

3.4 Biological Resources

The purpose of this section is to analyze the project's potential impacts on biological resources on the project site and vicinity. The analysis in this section is based on the following reports (see **Appendices C1** through **C4** of this EIR for full copies of these reports):

- *Biological Resources Assessment, The Preserve*, prepared by PCR Services Corporation, August 25, 2008; Updated July 2, 2014 (Appendix C1);
- *Jurisdictional Delineation of The Study Area of The Preserve at San Juan*, prepared by Glenn Lukos Associates, August 5, 2013; Updated July 1, 2014 (Appendix C2);
- *The Preserve at San Juan Tree Management and Preservation Plan, Draft*, prepared by Dudek, August 2013; Updated July 2014 (Appendix C3); and
- *Results of Focused Dry Season Vernal Pool Brachiopod Surveys for The Preserve Project Site*, prepared by PCR Services Corporation, October 3, 2013 (Appendix C4).

Unless otherwise indicated, the information below is cited from the Biological Resources Assessment (BRA) prepared by PCR. The study area analyzed in the BRA encompasses 745 acres, which is larger than, and includes, the footprint of the proposed project. This allows the analysis to include effects to the larger area, include any potential edge effects. Additionally, because the biological resource study area is larger than the project site and the proposed disturbance areas, the acreages of biological resources below do not correspond to the project development acreages described in Section 2.0, *Project Description*.

3.4.1 Environmental Setting

Existing Conditions

As detailed in Chapter 2, *Project Description*, the project site is located within a rural portion of unincorporated Orange County and consists of two non-contiguous parcels. Elevations of the project site range from 2,335 feet above mean sea level (amsl) in the south to 3,346 feet amsl in the north.

Phase 1 (south parcel) consists of gently sloping terrain in the northeast portion of the parcel to steep, rugged terrain in the remainder of the parcel. The majority of the parcel is undisturbed and supports dense chaparral habitat and areas of oak woodland. Two United States Geological Survey (USGS) blue line streams exist on the site. Long Canyon Creek is a blue line stream that crosses the northeast corner of the parcel, and an unnamed blue line stream, bisects the center of the parcel from north to south.

Phase 2 (north parcel) consists of gently sloping and steep, rugged terrain, and supports dense chaparral habitat and scattered patches of oak woodland. Long Canyon Creek, also crosses the southwest corner of the Phase 2 (north parcel).

The Orange County portion of the study area is located within the Southern Subregion Natural Communities Conservation Plan (SSNCCP); however, is outside of the Rancho Mission Viejo planning area and, therefore, is not subject to the policies set forth in the SSNCCP. In addition,

the off-site areas within Riverside County are within the central western portion of the Elsinore Area of the Western Riverside County Multiple Species Habitat Conservation Plan (MSHCP).

Plant Communities/Habitat

Descriptions of each of the plant communities found within the study area are provided below. Plant community names and descriptions follow the Orange County Habitat Classification System (OCHCS). If a community did not conform to any of the communities in the OCHCS, it was named after the dominant species found within it (e.g., Deerweed Series). A description of the plant communities mapped within the biological resources study area is provided below, and **Figure 3.4-1** depicts their location. Representative photographs of plant communities is provided in the Biological Resources Assessment (Appendix C1 of this EIR).

Black sage scrub (OCHCS 2.3.4) comprises approximately 1.5 acres on-site in the southwestern portion of Phase 2 (north parcel). Black sage scrub is dominated by black sage (*Salvia mellifera*) with California buckwheat (*Eriogonum fasciculatum*) as a sub-dominant species.

Buckwheat scrub (OCHCS 2.3.7) occupies approximately 0.8 acre along the southwestern boundary of Phase 2 (north parcel), 0.2 acre within the south-central portion of Phase 1 (south parcel), and 0.1 acre off-site. Buckwheat scrub is dominated by California buckwheat.

Buckwheat scrub/hoaryleaf ceanothus chaparral (OCHCS 2.3.7/3.4) consists of 1.2 acres in the northeastern portion of Phase 1 (south parcel). This community contains the dominant species of both buckwheat scrub and hoaryleaf ceanothus (*Ceanothus crassifolius*) chaparral (hoary leaf ceanothus chaparral is described below).

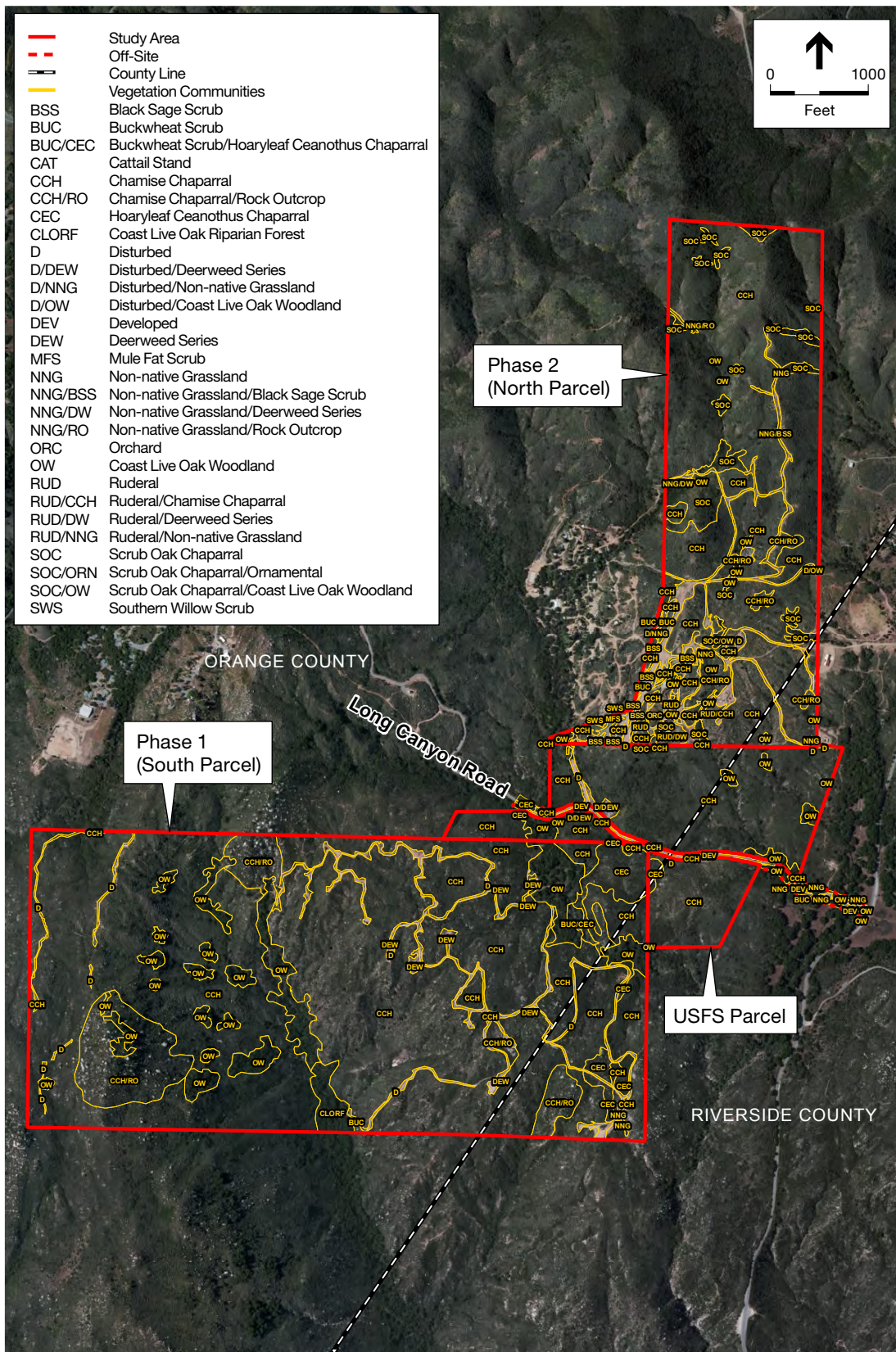
Chamise chaparral (OCHCS 3.3) is the dominant plant communities within the biological resources study area. This plant community is dominated by chamise with black sage as a sub-dominant.

Chamise chaparral/rock outcrop (OCHCS 3.3/10.3) occupies 38.5 acres on-site (6.3 acres scattered in the southern half of Phase 2 (north parcel) and 32.2 acres throughout Phase 1 (south parcel)).

Deerweed series (OCHCS n/a) occurs in areas that have been disturbed, particularly along the dirt roads on Phase 1 (south parcel). A total of 1.7 acres of deerweed series was mapped throughout the eastern half of Phase 1 (south parcel). The dominant species in this community is deerweed.

Hoaryleaf ceanothus chaparral (OCHCS 3.4) is dominated by hoaryleaf ceanothus. Hoaryleaf ceanothus chaparral consists of a dense canopy cover with an understory consisting mostly of bare ground and leaf litter. Approximately, 13.8 acres are located in the eastern portion of Phase 1 (south parcel).

Scrub oak chaparral (OCHCS 3.7) is dominated by scrub oak. Laurel sumac, hoaryleaf ceanothus, and toyon (*Heteromeles arbutifolia*) occur as subdominant species. A total of 13.7 acres are located in scattered patches throughout Phase 2 (north parcel).



NOTE: The study area analyzed in the BRA encompasses 745 acres, which is larger than, but includes, the footprint of the proposed project because the biological resources analysis was conducted prior to the project design being finalized.

SOURCE: PCR, 2014

The Preserve at San Juan
Figure 3.4-1
 Plant Communities

Scrub oak chaparral/ornamental (OCHCS 3.7/15.5) is mapped in the southwest corner of Phase 2 (north parcel) and consists of scrub oak chaparral mixed with planted ornamental species. A total of 0.1 acre of scrub oak chaparral/ornamental occurs on-site.

Scrub oak chaparral/coast live oak woodland (OCHCS 3.7/8.1) occurs in the south-central portion of Phase 2 (north parcel) and supports species typical of scrub oak chaparral and coast live oak woodland (described below). A total of 0.5 acre of scrub oak chaparral/coast live oak woodland occurs on-site.

Coast live oak woodland (OCHCS 8.1) comprises 1.5 acres in scattered patches throughout Phase 2 (north parcel) and 32.8 acres throughout Phase 1 (south parcel).

Coast live oak forest (OCHCS 9.1) consists of 4.4 acres in the south-central portion of Phase 1 (south parcel). This community consists of a denser canopy cover of coast live oak than coast live oak woodland described above.

Southern willow scrub (OCHCS 7.2) occurs in three small patches in the southwestern portion of Phase 2 (north parcel) (one patch is associated with Seasonal Pond 5). This area is approximately 0.2 acre and is dominated by willow species, including black willow (*Salix gooddingii*) and red willow (*Salix laevigata*).

Mule fat scrub (OCHCS 7.3) occupies approximately 0.2 acre (0.1 acre on the southwestern panhandle of Phase 2 (north parcel) and 0.1 acre off-site). In this section, the soil was moist and supported a community where mule fat (*Baccharis salicifolia*) was the dominant shrub. The on-site community of mule fat scrub also supported occasional willows (*Salix spp.*) and an understory of herbaceous plant types including western ragweed (*Artemisia psilostachya*).

Cattail stand, which is referred to in OCHCS as freshwater seep (OCHCS 5.3), occupies a small depression kept wet by a continually dripping water spigot and occupies less than 0.1 acre (associated with Seasonal Pond 3) in the south-central portion of Phase 2 (north parcel). Cattail (*Typha sp.*) and rush (*Juncus sp.*) are the dominant plant types here.

Non-native grassland (OCHCS 4.1) comprises 0.4 acre in a few widely-scattered patches throughout Phase 2 (north parcel) and 0.2 acre in the southeast corner of Phase 1 (south parcel)). Non-native grassland is associated with areas that have been disturbed and is dominated by slender wild oat (*Avena barbata*), foxtail chess, and ripgut grass.

Non-native grassland/deerweed series (OCHCS 4.1/n/a) is dominated by non-native grasses but also has significant amounts of deerweed. This community is dominated by rattail fescue and deerweed and comprises a 0.4-acre patch on Phase 2 (north parcel).

Non-native grassland/rock outcrop (4.1/10.3) is dominated by non-native grassland but supports rock outcrops and consists of approximately 0.3 acre along a drainage feature in the northwestern portion of Phase 2 (north parcel).

Non-native grassland/black sage scrub (OCHCS 4.1/2.3.4) is dominated by non-native grassland; however, black sage is a subdominant plant. This community occupies less than 0.1 acre on Phase 2 (north parcel).

Ruderal (OCHCS n/a) areas comprise 0.5 acre on-site in the southwestern portion of Phase 2 (north parcel). Ruderal areas have been disturbed and non-native forbs, or broad-leaved plants, are the dominant species found, rather than non-native grasses. These areas are dominated by prickly sow thistle (*Sonchus asper* ssp. *asper*) and black mustard.

Ruderal/chamise chaparral (OCHCS n/a/3.3) is dominated by ruderal species but chamise is established as a sub-dominant species. This community occupied 0.2 acre in the south-central portion of Phase 2 (north parcel).

Ruderal/deerweed series (n/a/n/a), which comprised of ruderal vegetation in which deerweed was a subdominant shrub, was found near the southern boundary of Phase 2 (north parcel) and occupies 1.1 acres of the study area.

Ruderal/non-native grassland (n/a/4.1) consisting of a ruderal area with a sub-dominance of non-native grasses was observed in the southern portion of Phase 2 (north parcel) and occupies approximately 0.1 acre of the study area.

Disturbed (OCHCS 16.0) areas comprise 17.0 acres on Phase 2 (north parcel) and 13.5 acres on Phase 1 (south parcel). Plant species found in the disturbed areas include red-stemmed filaree, white-stemmed filaree, tocalote, California filago (*Filago californica*), deerweed, black mustard, rattail fescue, slender wild oat, foxtail chess, ripgut grass, soft chess, and Mediterranean schismus (*Schismus barbatus*).

Orchard (OCHCS 14.3) was mapped within the southern portion of Phase 2 (north parcel) parcel and occupies 0.7 acre.

Wildlife

The plant communities discussed above provide habitat for a variety of wildlife species. Wildlife that could be located within the biological resources study area are listed below by taxonomic group. Sensitive wildlife species occurring or potentially occurring are discussed further below.

Invertebrates

Common butterfly species observed during biological resource site visits include sara orangetip (*Anthocharis sara sara*), funereal dusky wing (*Erynnis zarucco funeralis*), fiery skipper (*Hylephila phyleus*), western tiger swallowtail (*Papilio rutulus rutulus*), orange sulphur (*Colias eurytheme*), painted lady (*Vanessa cardui*), mourning cloak (*Nymphalis antiopa*), Lorquin's admiral (*Limenitis lorquini*), Behr's metalmark (*Apodemia mormo virgulti*), and green hairstreak (*Callophrys affinis perplexa*).

Amphibians

Amphibian species observed within the study area during biological resource site visits include the coast range newt (*Taricha torosa torosa*), western toad (*Anaxyrus boreas*), Pacific tree frog (*Pseudacris regilla*) and California tree frog (*Pseudacris cadaverina*). These species, with the exception of the coast range newt, are not considered sensitive.

Reptiles

Reptile species observed within the study area include the western fence lizard (*Sceloporus occidentalis*), granite spiny lizard (*Sceloporus orcuttii*), side-blotched lizard (*Uta stansburiana*), coast horned lizard (*Phrynosoma coronatum*), San Diego alligator lizard (*Elgaria multicarinata webbi*), chaparral whipsnake (*Masticophis lateralis lateralis*), coastal rosy boa (*Charina trivirgata roseofusca*), and northern red-diamond rattlesnake (*Crotalus ruber ruber*). These species, with the exception of the coast horned lizard, coastal rosy boa, and northern red-diamond rattlesnake, are not considered sensitive.

Avian

Representative avian species observed during the field visit include the California quail (*Callipepla californica*), mountain quail (*Oreortyx pictus*), mourning dove (*Zenaidura macroura*), Anna's hummingbird (*Calypte anna*), Nuttall's woodpecker (*Picoides nuttallii*), ash-throated flycatcher (*Myiarchus cinerascens*), western scrub jay (*Aphelocoma californica*), common raven (*Corvus corax*), oak titmouse (*Baeolophus inornatus*), Bewick's wren (*Thryomanes bewickii*), house wren (*Troglodytes aedon*), wrenit (*Chamaea fasciata*), California thrasher (*Toxostoma redivivum*), California towhee (*Pipilo crissalis*), spotted towhee (*Pipilo maculatus*), song sparrow (*Melospiza melodia*), house finch (*Carpodacus mexicanus*), and lesser goldfinch (*Carduelis psaltria*).

Much of the habitat within the study area provides foraging opportunities for raptors, including red-tailed hawk (*Buteo jamaicensis*), turkey vulture (*Cathartes aura*), white-tailed kite (*Elanus leucurus*), northern harrier (*Circus cyaneus*), and red-shouldered hawk (*Buteo lineatus*) which were observed within the study area. The study area supports mature coast live oak woodland and forest which provide additional foraging opportunities for species such as Cooper's hawk (*Accipiter cooperii*) and sharp-shinned hawk (*Accipiter striatus*) and provides habitat for small mammals, which has the potential to result in a sizeable rodent population for raptors to prey on. Collectively, the availability of prey and perches would suggest that the study area is being used by a variety of raptor species.

Mammals

A number of mammal species reside within the region and may utilize the study area to foraging or for cover. Mammals observed within the study area include the California ground squirrel (*Spermophilus beecheyi*), desert cottontail (*Sylvilagus audubonii*), coyote (*Canis latrans*), gray fox (*Urocyon cinereoargenteus*), bobcat (*Lynx rufus*), and mule deer (*Odocoileus hemionus*).

Special Status Biological Resources

There are numerous special status plant and wildlife species present, or potentially present, within the study area. Protected sensitive species are classified by either federal or state resource management agencies, or both, as threatened or endangered, under provisions of the federal and/or state Endangered Species Acts (FESA and CESA, respectively).

Special Status Plants

Sensitive plants include those listed, or candidates for listing, by the U.S. Fish and Wildlife Service (USFWS) and California Department of Fish and Wildlife (CDFW),¹ and species considered sensitive by the California Native Plant Society (CNPS) (particularly Lists 1A, 1B, and 2). Several sensitive plant species were reported in the California Natural Diversity Data Base (CNDDB) from the vicinity. **Table 3.4-1** lists the sensitive plant species that have been observed within the biological resources study area or have some potential to occur within the study area. **Figure 3.4-2** depicts their location. As shown on **Table 3.4-1**, one sensitive plant species (Coulter's matilija poppy) has been observed within the biological resource study area and 12 other sensitive plant species have a low potential to exist within the study area.

Species that were determined to be absent from the study area due to the negative results of focused surveys or not expected to occur within the study area due to the lack of suitable habitat or location outside the species range are not listed on **Table 3.4-1**, but are listed in the Biological Resources Assessment included as Appendix C1.

Sensitive Plant Communities

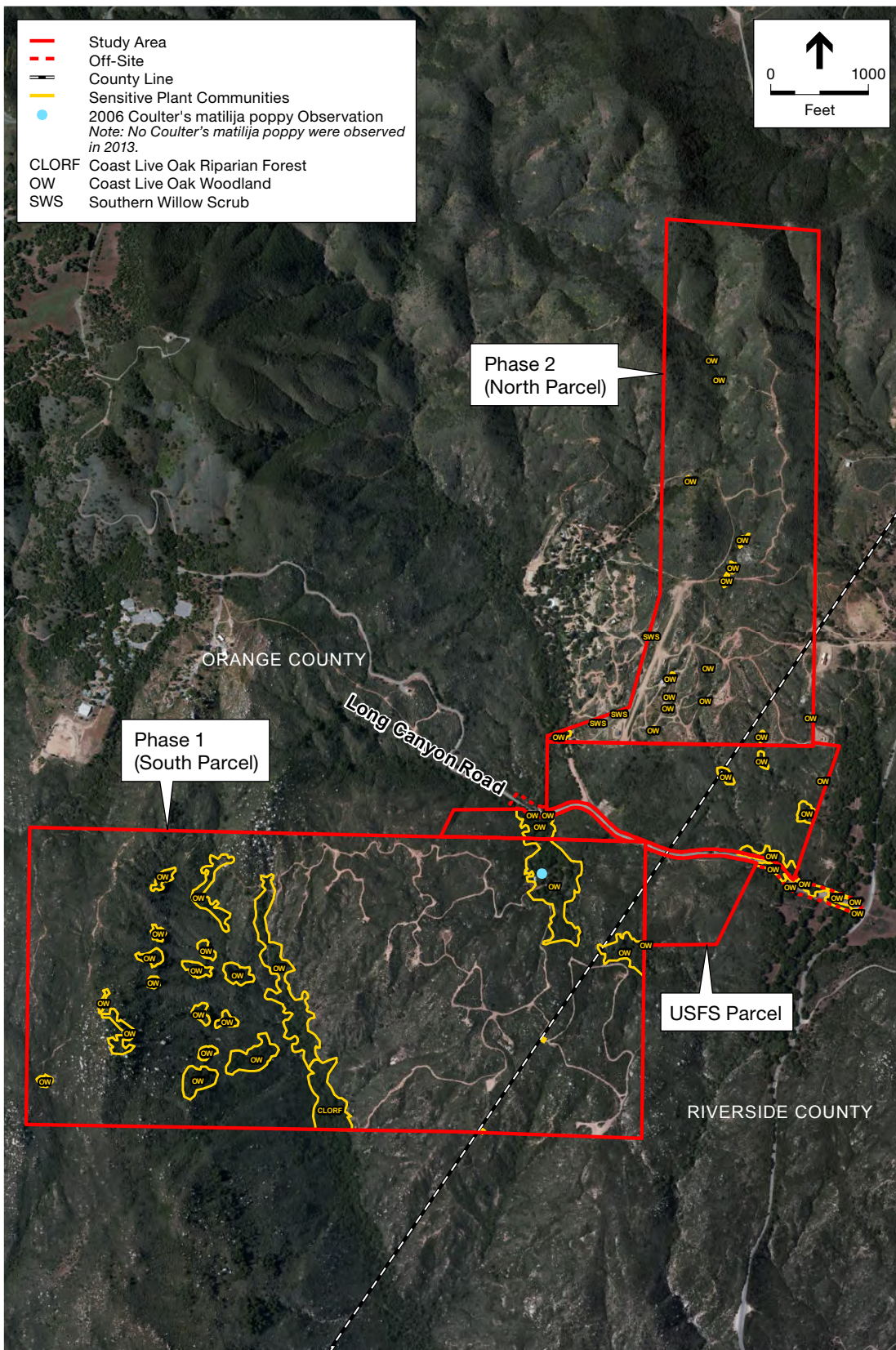
Sensitive plant communities are habitat types considered sensitive by resource agencies (CDFW), due to their scarcity and/or their ability to support state and federally-listed Endangered, Threatened, and Rare vascular plants, as well as several sensitive bird and reptile species.

Three sensitive plant communities were observed within the study area, including southern willow scrub, coast live oak woodland, and coast live oak forest, as shown in Figure 3.4-2.

According to the BRA, Southern willow scrub corresponds to CNDDB code 61.211.05. This community is considered high priority for inventory in the CNDDB. A total of 0.2 acre of southern willow scrub occurs within Phase 2 (north parcel).

The study area also supports 40.9 acres of coast live oak woodland (1.5 acres within Phase 2 (north parcel), 32.8 acres within Phase 1 (south parcel) and 4.4 acres of coast live oak forest within Phase 1 (south parcel), which are considered sensitive by the CDFW due to their potential to support sensitive species. In addition, oak woodlands are protected by state law (i.e., SB 1334-California Oak Woodland Law). Therefore, for the purposes of this assessment, Southern willow scrub, coast live oak woodland, and coast live oak forest are considered sensitive.

¹ The California Department of Fish and Game (CDFG) changed its name on January 1, 2013 to The California Department of Fish and Wildlife (CDFW). In this document, references to literature published by CDFW prior to January 1, 2013 are cited as 'CDFG.' The agency is otherwise referred to by its new name, CDFW.



NOTE: The study area analyzed in the BRA encompasses 745 acres, which is larger than, but includes, the footprint of the proposed project because the biological resources analysis was conducted prior to the project design being finalized.

SOURCE: PCR, 2014

The Preserve at San Juan
Figure 3.4-2
 Sensitive Plant Communities and
 Sensitive Species Locations

**TABLE 3.4-1
SENSITIVE PLANT SPECIES WITH POTENTIAL TO OCCUR ON THE PROJECT SITE**

Scientific Name	Common Name	Flowering Period	Federal	State	CNPS Rank	Other	Preferred Habitat	Distribution	Occurrence On-site
<i>Bryophytes</i>									
Sphaerocarpaceae	Liverwort Family								
<i>Sphaerocarpos drewei</i>	Bottle liverwort	n/a	none	none	1B.1	none	Chaparral, coastal scrub; openings, soil. Between 90 and 600 meters.	Riverside and San Diego Cos.	P (Low)
<i>Angiosperms (Dicotyledons)</i>									
Brassicaceae	Mustard Family								
<i>Caulanthus simulans</i>	Payson's jewel flower	Mar.-Jun.	none	none	4.2	MSHCP USFS	Chaparral, coastal scrub, frequently in burned areas, streambeds, and rocky, steep slopes.	Riverside and San Diego Cos.	P (Low)
<i>Lepidium virginicum</i> var. <i>robinsonii</i>	Robinson's pepper-grass	Jan.-Jul.	none	none	1B.2	none	Chaparral, coastal scrub.	San Diego, Orange, SE Los Angeles, SW San Bernardino, and western Riverside Cos.	P (Low)
Hydrophyllaceae	Waterleaf Family								
<i>Phacelia keckii</i>	Santiago Peak phacelia	May-Jun.	none	none	1B.3	USFS	Chaparral, closed-cone coniferous forests.	Orange and Riverside Cos.	P (Low)
Lamiaceae	Mint Family								
<i>Lepechinia cardiophylla</i>	heart-leaved pitcher sage	Apr.-Jul.	none	none	1B.2	MSHCP USFS	Open areas (esp. slopes) in chaparral, scrub, valley and foothill grasslands; vernal pools, topographic depressions; heavy clay soils; 2,000 - 4,200 feet.	Orange, Riverside, and San Diego Cos., Baja CA.	P (Low)
<i>Monardella hypoleuca</i> ssp. <i>intermedia</i>	Intermediate monardella	Apr.-Sept.	none	none	1B.3	none	Chaparral, cismontane woodland, lower montane coniferous forest (sometimes). 400-1250 meters.	Orange, Riverside, and San Diego Cos.	P (Low)
<i>Monardella hypoleuca</i> ssp. <i>lanata</i>	felt-leaved monardella	Jun.-Aug.	none	none	1B.2	USFS	Chaparral, cismontane woodland.	Orange and San Diego Cos.; Baja CA.	P (Low)

Scientific Name	Common Name	Flowering Period	Federal	State	CNPS Rank	Other	Preferred Habitat	Distribution	Occurrence On-site
<i>Monardella macrantha</i> ssp. <i>hallii</i>	Hall's monardella	Jun.-Aug.	none	none	1B.3	MSHCP USFS	Lower montane coniferous forest, valley and foothill grassland, broadleaf upland forest, chaparral, cismontane woodland. Typically occurs at elevations between 1,800 and 6,200 feet.	Orange, Riverside, San Bernardino, and San Diego Cos.	P (Low)
<i>Clinopodium chandleri</i>	San Miguel savory	Mar.-Jul.	none	none	1B.2	MSHCP USFS	Chaparral, cismontane woodland, coastal scrub, riparian woodland, valley and foothill grassland; rocky, gabbroic, or metavolcanic.	Orange, Riverside, and San Diego Cos.; Baja CA.	P (Low)
Papaveraceae	Poppy Family								
<i>Romneya coulteri</i>	Coulter's matilija poppy ²	Mar-July	none	none	4.2	MSHCP*	Dry washes and canyons in sage scrub and chaparral; below 4,000 feet.	Santa Ana Mtns. To San Diego Co.	OB
Polygalaceae	Milkwort Family								
<i>Polygala cornuta</i> var. <i>fishiae</i>	Fish's milkwort	May-Aug.	none	none	4.3	MSHCP*	Chaparral, cismontane woodland, riparian woodland.	Los Angeles, Orange, Riverside, Santa Barbara, San Diego, and Ventura counties, Baja CA.	P (Low)
Polygonaceae	Buckwheat Family								
<i>Horkelia cuneata</i> ssp. <i>puberula</i>	mesa horkelia ³	Feb.-Sep.	none	none	1B.1	none	Chaparral, cismontane woodland, coast scrub: sandy or gravelly.	Los Angeles and Orange counties. May be extirpated from Riverside and San Diego counties.	P (Low)
<i>Angiosperms (Monocotyledons)</i>									
Liliaceae	Lily Family								

² Approximately 16 individuals of Coulter's matilija poppy were observed in one location in the northeast corner of Phase 1 (south parcel) in 2006; however, none were observed during the more recent sensitive plant surveys conducted in 2012-2013.

³ With the exception of a 1983 occurrence of mesa horkelia, which has a 1 mile radius around a point location off-site, there are no CNDDDB or CNPS records of any of these species occurring within the study area. The CNDDDB data for this occurrence states that the exact location is unknown, but was found within Lion Canyon near the Chiquito Basin Trail, two miles south-southeast of Los Pinos Peak.

Scientific Name	Common Name	Flowering Period	Federal	State	CNPS Rank	Other	Preferred Habitat	Distribution	Occurrence On-site
<i>Lilium humboldtii</i> ssp. <i>ocellatum</i>	Ocellated Humboldt lily	Mar.-Jul.	none	none	4.2	MSHCP* USFS	Chaparral, cismontane woodland, coastal scrub, lower montane coniferous forest, riparian woodland, openings.	Los Angeles, San Bernardino, Riverside, Orange, and San Diego Cos.	P (Low)

Key to Species Listing Status Codes:

Federal and State

FE	Federally Listed as Endangered
FT	Federally Listed as Threatened
FPE	Federally Proposed as Endangered
FPT	Federally Proposed as Threatened
FPD	Federally Proposed for Delisting
FC	Federal Candidate Species
SE	State Listed as Endangered
ST	State Listed as Threatened
SCE	State Candidate for Endangered
SCT	State Candidate for Threatened
SR	State Rare
SFP	State Fully Protected
SSC	California Special Concern Species

CNPS

Rank 1A: Presumed extinct in California.
 Rank 1B: Rare, threatened, or endangered throughout their range.
 Rank 2: Rare, threatened, or endangered in California, but more common in other states.
 Rank 3: Plant species for which additional information is needed before rarity can be determined.
 Rank 4: Species of limited distribution in California (i.e., naturally rare in the wild), but whose existence does not appear to be susceptible to threat.

CNPS Threat Code extensions

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

Western Riverside County Multiple Species Habitat Conservation Plan (MSHCP)

MSHCP Covered Species
 MSHCP* Species with additional requirements before they can be considered adequately conserved

Occurrence On-Site

OB – Species observed within the study area.
 P (Low) – Although this species was not observed during focused surveys, there remains a low potential for this species to occur within portions of the study area outside of the project impact footprint that were inaccessible due to dense, impassible vegetation and steep terrain. The potential is only considered low since little to no understory is expected in the inaccessible areas based on dense canopies of chamise chaparral. In addition, those areas were studied using binoculars and no edges or open areas were observed.

Source: PCR, 2014.

Sensitive Wildlife Species

Sensitive wildlife includes those species listed as endangered or threatened under the FESA or CESA, candidates for listing by the USFWS or CDFW, species of special concern to the CDFW, and species considered sensitive by the U.S. Forest Service (USFS) (Cleveland National Forest). Several sensitive wildlife species were reported in the CNDDDB from the vicinity.

Table 3.4-2 lists the sensitive wildlife species that have been observed within the biological resources study area or have potential to occur. **Figure 3.4-3** depicts their location. As shown on **Table 3.4-2**, six sensitive wildlife species (coast range newt, coast horned lizard, coastal rosy boa, northern red-diamond rattlesnake, white-tailed kite, and northern harrier) have been observed; 3 sensitive wildlife species (San Bernardino ringneck snake, San Diego mountain kingsnake, and northwestern San Diego pocket mouse) have a moderate potential to exist; and 9 sensitive wildlife species have a low potential to exist within the biological resource study area (Quino checkerspot butterfly, orange-throated whiptail, coast patch-nosed snake, golden eagle, long-eared owl, loggerhead shrike, western red bat, western mastiff bat, San Diego desert woodrat).

Species that were determined to be absent from the study area due to the negative results of focused surveys or not expected to occur within the study area due to the lack of suitable habitat or location outside the species range are not listed on **Table 3.4-2**, but are listed in the Biological Resources Assessment included as Appendix C1.

Wildlife Movement

Wildlife movement activities usually fall into one of three movement categories: (1) dispersal (e.g., juvenile animals from natal areas, or individuals extending range distributions); (2) seasonal migration; and (3) movements related to home range activities (foraging for food or water, defending territories, searching for mates, breeding areas, or cover). Although the nature of each of these types of movement are species specific, large open spaces will generally support a diverse wildlife community representing all types of movement.

The study area is within a large open space area of the Santa Ana Mountains. The undisturbed nature of the area and resources provided by creeks and vegetated communities, in addition to travel routes provided by creeks, ridgelines, and dirt roads, facilitate wildlife movement.

The Riverside County areas adjacent to the project site are within the southeast portion of Core B of the MSHCP. Core B represents the second largest habitat block in the MSHCP. Studies of mountain lion movement within this Core indicated that this Core provides both live-in and linkage habitat for this mammal, which requires very large blocks of intact habitat. The Core then likely also provides linkage area for other mammals such as bobcat.

**TABLE 3.4-2
SENSITIVE WILDLIFE SPECIES WITH POTENTIAL TO OCCUR ON THE PROJECT SITE**

Scientific Name	Common Name	Federal	State	Other	Preferred Habitat	Distribution	Occurrence On-site
Invertebrates							
<i>Insecta</i> <i>Grasshoppers, Katydid, Crickets, Beetles, Flies, Butterflies, Moths</i>							
Lepidoptera Butterflies and Moths							
<i>Euphydryas editha quino</i>	Quino checkerspot butterfly ^a	FE	none	MSHCP	Grassland and open areas in sage scrub, chaparral, and sparse native woodlands. Low levels of invasive, nonnative vegetation and soil with a cryptogamic crust. Associated with host plant species dwarf plantain (<i>Plantago erecta</i>) and purple owl's clover (<i>Castilleja exserta</i>).	Orange, San Diego and w Riverside Cos. extending south into n Baja CA.	Low
Vertebrates							
<i>Amphibians</i>							
Salamandridae Newts							
<i>Taricha torosa torosa</i>	coast range newt ^b	none	SSC	MSHCP	Lives in terrestrial habitats and migrates to breed in ponds, reservoirs, and slow-moving streams.	Mendocino Co. to San Diego Co.	OB
<i>Reptiles</i>							
Emydidae Box and Water Turtles							
Phrynosomatidae Iguanid Lizards							
<i>Phrynosoma blainvillii</i>	coast horned lizard ^c	none	SSC	MSHCP USFS	Valley-foothill hardwood, conifer, and riparian habitats, pine-cypress, juniper and annual grassland habitats below 6,000 feet, open country, especially sandy areas, washes, flood plains, and windblown deposits.	Coastal ranges and foothills of Sierra Nevada from San Francisco Bay Area and northern Central Valley south to San Diego and Baja CA.	OB

Teiidae	Whiptails and Relatives						
<i>Aspidoscelis hyperythrus</i>	orange-throated whiptail	none	SSC	MSHCP	Gently sloping hillsides, ridges, and valleys supporting open coastal sage scrub, open chaparral, or sparse grasslands.	Extreme s Los Angeles Co., SW San Bernardino Co., Orange, Riverside, and San Diego Cos. west of the crest of the peninsular Ranges, and Baja CA.	P (Low)
Boidae	Boas						
<i>Charina trivirgata</i>	rosy boa ^d	none	none	USFS	Desert and rocky areas in chaparral covered hillsides and canyons.	Throughout So. CA, south of Los Angeles Co. in coastal ranges to n Baja CA.	OB
Colubridae	Colubrid Snakes						
<i>Diadophis punctatus modestus</i>	San Bernardino ringneck snake	none	none	USFS	Open, relatively rocky areas within valley foothill, mixed chaparral, and annual grass habitats.	San Bernardino, Riverside and Orange Cos.	P (Moderate)
<i>Lampropeltis zonata pulchra</i>	San Diego mountain kingsnake	none	SSC	MSHCP USFS	Moist woods, coniferous forests, woodland and chaparral.	Peninsular Ranges of So. CA.	P (Moderate)
<i>Salvadora hexalepis virgultea</i>	coast patch-nosed snake	none	SSC	none	Coastal chaparral, desert scrub, washes, sandy flats, and rocky areas.	Point Conception south through Baja CA.	P (Low)
Viperidae	Vipers						
<i>Crotalus ruber ruber</i>	northern red-diamond rattlesnake ^e	none	SSC	MSHCP	Chaparral, woodland, and arid desert habitats in rocky areas with dense vegetation.	San Bernardino Co. to tip of Baja CA.	OB
<i>Birds</i>							
Accipitridae	Hawks, Kites, Harriers, and Eagles						
<i>Elanus leucurus</i>	white-tailed kite ^f	none	SFP	MSHCP	Grasslands with scattered trees, near marshes, along highways.	Length of state; breeding in lowlands from Sacramento to San Diego Cos.	OB,F
<i>Circus cyaneus</i>	northern harrier ^g	none	SSC	MSHCP	Coastal salt marshes, freshwater marshes, grasslands, and agricultural fields; occasionally forages over open desert and brushlands.	Alaska, Canada, to So. U.S.	OB,F

<i>Aquila chrysaetos</i>	golden eagle ^h	none	SFP	MSHCP	Mountains, deserts, and open country; prefer to forage over grasslands, deserts, savannahs and early successional stages of forest and shrub habitats. Nesting sites are usually located in secluded cliffs with overhanging ledges or in large trees.	Throughout CA with the exception of the center of the central valley.	P,F
Strigidae	Owls						
<i>Asio otus</i>	long-eared owl ⁱ	none	SSC	none	Dense riparian areas, thickets, woodlands, and forest.	Local resident throughout CA. Some seasonal movement away from nesting areas.	P (Low),F
Laniidae	Shrikes						
<i>Lanius ludovicianus</i>	loggerhead shrike	none	SSC	MSHCP	Open habitats with scattered shrubs, trees, posts, fences, utility lines, or other perches.	Formerly a common resident throughout most of CA, becoming increasingly scarce in many areas in recent years.	P (Low)
<i>Lasiurus blossevillii</i>	western red bat ^j	none	SSC	USFS	Riparian and woodland habitats and urban areas.	Scattered throughout much of California at lower elevations.	P,B
Molossidae	Free-tailed bats						
<i>Eumops perotis californicus</i>	western mastiff bat ^k	none	SSC	none	Primarily arid lowlands, especially deserts. Open, semiarid to arid habitats including conifer and deciduous woodlands, coastal scrub, annual and perennial grasslands, palm oases, chaparral, desert scrub, and urban.	Uncommon resident of lower elevations in se San Joaquin Valley and Coastal Ranges from Monterey Co. southward through s CA from the coast eastward to the Colorado desert.	P,B
Heteromyidae	Kangaroo rats, Pocket Mice, and Kangaroo Mice						
<i>Chaetodipus fallax fallax</i>	northwestern San Diego pocket mouse	none	SSC	MSHCP	Sandy herbaceous areas, usually in association with rocks or coarse gravel, sagebrush, scrub, annual grassland, chaparral and desert scrubs.	Common resident in SW CA; arid coastal areas of Orange, San Bernardino, and Riverside Cos. extending south into Baja CA.	P (Moderate)

Cricetidae**Mice, Rats, and Voles**

<i>Neotoma lepida intermedia</i>	San Diego desert woodrat	none	SSC	MSHCP	Chaparral, coastal sage scrub, and pinyon – juniper woodland.	S CA.	P (Low)
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Key to Species Listing Status Codes:**Federal and State**

FE	Federally Listed as Endangered
FT	Federally Listed as Threatened
FPE	Federally Proposed as Endangered
FPT	Federally Proposed as Threatened
FPD	Federally Proposed for Delisting
FC	Federal Candidate Species
SE	State Listed as Endangered
ST	State Listed as Threatened
SCE	State Candidate for Endangered
SCT	State Candidate for Threatened
SR	State Rare
SFP	State Fully Protected
SSC	California Special Concern Species

Source: PCR, 2014.

Western Riverside County Multiple Species Habitat Conservation Plan (MSHCP)

MSHCP	Covered Species
MSHCP*	Species with additional requirements before they can be considered adequately conserved

United States Department of Agriculture, Forest Service (USFS)

USFS	Sensitive
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Occurrence On-Site

OB – Species observed within the study area.

P (Low) – Although this species was not observed during focused surveys, there remains a low potential for this species to occur within portions of the study area outside of the project impact footprint that were inaccessible due to dense, impassible vegetation and steep terrain. The potential is only considered low since little to no understory is expected in the inaccessible areas based on dense canopies of chamise chaparral. In addition, those areas were studied using binoculars and no edges or open areas were observed.

^a Focused surveys were not conducted for the Quino checkerspot butterfly. The study area is not within the USFWS recommended survey area (i.e., 2005 QCB Survey Area). However, on February 21, 2014, the USFWS issued an updated protocol and QCB Survey Areas map, which includes the study area within the 2014 QCB Survey Area. Although this species is not known to occur within the area (nearest recorded occurrences are within Riverside County 4.4 miles to the east [1983] and 6.6 miles to the east-northeast [2002]) and patches of potentially suitable habitat within a matrix of predominantly unsuitable habitat reduce the likelihood of this species being found, there may be a low potential for the study area to support Quino checkerspot butterfly. Because the protocol was issued on February 21st and survey protocol requires that focused surveys begin during the third week of February, and due to subsequent starts and stops in the project schedule, a habitat assessment was not conducted prior to the preparation of the Biological Resources Assessment. Therefore, a habitat assessment by a Quino biologist and/or coordination by the USFWS are recommended to determine whether focused protocol surveys should be conducted to conclusively determine the potential for this species to occur within the study area (USFWS, 2014).

^b One adult coast range newt was observed within the coast live oak forest in the south-central portion of Phase 1 (south parcel). Additionally, several juvenile coast range newts were observed in two locations off-sites within Long Canyon Creek just east of Phase 1 (south parcel) boundary; however, these two observations are not within the study area boundary.

^c The coast horned lizard was observed on-site within the eastern portion of Phase 2 (north parcel) and along a dirt road on Phase 1 (south parcel).

^d The coastal rosy boa was observed in the spring of 2006 in the southeast portion of Phase 2 (north parcel).

^e The northern red-diamond rattlesnake was observed in the southwest portion of Phase 2 (north parcel).

^f The white-tailed kite was observed within the study area.

^g The northern harrier was observed within the study area.

^h Although there are rock outcrops and oak woodland on the ridgeline to the west of Drainage B, there are no known occurrences within this area (Bloom, 2013; CDFW, 2013; USFWS, 2013). Furthermore, there are no known current or historic CNDDDB or USFWS occurrences within five miles of the study area. The nearest CNDDDB occurrence is located 5.1 miles west-southwest of the southern westernmost corner of Phase 1 (south parcel), just east of Coto de Caza. Although this species is not expected to breed on-site, there is potential for golden eagle to utilize portions of the study area supporting grasslands and open scrublands for foraging.

ⁱ Although there is very low potential for this species to occur within the study area, this is limited to potential habitat within the coast live oak woodland and forest located in Phase 1 (south parcel), which would be avoided by the proposed project.

^j There is potential roosting habitat within the coast live oak woodland and forest within Phase 1 (south parcel), which would be avoided by the proposed project.

^k There is potential roosting habitat within the rock outcrop areas within Phase 1 (south parcel), which would be avoided by the proposed project.

Regulated Trees

Dudek & Associates conducted an inventory and evaluation of native trees (see Appendix C3 of this EIR). Oak trees in unincorporated Orange County are subject to management guidelines outlined in California State Public Resources Code (PRC) 21083.4 (Senate Bill 1334, as adopted). In addition, oak trees within Riverside County are subject to Riverside County Oak Tree Management Guidelines.

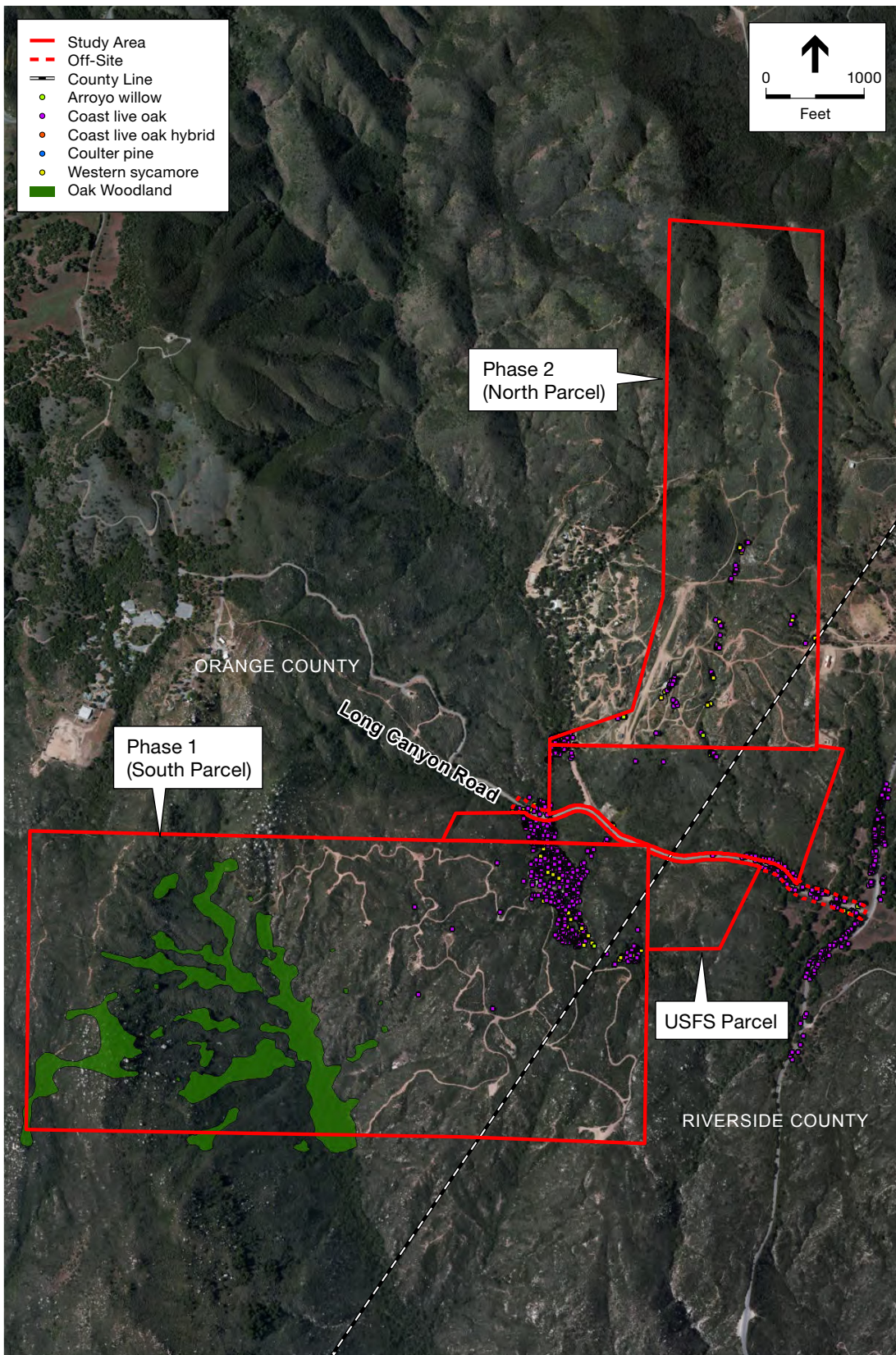
A total of approximately 3,189 trees are located within the project development area as shown in **Figure 3.4-3**. Within the project development area, there are 850 trees (including 749 coast live oaks, 93 western sycamores, 7 arroyo willows (*Salix lasiolepis*), and 1 Coulter pine (*Pinus coulteri*)).

Outside of the development area (within Orange County), there are 2,339 trees (including 2,148 coast live oaks and 191 western sycamores) within the woodlands, which are located within the 414.6 acres that are proposed for preserved open space. Within the off-site areas, which include the proposed roadway improvements to Ortega Highway and the construction of connector roadways from Long Canyon Road, there are 526 trees (including 498 coast live oaks, 25 western sycamores, and 3 arroyo willows). Additional detail is provided in the Tree Management and Preservation Plan (Dudek, 2014) located in Appendix C3 of this EIR.

Jurisdictional Wetlands and “Waters of the U.S.”

An investigation of jurisdictional wetlands and “waters of the U.S.” was conducted by Glenn Lukos Associates. In 2007-2008, a jurisdictional delineation was conducted over an approximately 930.6-acre study area (GLA, 2008). In 2013, Glenn Lukos Associates regulatory specialists re-examined the study area and updated the jurisdictional delineation to reflect current site conditions that included the proposed development area that included a 341-acre study area that contains one main drainage complex, described herein as Drainage A (Long Canyon Creek) and its tributaries (see **Figure 3.4-4**) (GLA, 2014). Drainage B occurs outside of the study area; however, one of its tributaries, Tributary B17, is within the study area. Drainage A and B are mapped as blue-line streams on the USGS topographic map Alberhill, California. A small portion of Drainage C occurs within the study area, near the intersection of Long Canyon Road and Ortega Highway, and converges within Drainage A off-site. Both Drainages A and B converge with San Juan Creek off-site, and ultimately discharge into the Pacific Ocean.

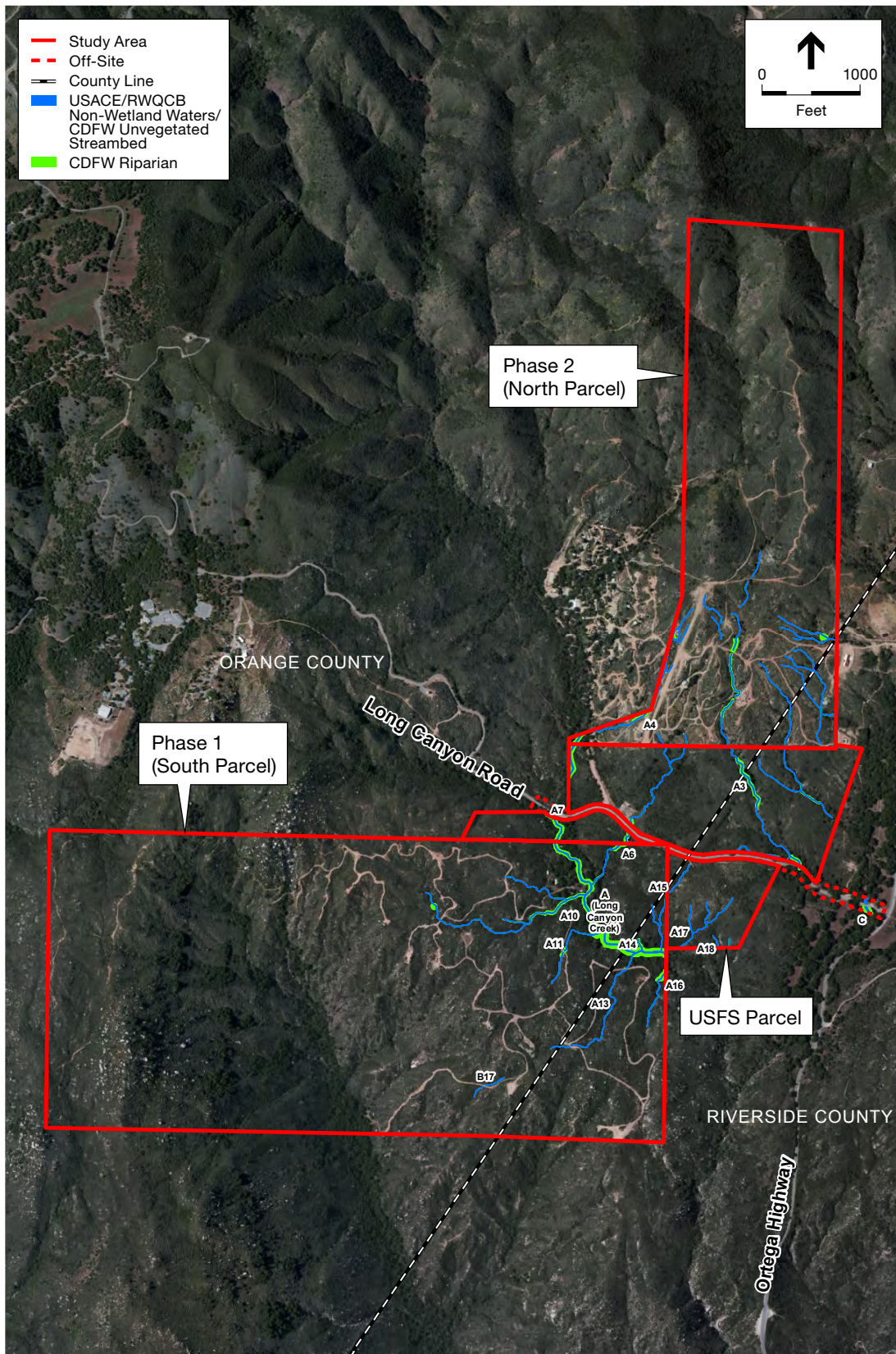
Potential USACE jurisdiction within the 341-acre study area totals approximately 1.32 acres of “waters of the U.S.” (29,625 linear feet), none of which consists of jurisdictional wetlands. None of the drainages were determined to be intrastate/isolated waters outside of USACE jurisdiction. Therefore, the boundaries of all RWQCB jurisdictional “waters of the state” are equivalent to USACE jurisdiction (1.32 acres, 29,625 linear feet). Potential CDFW jurisdiction totals approximately 6.53 acres, of which 5.89 acres consist of vegetated riparian habitat, and includes all areas within USACE jurisdiction, as detailed in **Table 3.4-3**.



NOTE: The study area analyzed in the BRA encompasses 745 acres, which is larger than, but includes, the footprint of the proposed project because the biological resources analysis was conducted prior to the project design being finalized.

SOURCE: PCR, 2014

The Preserve at San Juan
Figure 3.4-3
 Regulated Trees



NOTE: The study area analyzed in the BRA encompasses 745 acres, which is larger than, but includes, the footprint of the proposed project because the biological resources analysis was conducted prior to the project design being finalized.

SOURCE: PCR, 2014

The Preserve at San Juan
Figure 3.4-4
 Jurisdictional Features

**TABLE 3.4-3
 JURISDICTIONAL FEATURES**

Drainage Feature	USACE Non-Wetland Waters	USACE Wetland	Total USACE	CDFW Unvegetated Streambed	CDFW Riparian Habitat	Total CDFW	RWQCB	Linear Feet
A	0.45	0.00	0.45	0.00	3.51	3.51	0.45	2,916
A3	0.37	0.00	0.37	0.29	1.12	1.41	0.37	12,200
A4	0.06	0.00	0.06	0.05	0.13	0.18	0.06	2,191
A6	0.09	0.00	0.09	0.06	0.28	0.34	0.09	2,508
A7	0.01	0.00	0.01	0.00	0.05	0.05	0.01	121
A10	0.08	0.00	0.08	0.05	0.45	0.50	0.08	3,108
A11	0.02	0.00	0.02	0.02	0.04	0.06	0.02	834
A13	0.05	0.00	0.05	0.05	0.00	0.05	0.05	1,624
A14	0.00	0.00	0.00	0.00	0.04	0.04	0.00	121
A15	0.03	0.00	0.03	0.03	0.00	0.03	0.03	1,263
A16	0.03	0.00	0.03	0.02	0.15	0.17	0.03	654
A17	0.04	0.00	0.04	0.04	0.00	0.04	0.04	1,362
A18	0.01	0.00	0.01	0.01	0.00	0.01	0.01	236
B17	0.02	0.00	0.02	0.02	0.00	0.02	0.02	354
C	0.06	0.00	0.06	0.00	0.12	0.12	0.06	133
Total	1.32	0.00	1.32	0.64	5.89	6.53	1.32	29,625

SOURCE: GLA, 2014.

Western Riverside County Multiple Species Habitat Conservation Plan

This section provides a discussion of the study area’s relationship to the MSHCP policies.

Location of the Study Area within the MSHCP Cores and Linkages

The study area is within Existing Core B, which consists of two large and two small blocks of Public/Quasi-Public Lands that provide the second largest habitat block in the MSHCP Area. MSHCP studies of mountain lion movement within Existing Core B indicated that it provides both live-in and linkage habitat for this mammal, which requires very large blocks of intact habitat. Existing Core B then likely also provides linkage area for other mammals such as bobcat.

Of the MSHCP Planning Species for Existing Core B, the turkey vulture and mountain quail were observed; and the following species have the potential to occur within the study area: Cooper’s hawk, southern California rufous-crowned sparrow (*Aimophila ruficeps canescens*), Bell’s sage sparrow (*Amphispiza belli belli*), golden eagle (*Aquila chrysaetos*), downy woodpecker (*Picoides pubescens*), purple martin (*Progne subis*), mountain lion (*Puma concolor*), prostrate spineflower (*Chorizanthe procumbens*),.

Riparian/Riverine Areas and Vernal Pools

Section 6.1.2 of the MSHCP provides for the protection of Riparian/Riverine Areas and Vernal Pools within the MSHCP Plan Area. The study area supports 1.8 acres of MSHCP

Riparian/Riverine Areas that includes a portion of Long Canyon Creek (Drainage A), which is an intermittent drainage system; several ephemeral features that are tributary to Long Canyon Creek; and a small portion of Drainage C, an ephemeral drainage feature that crosses Long Canyon Road near Ortega Highway within the off-site portion of the biological resources study area. The ephemeral drainages support upland vegetation mostly dominated by chaparral with patches of coast live oak. The intermittent features support patches of coast live oak, western sycamore, and scattered willows along the banks and a rocky, mostly unvegetated streambed.

Five man-made seasonal ponds occur within the Orange County portion of the study area, and no vernal pools or other seasonal pond features occur within the Riverside County portion of the study area.

Riparian/Riverine Plant Species

A habitat assessment was conducted for species listed in Section 6.1.2, Protection of Species Associated with Riparian/Riverine Areas and Vernal Pools, of the MSHCP. The results are presented in **Table 3.4-4**. One Riparian/Riverine plant species was observed in 2006 within the Orange County portion of the study area, Coulter’s matilija poppy; however, none were observed during the more recent sensitive plant surveys conducted in 2012-2013. Furthermore, this species was not observed within the Riverside County portion of the study area during any surveys. Three species, San Miguel savory, Fish’s milkwort, and Ocellated Humboldt lily, were not observed during focused surveys but have the potential to occur outside of the project impact footprint due to portions of the study area being inaccessible (i.e., due to dense habitat and steep terrain). However, this potential is considered low due to the dense canopies of vegetation that would limit or even eliminate understory species, and based on the fact that no edges or open areas were observed through binoculars that could support understory species. No other Riparian/Riverine plant species have the potential to occur due to the lack of suitable habitat or the location of study area outside of the species range, or based on the negative results of focused surveys.

**TABLE 3.4-4
MSHCP RIPARIAN/RIVERINE PLANT SPECIES WITH POTENTIAL TO OCCUR IN THE STUDY AREA**

Species	Potential to Occur within the Study Area
Coulter's matilija poppy <i>Romneya coulteri</i>	Suitable habitat occurs and this species was observed in the Orange County portion of the study area in 2006; however, none were observed during the more recent sensitive plant surveys conducted in 2012-2013. The species was not observed during the Riverside County portion of the study area during any of the surveys.
Fish's milkwort <i>Polygala cornuta</i> var. <i>fishiae</i>	This species was not observed during focused surveys; however, there remains a low potential for this species to occur within portions of the study area outside of the project impact footprint. However, this potential is considered low due to the dense canopies of vegetation that would limit or even eliminate understory species, and based on the fact that no edges or open areas were observed through binoculars that could support understory species.
Ocellated Humboldt lily <i>Lilium humboldtii</i> ssp. <i>ocellatum</i>	This species was not observed during focused surveys; however, there remains a low potential for this species to occur within portions of the study area outside of the project impact footprint. However, this potential is considered low due to the dense canopies of vegetation that would limit or even eliminate understory species, and based on the fact that no edges or open areas were observed through binoculars that could support understory species.
San Miguel savory	This species was not observed during focused surveys; however, there remains

Species	Potential to Occur within the Study Area
<i>Satureja chandleri</i>	a low potential for this species to occur within portions of the study area outside of the project impact footprint. However, this potential is considered low due to the dense canopies of vegetation that would limit or even eliminate understory species, and based on the fact that no edges or open areas were observed through binoculars that could support understory species.

SOURCE: PCR, 2014.

Narrow Endemic Plant Species Survey Area

The study area is within Area 9 of the MSHCP’s Narrow Endemic Plant Species Survey Area; therefore, a habitat assessment was completed for many-stemmed dudleya, California Orcutt grass, spreading navarretia, San Miguel savory, Hammitt’s clay-cress, and Wright’s trichocoronis.

The only species with the potential to occur in the study area is San Miguel savory, which was not observed during focused surveys; however, there remains the potential for this species to onsite but outside of the project development area.

Urban/Wildlands Interface

Section 6.1.4, Guidelines Pertaining to the Urban/Wildlands Interface, presents a number of guidelines that are intended to address indirect effects associated with locating developments in proximity to a MSHCP Conservation Area. The study area is not within or adjacent to any Criteria Cells; however, it is surrounded by the open space of the Cleveland National Forest and PQP lands. Therefore, the potential for indirect impacts related to the urban edge were analyzed. These include the quantity and quality of any runoff generated by the development, night lighting, and noise-generating land uses. Project Design Features (PDFs) and best management practices (BMPs) incorporated into the proposed project to minimize these edge effects are discussed in detail below.

Regulatory Setting

Federal Endangered Species Act

The FESA provides a process for listing species as either threatened or endangered, and methods of protecting listed species. Species are listed as either endangered or threatened under Section 4 of the FESA that defines as “endangered” any plant or animal species that is in danger of extinction throughout all or a significant portion of its range and “threatened” if a species is likely to become endangered in the foreseeable future. Section 9 of the ESA prohibits “take” of listed threatened or endangered species. The term “take” means to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in such conduct. Harm under the definition of “Take” includes disturbance or loss of habitats used by a threatened or endangered species during any portion of its life history. Under the regulations of the FESA, the USFWS may authorize “take” when it is incidental to, but not the purpose of, an otherwise lawful act.

Migratory Bird Treaty Act

The Migratory Bird Treaty Act of 1918 (16 U.S.C. 703-711) (MBTA) makes it unlawful to possess, buy, sell, purchase, barter or “take” any migratory bird listed in Title 50 of the Code of Federal Regulations Part 10. “Take” is defined as possession or destruction of migratory birds, their nests or eggs. Disturbance that causes nest abandonment and/or loss of reproductive effort or the loss of habitats upon which these birds depend would be in violation of the MBTA.

Federal Clean Water Act

Section 404 of the CWA regulates the discharge of dredged material, placement of fill material, or excavation within “waters of the U.S.” and authorizes the Secretary of the Army, through the Chief of Engineers, to issue permits for such actions. “Waters of the U.S.” are defined by the CWA as “rivers, creeks, streams, and lakes extending to their headwaters and any associated wetlands.” Wetlands are defined by the CWA as “areas that are inundated or saturated by surface or groundwater at a frequency and duration sufficient to support a prevalence of vegetation typically adapted for life in saturated soil conditions.” The permit review process entails an assessment of potential adverse impacts to USACE jurisdictional “waters of the U.S.” and wetlands.

In response to the permit application, the USACE will also require conditions amounting to mitigation measures. Where a federally listed species may be affected, they will also require Section 7 consultation with the USFWS under the FESA. Through this process, potentially significant adverse impacts within the federal jurisdictional limits could be mitigated to a level that is less than significant.

The mission of the California RWQCB is to develop and enforce water quality objectives and implement plans that will best protect the beneficial uses of the state’s waters, recognizing local differences in climate, topography, geology, and hydrology. Section 401 of the CWA requires that:

“any applicant for a federal permit for activities that involve a discharge to waters of the state, shall provide the federal permitting agency a certification from the state in which the discharge is proposed that states that the discharge will comply with the applicable provisions under the Federal Clean Water Act.”

Therefore, before the USACE will issue a Section 404 permit, applicants must apply for and receive a Section 401 water quality certification from the RWQCB. A complete application for 401 Certification will include a detailed Water Quality Management Plan that will address the key water quality features of the project to ensure the integrity of water quality in the area during and post-construction.

Under separate authorities granted by state law (i.e., the Porter-Cologne Water Quality Control Act), a RWQCB may choose to regulate discharges of dredge or fill materials by issuing or waiving (with or without conditions) Waste Discharge Requirements (WDRs), a type of state discharge permit, instead of taking a water quality certification action. Processing of a WDR is similar to that of a Section 401 certification; however, the RWQCB has slightly more discretion to add conditions to a project under the Porter-Cologne Act than under the federal CWA.

California Endangered Species Act

The CDFW administers CESA. The State of California considers an endangered species one whose prospects of survival and reproduction are in immediate jeopardy. A threatened species is one present in such small numbers throughout its range that it is likely to become an endangered species in the near future in the absence of special protection or management. And a rare plant species is one present in such small numbers throughout its range that it may become endangered if its present environment worsens. State threatened and endangered species are protected against take, which under the CESA is restricted to direct killing or harm of individual animals and does not apply to the loss of habitat as it does under FESA.

Fish and Game Code of California

All birds, and raptors specifically, and their nests, eggs and parts thereof are protected under Sections 3503 and 3503.5 of the Fish and Game Code California. Disturbance that causes nest abandonment and/or loss of reproductive effort (e.g., killing or abandonment of eggs or young) is considered a violation of this code. Additionally, Section 3513 prohibits the take or possession of any migratory non-game bird listed by the MBTA.

CDFW regulates all diversions, obstructions, or changes to the natural flow or bed, channel, or bank of any river, stream, or lake which supports fish or wildlife resources under Sections 1600-1603 of the Fish and Game Code of California. The CDFW issues Streambed Alteration Agreements for the alteration of any of these areas. It is not legal to alter the bed or bank of a stream or lake or their natural water flow without a CDFW Streambed Alteration Agreement.

Non-Listed Species Management and Conservation Concerns

Species of Special Concern is an informal designation used by CDFW for some declining wildlife species that are not proposed for listing as threatened or endangered. This designation does not provide legal protection, but signifies that these species are recognized as declining by CDFW.

The CNPS has developed an inventory of California's special-status plant species. This inventory summarizes information on the distribution, rarity, and endangerment of California's vascular plants. The inventory is divided into four lists based on the rarity of the species. In addition, the CNPS provides an inventory of plant communities that are considered natural communities of special concern by the state and federal resource agencies, academic institutions, and various conservation groups. The determination of the level of significance of impacts on plant species and natural communities is based on the number and size of remaining occurrences as well as recognized threats.

Natural communities of special concern are those that support concentrations of special-status plant or wildlife species, are of relatively limited distribution, or are of particular value to wildlife. Natural communities of special concern are not afforded legal protection unless they are designated critical habitat for federally listed threatened or endangered species, support formally listed species, or are jurisdictional wetland habitats.

Public Resources Code 21083.4 (Senate Bill 1334)

PRC 21083.4 sets forth requirements for oak tree protection and mitigation and defines oak trees as those trees with a minimum trunk diameter of 5 inches. Furthermore, PRC 21083.4 contains provisions for counties to mitigate impacts to oak-dominated habitats that are considered significant under CEQA and for which there is no oak preservation ordinance or regulation in place. Specifically, an Oak Tree Management Plan must be submitted as a component of the oak tree permit application and shall address site oak tree characteristics, locations, protection measures to be implemented during construction, and mitigation for those trees impacted by development activity.

Natural Community Conservation Planning Program

The Natural Community Conservation Planning Program (NCCP) Act (Sections 2800-2840 of the State Fish and Game Code), authorized the preparation of NCCPs to protect natural communities and species while allowing a reasonable amount of economic development.

The Orange County portion of the study area is within the SSNCCP; however, it is outside of the Rancho Mission Viejo planning area and, is not subject to the policies set forth in the SSNCCP.

Western Riverside County Multiple Species Habitat Conservation Plan

The western Riverside County MSHCP, adopted by the County of Riverside on June 17, 2003, serves as a HCP pursuant to the Act and pursuant to Section 10 (a)(1)(B) of the FESA. The Implementation Agreement (IA) sets forth the implementation requirements for the MSHCP as well as procedures and minimization measures related to take of habitats and species considered for conservation. Implementation of the MSHCP authorizes participating jurisdictions to “take” specified plant and wildlife species within the MSHCP Plan Area. In addition, the wildlife agencies, namely CDFW and USFWS, allow take of habitat or individual species outside of the MSHCP Conservation Area in exchange for the assembly and management of a coordinated MSHCP Conservation Area. The assembly and long-term management of the MSHCP Conservation Area is the responsibility of the Riverside County, state, and federal governments; Cities within the western portion of Riverside County; and private and public entities.

County of Orange General Plan Resources Element

Goal 1: Protect wildlife and vegetation resources and promote development that preserves these resources.

Objective 1.1: To prevent the elimination of significant wildlife and vegetation through resource inventory and management strategies.

Goal 3: Manage and utilize wisely the County’s landform resources.

Policy 1: To identify and preserve the significant wildlife and vegetation habitats of the County.

3.4.2 Thresholds of Significance

The *CEQA Guidelines* Appendix G provides guidance for assessing the significance of potential environmental impacts. Relative to biological resources, a project could have a significant effect on the environment if it would:

- Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service;
- Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service;
- 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;
- Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites;
- Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance; or
- Conflict with provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan.

As described in Section 1.0, *Introduction*, Notice of Preparations and Initial Studies were prepared and circulated for public review in both 2013 and 2014; the following comments related to biological resource topics were received:

- Information and consultation request from wildlife agencies.
- Identification of any wildlife migration impacts.
- Field monitoring for biological resources is required for utility installation.

3.4.3 Methodology

This assessment of biological resources is based on information compiled through field reconnaissance, focused surveys, and appropriate reference materials. The study area was visited by PCR biologists on December 13, 2004, to conduct the biological constraints analysis. Formal survey work followed between March 29, 2005 and June 5, 2008 and included mapping the plant communities, conducting a habitat assessment for sensitive amphibians, conducting sensitive plant surveys, conducting fairy shrimp surveys, and assessing the potential for the study area to support other sensitive species and/or habitats, as documented in the 2008 Biological Resources Assessment (PCR, 2008). Surveys were also conducted between May 17, 2012 and May 15, 2013 to update the previous field work and conduct focused surveys for sensitive plants and fairy

shrimp and are included within this analysis. The site's jurisdictional delineation was conducted by GLA in 2007 (GLA 2008) and updated in 2013 (GLA 2013), and a tree survey was conducted by Dudek in 2008 and updated in 2014 (Dudek 2014). Overall, biologists have been onsite identifying biological resources from 2004 through 2014, and the data gathered throughout this timeline is utilized to assess the potential impacts of the proposed project on biological resources. The biological resources assessment, jurisdictional delineation, tree survey and fair shrimp surveys can all be found in Appendices C1 through C4 of this EIR.

3.4.4 Project Impacts

Impact 3.4-1: Would implementation of the proposed project have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service.

Impacts to Special Status Plant Species

Less than Significant Impact with Implementation of Mitigation. Of the sensitive plant species listed in Table 3.4-1 one, Coulter's matilija poppy, was observed within the study area. Approximately 16 individuals were observed in one location in the northeast corner of Phase 1 (south parcel) during 2006 surveys; however, none were observed during the more recent sensitive plant surveys conducted in 2012-2013. The area in which this species was previously found was dominated by a dense layer of Spanish broom (*Spartium junceum*); thus, it is suspected that this non-native broom outcompeted the Coulter's matilija poppy and that it no longer occurs on-site.

In addition, 12 sensitive plant species have the potential to occur within the study area; which include: bottle liverwort, Payson's jewel-flower, Robinson's pepper-grass, Santiago Peak phacelia, heart-leaved pitcher sage, intermediate monardella, felt-leaved monardella, Hall's monardella, San Miguel savory, Fish's milkwort, mesa horkelia, Ocellated Humboldt lily, However, the potential location of these sensitive plant species are limited to areas outside of the project development footprint, and the probability of occurrence in these areas is considered low due to the dense canopies and lack of open areas observed that could support these sensitive plant species. Thus, the potential for impacting any of the sensitive plant species by implementation of the proposed project is low. Additionally, the project includes Project Design Features that would reduce potential impacts to sensitive plant species, which include:

- The provision of 414.6 acres or approximately 71 percent of the project site would preserve large areas of open space onsite, which would preserve biological resources within a large portion of the project site (PDF-1).
- Open space would be concentrated in the western and northern portions of the project site and the single-family residences would be clustered, which would buffer biological resources from residential uses (PDF-2).

Furthermore, Mitigation Measure MM 3.4-1 would implement Environmental Awareness Programs, which would provide biological training to identify any sensitive plant species to construction workers and would implement a Resident Environmental Awareness Program that

would provide awareness to residents of the sensitive plants. Implementation of Project Design Features PDF-1 and PDF-2 and Mitigation Measure MM 3.4-1 would reduce the low potential of impacts on sensitive plant species to a less than significant level.

Impacts to Special Status Wildlife Species

Of the sensitive wildlife species listed in **Table 3.4-2** six sensitive wildlife species (coast range newt, coast horned lizard, coastal rosy boa, northern red-diamond rattlesnake, white-tailed kite, and northern harrier) have been observed; 3 sensitive wildlife species (San Bernardino ringneck snake, San Diego mountain kingsnake, and northwestern San Diego pocket mouse) have a moderate potential to exist; and 9 sensitive wildlife species have a low potential to exist within the biological resource study area (Quino checkerspot butterfly, orange-throated whiptail, coast patch-nosed snake, golden eagle, long-eared owl, loggerhead shrike, western red bat, western mastiff bat, San Diego desert woodrat). Fairy shrimp are not anticipated to occur within the study area; however, due to the regional concern about this species, the lack of suitable habitat is described below. Additionally, the potential impacts from the proposed project to these special status wildlife species are described below.

Fairy shrimp. The study area supports suitable habitat for fairy shrimp (e.g., San Diego fairy shrimp and Riverside fairy shrimp). No fairy shrimp were observed during focused wet and dry surveys conducted in 2005-2006 (PCR, 2006; 2007), or during wet season surveys conducted in 2012-2013 for Seasonal Ponds 2 and 3 (since these were the only two ponds which inundated) (PCR, 2013).⁴ In addition, at the request of the USFWS, a dry season survey was conducted in October 2013 for Seasonal Ponds 1, 4, and 5, even though these ponds did not inundate enough to initiate wet season surveys during the 2012-2013 wet season during which no special status shrimp eggs were recovered. Due to the negative results of previous focused surveys conducted, San Diego fairy shrimp and Riverside fairy shrimp are not expected to occur within the study area. As such, no impacts are expected to occur to these species (PCR, 2013).

Amphibians. The coast range newt was observed within the study area in one location within the coast live oak forest in the southern-central portion of the unnamed drainage bisecting Phase 1 (south parcel) (i.e., Drainage B). In addition, coast range newts were observed in two locations off-site within Long Canyon Creek just east of Phase 1 (north parcel) parcel boundary; however, these two observations are not within the proposed development areas. The proposed project was designed to avoid disturbances to Long Canyon Creek; however, the creek would be crossed by a road that would be developed by the project as part of the interior roadway system. The crossing would consist of an arch span bridge of concrete or steel with a natural bottom to minimize potential impacts to the creek. Drainage B would be avoided completely by the proposed project.

However, impacts to the coast range newt could occur from the construction near Long Canyon Creek that could impact approximately 1.36 acres (1.31 acre in Phase 1, 0.05 acre in Phase 2), or 934 linear feet of streambed of Long Canyon Creek. The study area supports approximately 3.51 acres, or 2,916 linear feet of streambed (i.e., CDFW jurisdiction) within Long Canyon Creek. In

⁴ PCR consulted with the USFWS for guidance on whether dry season surveys would be required for Seasonal Ponds 2 and 3, which were perennially ponded. Per the recommendation of the USFWS, dry season surveys on Seasonal Ponds 2 and 3 were not recommended since they were perennially ponded due to human activities.

the context of the study area, impacts would only occur within seven percent of Long Canyon Creek, preserving 61 percent within the study area.

The coast range newt is not listed as threatened or endangered; it is a SSC species and is a covered species under the MSHCP (though this species was observed within the Orange County portion of Phase 1 (south parcel)). Impacts Long Canyon Creek within the study area are not expected to drop populations of the coast range newt below self-perpetuating levels in the region. In addition, another sensitive amphibian species, western spadefoot, has potential to occur on-site within the seasonal ponds; however, this species was not observed. The project includes Project Design Features that would reduce potential impacts to sensitive amphibian species, which include Project Design Features PDF-1 and PDF-2 (listed previously in the Special Status Plant Species discussion), and PDF-17 and PDF-20 listed below:

- Conceptual Water Quality Management Plan (WQMP) that includes best management practices (BMPs) to control predictable pollutant runoff, which would minimize pollutants in habitat for amphibians (PDF-17).
- Best management practices will be incorporated into the project to ensure that indirect impacts (i.e., edge effects) are avoided or minimized to the maximum extent possible, which would reduce potential impacts to amphibians (PDF-20).

In addition, Mitigation Measure MM 3.4-1 would implement Environmental Awareness Programs, which will provide biological training to construction workers to identify any sensitive wildlife species and implements a Resident Environmental Awareness Program that would provide awareness to residents of the sensitive wildlife species in the project area. Mitigation Measure MM 3.4-2 will implement specific BMPs during construction activities that would reduce the potential of impacts to sensitive wildlife species; and Mitigation Measure MM 3.4-3 requires a pre-construction survey and construction monitoring to avoid impacts to the coast range newt and western spadefoot. With implementation of Project Design Features described above and Mitigation Measures MM 3.4-1 through 3.4-3, impacts to the coast range newt and western spadefoot would be less than significant.

Insect species. The Quino checkerspot butterfly (QCB) may have a low potential to occur in the study area although this species is not known to occur within the area (nearest recorded occurrences are within Riverside County 4.4 miles to the east [1983] and 6.6 miles to the east-northeast [2002]) and patches of potentially suitable habitat within a matrix of predominantly unsuitable habitat reduce the likelihood of this species being found; however, there is a low potential for the study area to support QCB. The new protocol was issued on February 21, 2014 and requires focused surveys to begin during the third week of February. The majority of the project site does not have QCB potential; however, portions of the study area support open scrub and non-native grasslands that have QCB potential.

Project Design Features PDF-1, PDF-2, PDF-17, and PDF-20, which are described above; along with Mitigation Measure MM 3.4-1 that would implement environmental awareness programs, and Mitigation Measure MM 3.4-2 that would implement construction BMPs would reduce impacts to the QCB. Additionally, Mitigation Measure MM 3.4-4 requires a QCB habitat

assessment by a certified QCB biologist and coordination with the USFWS and identifies appropriate measures that would be implemented if QCB is identified on the project site to ensure that impacts to this species would be reduced to a less than significant level. Thus, with implementation of Mitigation Measures MM 3.4-1, MM 3.4-2, and MM 3.4-4 and the related Project Design Features, potential impacts to QCB would be reduced to a less than significant level.

Reptile species. The coast horned lizard was observed on Phase 1 (south parcel) and Phase 2 (north parcel), and is expected to occur throughout the study area due to the presence of suitable habitat. The coastal rosy boa and northern red-diamond rattlesnake were observed on Phase 2 (north parcel), and are also expected to occur on all parcels of the study area. The coast horned lizard and northern red-diamond rattlesnake are covered species and are adequately conserved under the MSHCP reserve design; therefore, potential impacts to these species within Riverside County are less than significant.

The coast horned lizard is a SSC and USFS Sensitive species; the coastal rosy boa is a USFS Sensitive species; and the northern red-diamond rattlesnake is a SSC species. Several additional sensitive reptile species also have the potential to occur within the study area, including the orange-throated whiptail, San Bernardino ringneck snake, San Diego mountain kingsnake, and coast patch-nosed snake. The orange-throated whiptail and San Diego mountain kingsnake are adequately conserved under the MSHCP within the Riverside County portion.

Overall, the proposed project would preserve large areas of suitable scrub, chaparral, and woodland habitats, as well as grassland habitats. Because this designated open space is located adjacent to other large regional open space areas, potential impacts to these species that would occur within the project footprint, are not expected to threaten regional populations. Project Design Features PDF-1, PDF-2, PDF-17, and PDF-20, which area described above; along with Mitigation Measure MM 3.4-1 that would implement Environmental Awareness Programs and Mitigation Measure MM 3.4-2 that would implement specific construction BMPs reducing the potential of impacts to sensitive wildlife species; and Mitigation Measure MM 3.4-3 would provide for a biological monitor on-site to relocate any species observed, which would minimize potential impacts. Thus, with implementation of Mitigation Measures MM 3.4-1 through MM 3.4-3 and the related Project Design Features, potential impacts to sensitive reptile species would be less than significant.

Bird species. Two sensitive bird species, the white-tailed kite and northern harrier, were observed foraging within the study area. Several additional species have the potential to forage including the golden eagle, long-eared owl, and loggerhead shrike. All of these species, except the long-eared owl, are adequately conserved under the MSHCP reserve design, and potential impacts related to the MSHCP are less than significant.

Within Orange County, the designated open space areas on and adjacent to the project area, would provide foraging habitat so that the project would not threaten regional populations. Direct impacts would also be avoided because species are mobile and are expected to fly away from the construction area, if present. In addition, the project includes Project Design Features PDF-1, PDF-2, PDF-17, and PDF-20, described above, that would reduce the project's potential impacts

on sensitive bird species. Furthermore, Mitigation Measure MM 3.4-3 would provide a biological monitor on-site to flush any species observed during monitoring to minimize impacts to these species, if present. Compliance with the MBTA would also ensure no impacts to nests would occur (discussed under Impact 3.4-4 below). Thus, with implementation of the Project Design Features, Mitigation Measure MM 3.4-3, and compliance with the MBTA (described below) potential impacts to sensitive bird species would be less than significant.

Mammal species. Several mammal species have a low to moderate potential to occur in the study area, including the western red bat, western mastiff bat, northwestern San Diego pocket mouse, and San Diego desert woodrat. The San Diego black-tailed jackrabbit, northwestern San Diego pocket mouse, and San Diego desert woodrat are species adequately conserved under the MSHCP reserve design. The study area is not within the Mammal Species Survey Area of the MSHCP. In addition, potential roosting habitat for western red bat and western mastiff bat would not be substantially impacted by the proposed project because the project would preserve large portions of the project area in open space. Overall, mammal species are mobile and would move away from the construction area, if present. The project also includes Project Design Features PDF-1, PDF-2, PDF-17, and PDF-20, described above, which would reduce potential impacts to sensitive mammal species.

In addition, Mitigation Measure MM 3.4-1 would implement Environmental Awareness Programs, which will provide biological training to construction workers to identify any sensitive mammal species and implements a Resident Environmental Awareness Program that would provide awareness to residents of the sensitive mammal species in the project area. Mitigation Measure MM 3.4-2 would implement specific BMPs during construction activities that would reduce the potential of impacts to sensitive mammal species; and Mitigation Measure MM 3.4-3 requires a pre-construction survey and provides for a biological monitor to relocate any sensitive species observed during monitoring. The implementation of the related Project Design Features and Mitigation Measures MM 3.4-1 through 3.4-3 would reduce potential impacts to mammal species to a less than significant level.

Indirect Impacts to Sensitive Wildlife Species

Indirect impacts may occur from project generated changes to shading of the streambed, increased sedimentation, or discharge of runoff that could change the environment offsite and indirectly impact sensitive wildlife species that are known to occur downstream of the study area within San Juan Creek. These species include the arroyo toad (FE, SSC), partially armored threespine stickleback (USFS Sensitive), and arroyo chub (SSC, USFS Sensitive).

Portions of San Juan Creek are listed as impaired on the CWA Section 303(d) list of impaired water bodies (Hunsaker & Associates, 2013). Runoff from the proposed development has the potential to change the hydrologic regime of San Juan Creek, indirectly impacting habitat for these sensitive species. The potential effects include changes in erosion and sedimentation rates, increased turbidity, and an increase in nutrients and pollutants that could occur from the residential development and vineyard operation. However, the water quality measures provided by Project Design Features would reduce these potential indirect impacts. These Project Design

Features include PDF-1, PDF-2, PDF-17, and PDF-20 (listed previously in this impact discussion), and PDF-13 and PDF-14 listed below:

- The project has been designed to mimic the hydrological characteristics of the site in its natural, undeveloped state, which would maintain habitat for these sensitive species (PDF-13).
- The project has been designed to implement Low Impact Development techniques that include conservation of natural areas, minimizing the impervious footprint, minimizing disturbances to natural drainages, and including vegetated swales for water quality purposes (PDF-14).

The Project Design Features described above would maintain hydrological conditions and treat runoff, to ensure there are no increased downstream flows and excess sediment or pollutant transport associated with the proposed project would occur. As shown in the WQMPs prepared for Phase 1 (South Parcel) and Phase 2 (North Parcel), these are designed in accordance with the South Orange County HMP per current MS4 Permit (Hunsaker, 2013). As a result, of implementation of the Project Design Features and the regulatory requirements for NPDES permitting, as further described in Section 3.9, *Hydrology and Water Quality*, the potential for a detrimental effect on water quality that could indirectly impact the arroyo toad, coast range newt, partially armored threespine stickleback, and arroyo chub would be less than significant.

Mitigation Measures

MM 3.4-1 Environmental Awareness Programs: The project's construction plans and grading specifications shall state that the construction contractor shall implement the following measures:

- The applicant shall prepare a *Worker Environmental Awareness Program* that shall be administered to all on-site personnel including surveyors, construction engineers, employees, contractors, contractor's employees, supervisors, inspectors, subcontractors, and delivery personnel. The program shall be implemented during site preconstruction and construction, and shall:
 1. Be developed by or in consultation with the County approved biologist and consist of an on-site or training center presentation in which supporting written material and electronic media, including photographs of protected species, is made available to all workers;
 2. Discuss the locations and types of sensitive biological resources on the project site and adjacent areas, and explain the reasons for protecting these resources;
 3. Describe the temporary and permanent habitat protection measures to be implemented at the project site;
 4. Identify whom to contact if there are further comments and questions about the material discussed in the program; and

5. Include a training acknowledgment form to be signed by each worker indicating that they received training and shall abide by the guidelines.
- The applicant shall implement a *Resident Environmental Awareness Program* intended to increase awareness to residents of the sensitive plants, wildlife and associated habitats that occur in the preserved open space areas. The intention of the program shall be to encourage active conservation efforts among the residents to help conserve the habitats in the preserved open space. The program shall address inadvertent impacts from the introduction of invasive plant species (including “escapees”). At a minimum, the program shall include the following components:
 1. Informational kiosks shall be constructed at entrance points to hiking trails and at various locations along the fence line that separates the project site and the open space area to inform residents and trail users on the sensitive flora and fauna that rely on the habitats found within the preserved open space and the importance of staying on trails within open space areas.
 2. The applicant shall provide residents or the Homeowners Association with a brochure which includes a list of plant species to avoid in residential landscaping to prevent the introduction of invasive plant species to the surrounding natural communities.

MM 3.4-2 Best Management Practices for Biological Resources – Construction. The project’s construction plans and grading specifications shall state that prior to and during construction, the following shall apply:

- The project impact footprint shall be staked and fenced (e.g., with orange snow fencing, silt fencing or a material that is clearly visible) by a surveyor and the boundary shall be confirmed by a qualified biological monitor. The construction site manager shall ensure that the fencing is maintained for the duration of construction and that any required repairs are completed in a timely manner.
- Maintenance activities shall not commence 7:00 a.m. and shall be completed before dusk each day.
- If any common wildlife is encountered during maintenance activities, the common wildlife shall be allowed to leave the work area unharmed and shall be flushed or herded in a safe direction away from the work area(s).
- Qualified biological monitor(s) shall be on-site during all vegetation removal activities to flush any common wildlife within the project impact footprint away from work areas.

- Any open trenches shall be covered at the end of each work day in a manner to prevent the entrapment of wildlife, or adequately ramped to provide an animal escape route.
- If nighttime maintenance is required, lighting shall be shielded and focused downward and away from undisturbed areas and shall be limited to the minimum amount necessary to complete the maintenance activities.
- Staging or storage areas shall be located a minimum of 300 feet from any drainage.
- Any equipment or vehicles driven and/or operated within or adjacent to ponded or flowing water within any drainage shall be checked and maintained daily, to prevent leaks of materials that could be harmful to aquatic species.
- All vehicles and equipment shall be maintained in proper working condition to minimize fugitive emissions and accidental spills from motor oil, hydraulic fluid, grease, or other fluids or hazardous materials. All fuel or hazardous waste leaks, spills, or releases shall be stopped or repaired immediately with drip pans in place and cleaned up at the time of occurrence. However, no vehicle or equipment maintenance shall occur within 300 feet of any drainage. All spill material removed shall be contained and disposed of at an appropriate off-site landfill. Maintenance vehicles shall carry appropriate equipment and materials to isolate and remediate leaks or spills, such as a spill containment kit.
- Stationary equipment such as motors, pumps, or generators, located within or adjacent to ponded or flowing water within drainages shall be positioned over drip pans.
- No equipment maintenance shall be done within or adjacent to ponded or flowing water within drainages where petroleum products or other pollutants from the equipment may enter into the water.
- No waste, cement, concrete, asphalt, paint, oil, or any other substances used during maintenance activities which could be hazardous to aquatic life, or other organic or earthen material, shall be allowed to contaminate the soil and/or enter into or be placed where it may be washed by rainfall or runoff into ponded or flowing water within any drainages. Any of these materials placed where they may affect ponded or flowing water shall be removed immediately upon observation. When operations are completed, any excess non-native materials shall be removed from the work area. Only the use of native materials is expected to recontour existing baseline conditions (i.e., no non-native fill will be introduced to the open space areas).

- All litter and pollutions laws shall be followed. If trash receptacles are provided within or near the work areas they shall be wildlife-proof.
- All exposed/disturbed areas shall be stabilized to the greatest extent possible using appropriate, industry standard erosion control measures.
- No maintenance activities shall occur during active precipitation. If any precipitation is forecasted, the work area shall be secured at least one day prior so no materials enter or wash into any drainages.

MM 3.4-3 Sensitive Wildlife. The project’s construction plans and grading specifications shall state that to avoid direct impacts to sensitive wildlife, a pre-construction survey shall be conducted within three days of proposed impacts by a qualified biologist. If it is determined by the biologist during the pre-construction survey that sensitive wildlife is present and thus may be impacted, no construction shall be allowed to occur in the immediate area until the individual(s) are relocated to an adjacent area that contains suitable habitat. A biological monitor shall be present during any ground disturbance activities within or immediately adjacent to habitat of sensitive wildlife species.

The California Department of Fish and Wildlife shall be consulted prior to relocating any sensitive wildlife species. The California Department of Fish and Wildlife may require a sensitive wildlife relocation plan be prepared and approved prior to relocating any sensitive wildlife. If required by the California Department of Fish and Wildlife, the plan shall include methods for trapping, handling and relocating all sensitive wildlife and shall identify areas that are suitable for relocation. Suitable relocation habitats shall include areas containing proper soils, host plants, and moisture conditions favorable for long-term survival of the sensitive wildlife, and relocation areas shall be sufficient in size for introducing new individuals so that overpopulation does not occur.

MM 3.4-4 Sensitive Insects. The project’s construction plans and grading specifications shall state that as required by the updated U.S. Fish and Wildlife Service protocol, a preconstruction habitat assessment shall be conducted by a certified Quino checkerspot butterfly biologist in coordination with the U.S. Fish and Wildlife Service. A site assessment shall be conducted by a qualified Quino checkerspot butterfly biologist to determine if the project site contains areas where surveying for Quino checkerspot butterfly is recommended. Recommended Quino checkerspot butterfly survey areas include all areas that do not fall under “Excluded Areas” outlined in U.S. Fish and Wildlife Service protocol, regardless of the presence or absence of Quino checkerspot butterfly host plants or nectar sources.

If it is determined by the habitat assessment and/or coordination with the U.S. Fish and Wildlife Service that focused surveys are needed and Quino checkerspot butterfly are found within the study area, any potentially significant impacts to Quino checkerspot butterfly habitat shall be mitigated at a minimum 1:1

mitigation-to-impact ratio, subject to approval by the U.S. Fish and Wildlife Service through Section 7 consultation. Appropriate mitigation includes one or more of the following measures:

- On- and/or off-site preservation of Quino checkerspot butterfly habitat;
- On- and/or off-site creation, restoration, and/or enhancement of Quino checkerspot butterfly habitat, including the preparation of a habitat mitigation and monitoring plan; and/or
- Payment into a conservation bank or other comparable mitigation banking mechanism (e.g., in-lieu fee program, Pre-Approved Mitigation Area, etc.).

Impact 3.4-2: Would implementation of the proposed project have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?

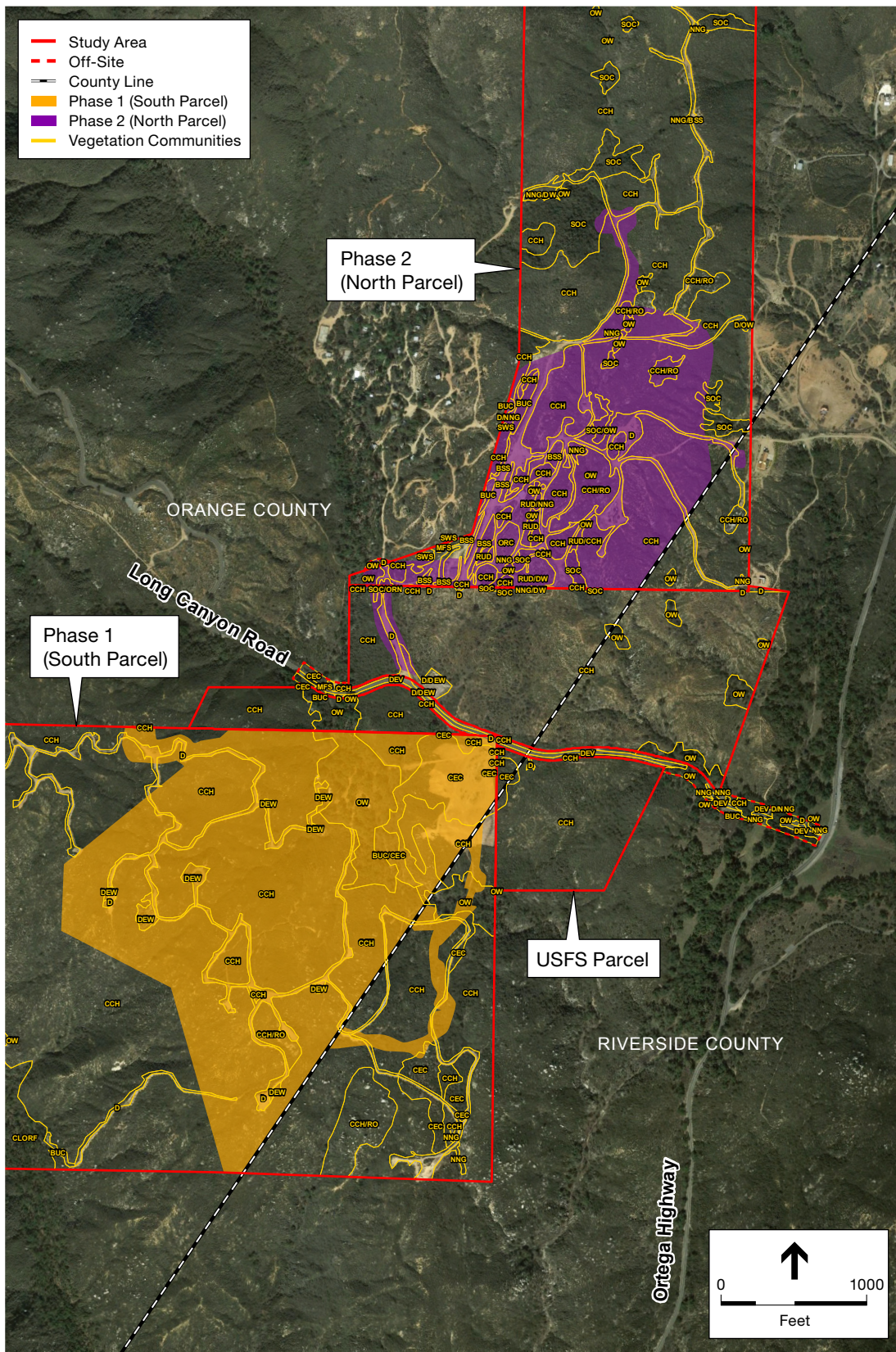
Less than Significant Impact with Implementation of Mitigation. As described above, three sensitive plant communities exist within the biological resources study area, including southern willow scrub, coast live oak woodland, and coast live oak forest. The study area supports 40.9 acres of coast live oak woodland, 4.4 acres of coast live oak forest, and 0.2 acre of southern willow scrub. As shown in **Figure 3.4-5** and detailed in **Table 3.4-5**, Phase 1 (south parcel) of the proposed project would impact 13.5 acres of coast live oak woodland; and development of Phase 2 (north parcel) would impact 0.9 acre of coast live oak woodland. Phase 2 (north parcel) would also impact less than 0.1 acre of southern willow scrub onsite. Because these communities are considered sensitive, and coast live oak woodland is protected by state law (i.e., SB 1334), impacts are considered potentially significant and mitigation measures are required.

**TABLE 3.4-5
 IMPACTS TO SENSITIVE PLANT COMMUNITIES**

Plant Community	Existing	Phase 1 (South Parcel)	Phase 2 (North Parcel)	Avoidance
Coast Live Oak Woodland	40.9	13.5	0.9	26.5
Coast Live Oak Forest	4.4	-	-	4.4
Southern Willow Scrub	0.2	-	<0.1	0.2

SOURCE: PCR, 2014.

Project Design Features PDF-1, PDF-2, PDF-17, and PDF-20 (listed previously in the 3.4-1 discussion) would reduce impacts to these sensitive plant communities. In addition, Mitigation Measure MM 3.4-5, which would implement a Tree Management and Preservation Plan to reduce impacts on coast live oak woodland and coast live oak forest, and would mitigate impacts at a minimum ratio of 2:1 for southern willow scrub plant communities, which would be implemented per direction of CDFW to ensure that impacts are less than significant. Impacts related to wetlands and riparian areas are described under impact discussions 3.4-3 and 3.4-4, below.



NOTE: The study area analyzed in the BRA encompasses 745 acres, which is larger than, but includes, the footprint of the proposed project because the biological resources analysis was conducted prior to the project design being finalized.

SOURCE: PCR, 2014

The Preserve at San Juan
Figure 3.4-5
 Impacts to Plant Communities

Mitigation Measure

MM 3.4-5 Sensitive Plant Communities. Measures to off-set impacts to coast live oak woodland and coast live oak forest shall include one (or a combination) of the following measures (which are detailed in the Tree Management and Preservation Plan for the project (see Appendix C3 of this EIR):

- Preservation of the 26.5 acres of preserved coast live oak woodland and 4.4 acres of coast live oak forest in perpetuity under a conservation easement, deed restriction, or other appropriate mechanism.
- Individual coast live oak trees within fuel modification zones, off-site impact areas, and temporary impact areas shall be protected and preserved in-place, and coast live oak trees located within the fuel modification zones that require pruning shall comply with Orange County Fire Authority requirements. Trees shall be pruned by a qualified arborist with experience specializing in the management and care of this tree species in consultation with the County Biological Resources Monitor and in accordance with the guidelines published by the National Arborist Association. In no case, shall more than 20 percent of the tree canopy of any oak tree be removed.
- The applicant shall plant trees, seedlings, and onsite-collected acorns within the landscaped portion of the proposed development as well as within the onsite oak woodlands to be preserved as open space. Trees shall be replaced at a minimum of 3:1 replacement ratio, with the possibility of up to 12:1 should all acorns/seedlings survive. All trees and seedlings shall be from a local source indigenous to the immediate area.
- Prior to the issuance of any grading permits, the applicant shall obtain the approval of a tree preservation plan for the project by the Manager of OC Planning. The Manager of OC Parks is to be consulted if the plan involves any off-site tree mitigation at an OC Parks facility.
- A five-year monitoring program shall be prepared that includes performance standards and criteria for evaluating success.

Impacts to southern willow scrub shall be mitigated at a minimum ratio of 2:1, as directed by the California Department of Fish and Wildlife, and include one, or a combination of, the following:

- Onsite creation, enhancement, or restoration;
- Offsite creation, enhancement, or restoration;
- Offsite acquisition and preservation;
- Purchase of credits at an agency-approved mitigation bank; and/or
- Payment into an in-lieu fee agreement.

A monitoring plan shall accompany the creation, restoration, and/or enhancement of sensitive plan communities. The plan shall focus on the provision of equivalent habitats within disturbed habitat areas of the study area and/or offsite (e.g., this may include, but is not limited to, removal of non-native and/or invasive species; salvage/dispersal of native duff and seed bank; transplantation, seeding, and/or planting/staking). In addition, the plan shall provide details as to the implementation of the plan, maintenance, and future monitoring to ensure success.

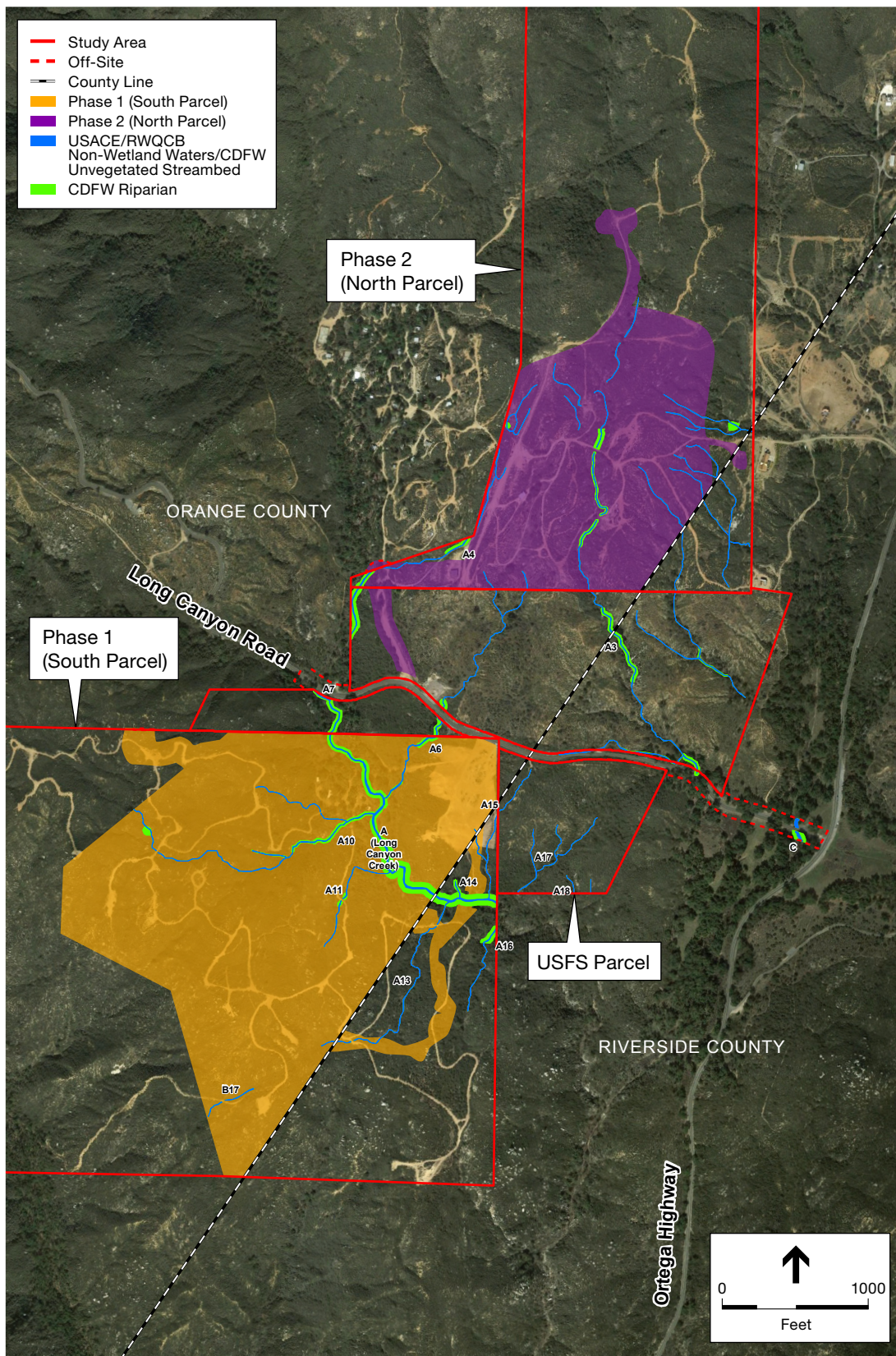
Impact 3.4-3: Would implementation of the proposed project have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?

Less than Significant Impact with Implementation of Mitigation. The design of the proposed project would avoid the large majority of Drainage A (Long Canyon Creek) and completely avoid Drainage B). However, portions of Long Canyon Creek could be impacted by installation of a road crossing over Long Canyon Creek in the northern portion of Phase 1 (south parcel) that would consist of an arch span bridge to avoid creek and creek banks area. However, small areas of potential USACE, CDFW, and RWQCB jurisdiction (shown on **Figure 3.4-6**) could be impacted with development of the project. Development of Phase 1 (south parcel) could result in impacts to 0.44 acre (8,987 linear feet) of potential USACE and RWQCB jurisdiction, none of which consists of jurisdictional wetlands, and 2.57 acres of CDFW jurisdiction, of which 2.40 acres consist of vegetated riparian habitat, as shown in **Table 3.4-6**.

**TABLE 3.4-6
IMPACTS TO JURISDICTIONAL FEATURES - PHASE 1 (SOUTH PARCEL)**

Drainage Feature	USACE Non-Wetland Waters	Total USACE	CDFW Unvegetated Streambed	CDFW Riparian Habitat	Total CDFW	RWQCB	Linear Feet
A	0.13	0.13	0.00	1.31	1.31	0.13	860
A3	0.02	0.02	0.01	0.13	0.14	0.02	897
A6	0.05	0.05	0.02	0.28	0.30	0.05	872
A7	0.01	0.01	0.00	0.05	0.05	0.01	121
A10	0.08	0.08	0.05	0.44	0.49	0.08	3,097
A11	0.02	0.02	0.02	0.04	0.06	0.02	782
A13	0.03	0.03	0.03	0.00	0.03	0.03	946
A14	0.002	0.002	0.00	0.03	0.03	0.002	73
A15	0.02	0.02	0.02	0.00	0.02	0.02	856
B17	0.02	0.02	0.02	0.00	0.02	0.02	352
C	0.06	0.06	0.00	0.12	0.12	0.06	131
Total	0.44	0.44	0.17	2.40	2.57	0.44	8,987

SOURCE: GLA, 2014.



NOTE: The study area analyzed in the BRA encompasses 745 acres, which is larger than, but includes, the footprint of the proposed project because the biological resources analysis was conducted prior to the project design being finalized.

SOURCE: PCR, 2014

The Preserve at San Juan
Figure 3.4-6
 Impacts to Jurisdictional Features

Development of Phase 2 (north parcel) could result in permanent impacts to 0.25 acre (7,846 linear feet) of potential USACE and RWQCB jurisdiction, none of which consists of jurisdictional wetlands, and 0.74 acre of CDFW jurisdiction, of which 0.53 acre consists of vegetated riparian habitat (see **Table 3.4-7**).

**TABLE 3.4-7
IMPACTS TO JURISDICTIONAL FEATURES – PHASE 2 (NORTH PARCEL)**

Drainage Feature	USACE Non-Wetland Waters	USACE Wetland	Total USACE	CDFW Unvegetated Streambed	CDFW Riparian Habitat	Total CDFW	RWQCB	Linear Feet
A	0.01	0.00	0.01	0.00	0.05	0.05	0.01	74
A3	0.17	0.00	0.17	0.15	0.46	0.61	0.17	5,256
A4	0.05	0.00	0.05	0.04	0.02	0.06	0.05	1,808
A6	0.02	0.00	0.02	0.02	0.00	0.02	0.02	708
Total	0.25	0.00	0.25	0.21	0.53	0.74	0.25	7,846

SOURCE: GLA, 2013; GLA, 2014.

However, the project includes Project Design Features that would reduce project impacts on jurisdictional resources. As listed previously in the Impact 4.4-1 discussion, Project Design Feature PDF-13 would provide a design to mimics the hydrological characteristics of the site in its natural, undeveloped state; Project Design Feature PDF-14 includes Low Impact Development techniques that minimize disturbances to natural drainages ; and Project Design Feature PDF-17 that provides a WQMP that includes BMPs to control pollutant runoff, which would reduce potential impacts on jurisdictional resources.

In addition, implementation of Mitigation Measure MM 3.4-6 would mitigate riparian/riverine habitat at a minimum ratio of 1:1 for unvegetated/upland areas and 2:1 for areas supporting riparian vegetation and would provide monitoring for a 3-year period to ensure success. Implementation of the Project Design Features and Mitigation Measure MM 3.4-6 would reduce impacts to jurisdictional features to a less than significant level.

Mitigation Measure

MM 3.4-6 Jurisdictional Waters. The project’s construction plans and grading specifications shall state that the applicant shall provide on- and/or off-site replacement and/or enhancement of existing U.S. Army Corps of Engineers, Regional Water Quality Control Board, and California Department of Fish and Wildlife jurisdictional waters and wetlands. Riparian/riverine habitat shall be mitigated at a minimum ratio of 1:1 for unvegetated/upland areas and 2:1 for areas supporting riparian vegetation. Impacts to jurisdictional resources may be compensated through payment into an in-lieu fee program or approved mitigation bank through coordination with the U.S. Army Corps of Engineers.

If creation, restoration, and/or enhancement is to occur on-site and/or off-site, a mitigation and monitoring plan shall be prepared and subject to the approval of these regulating agencies. The plan shall describe the location of mitigation and provide details as to the implementation of the plan, success criteria, maintenance, and monitoring for a three-year period following construction.

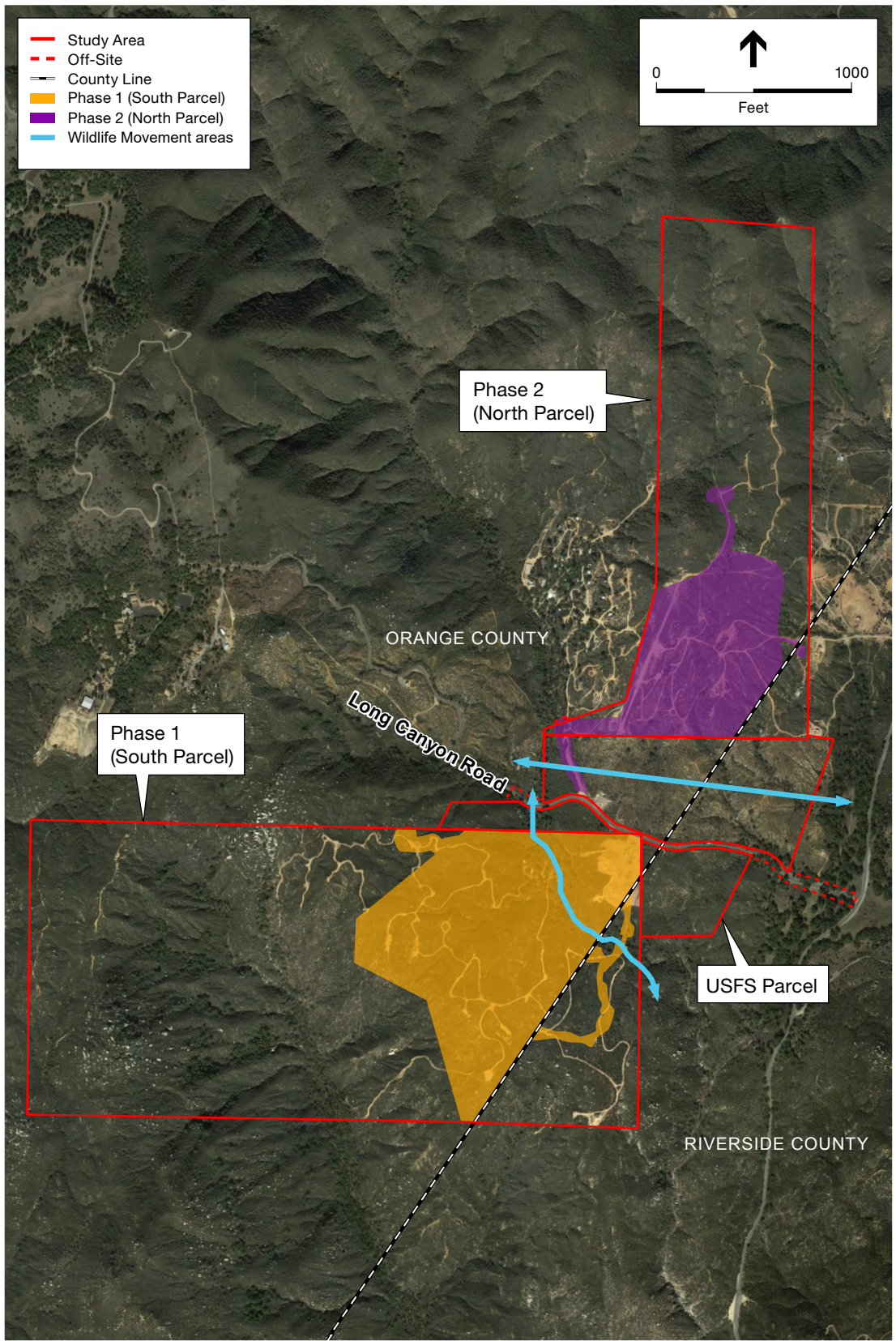
Impact 3.4-4: Would implementation of the proposed project interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?

Less than Significant Impact with Implementation of Mitigation. The study area has the potential to support nesting birds protected under the MBTA. Nesting activity typically occurs from January 15 to August 31. Disturbing or destroying active nests is a violation of the MBTA. In addition, nests and eggs are protected by the state under Fish and Game Code Section 3503. The removal of vegetation during the breeding season is considered a potentially significant impact. Mitigation Measure MM 3.4-7, which requires nesting bird surveys and avoidance of active nests, would reduce this impact to a less than significant level.

Wildlife currently moves freely throughout the undeveloped study area via existing open spaces and travel routes that include drainages (e.g., Long Canyon Creek, Drainage B), ridgelines, trails, and dirt roads. Although implementation of the project may somewhat deter movement temporarily due to construction activities, and permanently away from the developed portions of the project site, wildlife movement would not be substantially inhibited because 414.6 acres (71 percent) of the project area that is located adjacent to existing vast regional open space areas would be preserved as open space. This includes two major drainages within the study area, Long Canyon Creek and Drainage B, which would facilitate regional wildlife movement through the area.

In addition, the proposed project clusters development into two areas (Project Design Features PDF-1 and PDF-2) (listed previously in the 3.4-1 discussion) that would preserve wildlife movement areas between the Phase 1 (south parcel) and Phase 2 (north parcel) and within the Phase 1 (south parcel), as shown in **Figure 3.4-7**. The wildlife movement area to the south of Phase 2 (north parcel) is comprised mostly of chamise chaparral, with some sparse patches of coast live oak woodland, and parallels Long Canyon Road. The wildlife movement area through the Phase 1 (south parcel) is along Long Canyon Creek and comprised mostly of coast live oak woodland with some patches of chaparral.

The wildlife movement areas between, through and around the project development areas would continue to facilitate wildlife movement. Mitigation Measures MM 3.4-1 (construction best management practices (BMPs)) and MM 3.4-2 (Environmental Awareness Program) would be incorporated along project roadways to provide wildlife crossing signage, low speed limits, and homeowner education, to minimize wildlife mortality by vehicular impacts. Thus, with



NOTE: The study area analyzed in the BRA encompasses 745 acres, which is larger than, but includes, the footprint of the proposed project because the biological resources analysis was conducted prior to the project design being finalized.

SOURCE: PCR, 2014

The Preserve at San Juan
Figure 3.4-7
 Wildlife Movement

implementation of Project Design Features PDF-1 and PDF-2, and incorporation Mitigation Measures MM 3.4-1 and MM 3.4-2 impacts to wildlife movement would be less than significant.

Mitigation Measures

Mitigation Measures MM 3.4-1 and MM 3.4-2 (*Provided previously under Impact 3.4-1*)

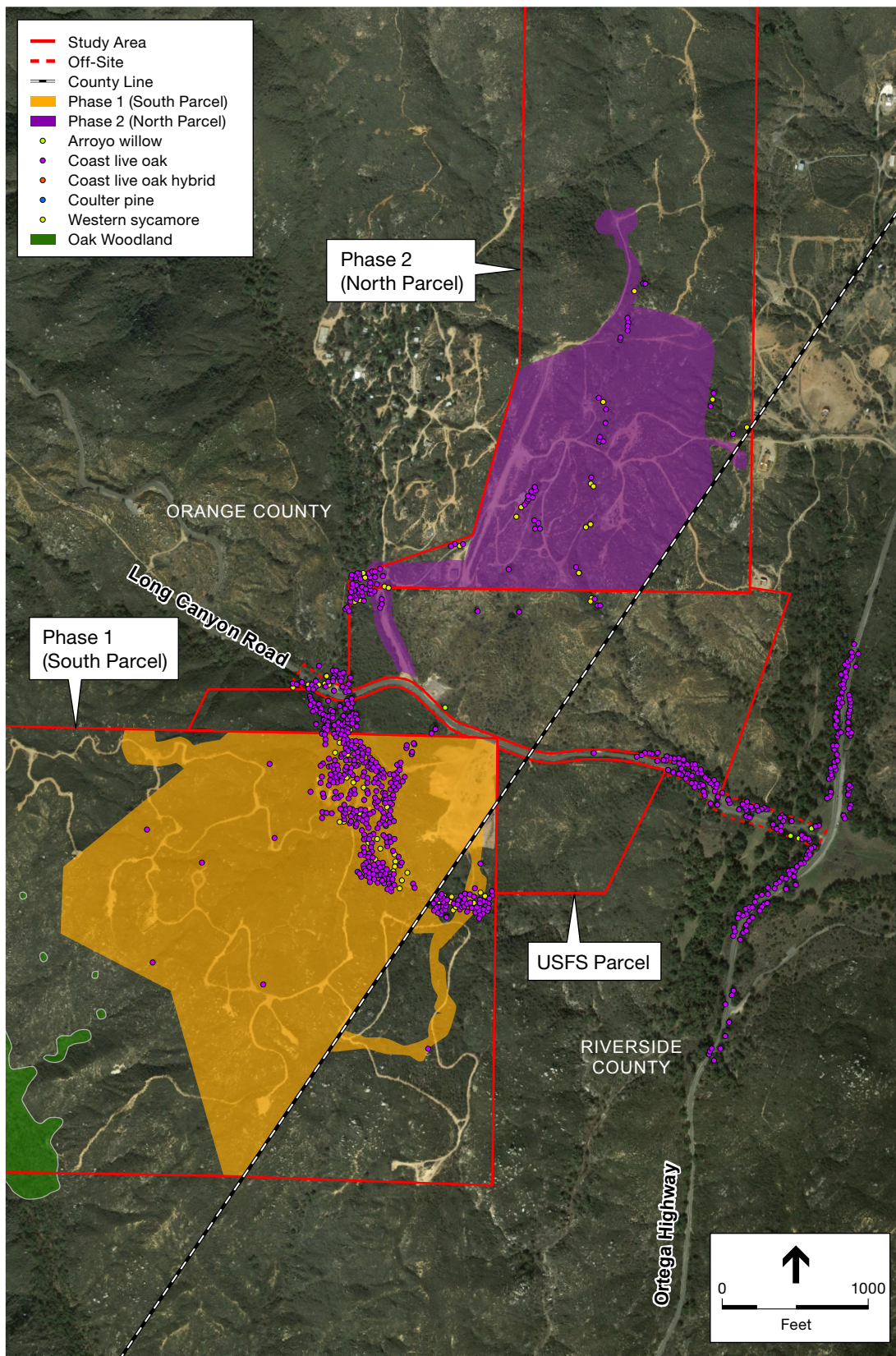
MM 3.4-7 Nesting Bird Surveys: The project's construction plans and grading specifications shall state that all vegetation clearing for construction and fuel modification shall occur outside of the breeding bird season (fall and winter), between September 1 and February 14 to reduce the potential to impact an active nest. If clearing and/or grading activities cannot be avoided during the breeding season, all suitable habitats shall be thoroughly surveyed for the presence of nesting birds by a qualified biologist prior to and initial ground disturbing activities. Suitable nesting habitat on the project site includes grassland, scrub, chaparral, and woodland communities. If any active nests are detected, the area shall be flagged, along with a 300-foot buffer for passerine species or 500 feet for raptors (or appropriate buffer as determined by the monitoring biologist), and shall be avoided until the nesting cycle is complete or it is determined by the biological monitor that the chicks have fledged the nest and the nest is no longer active.

Impact 3.4-5: Would implementation of the proposed project conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?

Less than Significant Impact with Implementation of Mitigation. Oak trees in unincorporated portions of Orange County are subject to management guidelines outlined in PRC 21083.4 (Senate Bill 1334, as adopted). In addition to PRC 21083.4, oak trees within Riverside County are subject to Riverside County Oak Tree Management Guidelines. Approximately 2,891 trees (90.7 percent) within Orange County and 397 trees (75.5 percent) within Riverside County that consist primarily of coast live oaks, would be avoided by the design of the proposed project. However, the project would potentially impact trees that are shown in **Figure 3.4-8**.

A maximum of 368 trees would be impacted by Phase 1 (south parcel) this includes direct impacts to 123 trees (including 109 coast live oaks and 14 western sycamores) and indirect impacts to 116 trees (including 103 coast live oaks and 13 western sycamores) within Orange County, as well as direct impacts to less than 126 trees (118 coast live oaks and 8 western sycamores) and indirect impacts to three coast live oaks within Riverside County along a roadway related to Phase 1 (south parcel) development.

A total of 59 trees would be impacted by Phase 2 (north parcel) (all within Orange County). This includes direct impacts to 48 trees (including 37 coast live oak, 10 western sycamore, and one arroyo willow) and indirect impacts to 11 trees (including six coast live oak, one western



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SOURCE: PCR, 2014

The Preserve at San Juan
Figure 3.4-8
 Impacts to Regulated Trees

sycamore and four arroyo willows). However, implementation Project Design Features would reduce project impacts on regulated trees. As described above, PDF-1 provides for preservation of large areas of open space onsite, which would preserve biological resources; in addition, the following two Project Design Features would also reduce potential impacts to tree policies:

- In accordance with the Tree Management Preservation Plan, oak tree relocations will be within the project site, and monitoring will be performed for a period of seven years. Oak trees will be maintained by the Homeowners Association as part of the project's covenants, conditions and restrictions (CR&Rs) (PDF-5).
- Protection measures for oak trees include fencing and protection of oak trees adjacent to construction areas. Retaining walls will be used to protect oaks proposed for preservation from surrounding cut and fill and any retaining walls will be placed outside of the root zone of the oak tree to be preserved (PDF-22).

In addition, as described above, Mitigation Measure MM 3.4-5 would replace any trees that would be impacted by the project. Thus, with implementation of the Project Design Features described above and Mitigation Measure MM 3.4-5, potential impacts related to conflict with oak tree regulations would be reduced to a less than significant level.

Mitigation Measure

Mitigation Measure MM 3.4-5 (*Provided previously under Impact 3.4-2*)

Impact 3.4-6: Could implementation of the proposed project conflict with provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?

Less than Significant Impact with Implementation of Mitigation.

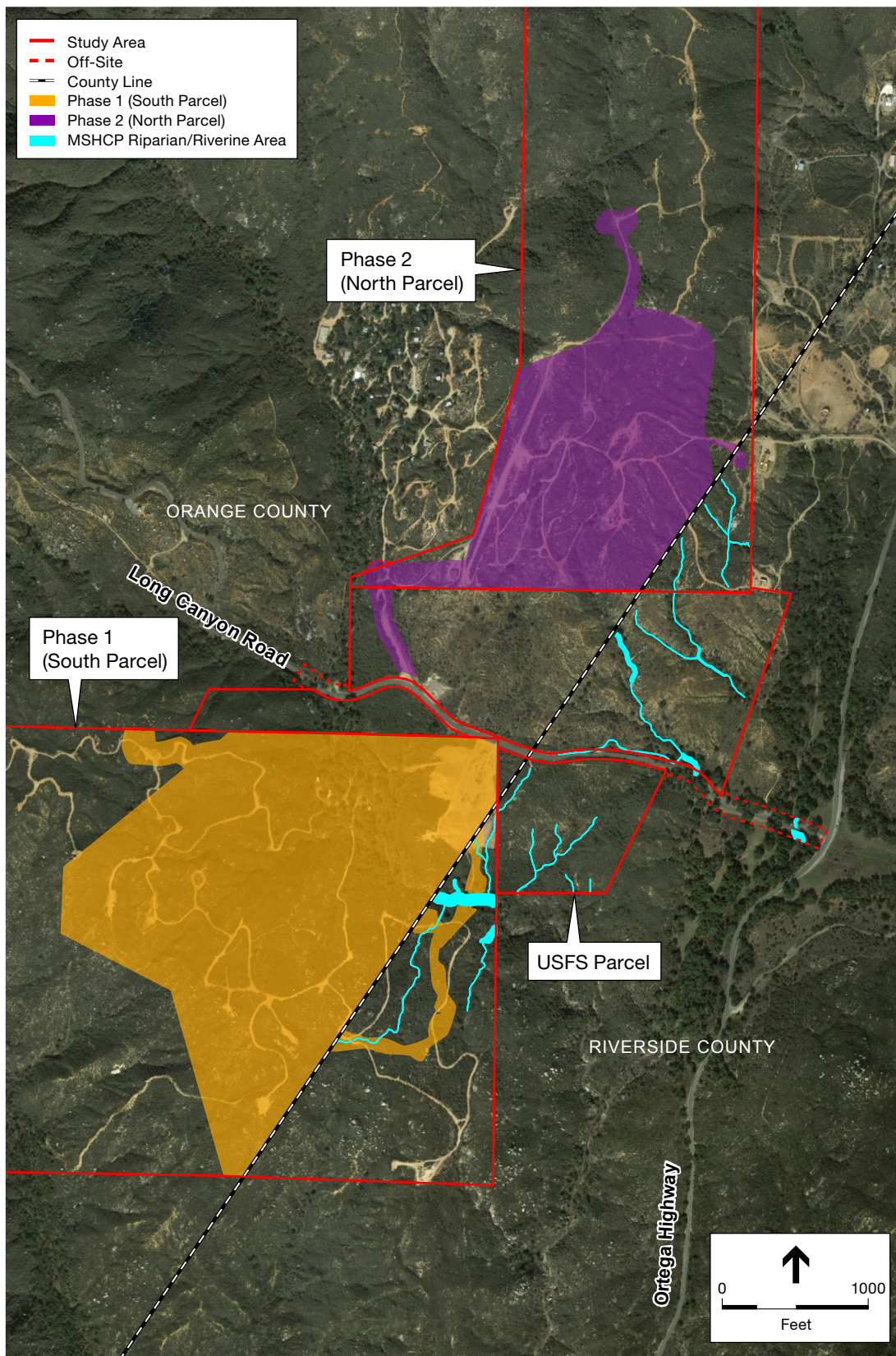
Criteria Cells

Approximately 109.6 acres of the study area (7.7 acres within Phase 2 (north parcel), 48.0 acres within Phase 1 (south parcel), and 4.7 acres off-site are within Riverside County and the Elsinore Area Plan of the MSHCP; however, the study area does not fall within a Criteria Cell. Therefore, the proposed project is not required to provide additional conservation pertaining to Criteria Cells.

In addition, none of the approximately 49.2 acres of PQP lands would be impacted, and impacts related to Criteria Cells and PQP lands would not occur from implementation of the proposed project.

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

The study area includes 1.8 acres of MSHCP Riparian/Riverine and impacts would occur to 0.9 acre as shown in **Figure 3.4-9**. Mitigation Measure MM 3.4-8 would require a Determination of Biologically Equivalent or Superior Preservation (DBESP) and implementation of mitigation at a minimum ratio of 1:1 for unvegetated/upland areas and 2:1 for areas supporting riparian vegetation, which would reduce impacts to Riparian/Riverine areas to a less than significant level.



NOTE: The study area analyzed in the BRA encompasses 745 acres, which is larger than, but includes, the footprint of the proposed project because the biological resources analysis was conducted prior to the project design being finalized.

SOURCE: PCR, 2014

The Preserve at San Juan

Figure 3.4-9
Impacts to MSCHP Riparian/Riverine Areas

The Riverside County portions of the study area do not support vernal pools. Although a series of ponds occurs in the southwest portion of Phase 2 (north parcel), these features occur within Orange County and are not subject to the MSHCP policies. Protocol surveys for fairy shrimp conducted within these ponds and were negative.

Riparian/Riverine plant species with the potential to occur within the study area include Coulter's matilija poppy, Fish's milkwort, Ocellated Humboldt lily, and San Miguel savory. Coulter's matilija poppy was previously observed in the Orange County portion of the study area in 2006; however, none were observed during the more recent sensitive plant surveys conducted in 2012-2013. Furthermore, Coulter's matilija poppy was not observed in the Riverside County portion of the study area during any surveys; therefore, no impacts would occur to this species. Fish's milkwort, Ocellated Humboldt lily, and San Miguel savory were not observed within the study area; however, portions of the study area were inaccessible during focused surveys (i.e., due to dense habitat and steep terrain), there remains a low potential for the following species to occur within portions of the study area outside of the project development area.

However, this potential is considered low due to the dense canopies of vegetation that would limit or even eliminate understory species, and based on the fact that no edges or open areas were observed through binoculars that could support understory species. Because these species, if present, would not be impacted by the proposed project, impacts would be less than significant.

One Riparian/Riverine wildlife species has the potential to occur, the American peregrine falcon. This species is not expected to breed within the study area due to the lack of suitable habitat; however, may forage in the area. Due to the preservation of 71 percent of the project area in open space (Project Design Feature PDF-1) and the proposed residential development would be clustered toward Long Canyon Road (Project Design Feature PDF-2), foraging habitat would be preserved and potential impacts to the American peregrine falcon would be less than significant.

Protection of Narrow Endemic Plant Species (MCHSP Section 6.1.3)

As described in Section 3.9.4, Narrow Endemic Plant Species Survey Area, the study area is within Area 9 of the MSHCP's Narrow Endemic Plant Species Survey Area and a habitat assessment was conducted for many-stemmed dudleya, California Orcutt grass, spreading navarretia, San Miguel savory, Hammitt's clay-cress, and Wright's trichocoronis. Of these species, San Miguel savory has the potential to occur within the study area. Although focused surveys were conducted for this species, due to portions of the study area being inaccessible because of dense habitat and steep terrain, there remains a low potential for the following species to occur within portions of the study area outside of the project footprint. However, this potential is considered low due to the dense canopies of vegetation that would limit or even eliminate understory species, and based on the fact that no edges or open areas were observed through binoculars that could support understory species. If this species were present, it would not be impacted by the proposed project, and impacts would be less than significant.

Additional Survey Needs and Procedures Required by the MSHCP (MSHCP Section 6.3.2)

The study area is not within the Criteria Area Species, Amphibian Species, Burrowing Owl, or Mammal Species Survey Areas; therefore, surveys are not required and the proposed project is considered consistent with these portions of Section 6.3.2 of MSHCP, Additional Survey Needs

and Procedures. Therefore, impacts related to Section 6.3.2 of the MSHCP would be less than significant.

Guidelines Pertaining to the Urban/Wildlands Interface (MSHCP Section 6.1.4)

The guidelines presented in Section 6.1.4, Guidelines Pertaining to the Urban/Wildlands Interface, of the MSHCP are intended to address indirect effects associated with locating development in proximity to the MSHCP Conservation Area. Development located in proximity to the MSHCP Conservation Area may result in edge effects that would adversely affect biological resources within the Conservation Area. Indirect impacts are considered to be those impacts associated with the project that involve alteration of the existing habitat and an increase in human population within the study area. These impacts are commonly referred to as “edge effects” and may result in changes in the behavioral patterns of wildlife and reduced wildlife diversity and abundance in habitats adjacent to the study area. Indirect impacts include the effects of increases in ambient levels of sensory stimuli (e.g., noise and light), unnatural predators (e.g., domestic cats and other non-native animals), competitors (e.g., exotic plants and non-native animals), and trampling and unauthorized recreational use due to the increase in human population. Other permanent indirect effects may occur that are related to water quality and storm water management, including trash/debris, toxic materials, and dust.

Indirect effects resulting from the proposed project may occur within the MSHCP Conservation Area if the following proposed project design features are not implemented. The following Project Design Features would provide consistency with Section 6.1.4, *Guidelines Pertaining to the Urban/Wildlands Interface*, of the MSHCP:

- The project would comply with all applicable water quality regulations, including obtaining a CWA Section 401 Water Quality Certification and complying with those conditions established by the San Diego RWQCB. A WQMP has been prepared that delineates the planned use of infiltration and biotreatment BMPs (i.e., vegetated bioswales and infiltration basins) to treat storm water runoff, the implementation of applicable BMPs during construction activities, and the proper maintenance of these BMPs to ensure adequate long-term treatment of water before entering into any stream course. The BMPs would be designed to prevent the release of toxins, chemicals, petroleum products, exotic plant material, and would control potential vectors or other elements that might degrade or harm biological or aquatic resources to the maximum extent possible (PDF-17).
- Toxic sources from the proposed project would be limited to those commonly associated with residential and vineyard uses, such as bacteria, nutrients, sediments, trash and debris, oxygen demanding substances, metals, organic compounds, and oil and grease. In order to mitigate the potential effects of these residential toxics, the project would incorporate BMPs (e.g., vegetated bioswales and infiltration basins), as required in association with compliance with the CWA Section 401 Water Quality Certification, County of Orange, and/or County of Riverside in order to reduce the level of toxins introduced into the drainage system and the surrounding areas. Construction of the proposed project would incorporate erosion control measures (i.e., sand bags and/or straw

- wattles) around the perimeter of the development area to ensure all water leaving the site is filtered and an increase in siltation does not occur (PDF-13, PDF-14, and PDF-17).
- Night lighting within the proposed development that is adjacent to the MSHCP Conservation Area or wildlife corridors would be directed away from the MSHCP Conservation Area or wildlife movement areas. In addition, shielding shall be incorporated into the project design, as appropriate, in order to ensure that ambient lighting within an MSHCP Conservation Area or wildlife movement areas is not increased (PDF-20).
 - The landscape plans for the proposed project would avoid the use of invasive species for the portions of the development areas adjacent to the MSHCP Conservation Area (PDF-4). Invasive plants that should be avoided are included in Table 6-2 of the MSHCP, *Plants That Should Be Avoided Adjacent to the MSHCP Conservation Area*. The use of invasive plant species is not included in the landscape plans for the project (PDF-4).

In addition, because the proposed project would not result in substantial noise levels, as described in Section 3.11, Noise, wildlife within an MSHCP Conservation Area would not be impacted by noise from the project. Short-term construction-related noise impacts would be reduced by the implementation of Mitigation Measures MM 3.11-1 through 3.11-3, as listed in Section 3.11, *Noise*, and would be near the MSHCP area for a limited period of time, which would not result in impacts related to guidelines for the interface with wildlands.

Furthermore, in order to minimize indirect effects to wildlife and other resources being protected in an MSHCP Conservation Area from unauthorized public access, domestic animal predation, and illegal trespass or dumping, the proposed project would incorporate physical barriers including native landscaping, rocks/boulders, fencing, signage, and other appropriate barrier mechanisms, which are described in Section 2.0, *Project Description*.

Mitigation Measure

- MM 3.4-8 Compliance with Section 6.1.2 of the MSHCP – Protection of Species Associated with Riparian/Riverine Areas and Vernal Pools.** In accordance with Section 6.1.2 of the MSHCP, a Determination of Biologically Equivalent or Superior Preservation shall be prepared and submitted to the Environmental Programs Division. The Determination of Biologically Equivalent or Superior Preservation shall include an analysis of alternatives that demonstrates efforts that first avoid direct and indirect effects to MSHCP Riparian/Riverine habitat; if avoidance is not feasible, the Determination of Biologically Equivalent or Superior Preservation shall include alternatives that would minimize potential effects. If an avoidance alternative is selected, the project shall ensure the long-term conservation of the avoided Riparian/Riverine habitat through the use of deed restrictions, conservation easements, or other appropriate mechanisms.
- If an avoidance alternative is not feasible, the Determination of Biologically Equivalent or Superior Preservation shall include measures to ensure the replacement of any lost functions and values of Riparian/Riverine habitat.

Riparian/Riverine habitat shall be mitigated at a minimum ratio of 1:1 for unvegetated/upland areas and 2:1 for areas supporting riparian vegetation. Measures shall include one, or a combination of, the following:

- On-site creation, enhancement, or restoration;
- Off-site creation, enhancement, or restoration;
- Off-site acquisition and preservation;
- Purchase of credits at an agency-approved mitigation bank; and/or
- Payment into an in-lieu fee agreement.

3.4.5 Cumulative Impacts

The geographic scope for cumulative impacts analysis for biological resources includes the southeastern portion of Orange County and the adjacent southwestern portion of Riverside County that includes the mountainous and topographic open space and habitat, which is similar to that of the project site and adjacent areas.

As described above, the proposed project includes preservation of 414.6-acres of open space, which contains various areas of chaparral and Oak tree habitat. In addition, the proposed project would be required to implement mitigation measures that would mitigate lost habitat to ratios that include: 1:1 for Quino checkerspot butterfly, between 3:1 to 12:1 for oak woodlands, 2:1 for southern willow scrub, 1:1 for riparian/riverine habitat, 2:1 for supporting riparian vegetation. Monitoring would also be required to ensure success of this habitat. With implementation of these mitigation measures habitat areas would not be impacted, and the project's provision of large areas of habitat, would provide that the proposed project would not result in an adverse impact related to biological resources that could combine with other potential projects to be cumulatively considerable. Conversely, the project could provide a cumulative long-term benefit to the region by preserving 414.6 acres of open space adjacent to the Cleveland National Forest and its biological resources.

As stated previously, the Orange County portion of the study area is within the SSNCCP; however, is outside of the Rancho Mission Viejo planning area and, therefore, not subject to the policies set forth in the SSNCCP. Therefore, the geographic scope for cumulative impacts in the Orange County portion of the study area is within a five-mile radius of the project site. Because the Western Riverside County MSHCP is a conservation plan designed to protect sensitive plant and animal species and wildlife corridors, compliance with the MSHCP would ensure cumulative biological resource impacts within the MSHCP plan area would be less than significant.