the gnatcatcher is fully compensated. The proposed project would implement required gnatcatcher avoidance measures and compensate the loss of coastal sage scrub habitat at a 3:1 ratio through on-site preservation of occupied habitat (which would greatly exceed the acreage required), in addition to on-site coastal sage scrub restoration and enhancement. Because habitat loss would be compensated at this higher ratio, the proposed project's contribution to the cumulative impact on gnatcatcher would be less than considerable and reduced to a less than significant level.

The cumulative projects would impact 90.56 acres of riparian/wetland habitat, which is the preferred habitat of the least Bell's vireo. The cumulative loss of riparian/wetland habitat would represent a significant cumulative impact on least Bell's vireo. The proposed project would result in impacts to 0.19 acre of riparian/wetland habitat, no portions of which were determined to support least Bell's vireo. Nevertheless, vireo is a federally and state listed endangered species and the project's contribution to the cumulative impact would be significant. As with the coastal California gnatcatcher, projects are required to implement avoidance measures so that direct, inadvertent take of vireo is prevented. In addition, projects are required to compensate impacts on riparian/wetland habitat at a minimum 1:1 ratio, which ensures that the loss of occupied and suitable habitat for vireo is fully compensated. The proposed project would implement required vireo avoidance measures and compensate the loss of riparian/wetland habitat at a minimum 1:1 ratio through a combination of on- or off-site establishment, re-establishment, rehabilitation, restoration, enhancement, and/or purchase of credits at an approved wetland mitigation bank. With the implementation of these measures, the proposed project's contribution on the cumulative impact to least Bell's vireo would be less than considerable and reduced to a less than significant level.

The cumulative projects would impact 90.56 acres of riparian/wetland habitat, which may include areas upon which arroyo toad and western spadefoot rely on for breeding and foraging. This regional loss of riparian/wetland habitat represents a significant cumulative impact on arroyo toad and western spadefoot. The proposed project would result in impacts to 0.19 acre of riparian/wetland habitat, no portions of which were determined to support arroyo toad, thus, the project would not contribute to a significant cumulative impact on arroyo toad. Western spadefoots were not documented breeding on site but are known to occur in the area. The proposed project impacts to 0.19 acre of riparian/wetland

habitat would contribute to the cumulative impact on western spadefoot, however, this impact is considered less than significant given that the western spadefoot is not a federal or state listed species, no western spadefoot have been documented breeding on site, and compensation measures would be implemented to offset impacts to potential breeding and foraging habitat. Further, the project would improve potential foraging habitat for western spadefoot by restoring and enhancing former row crop areas to native habitat along the eastern riparian corridor.

The cumulative projects would impact 399.1 acres of non-native grassland and 233.7 acres of pasture that potentially serves to provide raptor foraging habitat. Cumulative impacts to raptors would be significant since the cumulative projects would further reduce the amount of foraging habitat available for these species. The proposed project would result in 37.6 acres of impacts to non-native grassland and 58.5 acres to pasture that could be used by foraging raptors. Therefore, the proposed project would contribute to significant cumulative impacts to raptors. In accordance with County guidelines and required mitigation ratios, the proposed project would mitigate for impacts to non-native grassland and pasture at a 0.5:1 ratio through on-site preservation of grassland /raptor foraging habitat within biological open space. With the implementation of these measures, the proposed project's contribution on the cumulative impact to raptor foraging would be less than considerable and reduced to a less than significant level.


Project Boundary
Proposed Cumulative Study Area
Project Name
1 ADJ Holdings
2 Anderson
3 Aqua Hill Water Tank
4 Arkeder TPM
5 Babcock TPM
6 Bonsall Rancho Camargo
7 Brookhills Time Extension
8 Campus Park / Horse Creek Ridge
9 Campus Park West
10 Dabbs Tentative Map
11 Dai Dang Meditation Center
12 Dimitri, Diffendale, and Kirk TPM
13 Emerald Hill TPM
14 Ghodsi TPM
15 Golf Green Estates
16 Hefner/Brown
17 Hidden Vista Estates
18 Jackson Ranch TPM
19 Lake Rancho Viejo
20 Lilac Hills Ranch
21 Marquart Ranch
22 Meadowood
23 Mobilitie
24 Moody Creek Farms
25 North County Fire Protection
26 Olive Hill
27 Pala del Norte
28 Pala Mesa Highlands
29 Pala SDG&E
30 Palomar Community College
31 Pfaff TPM
32 Rosemarys Quarry
33 Sanford Grading Plan
34 Spirit Ranch
35 The Groves
36 Top of the Hill Properties
37 Wayne Anderson Ad Permit Small Winery
38 West Lilac Farm I & II
39 Wild TPM
40 Yew Tree Spring Water
41 Yuan TPM
42 SR-76 South Mission Road to Interstate 15 Highway Improvement
E Alvarado Street
E Fallbrook Street
Alturas Road
S Main Avenue
Mcdonald Road
S Stage Coach Lane
Stage Coach Lane
S Mission Road
Green Canyon Road
Reche Road
Wilt Road
Tecalote Drive
S Old Highway 395
Rice Canyon Road
Rice Canyon
Pala Temecula Road
Pala Road
76
Linda Vista Drive
Gird Road
Via Monserate
San Luis Rey River
Sleeping Indian Road
Olive Hill Road
W Lilac Road
Couser Canyon
Keys Canyon
Lilac Road
Cam Del Rey
Moosa Canyon
15
Old Highway 395
Mission Road
Old River Road
North River Road
Mission Avenue
E Vista Way
Gopher Canyon Road
Gopher Canyon
Circle R Drive
Old Castle Road
Cole Grade Road
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Source: Aerial (SanGIS, 2014).

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Biological Cumulative Study Area

Figure 19

Table 11
CUMULATIVE IMPACTS ON BIOLOGICAL RESOURCES

Project Number[2]	Project Name[2]	Resource[1]									
		Riparian/ Wetland		CLOW		CSS[3]		NNG		Pasture	
		Impacts (I)	Mitigation (M)	I	M	I	M	I	M	I	M
PDS2008-3940-08-005	ADJ Holdings VAC	0	0	0	0	0	0	0	0	0	0
PDS2009-3200-21155	Anderson 2-Lot TPM	0	0	0	0	0	0	0	0	0	0
PDS2005-3300-05-011	Aqua Hill Water Tank	0	0	0	0	0	0	0	0	0	0
PDS2006-3281-20494	Arkeder TPM Time Extension	--	--	0	0	0	0	0	0	0	0
PDS2000-3200-20567	Babcock TPM Time Extension	0	0	0	0	0	0	0	0	0	0
PDS2002-3100-5037	Bonsall Rancho Camargo TM	0	0	0	0	0	0	0	0	0	0
PDS2004-3100-4908	Brookhills TM Time Extension	0.55	1.65	0	0	0	0	0	0	0	0
PDS2003-3813-03-008, PDS2003-3800-03-004, PDS2003-3100-5338, PDS2003-3600-03-014, PDS2013-STP-07-031W1, PDS2013-STP-07-031W2, PDS2013-LDGRMJ-00019, PDS2014-LDMJIP-00004, PDS2012-2700-15680, PDS2012-2700-15682	Campus Park / Horse Creek Ridge	4.61	13.83	1.3	2.9	46.07	92.1	44.77	22.4	144.46	72.2
PDS2005-3800-05-003, PDS2005-3813-05-001, PDS2005-3100-5424, PDS2005-3600-05-005, PDS2005-3500-05-014	Campus Park West GPA, SPA, TM, REZ, STP	11.97	35.91	0.2	0.6	2.27	4.54	43.17	21.59	0.58	0.29
PDS2003-3100-5346	Dabbs TM	0	0	0	0	0.63	1.89	0	0	0	0
PDS2004-3300-04-016, PDS2013-LDGRMJ-00001	Dai Dang Meditation Center	0	0	0	0	0	0	2.3	1.15	0	0
PDS2007-3200-21075	Dimitri, Diffendale, and Kirk 4-Lot TPM	0	0	0	0	0	0	0	0	0	0
PDS2007-3200-21057	Emerald Hill TPM	0	0	0	0	1.48	1.48	1.39	0.7	0	0
PDS2010-3200-21174	Ghodsi 3-Lot TPM	0	0	0	0	0	0	0	0	0	0

Table 11 (cont.)
CUMULATIVE IMPACTS ON BIOLOGICAL RESOURCES (cont.)

Project Number[2]	Project Name[2]	Resource[1]									
		Riparian/ Wetland		CLOW		CSS[3]		NNG		Pasture	
		Impacts (I)	Mitigation (M)	I	M	I	M	I	M	I	M
PDS2006-3100-5498, PDS2007-3500-07-011, PDS2014-LDGRMJ-00014, PDS2014-LDMJIP-00011	Golf Green Estates TM	0	0	0	0	0	0	5.6	5.6	0	0
PDS2009-3200-21159	Hefner/Brown TPM	0	0	0	0	7.8	23.4	0	0	0	0
PDS2007-3283-20823	Hidden Vista Estates TPM Resolution Amendment	0	0	0	0	0	0	0	0	0	0
PDS2013-TPM-21203	Jackson Ranch TPM	--	--	--	--	--	--	--	--	--	--
PDS1999-3100-4249, PDS2006-3000-06-050, PDS2002-3300-81-023, PDS2007-3813-07-001	Lake Rancho Viejo	30	0	6	0	13	0	0	0	0	0
PDS2012-3800-12-001, PDS2012-3300-12-005, PDS2012-3500-12-018, PDS2012-3810-12-001, PDS2012-3100-5571	Lilac Hills Ranch	3.0	8.4	0.8	2.8	19.7	39.3	0	0	0	0
PDS2004-3100-5410	Marquart Ranch	0	0	0	0	0	0	0.1	0	0	0
PDS2004-3800-04-002, PDS2008-3300-08-023, PDS2004-3810-04-001, PDS2004-3100-5354,	Meadowood	4.7	12.3	0.3	0.9	14.5	29	15.3	7.7	30.2	15.1
PDS2008-3300-08-007	Mobilitie MUP	0	0	0	0	0	0	0	0	0	0
PDS2009-3301-79-134-07	Moody Creek Farms MUP Modification	0	0	0	0	0	0	0	0	0	0
PDS2011-3500-11-003	North County Fire Protection District Site Plan	0	0	0	0	0	0	0	0	0	0
PDS2003-3800-03-001, PDS2003-3100-4976, PDS2006-2700-15060	Olive Hill GPA, TM	0.53	1.59	0	0	5.14	10.28	19.51	9.75	0	0

Table 11 (cont.)
CUMULATIVE IMPACTS ON BIOLOGICAL RESOURCES (cont.)

Project Number[2]	Project Name[2]	Resource[1]									
		Riparian/ Wetland		CLOW		CSS[3]		NNG		Pasture	
		Impacts (I)	Mitigation (M)	I	M	I	M	I	M	I	M
PDS2005-2700-15038, DPW2007-2950-07-003	Pala Del Norte	0.02	0.07	0	0	3.32	6.64	0	0	0	0
PDS2015-TM-5187R, PDS2001-2700-14227, PDS2002-2140-5187-1, PDS2015-MUP-04-024W1, PDS1999-3813-99-005	Pala Mesa Highlands	0	0	0	0	16.3	17.4	26.3	12.2	0	0
PDS2014-AD-14-025, PDS2015-HLP-15-004	Pala SDG&E Solar Energy AD	0	0	0	0	1.1	2.2	2.4	1.2	0	0
PDS2009-3800-09-006	Palomar Community College GPA	1.53	4.59	0	0	24.6	49.2	74.25	37.13	0	0
PDS2006-3200-21016	Pfaff 3-Lot TPM	0	0	0	0	0	0	0	0	0	0
PDS2012-3300-87-021	Rosemary's Mountain Quarry	0.81	20.3	1.32	8.48	0	0	0	0	0	0
PDS2015-LDGRMJ-30014	Sanford Residence Grading Permit	0	0	0	0	0	0	0	0	0	0
PDS2014-AD-14-018	Spirit Ranch	--	--	--	--	--	--	--	--	--	--
PDS2000-3100-4694	The Groves	0	0	<0.1	0	23	88.6	99.3	17.2	0	0
PDS2010-3200-21180	Top of the Hill Properties TPM	--	--	--	--	--	--	--	--	--	--
PDS2013-AD-13-026	Wayne Anderson Sagewood Winery	0	0	0	0	0	0	0	0	0	0
PDS2002-3100-5276	West Lilac Farms I & II	0	0	0	0	0	0	0	0	0	0
PDS2009-3200-21170, PDS2012-2700-15651	Wild TPM	0	0	0	0	0	0	0	0	0	0
PDS2004-3200-20503	Yew Tree Spring Water TPM	0	0	1.08	1.08	0	0	0	0	0	0
PDS2014-TPM-21150R	Yuan TPM	--	--	--	--	--	--	--	--	--	--
N/A	SR 76 South Mission Road to Interstate 15	32.65	134.7	2.09	4.18	6.89	13.78	27.14	26.88	0	0
	Subtotal	**90.37**	**233.34**	**13.1**	**20.9**	**185.8**	**379.8**	**361.5**	**163.5**	**175.2**	**87.6**

Table 11 (cont.)
CUMULATIVE IMPACTS ON BIOLOGICAL RESOURCES (cont.)

Project Number[2]	Project Name[2]	Resource[1]									
		Riparian/ Wetland		CLOW		CSS[3]		NNG		Pasture	
		Impacts (I)	Mitigation (M)	I	M	I	M	I	M	I	M
PDS2016-TM-5615 PDS2016-MUP-16-012 PDS2016-MUP-16-013	Ocean Breeze Ranch	0.19	0.57	0.4	1.2	33.9	101.7	37.6	18.8	58.5	29.3
TOTAL		**90.56**	**233.97**	**13.5**	**22.1**	**219.7**	**481.5**	**399.1**	**182.3**	**233.7**	**116.9**

[1] CLOW=coast live oak woodland, CSS=coastal sage scrub, SMC=southern mixed chaparral, NNG=non-native grassland

[2] TM = Tentative Map; TPM = Tentative Parcel Map; MUP = Major Use Permit; SPA = Specific Plan Amendment; REZ = Rezone;
-- = Information Not Available or Not Applicable.

[3] This column combines all sage scrub habitat variants and ecotones (e.g., coastal sage-chaparral scrub, flat-topped buckwheat scrub, coyote brush scrub, etc.)

3.4 MITIGATION MEASURES AND DESIGN CONSIDERATIONS

Impacts to coastal California gnatcatcher and least Bell's vireo would be mitigated through implementation of the following measures BIO-1a and BIO-1b:

BIO-1a Mitigation for impacts to coastal California gnatcatcher habitat (32.5 acres of Diegan coastal sage scrub and 1.4 acres of flat-topped buckwheat scrub) shall occur at a 3:1 ratio through the on-site preservation of 101.7 acres of Diegan coastal sage scrub within a biological open space easement.

The preferred approach to site development would be for no grubbing or clearing of vegetation to occur within 500 feet of occupied Diegan coastal sage scrub or flat-topped buckwheat scrub during the breeding season of the coastal California gnatcatcher (February 15 – August 31). All grading permits, improvement plans, and the final map shall state the same. If clearing or grubbing must occur during the gnatcatcher breeding season within 500 feet of suitable coastal California gnatcatcher breeding habitat, a pre-construction survey shall be conducted to determine whether gnatcatchers occur within the impact area(s). The pre-construction survey shall consist of three site visits with each site visit occurring a minimum of seven days apart, and the third visit occurring no more than three days prior to the start of construction. To avoid take under the federal ESA, impacts to occupied habitat shall be avoided. If there are no gnatcatchers nesting (includes nest building or other breeding/nesting behavior) within that area, grading and clearing shall be allowed to proceed upon receipt of concurrence from County and the Wildlife Agencies. If, however, any gnatcatchers are observed, but no nesting or breeding behaviors are noted, two additional surveys for breeding/nesting behaviors shall be conducted a minimum of three days apart. If any gnatcatchers are observed nesting or displaying breeding/nesting behavior during the pre-construction survey or additional surveys within the area, construction shall be postponed within 300 ft of any location at which gnatcatchers have been observed until all nesting (or breeding/nesting behavior) has ceased or until after August 31. (See BIO-5 for mitigation for indirect noise effects.)

Impacts to gnatcatcher would require take authorization either through either through a Section 7 consultation with the USFWS and/or an HLP from the County. A Section 7 consultation is anticipated given the federal nexus between impacts to waters of the U.S. and impacts to gnatcatcher-occupied habitat and USFWS critical habitat for this species. However, if the action area for the USACE does not include all impacts to gnatcatcher habitat, an HLP also may be required.

BIO-1b Mitigation for impacts to 0.19 acre of potential foraging habitat for least Bell's vireo (southern willow scrub, mule fat scrub, and tamarisk scrub) shall occur at a 3:1 ratio through one or a combination of the following: on- and/or off-site establishment, re-establishment, rehabilitation, and/or enhancement of 0.57 acre of riparian habitat; and/or off-site purchase of riparian habitat mitigation credits at an approved mitigation bank, such as the San Luis Rey Mitigation Bank, or other location deemed acceptable by the County and Regulatory Agencies. The establishment/creation component must be at least 1:1 while the remaining 2:1 can be restoration and enhancement.

The preferred approach to site development would be for no grubbing or clearing of vegetation to occur within riparian habitat during the breeding season of the least Bell's vireo (March 15 through September 15). All grading permits, improvement plans, and the final map shall state the same. If clearing or grubbing must occur during the least Bell's vireo breeding season, a pre-construction survey shall be conducted to determine whether vireos occur within the impact area(s). The pre-construction survey shall consist of three site visits (at least three days apart) with the final site visit occurring the day

prior to the start of construction. To avoid take under the federal and California ESAs, impacts to occupied habitat shall be avoided. If there are no vireos nesting (includes nest building or other breeding/nesting behavior) within that area, grading and clearing shall be allowed to proceed upon receipt of concurrence from County and the Wildlife Agencies. If, however, any vireos are observed, but no nesting or breeding behaviors are noted, two additional surveys for breeding/nesting behaviors shall be conducted a minimum of three days apart. If any vireos are observed nesting or displaying breeding/nesting behavior during the pre-construction survey or additional surveys within that area, construction shall be postponed within 300 ft of any location at which vireos have been observed until all nesting (or breeding/nesting behavior) has ceased or until after September 15. (See BIO-5 for mitigation for indirect noise effects.)

Impacts to least Bell's vireo would require take authorization either through a Section 7 consultation or a Section 10(a) HCP from the USFWS. A Section 7 consultation is anticipated given the federal nexus between impacts to waters of the U.S. and impacts to potential vireo habitat.

Focused surveys for the federally endangered/state threatened Stephens' kangaroo rat were negative. However, because the species is known to occur on nearby MCB Camp Pendleton and suitable habitat occurs on site, the following mitigation measure BIO-1c would be implemented for this species:

BIO-1c Pre-construction surveys for Stephens' kangaroo rat will be conducted in suitable habitat within the project impact area by a qualified biologist. Surveyors would search for signs of kangaroo rat presence, and if observed, a trapping survey would be conducted to capture individuals and identify them to species. Results of the surveys will be submitted to the Wildlife Agencies and County PDS. In the event of a positive survey, the project proponent will coordinate with the Wildlife Agencies and County PDS to determine next steps.

Potential impacts to nesting birds, including but not limited to, Cooper's hawk, red-shouldered hawk, white-tailed kite, northern harrier, southern California rufous-crowned sparrow, and vermilion flycatcher would be mitigated through implementation of the following measure BIO-2:

BIO-2 The preferred approach to site development would be for no grubbing or clearing of vegetation to occur during the general avian breeding season (January 15 to July 15 for raptors and February 15 to August 31 for general nesting birds). All grading permits, improvement plans, and the final map shall state the same. If grubbing or clearing must occur during the general avian breeding season within 300 feet of general nesting bird habitat or 500 feet of nesting raptor habitat, a pre-construction survey shall be conducted by a qualified biologist no more than three days prior to the commencement of the activities to determine if active bird nests are present in the affected areas, with results submitted to the County and Wildlife Agencies. If there are no nesting birds (includes nest building or other breeding/ nesting behavior) within this area, clearing and grubbing shall be allowed to proceed. Furthermore, if construction activities are to resume in an area where they have not occurred for a period of seven or more days during the breeding season, an updated survey for avian nesting will be conducted, with results submitted to the County and Wildlife Agencies. If active nests or nesting birds are observed within the area, the biologist shall submit the nesting bird survey results and proposed nest buffers to the County and Wildlife Agencies. The biologist shall flag buffers around the active nests and construction activities shall avoid active nest buffers until nesting behavior has ceased, nests have failed, or young have fledged, with results submitted to the County and Wildlife Agencies.

Although impacts to arroyo toad are not anticipated since this species does not currently occupy the site or adjacent lands, avoidance measures are included herein in the event that this species repopulates the adjacent offsite reach of river north of the site. Potential impacts to western spadefoot and arroyo toad foraging, aestivation, and movement would be mitigated through implementation of the following measures BIO-3a, BIO-3b, BIO-3c, BIO-3d, and BIO-3e:

BIO-3a Temporary toad exclusionary fencing (silt fencing) will be installed along the northern limits of Planning Area 2 and Planning Area 3 (or as determined by the USFWS during Section 7 consultation for CWA Section 404 permitting) prior to initiation of clearing or grading activities in these areas. Translocation surveys would be conducted by a qualified biologist to relocate arroyo toad (if present), with approval from USFWS, and western spadefoot individuals from within the impact area to suitable areas of biological open space on the project site or north of the project site along the San Luis Rey River.

If arroyo toad is found on site, impacts to this species would require take authorization either through a Section 7 consultation or a Section 10(a) HCP from the USFWS. A Section 7 consultation is anticipated given the federal nexus between impacts to waters of the U.S. and impacts to critical habitat for this species.

BIO-3b Following completion of construction activities within Planning Area 2 and Planning Area 3, and concurrent with the removal of temporary fencing associated with each of these planning areas, permanent toad exclusionary fencing will be installed along the northern limits of Planning Area 2 and portions of Planning Area 3, or as determined by the USFWS during Section 7 consultation for CWA Section 404 permitting.

If arroyo toad is found on site, impacts to this species would require take authorization either through a Section 7 consultation or a Section 10(a) HCP from the USFWS. A Section 7 consultation is anticipated given the federal nexus between impacts to waters of the U.S. and impacts to critical habitat for this species.

BIO-3c The project will conserve suitable foraging and aestivation habitat for arroyo toad and western spadefoot along the northern project boundary and along the eastern riparian corridor within biological open space, with direct connections to offsite habitat along the San Luis Rey River. In addition, a limited use easement will be placed over pastures in the equestrian facility, such that these areas would remain undeveloped and could be used by foraging and aestivating toads, although this habitat is not expected to be frequently utilized by these species.

BIO-3d The project shall not impede flows from the eastern riparian corridor leading offsite to the Caltrans mitigation parcel. In conjunction with the improvements to Dulin Road, hydrologic connectivity under the road at the eastern riparian corridor shall be maintained by construction of box culverts sized to adequately convey flow volumes, as determined through civil engineering design.

BIO-3e Concurrent with or prior to the initiation of project construction, areas adjacent to the eastern riparian corridor that are currently in row crops will be planted/seeded with coastal sage scrub species, with the goal of improving the habitat quality of the wetland buffer, reducing the potential for sedimentation in the creek, and providing higher quality upland foraging habitat for toads. The acreage, configuration, and implementation methodology is described in the Conceptual Upland Restoration Plan (HELIX 2019b). This proposed habitat enhancement is not required as habitat mitigation and does not

require posting of a bond, however, monitoring and maintenance will be incorporated into the restoration effort.

Impacts to raptor foraging habitat would be mitigated through implementation of the following measures BIO-4a and BIO-4b:

BIO-4a Mitigation for impacts to 37.6 acres of non-native grassland shall occur at a 0.5:1 ratio through the on-site preservation of 18.8 acres of non-native grassland within a biological open space easement. The mitigation shall be provided prior to the issuance of a grading permit.

BIO-4b Mitigation for impacts to 58.5 acres of pasture shall occur at a 0.5:1 ratio through the on-site preservation of 29.3 acres of grassland habitat and/or other like-functioning habitat (e.g., fallow orchard) within a biological open space easement. The mitigation shall be provided prior to the issuance of a grading permit.

Potentially significant impacts to suitable breeding and/or foraging habitat for non-listed, non-raptor County Group I and/or CDFW SSC animal species (including southern California rufous-crowned sparrow, vermilion flycatcher, loggerhead shrike, northwestern San Diego pocket mouse, and white-faced ibis), would be mitigated through habitat-based mitigation measures BIO-1a, BIO-2, BIO-4a, and BIO-4b described above. These measures to mitigate for impacts to Diegan coastal sage scrub, flat-topped buckwheat scrub, non-native grassland, and pasture, which are or could be used by these species depending on their specific habitat requirements.

Indirect impacts to nesting gnatcatchers, vireo, and raptors would be mitigated through implementation of the following measure BIO-5.

BIO-5 If operation of construction equipment occurs within 500 feet of suitable habitat during the breeding seasons for the coastal California gnatcatcher (February 15 to August 31), nesting raptors (January 15 to July 15), or least Bell's vireo (March 15 to September 15), pre-construction survey(s) shall be conducted by a qualified biologist, as applicable, to determine whether these species occur within the areas potentially impacted by noise, with the final survey occurring within 3 days of the proposed start of construction and results submitted to the County and Wildlife Agencies. If it is determined at the completion of pre-construction surveys that active nests belonging to these sensitive species are absent from the potential impact area, construction shall be allowed to proceed. If pre-construction surveys determine the presence of active nests belonging to these sensitive species, then construction shall: (1) be postponed until a qualified biologist determines the nest(s) is no longer active or until after the respective breeding season; or (2) not occur until a temporary noise barrier or berm is constructed at the edge of the development footprint and/or around the piece of equipment to ensure that noise levels are reduced to below 60 dBA or ambient, whichever is greater, and the type(s) and location(s) of noise barrier(s) will be provided to the County and Wildlife Agencies along with the associated noise measurements demonstrating compliance with required noise level reductions. Decibel output will be confirmed by a County-approved noise specialist and intermittent monitoring by a qualified biologist to ensure that conditions have not changed will be required. If pre-construction surveys identify coastal California gnatcatcher, nesting raptors, or least Bell's vireo, blasting will be restricted to the non-breeding season for the identified birds (September 1 to February 14 for coastal California gnatcatcher; July 16 to January 14 for nesting raptors; and September 16 to March 14 for least Bell's vireo) or be completed using wholly chemical means. All grading permits, improvement plans, and the final map shall state the same.

3.5 CONCLUSION

Project implementation could result in significant impacts to federally listed animal species, state Species of Special Concern animals, County Group 1 animals, and raptors with the potential to nest and/or forage over the site and immediate vicinity. Potential significant impacts could result from direct disturbance, loss of habitat, and noise. Implementation of mitigation measures BIO-1a through BIO-5 would reduce impacts to less than significant.

4.0 RIPARIAN HABITAT OR SENSITIVE NATURAL COMMUNITY

4.1 GUIDELINES FOR DETERMINING SIGNIFICANCE

Would the project have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, and regulations or by the USFWS or CDFW?

Any of the following conditions would be considered significant if:

A. Project-related grading, clearing, construction, or other activities would temporarily or permanently remove sensitive native or naturalized habitat (as listed in Table 5 in the County Guidelines for Determining Significance [County 2010b], excluding those without a mitigation ratio) on or off the Project site.

B. Any of the following will occur to or within jurisdictional wetlands and/or riparian habitats as defined by the USACE, CDFW, and County: vegetation removal; grading; obstruction or diversion of water flow; adverse change in velocity, siltation, volume of flow, or runoff rate; placement of fill; placement of structures; road crossing construction; placement of culverts or other underground piping; any disturbance of the substratum; and/or any activity that may cause an adverse change in native species composition, diversity, and abundance.

C. The project would draw down the groundwater table to the detriment of groundwater-dependent habitat, typically a drop of three feet or more from historical low groundwater levels.

D. The project would cause indirect impacts, particularly at the edge of proposed development adjacent to proposed or existing open space or other natural habitat areas, to levels that would likely harm sensitive habitats over the long term.

E. The project does not include a wetland buffer adequate to protect the functions and values of existing wetlands.

4.2 ANALYSIS OF PROJECT EFFECTS

4.2.1 Significant Impacts

The proposed project would result in significant impacts under above guidelines 4.1.A and 4.1.B, for the following reasons:

A. Project-related grading, clearing, construction, or other activities would temporarily or permanently remove sensitive native or naturalized habitat (as listed in Table 5 in the County Guidelines for Determining Significance [County 2010b], excluding those without a mitigation ratio) on or off the Project site.

Implementation of the proposed project would result in direct impacts to approximately 72.1 acres of sensitive vegetation communities made up of: 0.01 acre of southern willow scrub, 0.17 acre of mule fat scrub, less than 0.01 acre tamarisk scrub, 0.4 acre of coast live oak woodland, 32.5 acres of Diegan coastal sage scrub, 1.4 acres of flat-topped buckwheat scrub, and 36.7 acres of non-native grassland. These impacts would be significant according to County Guideline 4.1.A.

B. The following would occur to or within jurisdictional wetlands and/or riparian habitats as defined by the USACE, CDFW, and County: vegetation removal; grading; diversion of water flow; placement of fill; placement of structures; road crossing construction; placement of culverts; disturbance of the substratum; and activities that may cause an adverse change in native species composition, diversity, and abundance.

As addressed under County Guideline 4.1.A, the project would result in impacts to jurisdictional wetlands and riparian habitats as defined by the USACE, CDFW, and/or County, including 0.01 acre of southern willow scrub, 0.17 acre of mule fat scrub, and less than 0.01 acre tamarisk scrub. The USACE non-wetland waters and CDFW unvegetated stream channel also would be impacted. Impacts to jurisdictional waters and wetlands include 0.20 acre of USACE non-wetland waters of the U.S., 0.40 acre of CDFW jurisdictional areas (including 0.19 acre of vegetated habitat and 0.21 acre of unvegetated stream channel), and 0.19 acre of County RPO wetland (Table 10). These impacts would be considered significant.

4.2.2 No Impact or Less than Significant Impacts

The project would not result in significant impacts under the guidelines 4.1.C, 4.1.D, and 4.1.E for the following reasons:

C. The project would not draw down the groundwater table to the detriment of groundwater-dependent habitat, typically a drop of three feet or more from historical low groundwater levels.

The existing equestrian facility uses groundwater pumped from on-site wells to fill the agricultural ponds and irrigate the pastures. Proposed project development would remove one of these ponds and 5835 acres of pasture, thereby lessening the use of groundwater on site relative to its current condition. Water service for the proposed residential development would be supplied by RMWD, as stated in Section 1.2.2. No additional wells are proposed and no new groundwater withdrawals or activities that could result in lowering of the groundwater table are proposed. No significant impact would occur.

D. The project would not cause indirect impacts, particularly at the edge of proposed development adjacent to proposed or existing open space or other natural habitat areas, to levels that would likely harm sensitive habitats over the long term.

Potentially significant indirect impacts to sensitive habitat resulting from human access, domestic animals, exotic plant species, and lighting would be avoided through the following project design features: (1) permanent fencing shall be installed around biological open space where it abuts existing

or proposed development, as well as in locations where human intrusion would not be precluded by physical factors such as steep topography or dense vegetation, and along either side of the proposed trail easement between Planning Area 1 and HOA Open Space Lot DD; (2) signs prohibiting access shall be posted along the perimeters of biological open space, including along areas where fencing is not installed; (3) off-leash pets would not be allowed on trails or public areas and signs would be posted along trails notifying pet owners of this regulation, including along the trail easement through biological open space between Planning Area 1 and HOA Open Space Lot DD; (4) homeowner education would include reminders that off-leash dogs are not allowed on trails; (5) only non-invasive plant species would be included in the landscape plan for the site (species not listed on the California Invasive Plant Inventory prepared by the Cal-IPC [2006]); and (6) all project-related lighting would be required to adhere to Division 9 of the San Diego County Light Pollution Code. Lighting within the proposed project footprint adjacent to undeveloped habitat would be of the lowest illumination allowed for human safety, selectively placed, shielded, and directed away from these areas, and lighting would not be installed for the trail easement between Planning Area 1 and HOA Open Space Lot DD. No significant impact would occur.

E. The project includes wetland buffers adequate to protect the functions and values of existing wetlands.

The project provides minimum 50- to 100-ft buffers around wetlands, with the exception of areas directly adjacent to road crossings and the far westernmost tip of the site adjacent to West Lilac Road. Wetland crossings by their nature do not have wetland buffers, and a small portion of the wetland adjacent to West Lilac Road cannot achieve a minimum 50 ft buffer due to its proximity to the existing roadway and associated required improvements to this road to meet County standards. Wetland buffers are a minimum of 100-ft wide around all other wetland edges (RPO-2 through RPO-6; Figures 17a-c) except for RPO-1, in which the buffer width ranges between 50 ft and 100 ft (Figures 17a and 17b), and RPO-7, which has a 50-ft buffer (Figure 17c). Conserved wetlands and their buffers are completely contained within the limits of proposed biological open space. In addition, 100-ft wide limited building zones extend outward from the edges of on-site biological open space, providing even further protection for wetland resources on site.

Minimum 100-ft buffers are considered appropriated for wetlands RPO-2 through RPO-6, as these areas range from moderate to high quality, support a predominance of hydrophytic vegetation, and either connect upstream and downstream, or are in close proximity to the San Luis Rey River corridor. None of these wetlands support significant populations of wetland-associated sensitive species or have physical factors that would indicate a wider buffer is needed to preserve wildlife habitat. Further, although a minimum 100-ft buffer was applied around these wetlands, many of these areas actually have a greater setback from proposed development than 100 ft. For example, the entire eastern side of the eastern riparian corridor (RPO-6; Figure 17c) abuts biological open space, as does the western edge along the southern half of this corridor (Figure 17c). The wetland at the western tip of the site (RPO-3) also abuts a large area of biological open space, as well as extending offsite into the San Luis Rey River corridor. RPO-2, which comprises the southern half of the western riparian corridor, abuts a large expanse of biological open space along its entire eastern border, and portions of its western side are set back more than 100 ft from the proposed entrance road.

Only RPO-1 and RPO-7 wetlands have buffers less than 100-ft wide. RPO-1 has a buffer ranging in width from 50 ft to 100 ft (Figure 17b). A minimum 50-ft buffer is considered appropriate for this wetland as it is not on steep slopes (gradient is less than 25 percent) and the habitat is of lower quality, with many of

the trees dead and exhibiting signs of stress prior to the December 2017 Lilac Fire, and with a poorly developed understory, low native species richness, and numerous non-native species in the herbaceous layer. The Lilac Fire further affected this area, and all burned vegetation was removed from this area following the fire to reduce the risk of property damage from debris flows associated with heavy rain forecasts. The northern edge of this wetland ends at the existing paved access road through the property and does not provide downstream connectivity to other wetlands or stream features. RPO-7 has a 50-ft buffer, which is considered appropriate because tamarisk scrub is a low quality, non-native habitat, the wetland is not on steep slopes, and does not support sensitive species.

As discussed above, the proposed widths of wetland buffers are considered appropriate given the resources present within these areas and adjacent land uses. Wetlands and buffers would be preserved in biological open space, and wetland buffers along the eastern riparian corridor that currently consist of row crops/disturbed agricultural land would be revegetated with coastal sage scrub, thereby increasing the biological value in terms of foraging habitat and wildlife movement. The highest quality wetlands on site are in the southern reach of the eastern riparian corridor; no impacts would occur within this area and the wetlands and buffers would be part of a wide swath of biological open space extending across the site. No significant impact would occur.

4.3 CUMULATIVE IMPACT ANALYSIS

The project would contribute to the cumulative impact on riparian habitat and other sensitive natural communities. Additional analysis is provided above in Section 2.2 of the proposed project's impacts on coast live oak woodland, coastal sage scrub, coastal sage-chaparral, and non-native grassland compared to the much larger cumulative area of the Draft NC MSCP Plan (Tables 8 and 9).

The proposed project's impacts to wetland/riparian habitat and sensitive upland communities, while significant at the project level, are considered cumulatively significant but mitigable as the project would provide mitigation for these impacts in accordance with County and regulatory agency guidelines. The County-approved mitigation ratios are standardized and not dependent upon the quality of habitat. Rather, the mitigation ratios recognize the regional importance of the habitat, the overall rarity of the habitat, and the number and variety of species it supports. Mitigation for habitat loss is required to compensate for direct impacts as well as cumulative loss of habitat. Impacts to wetland/riparian habitat and sensitive upland communities would be fully mitigated at County-approved ratios through one or a combination of the following: on- and/or off-site establishment, re-establishment, rehabilitation, enhancement and/or preservation; and/or off-site purchase of mitigation credits at an approved mitigation bank, or other location deemed acceptable by the County, Wildlife Agencies, and Regulatory Agencies; thus, providing long-term conservation value. As the project would be in conformance with County guidelines and mitigation ratios, the proposed project's contribution to cumulative impacts to sensitive vegetation communities is not considerable and would be less than significant.

4.4 MITIGATION MEASURES AND DESIGN CONSIDERATIONS

Mitigation for impacts to riparian habitats and sensitive natural communities is proposed to occur on site (refer to Conceptual Upland Restoration Plan [HELIX 2019b] and Conceptual Wetland Restoration Plan [HELIX 2019c]), however, the locations of proposed mitigation depicted herein may change during final negotiation with the County, wetland permitting agencies (USACE, RWQCB, and CDFW SAA program), and Wildlife Agencies. Riparian habitat mitigation will be subject to approval of a wetland restoration plan by the County and wetland permitting agencies. Onsite habitat preservation exceeds

the required mitigation ratios for the project's impacts to uplands. Although the project has sufficient upland preservation onsite to meet the required habitat mitigation ratios for impacts to sensitive uplands (coast live oak woodland, Diegan coastal sage scrub, flat-topped buckwheat scrub, and non-native grassland) and raptor foraging habitat (non-native grassland and pasture), the Wildlife Agencies and County have requested that upland restoration and enhancement efforts be conducted on site to further offset project impacts. The upland restoration plan will be subject to approval by the County and Wildlife Agencies. Figure 20 depicts areas of conceptual restoration and enhancement locations (to be finalized during preparation of the wetland and upland restoration plans).

As discussed in Section 2.0, subject to approval by the County and the applicable state and federal Resource Agencies, up to 308.9 acres of the proposed 832.7 acres of on-site biological open space may be sold as preservation lands to another entity to mitigate for the impacts of their projects, which would be unrelated to the proposed Ocean Breeze Ranch project, or incorporated into a mitigation bank through the formal mitigation bank approval process with the USFWS and CDFW. Any sale of lands to another entity would require County and Wildlife Agency approval. The sale of these lands, which are in the easternmost portion of the biological open space and referred to herein as the eastern hills excess biological open space (Figure 14a), would not affect the ability of the project to provide sufficient habitat conservation on site to mitigate for project impacts. A total of 157.6 acres of upland habitat mitigation is required (7.8 acres for impacts to coast live oak woodland [including 1.2 acres of mitigation for direct impacts to 0.4 acre of oak woodland and 6.6 acres of mitigation required for 2.2 acres of oak root zone impacts], 101.7 acres for impacts to sage scrub and buckwheat scrub, 18.8 acres for impacts to non-native grassland, and 29.3 acres for impacts to pasture). Even with the sale of 308.9 acres of biologically preserved lands to another entity or establishment of this area as a formal habitat mitigation bank, the remaining 523.8 acres of biological open space exceed the acreage and habitat types needed to meet the project's upland mitigation requirements of 157.6 acres.

BIO-6a Mitigation for impacts to 0.01 acre of southern willow scrub, 0.17 acre of mule fat scrub, and less than 0.01 acre of tamarisk scrub shall occur at a 3:1 ratio with at least 1:1 creation as specified in BIO-1b, above. Mitigation shall occur through one or a combination of the following: on- and/or off-site establishment, re-establishment, rehabilitation, and/or enhancement of 0.57 acre of riparian habitat; and/or off-site purchase of riparian habitat mitigation credits at an approved mitigation bank, such as the San Luis Rey Mitigation Bank, or other location deemed acceptable by the County and Regulatory Agencies. The establishment/creation component must be at least 1:1 while the remaining 2:1 can be restoration and enhancement. Any mitigation completed through purchase of mitigation credits shall be provided prior to the issuance of a grading permit. Any applicant-initiated mitigation must be implemented prior to or concurrent with associated project impacts.

BIO-6b Mitigation for impacts to 0.4 acre of coast live oak woodland and 2.2 acres of oak root protection zone (consisting of 0.2 acre of Diegan coastal sage scrub, 0.9 acre of non-native grassland, 0.1 acre of pasture, 0.4 acre of disturbed habitat, and 0.6 acre of developed land [Figure 14c]) shall occur at a 3:1 ratio through on-site preservation of a minimum of 7.8 acres of coast live oak woodland within a biological open space easement. The mitigation shall be provided prior to the issuance of a grading permit.

BIO-6c Mitigation for 32.5 acres of impacts to Diegan coastal sage scrub and 1.4 acres of impacts to flat-topped buckwheat scrub shall occur at a 3:1 ratio through the on-site preservation of 101.7 acres of Diegan coastal sage scrub within a biological open space easement. The mitigation shall be provided prior to the issuance of a grading permit.

BIO-6d Mitigation for 37.6 acres of impacts to non-native grassland shall occur through the on-site preservation of 18.8 acres of non-native grassland within a biological open space easement, as described in Measure BIO-4a, above. The mitigation shall be provided prior to the issuance of a grading permit.

BIO-7a Impacts to 0.20 acre of USACE jurisdictional non-wetland waters of the U.S. shall be mitigated at a minimum 1:1 ratio through one or a combination of the following: on- and/or off-site establishment, re-establishment, rehabilitation, and/or enhancement of 0.20 acre waters of the U.S.; and/or off-site purchase of waters of the U.S. credits at an approved mitigation bank, such as the San Luis Rey Mitigation Bank, or other location deemed acceptable by the USACE. Any mitigation completed through purchase of mitigation credits shall be provided prior to the issuance of a grading permit. Any applicant-initiated mitigation must be implemented prior to or concurrent with impacts to waters of the U.S. Impacts to waters of the U.S. would require issuance of a Section 404 CWA permit from the USACE prior to impacts.

BIO-7b Impacts to 0.01 acre of CDFW jurisdictional southern willow scrub, 0.17 acre of CDFW jurisdictional mule fat scrub, and less than 0.01 acre of CDFW jurisdictional tamarisk scrub will be mitigated at a 3:1 ratio as described in BIO-1b and 6a above, totaling 0.57 acre of riparian habitat mitigation. Impacts to 0.21 acre of CDFW streambed will be mitigated at a minimum 1:1 ratio through one or a combination of the following: on- and/or off-site establishment, re-establishment, rehabilitation, and/or enhancement of 0.21 acre riparian and/or stream habitat; and/or off-site purchase of riparian and/or stream credits at an approved mitigation bank, such as the San Luis Rey Mitigation Bank, or other location deemed acceptable by the CDFW. Combined mitigation for CDFW riparian habitat and streambed totals 0.78 acre. Any mitigation completed through purchase of mitigation credits shall be provided prior to the issuance of a grading permit. Any applicant-initiated mitigation must be implemented prior to or concurrent with impacts to CDFW habitat. Impacts to CDFW jurisdictional habitat would require issuance of a CFG Section 1602 Streambed Authorization Agreement from the CDFW prior to impacts.

BIO-7c Impacts to 0.19 acre of RPO wetland (0.01 acre of southern willow scrub, 0.17 acre of mule fat scrub, and less than 0.01 acre of tamarisk scrub) will be mitigated at a 3:1 ratio with at least 1:1 creation, for a total mitigation requirement of 0.57 acre for County RPO wetlands. Impacts to southern willow scrub, mule fat scrub, and tamarisk scrub will be mitigated as described in BIO-1b and BIO-6a, above. Any mitigation completed through purchase of mitigation credits shall be provided prior to the issuance of a grading permit. Any applicant-initiated mitigation must be implemented prior to or concurrent with impacts to RPO wetlands.

BIO-8a The project requires preparation of a Resource Management Plan (RMP) for on-site biological open space to be approved by the County. The RMP will provide direction for the permanent preservation and management of the on-site biological open space in accordance with County regulations.

BIO-8b The project will incorporate a 100-ft wide limited building zone easement extending outward from the edge of the biological open space easement.

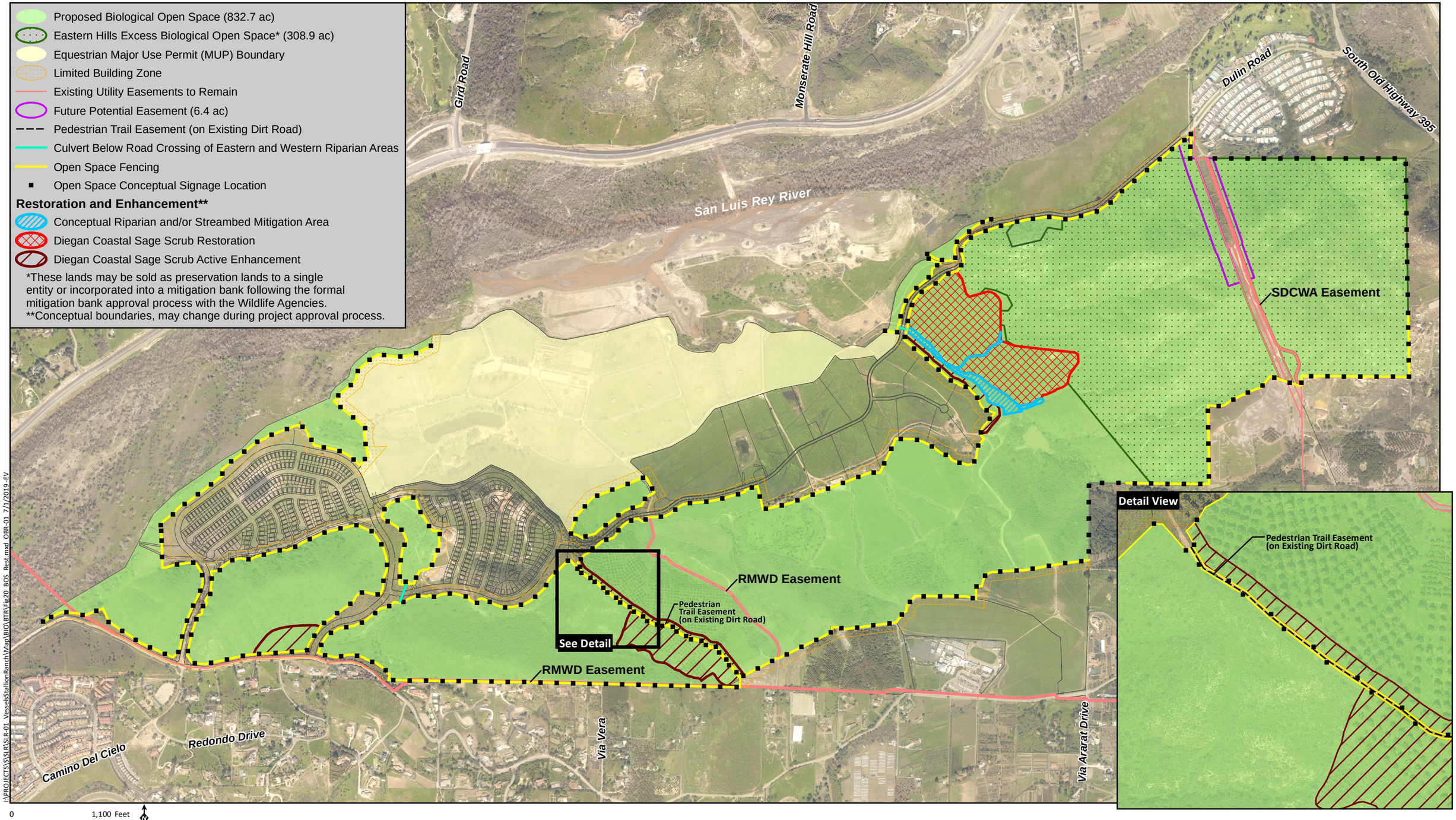
BIO-9a The project requires preparation of a wetland revegetation plan for impacts to wetland habitat and jurisdictional waters to be approved by the County (wetland impacts only) and USACE, CDFW, and

- Proposed Biological Open Space (832.7 ac)
- Eastern Hills Excess Biological Open Space* (308.9 ac)
- Equestrian Major Use Permit (MUP) Boundary
- Limited Building Zone
- Existing Utility Easements to Remain
- Future Potential Easement (6.4 ac)
- Pedestrian Trail Easement (on Existing Dirt Road)
- Culvert Below Road Crossing of Eastern and Western Riparian Areas
- Open Space Fencing
- Open Space Conceptual Signage Location

Restoration and Enhancement**

- Conceptual Riparian and/or Streambed Mitigation Area
- Diegan Coastal Sage Scrub Restoration
- Diegan Coastal Sage Scrub Active Enhancement

*These lands may be sold as preservation lands to a single entity or incorporated into a mitigation bank following the formal mitigation bank approval process with the Wildlife Agencies.
**Conceptual boundaries, may change during project approval process.



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HELIX Environmental Planning

Biological Open Space and Conceptual Restoration/Enhancement Areas

Figure 20

RWQCB (impacts to waters of the U.S. and CDFW wetlands). Approval of the plan by the USACE, CDFW, and RWQCB will be a condition of the associated wetland permits for the project.

BIO-9b The project requires preparation of an upland revegetation plan for impacts to sensitive upland habitat be approved by the County and Wildlife Agencies (USWFS and CDFW). Although the project has sufficient upland preservation onsite to meet the required habitat mitigation ratios for impacts to sensitive uplands (coast live oak woodland, Diegan coastal sage scrub, flat-topped buckwheat scrub, and non-native grassland) and raptor foraging habitat (non-native grassland and pasture), the project proponent has agreed to implement upland restoration and enhancement efforts above and beyond the habitat preservation requirement.

BIO-10a To help ensure errant impacts to sensitive vegetation communities outside of the impact footprint are avoided during construction, environmental fencing (including silt fencing where determined necessary by the SWPPP), would be installed at the edges of the impact limits prior to initiation of grading. All construction staging shall occur within the approved limits of construction.

BIO-10b A qualified biologist will monitor the installation of environmental fencing wherever it would abut sensitive vegetation communities, jurisdictional waters or wetlands, or biological open space. The biologist also will conduct a pre-construction environmental training session for construction personnel to inform them of the sensitive biological resources on site and avoidance measures to remain in compliance with project approvals. The biologist also will monitor vegetation clearing, grubbing, and grading activities on a regular basis to help ensure compliance with project approvals.

4.5 CONCLUSION

The project would result in significant impacts to sensitive natural communities and riparian habitat; however, a combination of avoidance through project design, proposed biological open space, and mitigation measures to fully compensate the loss of habitat would reduce impacts to below a level of significance. Mitigation is proposed at ratios consistent with those required by the County, Wildlife Agencies, and Resource Agencies. With the implementation of mitigation measures BIO-1a, BIO-1b, BIO-4a, and BIO-6a through BIO-10b, impacts on sensitive natural communities, including riparian habitat, would be reduced to less than significant.

5.0 JURISDICTIONAL WETLANDS AND WATERWAYS

5.1 GUIDELINES FOR DETERMINING SIGNIFICANCE

Would the project have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the CWA (including but not limited to marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?

The following condition would be considered significant if:

A. The project would impact federally protected wetlands as defined by Section 404 of the CWA through direct removal, filling, hydrological interruption, or other means.

5.2 ANALYSIS OF PROJECT EFFECTS

5.2.1 No Impact or Less than Significant Impacts

No federal wetlands as defined by Section 404 of the CWA would be impacted; therefore, under County Guideline 5.1.A no significant impact would occur.

5.3 CUMULATIVE IMPACT ANALYSIS

No federal wetlands as defined by Section 404 of the CWA would be impacted; therefore, under County Guideline 5.1.A no significant cumulative impact would occur.

5.4 MITIGATION MEASURES AND DESIGN CONSIDERATIONS

No federal wetlands as defined by Section 404 of the CWA would be impacted; therefore, no mitigation is required under County Guideline 5.1.A. Mitigation for impacts to USACE non-wetland waters is addressed through mitigation measure BIO-7a.

5.5 CONCLUSION

Implementation of the proposed project would not result in impacts to federally protected wetlands; however, the project would impact non-wetland waters of the U.S. and CDFW streambed. Mitigation measures, as determined in consultation with the USACE and CDFW, are anticipated.

Impacts to jurisdictional areas would require permitting through the appropriate regulatory agencies, as discussed below. Notification for securing necessary wetland permits prior to issuance of a grading permit is a regulatory requirement. Anticipated wetland permits include a CWA Section 404 permit from the USACE, CWA Section 401 Water Quality Certification or State Porter-Cologne Water Quality Control Act Waste Discharge requirements from the RWQCB, and CFG Code Section 1602 Streambed Alteration Agreement from CDFW. Final mitigation requirements would be determined through consultation with the USACE, RWQCB, and CDFW.

6.0 WILDLIFE MOVEMENT AND NURSERY SITES

6.1 GUIDELINES FOR DETERMINING SIGNIFICANCE

Would the project interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?

Any of the following conditions would be considered significant if:

A. The project would impede wildlife access to foraging habitat, breeding habitat, water sources, or other areas necessary for their reproduction.

B. The project would substantially interfere with connectivity between blocks of habitat, or would potentially block or substantially interfere with a local or regional wildlife corridor or linkage.

C. The project would create artificial wildlife corridors that do not follow natural movement patterns.

D. The project would increase noise and/or nighttime lighting in a wildlife corridor or linkage to levels proven to affect the behavior of the animals identified in a site-specific analysis of wildlife movement.

E. The project does not maintain an adequate width for an existing wildlife corridor or linkage and/or would further constrain an already narrow corridor through activities such as (but not limited to) reduction of corridor width, removal of available vegetative cover, placement of incompatible uses adjacent to it, and placement of barriers in the movement path.

F. The project does not maintain adequate visual continuity (i.e., long lines-of-site) within wildlife corridors or linkage.

6.2 ANALYSIS OF PROJECT EFFECTS

6.2.1 No Impact or Less than Significant Impacts

The project would not result in significant impacts under the above guidelines for the following reasons:

A. The project would not impede wildlife access to foraging habitat, breeding habitat, water sources, or other areas necessary for their reproduction.

Although the project would impact areas used by coastal California gnatcatcher and other species for foraging and breeding, the project would not impede wildlife access to on-site areas necessary for reproduction, as sufficient habitat to support these species would be conserved on site, and connections to off-site lands also would be maintained. Proposed biological open space extends uninterrupted across the site for approximately 2.5 miles and includes large expanses of native scrub habitats as well as riparian areas with water sources. Preservation of these habitats will continue to provide foraging and breeding habitat for a variety of species, including coastal California gnatcatcher. Project construction would lessen the area available for terrestrial wildlife movement in a direct north-south route in the western portion of the site between the San Luis Rey River (off site to the north), across the westernmost pasture and continuing to the southwestern range of hills. However, this route is likely to be used primarily by commonly occurring, suburban-adapted larger wildlife species, such as coyotes, which are frequently observed throughout the site and do not avoid the wide open, exposed pasture areas that make up the bulk of land between the southwestern hills and offsite areas along the river. Mule deer and mountain lion are the largest mammal species that could potentially occur on site. While suitable expanses of habitat exist for deer and mountain lion to move through the area, these species are considered unlikely to be utilizing the project site based on lack of observation of these species or evidence of these species (e.g., scat[5], shed antlers, deer kill, etc.) during numerous field visits and discussions with on-site ranch staff who have lived on the site for many years. If these species were to occur in the area, they are most likely to use the San Luis Rey River corridor and could potentially use the on-site eastern hills which are more remote than the remainder of the site, as large portions of the site have been subjected to human-related disturbances over many years. Movement of other large- to

[5] With the exception of a single observation of dried mule deer scat in the westernmost portion of the site, which connects directly to the adjacent San Luis Rey River corridor.

medium-sized mammals, such as bobcat, is more likely to follow riparian areas and other areas with sufficient cover. Such a connection currently exists in the far western tip of the site, where sage scrub-covered hills slope down toward riparian habitat associated with the river, as well as in the eastern hills, which slope down to the river's floodplain. The project would maintain this connection to offsite areas along an approximately 1,000-foot distance in the westernmost tip of the site which would be placed in biological open space, allowing for continued wildlife access from the project site to the river. Further, the project would conserve a continuous connection of land between the eastern hills and the eastern riparian corridor, consisting of an uninterrupted gradient of upland to wetland habitat along approximately 3,000-foot distance. Movement of avian species that forage in the pastures is not anticipated to be impacted by the project, which would avoid the majority of existing pastures and maintain the equestrian uses that currently exist in the avoided pastures. Impacts would be less than significant.

B. The project would not substantially interfere with connectivity between blocks of habitat and would not potentially block or substantially interfere with a local or regional wildlife corridor or linkage.

Most of proposed development is within lands that have been altered by decades of agricultural and equestrian uses. Only 72.1 acres (22 percent) of the 328.6 acres of on- and off-site impact are within native habitat or naturalized grassland. The project would conserve the large block of native scrub and woodland habitats occurring in the eastern hills totaling over 300 acres, and biological open space would extend westward from the eastern hills across the southern portion of the site, connecting back to off-site conserved lands associated with the San Luis Rey River. Although portions of the biological open space in the eastern hills may ultimately be sold to another entity, any such sale would only be for preservation/conservation of habitat, thus maintaining the continuity of open space and wildlife connectivity through the area. Biological open space at the western end of the site connects to off-site conserved lands associated with the river along an approximately 1,400 linear-ft distance. At the eastern end of the site, biological open space connects to undeveloped lands west of I-15 along an approximately 1,700-linear ft distance, and to undeveloped lands on the north side of Dulin Road over an approximately 3,200-linear ft distance. This wide swath of on-site biological open space ranges in width from over 900 ft to approximately 3,000 ft and contains over three linear miles of biological open space in an east-west direction across the site. The eastern 2.5 miles of biological open space are uninterrupted, while the western 0.5 mile is interrupted by proposed development and associated access roads. Proposed development is not expected to substantially interfere with the linkage, as lines-of-sight are maintained across the roads. The on-site portions of the linkage are most important for avian species such as coastal California gnatcatcher, and the proposed development and associated access roads traversing portions of the biological open space would not substantially interfere with their ability to disperse across the site, or to off-site areas, as adequate connectivity is maintained. Under Guideline 6.1.B, impacts would be less than significant.

C. The project would not create artificial wildlife corridors that do not follow natural movement patterns.

The project does not create artificial corridors and movement functions would continue on the project site under post-project conditions. To the greatest extent practicable, development would occur in existing disturbed areas, including areas that have been in agricultural use for several decades. Large expanses of native habitat would remain in the range of hills extending across the southern portion of the site and would be preserved as biological open space. Furthermore, the project would increase the

viability of north-south wildlife movement on site by revegetating the wetland buffer along the eastern riparian corridor from disturbed agriculture lands to sage scrub. As addressed above, the project would introduce new barriers on the project site itself, but the impediments would not substantially interfere with access due to alternate travel routes in the local area, particularly the east-west corridor along the San Luis Rey River. Adequate space and connectivity of habitat would remain in the local area, and local and regional movement functions would continue along the river north of the site and within the southern range of hills on site. In conclusion, although site development would introduce a new impediment to local wildlife movement within the site, the effects would not be substantially adverse and no artificial corridors would be created. Impacts would be less than significant.

D. The project would not increase noise and/or nighttime lighting in a wildlife corridor or linkage to levels proven to affect the behavior of the animals identified in a site-specific analysis of wildlife movement.

The San Luis Rey River and associated riparian areas function as a wildlife linkage just north of the project site, and on-site riparian corridors function as local movement corridors for wildlife. However, the western riparian corridor is not contiguous across the site, and both riparian corridors are already constrained by existing equestrian and agricultural operations on site. Project noise is not anticipated to adversely impact wildlife corridors/linkages as on-site riparian areas have been appropriately buffered, and development has been setback from the river to the extent feasible. In addition, ongoing equestrian and agriculture activities generate noise in portions of the site, including noise from mowing the pastures and noise from tilling and harvesting row crops, as well as maintenance of the orchards; thus, some level of noise disturbance already exists on site. The off-site linkage between SR 76 south to the project site ranges in width from approximately 1,500 to 3,000 ft, which is sufficiently wide to maintain wildlife corridor functions without being significantly affected by noise generated on site.

Nighttime lighting is not anticipated to adversely impact the linkage or on-site movement corridors. All project-related lighting would be required to adhere to Division 9 of the San Diego County Light Pollution Code. Project lighting adjacent to undeveloped habitat would be of the lowest illumination allowed for human safety, selectively placed, shielded, and directed away from such habitat. No significant impact to wildlife corridors or linkages resulting from lighting or noise would occur.

E. The project maintains an adequate width for an existing wildlife corridor or linkage and would not further constrain an already narrow corridor through activities such as (but not limited to) reduction of corridor width, removal of available vegetative cover, placement of incompatible uses adjacent to it, or placement of barriers in the movement path.

Project development would be concentrated in previously disturbed areas, conserving native habitat to the extent feasible. The on-site portion of the linkage is already constrained by existing equestrian and agriculture uses, as well as by existing semi-rural development to the south of the site. The off-site portions of the linkage between SR 76 south across the San Luis Rey River to the project site ranges in width from approximately 1,500 to 3,000 ft, and the project would not further constrain this area. The majority of native habitat present on site would be conserved within the -832.7-acre biological open space easement, including 467.8 acres of Diegan coastal sage scrub. The expanse of proposed biological open space extending across the southern portion of the site ranges in width from over 900 ft to approximately 3,000 ft (Figure 14a). Although the project would reduce the corridor width in the western portion of the site, the project maintains adequate widths within the identified linkage for continued wildlife movement and gnatcatcher breeding and dispersal, thus, no significant impact would

occur. Furthermore, extensive coordination has taken place between County staff and Wildlife Agency staff to ensure that the project would not conflict with the preliminary conservation elements described in the Planning Agreement for the draft NC MSCP Plan.

F. The project maintains adequate visual continuity (i.e., long lines-of-site) within wildlife corridors and linkage.

The project would not impair visual continuity within corridors or linkages. The majority of proposed biological open space is concentrated in a wide band across the eastern hills and southern portions of the site, encompassing the majority of native habitat present on site. Biological open space includes several hilltops and ridgelines that provide long lines-of-sight for birds and mammals. Large estate lots to be developed in the central portion of the site are within existing agricultural lands on the lower hill slopes and would not block visual continuity within the linkage. Planning Area 2 is in the lower valley area within areas currently used for equestrian purposes and also would not block visual continuity within the linkage. Project development in the west-central portion of the site (Planning Area 1) would occur partially within native habitats on the hills. However, adequate visual continuity would be maintained in this area, as the residential lots are situated more than 900 ft to the north of the southern property boundary, with biological open space occurring in a wide band to the south, linking the east and west portion of the site. As such, the project would not impair visual continuity within corridors or linkages in the local area and impacts would be less than significant.

6.3 CUMULATIVE IMPACT ANALYSIS

The cumulative projects are located in a semi-rural area characterized primarily by low-density residential development and agricultural and equestrian uses. The study area is bisected to the east-west by I-15 and to the north-south by the San Luis Rey River. Wildlife movement in the area has already been impacted by the construction of I-15, SR 76, and multitude of smaller roads and associated development that are present. The proposed project's biological open space would maintain connectivity to core wildlife habitat along the river and to undeveloped areas to the west of I-15. With the project's proposed biological open space, incorporation of design features, and implementation of mitigation measures at the specified ratios, the contribution of the project to the cumulative impact on wildlife movement would not be considerable and would be less than significant.

6.4 MITIGATION MEASURES AND DESIGN CONSIDERATIONS

No additional mitigation measures are required.

6.5 CONCLUSION

With the project's proposed biological open space, incorporation of design features, and implementation of the measures listed above, impacts would be less than significant and no additional mitigation measures are required.

7.0 LOCAL POLICIES, ORDINANCES, AND ADOPTED PLANS

7.1 GUIDELINES FOR DETERMINING SIGNIFICANCE

Would the project conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance? Would the project conflict with the provisions of an adopted HCP, NCCP plan, or other approved local, regional or state HCP?

Any of the following conditions would be considered significant if:

A. For lands outside of the MSCP, the project would impact Diegan coastal sage scrub vegetation in excess of the County's 5 percent habitat loss threshold, as defined by the Southern California Coastal Sage Scrub NCCP Guidelines.

B. The project would preclude or prevent the preparation of the subregional NCCP. For example, the project proposes development within areas that have been identified by the County or resource agencies as critical to future habitat preserves.

C. The project will impact any amount of wetlands or sensitive habitat lands as outlined in the RPO.

D. The project would not minimize and/or mitigate coastal sage scrub habitat loss in accordance with Section 4.3 of the NCCP Guidelines.

E. The project does not conform to goals and requirements outlined in any applicable HCP, Resource Management Plan (RMP), Special Area Management Plan, Watershed Plan, or similar regional planning effort.

F. For lands within the MSCP, the project would not minimize impacts to a Biological Resource Core Area (BRCA), as defined in the BMO.

G. The project would preclude connectivity between areas of high habitat values, as defined by the Southern California Coastal Sage Scrub NCCP Guidelines.

H. The project does not maintain existing movement corridors and/or habitat linkages, as defined by the BMO.

I. The project does not avoid impacts to MSCP narrow endemic species and would impact core populations of narrow endemics.

J. The project would reduce the likelihood of survival and recovery of listed species in the wild.

K. The project would result in the killing of migratory birds or destruction of active migratory bird nests and/or eggs (MBTA).

L. The project would result in the take of eagles, eagle eggs, or any part of an eagle (Bald and Golden Eagle Protection Act; BGEPA).

7.2 ANALYSIS OF PROJECT EFFECTS

7.2.1 Significant Impacts

The project would result in significant impacts under above guidelines 7.1.C and 7.1.K for the following reasons:

C. The project would impact wetlands and sensitive habitat lands outlined in the RPO.

The project would impact sensitive habitat lands consisting of 32.5 acres of occupied gnatcatcher habitat in the western portion of the site (i.e., Diegan coastal sage scrub).

The project also would result in unavoidable impacts to 0.19 acre of RPO wetlands to construct a necessary road crossing. The crossing is allowed by the RPO because the following conditions are met:

(aa) There is no feasible alternative that avoids the wetland;

Potential development areas on the site are constrained by a number of factors. In order to provide necessary resident and emergency access, the access road must cross the western and eastern riparian corridors. The eastern riparian crossing was sited within a narrow band of tamarisk scrub and an adjacent gap in the riparian habitat (refer to Appendix F, Photo 15), thereby minimizing RPO wetland impacts and also avoiding native wetland habitats. The western riparian corridor does not have a gap in the riparian habitat or area dominated by non-native riparian species; therefore, there is no feasible alternative that avoids the wetland.

(bb) The crossings are limited to the minimum number feasible;

The project includes only two crossings in the vicinity of RPO wetlands, one through the western riparian corridor and one through the eastern riparian corridor. This is the minimum number of crossings feasible for the project.

(cc) The crossings are located and designed in such a way as to cause the least impact to environmental resources, minimize impacts to sensitive species and prevent barriers to wildlife movement (e.g., crossing widths shall be the minimum feasible and wetlands shall be bridged where feasible);

Both crossings are located in the narrowest and least biologically sensitive portions of the riparian corridors so as to cause the least impact to environmental resources. The western riparian crossing would be through a narrow area of habitat made up of patchy mule fat (see Appendix F, Photo 16), avoiding wider and more extensive riparian forest and southern willow scrub habitats in the vicinity (although these habitats burned in the 2017 Lilac Fire, which severely burned and/or killed all of the trees). A 5-ft diameter hard-bottom culvert, approximately 200 ft long, is proposed below the roadway at the western riparian area (Figure 14a). The possibility of constructing a bridge was explored, however it was ultimately determined that a bridge is not feasible in this location due to the long bridge length (i.e., 100-ft span) that would be necessitated by the surrounding topography and proposed grading in the adjacent development areas, rendering it cost-prohibitive. As the riparian area that will be crossed by the road is not a major wildlife corridor nor does it provide valuable connectivity functions, a bridge is not necessitated, particularly one that is 100-ft wide, given the proportionately narrow width of the riparian habitat where the crossing would be located. The possibility of installing a soft-bottom,

partially-buried culvert also was explored, however, it was determined by the civil engineering design team that such a design would not function as intended in this location as the steepness of the channel and velocities of conveyed water would wash out the soil. Furthermore, the northern portion of the riparian area ends abruptly at an existing paved road on site, north of which are maintained horse pastures, thus the area to which the culvert connects is restricted in both size and continuity; it does not provide a continuous corridor for wildlife movement north across the site to the San Luis Rey River and the road crossing would not substantially constrain wildlife movement. Additionally, the riparian area narrows substantially to the south of the proposed culvert, and there is no continued connection to lands south of West Lilac Road. The conservation value of the northern stand of riparian habitat to which the culvert would connect is not of a high enough level to necessitate a crossing designed specifically for wildlife, though it may be used by wildlife. Species in the habitats adjacent to the proposed RPO wetland crossing of the western corridor that may use a culvert to cross below the proposed road include lizards (e.g., fence lizard [*Sceloporus occidentalis*]), snakes (e.g., gopher snake [*Pituophis catenifer*]), small rodents (e.g., deer mouse [*Peromyscus maniculatus*]), and medium-sized mammals such as raccoon (*Procyon lotor*), bobcat, and coyote. Common amphibians such as the Pacific treefrog and western toad (*Anaxyrus boreas*) also may use the culvert; however, special status amphibians such as western spadefoot toad and arroyo toad are not expected to occur in this portion of the site and would thus not be expected to use this culvert. Under-crossings ranging from 1 to 4 ft in diameter are considered suitable dimensions for small- to medium-sized mammals, with the chosen dimensions based on the needs of the target species (U.S. Department of Transportation [USDOT] 2011) and can also be used by reptiles and amphibians. A 5-ft diameter culvert below the road would be sufficient in size for all species that may use it to do so, although it may not be highly utilized due to its 200-ft length; however, there are no target sensitive species in the area that require a connection to this area. For species or individuals that may not use a culvert to cross below the roadway, the riparian area to which the culvert connects is not a critical resource area for reproduction, foraging, or breeding for wetland-dependent sensitive species. Preserve function would not be substantially affected by the lack of a larger culvert or bridge crossing in this area.

The eastern crossing is through a combination of unvegetated channel and a narrow band of tamarisk scrub. Southern willow scrub is located outside the impact area upstream of the proposed crossing, and the area is bordered to both sides by disturbed agricultural lands. The eastern crossing is proposed to consist of a series of three 12-ft wide by 5-ft high box culverts, approximately 75 ft in length (Figure 14a). A bottomless culvert/arch culvert was considered; however, it was determined by the civil engineering design team that this type of structure could compromise the integrity of the stormwater conveyance structure and associated road crossing. Instead, the culverts will be partially buried to achieve a natural, sediment-filled bottom. The sizing of the box culverts is driven by stream hydrology in the area but is also large enough to allow for wildlife passage for species known and expected to occur the area. Wildlife that may use these culverts to cross below the road include amphibians, lizards, snakes, rodents, and medium-sized mammals (raccoon, bobcat, coyote). Given the proximity of western spadefoot observations, this species may also use the culverts. Arroyo toad, which is not currently known from the project site or adjacent Caltrans mitigation parcel, could use these culverts in the future should the species repopulate the offsite reach of the San Luis Rey River. It should also be noted that Dulin Road is a restricted access, low-volume, low speed-limit road, which many species of wildlife could cross over without undue risk. Regardless, the proposed culverts would allow for continued wildlife movement below the roadway, including for slower-moving special-status species such as western spadefoot toads and potentially arroyo toads, should they repopulate the San Luis Rey River corridor west of the I-15.

(dd) The least-damaging construction methods are utilized (e.g., staging areas shall be located outside of sensitive areas, work shall not be performed during the sensitive avian breeding season, noise attenuation measures shall be included and hours of operation shall be limited so as to comply with all applicable ordinances and to avoid impacts to sensitive resources);

The locations of staging areas for construction have not been identified at this time; however, any construction staging would be within the approved limits of impact for the project, or within existing developed lands. No staging would occur within wetlands. Breeding season restrictions shall be included in the conditions of approval, noise attenuation measures shall be used as needed, and hours of operation shall comply with all applicable ordinances.

(ee) The applicant shall prepare an analysis of whether the crossing could feasibly serve adjoining properties and thereby result in minimizing the number of additional crossings required by adjacent development;

Not applicable. Adjoining properties are mostly developed and would not require access through the project site for additional development.

(ff) There must be no net loss of wetlands and any impacts to wetlands shall be mitigated at a minimum ratio of 3:1 (this shall include a minimum 1:1 creation component, while restoration/ enhancement of existing wetlands may be used to make up the remaining requirements for a total 3:1 ratio).

Impacts to 0.19 acre of RPO wetlands will be mitigated at a 3:1 ratio with a minimum 1:1 creation component.

K. The project could result in the killing of migratory birds or destruction of active migratory bird nests and/or eggs (MBTA).

Implementation of the project could potentially result in the killing of migratory birds or destruction of active migratory bird nests and/or eggs protected under the MBTA. Project construction could directly impact individuals or cause breeding birds to temporarily or permanently leave their territories, which could lead to reduced reproductive success and increased mortality. These impacts would be significant.

7.2.2 No Impact or Less than Significant Impacts

The project would not result in significant impacts under above guidelines 7.1.A, 7.1.B, 7.1.D, 7.1.E, 7.1.F, 7.1.G, 7.1.H, 7.1.I, 7.1.J, and 7.1.L for the following reasons:

A. The project would not impact Diegan coastal sage scrub vegetation outside of the MSCP in excess of the County's 5 percent habitat loss threshold, as defined by the Southern California Coastal Sage Scrub NCCP Guidelines.

The project would impact 32.5 acres of Diegan coastal sage scrub and 1.4 acres of flat-topped buckwheat scrub outside of adopted MSCP areas. The combined loss of 33.9 acres of sage scrub and buckwheat scrub would not be in excess of the County's 5 percent habitat loss threshold. No impact would occur.

B. The project would not preclude or prevent the preparation of the subregional NCCP. For example, the project proposes development within areas that have been identified by the County or resource agencies as critical to future habitat preserves.

The project would occur within areas identified as PAMA under the Draft NC MSCP Plan; however, project implementation would not preclude or prevent finalizing and adoption of this Plan, as further discussed below.

The majority of project development is concentrated in existing agricultural and equestrian-use areas and large areas of the site, including most of the native habitat areas, would be conserved in biological open space. The project would maintain wildlife access from off-site conserved lands along the river to the eastern hills and western tip of the site.

An analysis was completed for project impacts on coast live oak woodland, coastal sage scrub (including coastal sage-chaparral scrub), and non-native grassland compared to those reported for the region in the Draft NC MSCP Plan area, including data related to proposed PAMA designations and conservation targets. Tables 8 and 9 in Section 2.2 summarize the results of the analysis. The analysis demonstrates that project impacts on coast live oak woodland, Diegan coastal sage scrub, and non-native grassland are extremely small compared to the amount of existing regional habitat reported within the Draft NC MSCP Plan area, including the total expected and targeted for conservation within PAMA.

One of the key targets for the Draft NC MSCP Plan and preserve assemblage for PAMA is the gnatcatcher. The project site supports Diegan coastal sage scrub within PAMA and the Draft NC MSCP Plan California Gnatcatcher Habitat Evaluation Model (County 2008c) ranks portions of the eastern hills and southwestern hills on site as having high and very high value for this species. Gnatcatchers have been confirmed nesting in the southwestern portion of the site and a pair was also observed in the eastern hills in July 2016, in addition to two separate sightings of single male individuals in the eastern hills in March 2017. The project would conserve gnatcatcher habitat and dispersal routes from the eastern hills across the site to the southwestern corner. Alternative dispersal routes also occur along the San Luis Rey River to the north of the site and connect to on-site biological open space at the eastern and western ends of the site. The project would conserve the majority of native habitat present on site within the 832.7-acre on-site biological open space, including 467.8 acres of Diegan coastal sage scrub.

The project has been designed to assist in implementing the proposed PAMA and contribute to long-term habitat value for plants and wildlife in the region. The configuration of proposed biological open space results in conservation of a large block of preserved land that contributes substantially to the viability of the NC MSCP by providing large areas of live-in habitat and dispersal habitat for key species of concern (e.g., coastal California gnatcatcher). Furthermore, the proposed project supports the conservation goals and objectives for the Lower San Luis Rey River Linkage by minimizing impacts to sage scrub; providing for conservation of potential foraging and aestivation habitat for arroyo toad and western spadefoot; maintaining and restoring riparian habitat near the San Luis Rey River; incorporating long-term management of biological open space, which will include directives for management of invasive species; and maintaining connectivity for wildlife movement between the project site, San Luis River, and hills offsite to the east near I-15. Thus, the project would not preclude or prevent the successful preparation and implementation of the NC MSCP Plan.

D. The project would mitigate coastal sage scrub habitat loss in accordance with Section 4.3 of the NCCP Guidelines.

The project would impact a combined total of 33.9 acres of Diegan coastal sage scrub and flat-topped buckwheat scrub on and offsite. Extensive coordination has taken place with County and Wildlife Agency staff regarding the project footprint and proposed conservation, resulting in a project design that minimizes habitat loss to the maximum extent feasible. The proposed project will fully comply with the MSCP including mitigating all impacts at specified ratios. Therefore, no significant impact would occur.

E. The project conforms to goals and requirements outlined in any applicable HCP, RMP, Special Area Management Plan, Watershed Plan, or similar regional planning effort.

No adopted HCP, RMP, Special Area Management Plan, Watershed Plan, or other regional planning efforts are applicable to the project. As such, the project would not conflict with any adopted plans. No impact would occur.

F. For lands within the MSCP, the project would not minimize impacts to BRCA, as defined in the BMO.

The project does not occur within an adopted MSCP planning area, thus the BMO does not apply. No impact would occur.

G. The project would not preclude connectivity between areas of high habitat values, as defined by the Southern California Coastal Sage Scrub NCCP Guidelines.

The site supports large areas of land that are identified as very high or high habitat value on the County's Habitat Evaluation Model (County 2008b). These lands are concentrated in the eastern and western hills, as well as along the northwestern half of the site where existing equestrian facilities and pastures dominate the landscape. The project would disrupt connectivity between high habitat value areas in the southwestern hills directly north to high habitat value areas extending off site. However, these northern areas of the site have been in equestrian-related development for decades and do not currently provide high habitat value. The project would maintain existing connectivity from high value habitat in the western portion of the site to high habitat value areas off-site along the river along an approximately 1,400-linear ft distance at the site's western end, as well as from high habitat value areas in the eastern hills north to high habitat value areas off site along an approximately 3,100-linear ft distance paralleling existing Dulin Road. The project does not preclude movement of gnatcatchers or other wildlife between high value areas on site and areas off site to the north and east, as discussed in Section 6.2. As such, the project would not preclude connectivity between high habitat value areas in the region and no significant impact would occur.

H. The project maintains existing movement corridors and/or habitat linkages, as defined by the BMO.

The project does not occur within an adopted MSCP planning area, thus the BMO does not apply. No impact would occur.

I. The project avoids impacts to MSCP narrow endemic species and would not impact core populations of narrow endemics.

The project does not occur within an adopted MSCP planning area and protection of MSCP narrow endemics does not apply. No impact would occur.

J. The project would not reduce the likelihood of survival and recovery of listed species in the wild.

Two listed species have been observed on site: coastal California gnatcatcher and least Bell's vireo. Each species is further discussed below.

Gnatcatcher pairs were observed in four locations in the southwestern portion of the site during the 2015 protocol survey, though not all pairs were detected during each of the three surveys. A pair of gnatcatchers also was observed in the eastern hills in early July 2016, and two separate observations of single male individuals were noted in the eastern hills in March 2017. As addressed within Section 3.0, the project would impact two locations where breeding coastal California gnatcatchers were detected. The project would conserve 467.8 acres of coastal sage scrub in biological open space, including 149.0 acres in the western half of the site where the majority of gnatcatcher detections have occurred to date. Gnatcatcher use of the eastern hills is expected to increase as the habitat continues to recover from the 2014 and 2017 wild fires, as one pair was already been detected in the area in 2015 and this portion of the site is in close proximity to numerous records of gnatcatcher east of the site along the I-15 corridor. Proposed biological open space would maintain adequate habitat connectivity for gnatcatcher with off-site lands to the east, north, and west of the site, as well as sufficient habitat on site to continue to support breeding, foraging, dispersal, and migration activities for the species. Additionally, proposed restoration activities would increase the amount of sage scrub on site, providing additional habitat for gnatcatcher.

Edge effects on gnatcatcher as a result of project development would be addressed through a variety of mitigation measures and project design features, including conservation of 467.8 acres of sage scrub in biological open space; restoration of select agricultural areas to sage scrub; conserving open space in a configuration that provides for continued connectivity across the site and to offsite habitat; incorporating breeding season avoidance measures during construction; providing fencing and signage around biological open space; not allowing trails within the biological open space; surrounding the biological open space with a limited building zone so that all fuel modification would be conducted outside the limits of biological open space; providing for long-term management of the biological open space by a qualified Resource Manager; Resource Manager coordination and homeowner education with the HOA; implementing noise mitigation measures during construction; and using project lighting that is the lowest illumination allowed for human safety, selectively placed, shielded, and directed away from biological open space. Through the combination of the following design features intended to minimize impacts to gnatcatcher habitat, the project would not reduce the likelihood of survival and recovery of gnatcatcher in the wild: designing the biological open space to conserve large, connected areas of sage scrub; maintaining connectivity to offsite dispersal habitat along the San Luis Rey River; restoration and enhancement of sage scrub on site; implementation of avoidance and minimization measures during construction; mitigation and project design features to address edge effects; and long-term monitoring and management to be conducted for biological open space under a project-specific RMP to be approved by the County.

There is also a potential for impacts to least Bell's vireo if they should move onto the site for nesting. However, a breeding territory was not documented on site during focused surveys conducted in 2015 and 2016, and the site would not be expected to support a significant population of vireos, as this species is known to occupy the San Luis Rey River north of the site, which supports higher quality, much more extensive habitat for the species. Further, the project would increase the amount of riparian habitat on site through restoration. Therefore, the project would not reduce the likelihood of survival or recovery for either species. A less than significant impact would occur.

L. The project would not result in the take of eagles, eagle eggs, or any part of an eagle (BGEPA).

The nearest known golden eagle nest is approximately 3.5 miles to the east of the project site. The project site does not contain nesting habitat and it is not within any known golden eagle territory. While there is adequate eagle foraging habitat (open non-native grassland) on site, the surrounding habitat fragmentation and the distance from known eagle territories would indicate that the site does not have high value for golden eagle. The surrounding area is primarily urbanized and new nesting in the vicinity is unlikely. Therefore, no impacts would occur to golden eagle or its habitat.

7.3 CUMULATIVE IMPACT ANALYSIS

The cumulative projects would be required to conform to County Guidelines 7.1.A through 7.1.L and provide mitigation as appropriate. Mitigation is proposed to reduce the project-level impacts on migratory birds, sensitive habitat lands, and RPO wetlands. Conformance or mitigation, as appropriate, would be required for the project and for the other cumulative projects in order to obtain a recommendation for approval, thus no significant cumulative impacts would occur. Additional discussion regarding the project's contribution to the cumulative impacts on PAMA and the viability of the NC MSCP is provided below.

The project would contribute to the cumulative impacts to lands designated as future PAMA under the draft NC MSCP, as impacts would occur to 256.5 acres of the 1,176.9 acres of PAMA on site, comprising 22 percent of PAMA mapped within the project site (Table 12). However, most proposed project impacts within PAMA are in lands that are in existing agricultural, equestrian, and other disturbed land use categories, which together make up 186.3 acres of impact to on-site PAMA (73 percent of on-site PAMA impacts). Project impacts to sensitive vegetation communities in PAMA total 70.2 acres onsite, representing less than one-third (27 percent) of on-site PAMA impacts. As shown in Table 12, only 10.2 percent of the total sensitive vegetation communities contained within on-site PAMA would be impacted compared to 37.9 percent of the non-sensitive vegetation communities within PAMA.

Table 12
PAMA IMPACTS SUMMARY

Category of Impacts	Acreage		Percent Impacted
	Existing On-site in PAMA	Proposed On-site Impacts in PAMA	
Sensitive Vegetation Community[1]	685.4	70.2	10.2
Non-sensitive Vegetation Community/Land Use Type[2]	491.5	186.3	37.9
TOTAL	**1,176.9**	**256.5**	**21.8**

[1] Southern cottonwood-willow riparian forest, southern willow scrub, mule fat scrub, tamarisk scrub, coast live oak woodland, Diegan coastal sage scrub, flat-topped buckwheat scrub, and non-native grassland.
[2] Row crops, pasture, agricultural pond, eucalyptus woodland, orchard, non-native vegetation, disturbed habitat, and developed land.
PAMA = Pre-Approved Mitigation Area

Impacts to sensitive vegetation communities in PAMA, and across the site, have been minimized to the extent practicable, and biological open space designed to maximize connectivity to the extent practicable. Although the NC MSCP Plan is still in draft form, the project has been designed to assist in implementing the proposed PAMA and contribute to long-term habitat value for plants and wildlife in the region. Extensive coordination has taken place with the Wildlife Agencies and County PDS regarding project design and biological open space configuration to ensure that successful implementation of the NC MSCP would not be jeopardized by the project. The configuration of proposed biological open space results in conservation of over 800 acres of preserved land that contributes substantially to the viability of the NC MSCP by providing large areas of live-in habitat and dispersal habitat for key species of concern (e.g., coastal California gnatcatcher). The project also incorporates restoration and enhancement activities to increase the acreage and quality of sage scrub on site, as well as incorporating habitat restoration and enhancement efforts for the potential future benefit of coastal cactus wren and arroyo toad. Furthermore, the proposed project supports the conservation goals and objectives for the Lower San Luis Rey River Linkage by minimizing impacts to sage scrub (only six percent of the 509.2 acres of sage scrub on site would be impacted); providing for conservation of potential foraging and aestivation habitat for arroyo toad and western spadefoot; maintaining and restoring riparian habitat near the San Luis Rey River as part of the project's wetland mitigation efforts; incorporating long-term management of biological open space, which will include directives for management of invasive species; and maintaining connectivity for wildlife movement between the project site, San Luis River, and hills offsite to the east near I-15.

With the project's proposed biological open space size and configuration, incorporation of design features, and implementation of mitigation measures at the specified ratios, the contribution of the project to the cumulative impact on PAMA would not be considerable and would be less than significant.

7.4 MITIGATION MEASURES AND DESIGN CONSIDERATIONS

Impacts to nesting birds protected under the MBTA would be implemented through mitigation measure BIO-2.

Impacts to RPO sensitive habitat lands and RPO wetlands would be compensated in accordance with mitigation measures BIO-1a, BIO-1b, BIO-6a, and BIO-7c.

7.5 CONCLUSION

Implementation of the project would result in potentially significant impacts to breeding migratory birds, RPO wetlands, and RPO sensitive habitat lands. Implementation of mitigation measure BIO-2, which proposes avoiding clearing of vegetation during the bird breeding season, and mitigation measures BIO-1a, BIO-1b, BIO-6a, and BIO-7c, which compensate for habitat loss, would reduce these impacts to below a level of significance.

8.0 SUMMARY OF PROJECT IMPACTS AND MITIGATION

Implementation of the project would result in significant impacts to special status animal species, sensitive natural communities, jurisdictional wetlands and/or riparian habitats as defined by the USACE, CDFW, and County, and local policies. Table 13 provides a summary of project impacts and mitigation pertaining to sensitive natural communities. Table 14 provides a summary of the proposed mitigation measures.

Table 13
SUMMARY OF VEGETATION COMMUNITIES IMPACTS AND MITIGATION

Vegetation Community/Habitat[1]	Total Existing[2]	Total On- and Off-Site Impacts[3]	Mitigation			Preserved in Excess of Required Mitigation and Outside Upland Restoration and Enhancement Areas
			Ratio	Required	Preserved On Site[4]	
Southern Cottonwood-willow Riparian Forest (61330)	18.18	0	--	0	18.01	18.01
Southern Willow Scrub (63320)	3.03	0.01	3:1	0.03[5]	2.76	2.76
Mule Fat Scrub (63310)	1.30	0.17	3:1	0.51[5]	1.12	1.12
Freshwater Marsh (52400)	0.98	0	--	0	0.98	0.98
Herbaceous Wetland (52510)	0.24	0	--	0	0.24	0.24
Tamarisk Scrub (63810)	0.09	<0.01	3:1	0.03[5]	0.08	0.08
Freshwater Pond/Open Water (64140)	1.16	0	--	0	1.16	1.16
Coast Live Oak Woodland (71160)	29.2	0.4	3:1	7.8[6]	28.1	20.3
Diegan Coastal Sage Scrub – including disturbed (32500)	509.2	32.5	3:1	97.5	467.8[7]	366.1
Flat-topped Buckwheat Scrub (32800)	1.4	1.4	3:1	4.2	0	0
Coastal Sage-chaparral Scrub (37G00)	31.5	0	3:1	0	31.5	31.5
Southern Mixed Chaparral (37120)	31.8	0	--	0	31.8	31.8
Non-Native Grassland (42200)	104.2	37.6	0.5:1	18.8	42.7	0
Extensive Agriculture: Pasture (18310)	178.3	58.5	0.5:1	29.3[8]	6.1	0
Extensive Agriculture: Row Crops (18320)	265.9	104. 8	--	0	92.5[9]	54.9
Agricultural Pond/Open Water (64100)	8.0	4.1	--	0	0	0
Eucalyptus Woodland (79100)	1.8	0.2	--	0	1.2	1.2
Orchard (18100)	102.8	31.9	--	0	68.5[9]	51.9
Fallow Orchard (18100)	32.1	0.3	--	0	31.8	30.1
Non-native Vegetation (79100)	1.3	< 0.1	--	0	1.2	1.2

Table 13 (cont.)
SUMMARY OF VEGETATION COMMUNITIES IMPACTS AND MITIGATION

Vegetation Community/Habitat[1]	Total Existing[2]	Total On- and Off-Site Impacts[3]	Mitigation			Preserved in Excess of Required Mitigation and Outside Upland Restoration and Enhancement Areas
			Ratio	Required	Preserved On Site[4]	
Disturbed Habitat (11300)	49.6	27.1	--	0	4.4	4.2
Developed Land (12000)	30.3	29.5	--	0	0.6	0.6
TOTAL	**1,402.5**	**328.6**	**--**	**158.2**	**832.7**	**618.1**

[1] Vegetation categories and numerical codes are from Oberbauer (2008)
[2] Area presented in acre(s) rounded to the nearest hundredth for wetlands and the nearest tenth for uplands. Totals reflect rounding.
[3] Includes 326.4 acres of on-site impacts and 2.2 acres of off-site impacts.
[4] In Biological Open Space.
[5] Mitigation location for impacts to wetland habitats to be determined through consultation with CDFW and the County.
[6] Includes 6.6 acres of mitigation for impacts to 2.2 acres of oak root zone.
[7] Includes 4.2 acres of mitigation for impacts to 1.4 acre of flat-topped buckwheat scrub.
[8] Mitigated at 0.5:1 through on-site preservation of 22.6 acres of non-native grassland, 6.1 acres of pasture that will revert to grassland, and 0.6 acre of fallow orchard.
[9] Habitat restoration and enhancement activities would occur within portions of the former row crop and orchard areas as part of project implementation. These areas are not part of the project's upland habitat mitigation requirements, which will be met through on-site preservation of existing habitat.

Table 14
SUMMARY OF BIOLOGICAL RESOURCES MITIGATION MEASURES

Proposed Mitigation	Level of Significance After Mitigation	Guideline Number
BIO-1a Mitigation for impacts to 33.9 acres of coastal California gnatcatcher habitat (32.5 acres of Diegan coastal sage scrub and 1.4 acres of flat-topped buckwheat scrub) shall occur at a 3:1 ratio through the on-site preservation of 101.7 acres of Diegan coastal sage scrub within a biological open space easement. The preferred approach to site development would be for no grubbing or clearing of vegetation to occur within 500 feet of occupied Diegan coastal sage scrub or flat-topped buckwheat scrub during the breeding season of the coastal California gnatcatcher (February 15 – August 31). All grading permits, improvement plans, and the final map shall state the same. If clearing or grubbing must occur during the gnatcatcher breeding season within 500 feet of suitable coastal California gnatcatcher breeding habitat, a pre-construction survey shall be conducted to determine whether gnatcatchers occur within the impact area(s). The pre-construction survey shall consist of three site visits with each site visit occurring a minimum of seven days apart, and the third visit occurring no more than three days prior to the start of construction. To avoid take under the federal ESA, impacts to occupied habitat shall be avoided. If there are no gnatcatchers nesting (includes nest building or other breeding/nesting behavior) within that area, grading and clearing shall be allowed to proceed upon receipt of concurrence from County and the Wildlife Agencies. If, however, any gnatcatchers are observed, but no nesting or breeding behaviors are noted, two additional surveys for breeding/nesting behaviors shall be conducted a minimum of three days apart. If any gnatcatchers are observed nesting or displaying breeding/nesting behavior during the pre-construction survey or additional surveys within the area, construction shall be postponed within 300 ft of any location at which gnatcatchers have been observed until all nesting (or breeding/nesting behavior) has ceased or until after August 31. (See BIO-5 for mitigation for indirect noise effects.) Impacts to gnatcatcher would require take authorization either through either through a Section 7 consultation with the USFWS and/or an HLP from the County. A Section 7 consultation is anticipated given the federal nexus between impacts to waters of the U.S. and impacts to gnatcatcher-occupied habitat and USFWS critical habitat for this species. However, if the action area for the USACE does not include all impacts to gnatcatcher habitat, an HLP also may be required.	Less than significant	3.1 A 3.1 B 3.1 L 4.1 A 7.1 C 7.1 K

Table 14 (cont.)
SUMMARY OF BIOLOGICAL RESOURCES MITIGATION MEASURES (cont.)

Proposed Mitigation	Level of Significance After Mitigation	Guideline Number
BIO-1b Mitigation for impacts to 0.19 acre of potential foraging habitat for least Bell's vireo (southern willow scrub, mule fat scrub, and tamarisk scrub) shall occur at a 3:1 ratio through one or a combination of the following: on- and/or off-site establishment, re-establishment, rehabilitation, and/or enhancement of 0.57 acre of riparian habitat; and/or off-site purchase of riparian habitat mitigation credits at an approved mitigation bank, such as the San Luis Rey Mitigation Bank, or other location deemed acceptable by the County and Regulatory Agencies. The establishment/creation component must be at least 1:1 while the remaining 2:1 can be restoration and enhancement. The preferred approach to site development would be for no grubbing or clearing of vegetation to occur within riparian habitat during the breeding season of the least Bell's vireo (March 15 – September 15). All grading permits, improvement plans, and the final map shall state the same. If clearing or grubbing must occur during the least Bell's vireo breeding season, a pre-construction survey shall be conducted to determine whether vireos occur within the impact area(s). The pre-construction survey shall consist of three site visits (at least three days apart) with the final site visit occurring the day prior to the start of construction. To avoid take under the federal and California ESAs, impacts to occupied habitat shall be avoided. If there are no vireos nesting (includes nest building or other breeding/nesting behavior) within that area, grading and clearing shall be allowed to proceed upon receipt of concurrence from County and the Wildlife Agencies. If, however, any vireos are observed, but no nesting or breeding behaviors are noted, two additional surveys for breeding/nesting behaviors shall be conducted a minimum of three days apart. If any vireos are observed nesting or displaying breeding/nesting behavior during the pre-construction survey or additional surveys within that area, construction shall be postponed within 300 ft of any location at which vireos have been observed until all nesting (or breeding/nesting behavior) has ceased or until after September 15. (See BIO-5 for mitigation for indirect noise effects.) Impacts to least Bell's vireo would require take authorization either through a Section 7 consultation or a Section 10(a) HCP from the USFWS. A Section 7 consultation is anticipated given the federal nexus between impacts to waters of the U.S. and impacts to potential vireo habitat.	Less than significant	3.1 A 3.1 B 3.1 L 4.1 A 4.1 B 4.1 C 7.1 K
BIO-1c Pre-construction surveys for Stephens' kangaroo rat will be conducted in suitable habitat within the project impact area by a qualified biologist. Surveyors would search for signs of kangaroo rat presence, and if observed, a trapping survey would be conducted to capture individuals and identify them to species. Results of the surveys will be submitted to the Wildlife Agencies and County PDS. In the event of a positive survey, the project proponent will coordinate with the Wildlife Agencies and County PDS to determine next steps.	Less than significant	3.1.A

Table 14 (cont.)
SUMMARY OF BIOLOGICAL RESOURCES MITIGATION MEASURES (cont.)

Proposed Mitigation	Level of Significance After Mitigation	Guideline Number
BIO-2 The preferred approach to site development would be for no grubbing or clearing of vegetation to occur during the general avian breeding season (January 15 to July 15 for raptors and February 15 – August 31 for general nesting birds). All grading permits, improvement plans, and the final map shall state the same. If grubbing or clearing must occur during the general avian breeding season within 300 feet of general nesting bird habitat or 500 feet of nesting raptor habitat, a pre-construction survey shall be conducted by a qualified biologist no more than three days prior to the commencement of the activities to determine if active bird nests are present in the affected areas, with results submitted to the County and Wildlife Agencies. If there are no nesting birds (includes nest building or other breeding/nesting behavior) within this area, clearing and grubbing shall be allowed to proceed. Furthermore, if construction activities are to resume in an area where they have not occurred for a period of seven or more days during the breeding season, an updated survey for avian nesting will be conducted, with results submitted to the County and Wildlife Agencies. If active nests or nesting birds are observed within the area, the biologist shall submit the nesting bird survey results and proposed nest buffers to the County and Wildlife Agencies. The biologist shall flag buffers around the active nest buffers and construction activities shall avoid active nests until nesting behavior has ceased, nests have failed, or young have fledged, with results submitted to the County and Wildlife Agencies.	Less than significant	3.1 A 3.1 B 3.1 L 7.1 K
BIO-3a Temporary toad exclusionary fencing (silt fencing) will be installed along the northern limits of Planning Area 2 and Planning Area 3 (or as determined by the USFWS during Section 7 consultation for CWA Section 404 permitting) prior to initiation of clearing or grading activities in these areas. Translocation surveys would be conducted by a qualified biologist to relocate arroyo toad (if present), with approval from USFWS, and western spadefoot individuals from within the impact area to suitable areas of biological open space on the project site or north of the project site along the San Luis Rey River. If arroyo toad is found on site, impacts to this species would require take authorization either through a Section 7 consultation or a Section 10(a) HCP from the USFWS. A Section 7 consultation is anticipated given the federal nexus between impacts to waters of the U.S. and impacts to critical habitat for this species.	Less than significant	3.1 D

Table 14 (cont.)
SUMMARY OF BIOLOGICAL RESOURCES MITIGATION MEASURES (cont.)

Proposed Mitigation	Level of Significance After Mitigation	Guideline Number
BIO-3b Following completion of construction activities within Planning Area 2 and Planning Area 3, and concurrent with the removal of temporary fencing associated with each of these planning areas, permanent toad exclusionary fencing will be installed along the northern limits of Planning Area 2 and portions of Planning Area 3, or as determined by the USFWS during Section 7 consultation for CWA Section 404 permitting. If arroyo toad is found on site, impacts to this species would require take authorization either through a Section 7 consultation or a Section 10(a) HCP from the USFWS. A Section 7 consultation is anticipated given the federal nexus between impacts to waters of the U.S. and impacts to critical habitat for this species.	Less than significant	3.1 D
BIO-3c The project will conserve suitable foraging and aestivation habitat for arroyo toad and western spadefoot along the northern project boundary and along the eastern riparian corridor within biological open space, with direct connections to offsite habitat along the San Luis Rey River. In addition, a limited use easement will be placed over pastures in the equestrian facility, such that these areas would remain undeveloped and could be used by foraging and aestivating toads, although this habitat is not expected to be frequently utilized by these species.	Less than significant	3.1 D
BIO-3d The project shall not impede flows from the eastern riparian corridor leading offsite to the Caltrans mitigation parcel. In conjunction with the improvements to Dulin Road, hydrologic connectivity under the road at the eastern riparian corridor shall be maintained by construction of box culverts sized to adequately convey flow volumes, as determined through civil engineering design.	Less than significant	3.1 D
BIO-3e Concurrent with or prior to the initiation of project construction, areas adjacent to the eastern riparian corridor that are currently in row crops will be planted/seeded with coastal sage scrub species, with the goal of improving the habitat quality of the wetland buffer, reducing the potential for sedimentation in the creek, and providing higher quality upland foraging habitat for toads. The acreage, configuration, and implementation methodology is described in the Conceptual Upland Restoration Plan (HELIX 2019b). This proposed habitat enhancement is not required as habitat mitigation and does not require posting of a bond, however, monitoring and maintenance will be incorporated into the restoration effort.	Less than significant	3.1 D
BIO-4a Mitigation for impacts to 37.6 acres of non-native grassland shall occur at a 0.5:1 ratio through the on-site preservation of 18.8 acres of non-native grassland within a biological open space easement. The mitigation shall be provided prior to the issuance of a grading permit.	Less than significant	3.1 B 3.1 F 4.1 A

Table 14 (cont.)
SUMMARY OF BIOLOGICAL RESOURCES MITIGATION MEASURES (cont.)

Proposed Mitigation	Level of Significance After Mitigation	Guideline Number
BIO-4b Mitigation for impacts to 58.5 acres of pasture shall occur at a 0.5:1 ratio through the on-site preservation of 29.3 acres of grassland habitat and/or other like-functioning habitat (e.g., fallow orchard) within a biological open space easement. The mitigation shall be provided prior to the issuance of a grading permit.	Less than significant	3.1 B 3.1 F
BIO-5 If operation of construction equipment occurs within 500 feet of suitable habitat during the breeding seasons for the coastal California gnatcatcher (February 15 – August 31), nesting raptors (January 15 – July 15), or least Bell's vireo (March 15 – September 15), pre-construction survey(s) shall be conducted by a qualified biologist, as applicable, to determine whether these species occur within the areas potentially impacted by noise, with the final survey occurring within 3 days of the proposed start of construction and results submitted to the County and Wildlife Agencies. If it is determined at the completion of pre-construction surveys that active nests belonging to these sensitive species are absent from the potential impact area, construction shall be allowed to proceed. If pre-construction surveys determine the presence of active nests belonging to these sensitive species, then construction shall: (1) be postponed until a qualified biologist determines the nest(s) is no longer active or until after the respective breeding season; or (2) not occur until a temporary noise barrier or berm is constructed at the edge of the development footprint and/or around the piece of equipment to ensure that noise levels are reduced to below 60 dBA or ambient, whichever is greater, and the type(s) and location(s) of noise barrier(s) will be provided to the County and Wildlife Agencies along with the associated noise measurements demonstrating compliance with required noise level reductions. Decibel output will be confirmed by a County-approved noise specialist and intermittent monitoring by a qualified biologist to ensure that conditions have not changed will be required. If pre-construction surveys identify coastal California gnatcatcher, nesting raptors, or least Bell's vireo, blasting will be restricted to the non-breeding season for the identified birds (September 1 to February 14 for coastal California gnatcatcher; July 16 to January 14 for nesting raptors; and September 16 to March 14 for least Bell's vireo) or be completed using wholly chemical means. All grading permits, improvement plans, and the final map shall state the same.	Less than significant	3.1 A 3.1 B 3.1 L

Table 14 (cont.)
SUMMARY OF BIOLOGICAL RESOURCES MITIGATION MEASURES (cont.)

Proposed Mitigation	Level of Significance After Mitigation	Guideline Number
BIO-6a Mitigation for impacts to 0.01 acre of southern willow scrub, 0.17 acre of mule fat scrub, and less than 0.01 acre of tamarisk scrub shall occur at a 3:1 ratio with at least 1:1 creation as specified in BIO-1b, above. Mitigation shall occur through one or a combination of the following: on- and/or off-site establishment, re-establishment, rehabilitation, and/or enhancement of 0.57 acre of riparian habitat; and/or off-site purchase of riparian habitat mitigation credits at an approved mitigation bank, such as the San Luis Rey Mitigation Bank, or other location deemed acceptable by the County and Regulatory Agencies. The establishment/creation component must be at least 1:1 while the remaining 2:1 can be restoration and enhancement. Any mitigation completed through purchase of mitigation credits shall be provided prior to the issuance of a grading permit. Any applicant-initiated mitigation must be implemented prior to or concurrent with associated project impacts.	Less than significant	4.1 A 4.1 B 4.1 C
BIO-6b Mitigation for impacts to 0.4 acre of coast live oak woodland and 2.2 acres of oak root protection zone (consisting of 0.2 acre of Diegan coastal sage scrub, 0.9 acre of non-native grassland, 0.1 acre of pasture, 0.4 acre of disturbed habitat, and 0.6 acre of developed land shall occur at a 3:1 ratio through on-site preservation of a minimum of 7.8 acres of coast live oak woodland within a biological open space easement. The mitigation shall be provided prior to the issuance of a grading permit.	Less than significant	4.1 A
BIO-6c Mitigation for 32.5 acres of impacts to Diegan coastal sage scrub and 1.4 acres of impacts to flat-topped buckwheat scrub shall occur at a 3:1 ratio through the on-site preservation of 101.7 acres of Diegan coastal sage scrub within a biological open space easement. The mitigation shall be provided prior to the issuance of a grading permit.	Less than significant	4.1 A 7.1 C
BIO-6d Mitigation for 37.6 acres of impacts to non-native grassland shall occur through implementation of BIO-4a, above. The mitigation shall be provided prior to the issuance of a grading permit.	Less than significant	3.1 B 3.1 F 4.1 A
BIO-7a Impacts to 0.20 acre of USACE jurisdictional non-wetland waters of the U.S. shall be mitigated at a minimum 1:1 ratio through one or a combination of the following: on- and/or off-site establishment, re-establishment, rehabilitation, and/or enhancement of 0.20 acre waters of the U.S.; and/or off-site purchase of waters of the U.S. credits at an approved mitigation bank, such as the San Luis Rey Mitigation Bank, or other location deemed acceptable by the USACE. Any mitigation completed through purchase of mitigation credits shall be provided prior to the issuance of a grading permit. Any applicant-initiated mitigation must be implemented prior to or concurrent with impacts to waters of the U.S. Impacts to waters of the U.S. would require issuance of a Section 404 CWA permit from the USACE prior to impacts.	Less than significant	4.1 B

Table 14 (cont.)
SUMMARY OF BIOLOGICAL RESOURCES MITIGATION MEASURES (cont.)

Proposed Mitigation	Level of Significance After Mitigation	Guideline Number
BIO-7b Impacts to 0.01 acre of CDFW jurisdictional southern willow scrub, 0.17 acre of CDFW jurisdictional mule fat scrub, and less than 0.01 acre of CDFW jurisdictional tamarisk scrub will be mitigated at a 3:1 ratio as described in BIO-1b and 6a above, totaling 0.57 acre of riparian habitat mitigation. Impacts to 0.21 acre of CDFW streambed will be mitigated at a minimum 1:1 ratio through one or a combination of the following: on- and/or off-site establishment, re-establishment, rehabilitation, and/or enhancement of 0.21 acre riparian and/or stream habitat; and/or off-site purchase of riparian and/or stream credits at an approved mitigation bank, such as the San Luis Rey Mitigation Bank, or other location deemed acceptable by the CDFW. Combined mitigation for CDFW riparian habitat and streambed totals 0.78 acre. Any mitigation completed through purchase of mitigation credits shall be provided prior to the issuance of a grading permit. Any applicant-initiated mitigation must be implemented prior to or concurrent with impacts to CDFW habitat. Impacts to CDFW jurisdictional habitat would require issuance of a CFG Section 1602 Streambed Authorization Agreement from the CDFW prior to impacts.	Less than significant	4.1 B
BIO-7c Impacts to 0.19 acre of RPO wetland (0.01 acre southern willow scrub, 0.17 acre mule fat scrub, and less than 0.01 acre tamarisk scrub) will be mitigated at a 3:1 ratio with at least 1:1 creation, for a total mitigation requirement of 0.78 acre for County RPO wetlands. Impacts to southern willow scrub and mule fat scrub will be mitigated as described in BIO-1b and BIO-6a, above. Any mitigation completed through purchase of mitigation credits shall be provided prior to the issuance of a grading permit. Any applicant-initiated mitigation must be implemented prior to or concurrent with impacts to RPO wetlands.	Less than significant	4.1 A 4.1 B 7.1 C
BIO-8a The project requires preparation of a Resource Management Plan (RMP) for on-site biological open space to be approved by the County. The RMP will provide direction for the permanent preservation and management of the on-site biological open space in accordance with County regulations.	Less than significant	4.1.A
BIO-8b The project will incorporate a 100-ft wide limited building zone easement extending outward from the edge of the biological open space easement.	Less than significant	4.1.A
BIO-9a The project requires preparation of a wetland revegetation plan for impacts to wetland habitat and jurisdictional waters to be approved by the County (wetland impacts only) and USACE, CDFW, and RWQCB (impacts to waters of the U.S. and CDFW wetlands). Approval of the plan by the USACE, CDFW, and RWQCB will be a condition of the associated wetland permits for the project.	Less than significant	4.1.A 4.1.B 7.1.C

Table 14 (cont.)
SUMMARY OF BIOLOGICAL RESOURCES MITIGATION MEASURES (cont.)

Proposed Mitigation	Level of Significance After Mitigation	Guideline Number
BIO-9b The project requires preparation of an upland revegetation plan for impacts to sensitive upland habitat be approved by the County and Wildlife Agencies (USWFS and CDFW). Although the project has sufficient upland preservation onsite to meet the required habitat mitigation ratios for impacts to sensitive uplands (coast live oak woodland, Diegan coastal sage scrub, flat-topped buckwheat scrub, and non-native grassland) and raptor foraging habitat (non-native grassland and pasture), the project proponent has agreed to implement upland restoration and enhancement efforts above and beyond the habitat preservation requirement.	Less than significant	4.1.A
BIO-10a To help ensure errant impacts to sensitive vegetation communities outside of the impact footprint are avoided during construction, environmental fencing (including silt fencing where determined necessary by the SWPPP), would be installed at the edges of the impact limits prior to initiation of grading. All construction staging shall occur within the approved limits of construction.	Less than significant	4.1.A
BIO-10b A qualified biologist will monitor the installation of environmental fencing wherever it would abut sensitive vegetation communities, jurisdictional waters or wetlands, or biological open space. The biologist also will conduct a pre-construction environmental training session for construction personnel to inform them of the sensitive biological resources on site and avoidance measures to remain in compliance with project approvals. The biologist also will monitor vegetation clearing, grubbing, and grading activities on a regular basis to help ensure compliance with project approvals.	Less than significant	4.1.A

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Appendix A

Plant Species Observed

Appendix A
Plant Species Observed

Family	Species Name	Common Name	Habitat*
Native Species			
Adoxaceae	*Sambucus nigra* ssp. *canadensis*	blue elderberry	CLOW, MFS, NNG, PAS, SCWRF
Agavaceae	*Chlorogalum parviflorum*	small-flower soap-plant	DCSS, FBS
	Hesperoyucca whipplei	chaparral yucca	DCSS, SMC
	Yucca schidigera	Mohave yucca	DCSS
Alliaceae	*Allium* sp.	wild onion	DCSS
Anacardiaceae	*Malosma laurina*	laurel sumac	CLOW, CSCS, DCSS, NNG, SMC
	Rhus aromatica	basketbush	DCSS
	Rhus integrifolia	lemonadeberry	DCSS
	Rhus ovata	sugar bush	DCSS, SMC
	Toxicodendron diversilobum	poison oak	CLOW, DCSS, SCWRF
Apiaceae	*Bowlesia incana*	bowlesia	CLOW
	Daucus pusillus	wild carrot	DCSS
	Lomatium dasycarpum	wooly-fruit lomatium	DCSS
	Lomatium utriculatum	common lomatium	DCSS, NNG
	Sanicula arguta	sharp-tooth sanicle	DCSS
	Sanicula crassicaulis	pacific sanicle	DCSS
Apocynaceae	*Asclepias fascicularis*	narrow-leaf milkweed	DCSS
Asteraceae	*Acourtia microcephala*	sacapellote	DCSS
	Ambrosia acanthicarpa	annual bur-sage	NNG
	Ambrosia psilostachya	western ragweed	NNG, HW, SCWRF
	Artemisia californica	California sagebrush	CLOW, CSCS, DCSS. FBS
	Artemisia dracunculus	tarragon	SCWRF
	Baccharis pilularis	coyote brush	DCSS
	Baccharis salicifolia	mule fat	DCSS, MFS, SCWRF, SWS
	Baccharis sarothroides	broom baccharis	DCSS
	Brickellia californica	brickell brush	DCSS, SMC
	Centromadia pungens ssp. *laevis*†	smooth tarplant†	NNG
	Chaenactis artemisiifolia	artemisia pincushion	DCSS, SMC
	Chaenactis glabriuscula var. *glabriuscula*	yellow pincushion	DCSS, SMC
	Cirsium occidentale var. *californicum*	California thistle	DCSS
	Corethrogyne filaginifolia var. *filaginifolia*	common sandaster	DCSS, FBS, NNG
	Deinandra fasciculata	fascicled tarplant	NNG
	Erigeron canadensis	horseweed	DCSS, NNG, SMC

Appendix A (cont.)
Plant Species Observed

Family	Species Name	Common Name	Habitat*
Native Species (cont.)			
Asteraceae (cont.)	*Erigeron foliosus* var. *foliosus*	fleabane daisy	DCSS
	Eriophyllum confertiflorum	golden-yarrow	DCSS, SMC
	Euthamia occidentalis	western goldenrod	SCWRF
	Grindelia camporum	gum plant	DCSS
	Hazardia squarrosa	saw-toothed goldenbush	CLOW, DCSS, SMC
	Helianthus annuus	western sunflower	NNG
	Heterotheca grandiflora	telegraph weed	DH, NNG, ORCH
	Holocarpha virgata ssp. *elongata*†	graceful tarplant†	DCSS
	Isocoma menziesii	goldenbush	DCSS, HW, NNG, SCWRF
	Lasthenia coronaria	southern goldfields	DCSS
	Pseudognaphalium biolettii	bicolor cudweed	DCSS
	Pseudognaphalium californicum	California everlasting	CLOW, CSCS, DCSS, SMC
	Pseudognaphalium canescens	everlasting	DCSS
	Rafinesquia californica	California chicory	DCSS
	Stephanomeria diegensis	San Diego wreath-plant	DCSS
	Stephanomeria virgata	virgate wreath-plant	NNG
	Stylocline gnaphaloides	everlasting nest-straw	DCSS
	Uropappus lindleyi	silver puffs	DCSS
	Xanthium strumarium	cocklebur	HW, PAS
Boraginaceae	*Amsinckia menziesii*	rancher's fiddleneck	NNG
	Cryptantha intermedia	nievitas	DCSS
	Cryptantha maritima	white-hair cryptantha	DCSS
	Cryptantha sp.	cryptantha	DCSS, NNG, SMC
	Emmenanthe penduliflora	whispering bells	DCSS
	Eucrypta chrysanthemifolia var. *chrysanthemifolia*	common eucrypta	DCSS, SCWRF
	Heliotropum curassavicum	salt heliotrope	HW, NNG
	Nemophila menziesii	baby blue eyes	DCSS
	Pectocarya linearis ssp. *ferocula*	slender pectocarya	DCSS
	Phacelia cicutaria var. *hispida*	caterpillar phacelia	DCSS
	Phacelia distans	wild heliotrope	DCSS, MFS, NNG
	Phacelia parryi	Parry's phacelia	DCSS
	Pholistoma auritum	fiesta flower	CLOW, DCSS
	Pholistoma racemosum	San Diego fiesta flower	CSCS, CLOW, NNG
	Plagiobothrys nothofulvus	rusty popcorn flower	DCSS
	Plagiobothrys sp.	popcorn flower	DCSS, FBS, NNG

Appendix A (cont.)
Plant Species Observed

Family	Species Name	Common Name	Habitat*
Native Species (cont.)			
Brassicaceae	*Caulanthus lasiophyllus*	California mustard	DCSS
	Lepidium nitidum	shining peppergrass	DCSS, DH, NNG
	Nasturtium officinale	water cress	SWS
	Thysanocarpus curvipes	lacepod	DCSS
Cactaceae	*Cylindropuntia californica* var. *parkeri*	cane cholla	DCSS
	Opuntia littoralis	coastal prickly pear	DCSS, NNG
	Opuntia oricola	tall coastal prickly pear	DCSS
Capparaceae	*Peritoma arborea*	bladderpod	DCSS, NNG
Caprifoliaceae	*Lonicera subspicata* var. *denudata*	San Diego honeysuckle	DCSS, SMC
Caryophyllaceae	*Silene laciniata* ssp. *laciniata*	southern pink	DCSS
Chenopodiaceae	*Amaranthus blitoides*	prostrate pigweed	DH
	Chenopodium californicum	California pigweed	DCSS
	Chenopodium rubrum	red goosefoot	NNG
Cistaceae	*Helianthemum scoparium*	rock rose	CSCS, DCSS, SMC
Convolvulaceae	*Calystegia macrostegia*	morning-glory	CSCS, DCSS, ORCH, SMC
	Cuscuta californica	dodder	DCSS
Crassulaceae	*Crassula connata*	pygmy-weed	DCSS, DH
	Dudleya pulverulenta	chalk-lettuce	CLOW, DCSS
Cucurbitaceae	*Cucurbita foetidissima*	calabazilla	NNG
	Marah macrocarpa	wild cucumber	CSCS, DCSS
Cyperaceae	*Cyperus erythrorhizos*	red-rooted cyperus	PAS
	Schoenoplectus californicus	California bulrush	FWM
Dryopteridaceae	*Dryopteris arguta*	wood fern	CLOW
Ericaceae	*Xylococcus bicolor*	mission manzanita	CSCS, SMC
Euphorbiaceae	*Chamaesyce polycarpa*	small-seed sandmat	DCSS
	Croton setigerus	dove weed	NNG
Fabaceae	*Acmispon americanus*	Spanish-clover	DCSS
	Acmispon glaber	deerweed	CSCS, DCSS, FBS, NNG, SMC
	Acmispon micranthus	grab lotus	DCSS
	Astragalus pomonensis	Pomona locoweed	NNG
	Astragalus trichopodus var. *lonchus*	Southern California milkvetch	DCSS
	Hoita macrostachya	leather root	CLOW
	Lathyrus vestitus	chaparral pea	DCSS
	Lupinus albifrons	silver bush lupine	DCSS
	Lupinus bicolor	miniature lupine	NNG

Appendix A (cont.)
Plant Species Observed

Family	Species Name	Common Name	Habitat*
Native Species (cont.)			
Fabaceae (cont.)	*Lupinus concinnus*	elegant lupine	DCSS
	Lupinus hirsutissimus	stinging lupine	DCSS
	Lupinus succulentus	arroyo lupine	DCSS
	Trifolium willdenovii	valley clover	DCSS
Fagaceae	*Quercus agrifolia* var. *agrifolia*	coast live oak	CLOW, DCSS, NNG, SCRWF, SWS
	Quercus berberidifolia	scrub oak	CSCS, DCSS, SMC
Frankeniaceae	*Frankenia salina*	alkali-heath	PAS
Iridaceae	*Sisyrinchium bellum*	blue-eyed grass	DCSS, FBS, ORCH
Juncaceae	*Juncus bufonius*	toad rush	SCWRF
	Juncus mexicanus	Mexican rush	HW, SCWRF
Lamiaceae	*Salvia apiana*	white sage	CLOW, DCSS, NNG, SMC
	Salvia columbariae	chia	CSCS, DCSS, SMC
	Salvia mellifera	black sage	DCSS
	Stachys bergii	hedge-nettle	CLOW
	Trichostema lanceolatum	vinegar weed	NNG
Liliaceae	*Calochortus splendens*	splendid mariposa lily	DCSS
	Toxicoscordion fremontii	star-lily	DCSS
Malvaceae	*Malacothamnus fasciculatus*	chaparral mallow	DCSS, SMC
	Sidalcea malviflora	checker-bloom	CLOW, DCSS
Montiaceae	*Calandrinia breweri*†	Brewer's calandrinia†	DCSS
Nyctaginaceae	*Mirabilis laevis* ssp. *crassifolia*	wishbone bush	CSCS, DCSS
Onagraceae	*Camissoniopsis bistorta*	California sun cup	DCSS, NNG
	Clarkia delicata†	delicate clarkia†	DCSS
	Clarkia epilobioides	canyon godetia	DCSS
	Clarkia purpurea	purple clarkia	DCSS
	Epilobium canum ssp. *canum*	California fuchsia	DCSS
Orchidaceae	*Piperia unalascensis*	slenderspire piperia	DCSS
Orobanchaceae	*Castilleja affinis* ssp. *affinis*	coast paint-brush	DCSS
	Castilleja exserta	purple owl's clover	DCSS
	Castilleja foliolosa	woolly Indian paintbrush	DCSS
Oxalidaceae	*Oxalis californica*	California wood-sorrel	CLOW, DCSS
Paeoniaceae	*Paeonia californica*	California peony	DCSS
Papaveraceae	*Eschscholzia californica*	California poppy	CSCS, DCSS
	Papaver californicum	fire poppy	DCSS
	Platystemon californicus	cream-cups	DCSS

Appendix A (cont.)
Plant Species Observed

Family	Species Name	Common Name	Habitat*
Native Species (cont.)			
Phrymaceae	*Mimulus aurantiacus*	bush monkey-flower	CLOW, CSCS, DCSS, NNG, SMC
	Mimulus brevipes	wide-throat monkeyflower	DCSS
Plantaginaceae	*Antirrhinum nuttallianum*	Nuttall's snapdragon	DCSS
	Collinsia heterophylla	Chinese houses	DCSS
	Keckiella antirrhinoides	chaparral beard-tongue	DCSS, SMC
	Nuttallanthus texanus	blue toadflax	DCSS
	Penstemon centranthifolius	scarlet bugler	DCSS
	Penstemon spectabilis	showy penstemon	CSCS, DCSS
	Plantago erecta	dwarf plantain	DCSS
	Plantago ovata	island plantain	DCSS
Plantaginaceae	*Veronica peregrina* ssp. *xalapensis*	speedwell	NNG
Platanaceae	*Platanus racemosa*	western sycamore	DEV, NNG, SCWRF
Poaceae	*Distichlis spicata*	saltgrass	NNG
	Elymus condensatus	giant wild rye	CLOW, SCWRF
	Elymus triticoides	beardless wild ryegrass	HW, NNG, SCWRF
	Festuca octoflora	tufted fescue	DCSS
	Melica imperfecta	melic	CLOW
	Muhlenbergia microsperma	little-seed muhly	DCSS
	Muhlenbergia rigens	deergrass	DCSS
	Stipa lepida	foothill needlegrass	DCSS
	Stipa pulchra	purple needlegrass	DCSS
Polemoniaceae	*Allophyllum gilioides*	straggling false gilia	DCSS
	Eriastrum sapphirinum	wool-star	DCSS
	Gilia capillaris	minature gilia	DCSS
	Gilia capitata	ball gilia	DCSS
Polygonaceae	*Chorizanthe fimbriata*	fringed spineflower	DCSS
	Chorizanthe procumbens	prostrate spineflower	DCSS
	Eriogonum fasciculatum	buckwheat	CSCS, DCSS, FBS, NNG, NNV, SMC
	Polygonum aviculare ssp. *depressum*	common knotweed	PAS
	Pterostegia drymarioides	granny's hairnet	DCSS, SMC
Polypodiaceae	*Polypodium californicum*	California polypody	CLOW
Portulacaceae	*Calyptridium monandrum*	sand-cress	DCSS
	Claytonia perfoliata ssp. *perfoliata*	miner's lettuce	DCSS

Appendix A (cont.)
Plant Species Observed

Family	Species Name	Common Name	Habitat*
Native Species (cont.)			
Pteridaceae	*Adiantum jordanii*	California maidenhair	CLOW
	Pellaea mucronata var. *mucronata*	bird's-foot fern	DCSS
	Pentagramma triangularis	silverback fern	CLOW, DCSS
Ranunculaceae	*Clematis ligusticifolia*	Virgin's bower	DCSS
	Clematis pauciflora	ropevine	DCSS
	Delphinium parryi ssp. *parryi*	Parry's larkspur	DCSS
	Thalictrum fendleri	meadowrue	SMC
Rhamnaceae	*Rhamnus crocea*	spiny redberry	CLOW, CSCS, DCSS, SMC, SWS
	Rhamnus ilicifolia	holly-leaf redberry	CSCS, DCSS, SMC
Rosaceae	*Adenostoma fasciculatum*	chamise	CSCS, DCSS, SMC
	Cercocarpus betuloides	mountain mahogany	DCSS
	Drymocallis glandulosa	cinquefoil	CLOW, DCSS
	Heteromeles arbutifolia	toyon	CLOW, DCSS
	Prunus ilicifolia ssp. *ilicifolia*	holly-leaved cherry	DCSS, SMC
	Rosa californica	California rose	CLOW
	Rubus ursinus	California blackberry	CLOW
Rubiaceae	*Galium angustifolium* ssp. *angustifolium*	narrow-leaved bedstraw	CLOW, DCSS
Salicaceae	*Populus fremontii* ssp. *fremontii*	western cottonwood	DEV, DH, NNG, PAS, SCWRF, SWS
	Salix exigua	narrow-leaved willow	SCWRF
	Salix gooddingii	black willow	SCWRF, SWS
	Salix laevigata	red willow	SCWRF, SWS
	Salix lasiolepis	arroyo willow	MFS, SCWRF, SWS
Saururaceae	*Anemopsis californica*	yerba mansa	HW
Scrophulariaceae	*Scrophularia californica*	California bee plant	DCSS
Solanaceae	*Datura wrightii*	jimson weed	NNG
	Physalis crassifolia	ground-cherry	DCSS
	Solanum parishii	Parish's nightshade	DCSS
Themidaceae	*Bloomeria crocea*	common goldenstar	DCSS
	Dichelostemma capitatum	blue dicks	NNG, SCWRF
Typhaceae	*Typha* sp.	cattail	FWM
Urticaceae	*Hesperocnide tenella*	native dwarf nettle	DCSS
	Urtica dioica ssp. *holosericea*	stinging nettle	SCWRF, SWS
Verbenaceae	*Verbena lasiostachys*	verbena	DCSS
Violaceae	*Viola pedunculata*	Johnny jump-up	DCSS
Viscaceae	*Phoradendron* sp.	mistletoe	SWS

Appendix A (cont.)
Plant Species Observed

Family	Species Name	Common Name	Habitat*
Native Species (cont.)			
Vitaceae	*Vitis girdiana*	desert wild grape	DCSS, SCWRF, SWS
Non-native Species			
Altingiaceae	*Liquidambar styraciflua*	sweet gum	DEV
Anacardiaceae	*Schinus molle*	Peruvian pepper tree	DH, NNG
	Schinus terebinthifolius	Brazilian pepper tree	SCWRF, SWS
Apiaceae	*Anthriscus caucalis*	bur chervil	CLOW, DCSS
	Conium maculatum	poison-hemlock	DCSS, SWS
	Foeniculum vulgare	fennel	DCSS, NNG, ORCH, SCWRF
Arecaceae	*Washingtonia robusta*	Mexican fan palm	SWS
Asteraceae	*Anthemis cotula*	mayweed	PAS
	Carduus pycnocephalus	Italian thistle	CLOW, MFS
	Centaurea benedicta	blessed thistle	NNG
	Centaurea melitensis	tocalote	DCSS, DH, NNG
	Cirsium vulgare	bull thistle	DCSS, NNG
	Gazania linearis	gazania	DCSS, NNG
	Glebionis coronaria	garland daisy	NNG
	Hedypnois cretica	Crete hedypnois	NNG, ORCH
	Helminthotheca echioides	bristly ox-tongue	ORCH
	Hypochaeris glabra	smooth cat's ear	DCSS
	Lactuca serriola	prickly lettuce	CLOW, NNG
	Logfia gallica	narrow-leaf filago	DCSS
	Matricaria discoidea	pineapple weed	DH
	Senecio vulgaris	common groundsel	DH, NNG
	Silybum marianum	milk thistle	NNG, SCWRF
	Sonchus oleraceus	common sow-thistle	NNG
Brassicaceae	*Brassica nigra*	black mustard	DH, FBS, MFS, NNG, ORCH
	Hirschfeldia incana	shortpod mustard	DCSS, NNG
	Lepidium didymum	wart cress	NNG
	Lepidium latifolium	perennial pepperweed	MFS
	Lepidium perfoliatum	peppergrass	NNG
	Raphanus sativus	wild radish	NNG, ORCH
	Sisymbrium altissimum	tumble mustard	NNG
	Sisymbrium sp.	mustard	NNG
Caryophyllaceae	*Cerastium glomeratum*	mouse-ear chickweed	DCSS
	Polycarpon tetraphyllum ssp. *tetraphyllum*	four-leaf allseed	DCSS
	Silene gallica	windmill pink	DCSS

Appendix A (cont.)
Plant Species Observed

Family	Species Name	Common Name	Habitat*
Non-native Species (cont.)			
Caryophyllaceae (cont.)	*Spergularia* sp.	sand-spurry	NNG, PAS
	Stellaria sp.	starwort	CLOW, DCSS
Chenopodiaceae	*Amaranthus albus*	white tumbleweed	DCSS
	Atriplex semibaccata	Australian saltbush	DH, HW, NNG
	Chenopodium album	pigweed	NNG
	Salsola tragus	Russian thistle	DH, NNG
Convolvulaceae	*Convolvulus arvensis*	bindweed	NNG
Euphorbiaceae	*Chamaesyce albomarginata*	rattlesnake weed	DCSS
	Chamaesyce sp.	spurge	ORCH
Fabaceae	*Acacia dealbata*	silver wattle	DCSS
	Lotus corniculatus	birdfoot trefoil	NNG, PAS
	Medicago polymorpha	burclover	NNG
	Melilotus indicus	Indian sweet clover	HW
	Trifolium sp.	clover	CLOW
Geraniaceae	*Erodium botrys*	long-beak filaree	NNG
	Erodium cicutarium	redstem filaree	DH, NNG, ORCH
	Erodium moschatum	green-stem filaree	NNG
	Erodium sp.	filaree	NNG
	Geranium dissectum	cutleaf geraniium	CLOW
Iridaceae	*Iris pseudacorus*	pale yellow iris	SCWRF
Lamiaceae	*Lamium amplexicaule*	henbit	DH, NNG
	Marrubium vulgare	horehound	NNG
Lauraceae	*Persea americana*	avocado	ORCH
Malvaceae	*Malva parviflora*	cheeseweed	CLOW, DH, NNG, PAS
Myrsinaceae	*Anagallis arvensis*	scarlet pimpernel	DCSS, NNG
Myrtaceae	*Chamelaucium* sp.	waxflower	ORCH
	Eucalyptus sp.	eucalyptus	DEV, EUCW, NNG
Oleaceae	*Olea europaea*	olive	CLOW, DCSS, NNV
Onagraceae	*Oenothera speciosa*	pink ladies	NNG
Oxalidaceae	*Oxalis pes-caprae*	Bermuda buttercup	PAS
Phytolaccaceae	*Phytolacca americana*	common pokeweed	DH
Plantaginaceae	*Plantago lanceolata*	English plantain	NNG
Poaceae	*Agrostis stolonifera*	carpet bent	NNG
	Arundo donax	giant reed	SCWRF
	Avena barbata	slender oat	HW, NNG
	Avena sativa	cultivated oat	NNG, PAS

Appendix A (cont.)
Plant Species Observed

Family	Species Name	Common Name	Habitat*
Non-native Species (cont.)			
Poaceae (cont.)	*Avena* sp.	oats	NNG, NNV, ORCH, SCWRF
	Brachypodium distachyon	purple false brome	NNG
	Bromus diandrus	common ripgut grass	CLOW, DCSS, EUCW, FBS, HW, MFS, NNG, ORCH, PAS, SCWRF,
	Bromus hordeaceus	soft brome	DH, FBS, NNG, PAS, SCWRF
	Bromus madritensis	foxtail chess	DCSS, FBS, NNG, NNV
	Cynodon dactylon	Bermuda grass	DH, NNG
	Echinochloa crus-galli	common barnyard-grass	PAS
	Festuca arundinacea	coarse fescue	NNG
	Festuca myuros	fescue	NNG, PAS
	Festuca perennis	Italian ryegrass	NNG
	Hordeum murinum	Mediterranean barley	DH, FBS, NNG, PAS, ROWC, SCWRF
	Lamarckia aurea	goldentop	DH, NNG
	Paspalum dilatatum	dallis grass	PAS
	Pennisetum setaceum	purple fountain grass	DCSS
	Schismus barbatus	Mediterranean grass	DCSS, DH, NNG
	Stipa miliacea	smilo grass	DCSS
Polygonaceae	*Rumex crispus*	curly dock	HW, NNG, SCWRF
Proteaceae	*Protea* sp.	protea	ORCH
Rutaceae	*Citrus* sp.	citrus	ORCH
Solanaceae	*Nicotiana glauca*	tree tobacco	DCSS, NNG, SCWRF, SMC
	Solanum elaeagnifolium	white horse-nettle	NNG
	Solanum lycopersicum	tomato	ROWC
Tamaricaceae	*Tamarix ramosissima*	salt cedar	MFS
Ulmaceae	*Ulmus* sp.	elm	NNG
Urticaceae	*Urtica urens*	dwarf nettle	DCSS, NNG

†Sensitive species
*CLOW=coast live oak woodland; CSCS=coastal sage-chaparral scrub; DCSS=Diegan coastal sage scrub; DH=disturbed habitat; EUCW=eucalyptus woodland; FBS=flat-topped buckwheat scrub; FWM=freshwater marsh; HW=herbaceous wetland; MFS=mule fat scrub; NNG=non-native grassland; NNV=non-native vegetation; ORCH=orchard; PAS=pasture; ROWC=row crops; SCWRF=southern cottonwood-willow riparian forest; SMC=southern mixed chaparral; SWS=southern willow scrub

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Appendix B

Animal Species Observed or Detected

Appendix B
Animal Species Observed or Detected

Family	Scientific Name	Common Name
INVERTEBRATES		
Acrididae	*Trimeroptropis pallidipennis*	pallid-winged grasshopper
Apidae	*Apis* sp.	honey bee
Cambaridae	*Procambarus clarkii*	red swamp crayfish
Coccinellidae	*Hippodamia convergens*	convergent ladybug beetle
Formicidae	*Linepithema humile*	Argentine ant
Hesperiidae	*Erynnis funeralis*	funereal duskywing
	Hylephila phyleus	fiery skipper
	Pyrgus communis	checkered skipper
Lycaenidae	*Callophrys augustinus*	brown elfin
	Glaucopsyche lygdamus	silvery blue
	Leptotes marina	marine blue
	Plebejus acmon	Acmon blue
	Strymon melinus	gray hairstreak
Nymphalidae	*Adelpha californica*	California sister
	Junonia coenia	common buckeye
	Limenitis lorquini	Lorquin's admiral
	Nymphalis antiopa	mourning cloak
	Phyciodes mylitta	Mylitta crescent
	Vanessa annabella	west coast lady
	Vanessa cardui	painted lady
	Vanessa virginiensis	American lady
Papilionidae	*Papilio eurymedon*	pale swallowtail
	Papilio rutulus	western tiger swallowtail
	Papilio zelicaon	anise swallowtail
Pieridae	*Anthocharis sara*	Sara orangetip
	Nathalis iole	dainty sulphur
	Pieris rapae	cabbage white
	Pontia protodice	checkered white
Pompilidae	*Pepsis* sp.	tarantula hawk
Riodinidae	*Apodemia mormo virgulti*	Behr's metalmark
VERTEBRATES		
Amphibians and Reptiles		
Bufonidae	*Anaxyrus boreas*	western toad
Colubridae	*Lampropeltis getula*	common kingsnake
	Pituophis catenifer	Pacific gopher snake
Hylidae	*Pseudacris regilla*	Pacific tree frog
Phrynosomatidae	*Sceloporus occidentalis*	western fence lizard
	Uta stansburiana	side-blotched lizard
Ranidae	*Rana catesbeiana*	American bullfrog

Appendix B (cont.)
Animal Species Observed or Detected

Family	Scientific Name	Common Name
VERTEBRATES (cont.)		
Amphibians and Reptiles (cont.)		
Scaphiopodidae	*Spea hammondii*†	western spadefoot†
Teiidae	*Aspidoscelis tigris* ssp. *stejnegeri*†	coastal western whiptail†
Viperidae	*Crotalus oreganus*	western rattlesnake
Birds		
Accipitridae	*Accipiter cooperii*†	Cooper's hawk†
	Aquila chrysaetos†	golden eagle†
	Buteo jamaicensis	red-tailed hawk
	Buteo lineatus†	red-shouldered hawk†
	Circus cyaneus†	northern harrier†
	Elanus leucurus†	white-tailed kite†
Aegithalidae	*Psaltriparus minimus*	bushtit
Alaudidae	*Eremophila alpestris actia*†	California horned lark†
Anatidae	*Anas americana*	American wigeon
	Anas clypeata	northern shoveler
	Anas cyanoptera	cinnamon teal
	Anas platyrhynchos	mallard
	Anser cygnoides	Chinese goose
	Aythya affinis	lesser scaup
	Branta canadensis†	Canada goose†
	Chen caerulescens†	snow goose†
	Oxyura jamaicensis	ruddy duck
Apodidae	*Aeronautes saxatalis*	white-throated swift
Ardeidae	*Ardea alba*	great egret
	Ardea herodias†	great blue heron†
	Bubulcus ibis	cattle egret
	Butorides virescens†	green heron†
	Egretta thula	snowy egret
Cardinalidae	*Passerina amoena*	lazuli bunting
	Passerina caerulea	blue grosbeak
	Pheucticus melanocephalus	black-headed grosbeak
	Piranga ludoviciana	western tanager
Cathartidae	*Cathartes aura*†	turkey vulture†
Charadriidae	*Charadrius vociferous*	killdeer
Columbidae	*Columba livia*	rock pigeon
	Columbina passerina	common ground dove
	Streptopelia decaocto	Eurasian collared dove
	Zenaida macroura	mourning dove

Appendix B (cont.)
Animal Species Observed or Detected

Family	Scientific Name	Common Name
VERTEBRATES (cont.)		
Birds (cont.)		
Corvidae	*Aphelocoma californica*	western scrub-jay
	Corvus brachyrhynchos	American crow
	Corvus corax	common raven
Cuculidae	*Geococcyx californianus*	greater roadrunner
Emberizidae	*Aimophila ruficeps canescens*†	southern California rufous-crowned sparrow†
	Chondestes grammacus	lark sparrow
	Melospiza melodia	song sparrow
	Melozone crissalis	California towhee
	Pipilo maculatus	spotted towhee
	Spizella atrogularis	black-chinned sparrow
	Zonotrichia leucophrys	white-crowned sparrow
Falconidae	*Falco sparverius*	American kestrel
Fringillidae	*Haemorhous mexicanus*	house finch
	Spinus psaltria	lesser goldfinch
	Spinus tristis	American goldfinch
Hirundinidae	*Hirundo rustica*	barn swallow
	Petrochelidon pyrrhonota	cliff swallow
	Stelgidopteryx serripennis	northern rough-winged swallow
	Tachycineta bicolor	tree swallow
Icteridae	*Agelaeius phoenicus*	red-winged blackbird
	Euphagus cyanocephalus	Brewer's blackbird
	Icterus bullockii	Bullock's oriole
	Icterus cucullatus	hooded oriole
	Molothrus ater	brown-headed cowbird
	Quiscalus mexicanus	great-tailed grackle
	Sturnella neglecta	western meadowlark
Laniidae	*Lanius ludovicianus*†	loggerhead shrike†
Mimidae	*Mimus polyglottos*	northern mockingbird
	Toxostoma redivivum	California thrasher
Odontophoridae	*Callipepla californica*	California quail
Pandionidae	*Pandion haliaetus*†	osprey†
Paridae	*Baeolophus inornatus*	oak titmouse
Parulidae	*Cardellina pusilla*	Wilson's warbler
	Geothlypis trichas	common yellowthroat
	Icteria virens†	yellow-breasted chat†
	Oreothlypis celata	orange-crowned warbler
	Setophaga coronata	yellow-rumped warbler

Appendix B (cont.)
Animal Species Observed or Detected

Family	Scientific Name	Common Name
VERTEBRATES (cont.)		
Birds (cont.)		
Parulidae (cont.)	*Setophaga petechia*†	yellow warbler†
	Setophaga townsendi	Townsend's warbler
Passeridae	*Passer domesticus*	house sparrow
Phalacrocoracidae	*Phalacrocorax auritus*	double-crested cormorant
Phasianidae	*Gallus gallus domesticus*	chicken
	Meleagris gallopavo	wild turkey
Picidae	*Colaptes auratus*	northern flicker
	Melanerpes formicivorus	acorn woodpecker
	Picoides nuttallii	Nuttall's woodpecker
	Picoides pubescens	downy woodpecker
Podicipedidae	*Podilymbus podiceps*	pied-billed grebe
Polioptilidae	*Polioptila californica californica*†	coastal California gnatcatcher†
Ptilogonatidae	*Phainopepla nitens*	phainopepla
Rallidae	*Fulica americana*	American coot
Regulidae	*Regulus calendula*	ruby-crowned kinglet
Sittidae	*Sitta carolinensis*	white-breasted nuthatch
Sturnidae	*Sturnus vulgaris*	European starling
Sylviidae	*Chamaea fasciata*	wrentit
Threskiornithidae	*Plegadis chihi*†	white-faced ibis†
Trochilidae	*Calypte anna*	Anna's hummingbird
	Calypte costae	Costa's hummingbird
Troglodytidae	*Thryomanes bewickii*	Bewick's wren
	Troglodytes aedon	house wren
Turdidae	*Catharus guttatus*	hermit thrush
	Sialia mexicana†	western bluebird†
	Turdus migratorius	American robin
Tyrannidae	*Contopus sordidulus*	western wood-pewee
	Empidonax difficilis	Pacific-slope flycatcher
	Empidonax traillii†	willow flycatcher†
	Myiarchus cinerascens	ash-throated flycatcher
	Pyrocephalus rubinus†	vermilion flycatcher†
	Sayornis nigricans	black phoebe
	Sayornis saya	Say's phoebe
	Tyrannus verticalis	western kingbird
	Tyrannus vociferans	Cassin's kingbird
Tytonidae	*Tyto alba*†	barn owl†
Vireonidae	*Vireo bellii pusillus*†	least Bell's vireo†
	Vireo gilvus	warbling vireo

Appendix B (cont.)
Animal Species Observed or Detected

Family	Scientific Name	Common Name
VERTEBRATES (cont.)		
Mammals		
Canidae	*Canis latrans*	coyote
	Canis lupus familiaris	domestic dog
Cervidae	*Odocoileus hemionus*†	mule deer†
Cricetidae	*Peromyscus maniculatus*	deer mouse
	Reithrodontomys megalotis	western harvest mouse
Equidae	*Equus ferus*	domestic horse
Felidae	*Lynx rufus*	bobcat
Geomyidae	*Thomomys bottae*	Botta's pocket gopher
Heteromyidae	*Chaetodipus fallax fallax*†	northwestern San Diego pocket mouse†
	Dipodomys simulans	Dulzura kangaroo rat
Leporidae	*Sylvilagus audubonii*	desert cottontail
Mephitidae	*Mephitis mephitis*	striped skunk
Muridae	*Neotoma* sp.	woodrat
Mustelidae	*Mustela frenata*	long-tailed weasel
Procyonidae	*Procyon lotor*	raccoon
Sciuridae	*Otospermophilus beecheyi*	California ground squirrel

†Special-status Species

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Appendix C

Sensitive Plant Species with Potential to Occur

Appendix C
Sensitive Plant Species Potential to Occur

Species Name	Common Name	Status[1]	Habit, Ecology and Life History	Potential to Occur
Acanthomintha ilicifolia	San Diego thorn-mint	FT/SE CRPR 1B.1 County List A Draft NC MSCP Covered	Small annual herb. Occurs on clay soils near vernal pools and in grassy openings in coastal sage scrub and chaparral. Flowering period: April–June. Elevation: 100–3,150 feet (30–960 meters).	**None.** Suitable soils and habitat do not occur on site.
Adolphia californica	San Diego adolphia	--/-- CRPR 2B.1 County List B Draft NC MSCP Covered	Perennial shrub. Most often found in sage scrub but occasionally occurs in peripheral chaparral habitats, particularly hillsides near creeks. Flowering period: December–April. Elevation: 20–655 feet (6–200 meters).	**Low.** Suitable habitat is present on portions of the project site; however, this species was not observed during biological surveys.
Ambrosia pumila	San Diego ambrosia	FE/-- CRPR 1B.1 County List A Draft NC MSCP Covered	Small perennial herb. Occurs primarily on upper terraces of rivers and drainages. Within these areas it is typically found in grassland and within openings in coastal sage scrub, on sandy loam or clay soils. Flowering period: April–October. Elevation: 100–2,001 feet (30–610 meters).	**Low.** Suitable soils and habitat area present on portions of the site but species was not observed during focused rare plant surveys or other biological surveys, and would have been observable if present.
Artemisia palmeri	San Diego sagewort	--/-- CRPR 4.2 County List D	Shrub. Typically found along stream courses, often within coastal sage scrub and southern mixed chaparral. Flowering period: May–September. Elevation: 16–3,540 feet (5–1,080 meters).	**Low.** Suitable habitat is present on portions of the project site; however, this species was not observed during biological surveys.
Brodiaea filifolia	Thread-leaved brodeaia	FE/SE CRPR 1B.1 County List A Draft NC MSCP Covered	Perennial herb blooming March–June. Occurs on clay soils near chaparral openings, cismontane woodlands, coastal scrub, playas, grasslands, and vernal pools. Elevation: 130–3,700 feet (40–1,130 meters).	**None.** Suitable soils are not present on site. The nearest recorded occurrence is over nine miles to the southwest (Calflora 2016).
Brodiaea orcuttii	Orcutt's brodiaea	--/-- CRPR 1B.1 County List A Draft NC MSCP Covered	Small perennial herb. Occurs only on clay and serpentine soils in vernally moist environments, usually near vernal pools, meadows, and seeps. Flowering period: May–July. Elevation: 330–5,740 feet (100–1,750 meters).	**None.** Suitable soils and habitat do not occur on the project site. The nearest recorded occurrence is over 11 miles to the south (Calflora 2016).

Appendix C (cont.)
Sensitive Plant Species Potential to Occur

Species Name	Common Name	Status[1]	Habit, Ecology and Life History	Potential to Occur
Calandrinia breweri	Brewer's calandrinia	--/-- CRPR 4.2 County List D	Annual herb blooming January–June. Occurs in sandy or loamy disturbed soils within chaparral and coastal scrub habitats. Elevation: 165–3,770 feet (50–1150 meters).	**Present.** Population of 50 individuals observed in coastal sage scrub in the eastern portion of the project site.
Camissoniopsis lewisii	Lewis' evening primrose	--/-- CRPR 3 County List C	Annual herb blooming March–June. Occurs in sandy or clay soils within coastal bluff scrub, cismontane woodland, coastal dune, and grassland habitats. Elevation: 0–1,740 feet (0–530 meters).	**Low.** Suitable soils and habitat are present on portions of the project site; however, this species was not observed during rare plant or other biological surveys. The nearest recorded occurrence is over 9 miles to the west (Calflora 2016).
Caulanthus simulans	Payson's jewelflower	--/-- CRPR 4.2 County List D	Annual herb blooming March–May. Occurs in sandy chaparral and coastal scrub habitats. Elevation: 620–7,185 feet (190–2,190 meters).	**Moderate.** Suitable habitat occurs on site; however, this species would have been observable during rare plant surveys, if present.
Ceanothus verrucosus	Wart-stemmed ceanothus	--/-- CRPR 2.B2 County List B Draft NC MSCP Covered	Perennial evergreen shrub occurring in xeric chamise or southern maritime chaparral. Blooms January through April. Elevation: 23–2,165 feet (7–660 meters).	**Low.** Potentially suitable habitat is present in the eastern portion of the project site; however, this species was not observed during rare plant or other biological surveys.
Centromadia pungens ssp. laevis	Smooth tarplant	--/-- CRPR 1B.1 County List A	Annual herb blooming April–September. Occurs in chenopod scrub, meadows, seeps, playas, riparian woodlands, and grasslands. Usually found in alkaline soils. Elevation: 165–2,890 feet (50–880 meters).	**Present.** Population of 585 individuals observed in grassland habitat in the far western corner of the project site.
Chaenactis glabriuscula var. orcuttiana	Orcutt's pincushion	--/-- CRPR 1B.1 County List A	Annual herb blooming January through August. Occurs in sandy coastal bluff scrub and coastal dunes. Elevation: 0–230 feet (0–70 meters).	**Low.** Site is at the upper limit of the known Elevation: range of this species, and the vast majority of occurrences are closer to the coast. Species not observed during rare plant or other biological surveys.

Appendix C (cont.)
Sensitive Plant Species Potential to Occur

Species Name	Common Name	Status[1]	Habit, Ecology and Life History	Potential to Occur
Clarkia delicata	Delicate clarkia	--/-- CRPR 1B.2 County List B	Annual herb blooming April through June. Occurs in shaded areas or the periphery of oak woodlands and cismontane chaparral. Elevation: 360–3,510 feet (110–1,070 meters).	**Present.** A total of 26 individuals were observed on site. This species was recorded in the eastern hills near the northern property boundary, and on a slope in the southeastern portion of the site.
Comarostaphylis diversifolia ssp. diversifolia	Summer-holly	--/-- CRPR 1B.2 County List A Draft NC MSCP Covered	Mesic north-facing slopes in southern mixed chaparral are the preferred habitat of this large, showy shrub. Blooms April-June. Elevation: 100–2,690 feet (30–820 meters).	**Low.** Suitable habitat is present in the eastern portion of the project site; however, this species was not observed during rare plant or other biological surveys.
Convolvulus simulans	Small-flowered morning glory	--/-- CRPR 4.2 County List D	Annual herb blooming March–July. Occurs on clay soils and in serpentine seeps within chaparral, coastal scrub, and grassland habitats. Elevation: 30–2,755 feet (10–840 meters).	**None.** Suitable soils do not occur on site.
Deinandra paniculata	Paniculate tarplant	--/-- CRPR 4.2 County List D	Annual herb blooming April through November. Occurs in sparsely vegetated grasslands or open sage scrub in arid cismontane regions. Elevation: 55–4,068 feet (17–1,240 meters).	**Moderate.** Suitable habitat occurs on site; however, this species would have been observable during rare plant surveys, if present.
Dichondra occidentalis	Western dichondra	--/-- CRPR 4.2 County List D	Perennial rhizomatous herb blooming January–July. Occurs in chaparral, cismontane woodland, coastal scrub, and grassland habitats. Elevation: 10–2,100 feet (4–630 meters).	**Low.** Suitable habitat is present on site; however, this species was not observed during rare plant or other biological surveys. The nearest recorded occurrence is over 12 miles to the northwest (Calflora 2016).
Dudleya multicaulis	Many-stemmed dudleya	--/-- CRPR 1B.2 County List A	Perennial herb blooming April through July. Occurs on clay soils in coastal sage scrub, chaparral, and valley grasslands. Elevation: 65–3,280 feet (20–1,000 meters).	**None.** Suitable soils not present on site.

Appendix C (cont.)
Sensitive Plant Species Potential to Occur

Species Name	Common Name	Status[1]	Habit, Ecology and Life History	Potential to Occur
Dudleya viscida	Sticky dudleya	--/-- CRPR 1B.2 County List A Draft NC MSCP Covered	Perennial herb blooming May–June. Occurs in rocky soil within coastal bluff scrub, chaparral, cismontane woodland, and coastal scrub habitats. Elevation: 30–2,590 feet (10–790 meters).	**Low.** Potentially suitable habitat is present onsite in portions of the eastern hills. This species was not observed during rare plant or other biological surveys. The nearest recorded occurrence is over 13 miles to the northwest (Calflora 2016).
Ericameria palmeri var. palmeri	Palmer's goldenbush	--/-- CRPR 1B.1 Draft NC MSCP Covered	Large evergreen shrub. Occurs in coastal drainages, mesic chaparral, and occasionally in coastal sage scrub. Flowering period: July–November. Elevation: 165–1,700 feet (50–520 meters).	**Low.** Suitable habitat is present on site; however, this species would have been detectable during rare plant and other biological surveys, but was not observed.
Harpagonella palmeri	Palmer's grappling hook	--/-- CRPR 4.2 County List B	Annual herb blooming March-May. Occurs on clay soils in annual grasslands and coastal sage scrub. Elevation: 42–3,970 feet (13–1,210 meters).	**None.** Suitable soils not present on site.
Holocarpha virgata spp. elongata	Graceful tarplant	--/-- CRPR 4.2 County List D	Annual herb occurring in chaparral, cismontane woodland, coastal scrub, and grassland habitats. Blooms May–November. Elevation: 260–3,280 feet (80–1,000 meters).	**Present.** Approximately 100 individuals observed in sage scrub in the western portion of the site.
Horkelia cuneata ssp. puberla	Mesa horkelia	--/-- CRPR 1B.1 County List A	Perennial herb blooming February-July. Occurs in sandy or gravelly areas in maritime chaparral, cismontane woodland, and coastal scrub. Elevation: 130–3,640 feet (40–1,110 meters).	**Low.** Suitable soils and habitat are present on portions of the project site; however, this species was not observed during rare plant or other biological surveys.
Juglans californica var. californica	California black walnut	--/-- CRPR 4.2 County List D	Perennial deciduous tree occurring in alluvial habitats. Elevation: 16–5,870 feet (5–1,790 meters).	**Low.** Suitable soils and habitat are present on portions of the project site; however, this species was not observed during rare plant or other biological surveys.

Appendix C (cont.)
Sensitive Plant Species Potential to Occur

Species Name	Common Name	Status[1]	Habit, Ecology and Life History	Potential to Occur
Juncus acutus ssp. leopoldii	Southwestern spiny rush	--/-- CRPR 4.2 County List D	Perennial rhizomatous herb. Occurs in alkaline meadows and seeps, coastal salt marshes, and coastal dunes. Flowering period: March–June. Elevation: 0–3,117 feet (0–950 meters).	**Low.** Small areas of potentially suitable alkaline habitat are present on site; however, this large perennial herb was not observed during surveys and would likely have been observed if present.
Lepidium virginicum var. robinsonii	Robinson's peppergrass	--/-- CRPR 4.3 County List A	Annual herb. Grows in openings in chaparral and sage scrub at the coastal and foothill elevations. Typically observed in relatively dry, exposed locales rather than beneath a shrub canopy. Flowering period: is January–July. Elevation: 65–4,400 feet (20–1340 meters).	**Low.** Suitable habitat is present on site; however, this species was not observed during rare plant or other biological surveys.
Microseris douglasii spp. platycarpha	Small flowered microseris	--/-- CRPR 4.2 County List D	Annual herb blooming March–May. Occurs in clay soils within cismontane woodland, coastal scrub, grassland, and vernal pool habitats. Elevation: 30–2,690 feet (10–820 meters).	**None.** Suitable soils do not occur on site.
Monardella hypoleuca ssp. lanata	Felt-leaved monardella	--/-- CRPR 1B.2 County List A Draft NC MSCP Covered	Perennial rhizomatous herb blooming June-August. Occurs in chaparral and cismontane woodland. Elevation: 1,540–4,429 feet (470–1,350 meters).	**None.** Site is outside the known Elevation: range of this species.
Mucronea californica	California spineflower	--/-- CRPR 4.2 County List D	Annual herb blooming March-July. Grows in very sandy microhabitats in coastal sage scrub, chaparral, and dunes. It has also been reported from grasslands and cismontane woodlands. Elevation: 32–5,118 feet (10–1,560 meters).	**Moderate.** Suitable habitat occurs on site; however, this species would have been observable during rare plant surveys, if present.
Navarretia fossalis	Prostrate spreading navarretia	FT/-- CRPR 1B.1 County List A Draft NC MSCP Covered	Small annual herb. Occurs in vernal pools, chenopod scrub, marshes, swamps, and playas. Flowering period: April–June. Elevation: 295–3,510 feet (90–1070 meters).	**None.** Vernal pools do not occur on site and suitable habitat is not present for this species.

Appendix C (cont.)
Sensitive Plant Species Potential to Occur

Species Name	Common Name	Status[1]	Habit, Ecology and Life History	Potential to Occur
Nolina cismontana	Chaparral nolina	--/-- CRPR 1B.2 County List A Draft NC MSCP Covered	Perennial evergreen shrub blooming March-July. Occurs on sandstone or gabbro soils in chaparral and coastal scrub. Elevation: 425–4,167 feet (130–1,270 meters).	**None.** Suitable soils not present on site.
Pentachaeta aurea	Golden-rayed pentachaeta	--/-- CRPR 4.2 County List D	Annual herb blooming March-June. Occurs in a variety of habitats, including sage scrub, chaparral, valley grassland, and coastal scrub. Elevation: 196–6,692 feet (60–2,040 meters).	**Moderate.** Suitable habitat occurs on site; however, this species would have been observable during rare plant surveys, if present.
Piperia cooperi	Cooper's rein orchid	--/-- CRPR 4.2 County List D	Perennial herb blooming March–June. Occurs in chaparral, cismontane woodland, and grassland habitats. Elevation: 55–3,540 feet (17–1,080 meters).	**Low.** Suitable habitat is present on site; however, this species was not observed during rare plant or other biological surveys.
Polygala cornuta var. fishiae	Fish's milkwort	--/-- CRPR 4.3 County List D	Shrub blooming May-August. Occurs in shaded, rocky places in canyons in association with oak woodland or chaparral. Elevation: 295–4,396 feet (90–1,340 meters).	**Low.** Suitable habitat is present on site; however, this species was not observed during rare plant or other biological surveys.
Quercus engelmannii	Engelmann oak	--/-- CRPR 4.2 County List D Draft NC MSCP Covered	Tree occurring in cismontane foothills in oak woodland, mixed chaparral, and grasslands. Elevation: 229–4,757 feet (70–1,450 meters).	**Low.** Suitable habitat is present on site; however, this species was not observed during rare plant or other biological surveys.
Romneya coulteri	Coulter's matalija poppy	--/-- CRPR 4.2 County List D	Perennial rhizomatous herb blooming March-July. Occurs in dry washes and canyons in chaparral and coastal sage scrub communities, often in areas that have burned. Elevation: 65–3,346 feet (20–1,020 meters).	**Moderate.** Suitable habitat is present on site, particularly in the eastern hills. However, this robust perennial herb would likely have been observed if present.
Selaginella cinerascens	Ashy spike-moss	--/-- CRPR 4.1 County List D	Perennial rhizomatous herb occurring in chaparral and coastal scrub habitats. Elevation: 25–2,035 feet (8–620 meters).	**Low.** Suitable habitat is present on site; however, this species was not observed during rare plant or other biological surveys.

Appendix C (cont.)
Sensitive Plant Species Potential to Occur

Species Name	Common Name	Status[1]	Habit, Ecology and Life History	Potential to Occur
Stipa diegoensis	San Diego needlegrass	--/-- CRPR 4.2 County List D	Perennial grass blooming February-June. Occurs in rocky coastal sage scrub and chaparral and is closely associated with metavolcanic soils. Peaks and upper ridgelines are preferred microhabitat. Elevation: 98–3,380 feet (30–1,030 meters).	**Low.** Suitable habitat is present in the eastern hills; however, this species was not observed during rare plant or other biological surveys.
Tetracoccus dioicus	Parry's tetracoccus	--/-- CRPR 1B.2 County List A Draft NC MSCP Covered	Perennial shrub blooming April–May. Occurs in chaparral and coastal scrub. Elevation: 360–2,755 feet (110–840 meters).	**Low.** Suitable habitat is present on site; however, this species was not observed during rare plant or other biological surveys.

[1]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–presumed extirpated in California but more common elsewhere; 2B–rare, threatened, or endangered in California but more common elsewhere; 3–more information needed; 4–watch list for species of limited distribution. Extension codes: .1–seriously endangered; .2–moderately endangered; .3–not very endangered

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Appendix D

Sensitive Animal Species with Potential to Occur

Appendix D
Sensitive Animal Species Potential to Occur

Species Name	Common Name	Status[1]	Habitat Associations	Potential to Occur
INVERTEBRATES				
Danaus plexippus	Monarch butterfly	--/-- County Group 2	Winter roost sites extend along the coast from northern Mendocino to Baja California, Mexico. Roosts located in wind-protected tree groves (eucalyptus, Monterey pine, cypress), with nectar and water sources nearby. Larval host plants consist of milkweeds (*Asclepias* spp.).	**Low.** Suitable roosting habitat is not present on site. However, suitable nectar sources are present, as well as larval host plant (milkweed [*Asclepias* sp.]), which may be used by dispersing individuals.
Lycaena hermes	Hermes copper butterfly	FC/-- County Group 1	Southern mixed chaparral and coastal sage scrub. Requires host plant redberry (*Rhamnus crocea*) in close proximity to California buckwheat (*Eriogonum fasciculatum*), its preferred nectar source.	**Low.** Suitable habitat is present on site; however protocol surveys conducted in 2016 were negative. The vast majority of occurrences for this species are from southwestern San Diego County (Marschalek and Klein 2010) with smaller extant populations occurring only as far north as the Elfin Forest area (Marschalek and Deutschman 2017), which is approximately 15 miles south of the project site. There are historical records of two museum specimens collected in north San Diego County, one from the Bonsall area in 1934 and one from the Pala area in 1932; however, these populations are presumed extirpated (USFWS 2013).

Appendix D (cont.)
Sensitive Animal Species Potential to Occur

Species Name	Common Name	Status[1]	Habitat Associations	Potential to Occur
VERTEBRATES				
Amphibians and Reptiles				
Actinemys marmorata	Southwestern pond turtle	--/SSC County Group 1 Draft NC MSCP Covered	Almost entirely aquatic; occurs in ponds, marshes, rivers, streams and irrigation ditches, usually with aquatic vegetation. Requires basking sites and suitable (sandy banks or grassy open fields) upland habitat up to 0.5 km from water for egg-laying.	**Low.** Species could potentially occupy the eastern pond but was not observed during biological surveys. Species is not expected to occupy the agricultural ponds due to ongoing anthropogenic disturbance in these areas, lack of cover, and exposure to predators. Records of this species are not known from the project vicinity.
Anaxyrus californicus	Arroyo toad	FE/SSC County Group 1 Draft NC MSCP Covered	Requires rivers with sandy banks, willows, cottonwoods, and sycamores. Breeds in areas with shallow, slowly moving streams, but burrows in adjacent uplands during dry months.	**Low.** Species has not been documented along the San Luis Rey River west of I-15 since 2011, at which time only two toads were observed. No suitable breeding habitat occurs on site. Two small areas of riparian forest support suitable aestivation habitat; these areas will be conserved in biological open space.
Anniella pulchra pulchra	Silvery legless lizard	--/SSC County Group 2	Areas with loose soil, particularly in sand dunes and or otherwise sandy soil. Generally found in leaf litter, under rocks, logs, or driftwood in oak woodland, chaparral, and desert scrub.	**Moderate.** Potentially suitable habitat is present on site, although species was not observed during biological surveys. Species also may occur off site in sandy soils along the San Luis Rey River.
Charina trivirgata roseofusca	Coastal rosy boa	--/-- County Group 2	Occurs among rocky outcrops in coastal sage scrub, chaparral, and desert scrub.	**High.** Suitable rocky habitat is present on site, particularly in the eastern hills.

Appendix D (cont.)
Sensitive Animal Species Potential to Occur

Species Name	Common Name	Status[1]	Habitat Associations	Potential to Occur
VERTEBRATES (cont.)				
Amphibians and Reptiles (cont.)				
Cnemidophorus hyperythrus	Orange-throated whiptail	--/SSC County Group 2 Draft NC MSCP Covered	Coastal sage scrub, chaparral, edges of riparian woodlands, and washes. Also found in weedy, disturbed areas adjacent to these habitats. Important habitat requirements include open, sunny areas, shaded areas, and abundant insect prey base, particularly termites (*Reticulitermes* sp.).	**High.** Suitable habitat is present on site and species is known from the project vicinity.
Cnemidophorus tigris multiscutatus	Coastal western whiptail	--/-- County Group 2	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.	**Present.** Species observed in the eastern portion of the project site, and also may occupy other suitable habitat on site.
Coleonyx variegates abbottii	San Diego banded gecko	--/-- County Group 1	Chaparral and coastal sage scrub in areas with rock outcrops.	**Low.** Potentially suitable habitat is present on site, but species has not been observed in the project vicinity.
Crotalus ruber ruber	Northern red diamond rattlesnake	--/SSC County Group 2 Draft NC MSCP Covered	Found in chaparral, coastal sage scrub, along creek banks, particularly among rock outcrops or piles of debris with a supply of burrowing rodents for prey.	**High.** Suitable habitat present on site with ample rodent population.
Diadophis punctatus similis	San Diego ringneck snake	--/-- County Group 2	Generally occurs in moist habitats such as oak woodlands and canyon bottoms, but is also sometimes encountered in grassland, chaparral, and coastal sage scrub; generally restricted to leaf litter and rarely crosses open areas.	**Low.** Suitable habitat is present only in a small area in the eastern portion of the site; species is unlikely to occur.
Eumeces skitonianus interparietalis	Coronado skink	--/SSC County Group 2	Occurs in grasslands, coastal sage scrub, and open chaparral where there is abundant leaf litter or low herbaceous growth.	**High.** Suitable grassland and sage scrub habitats are present on site.

Appendix D (cont.)
Sensitive Animal Species Potential to Occur

Species Name	Common Name	Status[1]	Habitat Associations	Potential to Occur
VERTEBRATES (cont.)				
Amphibians and Reptiles (cont.)				
Phrynosoma coronatum blainvillii	San Diego horned lizard	--/SSC County List 2 Draft NC MSCP Covered	Coastal sage scrub, chaparral, grassland, and woodlands up to 6,000 ft. Not common where Argentine ants (*Linepithema humile*) have excluded native harvester ants (*Pogonomyrmex* sp.).	**Low.** Suitable habitat present on site, but species unlikely to occur due to lack of typical prey species. Harvester ant colonies were not observed during biological surveys.
Rana aurora dryatoni	California red-legged frog	FT/SSC County List 1	Found in dense, shrubby riparian vegetation with deep, slow-moving water. Readily displaced by introduced aquatic predators, including bullfrogs (*Rana catesbiana*) or crayfish (*Procambarus* sp).	**Not Expected.** Suitable habitat not present on site and species not known from the project vicinity.
Salvadora hexalepis virgultea	Coast patch-nosed snake	--/SSC County Group 2	Inhabits semi-arid brushy areas and chaparral in canyons, rocky hillsides, and plains.	**High.** Suitable brushy habitat, canyons, and rocky hillsides are present on site.

Appendix D (cont.)
Sensitive Animal Species Potential to Occur

Species Name	Common Name	Status[1]	Habitat Associations	Potential to Occur
VERTEBRATES (cont.)				
Amphibians and Reptiles (cont.)				
Spea hammondii	Western spadefoot	--/SSC County Group 2	Occurs in open coastal sage scrub, chaparral, and grassland, along sandy or gravelly washes, floodplains, alluvial fans, or playas; requires temporary pools for breeding and friable soils for burrowing; generally excluded from areas with bullfrogs (*Rana catesbiana*) or crayfish (*Procambarus* sp.).	**High.** Species is known to occur offsite to the north along the San Luis Rey River. A total of seven adult toads were observed along the northern project boundary near the Caltrans mitigation site during focused surveys conducted in 2017. Suitable foraging and aestivation habitat is present along the northern project boundary and western tip of the site. Species may occasionally occur in row crop areas adjacent to the eastern riparian corridor during fallow (non-plowed) years. The species could breed in select locations on site, including a single small ephemeral depression at the junction of two dirt roads and row crops, agricultural ponds, and in the eastern riparian corridor stream course.
Thamnophis hammondii	Two-striped garter snake	--/SSC County Group 1	Typical habitat is along permanent and intermittent streams bounded by dense riparian vegetation; also found associated with vernal pools and stock ponds.	**Moderate.** Species could potentially occupy the upper reaches of the eastern riparian corridor, which consists of an intermittent stream bordered by dense riparian vegetation. No other portions of the site are likely to support this species. Species is not expected to occupy the agricultural ponds due to ongoing anthropogenic disturbance in these areas, lack of cover, and exposure to predators.

Appendix D (cont.)
Sensitive Animal Species Potential to Occur

Species Name	Common Name	Status[1]	Habitat Associations	Potential to Occur
VERTEBRATES (cont.)				
Amphibians and Reptiles (cont.)				
Thamnophis sirtalis novum	South coast garter snake	--/SSC County Group 2	Typically found in woodlands, grasslands, coniferous forests, and scrublands near water. Found in the coastal plain from Ventura County to San Diego County, from sea level to about 850 m.	**High.** Suitable habitat present onsite; however, species not observed during surveys.
Birds				
Accipiter cooperii	Cooper's hawk	--/WL County Group 1 Draft NC MSCP Covered	Occurs year-round throughout San Diego County's coastal slope where stands of trees are present Found in oak groves, mature riparian woodlands, and eucalyptus stands or other mature forests.	**Present.** Species observed roosting in the eastern and western riparian corridors. No nests observed.
Accipiter striatus	Sharp-shinned hawk	--/WL County Group 1	Usually observed in areas with tall trees or other vegetative cover but can be observed in a variety of habitats. In San Diego County occurs in small numbers and only in winter.	**Low.** Tall eucalyptus, sycamore, and cottonwood trees occur on site; however, this species was not observed or otherwise detected during multiple site surveys.
Agelaius tricolor	Tricolored blackbird	BCC/SSC County Group 1 Draft NC MSCP Covered	Generally found in large freshwater marshes with dense stands of cattails or bulrushes. Forages in open habitats such as farm fields, pastures, and large lawns.	**Low.** Suitable foraging habitat is present on site; however large freshwater marshes are absent from the site. This species was not observed or otherwise detected during multiple site surveys.
Aimophila ruficeps canescens	Southern California rufous-crowned sparrow	--/WL County Group 1 Draft NC MSCP Covered	Occurs in coastal sage scrub and sparse mixed chaparral on rocky hillsides and in canyons; also found in open sage scrub/grassy areas of successional growth.	**Present.** Species observed in the southern and eastern portions of the project site in Diegan coastal sage scrub.
Ammodramus savannarum	Grasshopper sparrow	--/SSC County Group 1 Draft NC MSCP Covered	Typical habitat is dense grasslands that have little or no shrub cover	**Low.** Suitable grassland habitat is present on site, but species would likely have been detected during site surveys if present.

Appendix D (cont.)
Sensitive Animal Species Potential to Occur

Species Name	Common Name	Status[1]	Habitat Associations	Potential to Occur
VERTEBRATES (cont.)				
Birds (cont.)				
Amphispiza belli belli	Bell's sage sparrow	BCC/WL County Group 1 Draft NC MSCP Covered	Chaparral and sage scrub with modest leaf-litter on the ground (e.g., after a fire or in gabbro-based soil areas).	**Low.** Coastal sage scrub occurs on site but soils are not gabbroic and habitat in the recently burned eastern hills has regenerated sufficiently to currently support this species.
Aquila chrysaetos	Golden eagle	BCC/FP; WL County Group 1 Draft NC MSCP Covered	(Nesting and Wintering) Rolling foothills and mountain areas, juniper-sage flats, and deserts. Typical foraging habitat includes grassy and open, shrubby habitats. Generally nests on remote cliffs; requires areas of solitude at a distance from human habitation.	**Observed.** Two individuals were observed flying over the northeastern portion of the site on a single occasion in April 2016. Suitable nesting habitat does not occur on site. Species may forage on site in the eastern hills or occasionally over the pastures. Observed individuals may be associated with the nesting pair on Gregory Mountain, 3.5 miles northeast of the project site.
Ardea herodias	Great blue heron	--/-- County Group 2	Wetland habitats, but can be observed foraging away from water.	**Present.** Species observed foraging within pastures and near open water in the northern portion of the project site. Two active nests observed in tall trees near the central agricultural pond in April 2016.
Asio otus	Long-eared owl	--/SSC County Group 1	In San Diego County is a rare resident in shady oak woodlands and broad riparian forests. Ideal habitat includes a closed canopy near open habitats for foraging and a supply of abandoned raptor or corvid nests or debris platforms for nesting (Unitt 2004).	**Low**. Oak woodland, riparian forest, and grassland habitats occur on the site, but oak woodland and riparian forest habitats are small in size and unlikely to support this species.

Appendix D (cont.)
Sensitive Animal Species Potential to Occur

Species Name	Common Name	Status[1]	Habitat Associations	Potential to Occur
VERTEBRATES (cont.)				
Birds (cont.)				
Athene cunicularia hypugea	Burrowing owl	BCC/SSC County Group 1 Draft NC MSCP Covered	Typical habitat is grasslands, open scrublands, agricultural fields, and other areas where there are ground squirrel burrows or other areas in which to burrow. All records of burrowing owl in northwestern San Diego County are prior to 1997 (Unitt 2004).	**Low**. Suitable grassland habitat and abundant small mammal prey occur on the site; however, protocol-level surveys in 2015 were negative and the overall potential for the species to occur in the future is low.
Buteo lineatus	Red-shouldered hawk	--/-- County Group 1	Riparian woodland, oak woodland, orchards, eucalyptus groves, or other areas with tall trees.	**Present.** Species observed in multiple locations in the northwestern portion of the project site. Observations occurred near pastures, disturbed habitat, non-native grassland, and mule fat scrub.
Buteo swainsoni	Swainson's hawk	BCC/ST County Group 1	Nests in riparian woodland and forages over grassland. Once a common species in San Diego County, now a rare migrant, observed primarily in Borrego Valley. Species no longer nests in southern California (Unitt 2004).	**Low.** Suitable habitat present, however, species unlikely to occur on site given its rarity in San Diego County.
Butorides striatus	Green heron	--/-- County Group 2	Found around wooded ponds, marshes, rivers, reservoirs, and estuaries.	**Present.** Species observed in the eastern portion of the project site near the open water pond.
Camphylorhynchus brunnicapillus couesi	Coastal cactus wren	--/SSC County Group 1 Draft NC MSCP Covered	Occurs in coastal sage scrub with large cacti for nesting.	**Low.** Suitable habitat for this species is present on site; however, no evidence of this species was detected during multiple project surveys conducted in potential habitat. The most recent occurrence records for this species on the project site are from 1989 and 1990. Species has low potential to occur on site.

Appendix D (cont.)
Sensitive Animal Species Potential to Occur

Species Name	Common Name	Status[1]	Habitat Associations	Potential to Occur
VERTEBRATES (cont.)				
Birds (cont.)				
Cathartes aura	Turkey vulture	--/-- County Group 1	Species occurs throughout much of San Diego County with the exception of extreme coastal San Diego where development is heaviest. Foraging habitat includes most open habitats with breeding occurring in crevices among boulders.	**Present.** Multiple sightings of this species soaring overhead in the various portions of the property, with up to two vultures observed at any one time. Two vultures also were observed perched on top of a rock outcrop in the easternmost hills. This species could potentially breed on site, in the higher portions of the eastern hills where rock outcrops are present. No other potentially suitable breeding habitat is present on site.
Circus cyaneus	Northern harrier	--/SSC County Group 1 Draft NC MSCP Covered	Within San Diego County, distribution is primarily scattered throughout lowlands but can also be observed in foothills, mountains, and desert. Nests on ground in shrubby vegetation, usually at marsh edge; nest built of a large mound of sticks in wet areas. Typical habitat consists of open grassland and marsh.	**Present.** Suitable foraging habitat occurs on site as well as small areas of potential breeding habitat. One individual was observed foraging over fallow row crop areas located east of the eastern riparian corridor.
Coccyzus americanus occidentalis	Yellow-billed cuckoo	FT/SE County Group 1	Generally occurs along larger river systems, where it nests in riparian forest dominated by willows and cottonwoods. In California, species is most likely to be found in patches of riparian habitat greater than 200 ac in size, and they rarely use patches less than 49 ac in size (Halterman et al 2015).	**Low.** Sufficient expanses of suitable habitat do not occur on site. This species has been detected north of the site along the San Luis Rey River corridor; however, on-site riparian habitat is not of sufficient extent to meet the typical habitat requirements of this species.

Appendix D (cont.)
Sensitive Animal Species Potential to Occur

Species Name	Common Name	Status[1]	Habitat Associations	Potential to Occur
VERTEBRATES (cont.)				
Birds (cont.)				
Dendroica petechia brewsteri	Yellow warbler	BCC/SSC County Group 2	Occurs in riparian woodland and swamp edges. Often found near streams.	**Present.** Detected in riparian forest in four locations on site, in both the eastern and western riparian corridors and within a small stand of riparian woodland along the northern property boundary.
Elanus caeruleus	White-tailed kite	--/FP County Group 1	Riparian woodlands and oak or sycamore groves adjacent to grassland.	**Present.** Species observed foraging on site. No nests or breeding activity observed.
Empidonax trailii extimus	Southwestern willow flycatcher	BCC/SE County Group 1 Draft NC MSCP Covered	Breeds within thickets of willows or other riparian understory usually along streams, ponds, lakes, or canyons. One of the most important characteristics of the habitat appears to be the presence of dense vegetation, usually throughout all vegetation layers present. Almost all breeding habitats are within close proximity of water or very saturated soil.	**Low.** Protocol surveys conducted in 2015 were negative for this species, and there are no CNDDB or USFWS database records for this species on or adjacent to the project site.
Eremophila alpestris actis	Horned lark	--/WL County Group 2	Found on sandy beaches and in agricultural fields, grassland, and open areas.	**Present.** Species observed in the southeastern corner of the project within habitat tilled for row crops.
Falco mexicanus	Prairie falcon	--/WL County Group 1	Nests on cliff or bluff ledges or occasionally in old hawk or raven nests; forages in grassland or desert habitats. Observed year-round in San Diego County but more commonly during winter.	**Low**. Suitable dry, open habitat occurs on the site; however, this species was not observed or otherwise detected during multiple project surveys. This species could forage over the site.
Icteria virens	Yellow-breasted chat	--/SSC County Group 1 Draft NC MSCP Covered	Occurs in mature riparian woodland, typically returning to San Diego County in mid-April to breed.	**Present.** Two individuals were detected in riparian forest in the eastern riparian corridor.

Appendix D (cont.)
Sensitive Animal Species Potential to Occur

Species Name	Common Name	Status[1]	Habitat Associations	Potential to Occur
VERTEBRATES (cont.)				
Birds (cont.)				
Lanius ludovicianus	Loggerhead shrike	--/SSC County Group 1	Typical habitat includes open habitats including grasslands, shrublands, and ruderal areas with adequate perching locations.	**Present.** One individual observed perched near pasture along the northern site boundary.
Pandion haliaetus	Osprey	--/WL County Group 2	Found near rivers, lakes and the coast with large numbers of fish present. Species is more numerous in San Diego during migration and winter than in the breeding season. Rarely breeds in San Diego County.	**Present.** One individual observed flying overhead of the eastern riparian area near the freshwater pond in October 2013. Species is unlikely to breed on site and foraging habitat is limited to the easternmost pond.
Plegadis chihi	White-faced ibis	--/WL County Group 1 Draft NC MSCP Covered	Occurs in large marshes, with nesting colony hidden in inaccessible reedbed or willow-covered area.	**Present.** Flocks of up to approximately 50 individuals observed foraging in maintained pasture in the northwestern portion of the site. Species was observed multiple times on site, always foraging within pastures or occasionally in the feed barn near the pastures. This species was not observed breeding on site and is unlikely to do given the limited area of freshwater marsh present.
Polioptila californica californica	Coastal California gnatcatcher	FT/SSC County Group 1 Draft NC MSCP Covered	Occurs in coastal sage scrub with California sagebrush (*Artemesia californcia*) as a dominant or co-dominant species, at elevations below 2,500 feet.	**Present.** Species observed in several locations within the southwestern portion of the project site in Diegan coastal sage scrub.

Appendix D (cont.)
Sensitive Animal Species Potential to Occur

Species Name	Common Name	Status[1]	Habitat Associations	Potential to Occur
VERTEBRATES (cont.)				
Birds (cont.)				
Pyrocephalus rubinus flammeus	Vermilion flycatcher	--/SSC County Group 2	Scarce breeding records occur in southern California with a few individuals wintering regularly along the California coast from Ventura County south to San Diego County. Arid scrub, farmlands, parks, golf courses, desert, savanna, cultivated lands, and riparian woodland, usually near water. Wintering individuals can be found in open and semi-open areas with hedges, scattered trees and bushes, and often near water.	**Present.** Multiple observations of this species perched in trees and along fences adjacent to the pastures, as well as foraging in these areas. One pair with two fledglings was observed in 2015 in the northwestern portion of the site adjacent to a pasture.
Sialia mexicana	Western bluebird	--/-- County Group 2	Open coniferous and deciduous woodlands, wooded riparian areas, grasslands, farmlands, and edge of burned areas. Prefers open forest habitats. Nests in cavities in trees and snags, or between bark and trunk. Uses nest boxes.	**Present.** Multiple observations of this species perched in trees and along fences adjacent to the pastures, as well as foraging in these areas. This species is presumed to breed on site.
Tyto alba	Common barn owl	--/-- County Group 2	Require large areas of open land over which to hunt. Marsh, grasslands, or mixed agricultural fields. For nesting and roosting they need cavities in trees or man-made structures such as barns or silos.	**Present.** One individual was observed roosting in a farm building in the northwestern portion of the property. Suitable nesting habitat occurs on site for this species.

Appendix D (cont.)
Sensitive Animal Species Potential to Occur

Species Name	Common Name	Status[1]	Habitat Associations	Potential to Occur
VERTEBRATES (cont.)				
Birds (cont.)				
Vireo bellii pusillus	Least Bell's vireo	FE/SE County Group 1 Draft NC MSCP Covered	Occurs in riparian thickets, usually willow and cottonwood. Summer resident of Southern California. Typically arrives in San Diego County during the third week of March (Unitt 2004).	**Present.** Two solitary males were detected in isolated stands of riparian forest along the northern property boundary in late June and July 2015. One solitary male was detected on two occasions in riparian forest in the southwestern portion of the site during 2016 surveys (one in late April and one in early May), and two other individuals were detected off site to the north, along the San Luis Rey river corridor. No breeding individuals were detected on site.
Mammals				
Antrozous pallidus	Pallid bat	--/SSC County Group 2 Draft NC MSCP Covered	Locally common species of low elevations in California. Rocky, mountainous areas and near water; also found over more open, sparsely vegetated grasslands, and prefers foraging in the open. Uses three different roosts: 1) the day roost is in a warm, horizontal opening such as rock cracks; 2) the night roost is in the open, near foliage; and 3) the hibernation roost, which is in caves or cracks in rocks.	**High.** Suitable foraging and roosting habitat present onsite.
Bassariscus astutus	Ringtail	--/-- County Group 2	Various riparian habitats and in brush stands of moist forest and shrub habitats at low to middle elevations. Less common in wooded areas with hollow trees, sometimes around buildings.	**Low.** Species is unlikely to occur onsite due to its restrictive range and high sensitivity to disturbance.
Chaetodipus californicus femoralis	Dulzura pocket mouse	--/SSC County Group 2	Variety of habitats including coastal scrub, chaparral, and grasslands in San Diego County. Associated with grass-chaparral edges	**Low.** Suitable grassland habitat present onsite but no sign of this species was observed during surveys.

Appendix D (cont.)
Sensitive Animal Species Potential to Occur

Species Name	Common Name	Status[1]	Habitat Associations	Potential to Occur
VERTEBRATES (cont.)				
Mammals (cont.)				
Chaetodipus fallax fallax	Northwestern San Diego pocket mouse	--/SSC County Group 2	Occurs in open areas of coastal sage scrub and weedy growth, often on sandy substrates.	**Present.** Species observed in the eastern portion of the project in burned Diegan coastal sage scrub.
Choeronycteris mexicana	Mexican long-tongued bat	--/SSC County Group 2	Found in desert canyons, arid mountain ranges. Roosts by day in caves, mines or buildings. Feeds on nectar and pollen, mainly from cactus and agaves. Often found eating at hummingbird feeders.	**Not Expected.** Suitable habitat does not occur onsite.
Corynorhinus townsendii pallescens	Townsend's big-eared bat	--/SSC County Group 2 Draft NC MSCP Covered	Obligate cave-roosting species whose distribution is strongly associated with the presence of natural caves or cave-like structures such as mines (Sherwin 1998 as cited by Stokes et al 2005).	**Not Expected.** Suitable habitat does not occur onsite.
Dipodomys stephensi	Stephens' kangaroo rat	FE/ST County Group 1 Draft NC MSCP Covered	Found in sparsely vegetated annual grassland and sage scrub communities with loose, friable, well-drained soil.	**Low.** Suitable habitat present onsite, but species not observed during the focused surveys.
Euderma maculatum	Spotted bat	--/SSC County Group 2	Prefers sites with adequate roosting habitat (i.e., steep, rocky cliffs); feeds over water and along washes. Rare in California (Zeiner et al. 1990).	**Low.** Suitable foraging habitat present, but suitable roosting habitat does not occur onsite.
Eumops perotis californicus	Greater western mastiff bat	--/SSC County Group 2	Lower and upper Sonoran desert scrub near cliffs, preferring rugged rocky canyons with abundant crevices. Prefers crowding into tight crevices.	**None**. No suitable cliff or rocky canyon habitat occurs on the site.
Felis concolor	Mountain lion	--/SSC County Group 2	Requires extensive areas of riparian vegetation and brushy stages of various habitats with interspersed irregular terrain, rocky outcrops, and tree/brush edges. Main prey is mule deer.	**Low.** Suitable habitat is present; however preferred prey species is not known to occupy the site.

Appendix D (cont.)
Sensitive Animal Species Potential to Occur

Species Name	Common Name	Status[1]	Habitat Associations	Potential to Occur
VERTEBRATES (cont.)				
Mammals (cont.)				
Lasiurus blosservillii	Western red bat	--/SSC County Group 2	Riparian areas dominated by cottonwoods, oaks, sycamores, and walnuts.	**High.** Suitable foraging habitat present onsite; however species is more likely to roost in offsite riparian habitat along the San Luis Rey River corridor.
Lepus californicus bennettii	San Diego black-tailed jackrabbit	--/SSC County Group 2 Draft NC MSCP Covered	Found primarily in open habitats including coastal sage scrub, chaparral, grasslands, croplands, and open, disturbed areas if there is at least some shrub cover present.	**High.** Suitable habitat present onsite.
Macrotus californicus	California leaf-nosed bat	--/SSC County Group 2	Prefers rocky, rugged terrain; roosts by day in caves, abandoned mines, and tunnels. Forages over nearby flats and washes.	**Low.** Suitable foraging habitat present, but suitable roosting habitat does not occur onsite.
Myotis cilolabrum	Small-footed myotis	--/-- County Group 2	Occurs in arid, upland habitats near water. Prefers open stands in forests and woodlands as well as brushy habitats. Feeds over and drinks from streams, ponds, springs, and stock tanks.	**High.** Suitable habitat occurs on site.
Myotis yumanensis	Yuma myotis	--/-- County Group 2	Open forests and woodland are optimal habitat. Closely tied to bodies of water for foraging and drinking. Roosts in buildings, mines, crevices, caves, and under bridges.	**Low.** Suitable foraging habitat occurs on site; however, potential roosting habitat is minimal.
Neotoma lepida intermedia	San Diego desert woodrat	--/SSC County Group 2	Open chaparral and coastal sage scrub, often building large, stick nests in rock outcrops or around clumps of cactus or yucca.	**Moderate.** Suitable habitat is present on site..

Appendix D (cont.)
Sensitive Animal Species Potential to Occur

Species Name	Common Name	Status[1]	Habitat Associations	Potential to Occur
VERTEBRATES (cont.)				
Mammals (cont.)				
Nyctinomops femorosaccus	Pocketed free-tailed bat	--/SSC County Group 2	Colonial species that roosts primarily in caves and crevices of rugged cliffs. May also roost under roof tiles of buildings. It has been found in a variety of habitat associations, including desert shrub and pine-oak forests. Preferred habitat is rocky areas with high cliffs.	**Not Expected.** Suitable habitat does not occur on the project site.
Nyctinomops macrotis	Big free-tailed bat	--/SSC County Group 2	A rare species in California (Zeiner et al. 1990). Prefers rugged, rocky canyons. Often forages over water. Roosts in crevices in high cliffs or rock outcrops.	**Low.** Rock outcrops potentially suitable for roosting are present on site, primarily in the eastern hills, however site does not support rocky canyon habitat.
Odocoileus hemionus	Southern mule deer	--/-- County Group 2	Mule deer occupy to some extent almost all types of habitat within their range but, in general, they seem to prefer the more arid, open situations	**Low.** Although dried scat was observed in the far western tip of the site on a single occasion in 2013, no other detections of this species occurred during multiple field surveys conducted between 2013 and 2016. This species would have been observed if occupying the site.
Onychomys torridus ramona	Southern grasshopper mouse	--/SSC County Group 2	Arid habitats including various types of scrublands, low desert with creosote bush, mesquite, and yucca.	**None**. No suitable desert scrub habitat occurs on the site.
Taxidea taxus	American badger	--/SSC County Group 2 Draft NC MSCP Covered	Open plains and prairies, farmland, and sometimes edges of woods.	**Low**. Suitable open grassland and farmland habitat occurs on the site; however this species was not observed or otherwise detected during multiple site surveys.

[1]Listing is as follows: F = Federal; S = State of California; E = Endangered; T = Threatened; C=Candidate; R = Rare; FP = Fully Protected; BCC = Bird of Conservation Concern; SSC = State Species of Special Concern; WL = Watch List.

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Appendix E

Explanation of Status Codes for Plant and Animal Species

Appendix E
Explanation of Status Codes for Plant and Animal Species

FEDERAL, STATE, AND LOCAL CODES

U.S. FISH AND WILDLIFE SERVICE (USFWS)

FE Federally listed endangered

FT Federally listed threatened

FC Federal candidate for listing

BCC Birds of Conservation Concern (discussed in more detail, below)

BGEPA Bald and Golden Eagle Protection Act (discussed in more detail below)

CALIFORNIA DEPARTMENT OF FISH AND WILDLIFE (CDFW)

SE State listed endangered

SR State listed rare

ST State listed threatened

SSC State species of special concern

WL Watch List

Fully Protected Fully Protected species refer to all vertebrate and invertebrate taxa of concern to the Natural Diversity Data Base regardless of legal or protection status. These species may not be taken or possessed without a permit from the Fish and Game Commission and/or CDFW.

COUNTY OF SAN DIEGO

Plant sensitivity

Group A Plants rare, threatened, or endangered in California or elsewhere
Group B Plants rare, threatened, or endangered in California but more common elsewhere
Group C Plants that may be quite rare, but more information is needed to determine rarity status
Group D Plants of limited distribution and are uncommon, but not presently rare or endangered

Animal sensitivity

County Sensitive Animals considered under California Environmental Quality Act (CEQA) review of projects.

MULTIPLE SPECIES CONSERVATION PROGRAM (MSCP) COVERED

Multiple Species Conservation Program covered species for which the County has take authorization within the MSCP area.

MSCP NARROW ENDEMIC (NE)

Narrow endemic species are native species that have "restricted geographic distributions, soil affinities, and/or habitats." The MSCP participants' subarea plans have specific conservation measures to ensure impacts to narrow endemics are avoided to the maximum extent practicable.

OTHER CODES AND ABBREVIATIONS

USFWS BALD AND GOLDEN EAGLE PROTECTION ACT (BGEPA)

In 1782, Continental Congress adopted the bald eagle as a national symbol. During the next one and a half centuries, the bald eagle was heavily hunted by sportsmen, taxidermists, fisherman, and farmers. To prevent the species from becoming extinct, Congress passed the Bald Eagle Protection Act in 1940. The Act was extremely comprehensive, prohibiting the take, possession, sale, purchase, barter, or offer to sell, purchase, or barter, export or import of the bald eagle "at any time or in any manner."

In 1962, Congress amended the Eagle Act to cover golden eagles, a move that was partially an attempt to strengthen protection of bald eagles, since the latter were often killed by people mistaking them for golden eagles. The golden eagle, however, is accorded somewhat lighter protection under the Act than the bald eagle. Another 1962 amendment authorizes the Secretary of the Interior to grant permits to Native Americans for traditional religious use of eagles and eagle parts and feathers.

USFWS BIRDS OF CONSERVATION CONCERN (BCC)

This report from 2002 aims to identify accurately the migratory and non-migratory bird species (beyond those already designated as federally threatened or endangered) that represent USFWS' highest conservation priorities and draw attention to species in need of conservation action. USFWS hopes that by focusing attention on these highest priority species, the report will promote greater study and protection of the habitats and ecological communities upon which these species depend, thereby ensuring the future of healthy avian populations and communities. The report is available online at http://migratorybirds.fws.gov/reports/bcc2002.pdf.

CALIFORNIA NATIVE PLANT SOCIETY (CNPS) CALIFORNIA RARE PLANT RANKING (CRPR)

Lists

1A = Presumed extinct.

1B = Rare, threatened, or endangered in California and elsewhere. Eligible for state listing.

2 = Rare, threatened, or endangered in California but more common elsewhere. Eligible for state listing.

3 = Distribution, endangerment, ecology, and/or taxonomic information needed. Some eligible for state listing.

4 = A watch list for species of limited distribution. Needs monitoring for changes in population status. Few (if any) eligible for state listing.

List/Threat Code Extensions

.1 – Seriously endangered in California (over 80 percent of occurrences threatened/high degree and immediacy of threat)

.2 – Fairly endangered in California (20 to 80 percent occurrences threatened)

.3 – Not very endangered in California (less than 20 percent of occurrences threatened, or no current threats known)

A "CA Endemic" entry corresponds to those taxa that only occur in California.

All List 1A (presumed extinct in California) and some List 3 (need more information; a review list) plants lacking threat information receive no extension. Threat Code guidelines represent only a starting point in threat level assessment. Other factors, such as habitat vulnerability and specificity, distribution, and condition of occurrences, are considered in setting the Threat Code.

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Appendix F

Site Photographs

Photo 1. Looking north at non-native grassland and pastures in the west-central portion of the site. Existing equestrian facilities (e.g. barns, stables, manager's office), are at the back left of the photo. Hills in the background are off site, north of the San Luis Rey River and SR 76.

Photo 2. Looking north at non-native grassland, pastures, and existing equestrian facilities in the west-central portion of the site. The San Luis Rey River is off site at the back of the photo.

Photo 3. Looking north at existing agriculture in the eastern portion of the site.

Photo 4. Looking southeast at existing agriculture adjacent to the eastern riparian corridor.

Photo 5. Looking southwest at non-native grassland and coastal sage scrub in the western portion of the site.

Photo 6. Looking east at the existing paved access road and the northern portion of the western riparian corridor where it ends at Vessels Ranch Road.

Photo 7. Freshwater pond in the eastern riparian corridor.

Photo 8. Looking northeast at existing agriculture and an associated settling basin, the eastern riparian corridor, and eastern hills.

Photo 9. Looking north at existing agriculture (row crops).

Photo 10. Looking north at existing pasture adjacent to the existing equestrian facilities in the northern portion of the site. Hills in the background are off site, north of SR 76.

Photo 11. Looking south at pasture in the foreground, existing agriculture (row crops), on the lower slopes, and fallow orchard and sage scrub on the upper slopes.

Photo 12. Looking south at pasture in the central portion of the site. Row crops, grassland, orchard, and sage scrub are in the background.

Photo 13. Looking west across the site from the eastern hills. Regeneration of sage scrub habitat that burned in May 2014 is visible in the foreground.

Photo 14. Sage scrub in the eastern hills is regenerating following the May 2014 fire. Photo taken in January 2016.

Photo 15. Looking southwest at the proposed crossing location of the eastern riparian corridor.

Photo 16. Looking east at the proposed crossing location of the western riparian corridor, prior to December 2017 Lilac Fire.

Photo 17. February 27, 2017. Looking south/upstream at a narrow band of mule fat and willows in a drainage downstream of the orchards, 10 months prior to the December 2017 Lilac Fire. Upstream orchard is visible in the background.

Photo 18. April 10, 2019. Looking south/upstream at the same reach of channel shown in Photo 17, 16 months after the December 2017 Lilac Fire. Channel is now dominated by upland annual grasses and upstream orchards are no longer present. No potential RPO wetland is present.

Photo 19. April 10, 2019. Looking north/downstream at the channel in Photos 17 and 18, now dominated by upland annual grasses. No potential RPO wetland is present.

Appendix G1

Least Bell's Vireo 2016 Survey Report

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619.462.0552 **fax**
www.**helixepi**.com

August 8, 2016 OBR-01

Ms. Stacey Love
U.S. Fish and Wildlife Service
2177 Salk Ave., Suite 250
Carlsbad, CA 92008

Subject: 2016 Least Bell's Vireo (*Vireo bellii pusillis*) Survey Report for the Ocean Breeze Ranch Property

Dear Ms. Love:

This letter presents the results of a U.S. Fish and Wildlife Service (USFWS) protocol presence/absence survey for the least Bell's vireo (*Vireo bellii pusillus*; LBVI) conducted by HELIX Environmental Planning, Inc. (HELIX) for the Ocean Breeze Ranch (formerly Vessels Stallion Ranch) property. This letter describes the survey methods and results and is being submitted to the USFWS in accordance with protocol survey guidelines.

PROJECT LOCATION

The approximately 1,402-acre property is located within an unincorporated portion of San Diego County at 5820 West Lilac Rd., Bonsall, California (Figure 1). The property is further located to the north of West Lilac Road, south of State Route (SR) 76, and west of Interstate 15. The property is situated in the Monserate land grant and Sections 14, 15, 20, 21, 22, and 23 of Township 10 South, Range 3 West on the Bonsall U.S. Geological Survey 7.5-minute quadrangle map (Figure 2). An aerial of the property is shown in Figure 3.

METHODS

The survey consisted of eight site visits conducted by qualified HELIX biologist Erica Harris between April 15 and June 30, 2016 (Table 1) in accordance with the current USFWS survey protocol (2001). The surveys were conducted by walking along the edges of, as well as within, potential LBVI habitat in the survey area while listening for LBVI and viewing birds with the aid of binoculars. The survey route was arranged to ensure complete survey coverage of habitat with potential for occupancy by LBVI. The survey area consisted of approximately 24.7 acres of

suitable LBVI habitat within the property, consisting of southern cottonwood-willow riparian forest, southern willow scrub, mule fat scrub, and tamarisk scrub (Figure 4). Suitable habitat for LBVI is present within two main drainages located on the project site, two smaller drainage features, and scattered stands of habitat along the northern boundary of the property that are located within the San Luis Rey River floodplain.

Table 1
SURVEY INFORMATION

SITE VISIT	DATE	BIOLOGIST	TIME (start/stop)	APPROXIMATE ACRES (ac) COVERED/ SURVEY RATE	Weather Conditions (start/stop)
1	4/15/16	Erica Harris	0730/1100	24.7 ac/ 7.1 ac per hr	58ºF, wind 1-3 mph, 100% clouds 63ºF, wind 1-3 mph, 5% clouds
2	4/25/16	Erica Harris	0800/1100	24.7 ac/ 8.2 ac per hr	63ºF, wind 2-6 mph, 100 % clouds 69ºF, wind 2-6 mph, 65 % clouds
3	5/5/16	Erica Harris	0730/1100	24.7 ac/ 7.1 ac per hr	60°F, wind 0-1 mph, 100% clouds 63°F, wind 1-2 mph, 100% clouds
4	5/16/16	Erica Harris	0730/1100	24.7 ac/ 7.1 ac per hr	63°F, wind 0-1 mph, 100% clouds 66°F, wind 2-4 mph, 100% clouds
5	5/26/16	Erica Harris	0720/1100	24.7 ac/ 6.7 ac per hr	60°F, wind 1-3 mph, 100% clouds 68°F, wind 2-5 mph, 80% clouds
6	6/9/16	Erica Harris	0700/1030	24.7 ac/ 7.1 ac per hr	66°F, wind 0-1 mph, 100% clouds 67°F, wind 1-3mph, 100% clouds
7	6/20/16	Erica Harris	0730/1100	24.7 ac/ 7.1 ac per hr	76°F, wind 0-1 mph, 0% clouds 101°F, wind 2-5 mph, 0% clouds
8	6/30/16	Erica Harris	0725/1100	24.7 ac/ 6.9 ac per hr	68°F, wind 1-2 mph, 100% clouds 77°F, wind 2-5 mph, 0% clouds

VEGETATION COMMUNITY DESCRIPTIONS

A total of 21 vegetation communities/land use types have been identified within the property: southern cottonwood-willow riparian forest, southern willow scrub, mule fat scrub, freshwater marsh, herbaceous wetland, tamarisk scrub, open water/pond, coast live oak woodland, Diegan coastal sage scrub, coastal sage-chaparral scrub, flat-topped buckwheat scrub, southern mixed chaparral, non-native grassland, field/pasture, row crops, eucalyptus woodland, orchard, fallow orchard, non-native vegetation, disturbed habitat, and developed lands (Figure 4). The vegetation communities considered suitable LBVI habitat include southern cottonwood-willow riparian forest, southern willow scrub, mule fat scrub, and tamarisk scrub.

SURVEY RESULTS

Three LBVI individuals were observed or detected at three separate locations within and adjacent to the project site during the 2016 surveys (Figure 4). No LBVI nesting behavior was observed within the project site during any of the surveys.

A single, unbanded male was observed during the second and third surveys visits conducted in late-April and early-May within the southwestern drainage (Figure 4). The unpaired male was observed foraging and singing from multiple perches within the drainage. The LBVI was not detected during any subsequent surveys and is believed to have moved to other habitat off-site to find a mate and conduct breeding activities.

A single LBVI was heard singing approximately 370 feet northwest of the project site on June 21 during a habitat assessment survey for coastal California gnatcatcher (*Polioptila californica californica*), as well as during the eighth LBVI survey visit on June 30. The LBVI was not detected during any other surveys and was not observed within the project site. The sex and breeding status of the vireo could not be determined due to the individual's locations being off site.

A single, unbanded male LBVI was detected along the northern property boundary during the eighth survey. The unpaired male was observed singing from multiple perches and foraging. The individual flew northwest towards the San Luis Rey River after approximately 30 minutes of observation. The male is believed to have traveled south to the project site from habitat located along the San Luis Rey River. No other adult or juvenile LBVI were detected in association with the male.

The brown-headed cowbird (*Molothrus ater*; BHCO), a nest parasite of the LBVI, was detected in 10 separate locations during the surveys (Table 2; Figure 4). Brown-head cowbird was observed during all eight surveys; observations included single singing males, single females, and multiple individuals engaged in courtship displays.

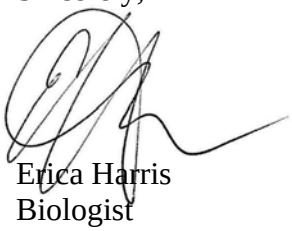
Table 2
SURVEY RESULTS

SITE VISIT	DATE	Number of LBVI Observed	Number of BHCO Observed
1	4/15/16	0	62
2	4/25/16	1	14
3	5/5/16	1	18
4	5/16/16	0	26
5	5/26/16	0	6
6	6/9/16	0	9
7	6/20/16	0	4
8	6/30/16	2	8

CERTIFICATION

I certify that the information in this survey report and attached exhibits fully and accurately represent my work. Please contact me at (619) 462-1515 should you have any questions.

Sincerely,



Erica Harris
Biologist

Enclosures:
Figure 1 Regional Location
Figure 2 Project Vicinity (USGS Topography)
Figure 3 Project Vicinity (Aerial Photograph)
Figure 4 Vegetation/2016 Least Bell's Vireo Survey Results

REFERENCES

U.S. Fish and Wildlife Service (USFWS). 2001. Least Bell's Vireo Survey Guidelines. January 19.

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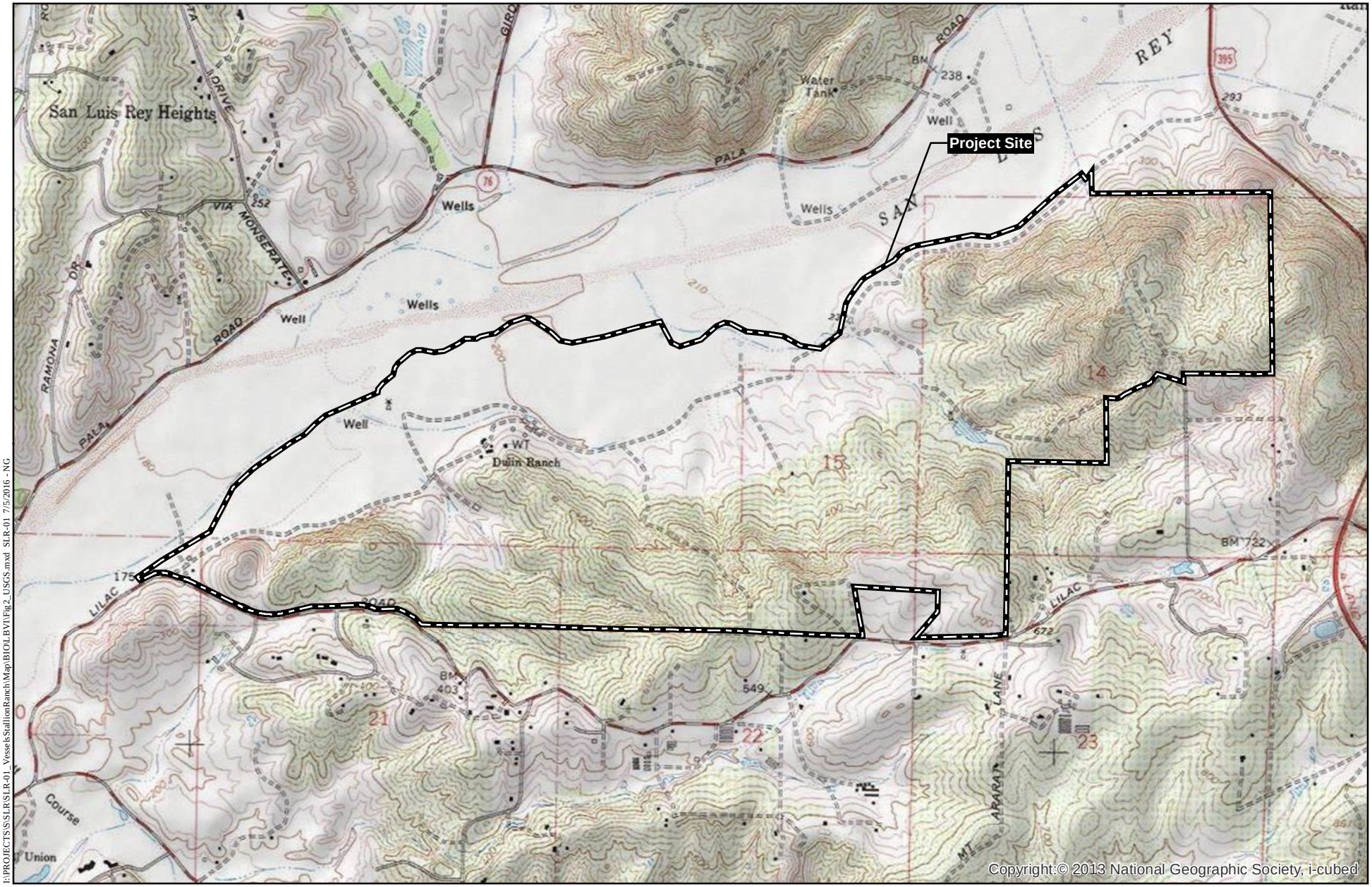
Regional Location Map

OCEAN BREEZE RANCH

HELIX Environmental Planning

N 0 8 Miles

Figure 1



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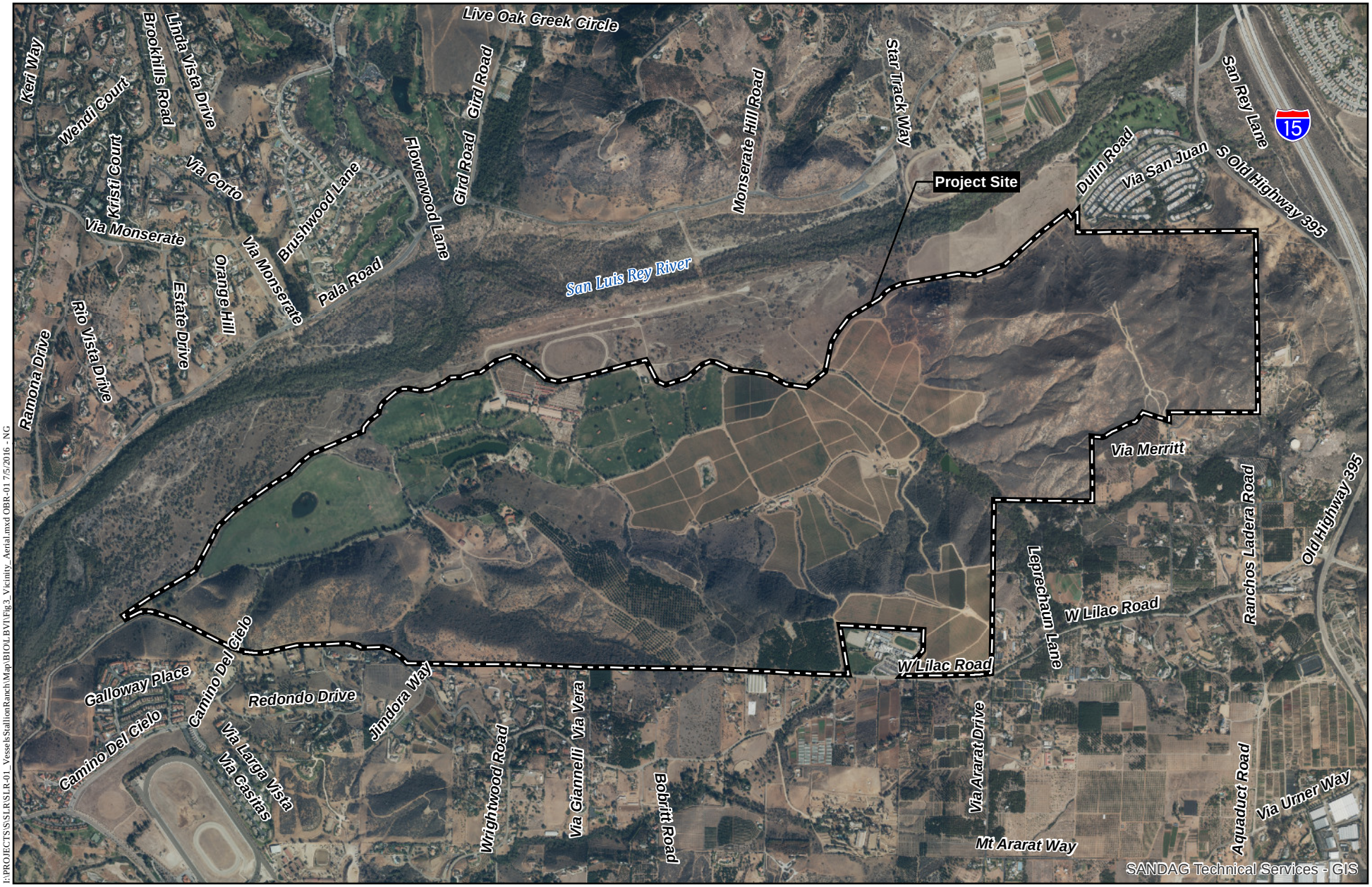
Project Vicinity (USGS Topography)

OCEAN BREEZE RANCH

HELIX Environmental Planning

N 0 2,000 Feet

Figure 2



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Project Vicinity (Aerial Photograph)

OCEAN BREEZE RANCH

HELIX Environmental Planning

N 0 2,000 Feet

Figure 3

Project Boundary

Survey Results

BHCO Brown-headed Cowbird (*Molothrus ater*)

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

Vegetation Communities/Land Use Types

- Southern Cottonwood-willow Riparian Forest (61330)
- Southern Willow Scrub (63320)
- Mule Fat Scrub (63310)
- Freshwater Marsh (52400)
- Herbaceous Wetland (52510)
- Open Water/Freshwater Pond (64140)
- Tamarisk Scrub (63810)
- Coast Live Oak Woodland (71160)
- Diegan Coastal Sage Scrub (32500)
- Diegan Coastal Sage Scrub - Burned (32500)
- Diegan Coastal Sage Scrub - Disturbed (32500)
- Coastal Sage-Chaparral Scrub (37G00)
- Flat-topped Buckwheat Scrub (32800)
- Southern Mixed Chaparral (37120)
- Non-native Grassland (42200)
- Pasture (18310)
- Row Crops (18320)
- Orchard (18100)
- Fallow Orchard (18100)
- Open Water/AG Pond (64100)
- Eucalyptus Woodland (11000)
- Non-native Vegetation (79100)
- Disturbed Habitat (11300)
- Urban/Developed (12000)

Monserate Hill Road
San Luis Rey River
Dulin Road
South Old Highway 395
San Rey Lane
Mountain View Road
Rancho Ladera Road
West Lilac Road
Redondo Drive
Via Vera
Via Ararat Drive
Camino Del Cielo

(Male) 6/30
(1) 6/21, 6/30 - Approximate location depicted based off detection from the project site.
(Male) 4/25, 5/5

BHCO
LBVI

SANDAG Technical Services - GIS

I:\PROJECTS\SSLRSLR-01_VesselsStallionRanch\Map\BIOLBVI\Fig4_Vegetation_LBVIsurvey.mxd OBR-01 8/2/2016 - NG

Vegetation/2016 Least Bell's Vireo Survey Results

OCEAN BREEZE RANCH

HELIX Environmental Planning

N

0 1,100 Feet

Figure 4

Appendix G2

Least Bell's Vireo and Southwestern Willow Flycatcher 2015 Survey Report

2015 Least Bell's Vireo & Southwestern Willow Flycatcher Survey Results for the Ocean Breeze Ranch Project Site

Prepared for:

HELIX Environmental Planning, Inc.

7578 El Cajon Boulevard, Suite 200

La Mesa, California, 91942

Contact: Ms. Stacy Nigro

(619) 462-1515

Prepared by:

Kidd Biological, Inc.

38249 Oak Bluff Lane

Murrieta, CA 92562

Contact: John Konecny

(951) 600-0666

Date: September 1, 2015

CONTENTS

LIST OF FIGURES

INTRODUCTION

Kidd Biological, Inc. (KBI) was contracted by HELIX Environmental Planning, Inc. (HELIX) to conduct protocol breeding season surveys for the least Bell's vireo (*Vireo bellii pusillus*), (LBVI), and southwestern willow flycatcher (*Empidonax traillii extimus*), (SWWF) on the Ocean Breeze Ranch Project Site (site) located in Bonsall, San Diego County, California. The LBVI is listed as an endangered species by the U.S. Fish and Wildlife Service (USFWS) and the California Department of Fish and Wildlife (CDFW). The southwestern subspecies of the willow flycatcher is listed as an endangered species by the USFWS. The California Department of Fish and Wildlife (CDFW) has listed the willow flycatcher (*E. traillii*) as an endangered species; thus, the entire species, not just the *E.t. extimus* subspecies is protected under the California Endangered Species Act.

As such, this report presents the findings of those surveys, including the presence and extent of suitable habitats, methodology, location(s) and number(s) of LBVI and SWWF observed (if any) and any incidental observations of other listed or sensitive species.

PROJECT OBJECTIVES

Surveys were conducted to determine the presence/absence of the LBVI and SWWF on the site in order to determine if a proposed project will cause take of federally listed species.

SITE LOCATION

The site is located in Bonsall, California, west of Interstate 15, north of West Lilac Road, and south of the San Luis Rey River in San Diego County (Figure 1). The site can also be described as being located within Sections 21 and 22 in Township 10 South and Range 3 West of the Bonsall, CA, United States Geological Survey (USGS) 7.5 minute quadrangle (Figure 2).

HABITAT DESCRIPTIONS

The site supports a mosaic of tomato fields, horse pastures and stables, which are primarily located in the northern and central portions of the site. Several residential structures are present, and dirt roads traverse the site. Native habitats are restricted to small patches of Diegan coastal sage scrub, which are scattered throughout the site and riparian habitats, which are limited to the areas associated with four on-site drainages. Representative vegetation communities found within the riparian habitats included southern cottonwood-willow riparian forest, southern willow scrub, mule-fat scrub, freshwater marsh, herbaceous wetland, pond and tamarisk scrub.

Surveys for the LBVI and SWWF focused on the riparian habitats located along the two main drainage features, two smaller features and a few scattered areas of riparian habitat that are not associated with the larger drainage features (Figure 3). The largest of the riparian areas is located in the southeastern portion of the site along a southeast to northwest running drainage. Although this drainage supported the lushest and most suitable habitats, the vegetation was extremely xeric. This drainage was characterized as supporting southern cottonwood-willow riparian forest dominated by

lance-leaf willow (*Salix lasiandra*), arroyo willow (*S. lasiolepis*), southwestern willow (*S. gooddingii*), cottonwood (*Populus* sp.) and Mexican elderberry (*Sambucus mexicanus*), with an understory of mulefat (*Baccharis salicifolia*) and tamarisk (*Tamarix* sp.). The western-most drainage is a thin band of southern willow scrub that expands into a broader southern cottonwood-willow riparian forest, terminating at the existing road that bisects the western portion of the property. The other 2 drainages, which are located between the main eastern and western ones, both have very little riparian vegetation (one has a single stand of mulefat scrub and the other has a thin band of mulefat scub and southern willow scrub).

Least Bell's Vireo

Species Description, Distribution, and Status

The LBVI is a small greenish-gray songbird with a white underbelly, two white wingbars, and white spectacles across the lores. The LBVI was once widespread throughout the Central Valley and other low elevation river valleys of California. Historically, the LBVI's breeding range extended from the interior of northern California to northwestern Baja California. The LBVI typically prefers riparian areas dominated by willows of mixed age composition. These areas frequently include other trees such as western cottonwood and California sycamore, with a dense understory of young willows, mule-fat, California wild rose (*Rosa californica*), and a variety of other shrubby species.

San Diego County supports over 50% of the recorded LBVI pairs throughout their known range in California. The San Luis Rey River population accounts for approximately 8% of the total known pairs with the Santa Margarita River population accounting for more then 30%. Other recorded populations in San Diego County include Tijuana River, Dulzura Creek/Jamul Creek/Otay River, Sweetwater and San Diego River (USFWS 1998).

Loss and degradation of breeding habitat has been the greatest contributor to the decline of the LBVI and SWWF. Habitat conversion for agricultural purposes has removed much of the original riparian woodland, and flood control measures and channelization have further depleted the riparian habitats used by the LBVI and SWWF as well as other riparian birds. The significant reduction in the population size and range of the LBVI resulted in it being listed as a state endangered species in June 1980, and federally listed as endangered in May 1986. Final designated critical habitat for this species was designated in 1994 (USFWS 1994). Critical habitat for this species occurs along the San Luis Rey River from Pala west to Oceanside. As such, a portion of the site is located within this designated critical habitat.

LBVI Survey Methods

Presence/absence surveys for the LBVI were conducted according to the January 19, 2001 USFWS *Least Bell's Vireo Survey Guidelines*. All potential LBVI habitat and riparian areas within the site were surveyed eight (8) times between April 27 and July 25, 2015 with at least 10 days between survey visits. The surveys were conducted during the morning hours between 0530 and 1215. Less than three linear kilometers (km) (1.9 miles) of habitat were surveyed per day. LBVI surveys were conducted passively, listening for LBVI songs, calls, whisper songs, scolds and visually looking for adults and juveniles. Any nesting behavior was also noted.

LBVI observations were recorded in a field notebook, and GPS readings of the locations were taken during the surveys. Numbers and locations of paired or unpaired territorial males, and the ages and sexes of encountered vireos (when discernible) were noted. Individual LBVI were also checked for colored leg bands. Survey dates, survey personnel, species surveyed for, times, and environmental conditions are summarized in Table 1.

SOUTHWESTERN WILLOW FLYCATCHER

SPECIES DESCRIPTION, DISTRIBUTION, AND STATUS

The SWWF is a small, insectivorous passerine that migrates north in the spring from South America, Mexico, and Central America, to breed in the southwestern desert riparian habitats of California, Arizona, New Mexico, and Texas. It is one of several sub-species of the willow flycatcher. CDFW determined that all subspecies in California are endangered under the California Endangered Species Act. Determining subspecies is based on the region the flycatcher is found breeding as they are nearly indistinguishable by site or call. In San Diego County, breeding willow flycatchers are considered the federally-listed SWWF.

SWWF territories have been identified in all the major rivers systems in San Diego County, including the San Luis Rey River. The San Luis Rey River and the Santa Margarita River were both identified as supporting the largest number of territories in San Diego (USFWS 2013).

The SWWF has a grayish-green back, whitish throat, pale yellowish belly, and two white wingbars. Like the LBVI, the SWWF occurs in riparian woodland habitat that is characterized by a dense growth of willows, mulefat, arrowweed, buttonbush (*Cephalanthus* sp.) cottonwood, sycamore, and tamarisk. In addition to willow riparian woodland, the SWWF also nests in coast live oak woodland (*Quercus agrifolia*) on the upper San Luis Rey River, San Diego County, California; in dense stands of tamarisk on the lower Colorado River, Imperial and Riverside Counties, California; and in stands of mixed willow and white alder (*Alnus rhombifolia*) on Mill Creek in San Bernardino County, California. Surface water or saturated soils are usually present in or adjacent to nesting thickets. The southwestern subspecies of willow flycatcher was federally listed as endangered in February 1995 (USFWS 1995). Final designated critical habitat for this species was designated in 2013 (USFWS 2013). Portions of the site are located within this designated critical habitat.

SWWF SURVEY METHODS

Presence/absence surveys were conducted according to the July 11, 2000 revised protocol for project-related surveys and the general guidelines described by Sogge *et al.* (2010). All potential SWWF habitat and riparian areas within the survey area were surveyed five (5) times: one (1) visit during the 1st Survey Period (May 15 to May 31), two (2) visits during the 2nd Survey Period (June 1 to June 24), and two (2) visits during the 3rd Survey Period (June 25 to July 17). Each visit was conducted at least five (5) days apart. Surveys were conducted during morning hours (prior to 1155) and when the temperature exceeded 13° C (55 °f). Less than 1.9 miles (3 km) of habitat were

surveyed per day. Surveys for the SWWF were conducted concurrently with those for the LBVI on May 24; June 12 and 22; and July 3, and 14, 2015.

Surveys were conducted within all potential habitat patches. If a singing SWWF was not heard in an area after one to two minutes, the permitted biologist played a taped vocalization for 15 to 30 seconds and observed the area for responding SWWFs. This was repeated every 20 to 30 meters. If a SWWF was detected, tape playing was discontinued.

Any SWWF observations would be recorded in a field notebook, and GPS readings of the locations were taken during the surveys. If this species was observed, their behavior, numbers, and locations of paired or unpaired birds; ages; and sexes of encountered SWWF would be noted. The biologist also checked for leg bands. Survey dates, survey personnel, species surveyed for, times, and environmental conditions are summarized in Table 1.

RESULTS

Surveys were conducted by permitted KBI biologist, Mr. John Konecny. Surveys were conducted on April 27; May 5 and 24; June 12 and 22; and July 3, 14 and 25, 2015 (Table 1). Surveys for SWWF overlapped LBVI surveys conducted on May 24; June 12 and 22; and July 3, and 14, 2015.

Two solitary male LBVIs were detected during the 2015 surveys. One incidental LBVI was detected by HELIX biologists on June 24, 2015 in southern willow scrub habitat in the central-northern area of the site. This individual was observed by Mr. Konecny on July 3, 2015 as well as a second individual LBVI. The second individual was observed in the small section of of southern willow scrub in the west-central portion of the site (Figure 4). Both LBVI were subsequently detected again by Mr. Konecny during surveys conducted on July 14 and July 25, 2015.

No federally-listed Southwestern willow flycatchers (*Empidonax traillii extimus*) were detected during the 2015 surveys. One undetermined subspecies of willow flycatcher (*E. traillii*), a CDFW endangered species, was detected during the first SWWF survey conducted on May 24, 2015. The flycatcher was observed in the large riparian drainage located in the central portion of the site (Figure 4). This flycatcher was detected only on the first survey pass and did not breed on site.

A list of all wildlife species observed can be found in Appendix B – Species Compendium. Survey data forms can be found in Appendix C – Data Forms. A discussion on other sensitive species observed can be found below.

TABLE 1. SURVEY DATA

Survey #	Date	Surveyor	Start Time	Stop Time	Weather	Temp. Range (°f)	# of LBVI Detected	SWWF Detected	Location of Observations	Location (UTM, Zone 11S)
1	4/27/15	JK	0540	1215	100% CC, wind 3-5 mph	47-85	0	No	N/A	N/A
2	5/12/15	JK	0610	1200	100% CC, wind 3-9 mph	60-72	0	No	N/A	N/A
3*	5/24/15	JK	0535	1150	100% CC, wind 1-5 mph	58-68	0	No	Solitary willow flycatcher observed by JK.	484066 3685075
4*	6/12/15	JK	0530	1155	100% CC, wind 1-3 mph	63-70	0	No	N/A	N/A
5*	6/22/15	JK	0545	1130	100% CC, wind 1-5 mph	59-82	0	No	No LBVI observed by JK on 6/22; solitary male LBVI observed by HELIX biologists on 6/24/15.	N/A
6*	7/03/15	JK	0535	1150	60% CC, wind 3-5 mph	66-79	1	No	Two solitary males observed by JK	482794 3685447 481423 3685087
7*	7/14/15	JK	0535	1135	40% CC, wind 3-5 mph	66-82	2	No	Two solitary males observed by JK.	482794 3685447 481423 3685087
8	7/25/15	JK	0530	1135	100% CC, wind 1-3 mph	65-88	2	No	Two solitary males observed by JK.	482794 3685447 481423 3685087

**indicates dates when SWWF surveys were conducted concurrently with LBVI surveys.*

Other Sensitive Species Observed

This survey focused on two species, the LBVI and SWWF; however, incidental observation(s) of all sensitive species were documented. There are various definitions of "sensitive" in accordance with State and Federal Agencies. The locations of these species can be found on Figure 4.

The following is a brief summary of the status of the species that were observed on site (all definitions were taken directly from State of California Department of Fish and Wildlife Biogeographic Data Branch's Special Animals list (January 2015) unless otherwise indicated:

Federally Endangered (FE): "The classification provided to an animal or plant in danger of extinction within the foreseeable future throughout all or a significant portion of its range." (USFWS 2014)

State Endangered (SE): Animals or plants that are in serious danger of becoming extinct throughout all, or a significant portion, of their range due to one or more causes, including loss of habitat, over-exploitation, competition or disease.

CDFW California Species of Special Concern (SSC): The Department has designated certain vertebrate species as "Species of Special Concern" because declining population levels, limited ranges, and/or continuing threats have made them vulnerable to extinction. The goal of designating species as "SSC" is to halt or reverse their decline early enough to secure their long term viability.

USFWS Bird of Conservation Concern (BCC): The goal of the Birds of Conservation Concern 2008 report is to accurately identify the migratory and non-migratory bird species (beyond those already designated as federally threatened or endangered) that represent our highest conservation priorities and draw attention to species in need of conservation action.

TABLE 2. OTHER SENSITIVE SPECIES OBSERVATIONS

Common Name	Scientific Name	Status
Yellow-breasted chat	*Icteria virens*	SSC
Loggerhead shrike	*Lanius ludovicianus*	SSC, BBC
Vermilion flycatcher	*Pyrocephalus rubinus*	SSC
Yellow warbler	*Setophaga petechia*	SSC, BBC

BROWN-HEADED COWBIRDS AND INVASIVE SPECIES

Brown-headed cowbirds (*Molothrus ater*) were detected in the western-most and eastern-most drainages. Other non-native wildlife species detected within the survey areas included rock pigeons (*Columba livia*) and European starlings (*Sternus vulgaris*). Neither of these birds poses a significant threat to the conservation of the LBVI or the SWWF.

The invasive plant species tamarisk was observed on the site. Although an invasive plant, tamarisk is regularly used by SWWFs and other riparian birds for foraging and nesting. Although this species out-competes native plant species, the extent of tamarisk on the site will not likely have a significant impact on the population of sensitive birds in the area. However, if tamarisk should spread and dominate a substantial portion of the southern willow scrub in the surrounding area, the diversity of invertebrates in the willow riparian habitat may decline. The result of decreased abundance and diversity of invertebrates likely affects species at higher trophic levels.

CONCLUSION

Two solitary LBVI males were observed on the site. The first individual was observed incidentally by HELIX biologists on June 24, 2015. This individual was observed again by Mr. Konecny on July 14 and 25, 2015. The second individual was observed by Mr. Konecny on July 3, 2015 and again on July 14 and 25, 2015. The reason these LBVI were not detected during the first surveys is unknown. It is possible that these individuals were displaced from the construction occurring to the north along the San Luis Rey River, or they moved from another location because of other unknown environmental conditions. The same type of mid-season movement phenomenon has also been documented at Marine Corps Base Camp Pendleton (unpublished data from USGS and Camp Pendleton) in 2015.

No SWWF were observed during surveys; however, a willow flycatcher was observed on May 24, 2015 by Mr. Konecny. The willow flycatcher sighting occurred during the first survey window for the SWWF, which is one of the most reliable times to detect SWWF that have established territories. However, the migrant subspecies *E.t. brewsterii* or *E.t. edastus* may still be present and singing in southern California at this time (Sogge 1997). The failure to detect SWWF during the final four surveys suggests the flycatcher individual observed was one of these migratory subspecies, and not the federally listed *E.t extimus*.

Suitable SWWF and LBVI nesting habitat exists in the large eastern drainage, with less suitable habitat occurring in the other areas. The closest breeding population of SWWF is located in the San Luis Rey River, approximately 5 miles (8 kilometers) to the west (CNDDB 2015).

Other sensitive bird species detected during surveys included yellow-breasted chat, yellow warbler, loggerhead shrike and vermilion flycatcher.

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

John K. Konecny

Permit # TE837308-6

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APPENDIX A- FIGURES

Figure 1. Regional Location Map

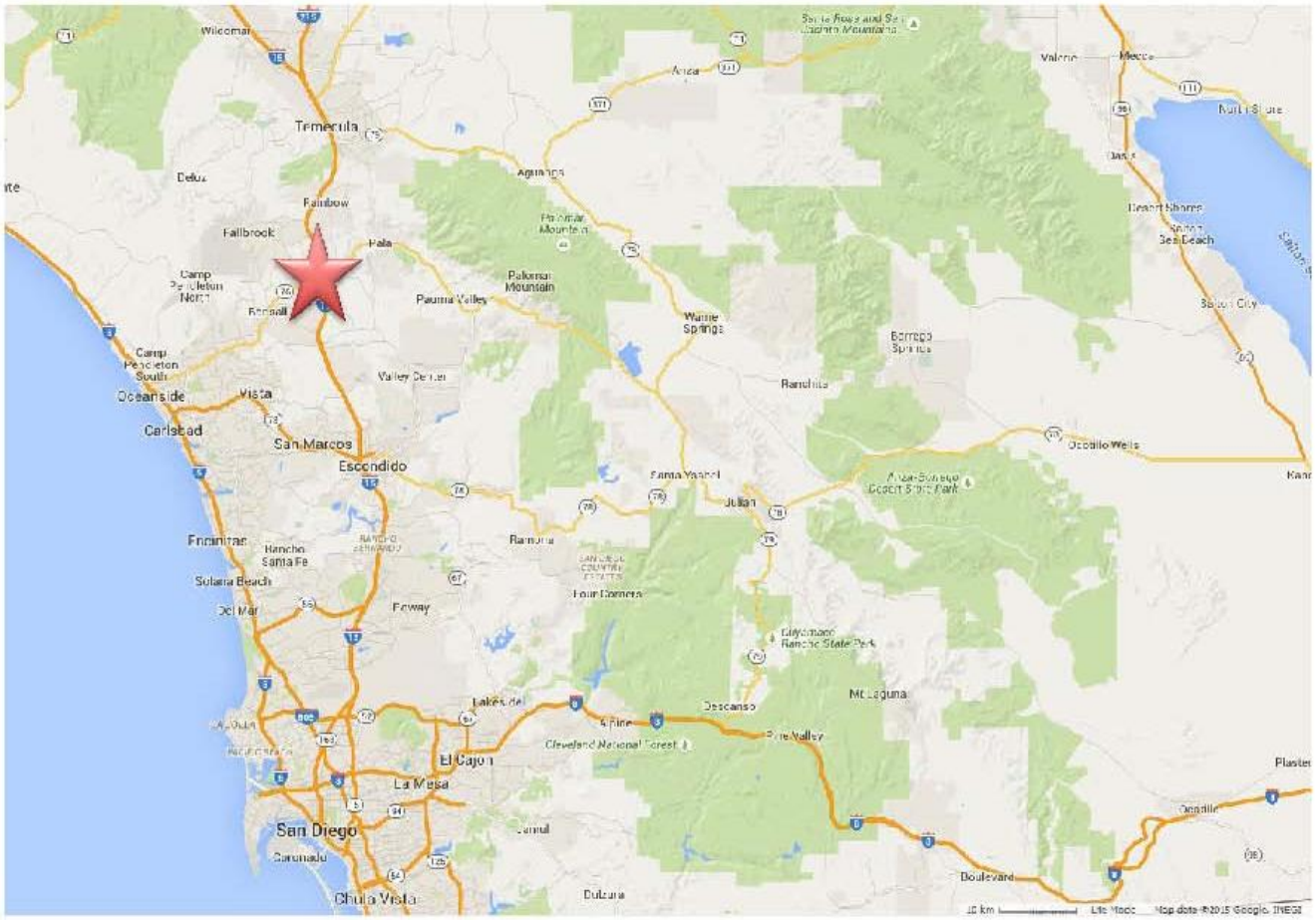


Figure 1 Regional Site Map (GoogleMaps 2015)
Ocean Breeze Ranch

Kidd BIOLOGICAL INC.

FIGURE 2. TOPOGRAPHIC MAP OF PROJECT SITE

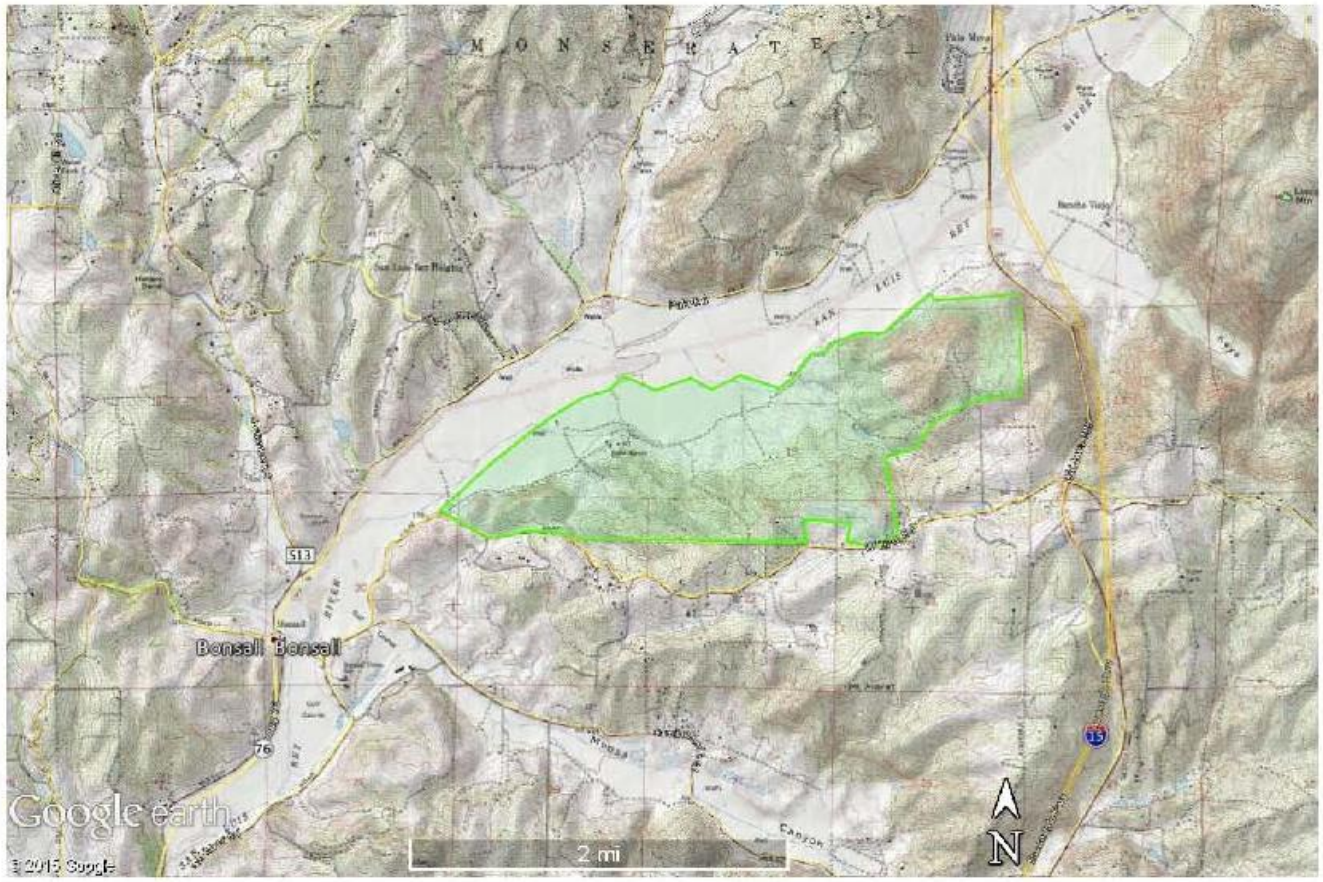
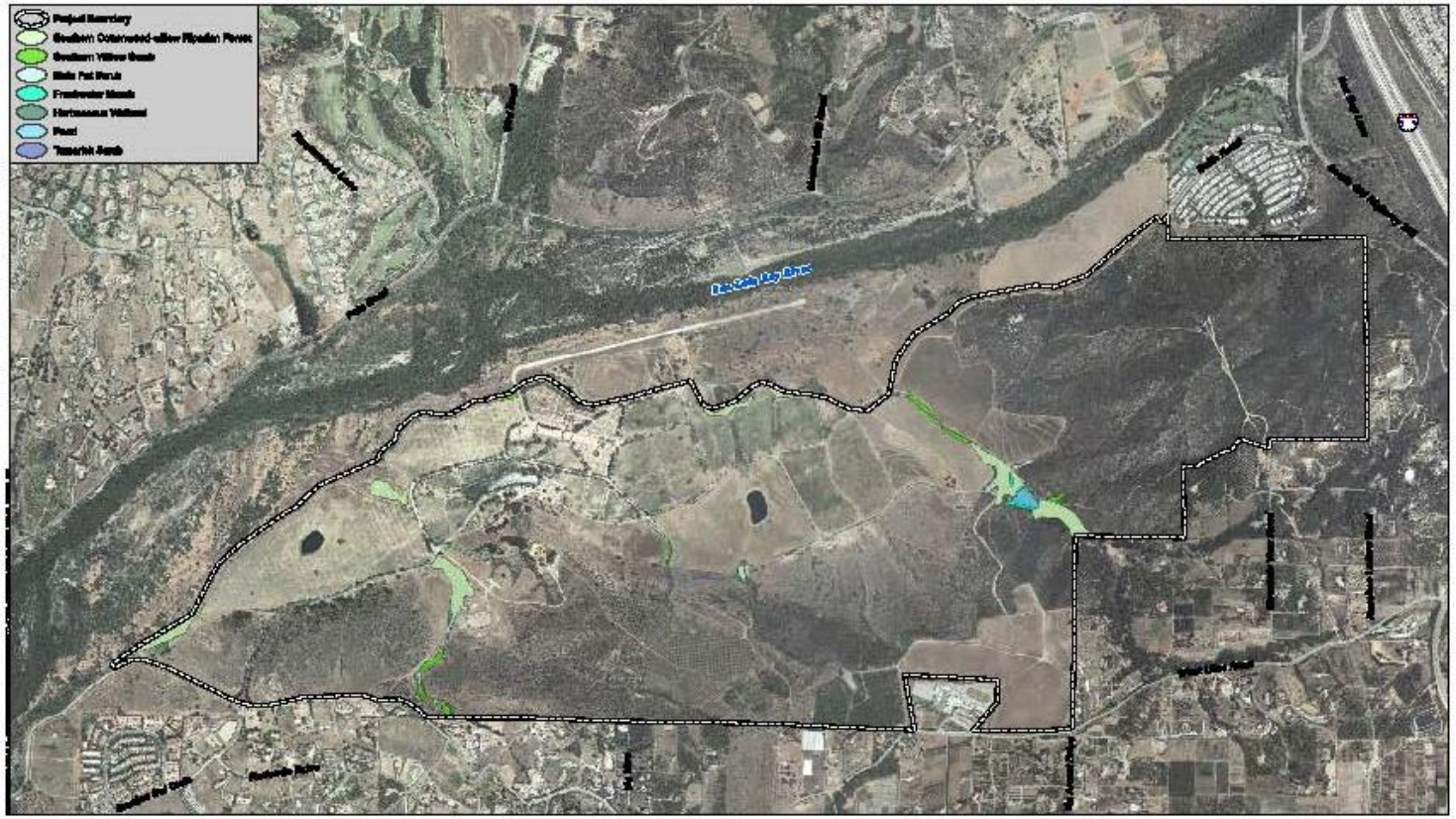


Figure 2 Topographic Site Map
Ocean Breeze Ranch

FIGURE 3. VEGETATION COMMUNITIES WITHIN SURVEY AREAS



Source: Helix Environmental Planning, Inc. 2015

Figure 3 Survey Areas and Vegetation
Ocean Breeze Ranch

FIGURE 4. SENSITIVE SPECIES OBSERVATIONS

Figure 4 Sensitive Species Observations
Ocean Breeze Ranch

Kidd BIOLOGICAL INC.

APPENDIX B- SPECIES COMPENDIUM

SCIENTIFIC NAME	COMMON NAME
MAMMALS	
Family Canidae	
*Domestic dog	*Canis domesticus*
Coyote	*Canis latrans*
Family Felidae	
Bobcat	*Lynx rufus*
Family Mephitidae	
Striped skunk	*Mephitus mephitus*
Family Procyonidae	
Raccoon	*Procyon lotor*
Family Sciuridae	
California ground squirrel	*Spermophilus beechyi*
Family Leporidae	
Audubon's cottontail	*Sylvilagus auduboni*
Family Cricetidae	
Desert woodrat	*Neotoma lepida*
Family Heteromyidae	
Kangaroo rat	*Dipodomys* sp.
BIRDS	
Family Anatidae	
Mallard	*Anas platyrhynchos*
Family Ardeidae	
Green heron	*Butorides virescens*
Family Phasianidae	
California quail	*Callipepla californica*
Family Catharidae	
Turkey vulture	*Cathartes aura*
Family Accipitridae	
Red-shouldered hawk	*Buteo lineatus*
Red-tailed hawk	*Buteo jamaicensis*
Cooper's hawk	*Accipiter cooperii*
Family Falconidae	
American kestrel	*Falco sparverius*
Family Rallidae	
American coot	*Fulica americana*
Family Charadriidae	
Killdeer	*Charadrius vociferus*
Family Columbidae	
Mourning dove	*Zenaida macroura*
*Rock pigeon	*Columba livia*
Common ground dove	*Columbina passerina*

Family Cuculidae	
Greater roadrunner	*Geococcyx californianus*
Family Apodidae	
White-throated swift	*Aeronautes saxatalis*
Family Trochilidae	
Anna's hummingbird	*Calypte anna*
Family Picidae	
Nuttall's woodpecker	*Picoides nuttallii*
Northern flicker	*Colaptes auratus*
Downy woodpecker	*Picoides pubescens*
Family Tyrannidae	
Western kingbird	*Tyrannus verticalis*
Cassin's kingbird	*Tyrannus vociferans*
Ash-throated flycatcher	*Myriarchus cinerascens*
Black phoebe	*Sayornis nigricans*
Say's phoebe	*Sayornis saya*
§ Willow flycatcher	*Empidonax traillii*
§ Vermilion flycatcher	*Pyrocephalus rubinus*
Family Laniidae	
§ Loggerhead shrike	*Lanius ludovicianus*
Family Vireonidae	
Warbling vireo	*Vireo gilvus*
§ Least Bell's vireo	*Vireo bellii pusillus*
Family Corvidae	
Western scrub jay	*Aphelocoma coerulescens*
Common raven	*Corvus corax*
American crow	*Corvus brachyrhynchos*
Family Hirundinidae	
Northern rough-winged swallow	*Stelgidopteryx serripennis*
Cliff swallow	*Petrochelidon pyrrhonota*
Family Aegithalidae	
Bushtit	*Psaltiparus minimus*
Family Troglodytidae	
Bewick's wren	*Thryomanes bewickii*
House wren	*Troglodytes aedon*
Family Sturnidae	
*European starling	*Sturnus vulgaris*
Family Ptilogonatidae	
Phainopepla	*Phainopepla nitens*
Family Sylviidae	
Wrentit	*Chamaea fasciata*
Family Turdidae	

Hermit thrush	*Catharus guttatus*
Western bluebird	*Sialia mexicanus*
Family Mimidae	
Northern mockingbird	*Mimus polyglottos*
California thrasher	*Toxostoma redivivum*
Family Motacillidae	
American pipit	*Anthus rubescens*
Family Parulidae	
Common yellowthroat	*Geothlypis trichas*
Orange-crowned warbler	*Oreothylips celata*
§ Yellow warbler	*Stephaga petechia*
§ Yellow-breasted chat	*Icteria virens*
Wilson's warbler	*Cardellina pusilla*
Family Emberizidae	
Spotted towhee	*Pipilo maculates*
California towhee	*Melozone crassalis*
Song sparrow	*Melospiza melodia*
Lark sparrow	*Chondestes grammacus*
Family Cardinalidae	
Black-headed grosbeak	*Pheucticus melanocephalus*
Blue grosbeak	*Passerina caerulea*
Western tanager	*Piranga ludoviciana*
Lazuli bunting	*Passerina amoena*
Family Icteridae	
*Brown-headed cowbird	*Molothrus ater*
Bullock's oriole	*Icterus bullockii*
Hooded oriole	*Icterus cucullatus*
Western meadowlark	*Sturnella neglecta*
Red-winged blackbird	*Agelaius phoeniceus*
Family Fringillidae	
Lesser goldfinch	*Spinus psaltria*
American goldfinch	*Spinus tristis*
House finch	*Haemorphous mexicanus*
REPTILES	
Family Iguanidae	
Western fence lizard	*Sceloporus occidentalis*
AMPHIBIANS	
Family Ranidae	
*Bullfrog	*Rana catesbeiana*

**Indicates non-native species*
§ Indicates Sensitive Species

Appendix H1

California Gnatcatcher
2015 Survey Report

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July 9, 2015 OBR-01

Ms. Stacey Love
U.S. Fish and Wildlife Service
2177 Salk Ave., Suite 250
Carlsbad, California 92008

Subject: 2015 Coastal California Gnatcatcher (*Polioptila californica californica*) Survey Report for the Ocean Breeze Ranch Property

Dear Ms. Love:

This letter presents the results of a U.S. Fish and Wildlife Service (USFWS) protocol presence/absence survey of the federally listed as threatened coastal California gnatcatcher (*Polioptila californica californica*; CAGN) conducted by HELIX Environmental Planning, Inc. (HELIX) for the Ocean Breeze Ranch (formerly Vessels Stallion Ranch) property. This report describes the methods used to perform the survey and the results. It is being submitted to the USFWS as a condition of HELIX's Threatened and Endangered Species Permit TE778195.

PROJECT LOCATION

The approximately 1,400-acre property is located within an unincorporated portion of San Diego County at 5820 West Lilac Road, Bonsall, California (Figure 1). The site is further located to the north of West Lilac Road, south of State Route (SR) 76, and west of Interstate 15. The property is situated in the Monserate land grant and Sections 14, 15, 20, 21, 22, and 23 of Township 10 South, Range 3 West on the Bonsall U.S. Geological Survey 7.5-minute quadrangle map (Figure 2).

METHODS

The survey consisted of three visits that were performed by HELIX biologists Erica Harris, Tara Baxter, and Jason Kurnow (TE 778195) in accordance with the current (1997) USFWS protocol. The CAGN survey area encompassed approximately 260 acres of potential CAGN habitat, including Diegan coastal sage scrub, Diegan coastal sage scrub-disturbed, and flat-topped

buckwheat scrub (Figure 3). The property was surveyed over two days based on the large amount of habitat present on site. Diegan coastal sage scrub was previously mapped in the northeastern portion of the site, but was burned during the May 2014 fires. The burned area was visually assessed during the first survey to determine if suitable CAGN habitat was present. While vegetation has begun to recover within the burned area, the area was mostly bare with low-growing shrubs approximately 1 foot in height. Suitable CAGN habitat was not observed within the northeastern portion of the site and the burned area was not surveyed during the 2015 survey effort. Table 1 details the survey dates, times, and conditions.

Table 1
GNATCATCHER SURVEY INFORMATION

Site Visit	Survey Date	Biologist(s)	Start/Stop Times	Approx. Acres Surveyed/ Acres per Hour	Start/Stop Weather Conditions
1a	5/13/15	Erica Harris Jason Kurnow	0755/1200	85.1 ac/ 10.4 ac/hr	63°F, wind, 1-3 mph, 60% cloud cover 72°F, wind, 2-6 mph, 50% cloud cover
1b	5/14/15	Erica Harris Jason Kurnow	0705/1145	176.6 ac/ 19.3 ac/hr	63°F, wind, 0-1 mph, 70% cloud cover 63°F, wind, 2-4 mph, 15% cloud cover
2a	5/20/15	Erica Harris Jason Kurnow	0715/1115	85.1 ac/ 10.6 ac/hr	59°F, wind, 0-1 mph, 100% cloud cover 67°F, wind, 2-5 mph, 80% cloud cover
2b	5/21/15	Erica Harris Jason Kurnow	0710/1120	176.6 ac/ 21.2 ac/hr	63°F, wind, 0-1 mph, 100% cloud cover 66°F, wind, 1-3 mph, 100% cloud cover
3a	5/27/15	Jason Kurnow Tara Baxter	0730/1115	85.1 ac/ 11.3 ac/hr	60°F, wind, 1-2 mph, 100% cloud cover 67°F, wind, 1-2 mph, 100% cloud cover
3b	5/28/15	Jason Kurnow Tara Baxter	0745/1200	176.6 ac/ 20.8 ac/hr	64°F, wind, 0-2 mph, 100% cloud cover 76°F, wind, 0-2 mph, 0% cloud cover

The surveys were conducted by walking along the edges of, as well as within, suitable CAGN habitat. The survey route was arranged to ensure complete survey coverage of all habitat with potential for occupancy by CAGN. All 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 gnatcatcher 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 3.

VEGETATION COMMUNITIES/LAND USE TYPES

A total of 19 vegetation communities/land use types have been identified within the property: southern cottonwood-willow riparian forest, southern willow scrub, mule fat scrub, freshwater marsh, herbaceous wetland, tamarisk scrub, open water/pond, coast live oak woodland, Diegan coastal sage scrub, flat-topped buckwheat scrub, non-native grassland, field/pasture, row crops,

eucalyptus woodland, orchard, fallow orchard, non-native vegetation, disturbed habitat, and developed lands (Figure 3). The vegetation communities considered suitable CAGN habitat (Diegan coastal sage scrub and flat-topped buckwheat scrub) are described first below.

Diegan Coastal Sage Scrub (including disturbed and burned)

Coastal sage scrub is one of the two major shrub types that occur in southern California, occupying xeric sites characterized by shallow soils (the other is chaparral). Four distinct coastal sage scrub geographical associations (northern, central, Venturan, and Diegan) are recognized along the California coast. Diegan coastal sage scrub may be dominated by a variety of species depending upon soil type, slope, and aspect.

Diegan coastal sage scrub is the predominant vegetation community on site, covering approximately 573 acres. Typical species found within this habitat on site include California sagebrush (*Artemisia californica*), California buckwheat (*Eriogonum fasciculatum* ssp. *fasciculatum*), laurel sumac (*Malosma laurina)*, white sage (*Salvia apiana*), and coast prickly pear (*Opuntia littoralis*). Disturbed coastal sage scrub on site occurs as narrow bands of habitat along the slopes of three incised drainages within planted tomato fields (i.e., row crops). These areas consist of scattered California buckwheat and laurel sumac growing among cut tree limbs and woody debris deposited on the slopes. The northeast portion of the site burned during the May 2014 wildlife and is mostly bare with scattered low growing shrubs approximately 1 foot in height. Approximately 315 acres are mapped as burned Diegan coastal sage scrub.

Flat-topped Buckwheat Scrub

Flat-topped buckwheat scrub is a community characterized by a near monoculture of California buckwheat usually resulting from disturbance. This community may transition to coastal sage scrub or chaparral, and often intergrades with Diegan coastal sage scrub. One patch of flat-topped buckwheat scrub occurs in the west-central portion of the site. This habitat comprises approximately 1.4 acres on site.

Southern Cottonwood-Willow Riparian Forest

Southern cottonwood-willow riparian forest consists of tall, open, broad-leaved, winter-deciduous riparian species and is dominated by cottonwood species (e.g. *Populus fremontii* and *Populus trichocarpa*), with willow species (*Salix* spp.) comprising the main understory. This vegetation community is dense, structurally diverse, and similar to southern arroyo willow riparian forest, although it contains a greater amount of cottonwoods and western sycamores (*Platanus racemosa*; Holland 1986). Typical species occurring within southern cottonwood-willow riparian forest on site include western cottonwood (*P. fremontii*), black willow (*Salix gooddingii*), and arroyo willow (*Salix lasiolepis*), with an understory comprised primarily of annual grasses.

Southern Willow Scrub

Southern willow scrub consists of dense, broad-leaved, winter-deciduous stands of trees dominated by shrubby willows in association with mule fat (*Baccharis salicifolia*), and with scattered emergent 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. Arroyo willow is the dominant species present in this habitat on site.

Mule Fat Scrub

Mule fat scrub is a stunted, shrubby riparian scrub community dominated by mule fat and interspersed with small willows (*Salix* spp.). This vegetation community occurs along intermittent stream channels with a fairly coarse substrate and moderate depth to the water table. This community may be maintained by frequent flooding, the absence of which would lead to a cottonwood or sycamore dominated riparian woodland or forest (Holland 1986). In other places, the limited hydrology may be unsuitable for anything more mesic than mule fat scrub. Mule fat is the dominant species present in this habitat on site, with an understory of annual grasses.

Freshwater Marsh

Freshwater marsh is dominated by perennial, emergent monocots, 5 to 13 feet tall, forming incomplete to completely closed canopies. This vegetation type occurs along the coast and in coastal valleys near river mouths and around the margins of lakes and springs, freshwater or brackish marshes. These areas are semi- or permanently flooded yet lack a significant current (Holland 1986). Dominant species include cattails (*Typha* sp.) and bulrushes (*Scirpus* sp.), along with umbrella sedges (*Cyperus* sp.), rushes (*Juncus* sp.), and spike-sedge (*Eleocharis* sp.). Cattail is the dominant species present in this habitat on site.

Herbaceous Wetland

Herbaceous wetland is a low-growing, herbaceous community that is dominated by a variety of native wetland species. It typically occurs in seasonally wet areas with heavy soils. Dominant species usually include wrinkled rush (*Juncus rugulosus*), toad rush (*Juncus bufonius*), and wetland grasses. Common species of this habitat observed on site include yerba mansa (*Anemopsis californica*), Mexican rush (*Juncus mexicanus*), and curly dock (*Rumex crispus*).

Tamarisk Scrub

Tamarisk scrub is typically comprised of shrubs and/or small trees of exotic tamarisk species (*Tamarix* spp.) but may also contain willows, salt bushes (*Atriplex* spp.), catclaw acacia (*Acacia greggii*), and salt grass (*Distichlis spicata).* This habitat occurs along intermittent streams in areas where high evaporation rates increase the salinity level of the soil. Tamarisk is a

phreatophyte, a plant that can obtain water from an underground water table. Because of its deep root system and high transpiration rates, tamarisk can substantially lower the water table to below the root zone of native species, thereby competitively excluding them. As a prolific seeder, it may rapidly displace native species within a drainage (Holland 1986). Salt cedar (*Tamarix ramosissima*) is the dominant species occurring in this habitat on site.

Open Water/Pond

Open water habitats typically consist of ponds that were either excavated in uplands or are impoundments of natural stream channels. These areas are unvegetated. The site contains artificial ponds excavated in pasture areas, as well as a pond resulting from construction of a dam across a stream channel in the eastern portion of the site.

Coastal Live Oak Woodland

Coast live oak woodland is an open to dense evergreen woodland or forest community, dominated by coast live oak (*Quercus agrifolia*), that may reach a height of 35 to 80 feet. The shrub layer consists of toyon (*Heteromeles arbutifolia*), blue elderberry (*Sambucus nigra* ssp. *caerulea*), spreading snowberry (*Symphoricarpus mollis*), fuchsia-flowered gooseberry (*Ribes speciosum*), and poison oak (*Toxicodendron diversilobum*). A dense herbaceous understory is dominated by miner's lettuce (*Claytonia perfoliata* var. *perfoliata*) and chickweed (*Stellaria media*). This community occurs along the coastal foothills of the Peninsular Ranges, typically on north-facing slopes and shaded ravines (Holland 1986). Coast live oak and poison oak are the dominant species occurring in this habitat on site. Portions of this habitat burned in the May 2014 wildfire.

Non-native Grassland

Non-native grassland typically supports a sparse to dense cover of annual grasses often associated with numerous species of showy-flowered native annual forbs. This association occurs on gradual slopes with deep, fine-textured, usually clay soils. Most of the annual, introduced species that comprise the majority of species and biomass within the non-native grassland originated from the Mediterranean region, an area with a long history of agriculture and a climate similar to California. These grasslands are common throughout San Diego County. Typical species observed in this habitat on site include ripgut grass (*Bromus diandrus*), soft chess (*Bromus hordaceus*), and barley (*Hordeum murinum*).

Field/Pasture

Fields and pastures are considered subtypes of extensive agriculture. These areas are typically used by grazing farm animals such as horses and cattle. Fields and pastures may or may not be irrigated and are often comprised primarily of non-native grasses and forbs. Several irrigated horse pastures occur within the northwestern portion of the property. They support a variety of non-native annual grasses and forbs.

Row Crops

Row crops are considered a subtype of extensive agriculture, consisting of densely planted rows of agricultural crops such as tomatoes, strawberries, melons, etc., that are harvested seasonally. Soil in row crop areas is typically re-worked with each crop. Tomatoes are the primary crop grown on the project site.

Eucalyptus Woodland

Eucalyptus woodland is dominated by eucalyptus (*Eucalyptus* sp.), an introduced genus that produces a large amount of leaf and bark litter. The chemical and physical characteristics of this litter, combined with the shading effects of the tall trees, limit the ability of other species to grow in the understory, which decreases floristic diversity. If sufficient moisture is available, eucalyptus becomes naturalized and is able to reproduce and expand its range.

Orchard

Orchards are active, intensive agricultural uses, typically consisting of fruit or nut trees densely planted, irrigated, and maintained. The majority of orchard planted on site consists of avocado trees (*Persea americana*), with occasional citrus (*Citrus* sp.) also present.

Fallow Orchard

Fallow orchards are previously active orchards that are no longer being irrigated. The trees become stressed and die; they may either be left in place or stumped (tops cut off, but stumps remain). Fallow orchard on site consists primarily of dead standing and fallen avocado trees.

Non-native Vegetation

Non-native vegetation is a category describing stands of naturalized trees or shrubs, many of which are also used in ornamental landscaping. On site, this habitat consists of a small stand of olive trees (*Olea europaea*) growing at the base of a slope in the eastern portion of the property. This habitat burned in the May 2014 wildfire.

Disturbed Habitat

Disturbed habitat includes land that has little or no habitat value because it has been cleared of vegetation for agricultural purposes or contains heavily compacted soils following disturbance such as grading. Disturbed habitat on site consists of dirt roads and areas comprised of non-native, weedy vegetation such as shortpod mustard (*Hirschfeldia incana*), redstem filaree (*Erodium cicutarium*), Russian thistle (*Salsola tragus*), and pineapple weed (*Matricaria discoidea*).

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 portions of the site consist of ranch buildings, paved roads, residences, and maintained landscaping.

RESULTS

CAGN pairs were observed in four separate locations during the protocol survey effort, though not all individuals or pairs were detected during each of the three surveys. Additionally, two independent CAGN fledglings were observed during the first survey. All CAGN were observed in the southwestern portion of the site east of Vessels Ranch Road (Figure 3). A detailed description of CAGN observations and locations is included below.

Two CAGN fledglings were observed foraging independently during the first survey within the southwestern portion of the property. A third CAGN was heard calling nearby but was not visually identified. The fledglings were not detected during any of the subsequent surveys. A single male CAGN was visually detected within the southwestern portion of the property during the first survey approximately 2,500 feet east of the fledglings. The male was not detected during the second survey; however, a pair was observed within the same area during the third survey.

A CAGN pair was detected within the southwestern portion of the property, to the south of the single-family residence during the second survey. No other CAGN were detected in this location during the first or third survey. A second CAGN pair was detected during the second survey within the southwestern portion of the site approximately 2,000 feet east of the first pair.

A total of three separate CAGN pairs were detected during the third survey in the southwestern portion of the property. One pair was detected within the same vicinity of the two CAGN fledglings that were detected during the first survey. A second pair was detected approximately 1,700 feet to the west within the same vicinity of the CAGN pair that was detected during the second survey. The third pair was detected approximately 1,000 feet further west in the same vicinity of the single, male CAGN that was detected during the first survey.

CERTIFICATION

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

Sincerely,

Erica Harris	Tara Baxter	Jason Kurnow
Biologist	Biologist	Senior scientist

Enclosures:
Figure 1 Regional Location Map
Figure 2 Project Vicinity (USGS Topography)
Figure 3 CAGN Observations and Survey Route

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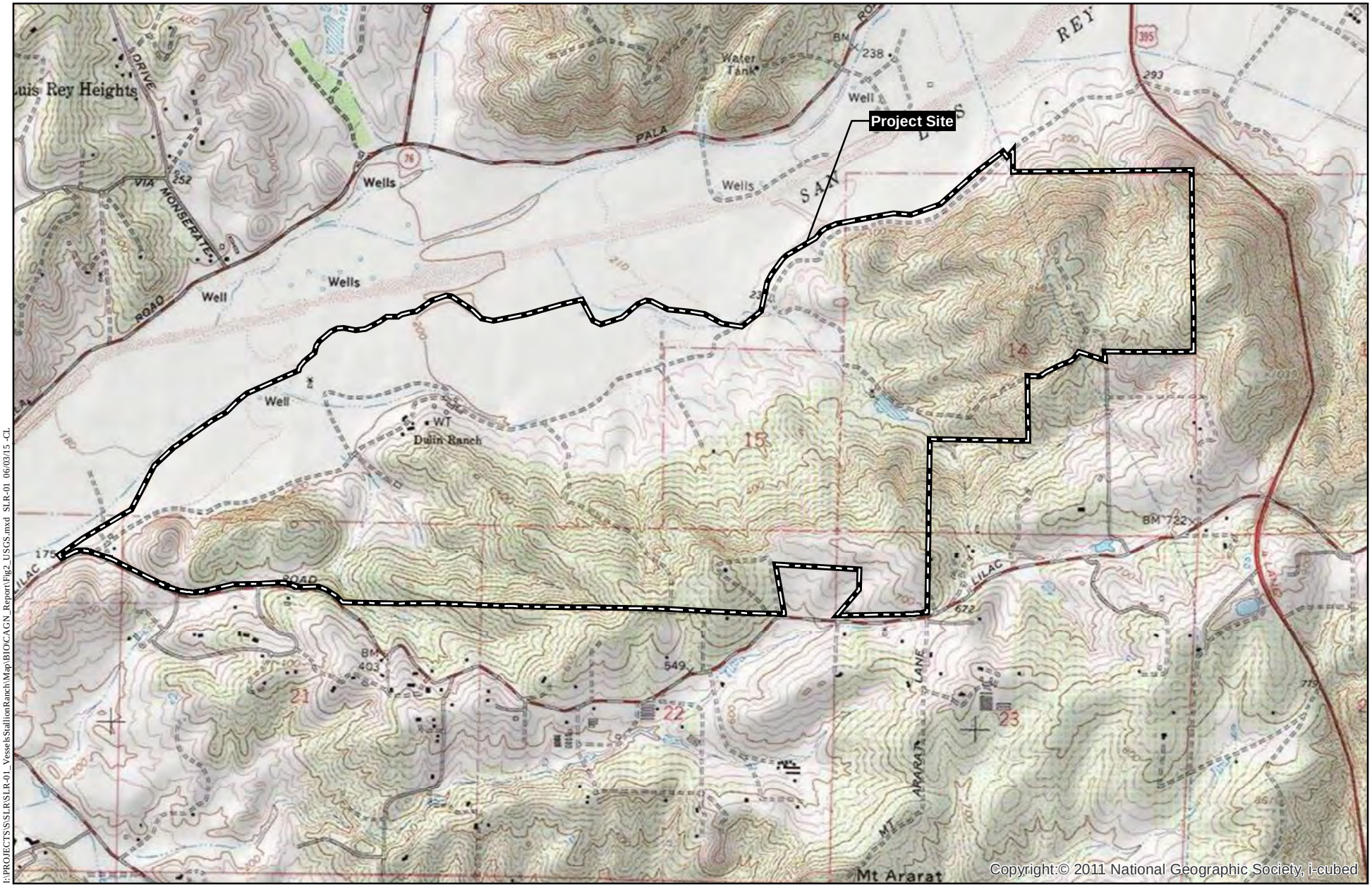
Regional Location Map

OCEAN BREEZE RANCH

HELIX Environmental Planning

N 0 8 Miles

Figure 1



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Project Vicinity (USGS Topography)

OCEAN BREEZE RANCH

HELIX Environmental Planning

N 0 2,000 Feet

Figure 2

Project Boundary

CAGN Survey Route

Coastal California Gnatcatcher (*Polioptila californica californica*)

Pair

Two Fledglings

Wetland

Southern Cottonwood Willow Riparian Forest

Southern Willow Scrub

Mule Fat Scrub

Freshwater Marsh

Herbaceous Wetland

Pond

Tamarisk Scrub

Upland

Coast Live Oak Woodland

Diegan Coastal Sage Scrub

Diegan Coastal Sage Scrub - Burned

Diegan Coastal Sage Scrub - Disturbed

Flat-topped Buckwheat Scrub

Non-native Grassland

Pasture

Row Crops

Orchard

Fallow Orchard

Eucalyptus Woodland

Non-native Vegetation

Disturbed Habitat

Developed

5/21/2015 & 5/28/2015

5/14/2015

5/21/2015

5/28/2015

5/14/2015 & 5/28/2015

Gird Road

Monserate Hill Road

San Rey Lane

Dulin Road

South Old Highway 395

15

Pala Road

San Luis Rey River

Mountain View Road

Rancho Ladera Road

West Lilac Road

Redondo Drive

rat Drive

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CAGN Observations and Survey Route

OCEAN BREEZE RANCH

HELIX Environmental Planning

N

0 1,200 Feet

Figure 3

Appendix H2

California Gnatcatcher
2017 Survey Report

HELIX Environmental Planning, Inc.
7578 El Cajon Boulevard
Suite 200
La Mesa, CA 91942
619.462.1515 **tel**
619.462.0552 **fax**
www.**helixepi**.com

May 2, 2017 OBR-01

Ms. Stacey Love
U.S. Fish and Wildlife Service
2177 Salk Ave., Suite 250
Carlsbad, CA 92008

Subject: 2017 Coastal California Gnatcatcher (*Polioptila californica californica*) Survey Report for the Ocean Breeze Ranch Project

Dear Ms. Love:

This letter presents the results of a U.S. Fish and Wildlife Service (USFWS) protocol presence/absence survey for the federally listed as threatened coastal California gnatcatcher (*Polioptila californica californica*; CAGN) conducted by HELIX Environmental Planning, Inc. (HELIX) for the Ocean Breeze Ranch Project (project). This report describes the methods used to perform the survey and the results. It is being submitted to the USFWS as a condition of HELIX's Threatened and Endangered Species Permit TE-778195-13.

PROJECT LOCATION

The approximately 1,393-acre project site (site) is located west of Interstate 15, south of State Route 76, in the unincorporated community of Bonsall in north San Diego County, California (Figure 1). The site is depicted within Sections 13, 14, 15, 20, 21, 22, and 23 of Township 10 South, Range 3 West of the Bonsall, California U.S. Geological Survey (USGS) 7.5-minute topographic quadrangle map (Figure 2). It is further located immediately north of portions of West Lilac Road and south of the San Luis Rey River, at 5820 West Lilac Rd., Bonsall, California (Figure 3).

METHODS

The survey consisted of three visits that were performed by HELIX biologists Erica Harris and Jason Kurnow (TE-778195-13) in accordance with the current (1997) USFWS protocol. The surveys were conducted over two days due to the large size of the survey area. Surveys were

conducted within the easternmost portion of the site which had been nearly entirely burned in the May 2014 Highway Fire (California Department of Forestry and Fire Protection [CalFire] 2016). Protocol CAGN surveys were conducted by HELIX in all other suitable portions of the project site in 2015 (HELIX 2015), with the northeastern portion of the project site excluded at that time due to the 2014 fire that burned most of the habitat in this area. Native habitats within the northeastern portion of the site are regenerating, with many native annuals and perennials observed, though the shrub layer is still relatively sparse and low in stature, with the majority of shrubs below two feet in height. Approximately 258.1 acres of potential CAGN habitat, composed of post-burn Diegan coastal sage scrub and coastal sage-chaparral scrub, occurs within the survey area (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 survey area. 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
1a	3/20/17	Erica Harris Jason Kurnow Katie Bellon*	0715/1140	185.4 ac/ 21.1 ac/hr	60°F, wind 0-1 mph, 100% cloud cover 62°F, wind 0-1 mph, 100% cloud cover	One male CAGN detected within the north-central portion of the survey area (Figure 4)
1b	3/21/17	Jason Kurnow	0700/1200	72.7 ac/ 14.5 ac/hr	58°F, wind 0-1 mph, 5% cloud cover 63°F, wind 3-4 mph, 20% cloud cover	No CAGN detected
2a	3/27/17	Erica Harris Jason Kurnow Summer Schlageter*	0700/1145	185.4 ac/ 19.5 ac/hr	57°F, wind 0-1 mph, 30% cloud cover 66°F, wind 2-4 mph, 70% cloud cover	One male CAGN detected within the northwestern portion of the survey area (Figure 4).
2b	3/28/17	Jason Kurnow	0700/1145	72.7 ac/ 15.3 ac/hr	63°F, wind 2-3 mph, 0% cloud cover 68°F, wind 3-5 mph, 0% cloud cover	No CAGN detected
3a	4/3/17	Erica Harris Jason Kurnow	0700/1115	185.4 ac/ 21.8 ac/hr	57°F, wind 0-1 mph, 100% cloud cover 63°F, wind 3-7 mph, 5% cloud cover	No CAGN detected
3b	4/4/17	Jason Kurnow	0740/1140	72.7 ac/ 18.2 ac/hr	60°F, wind 3-4 mph, 20% cloud cover 65°F, wind 3-7 mph, 0% cloud cover	No CAGN detected

*Supervised individual

COASTAL CALIFORNIA GNATCATCHER HABITAT

Post-burn Diegan coastal sage scrub and coastal sage-chaparral scrub are the only vegetation communities within the survey area determined to be suitable for CAGN (Figure 4).

Diegan Coastal Sage Scrub

Coastal sage scrub is one of the two major shrub types that occur in southern California, occupying xeric sites characterized by shallow soils (the other is chaparral). Four distinct coastal sage scrub geographical associations (northern, central, Venturan, and Diegan) are recognized along the California coast. Diegan coastal sage scrub may be dominated by a variety of species depending upon soil type, slope, and aspect. Typical species found within Diegan coastal sage scrub include California sagebrush (*Artemisia californica*), California buckwheat (*Eriogonum fasciculatum* ssp. *fasciculatum*), laurel sumac (*Malosma laurina*), and black sage (*Salvia mellifera*).

Post-burn Diegan coastal sage scrub is the dominant habitat type in the survey area (Figure 4). Dominant species consisted of deerweed (*Acmispon glaber*), California sagebrush, and laurel sumac with abundant annual species including rancher's fiddleneck (*Amsinckia menziesii*), popcorn flower (*Cryptantha* sp.), Parry's phacelia (*Phacelia parryi*), California poppy (*Eschscholzia californica*), and wild radish (*Raphanus sativus*). Shrub cover was estimated to be between 10 to 40 percent with the majority of shrubs below two feet in height.

Coastal Sage-Chaparral Scrub

Coastal sage-chaparral scrub is a mixture of sclerophyllous chaparral shrubs and drought-deciduous sage scrub species regarded as an ecotone (transition) between two vegetation communities. This singular community contains floristic elements of both communities, typically including California buckwheat, black sage, California sagebrush, San Diego honeysuckle (*Lonicera subspicata* var. *denudata*), and chamise (*Adenostoma fasciculatum*).

Post-burn coastal sage-chaparral scrub occupies small portions of the survey area (Figure 4). Characteristic species present include California sagebrush, California buckwheat, broom rose (*Helianthemum scoparium*), chamise, and laurel sumac. Shrub cover was estimated to be between 10 to 40 percent with the majority of shrubs below two feet in height.

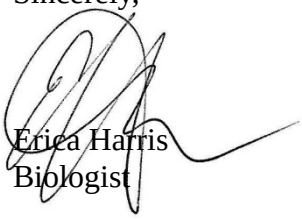
RESULTS

The CAGN was detected during two surveys within the northern portion of the survey area (Figure 4). A single male CAGN was detected singing during the first survey visit within the north-central portion of the survey area to the northwest of the pipeline access road that runs through the center of the survey area from the terminus of Mountain View Road. A single, male CAGN was observed continuously singing and foraging during the second survey visit within the northwestern portion of the survey area. No female CAGN were detected in association with the male observations. No other CAGN were detected during the surveys.

CERTIFICATION

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

Sincerely,



Erica Harris
Biologist

Jason Kurnow
Senior Scientist

Enclosures:
Figure 1 Regional Location Map
Figure 2 Project Vicinity (USGS Topography)
Figure 3 Project Vicinity (Aerial Photograph)
Figure 4 2017 Coastal California Gnatcatcher Survey Results

REFERENCES

California Department of Forestry and Fire Protection (CalFire). 2016. Fire and Resource Assessment Program (FRAP) mapping. Available from: http://frap.cdf.ca.gov/data/frapgisdatasw-fireperimeters_download

HELIX Environmental Planning, Inc. (HELIX). 2015. 2015 Coastal California gnatcatcher *Polioptila californica californica*) survey report for the Ocean Breeze Ranch Property. July 9.

U.S. Fish and Wildlife Service (USFWS). 1997. Coastal California gnatcatcher (*Polioptila californica californica*) presence/absence survey protocol. 5pp.

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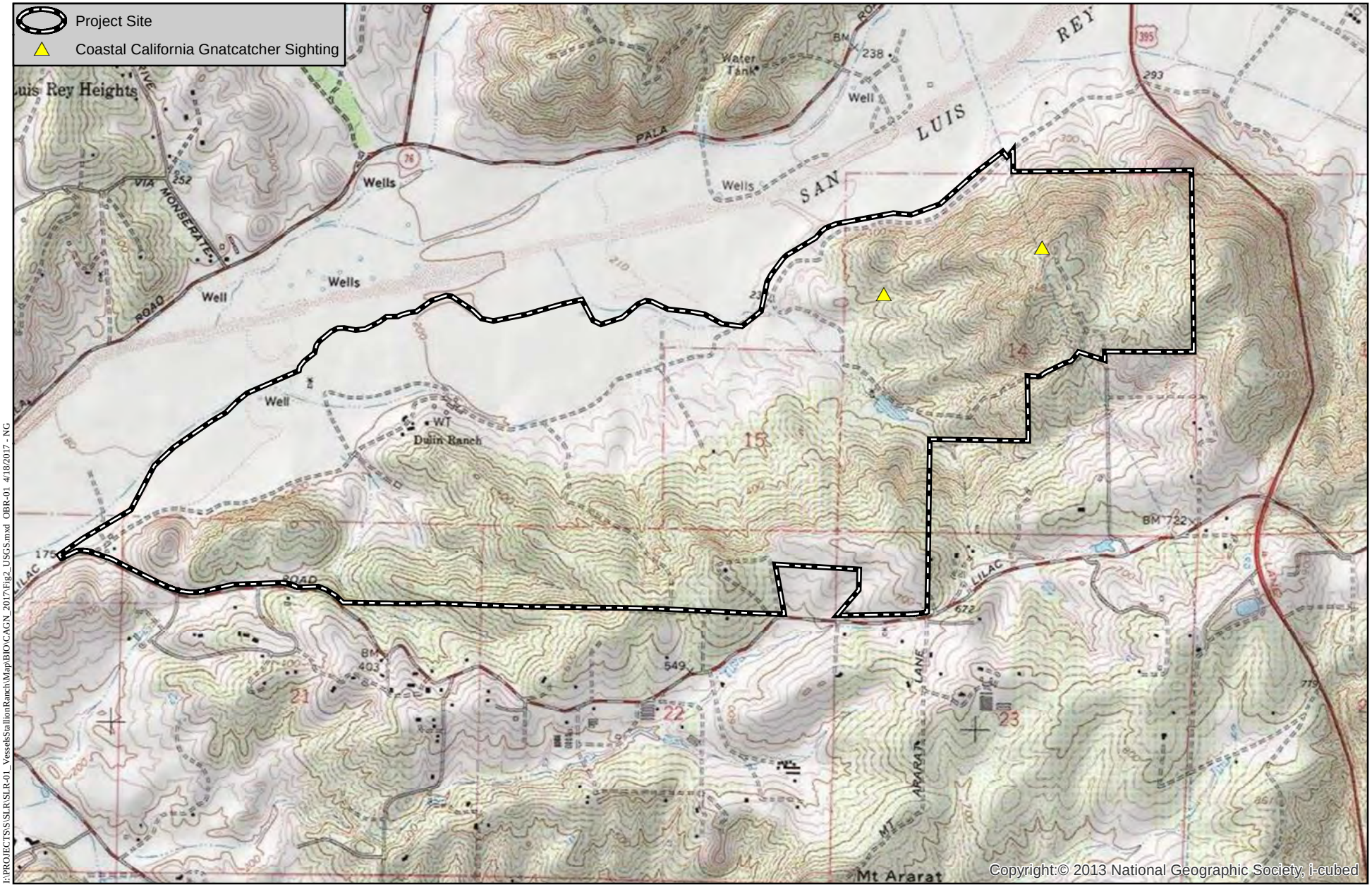
Regional Location Map

OCEAN BREEZE RANCH

HELIX Environmental Planning

N 0 8 Miles

Figure 1



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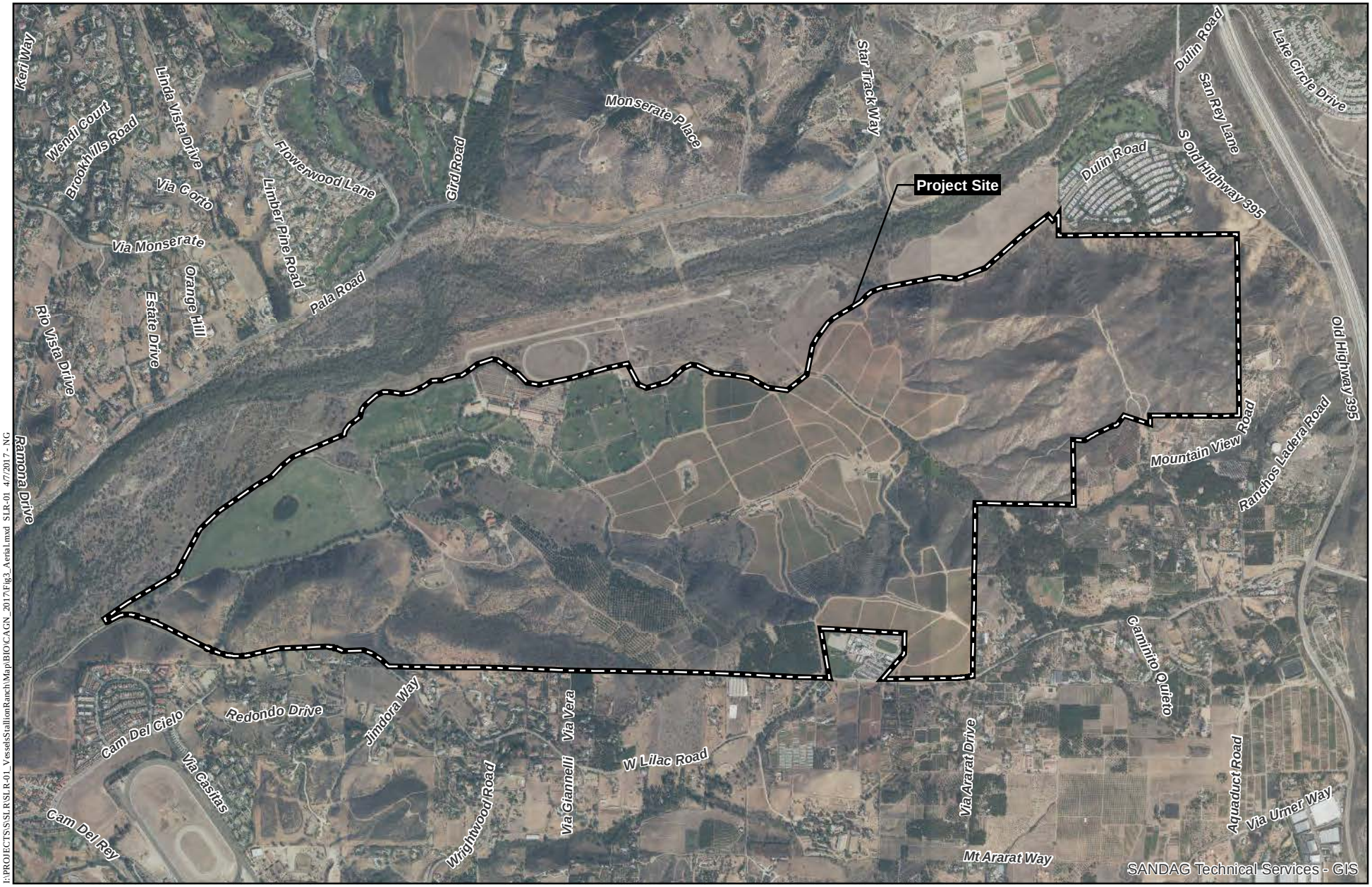
Project Vicinity (USGS Topography)

OCEAN BREEZE RANCH

HELIX Environmental Planning

N 0 2,000 Feet

Figure 2



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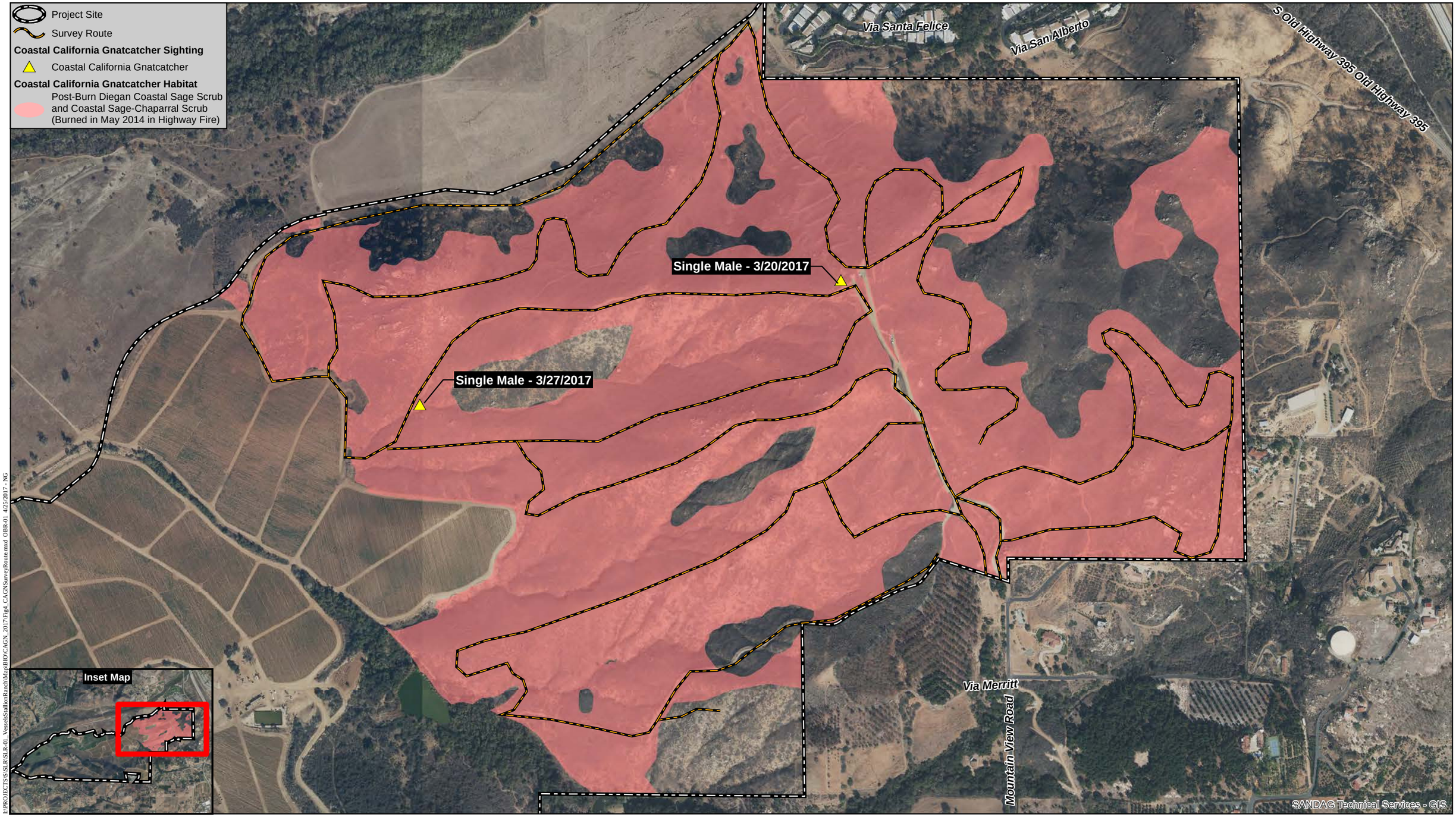
Project Vicinity (Aerial Photograph)

OCEAN BREEZE RANCH

HELIX Environmental Planning

N 0 2,000 Feet

Figure 3



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2017 Coastal California Gnatcatcher Survey Results

OCEAN BREEZE RANCH

HELIX Environmental Planning

N 0 500 Feet

Figure 4

Appendix I

Burrowing Owl 2015 Survey Report

HELIX Environmental Planning, Inc.
7578 El Cajon Boulevard
La Mesa, CA 91942
619.462.1515 **tel**
619.462.0552 **fax**
www.**helixepi**.com

August 24, 2015 OBR-01

Mr. James Conrad
Ocean Breeze Ranch, LLC
1550 South Coast Highway, Suite 201
Laguna Beach, CA 92561

Subject: 2015 Burrowing Owl (*Athene cunicularia*) Survey Report for the Ocean Breeze Ranch Property

Dear Mr. Conrad:

At your request, HELIX Environmental Planning, Inc. (HELIX) conducted a focused burrowing owl (*Athene cunicularia*) survey for the Ocean Breeze Ranch (formerly Vessels Stallion Ranch) property. The survey meets applicable conditions under the California Department of Fish and Wildlife (CDFW) Staff Report on Burrowing Owl Mitigation (CDFW 2012). This letter presents the results of the survey for burrowing owl conducted on the project site.

PROPERTY LOCATION AND DESCRIPTION

The approximately 1,400-acre property is located within an unincorporated portion of San Diego County at 5820 West Lilac Road, Bonsall, California (Figure 1). The site is further located to the north of West Lilac Road, south of State Route (SR) 76, and west of Interstate 15. The property is situated in the Monserate land grant and Sections 14, 15, 20, 21, 22, and 23 of Township 10 South, Range 3 West on the Bonsall U.S. Geological Survey 7.5-minute quadrangle map (Figure 2).

METHODS

The focused burrowing owl survey was conducted according to the CDFW burrowing owl survey guidelines (CDFW 2012). The survey was conducted by HELIX biologists Ben Rosenbaum, George Aldridge, Katie Bellon, Erica Harris, Amy Mattson, and Talaya Rachels from April 23 to July 15, 2015 (Table 1). The approximately 359.8-acre survey area included non-native grassland, disturbed habitat, pasture, and fallow orchard vegetation communities (Figure 3). Transects approximately 20 meters apart were surveyed across the entire survey area.

Potentially suitable habitat occurring off site but adjacent to the survey area was visually surveyed with the aid of binoculars. The biologists walked slowly and methodically, closely checking the areas that met the basic requirements of owl habitat, which include:

- Open expanses of sparsely vegetated areas (less than 30 percent canopy cover for trees and shrubs);
- Gently rolling or level terrain;
- An abundance of small mammal burrows, especially those of the California ground squirrel (*Spermophilus beechyi*); and
- Fence posts, rocks, or other low perching locations.

Table 1
SURVEY TIMES AND CONDITIONS

SITE VISIT	DATE	TIME	CONDITIONS	PERSONNEL
1a	4/23/2015	0620-0930	Overcast – 55% cloudy skies, 64°F – 68°F, wind 0 mph	Ben Rosenbaum George Aldridge
1b	4/24/2015	0620-0910	Overcast, 58°F – 60°F, wind 1-2 mph	Ben Rosenbaum George Aldridge
2a	5/13/2015	1745-2005	80% - 20% cloudy skies, 66°F – 62°F, wind 0-6 mph	Erica Harris Katie Bellon
2b	5/19/2015	1720-1950	Clear skies – 10% cloudy skies, 66°F – 61°F, wind 1-5 mph	Ben Rosenbaum, Katie Bellon Talaya Rachels
2c	6/01/2015	1740-1950	30% cloudy skies, 72°F – 64°F, wind 1-5 mph	Ben Rosenbaum
3a	6/23/2015	0530-0935	50% – clear skies, 57°F – 72°F, wind 0-1 mph	Ben Rosenbaum Laura Moreton
3b	6/24/2015	0530-0920	Clear skies, 57°F – 70°F, wind 1-2 mph	Ben Rosenbaum Amy Mattson
4a	7/14/2015	0550-0940	Overcast - 5% cloudy skies, 63°F – 72°F, wind 1-5 mph	Ben Rosenbaum Talaya Rachels
4b	7/15/2015	0550-0900	Overcast – 60% cloudy skies, 64°F – 70°F, wind 1-2 mph	Ben Rosenbaum Katie Bellon

°F = degrees Fahrenheit; mph = miles per hour

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

- Pellets/casting (regurgitated fur, bones, and/or insect parts);
- White wash (excrement); and/or
- Feathers.

RESULTS

No burrowing owls were observed on or adjacent to the property. Burrows with potential to support burrowing owls were noted on the project site (i.e., California ground squirrel burrows), but no sign of burrowing owl occupation was observed. The property is not considered occupied by burrowing owl.

Please contact me or Stacy Nigro at (619) 462-1515 if you have any questions.

Sincerely,

Ben Rosenbaum
Biologist

Enclosures:
Figure 1 Regional Location Map
Figure 2 Project Location Map
Figure 3 Vegetation Map

LITERATURE CITED

California Department of Fish and Game (CDFG). 2012. Staff Report on Burrowing Owl Mitigation. State of California Natural Resource Agency. March 7.

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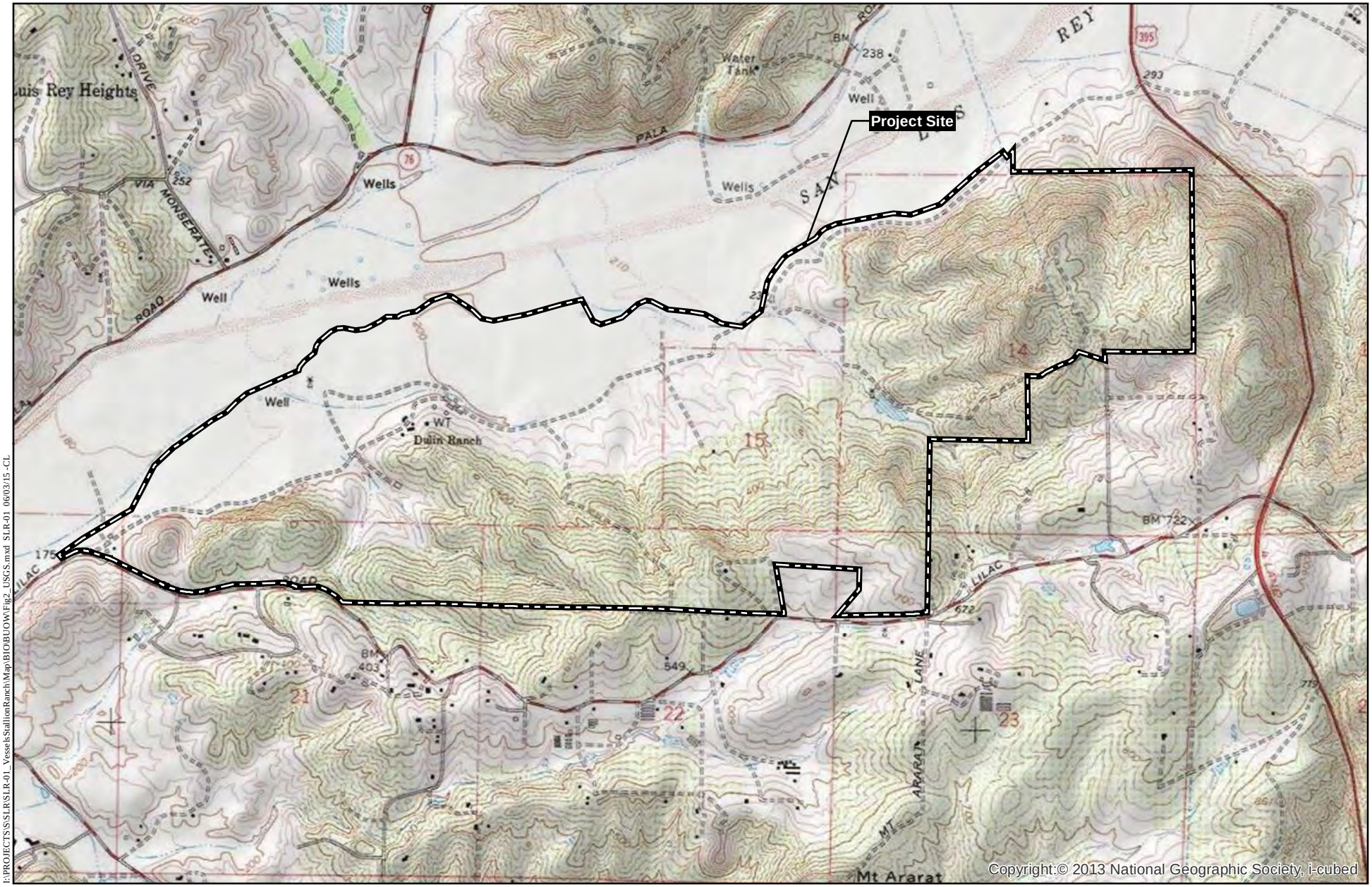
Regional Location Map

OCEAN BREEZE RANCH

HELIX Environmental Planning

N 0 8 Miles

Figure 1



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Project Vicinity (USGS Topography)

OCEAN BREEZE RANCH

HELIX Environmental Planning

N 0 2,000 Feet

Figure 2

Project Boundary

Vegetation Communities/Land Use Types*

- Southern Cottonwood-willow Riparian Forest (61330)
- Southern Willow Scrub (63320)
- Mule Fat Scrub (63310)
- Freshwater Marsh (52400)
- Herbaceous Wetland (52510)
- Open Water/Pond (64140)
- Tamarisk Scrub (63810)
- Coast Live Oak Woodland (71160)
- Diegan Coastal Sage Scrub (32500)
- Diegan Coastal Sage Scrub - Burned (32500)
- Diegan Coastal Sage Scrub - Disturbed (32500)
- Flat-topped Buckwheat Scrub (32800)
- Non-native Grassland (42200)
- Pasture (18310)
- Row Crops (18320)
- Orchard (18100)
- Fallow Orchard (18100)
- Eucalyptus Woodland (11000)
- Non-native Vegetation (79100)
- Disturbed Habitat (11300)
- Urban/Developed (12000)

**Numeric codes following the community/habitat type names are from the County's Biological Resources Guidelines (County 2010) and are based on the "Preliminary Descriptions of the Terrestrial Natural Communities of California" (Holland 1996, Oberbauer 2008).*

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Vegetation Map

OCEAN BREEZE RANCH

HELIX Environmental Planning

N 0 1,200 Feet

Figure 3

Appendix J

Stephens' Kangaroo Rat
2015 Survey Report

STEPHENS' KANGAROO RAT
PRESENCE/ABSENCE TRAPPING STUDIES
OCEAN BREEZE RANCH PROJECT
SAN DIEGO COUNTY, CALIFORNIA

APN's
126-060-78, 124-150-28, 124-150-34, 124-150-35,
125-080-21, 125-131-48, 125-131-49, 125-131-54,
127-191-20, 127-230-59, 127-271-01, 127-271-02.

Project Acreage and Walking Survey Area 1,402 acres
Disturbed Annual Grasslands and Trapping Survey Area: 104.9 acres

Prepared by:

ENVIRA
P. O. Box 2612
Ramona, CA 92065
Phone 619-885-0236
E-mail phvergne@aol.com

Trapping Surveys Conducted On:

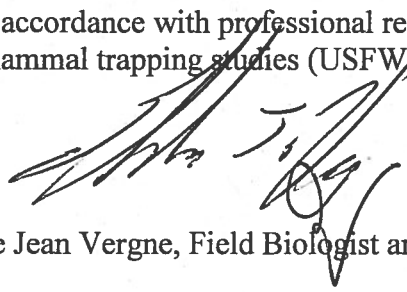
July 3 to 8, 2015

Report Date:
August 20, 2015

Prepared For:

HELIX Environmental Planning, Inc. (HELIX)

This report was prepared in accordance with professional requirements and recommended protocols for small mammal trapping studies (USFWS Permit TE068072-3).



Philippe Jean Vergne, Field Biologist and Author

TABLE OF CONTENTS

INTRODUCTION

Philippe Jean Vergne of ENVIRA was contracted by HELIX Environmental Planning, Inc. (HELIX), to conduct a live-trapping effort for the Stephens' Kangaroo Rat (*Dipodomys stephensi*)-SKR. The study was conducted on an approximately 1,402-acre site located in an unincorporated portion of San Diego County at 5820 West Lilac Road, Bonsall, California (Figure 1). The trapping survey area consisted of an estimated 104.9 acres of non-contiguous disturbed annual grasslands. This report describes the existing conditions of the project site, general biological resources observed onsite, and the results of the trapping studies.

A literature review and records check were conducted for sensitive resources within the vicinity of the proposed project. In addition to the literature review, a general field survey of the project area was conducted. The field survey provided information on the existing conditions of the site and the potential for sensitive resources to be present. Focused trapping surveys for the SKR were conducted in areas containing potential habitat and suitable soils.

Three sensitive mammal species were identified as potentially present in the vicinity of the project site: the SKR, the Northwestern San Diego Pocket Mouse (*Chaetodipus fallax fallax*), and the San Diego Desert Woodrat (*Neotoma lepida intermedia*).

Trapping surveys for the SKR were conducted according to U.S. Fish and Wildlife Service (USFWS) protocols. The current protocol calls for five nights of trapping, conducted when the species is active above ground at night and preferably during a new moon phase. One trapping session was conducted from the 3 to 8 of July, 2015.

Based on the trapping results, the SKR does not occur on the site. The only kangaroo rat species trapped was the non-sensitive Dulzura Kangaroo Rat (*Dipodomys simulans*).

One sensitive mammal species of special concern, the Northwestern San Diego Pocket Mouse was captured as part of the trapping effort. Although one sensitive species was captured on site, the area of potential take is limited and isolated on a regional scale, and the impact to this species from project implementation is not significant under CEQA.

1.0 METHODS

A literature review and records check were conducted for sensitive resources within the vicinity of the proposed project. In addition to the literature review, a general field survey of the project area was conducted. The field survey provided information on the existing conditions on the site and the potential for sensitive resources to be present. Focused trapping surveys for the SKR were conducted within areas containing potential habitat and suitable soils.

1.1 LITERATURE REVIEW

A literature review was conducted prior to the trapping effort. This included a review of standard field guides and texts on sensitive and non-sensitive biological resources, as well as the following sources:

- List of sensitive biological resources provided by the California Natural Diversity Data Base (CNDDB);
- Biological resources reports for the project site and adjacent properties; and
- General texts and other documents identifying potential resources on the site.

All technical information reviewed is included in the References section of this document.

1.2 GENERAL BIOLOGICAL SURVEYS

A reconnaissance level pedestrian survey was conducted on the 1,402-acre property on March 17, 2014 to assess suitable habitat for sensitive small mammal biological resources within the project boundaries. The field team inventoried and evaluated the condition of the plant communities on site in order to assess the probability of occurrence for SKR or other sensitive species. Based on the results of the reconnaissance survey, and since limited kangaroo rat sign was found on site, a focused trapping survey was performed. A vegetation map of the site prepared by HELIX is attached as Figure 2.

Notes were taken during the surveys of all plant and animal species observed. Observations of animal species included scat, trails, tracks, burrows, nests, calls, and visual observation. In addition, site characteristics such as soils, topography, the condition of the plant communities, and evidence of human use of the site were noted. A list of plant and wildlife species observed within the trapping areas is included (Appendix A).

1.2 FOCUSED SURVEYS

Field surveys and focused trapping for SKR were performed by Mr. Philippe Vergne of ENVIRA who holds a USFWS permit to trap and handle Stephens' and San Bernardino Kangaroo rats, Pacific Pocket mouse, and to conduct field studies on sensitive small mammals in Southern California (TE-831207-3), a California Department of Fish and Game (CDFG) Memorandum of Understanding for above mentioned species and the Mohave ground squirrel, Los Angeles pocket mouse, Palms Springs pocket mouse, Palm Springs ground squirrel, white-eared pocket mouse, Jacumba pocket mouse, north-western San Diego pocket mouse, and the Dulzura pocket mouse, and a California Department of Fish and Wildlife collection permit. HELIX biologist Katie Bellon assisted Mr. Vergne with checking traps on July 6, 7, and 8.

Trapping lines of 250 traps, set 5-10 meters apart, were set at each trapping area (A through D; Figure 3). Traps were placed in suitable habitat areas on the project site, concentrating on locating traps in areas containing small-mammal sign and/or suitable soils and vegetation.

Each trap was baited with a mixture of birdseed placed at the back of the traps. The traps were left in place and opened at dusk each night and inspected once during the night and at dawn each morning. All animals were identified and released at the point of capture. Weather conditions at the time of the trapping were also noted.

2.0 EXISTING CONDITIONS

2.1 WEATHER CONDITIONS

Weather conditions during the trapping surveys included morning temperatures in the low sixties degrees Fahrenheit, sunshine and little or no wind. The moon was full during the protocol survey. Weather conditions are summarized in Table 1 below.

Table 1. Weather Conditions

DAY	CLOUD COVER	TEMPERATURE (°F)	WIND (MPH)
3 (PM)	Clear	64	3
2	Clear	66	0
3	Clear	62	0-3
4	Clear	67	0
5	Clear	64	0-3
6	Clear	65	0-3

2.2 TOPOGRAPHY AND SOILS

The project site consists of gently to steep sloping terrain. The majority of the property is under irrigated pastures or intensive agriculture, or developed and not currently suitable for SKR occupancy. Potential SKR habitat occurs at the edge of the agricultural fields adjacent to open scrub, and along some of the dirt roads located in the northern and southern portion of the property.

Soils for the project area are mapped as Bonsall-Fallbrook sandy loams and Fallbrook-Vista sandy loams (Bowman 1973). The soils on site are suitable for small mammal occupancy.

2.3 SURROUNDING LAND USES

Surrounding land use includes undeveloped lands to north, west and east, and developed lands to the south. Disturbances on the site include irrigated fields associated with horse ranching, barns, houses, intense agriculture, water wells, water lines, power lines, and access roads.

2.4 PLANT COMMUNITIES

A delineation of the plant communities was performed by HELIX (Figure 2). Site vegetation communities include southern cottonwood-willow riparian forest, southern willow scrub, mule fat scrub, freshwater marsh, herbaceous wetland, tamarisk scrub, open water, coast live-oak woodland, Diegan coastal sage scrub (including disturbed and burned), flat-topped buckwheat scrub, non-native grasslands, pastures, eucalyptus woodland, non-native vegetation, agriculture (row crops and orchard), disturbed/ruderal areas, and developed lands.

A list of floral and faunal species observed in the trapping area is given in Appendix A.

2.5 WILDLIFE

Wildlife activity was moderate to high, with most of the wildlife represented by bird species and small fossorial mammals captured during the trapping effort.

No amphibians were observed, although potential habitat for amphibians occurs on the site. Reptiles were observed mainly in the scrub and on the dirt roads.

Avian species were the most common group observed during the surveys. Mammal species observed, other than those trapped, include Botta's Pocket Gopher (*Thomomys bottae*), California Ground Squirrel (*Spermophilus beecheyi*), Audubon's Cottontail (*Sylvilagus aubudonii*), and Coyote (*Canis latrans*).

2.6 SENSITIVE BIOLOGICAL RESOURCES

Three sensitive species were identified as potentially occurring on the project site.

2.6.1 Stephens' Kangaroo Rat

The Stephens' Kangaroo Rat prefers open areas with sparse perennial cover. This species occurs in areas of loose soil where the soil depth is at least 0.5 meter (Price and Endo 1989). SKR will also inhabit disturbed areas such as fallow fields by using the burrows of other rodents, including the Pocket Gopher and the California Ground Squirrel (O'Farrell 1989).

Like all kangaroo rats, SKR is primarily a seedeater, feeding on the seeds of both annual and shrub species. It also feeds on green vegetation and insects when these are available. Being a primarily dry biome species, kangaroo rats obtain nearly all of their water from the food they eat, and can subsist indefinitely on water extracted from dry seeds. They forage in open ground and underneath shrubs. Burrows are dug in loose soil.

SKR presence is documented to the east and north of the proposed project site, mostly in the areas surrounding the Camp Pendleton Marine Corps Base, Fallbrook Naval Weapons Center, and in the Fallbrook Airpark area.

2.6.2 Northwestern San Diego Pocket Mouse

The Northwestern San Diego Pocket Mouse prefers habitat similar to that preferred by the San Bernardino Kangaroo Rat (*Dipodomys merriami parvus*), a species closely related to the SKR. The Northwestern San Diego Pocket Mouse occurs in open, sandy areas in the valleys and foothills of southwestern California. The range of this species extends from Orange County to San Diego County, and includes Riverside and San Bernardino counties. This species is a

California Species of Special Concern (CSSC); its historical range has been reduced by urban development and agriculture.

This species was captured during the trapping survey.

2.6.3 San Diego Desert Woodrat

The Desert Woodrat (*Neotoma lepida*) is a relatively wide-ranging species, with a range extending along the coast of California from south of San Francisco through to the border with Baja California, Mexico. This species also occurs in the Central Valley and in the deserts of southern California, and occurs along the desert side of the Sierra Nevada into southeastern Oregon.

The coastal subspecies of the Desert Woodrat, the San Diego Desert Woodrat, prefers scrub habitats such as Coastal Sage Scrub, Chaparral, and Alluvial Fan Sage Scrub. It is more common in areas with rock piles and coarse sandy to rocky soils throughout coastal southern California.

The range of this species extends from just south of Sacramento and the San Francisco area to the border of Baja California. The coastal subspecies of the widespread *Neotoma lepida* is listed as a CSSC; its historic range has been impacted by the conversion of scrub habitats into residential, commercial, and industrial use.

This species was not captured during the survey.

2.7 TRAP SITE DESCRIPTION

Traps were set within the open disturbed Annual Grasslands and open scrub areas and at the edge of dirt roads adjacent to suitable areas. Traps were set in areas containing suitable soils, open vegetation cover, and small-mammal sign (Figure 3).

3.0 FOCUSED TRAPPING SURVEY RESULTS

A total of seven small mammal species were trapped during the survey period. Table 2 provides summary information on the species trapped per site.

Table 2. Focused Trapping Results for the Project

Trap Lines	Number of Traps	Trap Nights	DKR	PEMA	REME	CHFA
A	50	250		15	2	
B	50	250		11		
C	40	200	1	5	3	
D	40	200	3	4	2	3
TOTAL	**180**	**900**	**6**	**34**	**7**	**3**

DKR - Dulzura Kangaroo Rat (*Dipodomys simulans*)
PEMA - Deer Mouse (*Peromyscus maniculatus*)
REME - Western Harvest Mouse (*Reithrodontomys megalotis*)
CHFA - Northwestern San Diego Pocket Mouse (*Chaetodipus fallax fallax*)

4.0 CONCLUSION

Based on the trapping results, the SKR does not occur on the site. The only kangaroo rat species trapped was the non-sensitive Dulzura Kangaroo Rat (*Dipodomys simulans*).

One sensitive mammal species of special concern, the Northwestern San Diego Pocket Mouse, was captured as part of the trapping effort. Although one sensitive species was captured on site, the area of potential take is limited and isolated on a regional scale, and the impact to this species from project implementation is not significant under CEQA.

It should be noted that trapping results are typically valid for one year, after which time additional trapping efforts may be required.

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APPENDIX A. FLORAL AND FAUNAL COMPENDIUM TRAPPING AREAS

ANGIOSPERMAE: DICOTYLEDONES DICOT FLOWERING PLANTS

Anacardiaceae	**Sumac family**
Rhus ovata	Sugar bush
**Schinus molle*	Peruvian pepper tree
Apiaceae	**Carrot family**
**Foeniculum vulgare*	Sweet fennel
Lomatium utriculatum	Cow-parsnip
Asteraceae	**Sunflower family**
Ambrosia psilostachya	Western ragweed
Artemisia californica	California sagebrush
Baccharis salicifolia	Mulefat
Chrysothamnus nauseosus	Rabbit brush
Helianthus annuus	Annual sunflower
Boraginaceae	**Borage family**
Cryptantha intermedia	Popcorn flower
Brassicaceae	**Mustard family**
**Brassica nigra*	Black mustard
**Hirschfeldia incana*	Short-podded mustard
**Lepidium perfoliatum*	Weedy peppergrass
Cactaceae	**Cactus family**
Opuntia sp.	Prickly pear
Caprifoliaceae	**Honeysuckle family**
Sambucus mexicana	Blue elderberry
Euphorbiaceae	**Spurge family**
Euphorbia nutans	Spurge
Fabaceae	**Pea family**
Astragalus pomonensis	Locoweed
Lotus scoparius	Deer weed
Geraniaceae	**Geranium family**
**Erodium cicutarium*	Red-stemmed filaree
**Erodium botrys*	Long beak filaree

Polygonaceae	**Buckwheat family**
Eriogonum fasciculatum	California buckwheat
Rosaceae	**Rose family**
Adenostoma fasciculatum	Chamise
Salicaceae	**Willow family**
Salix lasiolepis	Arroyo willow

ANGIOSPERMAE: MONOCOTYLEDONAE MONOCOT FLOWERING PLANTS

Poaceae	**Grass family**
**Avena barbata*	Slender wild oats
**Avena sativa*	Cultivated oats
**Bromus diandrus*	Ripgut brome
**Bromus madritensis*	Red brome
**Hordeum murinum*	Wild barley
**Schismus barbatus*	Mediterranean grass

*Non-native species

Taxonomy and nomenclature follow Hickman 1993 and Munz 1974.

FAUNA

REPTILIA	**REPTILES**
Iguanidae	**Iguanas and their allies**
Sceloporus occidentalis	Western fence lizard
Uta stansburiana	Side-blotched lizard
Teiidae	**Whiptails and their allies**
Cnemidophorus tigris multiscutatus	Coastal whiptail
Colubridae	**Colubrids**
Pituophis melanoleucucs	Gopher snake
AVES	**BIRDS**
Ardeidae	**Herons and bitterns**
Ardea herodias	Great blue heron
Charadriidae	**Plovers and relatives**
Charadrius vociferus	Killdeer
Cathartidae	**Vultures**
Cathartes aura	Turkey vulture
Accipitridae	**Kites, hawks and eagles**
Buteo lineatus	Red-shouldered hawk
Buteo jamaicensis	Red-tailed hawk
Falconidae	**Caracaras and falcons**
Falco sparverius	American kestrel
Phasianidae	**Quails and pheasants**
Callipepla californica	California quail
Columbidae	**Pigeons and doves**
Columba livia	Rock dove
Zenaida macroura	Mourning dove
Tytonidae	**Barn owl**
Tyto alba	Barn owl
Corvidae	**Crows and ravens**
Corvus brachyrhynchos	American crow

Sturnidae	**Starlings**
Sturnus vulgaris	European starling
Fringillidae	**Finches**
Carpodacus neomexicanus	House finch
MAMMALIA	**MAMMALS**
Leporidae	**Rabbits and hares**
Sylvilagus audubonii	Audubon's cottontail
Sciuridae	**Squirrels, chipmunks and marmots**
Spermophilus beecheyi	California ground squirrel
Geomyidae	**Pocket gophers**
Thomomys bottae	Botta's pocket gopher
Heteromyidae	**Pocket mice and kangaroo rats**
Chaetodippus fallax fallax	Northwestern San Diego pocket mouse
Dipodomys simulans	Dulzura kangaroo rat
Cricetidae	**Cricetine mice and rats**
Reithrodontomys megalotis	Western harvest mouse
Peromyscus maniculatus	Deer mouse
Canidae	**Foxes, wolves and relatives**
Canis latrans	Coyote
Procyonidae	**Raccoons and relatives**
Procyon lotor	Raccoon

Nomenclature follows Garth & Tilden 1986, Hall 1981, Laudenslayer et al. 1991, and Stebbins 1966.

Looking southwest across agricultural fields towards Trap Area B

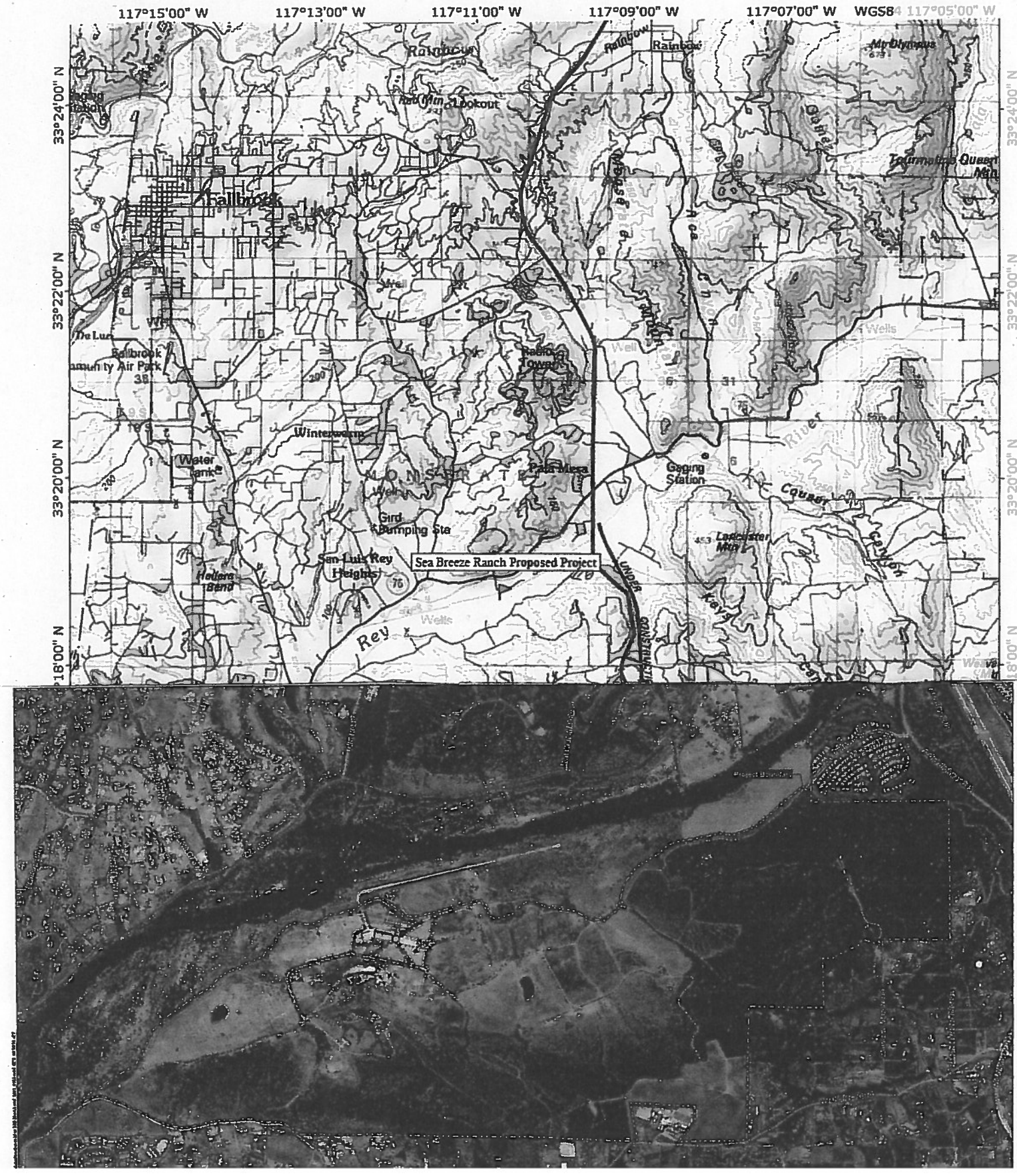
Trapping Area C

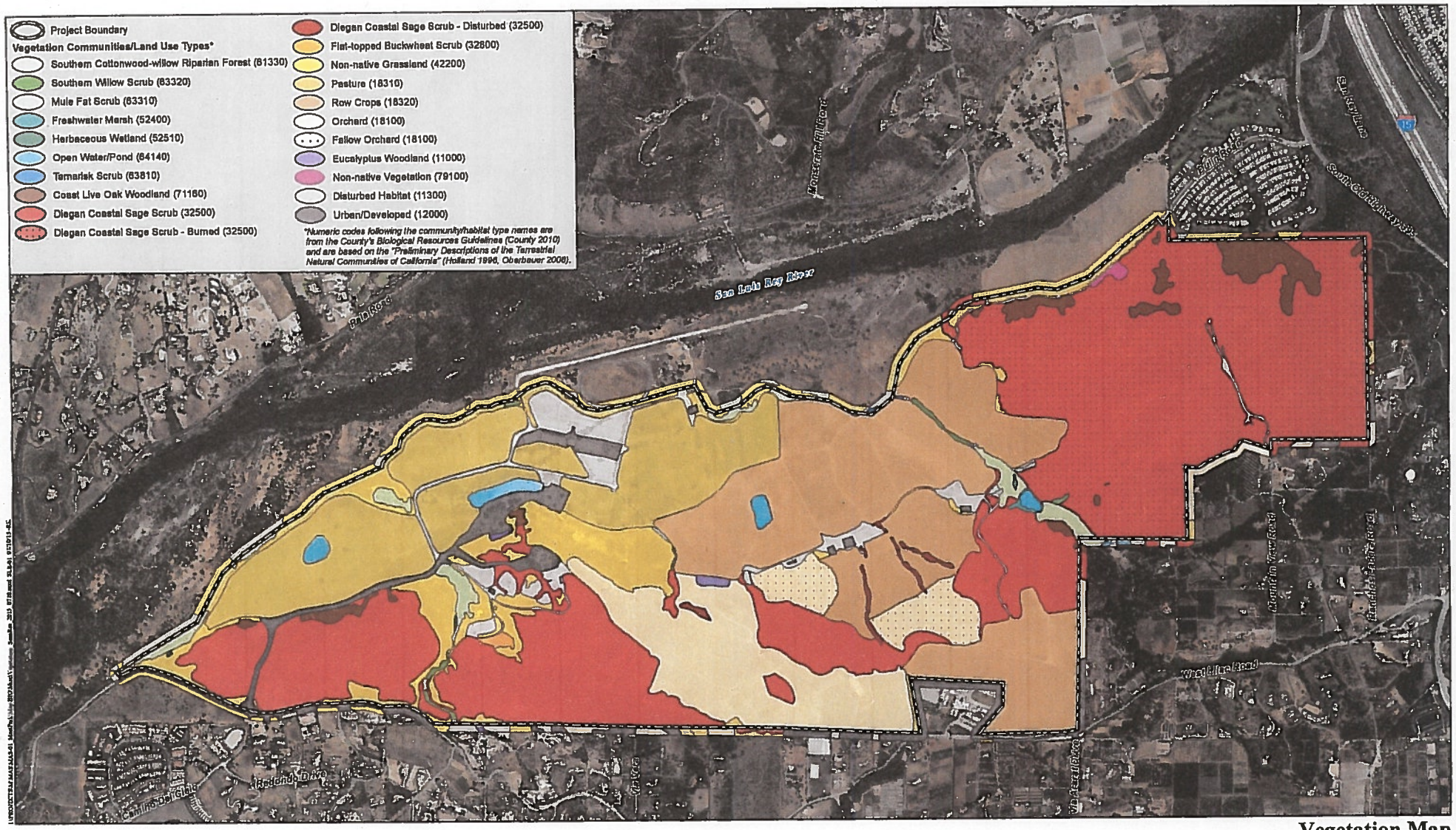
Trap Area B

REME Captured in trap Area A

Trap Area A

Figure 1. Ocean Breeze Ranch Project Vicinity and Property Boundaries





Vegetation Map

OCEAN BREEZE RANCH

HELIX Environmental Planning

N

0 1,200 Feet

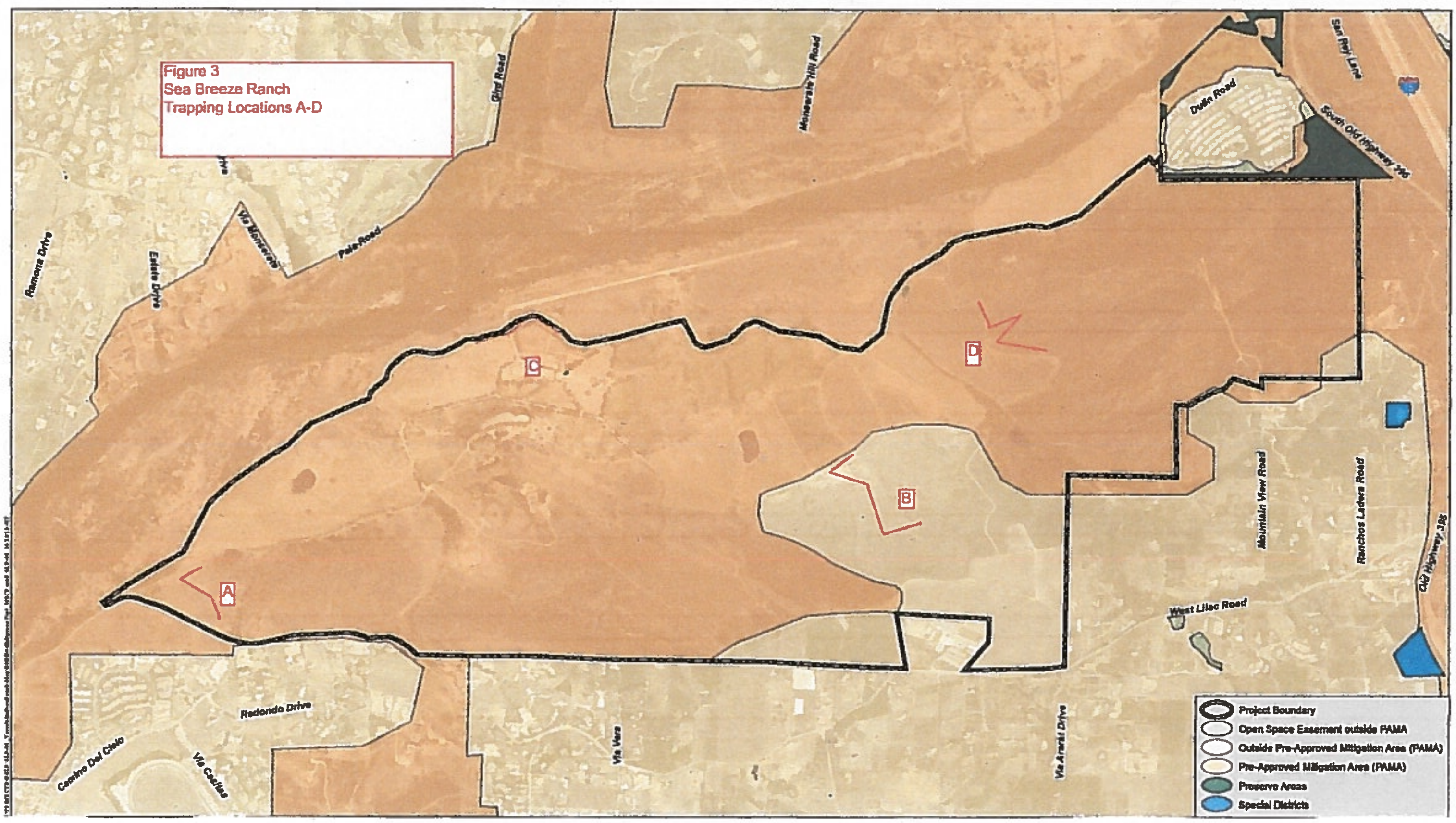

A
B
C
D
Gird Road
Monserate Hill Road
San Roy Lane
Dulin Road
South Old Highway 395
Via Monserate
Pala Road
Ramona Drive
Estate Drive
Mountain View Road
Rancho Ladera Road
Old Highway 395
West Lilac Road
Redondo Drive
Camino Del Cielo
Via Vera
Via Ararat Drive
Project Boundary
Open Space Easement outside PAMA
Outside Pre-Approved Mitigation Area (PAMA)
Pre-Approved Mitigation Area (PAMA)
Preserve Areas
Special Districts

Figure 3
Sea Breeze Ranch
Trapping Locations A-D