

BIOLOGICAL RESOURCES REPORT LILAC HILLS RANCH SAN DIEGO COUNTY, CALIFORNIA

SPECIFIC PLAN
GENERAL PLAN AMENDMENT
REZONE
EIR
TENTATIVE MAP (MASTER)
TENTATIVE MAP (PHASE 1 IMPLEMENTING TM)
MAJOR USE PERMIT

PROJECT APPLICANT:
ACCRETIVE INVESTMENTS, INC.
12275 EL CAMINO REAL, SUITE 110
SAN DIEGO, CA 92130
ATTN: JON RILLING
PH: 858-546-0700

PREPARED FOR:
COUNTY OF SAN DIEGO
5510 OVERLAND AVENUE, THIRD FLOOR
SAN DIEGO, CA 92123
KIVA PROJECT: 09-0112513
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PREPARER:



GERRY SCHEID
COUNTY-APPROVED BIOLOGIST

RECON ENVIRONMENTAL, INC.
1927 FIFTH AVENUE
SAN DIEGO, CA 92101
619-308-9333

May 23, 2013

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- 3: Southwestern Willow Flycatcher Habitat Assessment Report
- 4: Burrowing Owl Habitat Assessment Report
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Glossary of Terms and Acronyms

BMO	Biological Mitigation Ordinance
CDFG	California Department of Fish and Game
CEQA	California Environmental Quality Act
CNDDDB	California Natural Diversity Data Base
CNPS	California Native Plant Society
CPA	Community Planning Area
County	County of San Diego
HLP	Habitat Loss Permit
I-15	Interstate 15
MBTA	Migratory Bird Treaty Act
MSCP	Multiple Species Conservation Program
NCCP	Natural Community Conservation Plan
PAMA	Pre-Approved Mitigation Area
RMP	Resource Management Plan
RPO	Resource Protection Ordinance
RWQCB	Regional Water Quality Control Board
SANDAG	San Diego Association of Governments
SanGIS	San Diego Geographic Information Systems
USDA	U.S. Department of Agriculture
USACE	U.S. Army Corps of Engineers
USFWS	U.S. Fish and Wildlife Service
USGS	U.S. Geological Survey

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1.0 Introduction

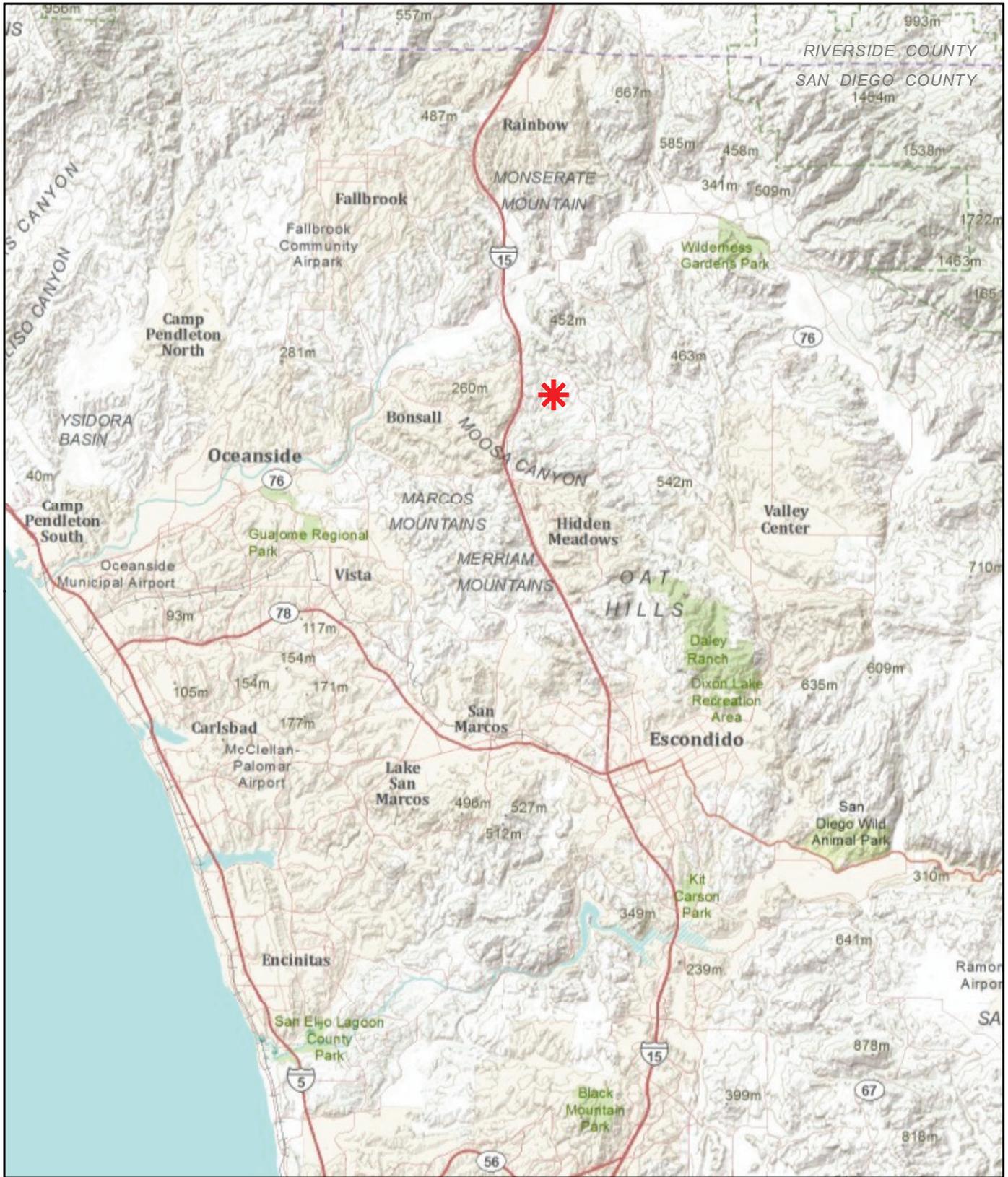
This biological technical report was prepared for the proposed Lilac Hills Ranch Specific Plan and General Plan Amendment Area. It provides the details of the existing biological resources present or potentially present on-site, discusses direct and indirect impacts to these resources from the proposed project, and outlines proposed mitigation measures to compensate for unavoidable impacts to biological resources.

1.1 Purpose of the Report

The purpose of this report is to document the existing biological resources present or with the potential for occurrence on the Lilac Hills Ranch project site (project). In addition, this report describes the proposed impacts to these biological resources and recommends mitigation measures to avoid, minimize, and/or mitigate significant impacts with regards to federal, state, and local rules, regulations, and ordinances (i.e., California Environmental Quality Act [CEQA] and County of San Diego Resource Protection Ordinance [RPO]). The report has been prepared according to the County of San Diego Report Format and Content Requirements for biological resources (County of San Diego 2010).

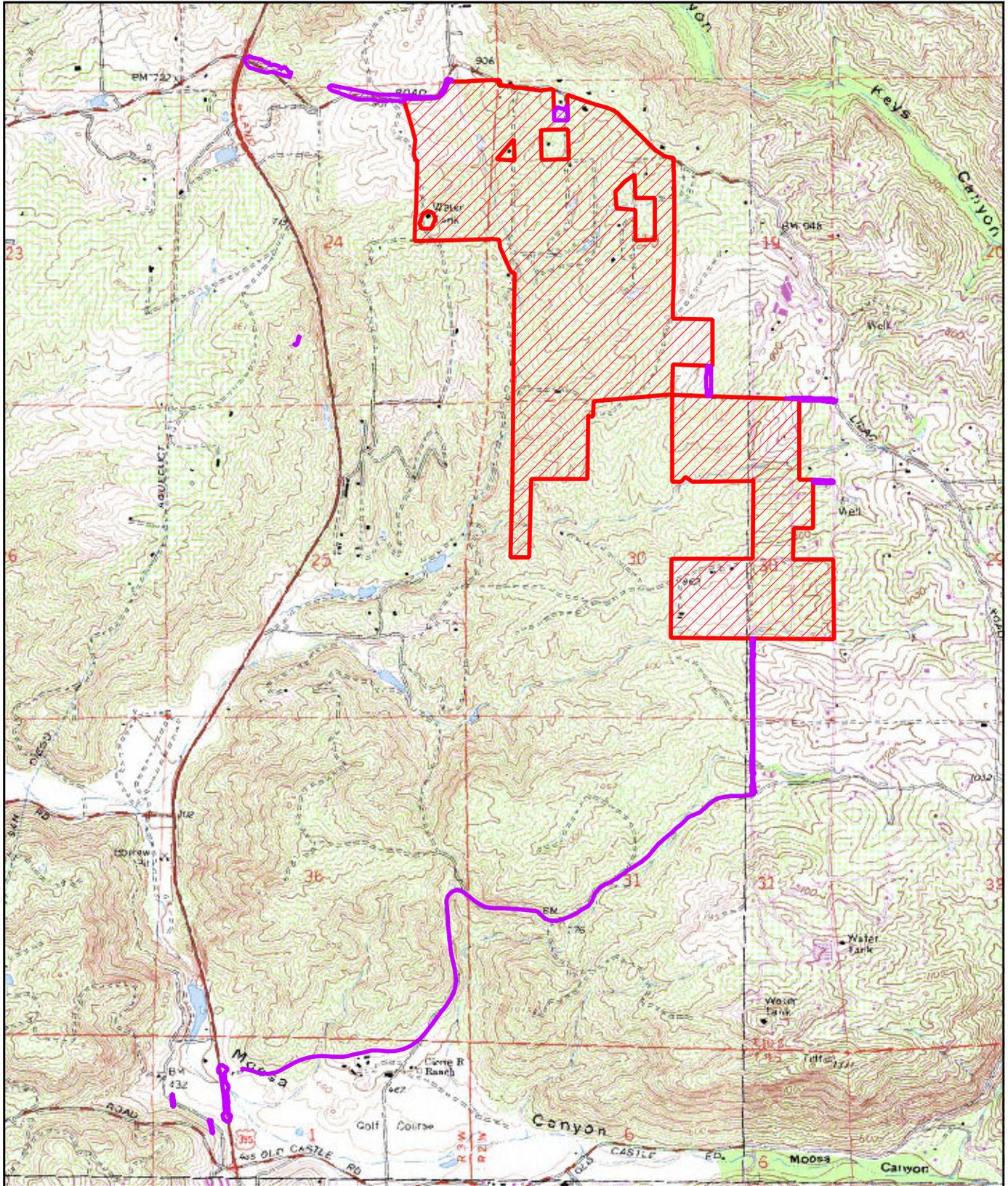
1.2 Project Location and Description

The proposed Lilac Hills Ranch community is approximately 608 acres composed of 59 contiguous properties and is located in northern unincorporated San Diego County 0.25 mile from the Interstate 15 (I-15) corridor on the east side with freeway access off the Old Highway 395 Interchange (Figure 1). The project site is located to the south and west of West Lilac Road with State Route 76 to the north, downtown Valley Center 10 miles to the east, downtown Escondido 16 miles to the south, and Interstate 15 and Old Highway 395 to the west. The Lilac Hills Ranch project is located primarily within the westernmost portion of the Valley Center Community Planning Area (CPA), although a small portion is within the Bonsall Community Plan area. From the northwest project corner, West Lilac Road serves as the northern and eastern boundary of the project site, while Circle R Drive is less than a 1/2 mile south of the project boundary. From the southwest project corner, the western boundary of the project runs along Standel Lane, which serves as the northwestern project boundary. The project is within Township 10 South, Range 3 West, Section 24, and Township 10 South, Range 2 West, Sections 19 and 30, on the U.S. Geological Survey (USGS) 7.5' Pala and Bonsall quadrangles (Figure 2). The project occurs within the Bonsall and Valley Center community planning areas and includes the parcels identified on Figure 3.



 Project Location

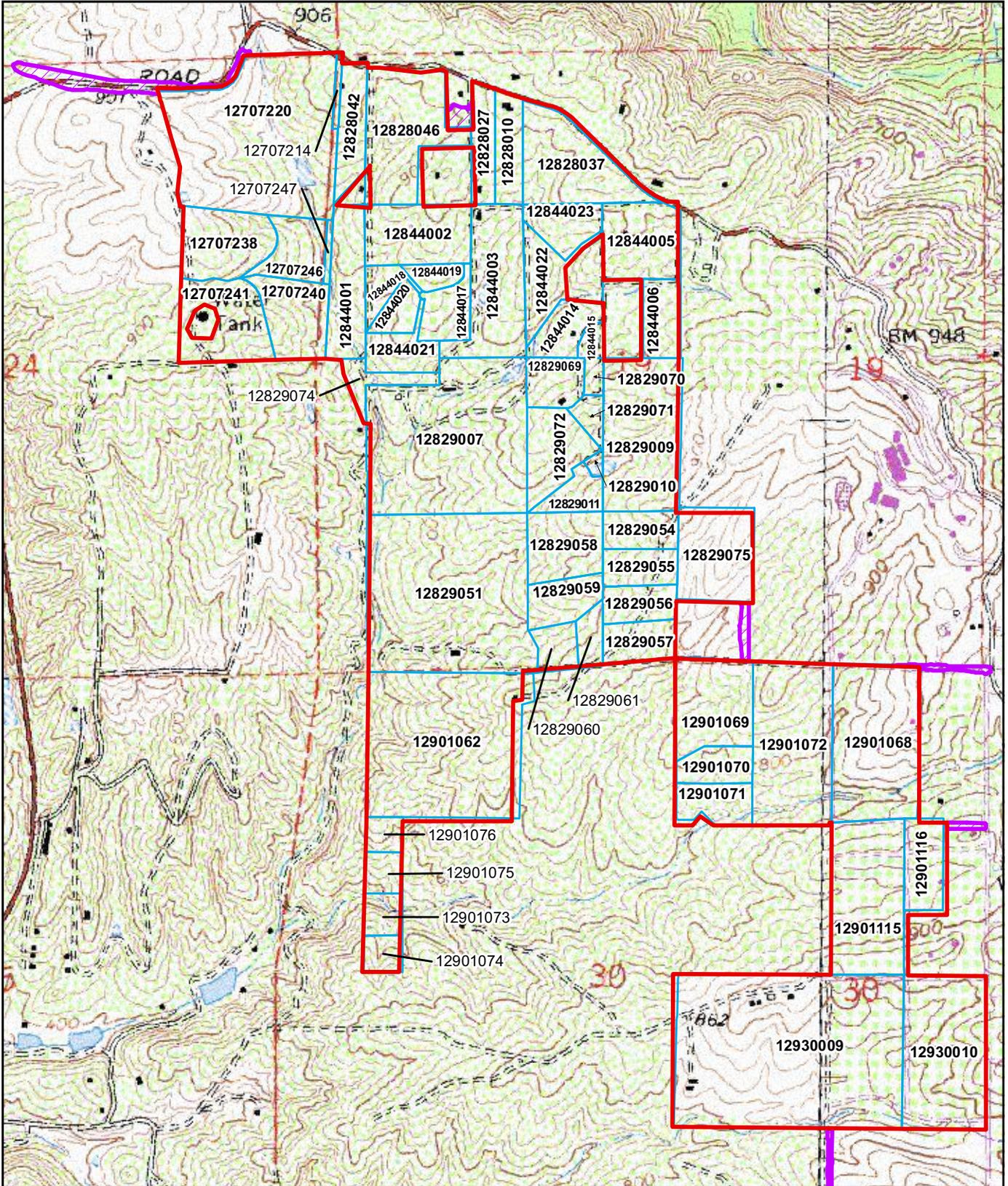
FIGURE 1
Regional Location



-  Project Boundary
-  Off-site Improvement Areas

FIGURE 2

Project Location on USGS Map



-  Project Boundary
-  Off-site Improvement Areas

FIGURE 3

APNs within Project Area on USGS Map

The Lilac Hills Ranch project proposes the development of a new mixed use master planned community. The proposed Specific Plan includes a maximum of 1,746 dwelling units with varying lot sizes, a neighborhood-serving commercial village center, public parks, retail uses, and a school site. Also, proposed on-site are a recycling collection facility, a wastewater reclamation facility, active orchards, and other supporting infrastructure. A Rezone is proposed to implement the Specific Plan by changing the existing Use and Development Regulations from A70 (Limited Agricultural) Zoning and RR (Rural Residential) to commercial and residential zones. The project would also include the submittal of a Master Tentative Map, Implementing Tentative Map, and a Major Use Permit. An Open Space Vacation for the two small open space easements within the project boundary would occur as part of the project.

1.3 Survey Methodologies

1.3.1 Literature Review

Prior to biological resource surveys being conducted on the property, a review of existing information on vegetation and sensitive species that occur or have the potential to occur in the vicinity of the project site was initiated. Existing vegetation mapping for the project vicinity as contained in the San Diego Geographic Information Systems (SanGIS) database (San Diego Association of Governments [SANDAG] 1995) was examined to get an initial assessment of the types of vegetation communities that may occur on-site. Agricultural maps from the SanGIS database were also reviewed. Existing information on sensitive species occurrences in the project vicinity from the California Department of Fish and Game (CDFG) California Natural Diversity Database (CNDDDB) was reviewed to determine what species occurrences have been documented within and near the project area. Critical habitat areas for federal listed species that are in the vicinity of the project area were also examined (U.S. Fish and Wildlife [USFWS] 1994, 2003, 2011a, 2011b).

A project assessment letter issued by the County of San Diego Department of Planning and Land Use was used to focus on particular biological resources and issues for the project area (County of San Diego 2011). The assessment letter contained a list of sensitive species and other issues that are to be addressed in the biological technical report.

1.3.2 Biological Resource Surveys

Biological resource surveys were conducted on-site and in areas where off-site improvements are proposed by RECON biologists to document the existing vegetation communities, plant species, and wildlife species within the project area. Table 1 provides a list of survey dates, personnel, and weather conditions on survey days. Biological resource surveys were conducted by walking the project area on foot to access as much

**TABLE 1
BIOLOGICAL RESOURCE SURVEY INFORMATION**

Survey Date	Type of Survey	Time	Weather Conditions	Biologist Conducting Survey
February 14, 2011	Vegetation Mapping; General biology Surveys; SKR Habitat Assessment	8:00 A.M. - 3:00 P.M.		AIB, EJM
February 25, 2011	General biology Surveys; Wetland Delineation; SKR Habitat Assessment	8:00 A.M. - 3:00 P.M.		GAS, AIB, EJM
March 1, 2011	General Biology Surveys; Wetland Delineation	8:00 A.M. - 3:00 P.M.		GAS, AIB, EJM
March 3, 2011	General Biology Surveys; Wetland Delineation	8:00 A.M. - 3:00 P.M.		GAS, AIB, EJM
March 10, 2011	General Biology Surveys; Wetland Delineation	8:00 A.M. - 3:00 P.M.		GAS
April 18, 2011	General Biology Surveys; Wetland Delineation	8:00 A.M. - 3:00 P.M.		GAS
April 22, 2011	General Biology Surveys; Wetland Delineation	8:00 A.M. - 3:00 P.M.		GAS
May 17, 2011	LBV#1	6:30 A.M. - 9:30 A.M.	50–53° F; winds 0–1 mph; cloudy conditions	EJM, MAO
May 27, 2011	LBV#2; Rare Plant Survey	7:30 A.M. - 10:30 A.M.	57–79° F; winds 0–1 mph; clear conditions	GAS, PAD
June 2, 2011	Rare Plant and General Biology Surveys; Burrowing Owl Habitat Assessment	8:35 A.M. - 2:30 P.M.	64–77° F; winds 0–1 mph; clear conditions	GAS, EJM, MAO
June 3, 2011	Rare Plant and General Biology Surveys; Burrowing Owl Habitat Assessment	8:30 A.M. - 2:30 P.M.	58–76° F; winds 0–7 mph; high haze	GAS, EJM, MAO
June 6, 2011	LBV#3	7:30 A.M. - 11:00 A.M.	52–70° F; winds 0–3 mph; clear conditions	EJM, MAO
June 8, 2011	Rare Plant and General Biology Surveys	9:50 A.M. - 2:00 P.M.	62–72° F; winds 0–4 mph; clear conditions	EJM, MAO
June 10, 2011	Rare Plant Survey			GAS, KOV
June 16, 2011	LBV#4; Rare Plant Survey	7:15 A.M.- 11:00 A.M.	60–70° F; winds 0–5 mph; partly cloudy	GAS, MAO
June 27, 2011	LBV#5	7:30 A.M.- 11:00 A.M.	61–75° F; winds 0–2 mph; clear conditions	EJM, MAO
July 6, 2011	Wetland Delineation; General Biology Survey; Burrowing Owl Habitat Assessment	8:00 A.M. - 3:00 P.M.		GAS
July 7, 2011	SKR/Arroyo Toad Habitat Assessments	1:00 P.M. - 5:00 P.M.		GAS, APF
July 7, 2011	LBV#6	7:50 A.M. - 11:00 A.M.	72–90° F; winds 0–1 mph; clear conditions	EJM, MAO
July 18, 2011	LBV#7	6:20 A.M.- 10:00 A.M.	51–76° F; winds 0–1 mph; clear conditons	EJM, MAO

TABLE 1
BIOLOGICAL RESOURCE SURVEY INFORMATION
 (continued)

Survey Date	Type of Survey	Time	Weather Conditions	Biologist Conducting Survey
July 18, 2011	General Biology Survey	Following LBV #7		EJM, MAO
July 28, 2011	LBV#8	7:15 A.M. - 9:55 A.M.	61–71° F; winds 0-2 mph; clear conditions	EJM, MAO
July 26, 2011	CGN#1	6:40 A.M. - 11:45 A.M.	58–86°F; winds 0–1 mph; clear conditions	EJM, MAO
August 2, 2011	CGN#2	6:45 A.M. - 10:30 A.M.	71–88°F; winds 0–1 mph; clear conditions	EJM, MAO
August 9, 2011	CGN#3	6:40 A.M. - 10:35 A.M.	56–76°F; winds 0–4 mph; cloudy conditions	EJM, MAO
August 26, 2011	Willow Flycatcher and Burrowing Owl Habitat Assessment	10:00 A.M. - 3:00 P.M.		GAS, JCL
January 11, 2012	Vegetation Mapping; Wetland Delineation	8:00 A.M. - 4:00 P.M.		GAS
February 14, 2012	Vegetation Mapping; Wetland Delineation	8:00 A.M. - 4:00 P.M.		GAS
March 21, 2012	General Surveys, Habitat Assessments	8:00 A.M. - 4:00 P.M.		GAS
June 29, 2012	General Surveys – Habitat Assessments: Offsite Road Improvement Areas,	8:00 A.M. - 4:00 P.M.		GAS, BP
July 2, 2012	General Surveys – Habitat Assessments: Offsite Road/Utility Improvement Areas,	8:00 A.M. - 4:00 P.M.		GAS, BP

Species

CGN = Coastal California gnatcatcher

LBV = Least Bell's vireo

SKR = Stephens' kangaroo rat

Biologists

APF = Alex Fromer; AIB = Anna Bennett; BP = Beth Proscal; EJM = Erin McKinney; GAS = Gerry Scheid; JCL = John Lovio; KOV = Kayo Valenti; MAO = Meagan Olson; PAD = Peter Dolan

of the site as possible. Biological resources observed were noted and mapped according to the County of San Diego's Biological Resource Mapping Requirements (County of San Diego 2010). Vegetation community mapping covered the entire project area and a 100-foot buffer area around the perimeter of the project boundary and the proposed off-site improvement areas.

Floral nomenclature for common plants follows Jepson Online Interchange (2009), for ornamental plants Brenzel (2001), and for sensitive plants California Native Plant Society (CNPS; 2007). Vegetation community classifications follow Holland (1986) as modified by Oberbauer (1996). Zoological nomenclature for birds is in accordance with the American Ornithologists' Union Checklist (1998) and Unitt (2004); for mammals with Baker et al. (2003) and Hall (1981); for amphibians and reptiles with Crother (2001) and Crother et al. (2003); and for invertebrates with Mattoni (1990) and Opler and Wright (1999). Determination of the potential occurrence for listed, sensitive, or noteworthy species is based upon known ranges and habitat preferences for the species (Jennings and Hayes 1994; Unitt 2004; State of California 2007a, 2007b, and 2007c; CNPS 2007; Reiser 2001), species occurrence records from the CNDDDB (State of California 2007d), and species occurrence records from other sites in the vicinity of the survey area.

Limitations on botanical surveys performed come from seasonal factors. General surveys that were conducted during the early spring peak season for all plants also focused on the detection of sensitive plant species. Sensitive annual and perennial species that are more easily identified in the early spring would have been detected during these general surveys. Additional focused rare plant surveys occurred in late spring and early summer to coincide with the peak blooming period of the sensitive plant species listed by the County as having a moderate to high potential for occurrence.

Because the general surveys were performed during the day, limitations to the compilation of a comprehensive wildlife list precluded direct observation of any nocturnal animals.

1.3.3 Focused Surveys

The initial project assessment letter from the County (County of San Diego 2011) recommended focus surveys for some wildlife species and habitat assessments be conducted for other sensitive wildlife species. Focused surveys were conducted for the following sensitive wildlife species: least Bell's vireo (*Vireo bellii pusillus*), coastal California gnatcatcher (*Polioptila californica californica*), and cactus wren (*Campylorhynchus brunneicapillus couesi*). Habitat assessments were conducted for the following sensitive wildlife species: southwestern willow flycatcher (*Empidonax traillii extimus*), burrowing owl (*Athene cunicularia hypugaea*), Hermes copper butterfly (*Lycaena hermes*), Stephens' kangaroo rat (*Dipodomys stephensi*), and arroyo toad (*Bufo californicus*).

1.3.3.1 Least Bell's Vireo Focused Surveys

Focused surveys for the least Bell's vireo were conducted in suitable habitat areas within the project boundary according to the USFWS protocol (USFWS 2001). Eight surveys were conducted by wildlife biologists, and the dates of the surveys are contained in Table 1. Suitable habitat areas were surveyed on foot with the aid of binoculars during the appropriate time of the day and breeding season. A copy of the post-survey results letter to the USFWS is provided as Attachment 1 to this report.

1.3.3.2 Coastal California Gnatcatcher Focused Surveys

Focused surveys for the coastal California gnatcatcher were conducted in suitable habitat areas within the project boundary according to the USFWS protocol (USFWS 1997a). Three surveys were conducted by a permitted wildlife biologist according to the survey protocol (see Table 1). Surveys were conducted on foot with the aid of binoculars and recorded gnatcatcher vocalizations. A copy of the post-survey results letter to the USFWS is provided as Attachment 2 to this report.

1.3.3.3 Cactus Wren Focused Surveys

Focused surveys for the cactus wren were conducted as part of the general wildlife surveys of the site and proposed off-site improvement areas. Surveys were conducted on foot with the aid of binoculars, focusing on suitable habitat areas (i.e., cactus patches). Extra time was spent around the larger patches of cactus on the site to increase the probability of cactus wren observation.

1.3.3.4 Southwestern Willow Flycatcher Habitat Assessment

An assessment of the suitability of riparian habitats within the project boundary to support southwestern willow flycatcher was conducted by a wildlife biologist permitted to survey for this species (see Table 1; Attachment 3). The existing vegetation communities were reviewed prior to conducting field work so that the habitat assessment could focus on potential suitable habitat areas for this species. Suitable habitat was determined by reviewing literature published on the southwestern willow flycatcher (USFWS 2011a; Sogge et al. 2010). Each potential habitat area was visited and evaluated with respect to known habitat conditions used by the species. A determination was made of the potential for the species to occur on the site based on the habitat conditions observed.

1.3.3.5 Burrowing Owl Habitat Assessment

An assessment of suitable habitat areas on the site and proposed off-site improvement areas to support the burrowing owl was conducted within the project area according to the guidelines established by The California Burrowing Owl Consortium (1993) and

CDFG (1995). The survey included an assessment of the potential for burrowing owl to occur in areas of suitable habitat within the project area and, where possible, within 500 feet of adjacent off-site areas. Suitable habitat for this project included agricultural fields (active and abandoned) and grassland areas. A report summarizing the results of the burrowing owl habitat assessment is provided in Attachment 4.

1.3.3.6 Hermes Copper Butterfly Habitat Assessment

An assessment of the potential for suitable habitat within the project area and proposed off-site improvement areas to support the Hermes copper butterfly was conducted according to the interim guidelines recommended by the County of San Diego (2010). Areas of native chaparral and coastal sage scrub habitat within the project area were assessed for the presence of the host plant, spiny redberry (*Rhamnus crocea*), in conjunction with nearby nectar plant California buckwheat (*Eriogonum fasciculatum*), during vegetation mapping and general biology surveys.

1.3.3.7 Stephens' Kangaroo Rat Habitat Assessment

An assessment of the potential for suitable habitat within the project site and proposed off-site improvement areas to support the Stephens' kangaroo rat was conducted (Attachment 5). The determination of suitable habitat for this species and the potential for use was based on habitat and species ecological information (USFWS 1988, 1997b). Areas determined to be suitable habitat in the project site were assessed for the potential to support this kangaroo rat species by walking the areas looking for sign (i.e., burrows, tracks, etc.).

1.3.3.8 Arroyo Toad habitat Assessment

The suitability for potential habitat areas in the project area and proposed off-site improvement areas to support the arroyo toad was assessed (Attachment 6) using habitat and species ecological information compiled by the USFWS (2011b). Drainage courses within the project area were visited and associated riparian habitats were assessed for characteristic arroyo toad habitat features. A determination was made as to the likelihood for these areas to support arroyo toads.

1.4 Environmental Setting (Existing Conditions)

The Lilac Hills Ranch project area is part of the inland foothills and valleys of San Diego County. The project area includes topography consisting of a series of rolling hills dissected by drainage courses and a valley bottom that drain primarily to the south and southwest (see Figure 2). Elevations across the project site range from 930 feet MSL at the highest to 750 feet MSL at the lowest.

Climate conditions for the project area are typical of a Mediterranean climate regime, with a wet winter rainy season followed by a hot, dry summer. Spring and fall months tend to be mild in temperature and variable in rainfall amounts.

The drainage courses on the site convey storm water and urban/agricultural runoff. Both intermittent and ephemeral drainages occur in the project area. Wells occur in scattered locations across the site and are used to provide water to the orchards, vineyards, and other agricultural areas. Two agricultural ponds occur in the project area that store water for irrigation purposes.

Soil types within the project area and vicinity consist of a series of sandy loam, coarse sandy loam, sand, and steep gullied land (U.S. Department of Agriculture [USDA] 1973; SANDAG 1995). Sandy loam and coarse sandy loam soils in the following soil series are present: Bonsall, Cieneba, Fallbrook, Greenfield, Placentia, Ramona, Visalia, and Vista (Figure 4). Soils on steeper slopes and in gully bottoms are characterized as steep gullied land. These soil types are derived from weathered and decomposed granite or granodiorite. Runoff is described as moderate to rapid and the erosion hazard is on average moderate for these soil types.

The parcels within the approximately 608 acres of the project area are all privately owned. Two relatively small areas in the project area are encumbered with open space easements. Existing zoning is "limited agriculture" and "rural residential," and the primary land uses found in the project area are agricultural related (i.e., orchards, vineyards, row crops, and nursery operations) and small rural residential development. Land uses on adjacent properties consist of similar agricultural uses.

An Open Space Vacation is proposed for two small open space easements within the project boundary (see Figure 5 for location of the two easements). A discussion of how each finding in accordance with the "County of San Diego, California Board of Supervisors Policy I-103: Open Space Vacations" is provided below.

Policy Number I-103 Open Space Vacations:

1. The proposed open space vacations do not conflict with any of the adopted elements of the County General Plan with respect to location, purpose, and extent. The easements are within a rural setting that is currently under agriculture and outside of the draft future PAMA lands.
2. The two easements are not necessary for present or prospective public use as a public service easement. They are not easements for any road, park, or other public use.
3. The proposed open space vacations comply with CEQA, State, and County guidelines and will not have a significant effect on the environment as appropriate mitigation is being provided.

4. Not applicable, the easements are not for “voluntary reasons” or were they made in “error.”
5. Not applicable. The open space easements are not required as part of lot size averaging/clustering projects and planned developments.
6. The two open space easements were the result of past discretionary actions. The easements lie over land that is currently under agriculture. Preservation of these easements would not further any biological objectives for open space. However, mitigation is being provided that will provide an equal acreage as part of the on-site biological open space.

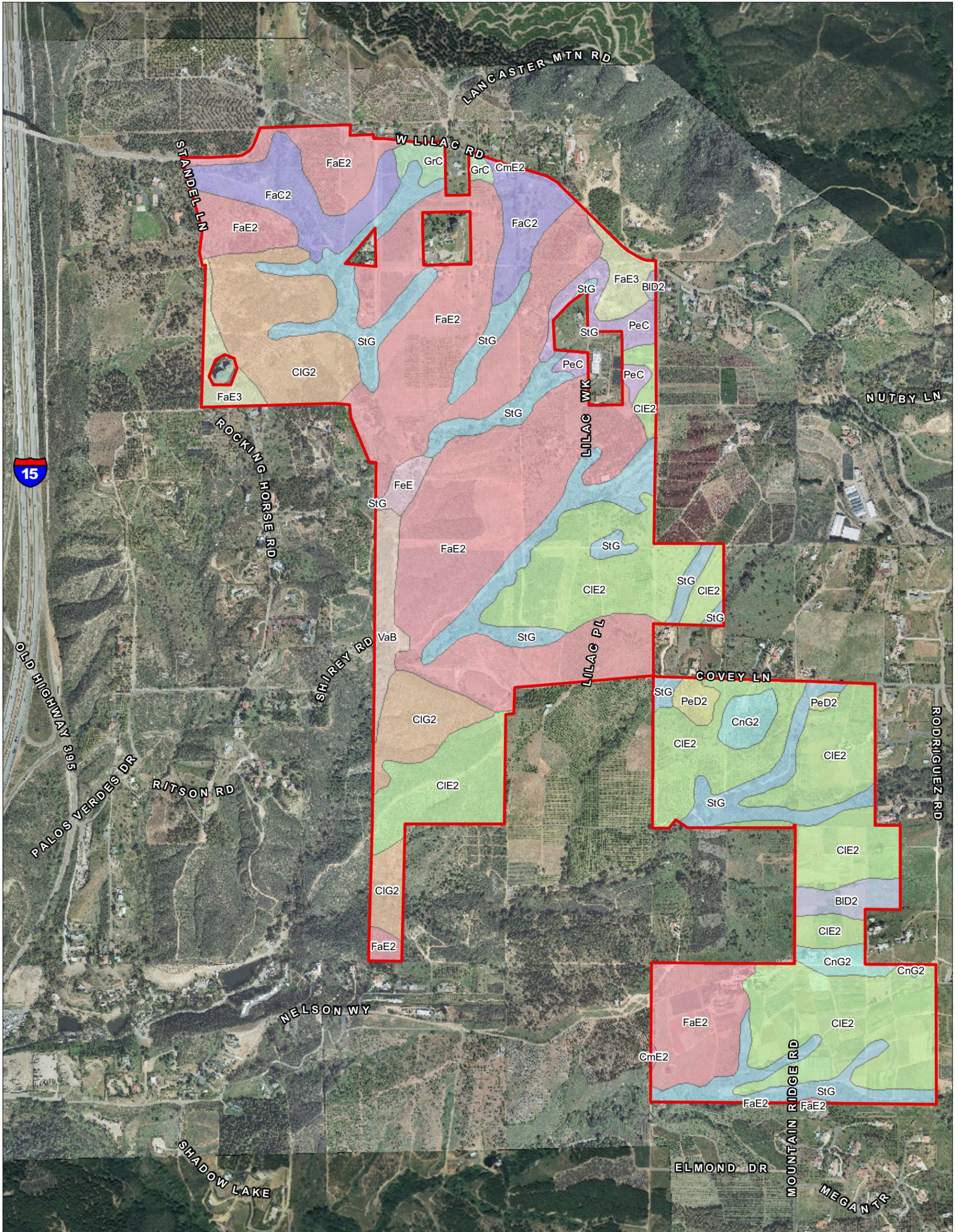
1.4.1 Regional Context

The Lilac Hills Ranch project area is located within the proposed North County Multiple Species Conservation Program (MSCP) area (County of San Diego 2009; see Figure 5). It is outside of and south of the proposed Pre-Approved Mitigation Areas (PAMA) that are located to north (Keys Canyon) and west (I-15 corridor). Proposed MSCP Preserve Areas occur off-site to the east, south, and north, and proposed MSCP Take Authorization Areas occur to the east, but none of these proposed MSCP areas are adjacent to the project area. The project area includes two locations that are covered by relatively small open space easements that occur outside of a PAMA (see Figure 5).

Portions of proposed off-site improvement areas occur within draft PAMA areas. The proposed improvements to West Lilac Road to the west of the project area, improvements to the I-15 on/off ramps at Highway 395, and improvements to on/off ramps at I-15 and Gopher Canyon Road will be within the draft PAMA area along the I-15 corridor. In addition, proposed improvements to Highway 395 between Gopher Canyon and Circle R Drive and a portion of the sewer line alignment within the southern end of Circle R Drive to Highway 395 are within a draft PAMA area.

1.4.2 Habitat Types/Vegetation Communities

Vegetation communities and habitat types that are found in the project survey area, 100-foot survey buffer area, and proposed off-site improvement areas occur as a mosaic of native habitat patches and agricultural uses. Native habitat occurs primarily along the drainage courses and on some of the steeper terrain on the western and southwestern portions of the project area. A total of 17 primary habitat types and vegetation communities were identified in the project survey area and buffer survey area (Figures 6a-c). Some areas of these habitat types/vegetation communities have portions that were characterized as disturbed. Acreages of each habitat type in the project area are given in Table 2.



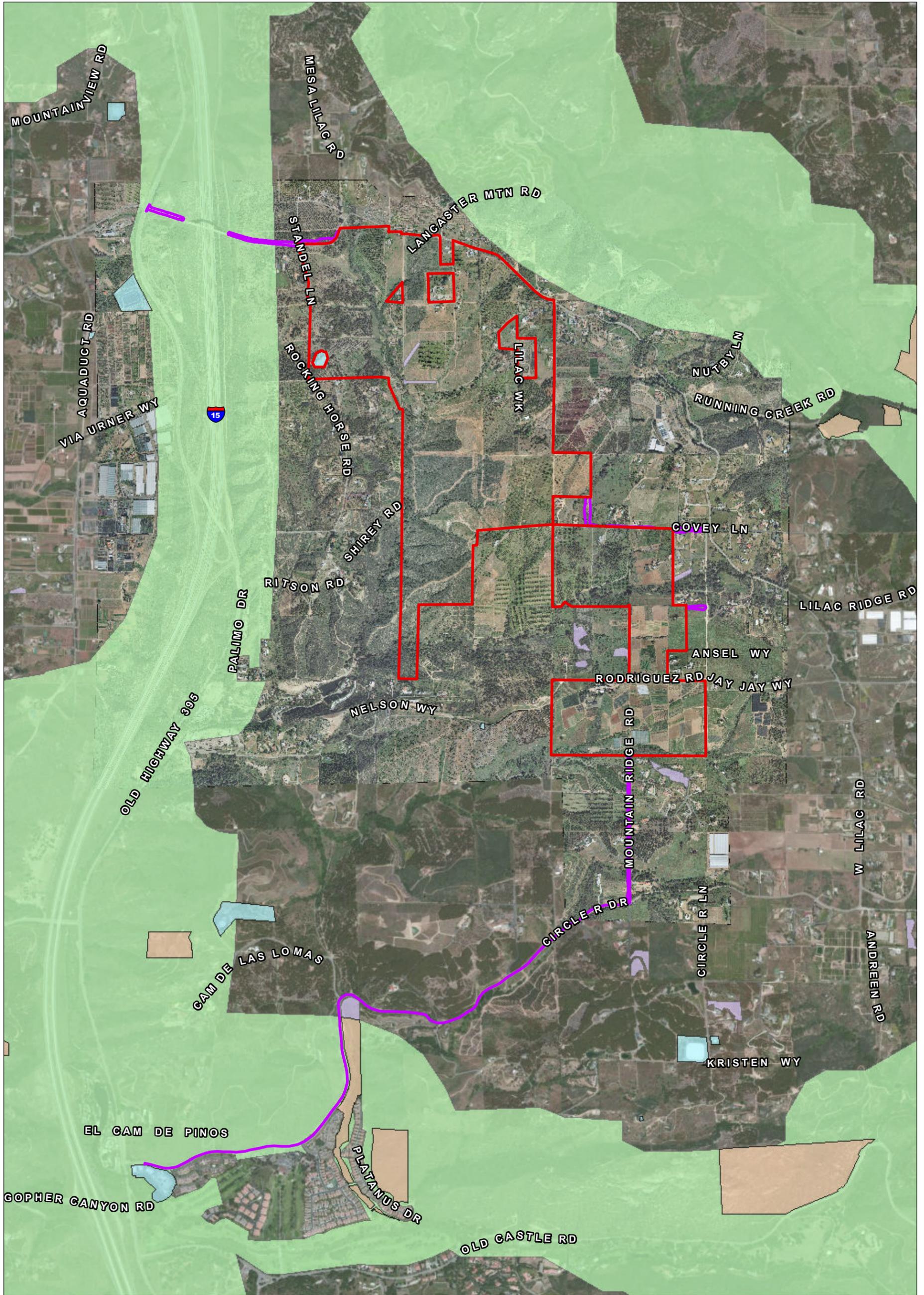
Project Boundary

Soil Classification

- BID2 - Bonsall sandy loam, 9 to 15 % slopes, eroded
- CIE2 - Cienega coarse sandy loam, 15 to 30 % slopes, eroded
- CIG2 - Cienega coarse sandy loam, 30 to 65 % slopes, eroded
- CmE2 - Cienega rocky coarse sandy loam, 9 to 30 % slopes, eroded
- CnG2 - Cienega-Fallbrook rocky sandy loams, 30 to 65 % slopes, eroded
- FaC2 - Fallbrook sandy loam, 5 to 9 % slopes, eroded

- FaE2 - Fallbrook sandy loam, 15 to 30 % slopes, eroded
- FaE3 - Fallbrook sandy loam, 9 to 30 % slopes, severely eroded
- FeE - Fallbrook rocky sandy loam, 9 to 30 % slopes
- GrC - Greenfield sandy loam, 5 to 9 % slopes
- PeC - Placentia sandy loam, 2 to 9 % slopes
- PeD2 - Placentia sandy loam, 9 to 15 % slopes, eroded
- StG - Steep gullied land
- VaB - Visalia sandy loam, 2 to 5% slopes

FIGURE 4



- | | |
|--|---|
|  Project Boundary | Draft North County MSCP (Not Approved) |
|  Off-site Improvement Areas |  Open Space Easement outside PAMA |
| |  Pre-Approved Mitigation Area (PAMA) |
| |  Preserve Areas |
| |  Special Districts |



FIGURE 5

Project Area in Relation to Draft North County MSCP (MSCP Currently Not Approved)

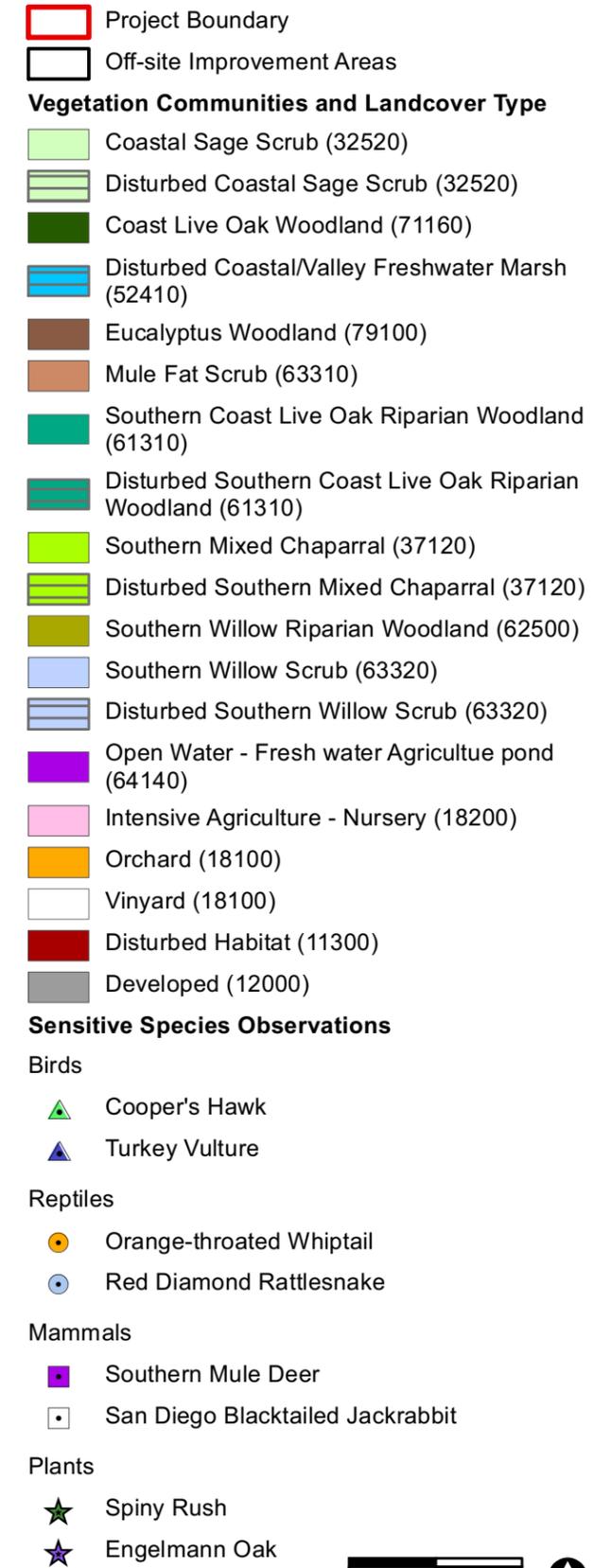
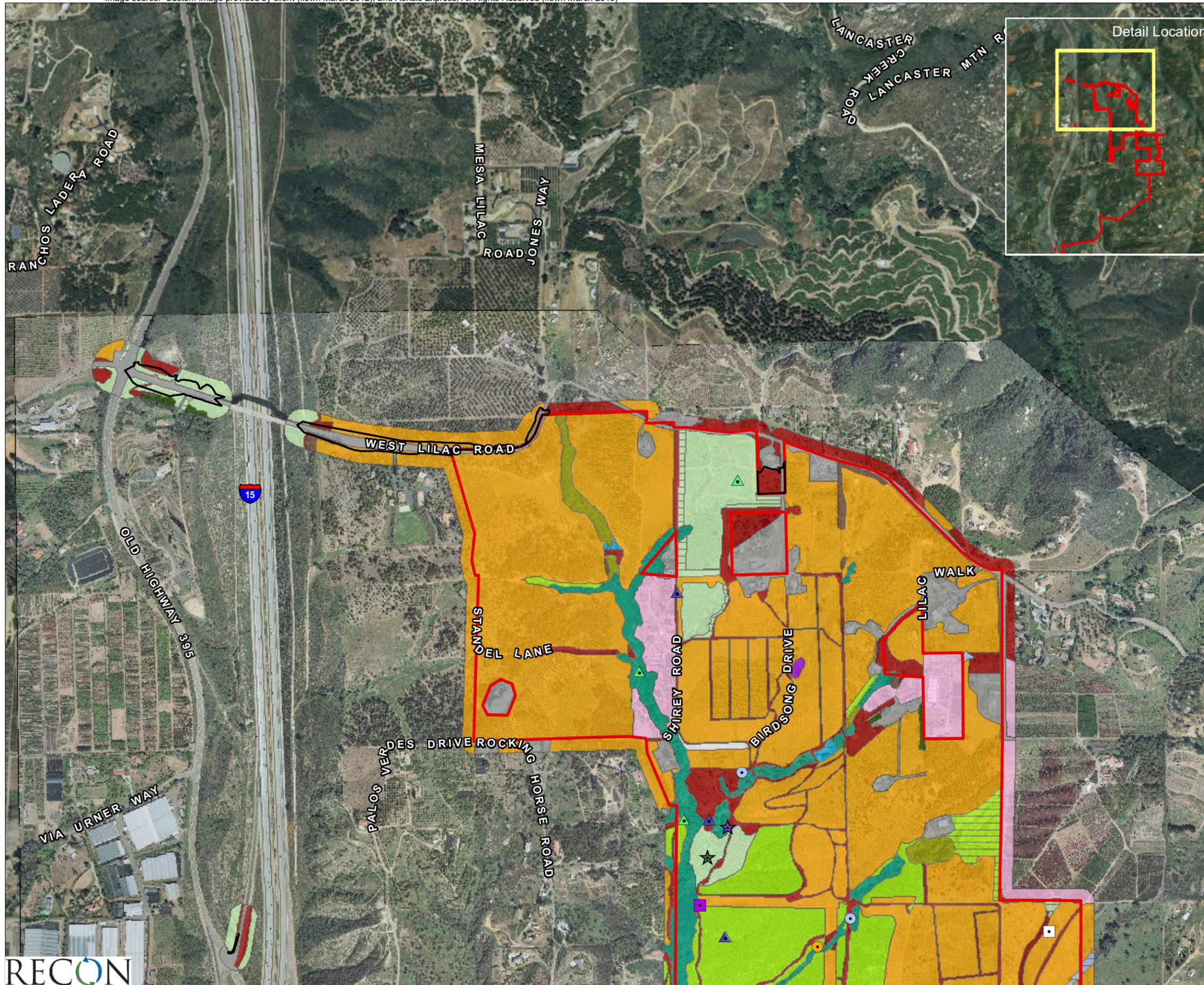
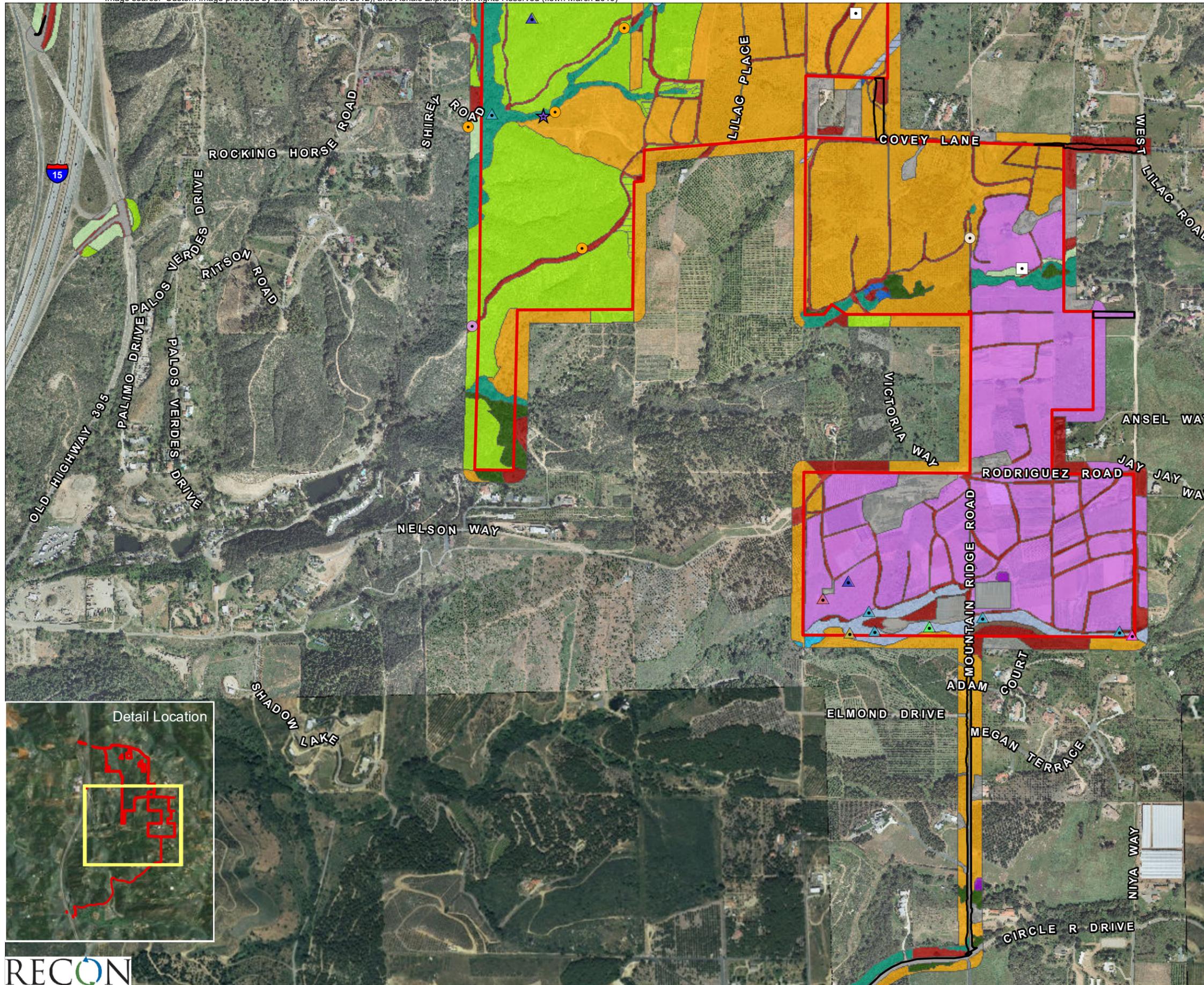


FIGURE 6a

Vegetation Communities/Land Cover Types and Sensitive Species Locations



Project Boundary
 [Red outline] Project Boundary
 [Black outline] Off-site Improvement Areas

Vegetation Communities and Landcover Type

- [Light Green] Coastal Sage Scrub (32520)
- [Light Green with horizontal lines] Disturbed Coastal Sage Scrub (32520)
- [Dark Green] Coast Live Oak Woodland (71160)
- [Light Blue] Coastal/Valley Freshwater Marsh (52410)
- [Blue] Disturbed Wetland (11200)
- [Brown] Eucalyptus Woodland (79100)
- [Teal] Southern Coast Live Oak Riparian Woodland (61310)
- [Dark Teal] Disturbed Southern Coast Live Oak Riparian Woodland (61310)
- [Yellow-Green] Southern Mixed Chaparral (37120)
- [Yellow-Green with horizontal lines] Disturbed Southern Mixed Chaparral (37120)
- [Light Blue with horizontal lines] Southern Willow Scrub (63320)
- [Light Blue with vertical lines] Disturbed Southern Willow Scrub (63320)
- [Purple] Open Water - Fresh water Agriculture pond (64140)
- [Light Purple] Extensive Agriculture - Row Crops (18320)
- [Orange] Orchard (18100)
- [Dark Red] Disturbed Habitat (11300)
- [Grey] Developed (12000)

Sensitive Species Observations

Birds

- [Red triangle] Western Bluebird
- [Green triangle] Cooper's Hawk
- [Blue triangle] Yellow-breasted Chat
- [Dark Blue triangle] Turkey Vulture
- [Yellow triangle] White-tailed Kite
- [Purple triangle] Yellow Warbler

Reptiles

- [Orange circle] Orange-throated Whiptail
- [Blue circle] Red Diamond Rattlesnake
- [Purple circle] Coast Horned Lizard
- [Light Blue circle] Coastal Western Whiptail

Mammals

- [Black square] San Diego Blacktailed Jackrabbit

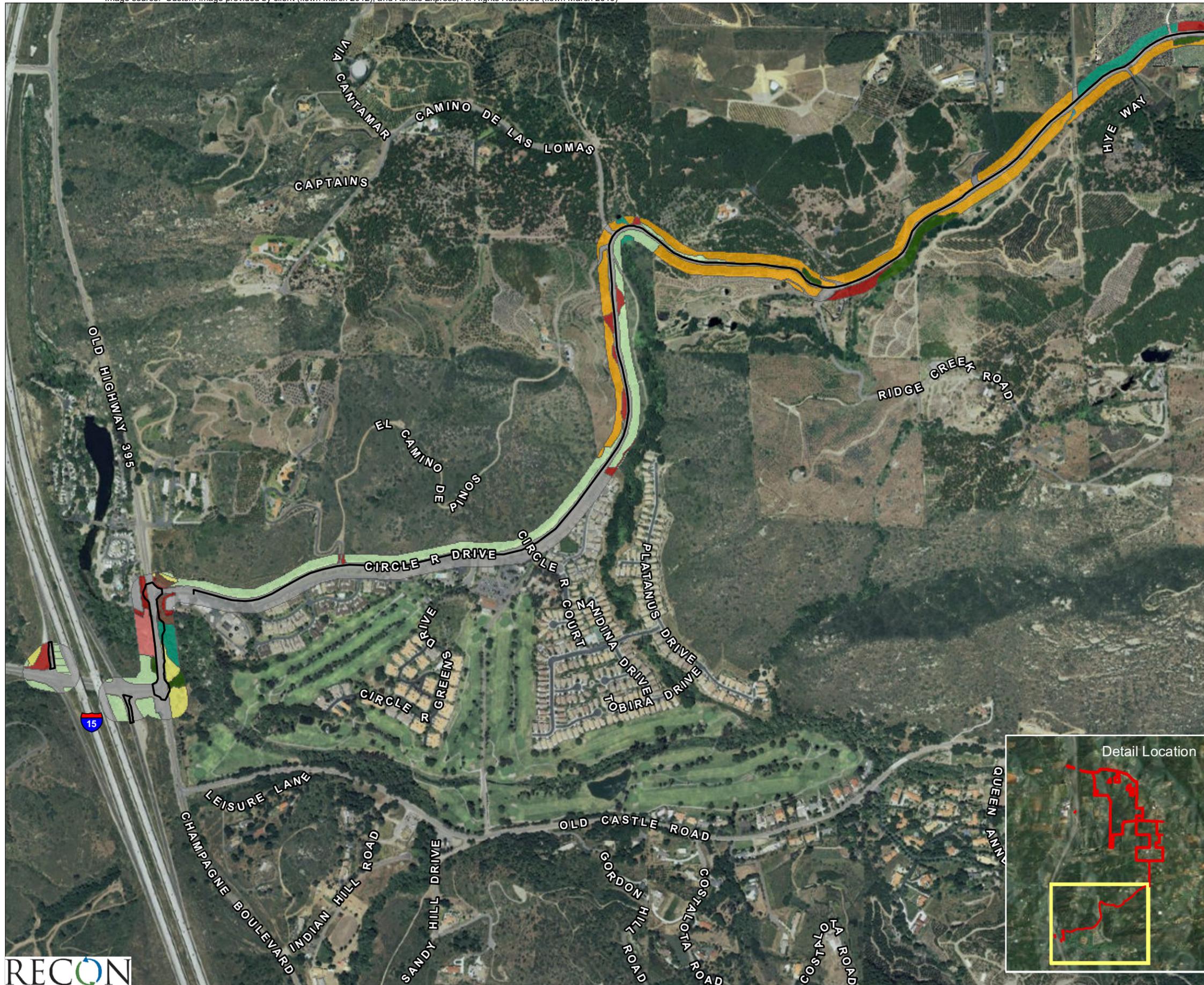
Plants

- [Star symbol] Engelmann Oak

0 Feet 800

FIGURE 6b

Vegetation Communities/Land Cover Types and Sensitive Species Locations



- Off-site Improvement Areas
- Vegetation Communities and Landcover Type**
- Coastal Sage Scrub (32520)
- Disturbed Coastal Sage Scrub (32520)
- Coast Live Oak Woodland (71160)
- Disturbed Coastal/Valley Freshwater Marsh (52410)
- Eucalyptus Woodland (79100)
- Non-native Grassland (42200)
- Southern Coast Live Oak Riparian Woodland (61310)
- Southern Sycamore Riparian Woodland (62400)
- Orchard (18100)
- Disturbed Habitat (11300)
- Developed (12000)

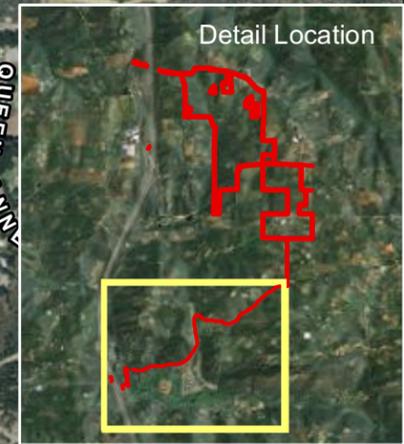


FIGURE 6c
Vegetation Communities/Land Cover Types
and Sensitive Species Locations

**TABLE 2
EXISTING ON-SITE HABITAT/VEGETATION COMMUNITIES**

Habitat/Vegetation Communities	Acres
Coast live oak woodland (71160)	3.6
Coastal sage scrub (32520)	19.6
Disturbed coastal sage scrub (32520)	2.9
Disturbed coastal/Valley freshwater marsh (52410)	0.6
Eucalyptus woodland (79100)	1.7
Southern coast live oak riparian woodland (61310)	22.5
Disturbed southern coast live oak riparian woodland (61310)	1.9
Southern mixed chaparral (37120)	75.4
Disturbed southern mixed chaparral (37120)	6.0
Southern willow riparian woodland (62500)	4.7
Southern willow scrub (63320)	6.1
Disturbed southern willow scrub (63320)	0.3
Mule fat scrub (63310)	0.1
Open water – fresh water (64140)	0.5
Disturbed wetland (11200)	0.4
Extensive agriculture – row crops (18320)	90.5
Intensive agriculture – nursery (18200)	9.2
Vineyard (18100)	0.7
Orchard (18100)	291.9
Disturbed habitat (11300)	44.0
Developed (12000)	25.7
TOTAL	608.3

1.4.2.1 Coastal Sage Scrub and Disturbed Coastal Sage Scrub (32520)

Coastal sage scrub vegetation occurs in various sized patches in the on-site project area. The largest patches of relatively undisturbed coastal sage scrub occur in the north and central part of the project area. More disturbed patches of coastal sage scrub vegetation are located in the west-central portion of the project area. Coastal sage scrub vegetation also occurs within the survey area for the proposed off-site improvement areas. It is present adjacent to West Lilac Road to the east and west of I-15, at the intersection of West Lilac Road and Old Highway 395, adjacent to western portion of Circle R Drive, and at the intersection of Gopher Canyon Road and Old Highway 395. Dominant plant species in all coastal sage scrub patches are California sagebrush (*Artemisia californica*), black sage (*Salvia mellifera*), California buckwheat, and laurel sumac (*Malosma laurina*).

Habitat quality is moderate for the relatively undisturbed patches of coastal sage scrub on-site because of relatively small acreage, edge effects, and the isolation of these areas from contiguous undisturbed native vegetation. Habitat quality for disturbed

patches of coastal sage scrub on-site is considered low due to the continued maintenance of the vegetation by the property owners (i.e., fuel management). The habitat quality of the coastal sage scrub habitat adjacent to West Lilac Road, Circle R Drive, and at Gopher Canyon Road/Old Highway 395 is generally high further away from the road; however, the vegetation closest to these roads is more disturbed due to edge effects.

1.4.2.2 Southern Mixed Chaparral and Disturbed Southern Mixed Chaparral (37120)

Southern mixed chaparral vegetation occurs as a large, relatively undisturbed patch in the project area. This vegetation community occurs in the central and southern portions of the project area on the western-facing slopes. Disturbed areas of southern mixed chaparral are mapped along the edges of the larger patches. Vegetation in these disturbed areas is maintained as part of fuel breaks, access roads, and areas being maintained as agriculture. Dominant plant species include chamise (*Adenostoma fasciculatum*), mission manzanita (*Xylococcus bicolor*), hoary-leaved ceanothus (*Ceanothus crassifolius*), black sage, California buckwheat, and laurel sumac.

The habitat quality of the undisturbed southern mixed chaparral on-site is moderate to high, as the vegetation remaining is in a large contiguous patch of chaparral that connects to native chaparral areas off-site to the southwest. The dense cover of native shrubs contains a diverse assemblage of chaparral species. Disturbed areas of southern mixed chaparral have low to moderate habitat values. Areas that are being maintained as agriculture have fewer native plant species and thus low habitat values. Southern mixed chaparral maintained as part of fuel breaks have more species recovering between disturbances, but the diversity of shrub species is less in these areas.

Southern mixed chaparral is not considered a RPO sensitive habitat unless it supports a sensitive species.

1.4.2.3 Coast Live Oak Woodland (71160)

Coast live oak woodland occurs in relatively small patches in the on-site project area. The largest area of coast live oak woodland occurs in the southwestern portion of the project site on a north-facing slope above a small, narrow canyon. Smaller patches of coast live oak woodland occur within orchards and agricultural areas. A disturbed area of this habitat type was mapped in the southwestern part of the site, where the oak woodland is recovering from past agricultural practices that have been abandoned. The coast live oak woodland present within the off-site improvement survey areas is located to the south of West Lilac Road and east of I-15, in small patches to the east and west of the southern part of Mountain Ridge Road, along the south side of the eastern half of Circle R Drive, and east and west of Old Highway 395 north of Gopher Canyon Road.

The dominant plant species is the coast live oak tree (*Quercus agrifolia*). Vegetation growing beneath the oak tree canopy varies from non-native grasses in the disturbed patches to dense to open areas of native shrubs such as poison oak (*Toxicodendron diversilobum*) and mule fat (*Baccharis salicifolia*) in the undisturbed patches.

The habitat quality of the coast live oak woodland that occurs in the disturbed patches and orchards or adjacent to agricultural areas is low to moderate as the small groupings of oak trees provide some habitat, but these areas lack a native understory. The coast live oak woodland on the north-facing slope in the southwestern part of the site has relatively high habitat values due to the location of the habitat adjacent to native riparian areas in the canyon below and an understory composed of native plant species. The coast live oak woodland to the south of West Lilac Road and adjacent to Old Highway 395 north of Gopher Canyon Road is of moderate quality due to its proximity to development and existing roads. Oak woodland habitat adjacent to Circle R Drive and Mountain Ridge Road has relatively low habitat values due to their proximity to agriculture (i.e., orchards).

Coast live oak woodland is not considered a RPO sensitive habitat type.

1.4.2.4 Eucalyptus Woodland (79100)

A small, narrow stand of eucalyptus trees (*Eucalyptus* spp.) occurs in the extreme northeast portion of the on-site project area. The trees were planted adjacent to West Lilac Road and an access road along a property boundary. Small stands of eucalyptus trees also occur within the off-site improvement survey area to the south of West Lilac Road east of I-15 and at the intersection of Circle R Drive and Old Highway 395. The eucalyptus trees form relatively small woodlands that have low to moderate habitat values due to its proximity to roads and the potential to be used by raptor and other bird species for roosting and nesting. Eucalyptus woodland is not considered a RPO sensitive habitat.

1.4.2.5 Disturbed Coastal/Valley Freshwater Marsh (52410)

A relatively small area of coastal/valley freshwater marsh occurs upstream of a dirt road crossing of a drainage that supports mainly oak riparian woodland in the northeast portion of the site. The area is described as disturbed due to the heavy infestation of pampas grass (*Cortaderia* sp.). Cattail (*Typha latifolia*) and umbrella sedge (*Cyperus esculentus*) persist among the pampas grass. A second area of coastal/valley freshwater marsh occurs upstream of an impoundment created by a road crossing in the northwestern portion of the site. This pond supports a few scattered patches of cattail.

The habitat value for the freshwater marsh area associated with the oak woodland is low due to the predominance of pampas grass, but could be improved with eradication of the

non-native plant species. When the freshwater marsh area is considered in conjunction with the oak riparian woodland of the drainage course, the overall habitat value would be moderate, as the marsh adds diversity to the adjacent woodland areas.

Habitat values for the impoundment pond are moderate due to the sparse native vegetation, small acreage, and water levels that fluctuate. Wildlife species likely use this pond as a supplemental water source. This pond is part of a natural drainage course and is considered a jurisdictional wetland. The pond is also considered a RPO wetland with moderate biological function or value as a wetland.

Coastal/valley freshwater marshes are wetlands and are also considered a category of RPO wetland. Wetlands, in general, are also considered sensitive resources under the jurisdiction of federal (U.S. Army Corps of Engineers [USACE]) and state (CDFG, Regional Water Quality Control Board [RWQCB]) agencies.

1.4.2.6 Southern Coast Live Oak Riparian Woodland and Disturbed Southern Coast Live Oak Riparian Woodland (61310)

Southern coast live oak riparian woodland on-site is the predominant vegetation community supported by the larger intermittent drainages and the main tributaries to these larger drainages in the project area. This riparian woodland vegetation community occurs along most of the western border of the main project area and along tributary east-west drainages in the central portions of the site. One area of southern coast live oak riparian woodland was characterized as disturbed due to the predominance of pampas grass in the understory along a tributary drainage in the northern portion of the site. This riparian woodland habitat occurs within the off-site improvement survey area to the north of Circle R Drive near its intersection with Mountain Ridge Road and at the hairpin turn near the central portion of Circle R Drive. The dominant plant species in this riparian woodland include coast live oak, red willow (*Salix laevigata*), black willow (*Salix gooddingii*), poison oak, and wild grape (*Vitis girdiana*).

Overall habitat values for the southern coast live oak riparian woodlands areas on and off the site are high. The mature coast live oak and willow trees form tree layer with an understory of native shrubs and herbaceous species. Wild grape forms a dense covering of the riparian vegetation during the spring and summer months. This riparian woodland habitat supports a diverse bird population, including different raptor species, as well as, a variety of insects, reptiles, and mammals.

Southern coast live oak riparian woodlands are wetlands and are considered a category of RPO wetlands that also fall under the jurisdiction of federal (USACE) and state (CDFG, RWQCB) resource agencies.

1.4.2.7 Southern Willow Scrub and Disturbed Southern Willow Scrub (63320)

Southern willow scrub vegetation occurs in the extreme southern portion of the site and as part of the smaller out-lying project area to the west. It is associated with portions of the larger, intermittent drainage courses in these areas. A narrow strip of disturbed southern willow scrub occurs along a drainage course in the east-central part of the site where the drainage course is affected by agricultural activities that have cleared the understory and reduced the density of willow cover. Dominant plant species in this vegetation community include red willow, black willow, arroyo willow (*Salix lasiolepis*), narrow-leaved willow (*Salix exigua*), and mule fat.

Overall habitat values for the southern willow scrub in the extreme southern part of the site are moderate due to edge effects associated with the agricultural activities adjacent to the drainage course and the relatively narrow width of the willow scrub habitat. The smaller patch of willow scrub habitat on the outlying project area to the west has moderate habitat values due to edge effects from adjacent homes. Both of these areas support a diverse assemblage of bird species. Insects, reptiles, and mammals also use these riparian areas.

Southern willow scrub areas are wetlands are also considered a category of RPO wetland. Wetlands, in general, are also considered sensitive resources under the jurisdiction of federal (USACE) and state (CDFG, RWQCB) agencies.

1.4.2.8 Mule Fat Scrub (63310)

Mule fat scrub vegetation onsite occurs as a small patch in an intermittent drainage course near the eastern part of the project. A narrow strip of mule fat scrub occurs along a drainage course that is affected by adjacent agricultural activities. The strip of vegetation is made up of a pure stand of mule fat shrubs.

Overall, the habitat value for the mule fat scrub is low due to edge effects associated with the agricultural activities adjacent to the drainage course and the relatively narrow width of the mule fat scrub habitat. It is anticipated that the mule fat scrub supports a limited assemblage of bird species, insects, reptiles, and perhaps small mammals.

Mule fat scrub areas are wetlands that can be considered a category of RPO wetland. Wetlands, in general, are also considered sensitive resources under the jurisdiction of federal (USACE) and state (CDFG, RWQCB) agencies.

1.4.2.9 Southern Willow Riparian Woodland (62500)

Southern willow riparian woodland vegetation occurs in the extreme northwestern portion of the site. It is associated with portions of the larger, intermittent drainage

course in this area. The southern willow riparian woodland occurs adjacent to orchards. Dominant plant species in this vegetation community include red willow, black willow, arroyo willow (*Salix lasiolepis*), narrow-leaved willow (*Salix exigua*), and mule fat.

Overall habitat values of for the southern willow riparian woodland are moderate due to edge effects associated with the agricultural activities adjacent to the drainage course and the narrow width of the willow woodland habitat. This area supports a diverse assemblage of bird species. Insects, reptiles, and mammals likely also use these riparian areas.

Southern willow riparian woodland areas are wetlands and are also considered a category of RPO wetland. Wetlands, in general, are also considered sensitive resources under the jurisdiction of federal (USACE) and state (CDFG, RWQCB) agencies.

1.4.2.10 Disturbed Wetland (11200)

A relatively small area of disturbed wetland occurs along a drainage course within an orchard in the south-central part of the project area. The disturbed wetland is located upstream of an existing wall that functions to temporarily detain water at this location. The herbaceous wetland vegetation that grows in the area of detention is characterized as disturbed due to it being periodically mowed as part of the vegetation maintenance activities associated with the orchard. Dominant plant species at this location include curly dock (*Rumex crispus*), bristly ox tongue (*Picris echioides*), and water cress (*Nasturtium officinale*).

The habitat value of this wetland area is low due to the regular vegetation disturbance that occurs. Non-native species have invaded the area and further degrade the habitat values. Disturbed wetlands would be considered RPO wetlands in some circumstances.

1.4.2.11 Open Water – Freshwater (64140)

Two man-made agricultural ponds occur within the project boundary and are characterized as open water habitat. These ponds were created to store water for agricultural purposes. One man-made pond is located in the southern portion of the site within active agricultural fields used for row crops. This pond supports a narrow band of salt cedar (*Tamarix ramossissima*) on its relatively steep banks. The other agricultural pond is located in the northern portion of the site within orchards. Little vegetation grows around this pond. One man-made agricultural pond occurs within the off-site survey area to the east of Mountain Ridge Road. This pond has no vegetation associated with it.

Habitat values for the two on-site and one off-site agricultural ponds are low due to the lack of native vegetation, small acreage, and water levels that fluctuate. Wildlife species likely use these ponds as a supplemental water source. These three ponds are man-made and were not considered jurisdictional wetlands. The ponds were not considered

RPO wetlands because they are man-made, have negligible biological function or value as a wetland, 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 species.

1.4.2.12 Disturbed Habitat (11300)

Disturbed habitat was used to characterize areas in the on-site project area and off-site improvement survey areas where more or less permanent disturbances will inhibit the growth of native vegetation. The designation was used primarily to distinguish the many roads that bisect the site, as well as areas adjacent to orchards or agricultural fields where equipment is stored or the vegetation is maintained as part of the agricultural operation (i.e., wells, mulch areas). These areas are mostly devoid of vegetation, but some of the disturbed areas near agricultural areas may occasionally support a growth of non-native annual species such as slender wild oat, black mustard, star-thistle, and pigweed (*Chenopodium album*).

Habitat values for disturbed areas are considered low due to the lack of native vegetation. Areas mapped as disturbed habitat are not considered RPO sensitive habitat.

1.4.2.13 Agricultural Areas

Large acreages of the on-site project area and off-site improvement survey areas are used for various agricultural purposes. Agricultural lands cover the majority of the southeastern, east-central, and northern portions of the project area. Some limited patches of native vegetation may remain in some areas, usually associated with drainage courses. Agricultural types mapped in the project area include the following: Extensive Agriculture – Row Crops (18320); Intensive Agriculture – Nursery (18200); Orchard (18100); and Vineyard (18100). Areas used for row crops occur in the southeastern portion of the site. Various food and nursery crops are grown on these lands. Orchards throughout the site are used to cultivate various varieties of citrus and avocado. The small area of mapped vineyard supports varieties of grape. An area used to produce stock for the commercial nursery business is located near the northwest part of the site.

Habitat values for areas used for row crops, vineyards, and nurseries are generally low due to the lack of native vegetation and continual disturbance of the land. Mature orchards have moderate habitat values as the dense tree canopy provides habitat used by raptors and other birds. Fruit dropped by the trees likely provides a food source for insects, birds, and mammals. These agricultural areas are not considered RPO sensitive habitats from a biological perspective.

1.4.2.14 Developed (12000)

Areas mapped as developed occur as relatively small areas scattered throughout the on-site and off-site survey areas. This designation was used for locations where existing or abandoned home sites occur and the vegetation is largely ornamental (i.e., lawns, exotic trees, landscaped areas). These areas have low habitat values due to the lack of native vegetation and proximity to areas regularly used by humans. Developed areas, when considered a subset of disturbed lands, are not RPO sensitive lands.

1.4.3 Flora

The Lilac Hills Ranch project area contains a diverse mixture of native and non-native plant species. Native plants occupy the riparian woodlands, coastal sage scrub, mixed chaparral, oak woodland, and wetland habitats on-site. Non-native plants are mostly found in and adjacent to the disturbed areas that include agricultural fields, orchards, cleared areas, and developed portions of the site. A total of 229 plant species were identified in the project area (Attachment 7). This total does not include most of the ornamental and agricultural plants observed in developed areas, planted in fields, or in orchards. Of the total number of plants listed in Attachment 7, 145, or approximately 63 percent, are native to California, and 84 are non-native to California.

The most common native plant species found on the site include coast live oak, California sagebrush, chamise, hoaryleaf ceanothus (*Ceanothus crassifolius*), mission manzanita, red willow, and arroyo willow. The species diversity of native plants is highest in the southern coast live oak riparian forest and southern mixed chaparral vegetation communities in the project area.

1.4.4 Fauna

The habitats in the project area support a diverse assemblage of wildlife species (Attachment 8). Bird species were the most commonly observed animals, with 59 different species being identified. Invertebrates were the next most common wildlife species observed, with 18 different species identified. Three amphibian species and 10 reptile species were found in the project area. Mammals detected or observed on the site include four species of small mammals (i.e., rabbits, squirrels, woodrats) and three species of larger mammals (i.e., deer, raccoon, and coyote).

The southern coast live oak riparian woodland, southern willow scrub, coastal sage scrub, and southern mixed chaparral provide the best habitat for the majority of the wildlife species observed in the project area. Raptor species (e.g., hawks) were also commonly observed in the orchard trees. Pacific tree frogs (*Pseudacris regilla*) were most common along the intermittent drainage courses and freshwater marsh areas, while the bullfrog (*Lithobates catesbeiana*) was only observed in the deeper agricultural

ponds on-site. Reptile species (i.e., lizards, snakes) and small and large mammals were most common in the coastal sage scrub, mixed chaparral, riparian woodland, and riparian scrub areas.

1.4.5 Sensitive Plant Species

Eleven sensitive plant species were identified as having the potential to occur on the site (County of San Diego 2011; Attachment 9). Of these 11 species, 3 were observed in the project area, while the remaining species on the list were considered to have a low or moderate (one species) potential for occurrence. CNDDDB forms for those species observed are in provided in Attachment 10.

Prostrate spineflower (*Chorizanthe procumbens*) is not a state or federally listed species and is no longer a ranked species by CNPS, but is currently on List D of the County sensitive species list. This spineflower species was observed on-site in relatively low numbers (<100 individuals) intermixed with a more common species of spineflower (*C. fimbriata*) that occurs in larger numbers. Prostrate spineflower was observed in openings within and along fuel breaks adjacent to southern mixed chaparral habitat on-site. Locally, this population may be important to the overall species diversity of the southern mixed chaparral on-site, but the population numbers do not appear to be great enough to consider this location a significant regional population.

Southwestern spiny rush (*Juncus acutus* ssp. *leopoldii*) is not a state or federally listed species. CNPS ranks this species a 4.2, and the County places the species on List D. Approximately 20 individuals of southwestern spiny rush were observed in a drainage course on the site (see Figure 6a). There is the potential for additional individuals of this species to occur in the riparian woodlands in the project area that were inaccessible. This small population of southwestern spiny rush contributes to the local species diversity of the habitats on-site, but the population numbers do not appear to be great enough to consider this location a significant regional population.

Engelmann oak (*Quercus engelmannii*) is not a state or federally listed species, but it is a CNPS rank 4.2 species and on List D with the County of San Diego. Three Engelmann oak trees were observed on the site associated with coast live oak riparian woodlands (see Figures 6a,b). These three trees add to the local species diversity of the riparian woodlands on-site, but the population numbers are too low to consider this a significant regional population of the species.

1.4.6 Sensitive Animal Species

Fifty-one sensitive wildlife species were identified as having the potential to occur on the site (County of San Diego 2011; Attachment 11). Of these 51 species, 13 were observed in the project area; of the remaining species on the list, one species not observed on-site

has a high potential for occurrence, and the rest of the species have a moderate or low potential for occurrence. CNDDDB forms for those species observed are provided in Attachment 10.

Sensitivity of wildlife species is based on rankings and listings by federal, state, and local resource agencies. These codes and listings for each sensitive wildlife species addressed in this report are shown in Attachment 11.

1.4.6.1 Species Observed

Belding's orange-throated whiptail (*Aspidoscelis hyperythra beldingi*) – This lizard species is considered a Federal Species of Concern, a Species of Special Concern by CDFG, is on the Group 2 Species list for the County of San Diego, and is a covered species under the MSCP. Six separate observations of Belding's orange-throated whiptail were made on-site; two near coast live oak riparian woodland, three near disturbed coastal sage scrub, and near southern mixed chaparral habitat (see Figures 6a,b). Habitats in the project area are likely to support additional individuals of this reptile species. However, given the relatively wide range of this lizard in San Diego County, these locations do not represent a significant regional population.

Coastal western whiptail (*Cnemidophorus multiscultatus tigris*) - This lizard species is considered a Federal Species of Concern, is on the Group 2 species list for the County of San Diego, and will be a covered species under the MSCP. One individual of coastal western whiptail was observed on-site in an orchard adjacent to coast live oak riparian woodland (see Figures 6a,b). Habitats in the project area are likely to support additional individuals of this reptile species. However, given the relatively wide range of this lizard in San Diego County, this observation does not represent a significant regional population.

Red diamond rattlesnake (*Crotalus ruber*) – This rattlesnake species is considered a Federal Species of Concern, a Species of Special Concern by CDFG, is on the Group 2 Species list for the County of San Diego, and is a covered species under the MSCP. Two individuals of red diamond rattlesnake were observed on-site at two separate locations (see Figures 6a,b). One sighting of this rattlesnake was within coast live oak riparian woodland, and the other was made in an open area adjacent to southern mixed chaparral. Habitats in the project likely support additional individuals of this snake species; however, given the relatively wide range of this reptile in San Diego County, these locations do not represent a significant regional population.

Cooper's hawk (*Accipiter cooperii*) – The Cooper's hawk is considered a Species of Special Concern by CDFG and is on the Group 1 list with the County of San Diego. Four individuals of this raptor species were observed on-site. The species was observed using coast live oak riparian woodland, orchards, and coastal sage scrub. Given the

relatively wide range of this bird species in San Diego County, these locations do not represent a significant regional population.

White-tailed kite (*Elanus leucurus*) – A pair of white-tailed kites were commonly seen using the southern willow scrub and adjacent agricultural fields and orchards in the southern portion of the site (see Figure 6b). This species is considered a California Fully Protected Species by CDFG for nesting areas and is a Group 1 species on the County of San Diego list. While no nests were observed, breeding behaviors were observed during the spring. Given the relatively wide range of this bird species in San Diego County, this location does not represent a significant regional population.

Turkey vulture (*Cathartes aura*) – Turkey vultures were commonly observed flying overhead across much of the site. A group of four individuals of this species were observed roosting in a young orchard on one occasion. This species is listed on Group 1 of the County of San Diego. Turkey vultures are commonly seen in San Diego County; therefore, the population in the vicinity of the project area does not represent a significant population of the species.

Loggerhead shrike (*Lanius ludovicianus*) – The loggerhead shrike is a Species of Special Concern under CDFG and is listed as a Group 1 species in the County of San Diego. One individual of this bird species was observed in an orchard adjacent to southern mixed chaparral on-site (see Figures 6a,b). Other areas of suitable habitat occur in the project area that could support the loggerhead shrike. Given the relatively wide range of this bird species in San Diego County, this location does not represent a significant regional population.

Western bluebird (*Sialia mexicana occidentalis*) – The western bluebird is listed as a Group 2 species by the County of San Diego. One individual of this species was observed within southern mixed chaparral on-site (see Figures 6a,b). Other areas of suitable habitat occur in the project area that could support the western bluebird. Given the relatively wide range of this bird species in San Diego County, this location does not represent a significant regional population.

Yellow warbler (*Dendroica petechia*) – This bird species is considered a Species of Special Concern under CDFG and is listed as a Group 2 species in the County of San Diego. Nesting sites for the yellow warbler are of particular concern. One yellow warbler was observed in coast live oak riparian woodlands habitat on-site (see Figures 6a,b). Other areas of riparian woodland and scrub on-site provide additional habitat for this species to occur. Given the relatively wide range of this bird species in San Diego County, this location does not represent a significant regional population.

Yellow-breasted chat (*Icteria virens auricollis*) – Five yellow-breasted chat individuals were observed on-site within coast live oak riparian woodland and willow scrub habitats (see Figures 6a,b). This bird species is considered a Species of Special Concern under

CDFG and is listed as a Group 1 species in the County of San Diego. Nesting sites for the yellow-breasted chat are of particular concern. Given the relatively wide range of this bird species in San Diego County, this location does not represent a significant regional population.

San Diego black-tailed jackrabbit (*Lepus californicus bennettii*) – This rabbit species is a Federal Species of Concern, a Species of Special Concern under CDFG, and is in Group 2 for the County of San Diego. Two individuals of San Diego black-tailed jackrabbit were observed near coastal sage scrub and agricultural areas on-site. Suitable habitat for this species occurs in the project area, but on-site populations may be effected by agricultural pest control measures. Given the relatively wide range of this rabbit species in San Diego County, this location does not represent a significant regional population.

San Diego desert woodrat (*Neotoma lepida intermedia*) – Nests/homes of the San Diego desert woodrat were relatively common in the undisturbed coastal sage scrub and southern mixed chaparral vegetation on-site. A few nests were also observed on the margins of coast live oak riparian woodland habitat. The San Diego desert woodrat is considered a Federal Species of Concern, a Species of Special Concern under CDFG, and is on the Group 2 County of San Diego list. Given the relatively wide range of this woodrat species in San Diego County, this location does not represent a significant regional population.

Southern mule deer (*Odocoileus hemionus fuliginata*) – The southern mule deer is a large mammal species that occurs on the Group 2 list for the County of San Diego. A group of three mule deer were observed on-site in an open area adjacent to southern mixed chaparral. The riparian woodlands, coastal sage scrub, and southern mixed chaparral vegetation on-site provides habitat to support a small mule deer population, but overall presence of mule deer in the project area could be effected by human activities and their pets such as agricultural, residences, and domestic dogs.

1.4.6.2 Species with High Potential to Occur

Coast horned lizard (*Phrynosoma coronatum blainvillii*) – This horned lizard subspecies is considered a Federal Species of Concern, a Species of Special Concern by CDFG, and is on the Group 2 list for the County of San Diego. One individual of coast horned lizard was observed just off-site in the southwestern portion of the project site in an open area adjacent to southern mixed chaparral (see Figures 6a,b). This species has a high potential to occur on-site due to the proximity of the initial sighting to the site and the presence of suitable habitat in the project area. The habitat on-site is limited, and therefore likely does not support a significant regional population of this lizard species.

1.4.7 Wetlands/Jurisdictional Waters

A routine wetland delineation, following the guidelines set forth by USACE (1987, 2008), was performed to gather field data at potential jurisdictional waters in the survey area. The extent of USACE jurisdictional waters was delineated by the ordinary high water mark in addition to any adjacent wetland areas. State waters/wetlands and County RPO wetlands were also delineated. The extent of these wetlands was delineated by the lateral limits of the bed and bank in addition to the lateral limits of the riparian canopy. The results of the jurisdictional waters/wetland delineation conducted for the project is summarized below from the jurisdictional delineation report (Attachment 12).

Acres of jurisdictional waters for each of the different jurisdictions are provided in Table 3. Figures 7a,b, 8a,b, and 9a,b show the locations of the jurisdictional waters identified on-site for each agency jurisdiction.

TABLE 3
EXISTING JURISDICTIONAL WATERS WITHIN THE PROJECT SITE
(acres)

Jurisdictional Waters	Total
USACE Jurisdiction	
Non-wetland waters of the U.S.	4.69
Wetlands	13.44
USACE Total Jurisdiction	18.13
CDFG/RWQCB Jurisdiction ¹	
Streambed	4.18
State Wetlands (Riparian habitat)	39.35
CDFG Total Jurisdiction¹	43.52
County of San Diego RPO Wetlands	37.64

¹CDFG/RWQCB area of jurisdiction overlaps all USACE jurisdictional waters.

The dominant plant species found in the wetland habitats on-site are composed of willow species (black, arroyo, red, and narrow-leaved), cattail, mule fat, water cress, and wild grape. These species may occur in willow scrub vegetation or as components of the coast live oak riparian woodland habitat. Wildlife species commonly observed associated with the wetland areas include Cooper's hawk, yellow warbler (*Dendroica petechia*), yellow-breasted chat (*Icteria virens auricollis*), Anna's hummingbird (*Calypte anna*), lesser goldfinch (*Carduelis psaltria hesperophilus*), blue grosbeak (*Passerina caerulea salicaria*), raccoon, and Bewick's wren (*Thryomanes bewickii*).

The habitat quality of the coast live oak riparian woodlands, southern willow riparian woodlands, and willow scrub habitats in the project area are generally high to moderate depending on the proximity of the wetland to agricultural activities. Canopy cover of the coast live oak woodland and willow woodland/scrub vegetation is generally dense with only a few openings, which are often further covered with a layer of wild grape. Species diversity is high to moderate depending on the location and proximity to agricultural activities where edge effects can affect diversity. The major drainages containing the

majority of the wetland habitats on-site continue off-site and connect to similar habitats upstream, but especially downstream.

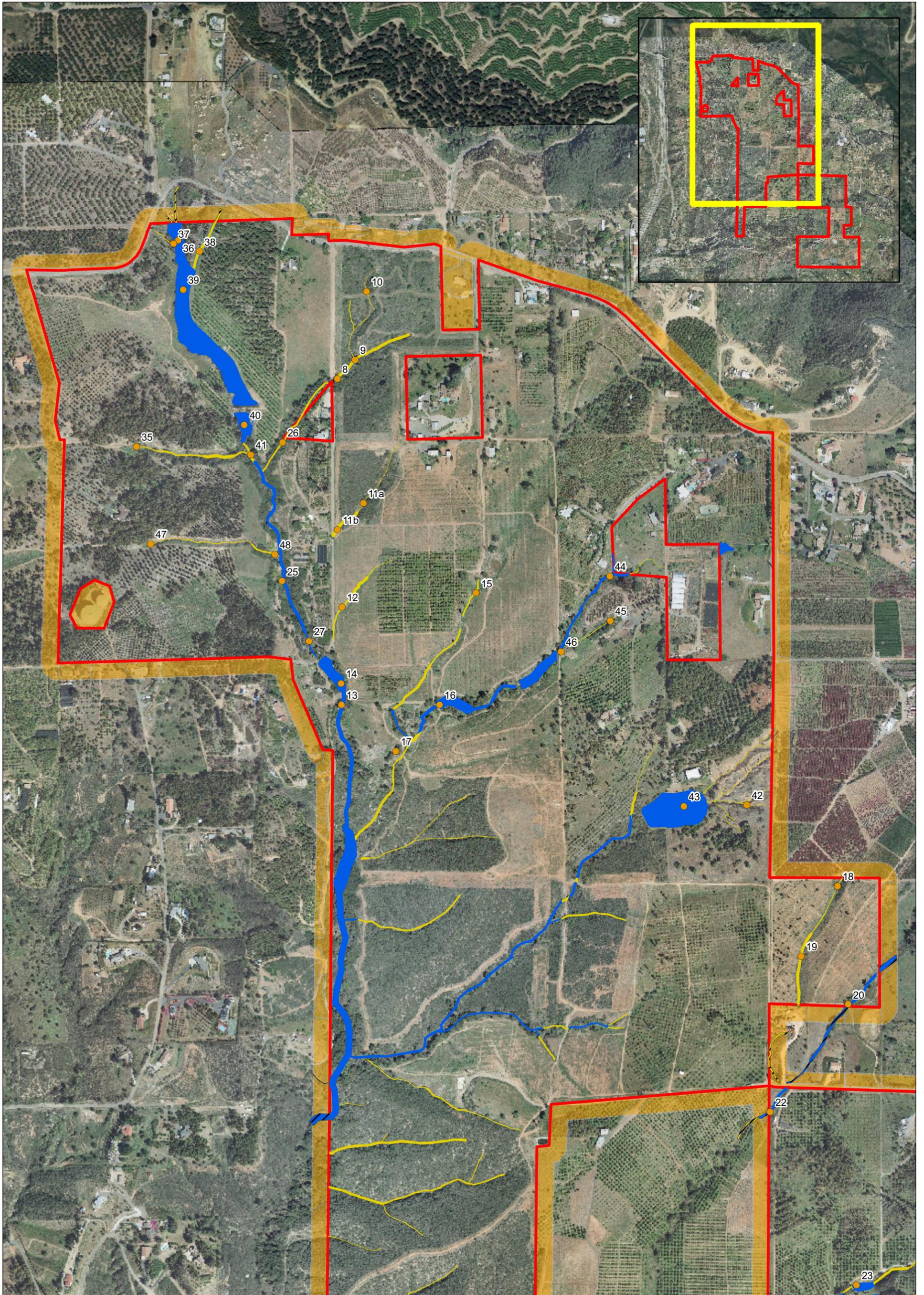
Portions of the wetlands identified in the project area are disturbed. Some wetland areas have been impacted by agricultural activities (i.e., clearing, edge effects, debris piles, etc.) that lower habitat quality. Other wetland areas have infestations of non-native species, in particular pampas grass, that effect species diversity and habitat quality in the understory. Overall, these disturbed areas are a relatively small acreage of the wetlands delineated on-site.

The wetlands in the project area are important locally because they provide vegetated areas that help protect the watershed. They also provide a water source for local wildlife species and habitat that has both species diversity and structure to support a variety of plants and animals. Regionally, these wetlands and associated drainage courses protect the downstream watershed of Moosa Creek and ultimately the San Luis Rey River by moderating erosion, sedimentation, and stream flows.

Wetland functions and values of the drainage courses in the project area are generally high in the relatively undisturbed areas and lower in disturbed wetlands or areas affected by agriculture. Downstream areas are relatively undisturbed with the exception of small developments and small agricultural operations. The drainages and associated habitat connect to Moosa Creek to the south and west of the project area. Moosa Creek then connects to the San Luis Rey River to the west of I-15. The on-site wetlands provide beneficial biophysical functions, as the smaller ephemeral and larger intermittent streams allow for groundwater recharge during dry times and discharge to downstream waterways during the wet season.

Flood control functions of the wetlands on-site are maintained, as the majority of them are densely vegetated with native riparian plant species which help to moderate flows, stabilize soils, trap sediment, and thus control erosion. Sediment from erosion of adjacent agricultural fields has built up in portions of the willow scrub wetlands in the southern portion of the site, but the dense vegetation has helped moderate the discharge of these sediments downstream. Portions of the smaller ephemeral drainages within agricultural fields or orchards have had their flows altered and may experience erosion that contributes to downstream sedimentation.

The dense vegetation of the majority of the wetland areas on-site can trap sediments that may contain toxics from adjacent land uses, thereby keeping them from discharging downstream. This same dense vegetation functions to uptake nutrients in these sediments and recycles them back through the deposition of litter and decomposition of the resultant organic matter, thereby maintaining a healthy nutrient cycle. The coast live oak riparian woodland and willow scrub vegetation also provide a varied structural habitat that can support a diverse assemblage of wildlife species with moderate abundances.

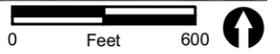
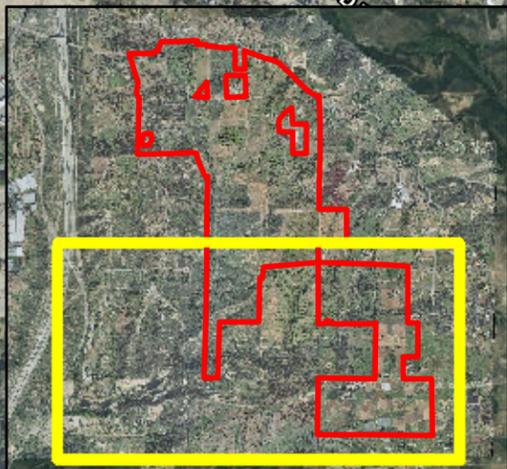
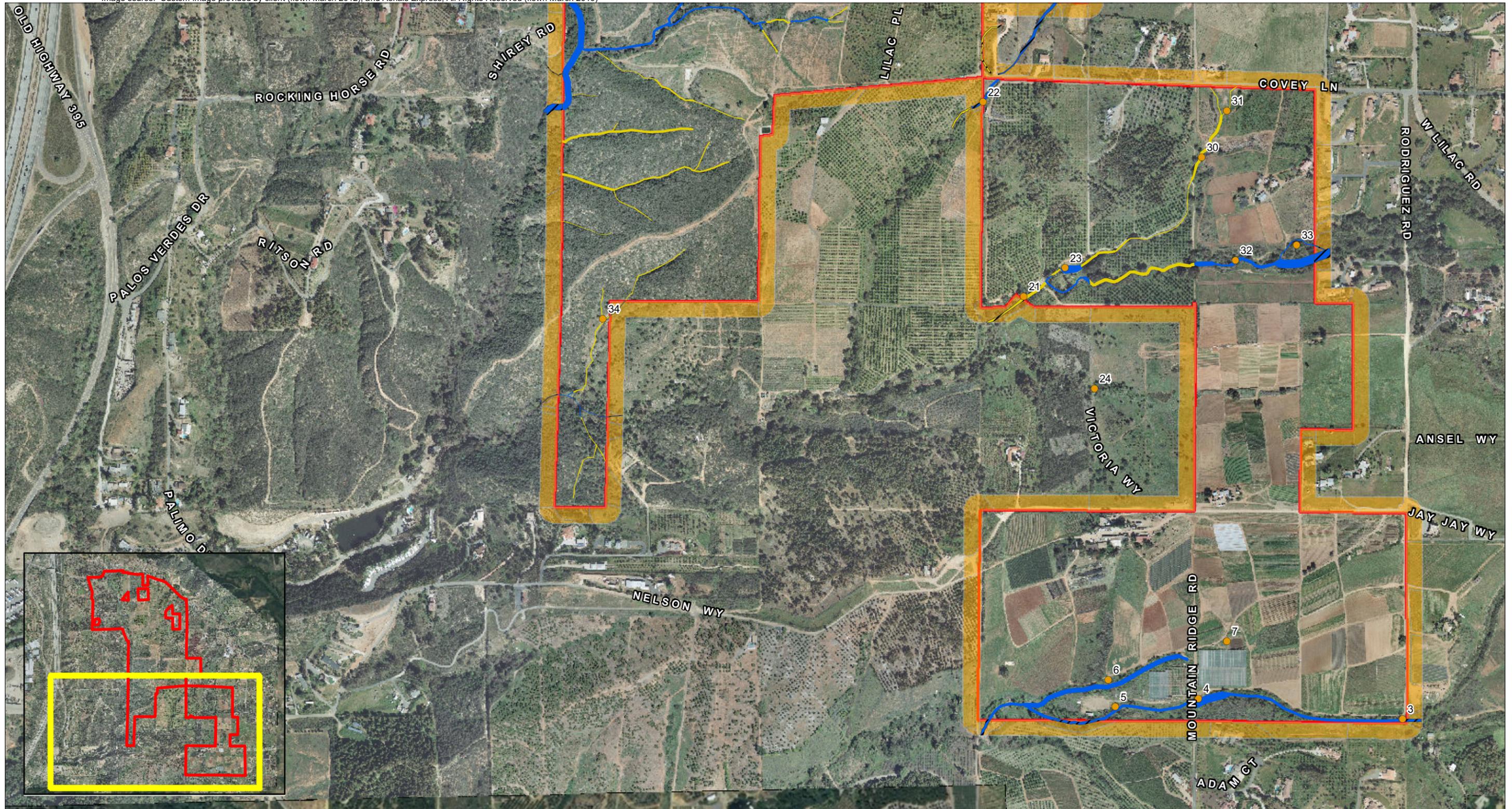


- Project Boundary
- 100-ft. Survey Buffer
- Delineation Sample Point
- Wetland
- Wetland (offsite)
- Non-wetland water
- Non-wetland water (off)

0 Feet 450

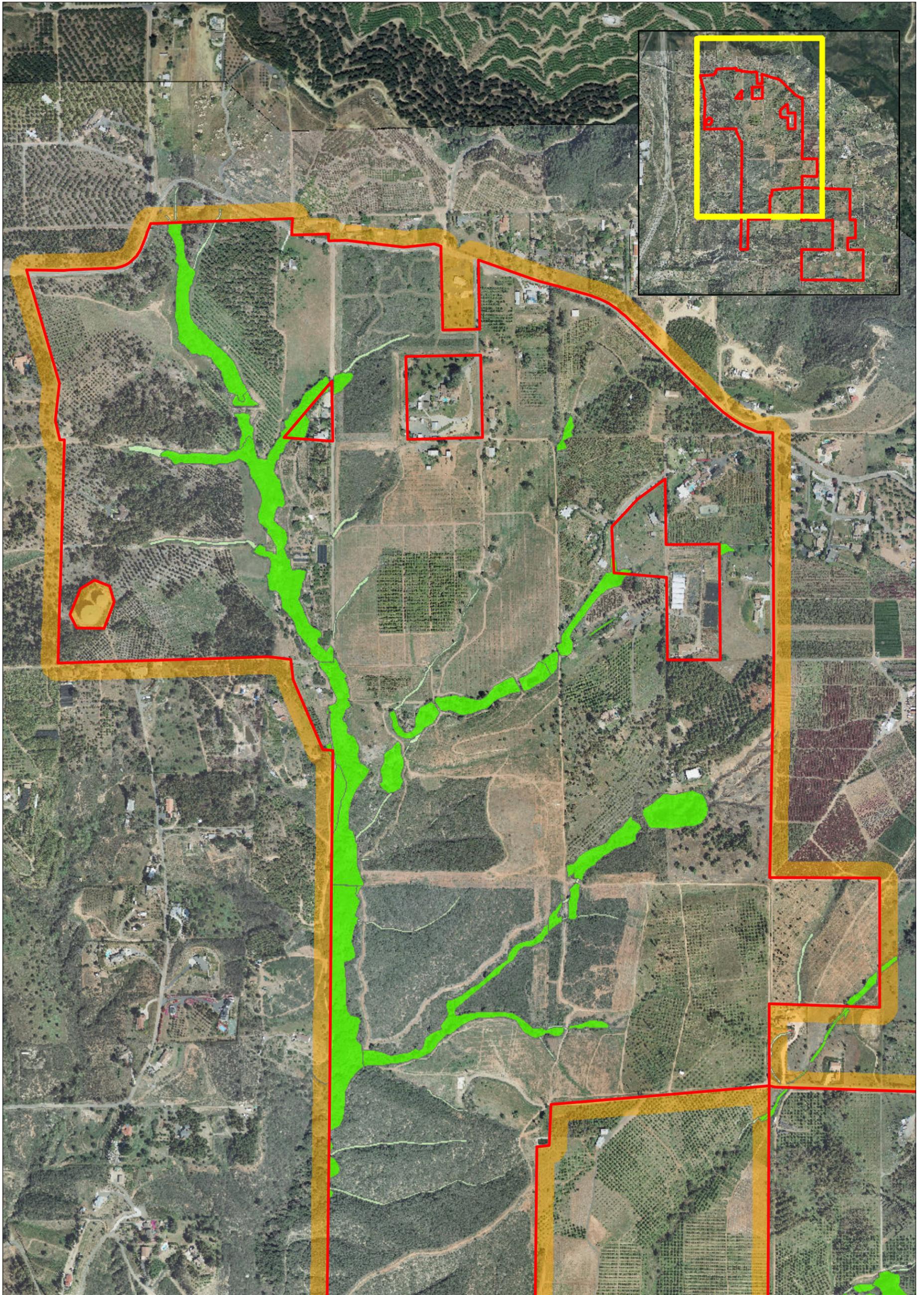
FIGURE 7a

Location of USACE Waters of the U.S.



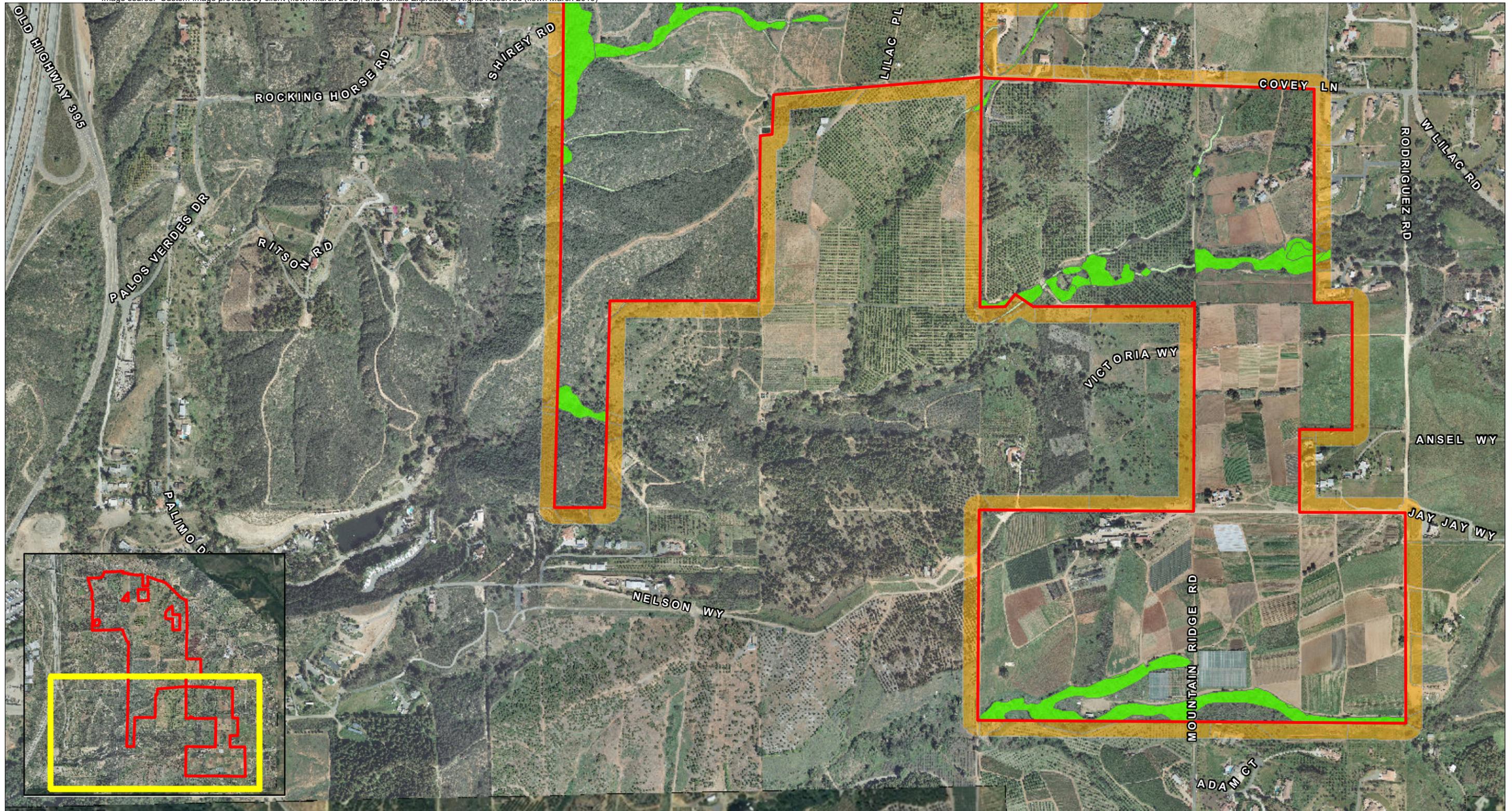
- Project Boundary
- 100-ft. Survey Buffer
- Delineation Sample Point
- Wetland
- Wetland (offsite)
- Non-wetland water
- Non-wetland water (off)

FIGURE 7b
Location of USACE Waters of the U.S.



- Project Boundary
- 100-ft. Survey Buffer
- Wetland
- Wetland - Off-site
- Streambed
- Streambed - Off-site

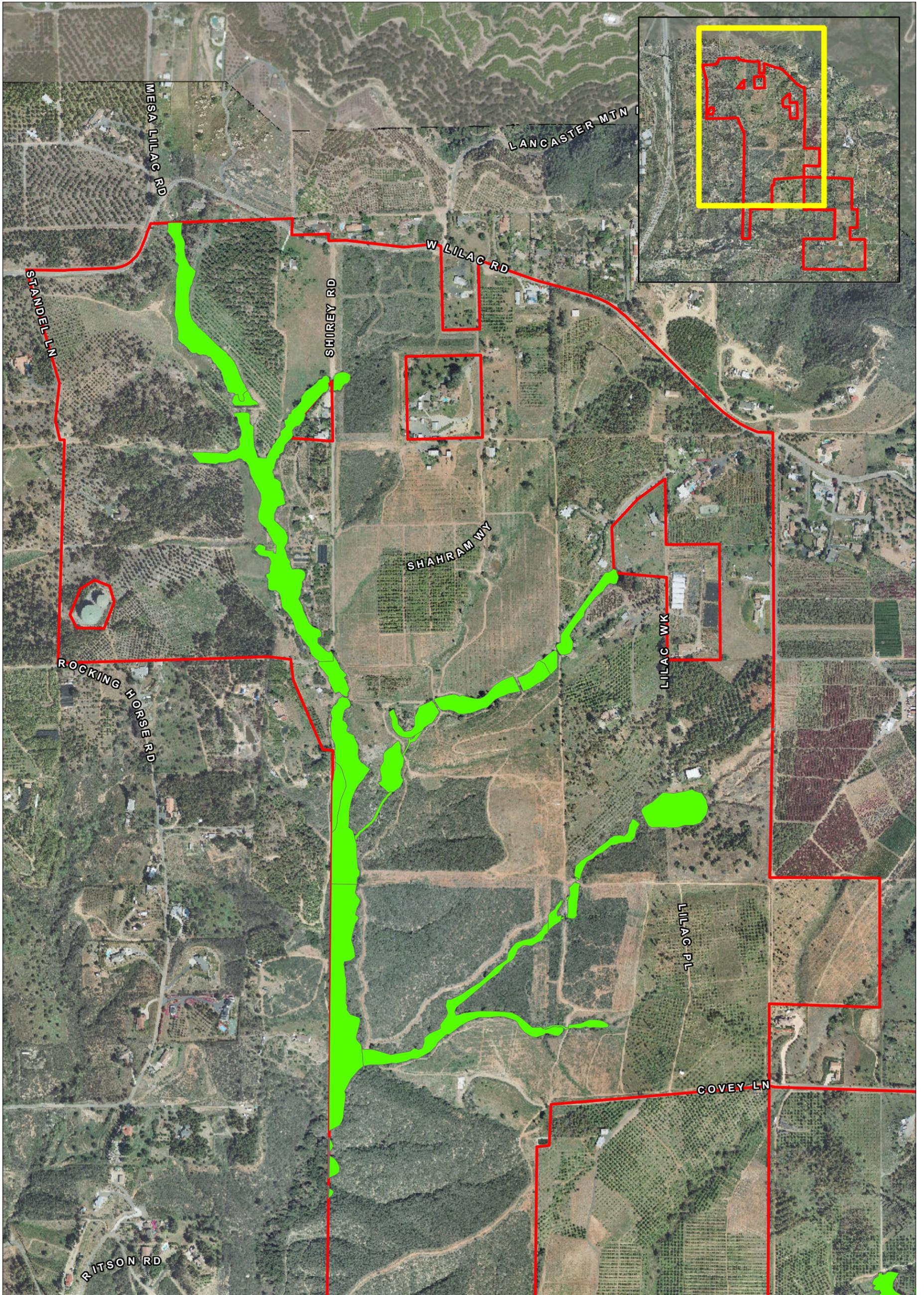
0 Feet 450



- Project Boundary
- 100-ft. Survey Buffer
- Wetland
- Wetland - Off-site
- Streambed
- Streambed - Off-site

0 Feet 600

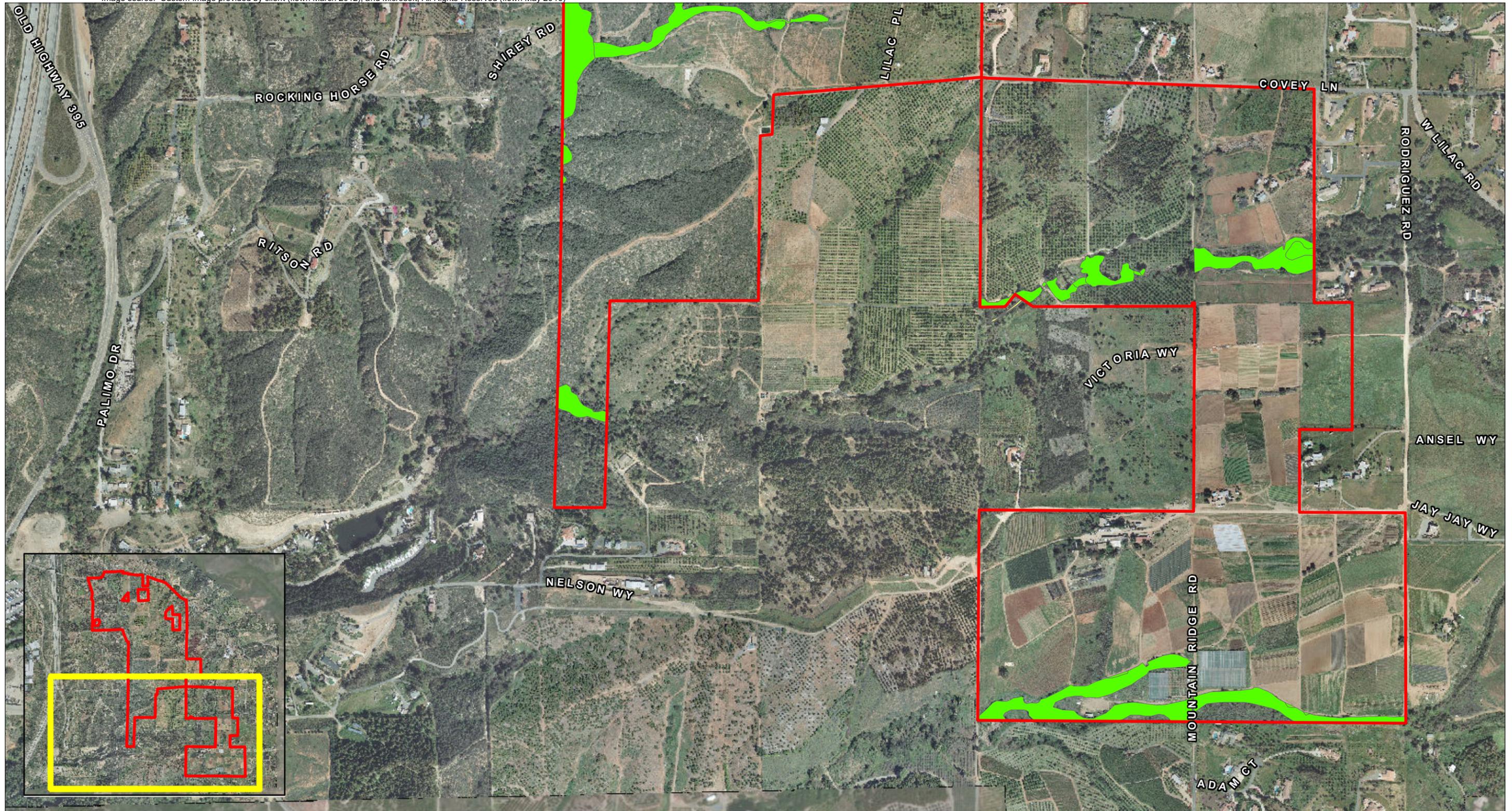
FIGURE 8b
Location of CDFG/RWQCB State Waters



-  Project Boundary
-  County RPO Wetland
-  County RPO Wetland - Off-site

FIGURE 9a

Location of County of San Diego RPO Wetlands



- Project Boundary
- County RPO Wetland
- County RPO Wetland - Off-site

1.4.8 Habitat Connectivity and Wildlife Corridors

This section of the report discusses existing habitat linkages between on-site and off-site lands. It also discusses existing local and regional wildlife corridors related to these habitat linkages.

1.4.8.1 Habitat Connectivity

Native habitat in the project area is located primarily along the western portion of the main project boundary and along the major drainage courses. Habitat connectivity to off-site lands to the east is confined mostly to drainage courses that have remnant patches of native riparian habitat (e.g., riparian woodlands and scrubs). The majority of the land to the east is in some state of agriculture or localized urban development. Native habitat in the northern portion of the project area occurs just south of habitat in Keys Canyon, which is identified as a regional habitat linkage in the draft North County MSCP. Small urban developments and agricultural lands separate on-site coastal sage scrub habitat from coastal sage scrub, mixed chaparral habitats, and riparian woodlands/scrubs in Keys Canyon. Habitat in the southern portion of the project area is north of the regional Moosa Canyon habitat linkage identified in the draft North County MSCP. On-site riparian scrub habitat is separated from habitat patches of coastal sage scrub, mixed chaparral, and riparian woodlands/scrubs to the south by local small urban developments and agricultural operations. Habitat connectivity to the west and southwest is linked through patches of coastal sage scrub, mixed chaparral, and riparian woodlands. Small localized urban developments and agricultural operations are interwoven between this connection and the regional Escondido-Temecula habitat linkage along the I-15 corridor identified in the draft North County MSCP.

Under the existing condition, the relatively large patches of southern mixed chaparral and southern coast live oak woodlands in the project area form a relatively large block of native vegetation between regional habitat linkages to the north, south, and west. These on-site habitat patches are suitable to support local populations of plant and wildlife species and may function as a “stepping stone” connection for wildlife that can migrate between the larger regional connections (see wildlife corridor discussion below).

1.4.8.2 Wildlife Corridors

The project area contains local east-west wildlife corridors primarily along the riparian woodlands and riparian scrubs in the major drainage courses. The relatively large patch of southern mixed chaparral and riparian woodlands on the western portion of the main project area provides dense cover for a local north-south wildlife corridor through the site. The rolling hills and steep-sided drainage courses allow for movement of birds and mammal species between the more open agricultural lands. Wildlife corridors along drainage courses range in width from approximately 100+ feet to less than 50 feet on the

more narrow drainages. The north-south wildlife corridor through existing native habitat extends for approximately 7,500+ feet in length, while the four primary east-west wildlife corridors along smaller drainage courses are each approximately 2,300 feet in length.

The above-mentioned corridors are composed of a gentle sloping valley in the southern portion of the site and rolling hills with ridges of various steepness and drainage courses, both shallow and deeper, throughout the remainder of the site. Wildlife species that could use these corridors are likely birds that move up and down the riparian woodlands/scrubs of the drainages, and larger mammals, such as mule deer, coyote, rabbits, etc. Scattered localized developments and agricultural fields and orchards affect the width of the native habitats within these corridors and may deter regular usage by certain mammal species.

The local wildlife corridors identified on-site are not recognized as important regional linkages in the draft North County MSCP. These local wildlife corridors could provide secondary corridor connections between the identified regional linkages to the north (Keys Canyon), south (Moosa Creek), and west (I-15 Escondido – Temecula), primarily along the larger drainage courses.

1.5 Applicable Regulations

Biological resources are subject to regulatory oversight at three levels: federal, state, and local (County of San Diego).

1.5.1 Federal Regulations

Endangered Species Act – The federal Endangered Species Act provides the legal framework for the listing and protection of species (and their habitats) identified as being endangered or threatened with extinction. Actions that jeopardize endangered or threatened species and the habitats upon which they rely are considered a ‘take’ under the Endangered Species Act. Take of a federally listed threatened or endangered species is prohibited without a special permit. The Endangered Species Act allows for take of a threatened or endangered species incidental to development activities once a habitat conservation plan has been prepared to the satisfaction of the USFWS and an incidental take permit has been issued. The Endangered Species Act also allows for the take of threatened or endangered species after consultation has deemed that development activities will not jeopardize the continued existence of the species. The federal Endangered Species Act also provides for a Section 7 Consultation when a federal permit is required, such as a Clean Water Act Section 404 permit.

“Critical Habitat” is a term within the federal Endangered Species Act designed to guide actions by federal agencies (as opposed to state, local, or other agency actions) and defined as “an area occupied by a species listed as threatened or endangered within

which are found physical or geographical features essential to the conservation of the species, or an area not currently occupied by the species which is itself essential to the conservation of the species.”

Section 404 Clean Water Act Regulations – The Clean Water Act provides wetland regulation at the federal level and is administered by the USACE. The purpose of the Clean Water Act is to restore and maintain the chemical, physical, and biological integrity of all waters of the U.S. Permitting is required for filling waters of the U.S. (including wetlands). Permits may be issued on an individual basis, or may be covered under approved nationwide permits.

Migratory Bird Treaty Act – All migratory bird species that are native to the U.S. or its territories are protected under the federal Migratory Bird Treaty Act, as amended under the Migratory Bird Treaty Reform Act of 2004. The Migratory Bird Treaty Act is generally protective of migratory birds.

1.5.2 State of California

California Environmental Quality Act – CEQA requires that biological resources be considered when assessing the environmental impacts that are the result of proposed actions. The lead agencies determine the scope of what is considered an impact and what constitutes an “adverse effect” on a biological resource.

California Fish and Game Code – The California Fish and Game Code regulates the taking or possession of birds, mammals, fish, amphibians, and reptiles, as well as natural resources such as wetlands and waters of the state. It includes the California Endangered Species Act, Streambed Alteration Agreement regulations, and California Native Plant Protection Act.

California Endangered Species Act – The California Endangered Species Act, similar to the federal Endangered Species Act, contains a process for listing of species and regulating potential impacts to listed species. State threatened and endangered species include both plants and wildlife, but do not include invertebrates. The designation “rare species” applies only to California native plants. State threatened and endangered plant species are regulated largely under the Native Plant Preservation Act in conjunction with the California Endangered Species Act. State threatened and endangered animal species are legally protected against “take.” The California Endangered Species Act authorizes CDFG to enter into a memorandum of agreement for take of listed species to issue an incidental take permit for a state-listed threatened and endangered species only if specific criteria are met.

Streambed Alteration Agreement Regulations – The California Fish and Game Code (Sections 1600 through 1603) requires a Streambed Alteration Agreement with CDFG for projects affecting riparian, wetland habitats, and all other waters of the state.

California Native Plant Protection Act – Section 1900-1913 of the California Fish and Game Code contains the regulations of the Native Plant Protection Act of 1977. The intent of this act is to help conserve and protect rare and endangered plants in the state.

Regional Water Quality Control Board – The RWQCB not only regulates impacts to water quality in waters of the U.S. under Section 401 of the Clean Water Act, but also regulates the isolated waters that are impacted under the state Porter Cologne Act utilizing a Waste Discharge Requirement. Discharge of fill material into waters of the State not subject to the jurisdiction of the USACE pursuant to Section 404 of the Clean Water Act may require authorization pursuant to the Porter Cologne Act through application for waste discharge requirements or through waiver of waste discharge requirements, despite the lack of a clear regulatory imperative.

Natural Community Conservation Planning (NCCP) Act of 1991 – The NCCP Act is designed to conserve natural communities at the ecosystem scale while accommodating compatible land use. CDFG is the primary state agency that implements the NCCP. The NCCP plan provides for the comprehensive management and conservation of multiple wildlife species. It identifies and provides for regional protection of natural wildlife diversity while allowing for compatible and appropriate development and growth.

California Oak Woodland Conservation Act – This act established the Oak Woodland Conservation Program, administered by the Wildlife Conservation Board, to help local jurisdictions protect and enhance their oak woodland resources. It offers landowners, conservation groups, and cities/counties an opportunity to obtain funding for projects designed to conserve and restore California's oak woodlands.

1.5.3 County of San Diego

San Diego County General Plan – Chapter 5 Conservation and Open Space Element – The Open Space Element and Conservation Element of the General Plan provides guiding principles for the conservation of biological resources. The Open Space element outlines the goals and policies pertaining to each type of open space. The Conservation Element addresses County policies relating to water, vegetation, and wildlife habitat. This element also outlines the County's Resource Conservation Areas, and when a site is located within a mapped Resource Conservation Area, the project must comply with the relevant policies for the Resource Conservation Area.

Multiple Species Conservation Program and Biological Mitigation Ordinance – As part of the implementation of the NCCP, the County, along with other local agencies, is in the process of preparing MSCPs. The goal of the MSCP is to maintain and enhance biological diversity in the region and maintain viable populations of endangered, threatened, and key sensitive species and their habitats while promoting regional economic viability through streamlining the land use permit process.

The County is currently in the process of creating a MSCP Plan for the unincorporated areas of northern San Diego County. This plan, if adopted, will be regulated by the Biological Mitigation Ordinance (BMO), which outlines the specific criteria (i.e., project design, impact allowances, mitigation requirements) for projects within an MSCP boundary. The BMO would only be applicable if the North County MSCP is adopted.

The MSCP generally does not designate an exact preserve boundary, but instead designates large PAMAs within which conservation efforts are to be concentrated and a preserve will be assembled. The MSCP generally provides incentives for development to occur outside of a PAMA. The proposed Lilac Hills Ranch project would be outside of any PAMA as designated in the draft North County MSCP.

A hardline is a designation that has been agreed upon between landowners, the wildlife agencies, and the County. In such areas, preservation and development area decisions are made during MSCP development with respect to the location of open space and development.

Resource Protection Ordinance – The RPO limits impacts to several sensitive natural resources found throughout San Diego County. These sensitive resources include wetlands, wetland buffers, floodplains, steep slopes, sensitive habitat lands, and prehistoric and historic sites. Under the RPO, impacts to wetlands are restricted and a wetland buffer is required where development is adjacent to wetland areas. In addition, encroachment into RPO steep slopes lands (25 percent or greater grade for 50 or more feet) must be minimized. RPO also limits impacts to sensitive habitat lands, which include unique vegetation communities and/or the habitat that is either necessary to support a viable population of sensitive species, is critical to the proper functioning of a balanced natural ecosystem, or which serves as a functioning wildlife corridor.

Habitat Loss Permit Ordinance - The County regulates coastal sage scrub habitat loss through the Habitat Loss Permit (HLP) Ordinance. An HLP is a process that enables the County of San Diego to issue "take" permits for the federally listed coastal California gnatcatcher, as allowed through the federal Endangered Species Act. An HLP application must be filed with the County, and approval requires concurrence from USFWS and CDFG. Approval is based on Findings made pursuant to the County's HLP Ordinance (County of San Diego 1995) as required by the NCCP Process Guidelines. Until the North County MSCP is approved, the HLP is required for all coastal sage scrub impacts, whether or not the coastal California gnatcatcher occupies the habitat. An HLP also requires a mitigation plan for impacts to coastal sage scrub and disturbed coastal sage scrub.

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2.0 Project Effects

This section of the report discusses the direct and indirect impacts to biological resources from the proposed project. Direct impacts are those incurred during the construction of the project that result in the loss of biological resources (e.g., vegetation clearing, fuel modification, staging areas). Indirect impacts are those incurred both during construction (i.e., noise) and post-construction (i.e., edge effects due to noise, lighting, drainage, etc.). Impacts to habitats and vegetation communities, jurisdictional waters including wetlands, sensitive plant and wildlife species, and wildlife corridors, linkages, and nursery sites are discussed separately below.

2.1 Impacts to Habitats and Vegetation Communities

The proposed project would impact habitats and vegetation communities over much of the project area and within portions of the off-site improvement areas. Acreages for direct impacts to habitats and vegetation communities are summarized in Table 4, and impact locations are shown on Figures 10a-c. A determination of the significance of these impacts is discussed below in Sections 4.1 and 4.2, and mitigation measures are discussed in Section 4.4.

The majority of the proposed trails would be located in the development area except where they cross the biological open space (Attachment 13). Trails that cross into the biological open space areas all occur on existing dirt roads or foot trails and would not result in any additional impacts to vegetation. Where trails cross drainages in open space, the dirt road would be left as is and at grade. Therefore, no additional impacts to wetlands would occur from trails. Proposed sewer lines and associated pump stations would be located outside of the biological open space (see Figures 10a-c). Where sewer lines must cross the biological open space, they will be placed where future roads will be built; therefore, no additional impacts to vegetation or wetlands are anticipated. Temporary fencing shall be installed where the proposed sewer line crosses biological open space to ensure that impacts are confined to the future road footprint. A pre-construction meeting shall be held to educate contractors on the sensitivity and work limits associated with the crossings of biological open space areas. A biologist shall monitor all construction activities of the sewer line where the line will cross biological open space.

In Phase 1, a section of sewer line will cross the biological open space where there is no proposed road crossing. However, this line would be associated with a pedestrian bridge and hung from the bridge so no additional impacts to wetlands or vegetation would occur at this location.

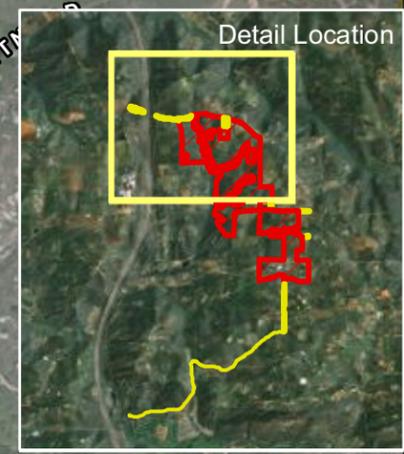
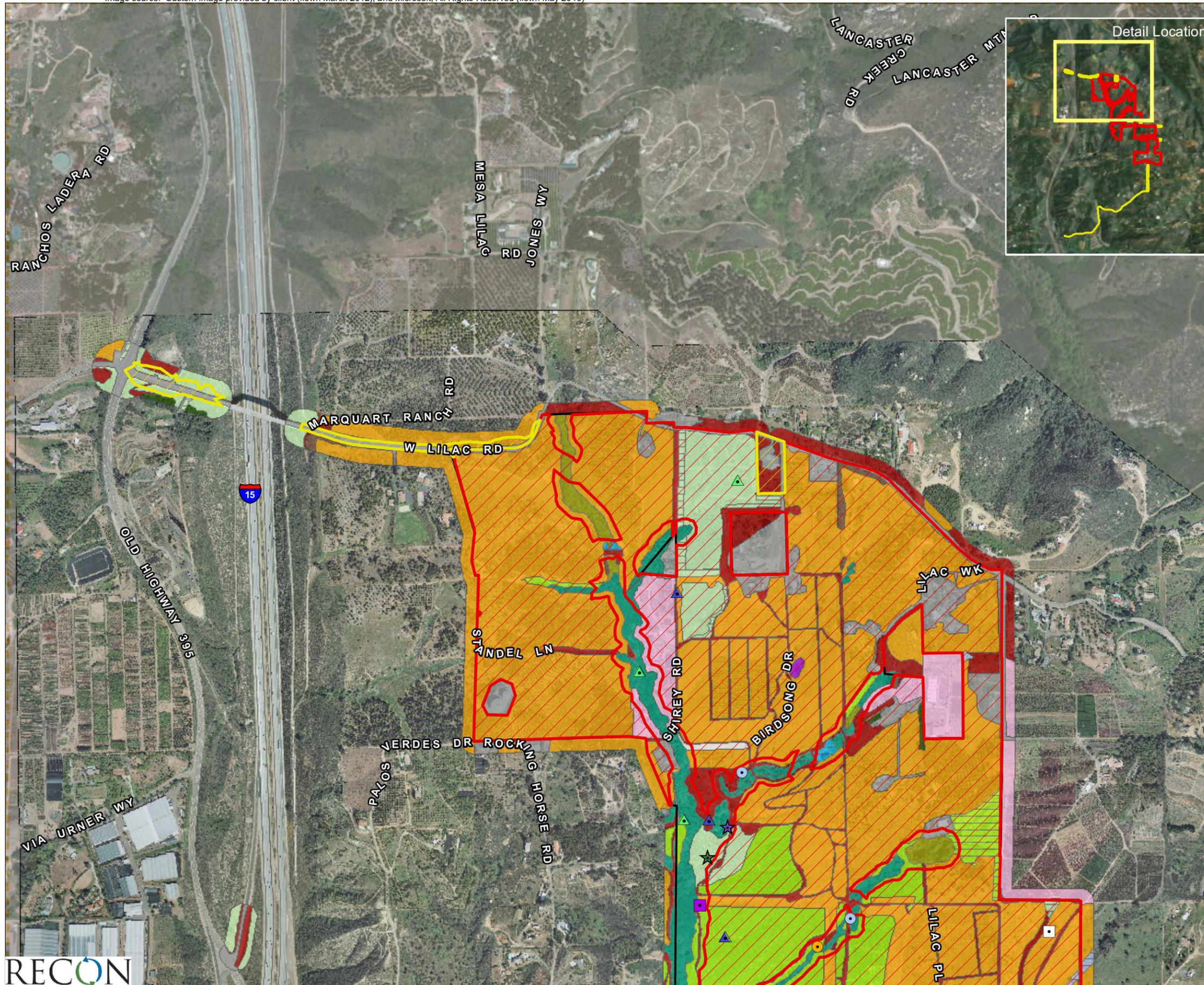
The proposed project would be constructed in five phases. Impacts to habitats and vegetation communities would occur in increments depending on the area of the particular phase of development (Table 5). The dedication of biological open space areas would also be phased (see Section 8 Summary of Project Impacts and Mitigation). Direct and indirect impacts associated with construction would be restricted to within the particular phase boundary at the time of development.

2.2 Impacts to Jurisdictional Waters/Wetlands

The proposed project would impact jurisdictional waters, including wetlands, across the site. Jurisdictional waters and wetlands covered under the authority of the USACE (waters of the U.S.), CDFG (waters of the state), RWQCB (waters of the state), and County of San Diego (RPO wetlands) would be impacted. Acreages for direct impacts to jurisdictional waters, including wetlands, are summarized by jurisdiction in Table 6.

**TABLE 4
SUMMARY OF DIRECT IMPACTS TO HABITATS AND VEGETATION COMMUNITIES**

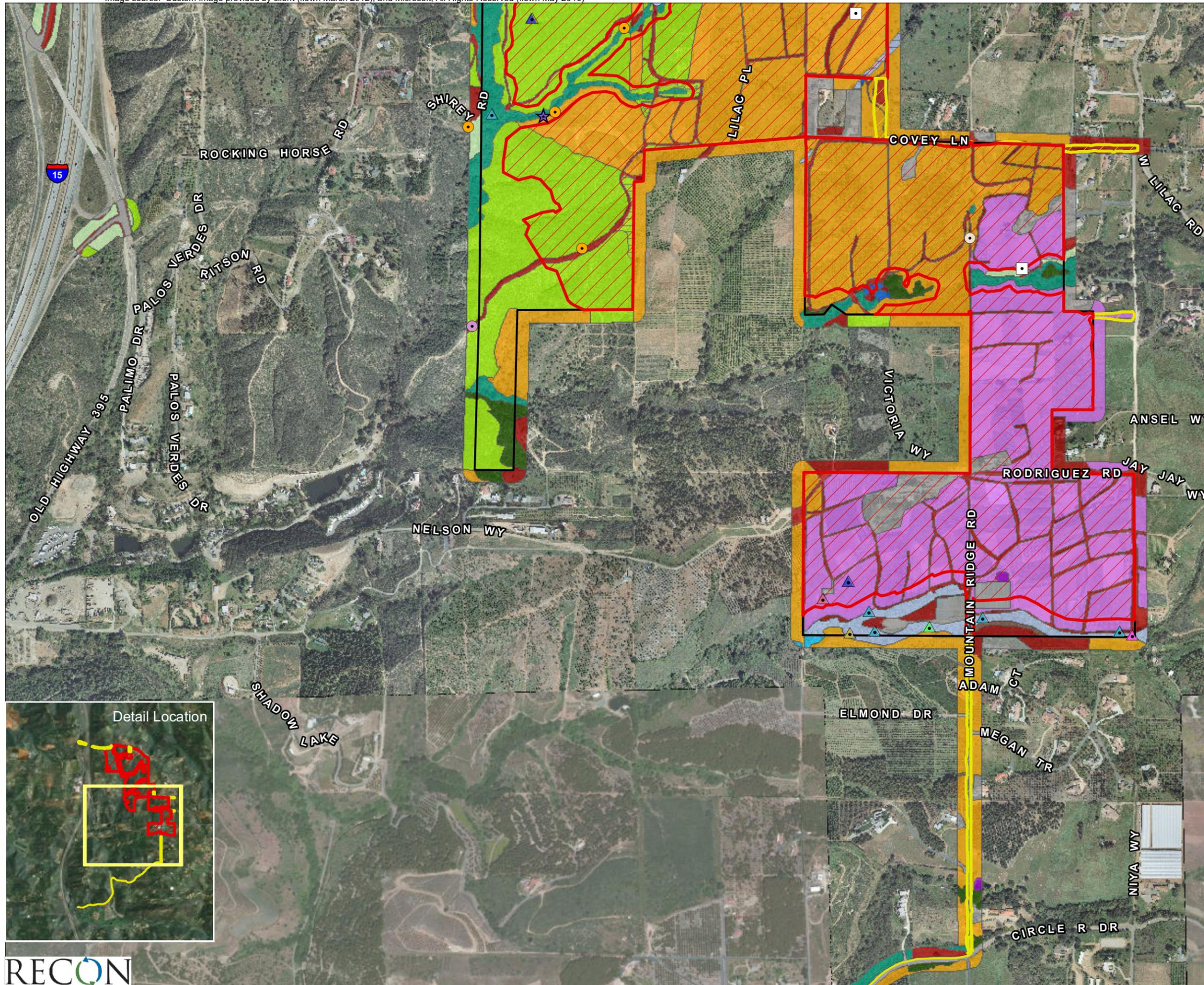
Habitat/Vegetation Community	Existing (acres)	Impacts (acres)	Off-site Impacts (acres)
Coast live oak woodland	3.6	0.3	0
Coastal sage scrub	19.6	17	0.1
Disturbed coastal sage scrub	2.9	2.6	0
Disturbed coastal/valley freshwater marsh	0.6	0.1	0
Eucalyptus woodland	1.7	1.0	0
Southern coast live oak riparian woodland	22.5	1.1	0
Disturbed southern coast live oak riparian woodland	1.9	0.5	0
Southern mixed chaparral	75.4	49.4	0
Disturbed southern mixed chaparral	6.0	4.9	0
Southern willow riparian woodland	4.7	0.5	0
Southern willow scrub	6.1	0.3	0
Disturbed southern willow scrub	0.3	0.3	0
Mule fat scrub	0.1	0.1	0
Open water – fresh water	0.5	0.5	0
Disturbed wetland	0.4	0.1	0
Extensive agriculture – row crops	90.5	85	0
Intensive agriculture – nursery	9.2	6.7	0
Vineyard	0.7	0.6	0
Orchard	291.9	276.8	1.2
Disturbed habitat	44.0	34.8	2.4
Developed	25.7	22.8	21.1
TOTAL	608.3	505.4	24.8



- Project Boundary
 - Project Impacts
 - Off-site Improvement Areas
- Vegetation Communities and Landcover Type**
- Coastal Sage Scrub (32520)
 - Disturbed Coastal Sage Scrub (32520)
 - Coast Live Oak Woodland (71160)
 - Disturbed Coastal/Valley Freshwater Marsh (52410)
 - Eucalyptus Woodland (79100)
 - Mule Fat Scrub (63310)
 - Southern Coast Live Oak Riparian Woodland (61310)
 - Disturbed Southern Coast Live Oak Riparian Woodland (61310)
 - Southern Mixed Chaparral (37120)
 - Disturbed Southern Mixed Chaparral (37120)
 - Southern Willow Riparian Woodland (62500)
 - Southern Willow Scrub (63320)
 - Disturbed Southern Willow Scrub (63320)
 - Open Water - Fresh water Agriculture pond (64140)
 - Intensive Agriculture - Nursery (18200)
 - Orchard (18100)
 - Vinyard (18100)
 - Disturbed Habitat (11300)
 - Developed (12000)
- Sensitive Species Observations**
- Birds**
- Cooper's Hawk
 - Turkey Vulture
- Reptiles**
- Orange-throated Whiptail
 - Red Diamond Rattlesnake
- Mammals**
- Southern Mule Deer
 - San Diego Blacktailed Jackrabbit
- Plants**
- Spiny Rush
 - Engelmann Oak



FIGURE 10a
Impacts to Vegetation Communities/Land Cover Types and Sensitive Species Locations



Project Boundary
 [Black outline]
Project Impacts
 [Red hatched]
Off-site Improvement Areas
 [Yellow hatched]

Vegetation Communities and Landcover Type

- [Light Green] Coastal Sage Scrub (32520)
- [Green with horizontal lines] Disturbed Coastal Sage Scrub (32520)
- [Dark Green] Coast Live Oak Woodland (71160)
- [Light Blue] Coastal/Valley Freshwater Marsh (52410)
- [Blue] Disturbed Wetland (11200)
- [Brown] Eucalyptus Woodland (79100)
- [Teal] Southern Coast Live Oak Riparian Woodland (61310)
- [Dark Teal] Disturbed Southern Coast Live Oak Riparian Woodland (61310)
- [Light Green with diagonal lines] Southern Mixed Chaparral (37120)
- [Green with horizontal lines] Disturbed Southern Mixed Chaparral (37120)
- [Light Blue with diagonal lines] Southern Willow Scrub (63320)
- [Blue with horizontal lines] Disturbed Southern Willow Scrub (63320)
- [Purple] Open Water - Fresh water Agriculture pond (64140)
- [Pink] Extensive Agriculture - Row Crops (18320)
- [Orange] Orchard (18100)
- [Red] Disturbed Habitat (11300)
- [Grey] Developed (12000)

Sensitive Species Observations

Birds

- [Red triangle] Western Bluebird
- [Green triangle] Cooper's Hawk
- [Blue triangle] Yellow-breasted Chat
- [Dark Blue triangle] Turkey Vulture
- [Yellow triangle] White-tailed Kite
- [Pink triangle] Yellow Warbler

Reptiles

- [Orange circle] Orange-throated Whiptail
- [Blue circle] Red Diamond Rattlesnake
- [Purple circle] Coast Horned Lizard
- [Grey circle] Coastal Western Whiptail

Mammals

- [White square] San Diego Blacktailed Jackrabbit

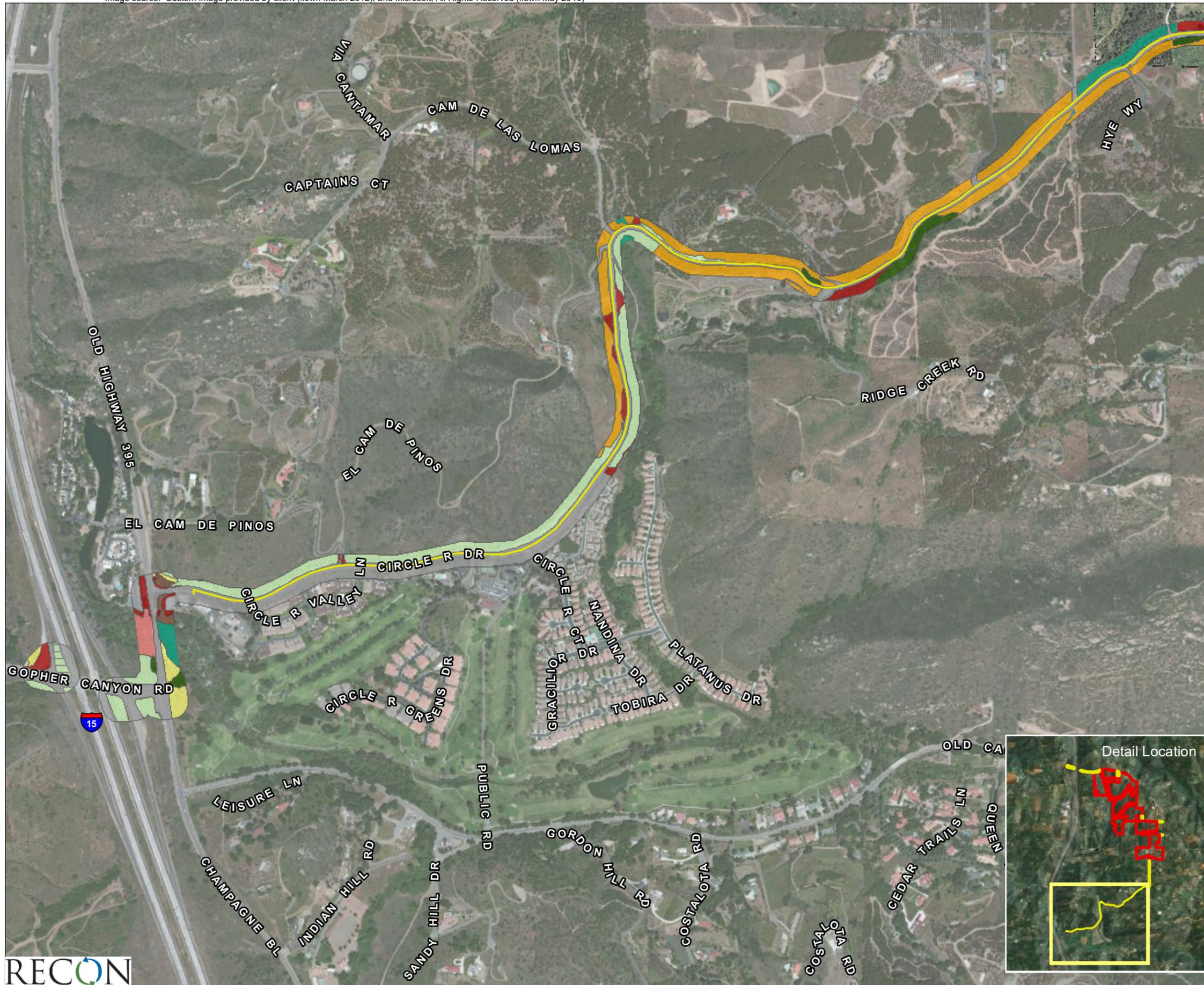
Plants

- [Star] Engelmann Oak

0 Feet 800

FIGURE 10b

Impacts to Vegetation Communities/Land Cover Types and Sensitive Species Locations



- Off-site Sewer
- Vegetation Communities and Landcover Type**
- Coastal Sage Scrub (32520)
- Disturbed Coastal Sage Scrub (32520)
- Coast Live Oak Woodland (71160)
- Disturbed Coastal/Valley Freshwater Marsh (52410)
- Eucalyptus Woodland (79100)
- Non-native Grassland (42200)
- Southern Coast Live Oak Riparian Woodland (61310)
- Southern Sycamore Riparian Woodland (62400)
- Orchard (18100)
- Disturbed Habitat (11300)
- Developed (12000)

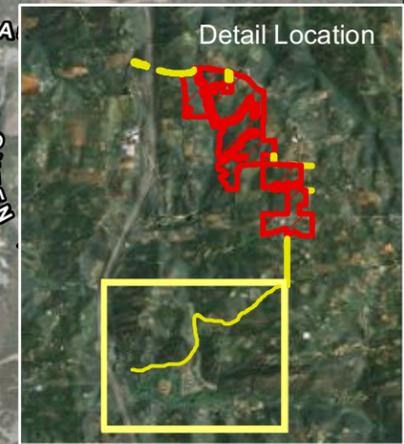


FIGURE 10c
 Impacts to Vegetation Communities/Land Cover Types and Sensitive Species Locations

TABLE 5
SUMMARY OF ON-SITE DIRECT IMPACTS TO HABITATS AND VEGETATION COMMUNITIES BY PROJECT PHASE

Habitat/Vegetation Community	Existing (acres)	Phase 1 Impacts (acres)	Phase 2 Impacts (acres)	Phase 3 Impacts (acres)	Phase 4 Impacts (acres)	Phase 5 Impacts (acres)	Total Impacts (acres)
Coast live oak woodland	3.6	0	0	0.3	0	0	0.3
Coastal sage scrub	19.6	8.6	5.7	2.7	0	0	17
Disturbed coastal sage scrub	2.9	1.2	1.1	0.3	0	0	2.6
Disturbed coastal/valley freshwater marsh	0.6	0.1	0	0	0	0	0.1
Eucalyptus woodland	1.7	1.0	0	0	0	0	1
Southern coast live oak riparian woodland	22.5	0.5	0.2	0.3	0.1	0	1.1
Disturbed southern coast live oak riparian woodland	1.9	0	0	0.5	0	0	0.5
Southern mixed chaparral	75.4	0.5	0	48.9	0	0	49.4
Disturbed southern mixed chaparral	6.0	0	0	4.9	0	0	4.9
Southern willow riparian woodland	4.7	0.5	0	0	0	0	0.5
Southern willow scrub	6.1	0	0	0.1	0	0.2	0.3
Disturbed southern willow scrub	0.3	0	0	0.2	0.1	0	0.3
Mule fat scrub	0.1	0	0	0.1	0	0	0.1
Open water – fresh water	0.5	0	0.3	0	0	0.2	0.5
Disturbed wetland	0.4	0	0	0	0.1	0	0.1
Extensive agriculture – row crops	90.5	0	0	0	7.4	77.6	85
Intensive agriculture – nursery	9.2	1.4	4.6	0.7	0	0	6.7
Vineyard	0.7	0	0.6	0	0	0	0.6
Orchard	291.9	87.8	50.7	94.4	40.8	3.1	276.8
Disturbed habitat	44.0	2.2	6.5	14.1	3.4	8.6	34.8
Developed	25.7	4.8	2.7	7.4	1.5	6.4	22.8
TOTAL	608.3	108.6	72.4	174.9	53.4	96.1	505.4

**TABLE 6
SUMMARY OF DIRECT IMPACTS TO
JURISDICTIONAL WATERS WITHIN THE PROJECT AREA
(acres)**

Jurisdictional Waters	Existing (acres)	Impacts (acres)	Offsite Impacts (acres)
USACE Jurisdiction			
Non-wetland waters of the U.S.	4.69	2.92	
Wetlands	13.44	1.30	0
USACE Total Jurisdiction	18.13	4.22	0
CDFG/RWQCB Jurisdiction			
Streambed	4.18	3.1	
State Wetlands (Riparian habitat)	39.35	3.45	0
CDFG Total Jurisdiction¹	43.52	6.55	0
County of San Diego RPO Wetlands	37.64	2.23	0

Locations of impacts to jurisdictional waters and wetland on-site are shown on Figures 11a–d. A determination of the significance of these impacts is discussed in Section 5.1 and 5.2, and mitigation requirements in Section 5.4.

Impacts to RPO wetlands on-site would result from seven road crossings. An analysis of the required findings to allow crossings of RPO wetlands was prepared for the on-site crossing impact locations (Attachment 14). This analysis concludes that the proposed crossings meet the findings necessary to allow the impacts through impact avoidance and minimization by placing the proposed crossings where RPO wetlands are narrow, disturbed, and at existing roads. Further, the findings show that there is the potential to eliminate crossings of RPO wetlands from future adjacent development projects, and that the impacts to RPO wetlands will be mitigated per County requirements.

2.3 Impacts to Sensitive Species

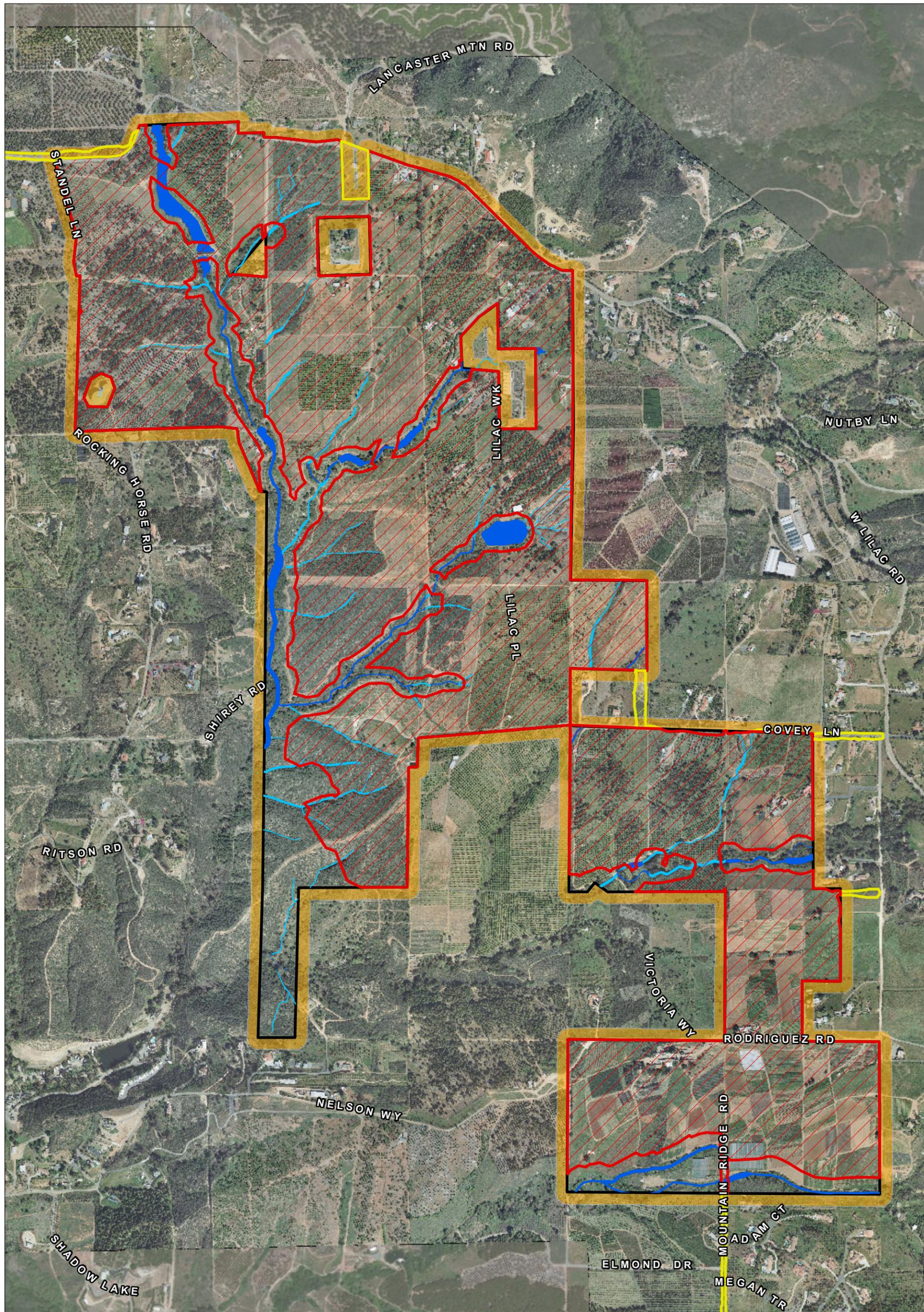
This section discusses the direct and indirect impacts the proposed project would have on sensitive species present on-site. Impacts to sensitive plants and sensitive wildlife are discussed separately below.

2.3.1 Impacts to Sensitive Plants

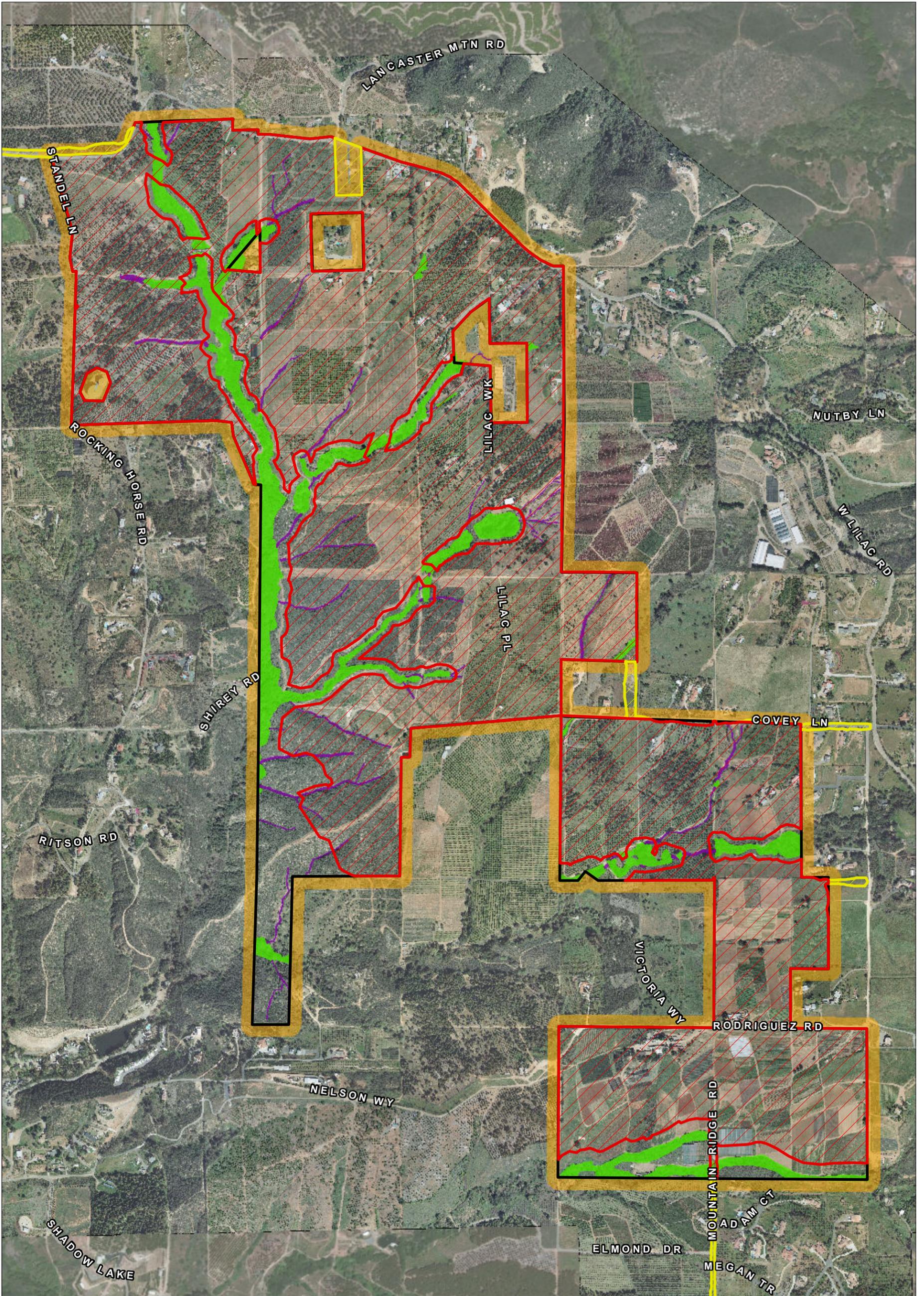
The proposed project could impact an estimated 100 individuals of prostrate spineflower.

2.3.2 Impacts to Sensitive Wildlife

Direct impacts to southern mixed chaparral, coastal sage scrub, southern coast live oak riparian woodland, southern willow riparian woodland/scrub and agricultural lands would reduce habitat for the following sensitive wildlife species: reptiles—red diamond

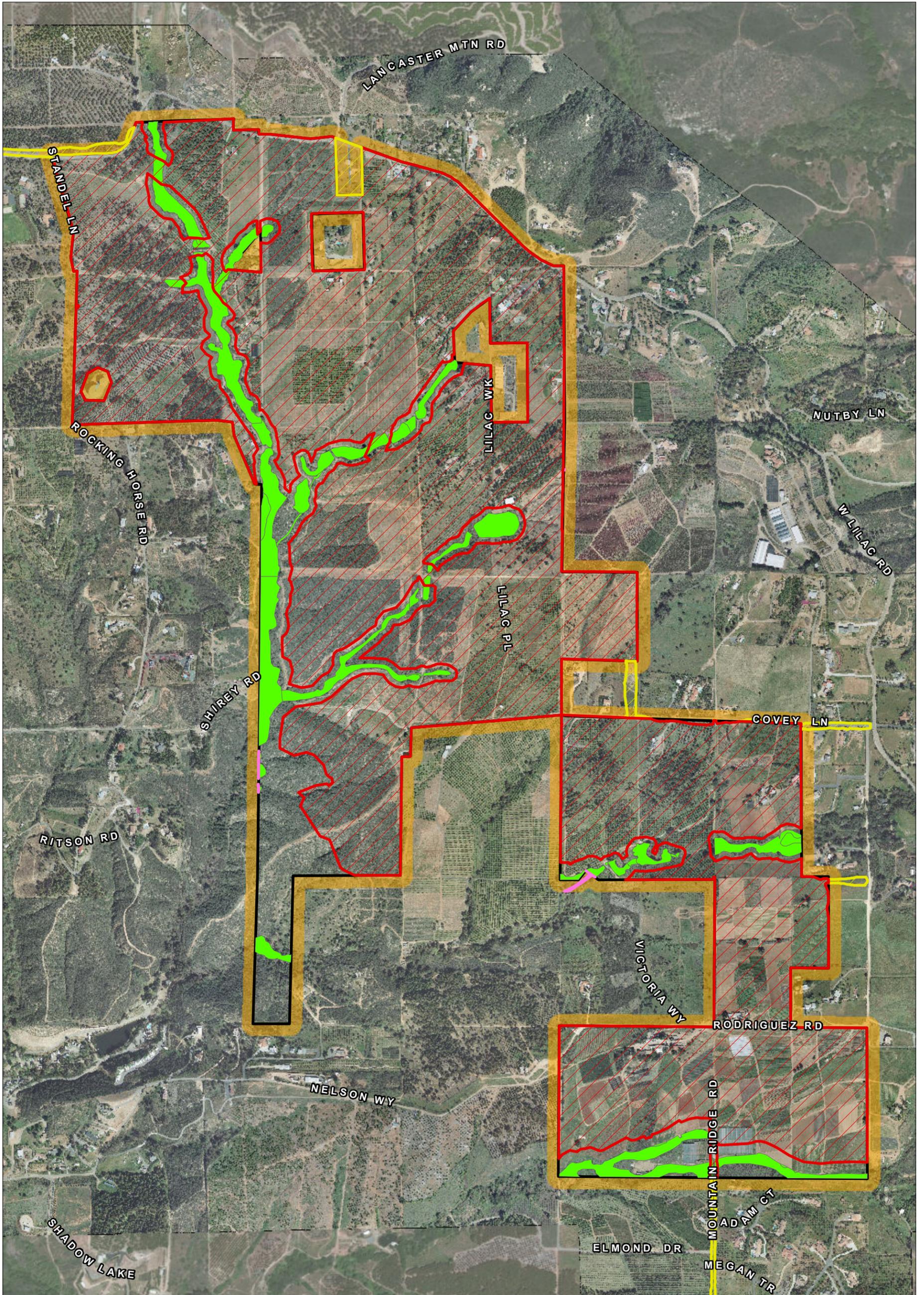


- | | | |
|-----------------------|-------------------|----------------------------|
| Project Boundary | Wetland | Project Impacts |
| 100-ft. Survey Buffer | Non-wetland Water | Off-site Improvement Areas |



- Project Boundary
- Wetland
- Project Impacts
- 100-ft. Survey Buffer
- Streambed
- Off-site Improvement Areas





- Project Boundary
- County RPO Wetland
- Project Impacts
- 100-ft. Survey Buffer
- County RPO Wetland - Off-site
- Off-site Improvement Areas





-  Off-site Improvement Areas
-  County RPO, ACOE, CDFG Wetland - Off-site

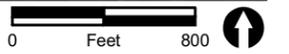


FIGURE 11d

Off-site Impacts to ACOE Waters of the U.S.,
CDFG State Waters, and County of San Diego RPO Wetlands

rattlesnake, coastal western whiptail orange-throated whiptail, and coast horned lizard on-site; birds—turkey vulture, western bluebird, white-tailed kite, Cooper’s hawk, yellow warbler, yellow-breasted chat; and mammals—San Diego black-tailed jackrabbit and southern mule deer. These wildlife species may also forage within agricultural and disturbed lands adjacent to the native habitats listed above. Vegetation impacts as a whole would thus reduce the potential of the site to support sensitive wildlife species.

Indirect impacts to sensitive wildlife species that may remain after the project is completed would be the result of edge effects (i.e., noise, lighting, invasive plants, grading encroachments, etc.).

2.4 Impacts to Wildlife Corridors, Linkages, and Nursery Sites

The development of the project site would reduce the relatively large patches of southern mixed chaparral in the project area and increase fragmentation of the southern coast live oak riparian woodlands that form blocks native vegetation between regional habitat linkages to the north, south, and west. These impacts would reduce suitable habitat on-site that supports local populations of plant and wildlife species and they would reduce any potential natural habitat “stepping stone” connections for wildlife that can migrate between the larger regional connections. The local wildlife corridors identified on-site are not recognized as important regional linkages in the draft North County MSCP. However, impacts to the local wildlife corridors on-site would reduce any secondary corridor connections between the identified regional linkages to the north (Keys Canyon), south (Moosa Creek), and west (I-15 Escondido – Temecula), and confine them to local connections along the larger drainage courses not impacted by the project. Proposed off-site improvements to existing roads that would impact the regional linkages along I-15 would not disrupt these linkages. As discussed later in this report, the project, through off-site mitigation, may enhance regional habitat connectivity through the preservation of habitat within future North County MSCP PAMA lands.

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3.0 Special Status Species

A determination of the significance of direct and indirect impacts on special status species is presented in this section of the report. Guidelines for the determination of significance are applied to the proposed impacts to special status species anticipated by the project to determine significance under CEQA and County of San Diego guidelines.

3.1 Guidelines for Determination of Significance

The determination of the significance of impacts to special status species is made with regard to the following:

The project would have a substantial adverse effect, either directly or indirectly or through habitat modifications, on a candidate, sensitive, or special status species listed in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service (County of San Diego 2010).

3.2 Analysis of Project Effects

Each of the 12 categories of impacts identified in the County's significance determination guidelines for special status species is evaluated in this section.

3.2.1 Impacts to Federal and State Listed Species

No federal or state listed species would be impacted by the project.

3.2.2 Impacts to County List A or B Plants, County Group 1 Animals, or Species Listed as a State Species of Special Concern

3.2.2.1 Impacts to County List A or B Plant Species

No impacts to plant species that occur on the County List A or B would occur from the proposed project.

3.2.2.2 Impacts to County Group 1 Animals and Species of Special Concern

Direct and indirect impacts to native upland and riparian plant communities and agricultural lands would impact sensitive wildlife species primarily through habitat loss. Direct impacts would likely occur to species that are slow-moving, such as reptiles and small mammals, while direct losses of individuals are not anticipated for species that are more mobile, such as birds and large mammals. Four reptile species, seven bird species, and two mammal species that are considered Group 1 or Federal/State Species of Special Concern and have a high potential to be present on-site are evaluated as part of this impact analysis.

Belding's orange-throated whiptail – Direct impacts to southern mixed chaparral vegetation would likely result in impacts to this reptile species. The loss of up to four individuals would not be considered significant because of the relatively wide range of this lizard in San Diego County and that these Belding's orange-throated whiptail locations do not represent a significant regional population. Indirect impacts to individuals of this reptile that remain in project open space areas would be the result of edge effects due to the proximity of development to occupied habitat. These indirect impacts would not be considered significant as the number of individuals of this species to remain after implementation of the project is likely low.

Coastal western whiptail – Direct impacts to southern mixed chaparral vegetation and the loss of orchard would likely result in impacts to this lizard species. The loss of at least one individual would not be considered significant because of the relatively wide range of this reptile in San Diego County and that the single coastal western whiptail observation does not represent a significant regional population. Indirect impacts to individuals of this lizard that remain in project open space areas would be the result of edge effects due to the proximity of development to occupied habitat. These indirect impacts would not be considered significant as the number of individuals of this species to remain after implementation of the project is likely low.

Red diamond rattlesnake – Direct impacts to a variety of native vegetation communities and agricultural lands would likely result in impacts to this reptile species. The loss of up to two individuals would not be considered significant because of the relatively wide range of this snake in San Diego County and that these red diamond rattlesnake observations do not represent a significant regional population. Indirect impacts to individuals of this snake that remain in project open space areas would be the result of edge effects due to the proximity of development to occupied habitat. These indirect impacts would not be considered significant as the number of individuals of this species to remain after implementation of the project is likely low.

Coast horned lizard – Direct impacts to southern mixed chaparral vegetation would likely result in impacts to this reptile species. While not observed on-site, there is a high

potential for individuals of this species to be impacted through habitat loss. The number of individuals of coast horned lizard to be impacted is estimated to be less than five and would not be considered significant because of the relatively wide range of this lizard in San Diego County and that this coast horned lizard observation does not represent a significant regional population. Indirect impacts to individuals of this reptile that remain in project open space areas would be the result of edge effects due to the proximity of development to occupied habitat. These indirect impacts would not be considered significant as the number of individuals of this species to remain after implementation of the project is likely low.

Cooper's hawk – Direct impacts to coast live oak riparian woodland, orchards, and coastal sage scrub have the potential to impact Cooper's hawk through habitat loss. No direct loss of individuals of Cooper's hawk is anticipated as these hawks will fly away from the direct disturbance, however, up to four Cooper's hawks would be displaced. These impacts to Cooper's hawk would not be considered significant given the relatively wide range of this bird species in San Diego County and that these observations do not represent a significant regional population. Indirect impacts to individuals of this hawk species that remain in project open space areas would be the result of edge effects due to the proximity of development to occupied habitat. These indirect impacts would not be considered significant as the number of individuals of this species to remain after implementation of the project is likely low.

White-tailed kite – Direct impacts to southern willow scrub and adjacent agricultural fields and orchards in the southern portion of the site have the potential to impact white-tailed kite through habitat loss. No direct loss of individuals of white-tailed kite are anticipated as these birds will fly away from the direct disturbance, however, at least one pair of kites would be displaced. These impacts to white-tailed kite would not be considered significant given the relatively wide range of this bird species in San Diego County and that these observations do not represent a significant regional population. Indirect impacts to individuals of this kite species that remain in project open space areas would be the result of edge effects due to the proximity of development to occupied habitat. These indirect impacts would not be considered significant as the number of individuals of this species to remain after implementation of the project is likely low.

Turkey vulture – Direct impacts to vegetation, in general, could have impacts on turkey vultures through habitat loss. No direct loss of individuals of turkey vulture are anticipated as these large birds will fly away from the direct disturbance, however, as many as three or more vultures would be displaced to surrounding areas. These impacts to turkey vulture would not be considered significant given the relatively wide range of this bird species in San Diego County and that these observations do not represent a significant regional population. Indirect impacts to individuals of this vulture species that remain in project open space areas would be the result of edge effects due to the

proximity of development to occupied habitat. These indirect impacts would not be considered significant as the number of individuals of this species to remain after implementation of the project is likely low.

Loggerhead shrike – Direct impacts to orchards and native uplands and riparian habitats on-site have the potential to impact the loggerhead shrike through habitat loss. No direct loss of individuals of loggerhead shrike is anticipated as these birds will fly away from the direct disturbance, however, at least one loggerhead shrike would be displaced. These impacts to loggerhead shrike would not be considered significant given the relatively wide range of this bird species in San Diego County and that these observations do not represent a significant regional population. Indirect impacts to individuals of this shrike species that remain in project open space areas would be the result of edge effects due to the proximity of development to occupied habitat. These indirect impacts would not be considered significant as the number of individuals of this species to remain after implementation of the project is likely low.

Western bluebird – Direct impacts to orchards and native uplands and riparian habitats on-site have the potential to impact the western bluebird through habitat loss. No direct loss of individuals of western bluebird is anticipated as these birds will fly away from the direct disturbance, however, at least one western bluebird would be displaced. These impacts to western bluebird would not be considered significant given the relatively wide range of this bird species in San Diego County and that these observations do not represent a significant regional population. Indirect impacts to individuals of this bluebird species that remain in project open space areas would be the result of edge effects due to the proximity of development to occupied habitat. These indirect impacts would not be considered significant as the number of individuals of this species to remain after implementation of the project is likely low.

Yellow warbler – Direct impacts to coast live oak riparian woodlands and southern willow riparian woodland/scrub on-site have the potential to impact the yellow warbler through habitat loss. No direct loss of individuals of yellow warbler is anticipated as these birds will fly away from the direct disturbance, however, at least one yellow warbler could be displaced. These impacts to yellow warbler would not be considered significant given the relatively wide range of this bird species in San Diego County and that these observations do not represent a significant regional population. Indirect impacts to individuals of this warbler species that remain in project open space areas would be the result of edge effects due to the proximity of development to occupied habitat. These indirect impacts would not be considered significant as the number of individuals of this species to remain after implementation of the project is likely low.

Yellow-breasted chat – Direct impacts to coast live oak riparian woodlands and southern willow riparian woodland/scrub on-site have the potential to impact the yellow-breasted chat through habitat loss. No direct loss of individuals of yellow-breasted chat is anticipated as these birds will fly away from the direct disturbance; however, up to five

individuals of yellow-breasted chat could be displaced. These impacts to yellow-breasted chat would not be considered significant given the relatively wide range of this bird species in San Diego County and that these observations do not represent a significant regional population. Indirect impacts to individuals of this bird species that remain in project open space areas would be the result of edge effects due to the proximity of development to occupied habitat. These indirect impacts would not be considered significant as the number of individuals of this species to remain after implementation of the project is likely low.

San Diego black-tailed jackrabbit – Direct impacts to coastal sage scrub and agricultural areas on-site would impact San Diego black-tailed jackrabbit through habitat loss. There is the potential for the direct loss of individuals of San Diego black-tailed jackrabbit as these rabbits may not always be able to avoid construction equipment. At least two San Diego black-tailed jackrabbits could be displaced. These impacts to San Diego black-tailed jackrabbit would not be considered significant given the relatively wide range of this rabbit species in San Diego County and that these observations do not represent a significant regional population. Indirect impacts to individuals of this rabbit species that remain in project open space areas would be the result of edge effects due to the proximity of development to occupied habitat. These indirect impacts would not be considered significant as the number of individuals of this species to remain after implementation of the project is likely low.

San Diego desert woodrat – Direct impacts to coastal sage scrub, southern mixed chaparral, and coast live oak riparian woodland vegetation on-site would impact San Diego desert woodrats through habitat loss. There is the potential for the direct loss of individuals of San Diego desert woodrat as these animals may not always be able to avoid construction equipment. There is the potential for the direct loss of up to 10 or more San Diego desert woodrat nests. These impacts to San Diego desert woodrat would not be considered significant given the relatively wide range of this woodrat species in San Diego County and that these observations do not represent a significant regional population. Indirect impacts to individuals of San Diego woodrat that remain in project open space areas would be the result of edge effects due to the proximity of development to occupied habitat. These indirect impacts would not be considered significant as the number of individuals of this species to remain after implementation of the project is likely low.

3.2.3 Impacts to County List C or D Plants, County Group 2 Animals Species

Direct and indirect impacts to three plants species on List C or D of the County would occur from the project. Direct and indirect impacts to wildlife in Group 2 of the County are addressed above as all of these species are also listed as Federal or State Species of Special Concern.

Prostrate spineflower: Direct impacts to southern mixed chaparral on-site could result in the direct loss of up to 100 individuals of prostrate spineflower. This loss of individuals of prostrate spineflower would not be considered significant as the overall population numbers do not appear to be great enough to consider this location a significant regional population. Indirect impacts to individuals of prostrate spineflower that remain in project open space areas would be the result of edge effects due to the proximity of development to occupied habitat. These indirect impacts would not be considered significant as the number of individuals of this species to remain after implementation of the project is likely low.

Southwestern spiny rush: No direct impacts to the approximately 20 individuals of southwestern spiny rush that were observed on-site are anticipated as the project would avoid impacting the drainage course where this species was observed. Therefore, no significant direct impacts to this species would occur. Indirect impacts to individuals of southwestern spiny rush that remain in project open space areas would be the result of edge effects due to the proximity of development to occupied habitat. These indirect impacts would not be considered significant as the number of individuals of this species to remain after implementation of the project is relatively low and not enough to consider this location a significant regional population.

3.2.4 Impacts to Arroyo Toad Aestivation, Foraging, or Breeding Habitat

The proposed project would not impact any habitat used by the arroyo toad for aestivation, foraging, or breeding. The habitat assessment for arroyo toad conducted for the project site concluded that no suitable habitat for the arroyo toad is present. The nearest known arroyo toad location is in excess of a mile away to the north of the project in Keys Canyon, and this location is separated from the project site by very steep slopes, orchards, and West Lilac Road.

3.2.5 Impacts to Golden Eagle Habitat

The project site does not contain suitable nesting habitat for golden eagle. Golden eagles typically nest on cliffs or in deciduous and coniferous trees at higher elevations (USFWS 2010). The nearest known sighting of golden eagle is approximately 4.5 miles to the northeast near Pala Mountain and around the San Luis Rey River valley (State of California, 2007d). It is not known if nesting activity was observed at this location; however, the proposed project is over 4,000 feet from this known occurrence and therefore would not likely impact golden eagle habitat.

3.2.6 Impacts to Nesting and Functional Foraging Habitat for Raptors

Direct impacts to relatively large acreages of native vegetation areas and agricultural lands would result in the loss of functional nesting and foraging habitat for raptors, such as Cooper's hawk, white-tailed kite, turkey vulture, and red-tailed hawk. This impact would be considered significant, especially if impacts to habitat are to occur during the raptor breeding season (January 15–July 15). Potential indirect impacts to any functional nesting raptor foraging habitat that remains on-site or adjacent to the project would be the result of edge effects, particularly construction noise impacts on nesting/breeding behaviors. These types of indirect impacts may be significant.

3.2.7 Impacts to Core Wildlife Area

The proposed project is not within or part of a core wildlife area as identified in the draft North County MSCP. Portions of proposed off-site improvement areas are within the core wildlife areas along the I-15 corridor. These off-site impacts would be the result of improvements (e.g., widening) of existing roads and freeway on/off ramps. These impacts would not disrupt the functions of these core wildlife areas.

3.2.8 Assessment of Indirect Impacts to Proposed and Existing Open Space Areas

The proposed open space areas within the project area would be confined to the drainage courses that are being avoided. These open space areas are narrow and mostly surrounded by development except along the western and southern boundary of the project. Sources of indirect impacts to these open space areas would result from increased human access, potential increases in predation/competition on native wildlife from domestic animals, potential increases in invasive plant species or other domestic pests, alterations to natural drainage patterns, potential noise effects, and potential effects on wildlife species due to increases in night time lighting. Sensitive riparian bird species may be the most affected by these edge effects. Habitat quality, functions, and values would likely decrease also. Therefore, the potential indirect impacts to proposed open space area would be considered significant, but could be mitigated through the establishment of wetland buffers as discussed below.

The project would provide a minimum of a 50-foot buffer around the wetlands that are being preserved within the on-site biological open space. This wetland buffer in combination with the adjacent 100-foot limited building zone outside of the biological open space boundary would be sufficient to avoid and minimize any potential indirect impacts to the wetlands, protecting the function and value of the preserved wetland habitat.

Permanent fences would be built on property lines where lots occur adjacent to biological open space to deter encroachment into the open space area. Fences would also be placed at trail heads and staging areas to avoid impacts to adjacent areas and signs would notify pedestrians on the sensitive nature of the open space being entered. Signs would be placed along trails within or bordering biological open space areas at intervals of 200 feet to remind pedestrians of the biological sensitivity of the habitats being protected and to remain on the existing trails at all times. A conceptual trail and signage plan is provided in Attachment 13.

Existing open space areas outside of the project are mostly confined to steep slopes and the larger drainage courses. The majority of the surrounding land is under some sort of agricultural activity and thus not a lot of natural open space areas remain adjacent to the project. There is some native habitat off-site to the southwest along the extension of the major drainage course and adjacent slopes that have some upland chaparral and riparian habitat.

3.2.9 Impacts to Burrowing Owl Habitat

The habitat assessment conducted for burrowing owl concluded that there was a low probability of occurrence for burrowing owl because the habitats present on the site were not suitable for this species. No impacts to burrowing owl or their habitat are anticipated from the project.

3.2.10 Impacts to Cactus Wren Habitat

The habitat assessment conducted for cactus wren concluded that there was a low probability of occurrence for this species in the project area because no suitable habitat occurs on the site. No impacts to occupied or formerly occupied cactus wren habitat are anticipated from the project.

3.2.11 Impacts to Hermes Copper Habitat

The habitat assessment for Hermes copper butterfly conducted in the project area concluded that there is a low probability for this species to occur on the site due to lack of suitable habitat. No Hermes copper butterfly individuals were observed on the site. Therefore, no impacts to Hermes copper butterfly or their habitat are anticipated from the project.

3.2.12 Impacts to Sensitive Bird Nesting

No impacts to nesting activities are anticipated for the following sensitive bird species: coastal cactus wren, coastal California gnatcatcher, least Bell's vireo, southwestern

willow flycatcher, golden eagle, or light-footed clapper rail. None of these sensitive bird species were observed on the site and most species lack suitable habitat on the site.

Tree-nesting and ground-nesting raptors were observed on-site; therefore, there is the potential for impacts to nesting activities to occur during grading, clearing, fire fuel modification, and noise during construction. These types of direct and indirect impacts may be significant without measures to avoid impacts during the breeding season.

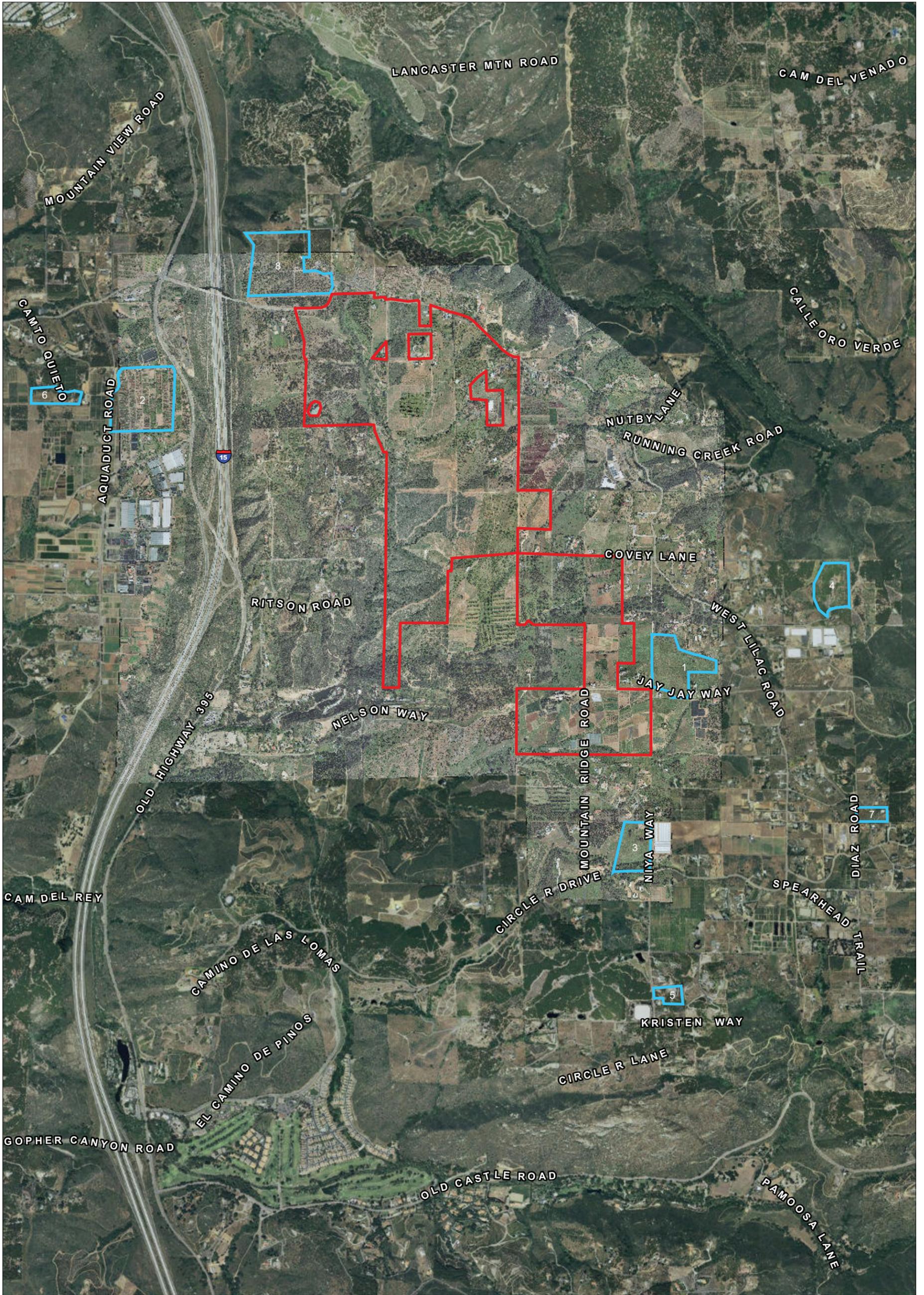
3.3 Cumulative Impact Analysis

Cumulative impacts from the proposed project were evaluated with regards to past, present, and future projects within the local area. Eight projects were identified for the evaluation of cumulative impacts (Table 7). Review of aerial photography of these eight parcels show that the majority of the impacts from these projects will be to agricultural lands (e.g., orchards, row crops) and little to no impacts to native upland or riparian habitats (Figure 12).

The direct and indirect impacts presented above for special status species would add to the general cumulative impacts to these species primarily through habitat loss and to a lesser extent through the potential loss of individuals of these species that occur on-site. When compared to other projects being considered for this analysis, cumulative impacts to special status species would not be considered significant because the other projects are likely not to impact special status species and mitigation measures for habitat loss from the Lilac Hills Ranch project will reduce their impacts to below a level of significance.

**TABLE 7
CUMULATIVE PROJECT LIST**

Map Key #	Project	Project Description	Project Reference Numbers	Area (acres)	Location
1	SUKUP PRD TM5184	A tentative map for 9 lots on 24.62 acres, including open space easements and a limited building zone.	TM 5184	24.62	9985 W. Lilac Road APN 129-380-35-00
2	DABBS TENTATIVE MAP	Request for Tentative Map on 38.4 acres (gross acres). The subdivision proposes 9 lots. Each proposed lot will be 4 acres in size (net acres). The site is located on the west of Highway 395, east of Aqueduct Road, north of Via Urner Way, in the Community of Bonsall.	TM 5346	38.4	32006 Aqueduct Road APN 127-071-38-00
3	MUSTAFA TPM	A tentative parcel map for a minor subdivision of 4 lots and a remainder parcel on 16.4 acres.	TPM 20811	16.4	9770 Circle R Drive APN 129-390-17-00
4	LILAC RIDGE TPM	The project proposes to subdivide 16.33 acres into 3 lots for single-family home development.	TPM 20996	16.33	10320 Lilac Ridge Road APN 129-200-32-00
5	GOODNIGHT RANCHOS, TPM, 2 LOTS	Minor residential subdivision within the Valley Center Community Planning Area. The project proposes to divide 5.0 acres into 2 parcels measuring 2.45 acres net each.	TPM 21001	5.0	30359 Circle R Lane APN 129-310-36-00
6	PFAFF, TPM, 3 LOTS	Tentative parcel map to divide a 7.79 acre parcel into three residential lots of 2.5, 2.1 and 2.7 net acres (Parcels 1, 2 and 3 respectively). The site contains an existing single-family residence on proposed Parcel 1 that would be retained.	TPM 21016	7.79	32010 Caminito Quieto APN 127-271-27-00
7	GANGAVALLI, TPM, 2 LOTS	Residential Tentative Parcel Map. The project proposes to divide 5.05 net acres into 2 parcels measuring 2.51 acres gross (2.29 acres net), and 2.51 acres gross (2.45 acres net).	TPM 21101	5.05	10418 King Sanday Lane APN 129-212-24-00
8	MARQUART RANCH	9 SFR lots. Includes improvements to West Lilac Road and Mesa Lilac Road, and drainage improvements.	TM 5410	44.2	West Lilac Road and Mesa Lilac Road, Bonsall; APNs: 125-232-29-00 and 125-232-32-00



- Project Boundary
- Proposed Project Sites



FIGURE 12

Location of Project Considered for Cumulative Impacts

3.4 Mitigation Measures and Design Considerations

Mitigation measures to be applied to reduce significant impacts to special status species to below a level of significance are presented in this section of the report.

3.4.1 Plant Species

No significant impacts to special status plant species were identified.

3.4.2 Animal Species

The direct and indirect impacts to native habitats on-site that support special status species are considered significant and require mitigation. Mitigation requirements presented in Section 4.4 for habitat loss would reduce impacts of habitat loss for special status species to a level below significance. The preservation of similar upland habitat types at an off-site location within a future draft PAMA is important. In addition, the location of the preserved habitat should be in an area that supports the Group 1 wildlife species being affected by the project. Biological resource surveys of the lands proposed as mitigation would be necessary to verify that the lands being preserved support the Group 1 animals being affected by the project (see Section 3.2.2.2 Impacts to County Group 1 Animals and Species of Special Concern for a list of species).

The on-site preservation of primarily riparian woodland and riparian scrub habitats along the major drainage courses would mitigate habitat impacts to special status animal species that prefer riparian habitat (e.g., Cooper's hawk, white-tailed kite, yellow warbler, and yellow-breasted chat). The proposed minimum 50-foot wetland buffers in conjunction with the adjacent 100-foot limited building zone are adequate to reduce potential edge effects to the habitat that supports these species.

3.5 Conclusions

Direct and indirect impacts to the native upland and riparian habitats that support special status plant and animal species on-site are considered significant and require mitigation. Mitigation for these habitats would reduce impacts to special status plants and animals to a level below significance.

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4.0 Riparian Habitat or Sensitive Natural Community

A determination of the significance of direct and indirect impacts on riparian habitats or sensitive natural communities is presented in this section of the report. Guidelines for the determination of significance are applied to the proposed impacts to riparian habitat or sensitive natural communities anticipated by the project to determine significance under CEQA and County of San Diego guidelines.

4.1 Guidelines for Determination of Significance

The determination of the significance of impacts to special status species is made with regard to the following:

The project would have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service (County of San Diego 2010).

4.2 Analysis of Project Effects

A discussion of the direct and potential indirect impacts to riparian habitat or sensitive natural communities that would occur due to the project is presented in this section of the report.

4.2.1 Direct Impacts to Riparian Habitat or Sensitive Natural Communities

The project would have direct impacts to riparian habitat (see Table 4) due to road crossings and general site grading. Anticipated impacts would remove vegetation during the grading of the project and result in the placement of fill, structures, road crossings, culverts and other infrastructure (e.g., utility lines) in wetlands and riparian habitat. These impacts would be considered significant.

4.2.2 Impacts to Jurisdictional Wetlands/Riparian Habitats – USACE, CDFG, County of San Diego

The project would have direct impacts to wetlands, riparian habitats, and other waters (i.e., non-wetland waters, streambed) under the jurisdiction of the USACE, CDFG, and County of San Diego (see Table 6) due to road crossings and general site grading. Anticipated impacts would remove vegetation during the grading of the project and result in the placement of fill, structures, road crossings, culverts, and other infrastructure (e.g., utility lines) in wetlands, riparian habitat, and non-wetland waters/streambeds. These impacts would be considered significant.

4.2.3 Impacts to Groundwater

The proposed project plans to continue to pump groundwater. The groundwater extraction rates for the project would not exceed the current rates of extraction for agricultural uses (Wiedlin & Associates, Inc. 2012). The nine active wells extract water from depths ranging from 110 feet to 1,210 feet, well below the surface groundwater depths used by the riparian plant species. In addition, the proposed application of recycled water, potable water, and groundwater over the site has the potential to increase the groundwater recharge rate over the existing condition. Based on the proposed level of extract and potential recharge, no impacts to groundwater-dependent habitat are anticipated for this project.

4.2.4 Potential Indirect Impacts to Riparian Habitat or Sensitive Natural Communities

The proposed riparian habitat areas to remain in open space within the project area would be along drainage courses that are being avoided (see Figures 10a-c). These riparian habitat areas are narrow and mostly surrounded by development except along the western and southern boundary of the project. Sources of indirect impacts to these sensitive habitat areas would result from increased human access, potential increases in predation/competition on native wildlife from domestic animals, potential increases in invasive plant species or other domestic pests, alterations to natural drainage patterns, potential noise effects, and potential effects on wildlife species due to increases in night time lighting. Sensitive riparian bird species may be the most affected by these edge effects. Habitat quality, functions, and values would likely decrease also. The project would establish buffers that are a minimum of 50 feet around these open space areas to reduce these edge effects. Therefore, the potential indirect impacts to sensitive habitat areas within proposed project open space would not be considered significant.

4.2.5 Wetland Buffers

Current buffers of wetlands as contained within the designated limits of the proposed biological open space areas are a minimum of 50 feet wide for the preserved wetlands (Figures 13a,b). Some wetland buffer widths exceed 100 feet for limited distances. The provided buffers, in conjunction with the adjacent limit building zone outside of the biological open space limits, will reduce edge effects on these conserved habitats. A 50-foot buffer is adequate for the protection of the majority of the on-site wetlands because the existing habitats are narrow and have functions and values that have been affected by agricultural activities. The wetland areas where the riparian habitat is of higher quality (i.e., along the western boundary and southern portions of the site) generally have buffers that exceed 50 feet to better protect the function and value of the preserved wetland.

4.3 Cumulative Impact Analysis

Cumulative impacts from the proposed project were evaluated with regards to past, present, and future projects within the local area. Eight projects were identified for the evaluation of cumulative impacts (see Table 7). Review of aerial photography of these eight parcels show that the majority of the impacts from these projects will be to agricultural lands (e.g., orchards, row crops) and little to no impacts to native upland or riparian habitats (see Figure 12).

Direct and indirect impacts to riparian communities on-site would contribute to the cumulative loss of these vegetation types in San Diego County. When compared to projects being evaluated for cumulative impacts in the area, it appears that only the current project has the potential to impact riparian communities. Cumulative impacts to riparian areas would not be considered significant because the project will mitigate impacts so that a no net loss of riparian habitat will occur.

4.4 Mitigation Measures and Design Considerations

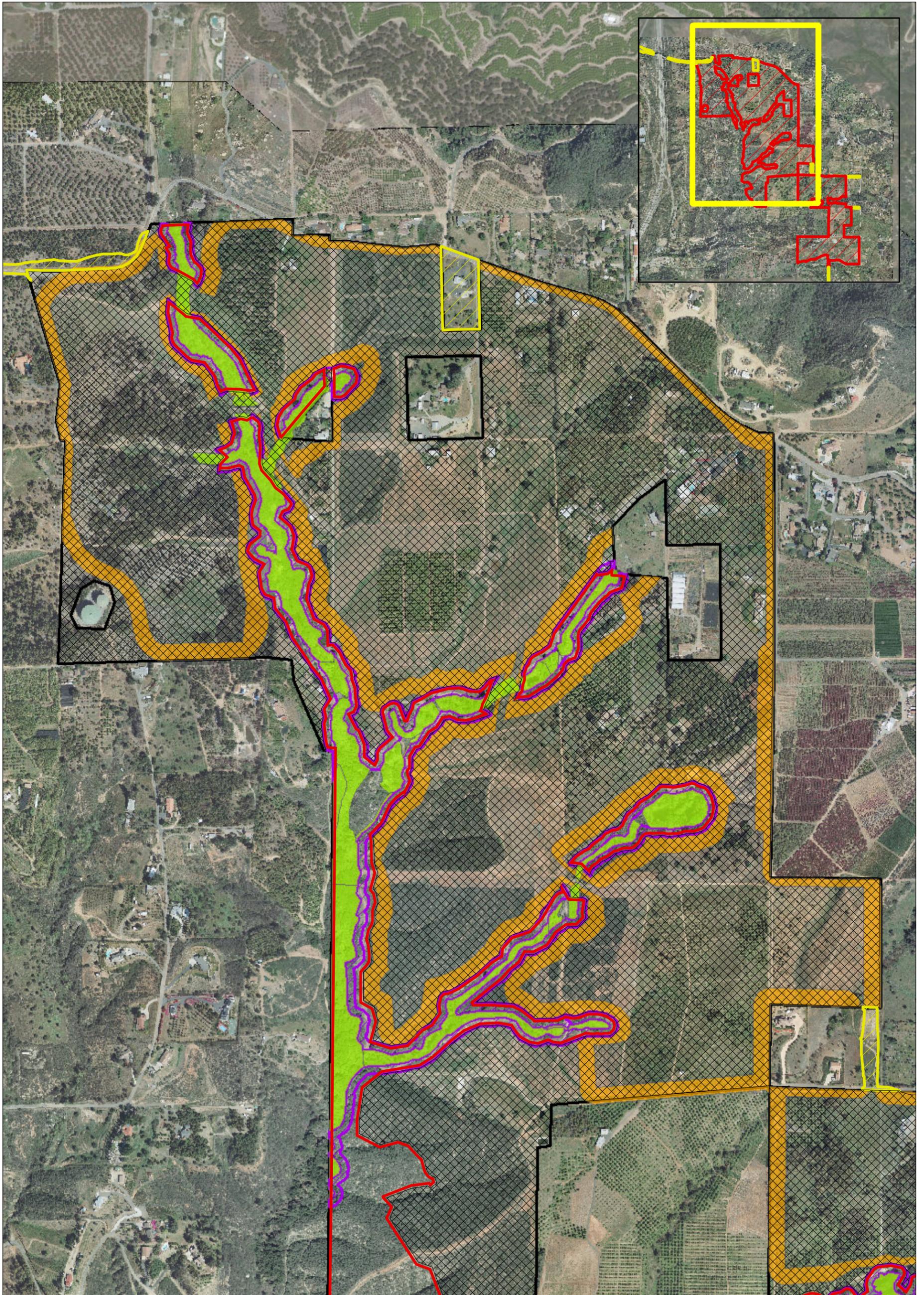
Mitigation for impacts to riparian habitats would include a combination of the following measures: off-site purchase/preservation of habitat within future PAMA lands, conservation of habitats in on-site biological open space, preparation and implementation of on-site/off-site revegetation plans, and revegetation and enhancement of disturbed riparian habitats conserved in on-site biological open space areas. A conceptual wetland revegetation plan has been prepared that discusses the proposed on-site creation and enhancement of wetlands to meet the mitigation requirements

(Attachment 15). In addition, a conceptual Resource Management Plan (RMP) for the on-site biological open space areas has been prepared (Attachment 16).

A summary of mitigation acreages for each of these options is presented in Section 8.0 of this report. Other mitigation measures would become part of project design and approvals, including restrictions on lighting, runoff, access, and noise to reduce potential indirect impacts to conserved biological open space due to edge effects.

4.5 Conclusions

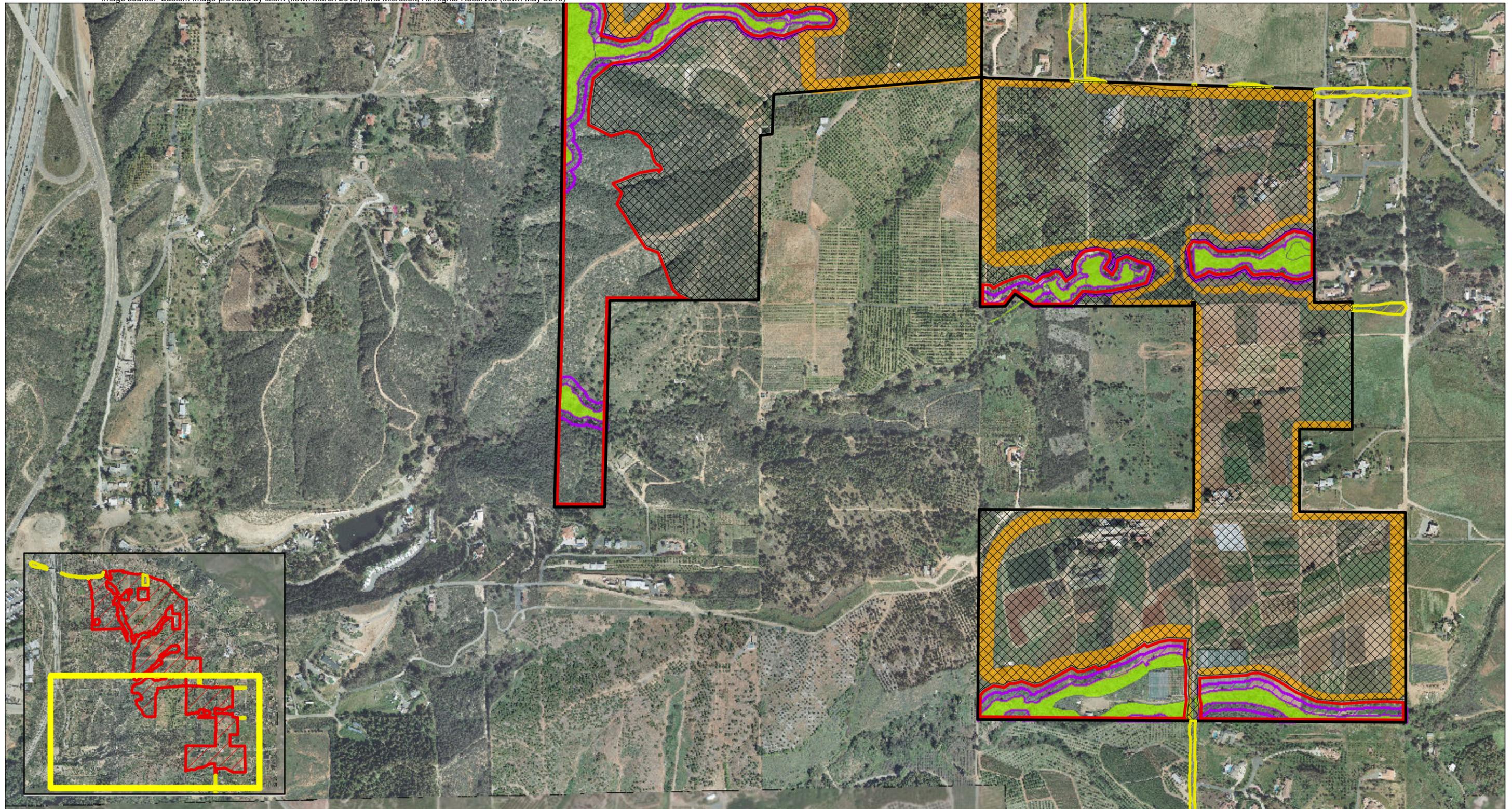
Mitigation for significant impacts to riparian and natural communities would be accomplished through a combination of off-site purchase and preservation of habitat within future PAMA lands, on-site conservation, on-site/off-site revegetation, and on-site habitat enhancement. Project design features (e.g., buffers, restrictions on lighting, access, noise, and runoff) would provide additional mitigation to reduce potential indirect impacts from edge effects on these conserved habitats. Wetland buffers are being provided that will reduce the potential for indirect edge effects on the biological open space areas. Limited building zones adjacent to the biological open space will also help reduce the potential for indirect edge effects. Project nighttime lighting adjacent to the biological open space area shall be shielded and directed away from the preserved habitat to reduce any indirect effects of light pollution on the wetland habitat. Signage and fencing will restrict access to the biological open space areas except along designated trails to help minimize any potential future impacts to the wetlands. Restriction on construction activities during the sensitive avian breeding season will reduce the potential for indirect noise impacts while the project is being graded. Storm drain outlets must meet the storm water pollution requirements which will limit any indirect impacts from runoff to the wetland areas.



- | | | |
|----------------------------|--------------------------------|---------------|
| Project_boundary | Biological Open Space Boundary | RPO Wetland |
| Development Limits | 100-ft. Limited Building Zone | 50 ft. Buffer |
| Off-site Improvement Areas | | |

0 Feet 450

FIGURE 13a
Lilac Hills Ranch Location of Wetland Buffer



- | | | |
|----------------------------|--------------------------------|---------------|
| Project_boundary | Biological Open Space Boundary | RPO Wetland |
| Development Limits | 100-ft. Limited Building Zone | 50 ft. Buffer |
| Off-site Improvement Areas | | |

FIGURE 13b
Lilac Hills Ranch Location of Wetland Buffer

5.0 Jurisdictional Waters and Waterways

The direct and indirect impacts to jurisdictional waters including wetlands are presented in this section. Federal jurisdictional waters and wetlands fall under the authority of the U.S. Army Corps of Engineers per Section 404 of the Clean Water Act. State jurisdictional waters and wetlands fall under the authority of the California Department of Fish and Game per Section 1600 of the Fish and Game Code. County of San Diego wetlands are regulated under the Resource Protection Ordinance.

5.1 Guidelines for Determination of Significance

The determination of the significance of impacts to jurisdictional waters and wetlands is made with regard to the following:

The project would have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means (County of San Diego 2010).

5.2 Analysis of Project Effects

5.2.1 Direct Impacts to Jurisdictional Waters and Waterways

Direct impacts to federal and state jurisdictional waters and wetlands, and to RPO wetlands would occur from grading of the project (see Table 6; see Figure 11a-d). Impacts to smaller ephemeral jurisdictional waters would be from filling for development. Impacts to larger jurisdictional waters and wetlands associated with intermittent drainages would be primarily from fill associated with road crossings and culverts. Some jurisdictional waters that support riparian vegetation such as coast live oak riparian woodland, southern willow riparian woodland, or southern willow scrub were largely avoided or impacted just from road crossings to minimize impacts.

5.2.2 Impacts to Jurisdictional Wetlands/Riparian Habitats – USACE, CDFG, County of San Diego

The project would have direct impacts to wetlands, riparian habitats, and other waters (i.e., non-wetland waters, streambed) under the jurisdiction of the USACE, CDFG, and County of San Diego (see Table 6) due to road crossings and general site grading. Anticipated impacts would remove vegetation during the grading of the project and result in the placement of fill, structures, road crossings, culverts, and other infrastructure (e.g., utility lines) in wetlands, riparian habitat, and non-wetland waters/streambeds. These impacts would be considered significant.

5.2.3 Impacts to Groundwater

The proposed project plans to continue to pump groundwater. The groundwater extraction rates for the project would not exceed the current rates of extraction for agricultural uses (Wiedlin & Associates, Inc. 2012). The nine active wells extract water from depths ranging from 110 feet to 1,210 feet, well below the surface groundwater depths used by the riparian plant species. In addition, the proposed application of recycled water, potable water, and groundwater over the site will have the potential to increase the groundwater recharge rate over the existing condition. No impacts to groundwater-dependent habitat (i.e., wetlands, riparian habitat) are anticipated for this project based on the proposed level of extract and potential recharge.

5.2.4 Potential Indirect Impacts to Jurisdictional Waters and Waterways

The proposed jurisdictional waters and wetland areas to remain in open space within the project area would be along drainage courses that are being avoided (see Figures 13a,b). These jurisdictional waterways are narrow and mostly surrounded by development except along the western and southern boundary of the project. Sources of indirect impacts to these jurisdictional areas would result from increased human access, potential increases in predation/competition on native wildlife from domestic animals, potential increases in invasive plant species or other domestic pests, alterations to natural drainage patterns, potential noise effects, and potential effects on wildlife species due to increases in night time lighting. Wildlife species supported by these waterways may be the most affected by these edge effects. Riparian and wetland habitat quality, functions, and values may also decrease due to edge effects. The project would establish wetland buffers that are a minimum of 50 feet to these open space areas that will help mitigate these potential edge effects. The 50-foot wetland buffer and adjacent 100-foot limited building zone outside of the open space boundary will also help mitigate any potential indirect effects on the biological open space. Therefore, the potential indirect impacts to jurisdictional waters and wetlands within proposed project open space would not be considered significant.

5.2.3 Wetland Buffers

Current buffers of wetlands as contained within the designated limits of the proposed biological open space areas are a minimum of 50 feet wide for the preserved wetlands (see Figure 13a,b). Some wetland buffer widths exceed 100 feet for limited distances. The provided buffers, in conjunction with the adjacent limit building zone outside of the biological open space limits, will reduce potential edge effects on these conserved habitats. A 50-foot buffer is adequate for the protection of the majority of the on-site wetlands because the existing habitats are narrow and have functions and values that have been affected by agricultural activities. The wetland areas where the riparian habitat is of higher quality (i.e., along the western boundary and southern portions of the site) generally have buffers that exceed 50 feet to better protect the function and value of the preserved wetland.

5.3 Cumulative Impact Analysis

Cumulative impacts from the proposed project were evaluated with regards to past, present, and future projects within the local area. Eight projects were identified for the evaluation of cumulative impacts (see Table 7). Review of aerial photography of these eight parcels show that the majority of the impacts from these projects will be to agricultural lands (e.g., orchards, row crops) and little to no impacts to native upland or riparian habitats (see Figure 12).

The direct and indirect impacts to federal, state, and County jurisdictional waters and wetlands from the project would add to the general cumulative loss of jurisdictional waters and wetlands in the County of San Diego. When compared to projects being evaluated for cumulative impacts in the area, it appears that only the current project has the potential to impact federal, state, and County jurisdictional waters. Cumulative impacts to federal, state, and County jurisdictional waters would not be considered significant because the project will mitigate impacts so that a no net loss of jurisdictional waters, including wetlands, will occur.

5.4 Mitigation Measures and Design Considerations

Mitigation for impacts to federal, state, and County RPO jurisdictional waters and wetlands would be accomplished through the implementation of a combination of the following: preparation and implementation of on-site jurisdictional waters and wetland establishment plans, the restoration and enhancement of disturbed jurisdictional waters and wetlands within conserved open space, and project design features used to reduce the indirect impacts of edge effects on the conserved jurisdictional waters and wetlands

(e.g., wetland buffers, restrictions on lighting, access, runoff, and noise). Typical wetland habitats require mitigation ratios of up to 3:1 and RPO requires a minimum 3:1 mitigation ratio for RPO wetland impacts. Mitigation for impacts to wetlands and RPO wetlands must at a minimum establish (create) wetlands at a 1:1 ratio to achieve a no net loss of wetland area, while the remaining 2:1 may be achieved through restoration and enhancement of disturbed wetlands. Mitigation acreage requirements for wetlands are included for wetland habitat types under Section 8.0 Summary of Project Impacts and Mitigation discussion (e.g., riparian woodlands, riparian scrubs, marsh, disturbed wetlands). On-site wetland mitigation areas are covered in the conceptual RMP prepared for the on-site biological open space areas (see Attachment 16). A conceptual wetland revegetation plan has been prepared for the proposed on-site mitigation areas (see Attachment 15).

5.5 Conclusions

Mitigation for significant impacts to jurisdictional waters and wetlands would be accomplished through a combination of on-site and off-site establishment and restoration/enhancement of conserved jurisdictional waters and wetlands. Project design features (e.g., buffers, restrictions on lighting, access, noise, and runoff) will provide mitigation to reduce potential indirect impacts from edge effects on these conserved on-site wetland habitats.

Wetland buffers are being provided that will reduce the potential for indirect edge effects on the biological open space areas. Limited building zones adjacent to the biological open space will also help reduce the potential for indirect edge effects. Project nighttime lighting adjacent to the biological open space area shall be shielded and directed away from the preserved habitat to reduce any indirect effects of light pollution on the wetland habitat. Signage and fencing will restrict access to the biological open space areas except along designated trails to help minimize any potential future impacts to the wetlands. Restriction on construction activities during the sensitive avian breeding season will reduce the potential for indirect noise impacts while the project is being graded. Storm drain outlets must meet the storm water pollution requirements which will limit any indirect impacts from runoff to the wetland areas.

6.0 Wildlife Movement and Nursery Sites

The project site does not support nursery sites for wildlife. Direct and indirect impacts to the local wildlife movement corridors on-site are discussed in this section of the report.

6.1 Guidelines for Determination of Significance

The determination of the significance of impacts to wildlife movement and nursery sites is made with regard to the following:

The project would interfere substantially with the movement of a 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 (County of San Diego 2010).

6.2 Analysis of Project Effects

Direct and indirect impacts from the project would reduce the relatively large patches of native upland vegetation in the project area and increase fragmentation of the riparian woodlands that form blocks native vegetation between regional habitat linkages to the north, south, and west. These impacts would reduce suitable habitat on-site that supports local populations of plant and wildlife species and they would reduce any potential natural upland habitat “stepping stone” connections for wildlife that can migrate between the larger regional connections. Minor impacts to portions of the draft PAMA area along the I-15 corridor from proposed off-site road improvements would not disrupt these wildlife movement areas. However, the project, through mitigation, would add lands to the future PAMAs when the draft North County MSCP is adopted. The local wildlife corridors identified on-site are not recognized as important regional linkages in the draft North County MSCP. However, the preservation of the local wildlife corridors on-site along the major drainage courses would continue to provide secondary corridor connections between the identified regional linkages to the north (Keys Canyon), south (Moosa Creek), and west (I-15 Escondido–Temecula). These direct and indirect impacts to local wildlife movement would not be considered significant.

6.2.1 Impacts to Wildlife Access to Foraging Habitat, Breeding Habitat, and Water Sources Necessary for Reproduction

No barriers will be created that isolate portions of the riparian habitat within the local wildlife movement corridors from breeding or foraging habitat, or prevent access to water sources necessary for reproduction. The project has been designed to avoid direct impacts to the majority of the riparian habitat along the local wildlife movement corridors on the drainages within the project site, and provides a minimum 50-foot buffer to reduce the potential for edge effects on wildlife use of these movement corridors. No significant impacts to wildlife access to foraging or breeding habitat or water sources necessary for reproduction will occur.

6.2.2 Impacts to Connectivity of Blocks of Habitat and Local/Regional Wildlife Corridors and Linkages

The project would not impact the connectivity of blocks of habitat within regional wildlife corridors or linkages. Impacts to the local wildlife corridors and linkages along the major drainage courses that support riparian habitat have been minimized to road crossings. The establishment of a minimum 50-foot buffer, in addition to limited building zones adjacent to the buffer, will reduce the potential for indirect edge effects. The movement of wildlife, including large animal movement through the project, can continue along the drainage courses as vegetation cover will be sufficient to provide shelter and cover during movement. Culverts at the roads crossing the local movement corridors will range in size from 18 inches to 54 inches, depending on the particular drainage course. The culverts will be sufficient to allow small walking animals to avoid roads, while larger walking animals will need to pass around the smaller culverts.

6.2.3 Impacts from Artificial Wildlife Corridors

The project will not create an artificial wildlife corridor. Existing local wildlife corridors along the major drainage courses will be preserved and only impacted by road crossings.

6.2.4 Impacts on Wildlife Corridors/Linkages from Noise and Nighttime Lighting

The project has been designed to reduce noise and nighttime lighting to levels that will not significantly impact local wildlife behavior. Lighting adjacent to on-site biological open space areas will be shielded and directed away from the surrounding habitat. Noise will not be sustained at levels that would disrupt wildlife movement during construction

through breeding season noise restrictions or general post-project conditions through establishment of buffers and limit building zones.

Impacts from noise and lighting due to potential increases in traffic on the improved West Lilac Road between the project and I-15 are anticipated to be less than significant. Ambient noise levels at the native habitat within this wildlife corridor/linkage are already influenced by the current noise generated by the I-15 traffic and additional significant increases in noise levels are not expected to occur from the proposed West Lilac Road traffic. The native habitat occurs mostly on steep slopes at this location within the wildlife corridor/linkage and therefore additional nighttime light from vehicle headlights is not expected to pollute the habitat significantly above the existing condition as the light from the headlights would shine above the habitat.

6.2.5 Impacts to Wildlife Corridor/Linkage Widths

The project would not impact regional wildlife corridor or linkage widths. Minor impacts within regional wildlife corridor/linkage along the I-15 freeway due to the widening of existing roads would not affect the widths of these existing areas. The widths of local wildlife corridors along the major drainage courses are being preserved in biological open space with little impact to their existing widths. The establishment of a minimum of a 50-foot buffer around the biological open space helps preserve the existing widths of the local wildlife corridor/linkage.

6.2.6 Impacts to Visual Continuity of Wildlife Corridors/Linkages

The project will not impact the visual continuity of any regional wildlife corridor or linkage. Local wildlife corridors/linkages being preserved on-site will be set back from the adjacent development by a wetland buffer and limited building zones that will reduce the potential for any significant indirect visual impacts and maintain the visual continuity of these local corridors.

6.3 Cumulative Impact Analysis

Cumulative impacts from the proposed project were evaluated with regards to past, present, and future projects within the local area. Eight projects were identified for the evaluation of cumulative impacts (see Table 7). All eight of these projects are within the draft North County MSCP area but are outside of any draft PAMA areas.

Direct and indirect impacts to wildlife movement corridors on the project site would contribute to the general cumulative impacts to local wildlife movement. These general cumulative impacts would not be substantial enough to adversely affect any of the core

wildlife movement corridors or linkages identified in this portion of northern San Diego County. At this time, it appears that none of the projects within the cumulative impact area of analysis would significantly contribute to impacts to any regional or local wildlife corridors or linkages as these projects would be relatively small. Preservation of the local wildlife corridors along the major drainage courses in the project area would continue to provide for secondary linkages to more important wildlife corridors off-site. Wetland buffers of a minimum of 50 feet will be established to reduce edge effects and maintain wildlife movement. Therefore, cumulative impacts to wildlife movement corridors from the project would not be considered significant.

6.4 Mitigation Measures and Design Considerations

The off-site preservation of native habitats in future PAMA lands provides an opportunity to enhance and contribute to regional wildlife movement corridors. On-site preservation of local wildlife movement corridors along the major drainage courses would continue to provide secondary linkages to future off-site PAMAs. Wetland buffers of a minimum of 50 feet will be established to reduce edge effects and maintain wildlife movement. Culverts have been sized according to the drainage width and will provide avenues for small walking animals to continue to use the open space areas for movement. Signage and fences will be provided to restrict access to the biological open space areas from human encroachment and help direct larger walking animals to the movement corridors in the open space areas.

6.5 Conclusions

No significant impacts to regional wildlife movement corridors would occur from the project. Preservation of off-site native habitat in future PAMA lands may provide an opportunity to enhance some of the regional wildlife movement corridors through the addition of conserved lands within or adjacent to these corridors and linkages. The on-site preservation of local wildlife movement corridors along the major drainage courses within the biological open space on the project site would continue to provide secondary linkages to future PAMA lands off-site by limiting impacts to existing corridor widths, and reducing the potential for indirect impacts to the local wildlife movement corridors by providing a wetland buffer and limiting the number of road crossing on most movement corridors to just one.

7.0 Local Policies, Ordinances, Adopted Plans

The relationship between the proposed project impacts to local policies, ordinances, and adopted plans is discussed in this section of the report. This discussion relates the project to the following: draft North County MSCP, NCCP, RPO, BMO, and Migratory Bird Treaty Act (MBTA).

7.1 Guidelines for Determination of Significance

The determination of the significance of compliance with local policies, ordinances, and adopted plans is made with regard to the following:

The project would conflict with one or more local policies or ordinances protecting biological resources, such as tree preservation policy or ordinance, and/or would conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan (County of San Diego 2010).

7.2 Analysis of Project Effects

7.2.1 Southern California Coastal Sage Scrub NCCP Process Guidelines

The project area is located within the draft North County MSCP area (County of San Diego 2009; see Figure 5). It is adjacent to draft PAMA that are located to north (Keys Canyon) and west (I-15 corridor). Impacts to coastal sage scrub would be considered significant and subject to approval of a Habitat Loss Permit and compliance with impact minimization/mitigation guidelines contained in the NCCP.

Habitat Loss Permit Findings

1. The habitat loss does not exceed the 5 percent guideline.

Impacts to coastal sage scrub on-site (19.4 acres) and off-site (1.3 acres) will not exceed the 5 percent guideline for the County of San Diego.

2. The habitat loss will not preclude connectivity between areas of high habitat values.

The coastal sage scrub habitat on the site is relatively small in size and is not part of the most dense coastal sage scrub habitat in the region. The on-site habitat lies well to the south of larger, dense habitat within Keys Canyon. Coastal sage scrub habitat to the south of this dense habitat area is present in scattered small patches that do not form an important linkage corridor for coastal sage scrub. The on-site habitat does not support any sensitive target or endemic species. Therefore, the coastal sage scrub habitat present within the Lilac Hills Ranch project area is ranked as "low potential for long-term conservation" based on the NCCP flow chart for habitat evaluation.

Coastal sage scrub habitat within or adjacent to proposed off-site improvements is next to existing roads and the I-15 freeway. Impacts to these coastal sage scrub areas would be minimal and along the edges of the road right-of-ways. The off-site coastal sage scrub habitat within the proposed improvement areas is not anticipated to support any sensitive target or endemic species.

Impacts to the coastal sage scrub habitat on-site and off-site would not foreclose the ability to provide connectivity between high habitat value areas to the north in Keys Canyon or to the west along the I-15 habitat corridor. There are only a few scattered small patches of coastal sage scrub habitat in-between the on-site habitat and the high value habitat areas to the north and west.

3. The habitat loss will not preclude or prevent the preparation of the subregional NCCP.

The coastal sage scrub habitat on-site and off-site does not support any sensitive species. The loss of coastal sage scrub habitat due to project impacts will not isolate the remaining habitats from other natural resources or habitats required for the preparation of a subregional NCCP plan as the project site is not in a high biological habitat value core area.

4. The habitat loss has been minimized and mitigated to the maximum extent possible in accordance with Section 4.3 of the NCCP Guidelines.

The coastal sage scrub habitat on the project site occurs as relatively small isolated patches that are not occupied by any sensitive species. The on-site coastal sage scrub habitat is not part of the draft PAMA areas, while portions of the coastal sage scrub habitat adjacent to off-site improvement areas near I-15 are within draft PAMA areas. Impacts to the habitat have been avoided and minimized where coastal sage scrub is adjacent to wetland habitat. Only minor impacts to coastal sage scrub from off-site improvements is anticipated along the

edges of the West Lilac Road and the intersections near Gopher Canyon Road. Mitigation for all project impacts to coastal sage scrub will be accomplished by the off-site preservation of coastal sage scrub habitat at a 2:1 ratio within a proposed future PAMA area.

5. The habitat loss will not appreciably reduce the likelihood of survival and recovery of the listed species in the wild.

The on-site coastal sage scrub habitat to be impacted does not support any sensitive species, is not part of any draft PAMA, and is not part of any biological resource core area. The coastal sage scrub habitat within off-site improvement areas is within the draft PAMA area along the I-15 corridor, but it is unlikely that listed species occur in the narrow habitat areas within the proposed improvement areas. Therefore, the loss of habitat will not appreciably reduce the likelihood of survival and recovery of any listed species in the wild.

6. The habitat loss is incidental to otherwise lawful activities.

The proposed loss of coastal sage scrub will be incidental and part of a lawful activity.

7.2.2 Impacts to Subregional NCCPs

The coastal sage scrub habitat on-site and off-site does not support any sensitive species. The loss of coastal sage scrub habitat due to project impacts will not isolate the remaining habitats from other natural resources or habitats required for the preparation of a subregional NCCP plan as the project site is not in a high biological habitat value core area, and off-site impacts to the draft PAMA area would be minimal, being confined to existing road right-of ways. These losses of habitat would not preclude or prevent the preparation of the subregional NCCP for this part of San Diego County.

7.2.3 RPO Wetlands and Sensitive Habitat Lands

The proposed project would have impacts to RPO wetlands. Impacts to on-site RPO wetlands were largely avoided and those that were unavoidable are primarily due to road crossings that are needed to provide the secondary access required for fire and emergency access. The impacts at these crossings have been minimized by designing roads to their minimum allowable widths and locating crossings where there are existing roads or the riparian habitat is narrow and disturbed (see RPO findings in Attachment 14). Off-site impacts to RPO wetlands are due to the required widening of existing roads. The roads will be widened to the minimum necessary to meet the required traffic standards. These impacts are discussed in detail above and are all

considered significant. Implementation of mitigation measures are anticipated to bring the project into compliance with RPO.

7.2.4 Mitigation and NCCP Guidelines

The proposed mitigation for impacts to coastal sage scrub habitat will be in accordance with Section 4.13 of the NCCP process guidelines. Mitigation for all project impacts to coastal sage scrub will be accomplished by the off-site preservation of coastal sage scrub habitat at a 2:1 ratio within a proposed future PAMA area.

7.2.5 Conformance to Applicable Habitat Conservation Plans, Habitat Management Plans, Special Area Management Plans, Watershed Plans, or Similar Regional Planning Efforts

The project area is not part of any specific conservation or management plans with the exception of the NCCP. Compliance with the NCCP is anticipated after appropriate mitigation measures are implemented.

7.2.6 Conformance with the Draft North County MSCP: Biological Resource Core Areas

The project area is not located in or part of any identified biological resource core area within the draft North County MSCP. Portions of some of the off-site improvement areas occur within draft PAMA areas identified along the I-15 corridor; however, impacts to coastal sage scrub habitat will be minimal and confined to areas adjacent to existing roads and intersections. These minor impacts to a biological resource core area would not be considered significant as the impacts are relatively small acreages adjacent to existing roads; however, the loss of coastal sage scrub habitat in general would be considered significant.

7.2.7 Habitat Connectivity, Movement Corridors, and Habitat Linkages

The proposed project would not interrupt any substantial habitat connectivity or linkage to biological resource core areas due to the extent of agricultural lands on-site and in the surrounding areas. Local movement corridors would be impeded by development of the project, but these are considered not significant as discussed in Section 6.2. Establishment of adequate habitat buffers would help reduce edge effects on conserved lands in on-site biological open space areas.

7.2.8 Narrow Endemic Species and Listed Species

The proposed project would not have impacts to any narrow endemic species or to any core populations of any narrow endemic species. The project would not result in any impacts to any federal or state listed species.

7.2.9 Migratory Birds and Bald/Golden Eagles

The project has the potential to impact migratory birds, their nests, and or eggs if impacts to habitat occur during the breeding season as defined under the MBTA. Any impacts nesting birds would be considered significant but may be avoided or minimized through avoidance of the breeding season, pre-construction surveys that identify nests to be avoided, and working around identified breeding areas until the young have fledged.

No bald or golden eagles were observed using the project area. The project site does not contain suitable nesting habitat for bald or golden eagle. These eagles typically nest on cliffs or in deciduous and coniferous trees at higher elevations (USFWS 2010). The nearest known sighting of a golden eagle is approximately 4.5 miles to the northeast near Pala Mountain and around the San Luis Rey river valley (State of California 2007d). It is not known if nesting activity was observed at this location. However, the proposed project is over 4,000 feet from this known occurrence and, therefore, would not likely impact golden eagle habitat. Therefore, no impacts to these species of eagle are anticipated to occur.

7.3 Cumulative Impact Analysis

Cumulative impacts from the proposed project were evaluated with regards to past, present, and future projects within the local area. Eight projects were identified for the evaluation of cumulative impacts (see Table 7). Review of aerial photography of these eight parcels show that the majority of the impacts from these projects will be to agricultural lands (e.g., orchards, row crops) and little to no impacts to native upland or riparian habitats (see Figure 12). These projects are within the draft North County MSCP area, but are mostly outside of the draft PAMA areas.

The proposed Lilac Hills Ranch project will comply with local policies, ordinances, and adopted plans to ensure that impacts to biological resources are avoided, minimized, and mitigated according to guidelines established by these regulations. It is assumed that the present and future projects within the cumulative impact analysis area will comply with all local ordinances, policies, and adopted plans. Therefore, cumulative impacts from the proposed Lilac Hills Ranch project would not be considered significant after implementation of the approved mitigation measures.

7.4 Mitigation Measures and Design Considerations

Mitigation measures to be implemented to compensate for significant direct and indirect impacts to riparian habitat, natural communities, and jurisdictional waters and wetlands will involve one or a combination of the following measures: off-site purchase of habitat, on-site habitat conservation, on-site/off-site re-vegetation and enhancement, and project design features to reduce potential edge effects (e.g., habitat buffers). These mitigation measures are consistent with mitigation required under the local policies, ordinances, and adopted plans.

7.5 Conclusions

Mitigation measures to be implemented to compensate for significant direct and indirect impacts to riparian habitat, and jurisdictional waters and wetlands would be consistent with mitigation required under the local policies, ordinances, and adopted plans.

8.0 Summary of Project Impacts and Mitigation

A summary of the proposed direct impacts to habitat/vegetation communities and required mitigation acreages is provided in Table 8. A summary of the proposed mitigation measures for the project is provided in Table 9. Mitigation for impacts to upland natural communities (e.g., coast live oak woodland, coastal sage scrub, southern mixed chaparral) would be achieved through the purchase and conservation of off-site habitat within future PAMA lands. A conceptual Resource Management Plan for the proposed off-site upland mitigation areas has been prepared that contains the criteria for site selection and management guidelines (Attachment 17).

Mitigation for impacts to riparian/wetland habitats would be achieved through a combination of on-site/off-site wetland establishment (creation) and the restoration/enhancement of on-site wetland areas through the removal of non-native invasive plant species within biological open space (Figures 14a,b). Potential on-site wetland mitigation may provide up to 6 acres of creation and 12 acres of restoration/enhancement mitigation. Biological open space areas on-site will be dedicated with each phase of development (Table 10 and Figure 15). Open space dedication is phased to include adjacent open space areas in the phase of development that borders the phase under construction to reduce the chance for inadvertent impacts to occur to the resources in these open space areas. Open space fencing and signage would be implemented upon dedication of the open space area.

Mitigation for upland and wetland habitats would also compensate for the loss of habitats that support special status wildlife species by providing conserved habitat within future PAMA lands that may also support these wildlife species. The on-site biological open space areas and associated buffers would help reduce potential edge effects and provide for the maintenance of local secondary wildlife movement corridors. Enhancement of the habitats in the biological open space areas achieved by the removal of non-native invasive plant species and the establishment of native plant species will also benefit wildlife on-site and local wildlife movement. Implementation of resource management plans for conserved lands on-site and off-site associated with the project mitigation would provide for the preservation and long-term maintenance of these lands.

Mitigation for potential impacts to nesting raptors and other general birds would be achieved through either avoidance of impacts to vegetation during the nesting season, and/or pre-construction surveys and avoidance of identified nests during construction.

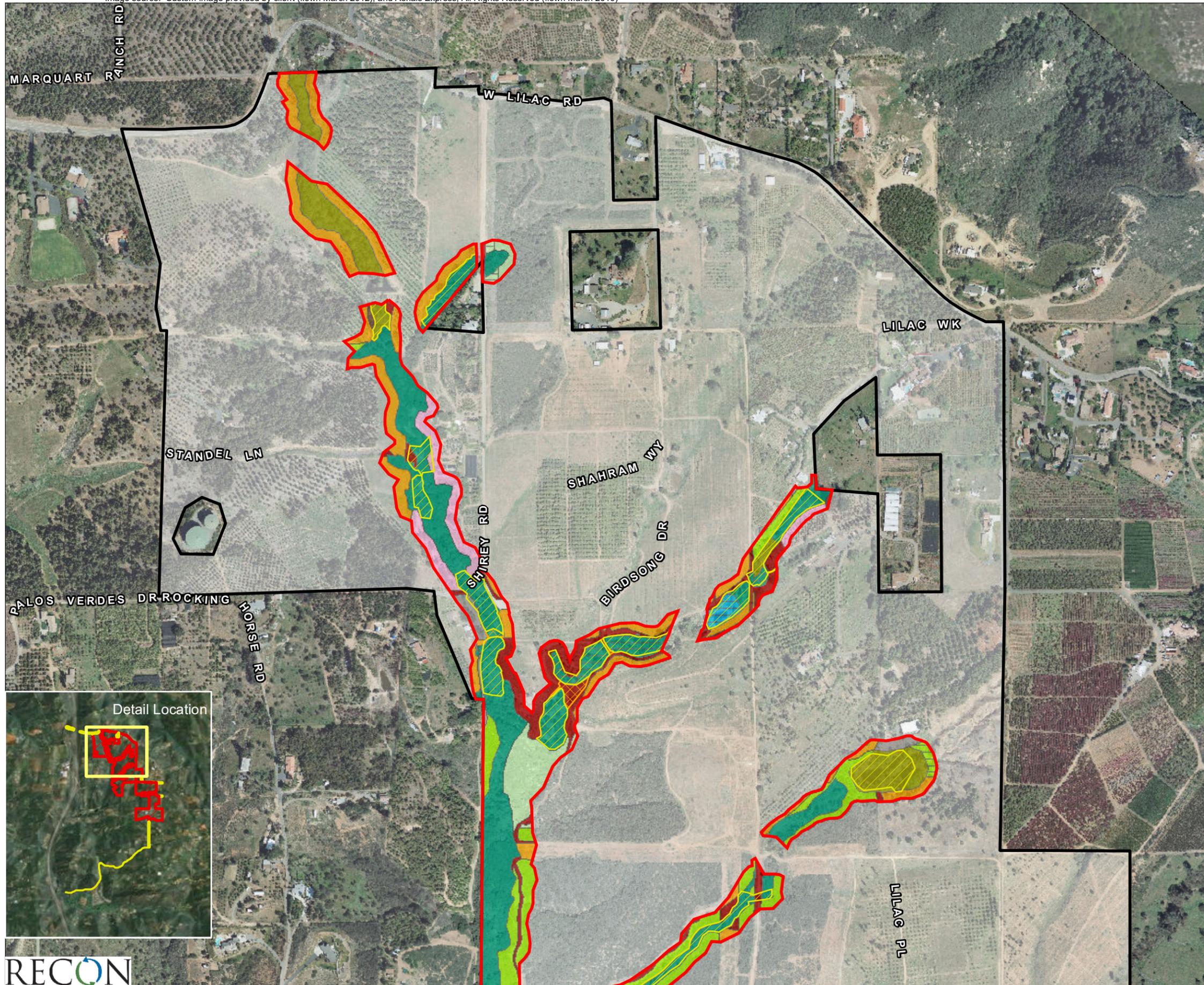
Indirect impacts associated with edge effects from development would be mitigated through project design features that reduce the effects of noise, lighting, invasive species, drainage, and access to biological open space areas. Noise impacts would be

**TABLE 8
HABITAT/VEGETATION COMMUNITIES, IMPACTS, AND MITIGATION**

Habitat/Vegetation Community	Existing (acres)	Impacts (acres)	Off-site Impacts (acres)	Mitigation Ratio	Mitigation Required (acres)	Preserved On-site/ Impact Neutral (acres)	Off-site Mitigation (acres)
Coast live oak woodland	3.6	0.3	0	3:1	1.2	3.3	1.2
Coastal sage scrub	19.6	17.0	0.1	2:1	34.2	2.6	34.2
Disturbed coastal sage scrub	2.9	2.6	0	2:1	5.2	0.3	5.2
Disturbed coastal/valley freshwater marsh	0.6	0.1	0	3:1	0.3	0.5	0.3 ¹
Eucalyptus woodland	1.7	1.0	0	None	None	0.7	None
Southern coast live oak riparian woodland	22.5	1.1	0	3:1	3.3	21.4	3.3 ¹
Disturbed southern coast live oak woodland	1.9	0.5	0	3:1	1.5	1.4	1.5 ¹
Southern mixed chaparral	75.4	49.4	0	0.5:1	24.5	26.0	24.5
Disturbed southern mixed chaparral	6.0	4.9	0	0.5:1	2.4	1.1	2.4
Southern willow riparian woodland	4.7	0.5	0	3:1	1.5	4.2	1.5 ¹
Southern willow scrub	6.1	0.3	0	3:1	0.9	5.8	0.9 ¹
Disturbed southern willow scrub	0.3	0.3	0	3:1	0.9	0	0.9 ¹
Mule fat scrub	0.1	0.1	0	3:1	0.3	0	0.3 ¹
Open water – freshwater	0.5	0.5	0	3:1	1.5	0	1.5 ¹
Disturbed wetland	0.4	0.1	0	3:1	0.3	0.3	0.3 ¹
Extensive agriculture – row crops	90.5	85	0	None	None	5.5	None
Intensive agriculture – nursery	9.2	6.7	0	None	None	2.5	None
Vineyard	0.7	0.6	0	None	None	0.1	None
Orchard	291.9	276.8	1.2	None	None	15.1	None
Disturbed habitat	44.0	34.8	2.4	None	None	9.2	None
Developed	25.7	22.8	21.1	None	None	2.9	None
TOTAL	608.3	505.4	24.8		78.0	102.7	78.0²

¹A portion of this mitigation acreage may be achieved on-site. Total on-site mitigation acreage not yet determined.

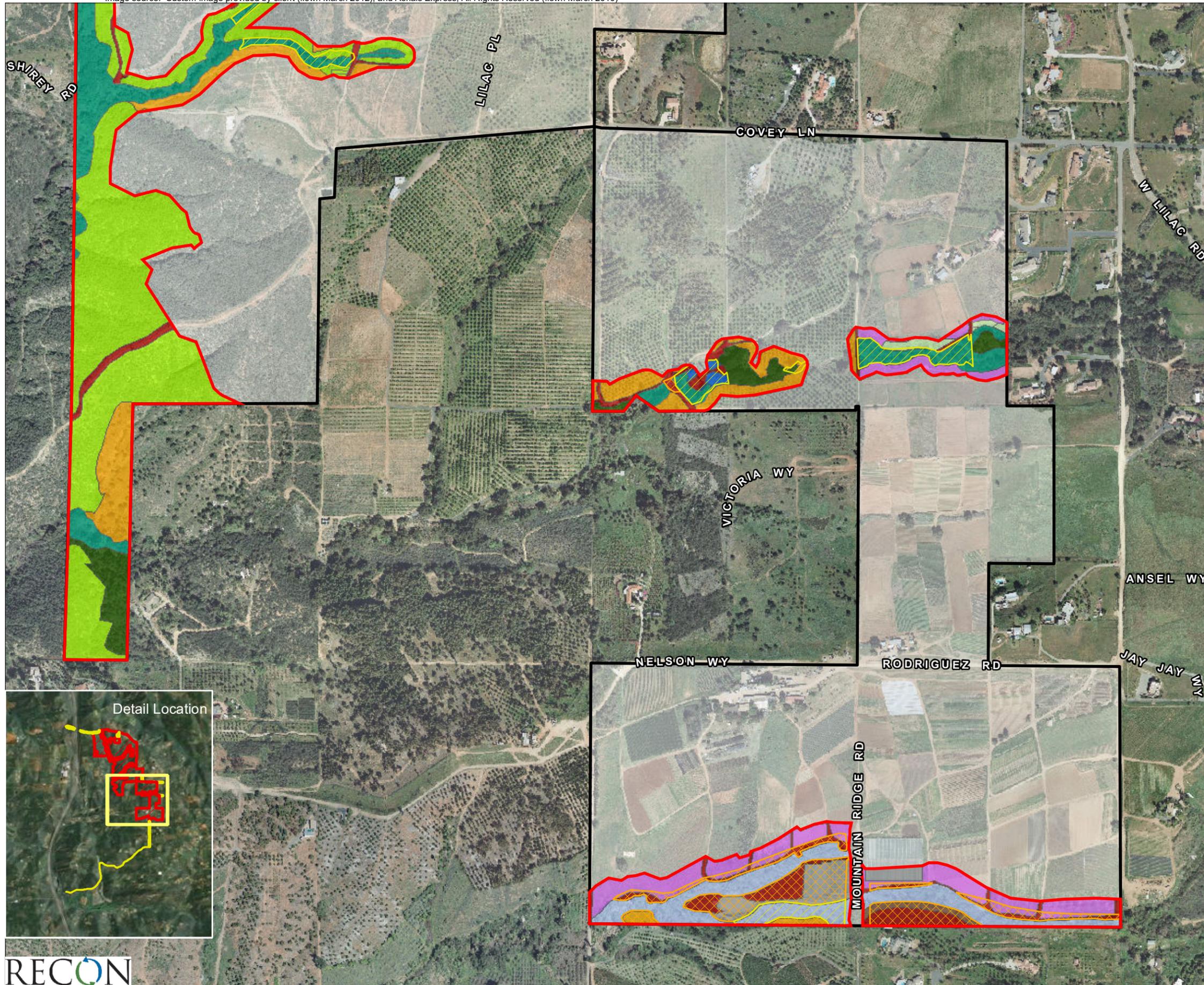
²Total off-site mitigation requirement may be lower when on-site mitigation opportunities are fully quantified.



- Project Boundary
- Biological Open Space Boundary
- Wetland Creation
- Wetland Enhancement
- Vegetation Communities and Landcover**
- Coastal Sage Scrub (32520)
- Disturbed Coastal Sage Scrub (32520)
- Disturbed Coastal/Valley Freshwater Marsh (52410)
- Eucalyptus Woodland (79100)
- Southern Coast Live Oak Riparian Woodland (61310)
- Disturbed Southern Coast Live Oak Riparian Woodland (61310)
- Southern Mixed Chaparral (37120)
- Disturbed Southern Mixed Chaparral
- Southern Willow Riparian Woodland
- Intensive Agriculture - Nursery
- Orchard (18100)
- Vinyard (18100)
- Disturbed Habitat (11300)
- Developed (12000)



FIGURE 14a
Vegetation Communities/Land Cover Types within Biological Open Space and Location of Potential Wetland Mitigation



- Project Boundary
 - Biological Open Space Boundary
 - Wetland Creation
 - Wetland Enhancement
- Vegetation Communities and Landcover Type**
- Coastal Sage Scrub (32520)
 - Disturbed Coastal Sage Scrub (32520)
 - Coast Live Oak Woodland (71160)
 - Coastal/Valley Freshwater Marsh (52410)
 - Disturbed Wetland (11200)
 - Eucalyptus Woodland (79100)
 - Southern Coast Live Oak Riparian Woodland (61310)
 - Disturbed Southern Coast Live Oak Riparian Woodland (61310)
 - Southern Mixed Chaparral (37120)
 - Disturbed Southern Mixed Chaparral (37120)
 - Southern Willow Scrub (63320)
 - Extensive Agriculture - Row Crops
 - Orchard (18100)
 - Disturbed Habitat (11300)
 - Developed (12000)



FIGURE 14b
Vegetation Communities/Land Cover Types
within Biological Open Space and Location
of Potential Wetland Mitigation

**TABLE 9
SUMMARY OF MITIGATION MEASURES**

Proposed Mitigation	Level of Significance after Mitigation	Guideline Number(s)
Biological Open Space/Conservation Easement of Fee Title Transfer of Open Space	Below significant	4.2; 4.3; 4.4
Off-site Purchase or Preservation of Habitat	Below significant	4.1B
Preparation and Implementation of Revegetation Plans	Below significant	4.2B; 4.3; 4.5C
Revegetation and/or Enhancement of Open Space	Below significant	4.2B; 4.3; 4.5C
Resource Management Plan	Below significant	4.2B; 4.3; 4.5C
Breeding Season Avoidance	Below significant	4.1H; 4.2D; 4.4D
Permanent Fencing/walls	Below significant	4.1H; 4.2D; 4.5C
Temporary Fencing	Below significant	4.1H; 4.2D; 4.4D
Evidence of Federal or State Permits	Below significant	4.3
Restrictions on Lighting, Runoff, Access, and/or Noise	Below significant	4.1H; 4.2D; 4.4D
Biological Monitoring	Below significant	4.1H; 4.2D; 4.4D
Wetland Buffer	Below significant	4.2E; 4.3; 4.4D
Limited Building Zone Easement	Below significant	4.1H; 4.2D; 4.4D

**TABLE 10
LILAC HILLS RANCH ON-SITE BIOLOGICAL OPEN SPACE DEDICATION BY DEVELOPMENT PHASE**

Development Phase	Biological Open Space Area Dedication*	Acres
1	OS1	1.4
1	OS2	3.2
1	OS3	1.3
1	OS4	0.6
1	OS5	0.1
1	OS6	8.5
2	OS7	9.1
2	OS9	3.6
3	OS8	43.9
3	OS10	4.6
4	OS11	5.1
4	OS12	4.1
5	OS13	10.7
5	OS14	6.5
TOTAL		102.7

*See Figure 15 for locations of biological open space areas.

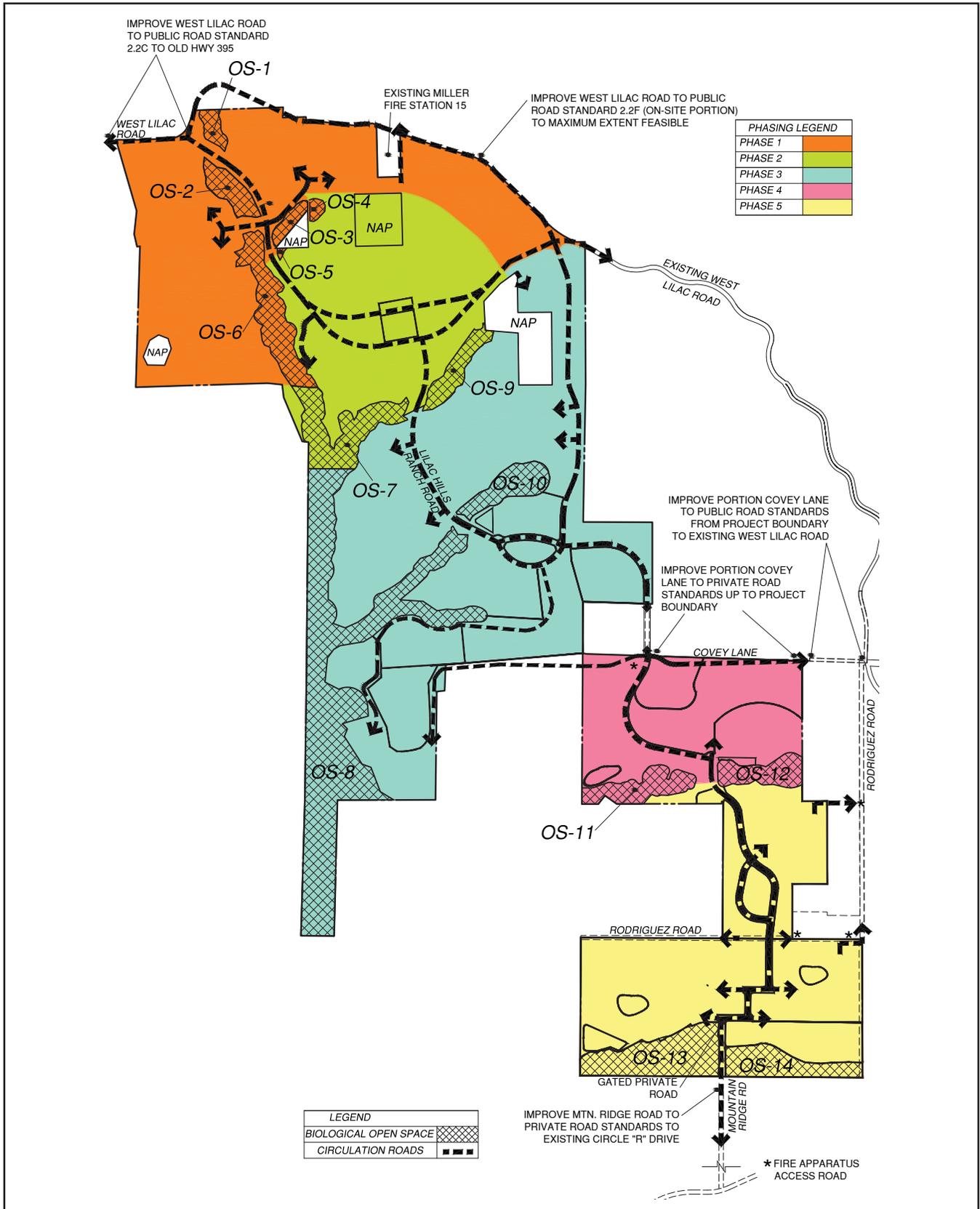


FIGURE 15
Biological Open Space Plan

minimized by restrictions on construction activities during the sensitive avian breeding season or through the use of adequate noise attenuation measures. Any lighting adjacent to biological open space areas will be shielded and directed away from the habitat areas to reduce light pollution. Landscape plans for areas adjacent to biological open space areas will contain native plant species to reduce the potential for invasive species to disperse to the open space. Any storm water runoff from the project entering drainages will be treated according to storm water pollution standards prior to discharge into any open space areas. Signage and fences will be provided to reduce access to the biological open space areas, and trails will be restricted to existing roads. Implementation of Best Management Practices during and after construction would help reduce potential edge effects. Establishment of buffers of a minimum of 50 feet around the biological open space areas will help mitigate edge effects on these conserved lands.

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10.0 List of Preparers

Gerald A. Scheid	Biologist, Author – on San Diego County List for Biological Resources
Anna Bennett	Biologist
Alex Fromer	Biologist
Megan Lahti	Biologist
John Lovio	Biologist
Erin McKinney	Biologist
Frank McDermott	GIS Supervisor
Sean Bohac	GIS Specialist
Chris Nixon	GIS Specialist
Stacey Higgins	Production Specialist
Eija Blocker	Production Specialist

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