SECTION 3.2

BIOLOGICAL RESOURCES

3.2 Biological Resources

The descriptions and evaluation of biological resources impacts in this section are based on information compiled through field reconnaissance (34 site visits over the 5-year period between 2001 and 2006), and Biological Technical Report (Pacific Southwest Biological Services (PSBS) 2007), and the Biological Resources Memorandum (Hayworth 2009). The January 2009 Biological Resources Memorandum was prepared to address project changes, including the revised alignment along Deer Springs Road and additional off-site improvements that have arisen since preparation of the Biological Technical Report (PSBS 2007). A complete copy of the June 2007 Biological Technical Report is included as Appendix G to the Merriam Mountains Specific Plan Draft EIR, dated August 2007. The January 2009 Biological Resources Memorandum (Hayworth 2009), is included in Appendix G to this EIR.

3.2.1 Discussion of Existing Conditions Relating to Biological Resources

Project Vicinity

The Merriam project site and the surrounding undeveloped portions of the Merriam Mountains form a large block of mostly undeveloped land (about 2,300 acres), adjacent to and east of another large undeveloped land form, the San Marcos Mountains. The northern and southern Merriam Mountains, along with the adjacent San Marcos Mountains, represent the largest substantial-sized, essentially native blocks of habitat located west of I-15 in central San Diego County. Southern Mixed Chaparral, the primary habitat located on the Merriam project site (approximately 95% coverage) is relatively common in the central foothills of San Diego County, although substantial amounts of this habitat have been converted to grove agriculture. The areas surrounding the Merriam site to the north and south are developed for agricultural and/or large-lot residential uses. The southern portion of the Merriam Mountains, south of Deer Springs Road and the project site, has been substantially planted in grove crops. The Merriam Mountains to the north of Lawrence Welk Drive are partially developed as large-lot residential uses and grove agriculture, with isolated patches of chaparral and coastal sage scrub. The Merriam site is west of and adjacent to I-15, which includes eight lanes of freeway roadway with a wide median strip and often substantial cut or fill banks along the freeway. Off-site improvements required along Deer Springs Road are located in an area adjacent to a variety of land uses, which include residential uses, a health spa, and agricultural uses. The southerly limits of improvements for Deer Springs Road are located within the urbanized area within the City of San Marcos.

Vegetation Communities

The majority of the chaparral on the Merriam site has been unburned for over 100 years, which has reduced its wildlife carrying capacity. The wildlife carrying capacity has been reduced because chaparral is a naturally fire-adapted vegetation type; i.e., many of its component species require fire to regenerate new growth or allow seeds to germinate. Natural fires in chaparral often result in a mosaic of various-aged habitats, with different plant species dominating the landscape over time as the "climax vegetation" occurs. Thus, very recently burned areas of chaparral may be devoid of any surface vegetation, but these areas typically include resprouting shrubs as well as species that principally reseed only after a fire, particularly if adequate rainfall occurs.

"Natural" fires are thought to generally occur every 10 to 40 years, although there is much debate about this interval. Between fires, seeds of some plants may lie dormant by the millions and only germinate after a fire because of the heat and/or smoke released during a fire. Some plants germinate from seeds because of the fire and some plants resprout from basal burls, while other species are killed by the fire and reseed by other means; the varieties and structure of the vegetation changes over time after a fire. The differences in the age and density of various plants affect the wildlife using a given patch of chaparral. For instance, mule deer may visit dense, old stands of chaparral but they may have trouble moving though such stands and may not find young shoots to eat until after a fire, or in younger stands of shrubs and oak woodland.

In areas where fires do not occur over a long period of time, the structure of the chaparral typically becomes tall and dense, with relatively few species dominating compared to the period after a fire. Due to the reduced number of ecological niches (i.e., microhabitats) in unburned areas, there is less diversity of habitat to support a less diverse range of wildlife species. Fires open up these habitats and create mosaics of habitats, thus supporting a greater diversity of wildlife in a given area.

The site includes a number of vegetation communities that are relatively common in north-inland San Diego County. Southern Mixed Chaparral (on granitic-derived soils) covers most of the 2,327-acre site (approximately 2,156 acres, or 92% of the entire site), while the remainder of the vegetation cover types individually amount to 1% or less of the total project area. They include Disturbed Habitat, Urban/Developed, Orchard, Intensive Agriculture, Diegan Coastal Sage Scrub, Non-Native Grassland, Freshwater Marsh, Southern Coast Live Oak Riparian Forest, Sycamore Alluvial Woodland, Eucalyptus Woodland, Southern Willow Scrub/Mulefat Scrub, Mulefat Scrub, Southern Willow Scrub, Southern Willow Scrub/Tamarisk Scrub, and Coast Live Oak Woodland. Each vegetation community is depicted on Figure 3.2-1 and described below. Table 3.2-1 at the end of this section includes the acreages and the percent coverage for each habitat type.

Eucalyptus Woodland: Scattered eucalyptus trees exist on the site, concentrated where Meadow Park Lane would join the site in the extreme southeastern part of the project. Scattered and isolated eucalyptus trees exist elsewhere on the site, but were not individually mapped.

Disturbed Habitat: This category consists of permanently disturbed land cover currently existing on the site and includes small areas, including adjacent to the north end of Mesa Rock Road, the defunct quarry site adjacent to Twin Oaks Valley Road, and limited areas adjacent to the abandoned aircraft landing strip in the northwest quadrant of the site.

Urban/Developed: Developed areas support no native vegetation and may be additionally characterized by the presence of man-made structures, such as buildings or roads. The level of soil disturbance is such that only the most ruderal plant species occur. Urban/Developed lands occur in the southern portion of the site, near the proposed entrance area.

Orchard: Small areas in the southwest and northwest quadrant of the site contain apparently non-commercial orchard crops, primarily as a result of incursion from existing adjacent agricultural uses.

Intensive Agriculture: A small area of avocado groves occurs within the Merriam site, located in the lower southwest corner of the property; this may have been an incursion of agricultural by an adjacent agricultural operation.

Diegan Coastal Sage Scrub: A few relatively limited areas of the site are covered with open Diegan Coastal Sage Scrub vegetation. The most extensive patch of this vegetation occurs on the south-facing slopes of the southern valley. At the northwestern corner of the site, those areas not cleared by the aqueduct or for the avocado groves have an association of California sagebrush (*Artemisia californica*) and flat-top buckwheat (*Eriogonum fasciculatum*). The northernmost extension of the site also has sage scrub cover, but this appears to be due to prior clearing of the chaparral vegetation and should be better considered as successional sage scrub. Sage scrub vegetation is considered special status because of its conversion to other uses in Southern California and because it supports a number of special-status species of wildlife.

Southern Mixed Chaparral: The site is largely covered by Southern Mixed Chaparral that varies from an almost pure "Chamisal" of chamise (*Adenostoma fasciculatum*) to a mountain-mahogany-dominated type (*Cercocarpus minutiflorus*) in the deeper soil of inner valleys. The indicators of the more widespread Southern Mixed Chaparral on the site are chamise, mission manzanita (*Xylococcus bicolor*), black sage (*Salvia mellifera*), and Ramona wild-lilac (*Ceanothus tomentosus*). The extent of exposure, soil depth, and slope affect the extent of the diversity of the chaparral on the site. One major characteristic of the on-site chaparral vegetation is its level of maturity. This Mediterranean climate–associated vegetation is highly correlated with periodic fires that recycle the surface load of organic material and nutrients back into a

nutrient-poor soil system. The fires also allow the cycling of a major suite of annual native wildflowers and stimulate the regrowth of the major shrubs in the region from subsurface specialized stems. The on-site chaparral is ripe for a wildfire because of the lack of recent fires. Separation of proposed new land uses from existing chaparral areas (involving fuel management zones) will be a key issue in the development review process. Isolated coast live oak trees (*Quercus agrifolia*) and small stands of scrub oak (*Quercus berberidifolia*) occur in several areas mapped as Southern Mixed Chaparral, but do not constitute distinct oak woodlands.

Mafic Chaparral: Chaparral vegetation on Santiago Peak metavolcanic rock–derived soil is sometimes classified as Mafic Chaparral, particularly where Las Posas and other clay soils may support certain rare plants. The primary area mapped as Las Posas soils is on the west side of Twin Oaks Valley Road, part of the San Marcos Mountains. Vegetation in this area was difficult to define because of the evidence of prior agriculture and partial recovery of the area with elements of Coastal Sage Scrub species. It is very likely that this area was originally Mafic Chaparral prior to agricultural uses. The listed areal extent of the potential Mafic Chaparral is the area west of Twin Oaks Valley Road; an additional area of about 0.3 acre in the extreme northwest portion of the site was not inspected in detail and may also be classifiable as Mafic Chaparral. The total area given for this vegetation type is not necessarily reflected in the plant species or vegetation types observed in the field because of the age and uniformity of the vegetation. An additional area of Las Posas soils (fine sandy loam vs. stony find sandy loam) occurs at the north end of Mesa Rock Road, but does not appear to support Mafic Chaparral plants and was not classified. These areas with Las Posas soils often support endemic plants that have either evolved to do well on these nutrient-poor soils or can outcompete other plants and thrive on such soils. The mapped Las Posas soils areas were closely examined and do not support special-status plants.

Non-Native Grassland: This vegetation is primarily located in an area termed the linear "meadow" (north of Sarver Lane). Biologically, it is not a meadow, but rather an open field of non-native grasses and forbs, largely ripgut grass (*Bromus diandrus*). Within the site, the inner meadow is largely covered by weedy non-native grasses, is surrounded by a perimeter dirt road, and has another dirt road diagonally crossing it from southwest to northeast. Additionally, there are several areas used for informal dirt-bike tracks within the grassland area. The predominant plants vary depending on the season, sometimes showing extensive black mustard (*Brassica nigra*) stands. Given the coverage of Non-Native Grassland in the only very flat area on the project site, this area appears to have previously been used for pasture of crop lands, probably over the past 75 years or more. Although these grasslands are non-native, wildlife agencies consider them valuable as foraging habitat for a variety of raptors, such as hawks and eagles.

Freshwater Marsh: A small amount of Freshwater Marsh habitat exists in the Twin Oaks Valley Creek, west of and adjacent to Twin Oaks Valley Road, in the west-central portion of the site.

This area is dominated by cattails, but shows evidence of occasional channel clearing (perhaps for mosquito control).

Southern Coast Live Oak Riparian Forest: Southern Coast Live Oak Riparian Forest on site consists largely of black willow (*Salix gooddingii*) and arroyo willow (*S. lasiolepis*), with occasional coast live oaks. The largest occurrence of this vegetation on site is along the bottom of the eastern central canyon. It also occurs just off site, along the creek south of Deer Springs Road. Southern Coast Live Oak Riparian Forest extends beyond the site from the southern valley and is dominated by coast live oaks. Riparian habitats of any kind are usually considered by wildlife agencies to have very high wildlife value for the cover, nesting habitat, and food sources they provide.

Sycamore Alluvial Woodland: This type of riparian woodland vegetation is mixture of California sycamores (*Platanus racemosa*) with scattered coast live oaks and several willow species (*Salix* spp.) that occurs in a narrow canyon opening up adjacent to the west I-15 in the extreme northeast part of the Merriam site. The extensive sycamores in this area make it one of the two major riparian woodland areas on the site, with potentially high wildlife value. This area is within the Biological Open Space area of the proposed project.

Southern Willow Scrub/Mulefat Scrub: This generalized type of riparian scrub vegetation forms a scrubby streamside thicket including willows and mulefat (*Baccharis salicifolia*) located along Twin Oaks Valley Road and the stream in the South Fork of Gopher Canyon.

Mulefat Scrub: This vegetation is a tall, herbaceous riparian scrub strongly dominated by baccharis (Holland 1986). On the Merriam site, small drainage channels in various areas with occasional mulefat shrubs occur, including drainages associated with the southeastern central valley and the graded area of the defunct aircraft landing strip.

Southern Willow Scrub: This vegetation type is fairly typical of Holland's (1986) Southern Willow Scrub, described as "dense, broad-leafed, winter-deciduous riparian thickets dominated by several willow species with scattered emergent cottonwoods (*Populus fremontii*) and sycamores." This vegetation occurs along the streamside in the South Fork of Gopher Canyon, adjacent to Twin Oaks Valley Road.

Southern Willow Scrub/Tamarisk Scrub: A small amount of this habitat exists in a previously graded area adjacent to the abandoned aircraft landing area in the northwest quadrant of the site. The topography of this area allows rainwater to pond and promotes this artificial wetland-like habitat, consisting of scattered willows and tamarisk.

Coast Live Oak Woodland: The Deer Springs area at the southeastern corner of the site has a mature stand of coast live oak and occasional Engelmann oak. The area was the site of a prior

residence, so the understory is largely disturbed and recruitment or new growth of young trees has been arrested by the presence of the weedy understory. Coast live oaks also occur scattered about the site, especially as part of the chaparral vegetation on protected north-facing slopes, but the principal mapped unit of Coast Live Oak Woodland lies only at this southeastern corner and the following site. The drainage that flows out of the southern valley has riparian oak woodland that differs from the savanna-type oak woodland at the southern area. Oak woodland habitats are generally considered of high value because of their value to diverse and abundant wildlife.

Wetlands: Wetlands are areas where an excess of water is the dominant factor in determining the nature of soil development and the types of animals and plant communities living at the soil surface. There are several types of wetlands and classification is somewhat unique between local, state, and federal jurisdictional agencies. The project area was surveyed in July 2003 by Pacific Southwest to determine the presence of wetlands on the site. U.S. Army Corps of Engineers (ACOE), CDFG, and County of San Diego guidelines were used and wetland features classified accordingly.

Army Corps of Engineers: The Corps has regulatory authority over the discharge of dredged or fill material into the waters of the United States under Section 404 of the Clean Water Act. Wetlands, a subset of jurisdictional waters, are defined as "those areas that are inundated or saturated by surface or groundwater at a frequency and duration sufficient to support, and under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions." The Corps has developed a methodology for determining the boundaries of jurisdictional wetlands based on the following three indicators that are normally present in wetlands: (1) hydrology providing permanent or periodic inundation by groundwater or surface water, (2) hydric soils, and (3) hydrophytic vegetation. In order to be considered a wetland, an area must exhibit at least minimal hydric characteristics within all three of these parameters.

California Department of Fish and Game: The State of California regulates activities in rivers, streams, and lakes pursuant to Section 1600 of the Fish and Game Code. This section discusses the process by which an individual, government agency, or public utility must notify the CDFG prior to any activity that would "substantially divert or obstruct the natural flow or substantially change the bed, channel or bank of any river, stream or lake..." Jurisdictional limits of the CDFG are not as clearly defined by regulation as those of the Corps. Generally, CDFG takes jurisdiction to the bank of the stream or to the outer limit of the adjacent riparian vegetation, whichever is greater.

County of San Diego – RPO Wetlands: The property is under the guidelines of the County of San Diego's Resource Protection Ordinance (RPO). The RPO defines wetlands as "all lands which are transitional between terrestrial and aquatic systems where the water table is usually at or near the surface or where the land is covered by water." All lands having one or more of the

following attributes are wetlands: (1) at least periodically, the land supports predominantly hydrophytes; (2) the substratum is predominantly undrained hydric soil; or (3) an ephemeral or perennial stream is present whose substratum is predominantly non-soil, and which either (a) contributes water to a tributary drainage area of 100 acres or larger or (b) (for waters from a tributary drainage of less than 100 acres) contributes substantially, based on considerable evidence, to the biological function or value of adjacent wetlands located upstream or downstream. The County of San Diego RPO requires avoidance of wetlands and avoidance of the wetland buffer adjacent to the wetlands. The RPO prohibits certain uses within RPO-defined wetlands and requires wetland buffers to protect the environmental and functional habitat values of wetlands, with buffer widths from 50 to 200 feet.

In general, the property contains wet areas that support riparian vegetation, primarily within established drainages. These areas do not meet the three required criteria to be classified as ACOE jurisdictional wetlands (see above). However these areas meet one (vegetation) of the three required criteria for CDFG and County of San Diego RPO, and, therefore, are classified as CDFG wetlands and County of San Diego RPO wetlands.

Each of the wetlands occurring in the five watersheds is discussed below. The location of the five watersheds is shown on Figure 3.4-1 as part of the Hydrology/Water Quality analysis.

Watershed A – Southwest Fork Moosa Canyon Tributary: This area supports Southern Willow Scrub, Southern Willow Scrub/Mulefat Scrub, and Oak Riparian Forest. This watershed includes one of the largest and most diverse CDFG/RPO wetlands occurring on site.

Watershed B – San Marcos Creek Tributary: This area includes Southern Willow Scrub, Mulefat Scrub, and Oak Riparian Forest. The Southern Willow Scrub and Mulefat Scrub are small, isolated areas occurring in the southern portion of the property. Two areas of Oak Riparian Forest occur in the same drainage system. These wetland areas occur within ACOE non-wetland waters of the U.S. and CDFG streambed. The two small areas of Southern Willow Scrub are isolated from the other wetland areas occurring downstream.

Watershed C – Basin C: This watershed does not include any jurisdictional wetland areas, but includes ACOE non-wetland waters of the U.S. and CDFG streambeds.

Watershed D – South Fork Gopher Canyon Tributary: This watershed includes the largest area (3.97 acres) of diverse riparian vegetation. This area includes areas of Freshwater Marsh, Southern Willow Scrub, and Oak Riparian Forest.

Watershed E – Basin E: This area includes two small areas of Southern Willow Scrub located within ACOE and CDFG drainage.

RPO wetlands and other jurisdictional wetlands on the project site consist of Freshwater Marsh (0.1 acre), Mulefat Scrub (0.2 acre), Oak Riparian Forest (2.3 acres), Southern Willow Scrub (2.6 acres), Southern Willow Scrub/Mulefat Scrub (0.3 acre), Southern Willow Scrub/Tamarisk Scrub (0.6 acre), Sycamore Alluvial Woodland (1.6 acres), and Unvegetated Wetlands (0.2 acre). There is a total of 7.9 acres of RPO wetlands on site. Each of the wetlands occurring in the five watersheds is depicted on Figure 3.4-1. In addition, Table 3.2-2 provides a summary of the wetlands within the project area.

County of San Diego – Sensitive Habitat Lands

The patch of Diegan Coastal Sage Scrub north of the Mesa Rock Road cul-de-sac that supports a single pair of threatened coastal California gnatcatchers does qualify as a sensitive habitat land under the RPO. These gnatcatchers may be part of a larger population of gnatcatchers along the I-15 Corridor from State Route (SR) 76 to SR 78. The presence of the gnatcatchers qualifies the area occupied as a special-status habitat land under the RPO because the area supports this population of a "rare or endangered species or sub-species of animals" as defined by Section 15380 of the state CEQA Guidelines. No other lands on the site meet the definition of sensitive habitat lands under the RPO.

Wildlife Resources

Wildlife resources are invertebrates, amphibians, reptiles, birds, and mammals expected to occur in the project area. A complete list of all the fauna observed is contained in Appendix G to the Merriam Mountains Specific Plan Draft EIR (dated August 2007), and a summary of the major faunal groups on the site is provided in Table 3.2-3.

Invertebrates/Butterflies: Ten species of butterflies were observed on the project site; all the species observed are typical for the area and habitats found on the site.

Amphibians and Reptiles: One amphibian species was observed on the site, about half a dozen young of the year western toads (*Bufo boreas*), in a damp culvert under a dirt road in the proposed location of Neighborhood 2. Because the majority of the surveys were carried out in extremely low rainfall years, few other amphibians were surface active and none were observed during the surveys. It is likely that other common amphibians exist on the site, including such species as the California slender salamander (*Batrachoseps attenuatus*) and Pacific chorus frog (*Pseudacris regilla*), particularly in the two riparian canyons planned for preservation on the east and west sides of the site.

Seven species of lizards were observed on the site; all those observed are common and widespread in the coastal foothills of San Diego County. Two snake species were observed, although undoubtedly several more species occur on the site.

Birds: Forty-two bird species were observed during the numerous field visits to the site; all these species, except the coastal California gnatcatcher and red-shouldered hawk (*Buteo lineatus*), are common species in the north San Diego County inland habitats found on the site. The relatively low avian diversity of the site is probably the result of low habitat diversity on the site (almost 95% Southern Mixed Chaparral vegetation) and because the majority of the site has not burned in over 100 years.

Due to the dominance of chaparral vegetation on the site, most of the wildlife is associated with that rather dense plant association. The relative lack of open field habitat largely restricts foraging use of the site for foraging by large raptors, though there are potential nesting or roosting sites. No raptor nest sites were observed during the various surveys but the rocky eastern escarpments (in the eastern area of Lusardi Mountain) probably provide potential nesting habitat for raptors. Occasional red-shouldered hawks and red-tailed hawks (*Buteo jamaicensis*) were noted during the numerous field visits to the site. While the red-shouldered hawk was once thought to be declining in Southern California, it is now considered a common nesting species in urban canyons in San Diego County. This species is not in trouble in San Diego County and has substantially increased in the region with urbanization. Furthermore, the red-shouldered hawk is not on the CDFG List of Special Animals.

Mammals: During the field investigations for this site, 10 mammal species were recorded; all 10 species are considered common throughout the inland foothills of north San Diego County. Three observations of Merriam's chipmunk (*Tamias merriami*) were made in the northern and southern parts of the site. This species is more commonly associated with montane habitats with conifers but is also known from chaparral habitats in the foothills of northwest San Diego County. Mountain lion was not observed or detected during recent field surveys but has been known to use some of the site in the past.

Although no trapping was performed, small and medium-sized mammals are probably fairly common on the site because they would be able to move through the brush with ease. Typical habitats used by bats include open areas for foraging (almost all habitats) and rock and tree crevices, caves, mines, and other man-made structures used for daytime and maternity roosts for bats. The many rock outcrops, including the abandoned quarry on the western side of the site, would provide habitat for several species of bats. The nearby presence of agricultural activities would also support bat populations to some degree. Deer use of the site is apparently very low (no tracks were observed, although old scat was observed once), due to the senescent nature of the vegetation and relative lack of trails about the site. Coyote (*Canis latrans*) scat was observed commonly about the site; gray fox (*Urocyon cinereoargenteus*) scat was observed less frequently. Bobcat (*Lynx rufus*) use of the site is presumed to occur but no tracks were observed to confirm the level of activity.

Sensitive Biological Resources

Sensitive Vegetation Communities: Certain vegetation communities are considered sensitive based on individual plant species (see below) that make up unique vegetation communities. The project site does not contain any unique vegetation communities as defined by the County of San Diego RPO. All of the vegetation types on the site are found elsewhere in San Diego County and are still considered relatively common and widespread, although some, including Diegan Coastal Sage Scrub, Coast Live Oak Woodland, and Willow Riparian Woodland are declining in Southern California and considered important wildlife habitats. Additional vegetation types found on the site are "sensitive" by virtue of their wetland association or high value as potential wildlife habitat. Areas considered to be sensitive include Non-Native Grasslands, Mafic Chaparral, Southern Mixed Chaparral, Freshwater Marsh, Southern Coast Live Oak Riparian Forest, Sycamore Alluvial Woodland, Southern Willow Scrub/Mulefat Scrub, and Southern Willow Scrub. Non-Native Grassland is considered of potential value to wildlife because it can serve as important foraging habitat for raptors and other open-field birds; the other habitats listed are special status because of their dependence on water, high habitat diversity, and high wildlife habitat value.

Sensitive Plant Species: Sensitive plants are those species that are considered rare, threatened, or endangered within California, whether or not they are state or federally listed. Plant species can also be considered sensitive for their wildlife value or as defined by the County of San Diego RPO for unique vegetation communities. Three sensitive plant species were found on the site: summer-holly (*Comarostaphylis diversifolia* ssp. *diversifolia*), Ramona horkelia (*Horkelia truncata*), and Engelmann oak. These species are discussed in Table 3.2-4 and the locations are illustrated on the biological resources map (Figure 3.2-1). The listing authorities and explanation of listing categories are presented in Appendix G to the Merriam Mountains Specific Plan Draft EIR, dated August 2007. The proposed site does not include any unique vegetation communities as defined by the RPO.

Sensitive Wildlife Species: Sensitive animal species are those that are considered sensitive by the U.S. Fish and Wildlife Service (USFWS), CDFG, or County of San Diego. Of the 71 special-status wildlife species recorded in the general project subregion, 37 species are unlikely to occur on site and 9 species were detected during the field assessments. The locations for observations of sensitive species are illustrated on the biological resources map (Figure 3.2-1). Additional information on survey methodology and historical data can be found in the Biological Technical Report (Appendix G to the Merriam Mountains Specific Plan Draft EIR, dated August 2007).

<u>Observed On Site:</u> The species detected on site include the following: northern red-diamond rattlesnake, San Diego horned lizard, Belding's orange-throated whiptail, coastal whiptail, coastal California gnatcatcher, California thrasher, San Diego desert woodrat, mountain lion (nearby residents indicated this species had occurred on the site), and southern mule deer.

Northern Red-Diamond Rattlesnake (*Crotalus ruber ruber*)
This species was occasionally encountered during zoological field work on the site, primarily in rocky or boulder-strewn areas in the northeastern portion of the site.

San Diego Horned Lizard (*Phrynosoma coronatum blainvillei*)
This species was occasionally observed in various parts of the site, but appears to be uncommon on the site because of the dense chaparral vegetation without extensive open areas with extensive sandy soil patches supporting harvest ants.

Belding's Orange-Throated Whiptail (*Aspidoscelis hyperythrus beldingi*)
This species, like the horned lizard, depends on sandy soils, often in openings or along trails in coastal sage scrub or chaparral, where it was occasionally observed on the site.

Coastal Whiptail (*Cnemidophorus tigris stejnegeri*)
This insectivorous lizard, found in a greater variety of habitats than the Belding's orange-throated whiptail, was also found on the site.

Coastal California Gnatcatcher (*Polioptila californica californica*)
This species, a federally listed threatened species, was observed on the project site during the spring survey. Much of the southeastern portion of the ownership is included in the final critical habitat designated for the species (USFWS 2000), although a single pair of these species only utilizes a small segment of the 28.6 acres of Diegan Coastal Sage Scrub on the site. Southern Mixed Chaparral, which comprises approximately 95% of the land cover in the Merriam site, is not suitable habitat for the gnatcatcher, though gnatcatchers may disperse over or through this habitat. The gnatcatchers were observed in the extreme southeastern portion of the property, northeast of the existing gas station, based on two series of habitat assessments and presence/absence surveys for the species. Gnatcatchers are thought to disperse along the I-15, which includes the project site, through brushy areas including Coastal Sage Scrub and Chaparral habitats.

California Thrasher (*Toxostoma redivivum*)
This species, placed on the National Audubon "Yellow List," is still common in appropriate chaparral habitat in the coastal foothills and mountains of Southern California; it has no governmental special-status rating at this time. The species was commonly seen in chaparral on the Merriam site.

San Diego Desert Woodrat (*Neotoma lepida intermedia*)
This species inhabits chaparral and woodland areas, particularly in rocky areas, and its large conical nests have been observed in various places on the Merriam site.

Cooper's Hawk (*Accipiter cooperi*)
This species is widespread and locally common, even in suburban areas of San Diego; it has been observed on the Merriam site, typically around oak or other woodlands, where it preys on small birds.

Mountain Lion (*Felis* [*Puma*] *concolor*)
This wide-ranging species is uncommon in rural areas of Southern California, but still present in open parts of the western mountain foothills. The species was noted as present in the Safa Ranch project biology report (Safa Ranch included portions of the south-central part of the present Merriam ownership). Given that the main prey item for this species is mule deer, which prefers more open vegetation, it would not be surprising if mountain lions were not found on site; however, they may still occasionally use the site.

Southern Mule Deer (*Odocoileus hemionus*)
This species is typically found in the undeveloped coastal foothills (as well as the mountains and parts of the desert) of San Diego County but apparently does not occur regularly on the Merriam site. Mule deer, although a commonly hunted game species, is important because its presence can be indicative of a healthy upland ecosystem; it has been identified as a covered species in local subregional habitat conservation plans.

The species forages in shrubland openings and uses forested areas or dense brushy areas for cover. The extremely dense nature of the chaparral on the site probably limits the availability of suitable habitat on the Merriam site. This species was never directly observed on the site during field visits, although sign (droppings) of this species was observed. Thus, mule deer may occasionally use the site, but so irregularly or seldom that they should not be considered regular residents on the site. The dense chaparral habitat, steep slopes, and lack of access from the east due to the freeway also probably limit mule deer utilization of the site.

<u>Potential to Occur:</u> The following species have a moderate potential to occur on site based on existing habitat: coastal rosy boa, coast patch-nosed snake, two-striped garter snake, sharp-shinned hawk, western bluebird, yellow warbler, yellow-breasted chat, Southern California rufous-crowned sparrow, Bell's sage sparrow, western red bat, San Diego black-tailed jackrabbit, and Dulzura pocket mouse. In addition, southwestern willow flycatcher, loggerhead shrike, and least Bell's vireo could occur in the project area; however, the potential would be considered very low. Table 3.2-3 provides additional detail on species of concern and describes the probability of occurrence within the project area.

<u>Considered Absent:</u> The following species, though they have some potential to occur, are presumed absent.

Hermes Copper (*Hermelcycaena hermes*)
The larval host plant for this species, spiny redberry (*Rhamnus crocea*), occurs on the site in small numbers in a variety of locations, and potential adult roosting/foraging areas have been examined during the flight period for this species (by experienced Hermes observers), but no Hermes copper butterflies have been found on the site. This species typically occurs in areas where the host plant and extensive nectaring plants occur in fairly close proximity, an uncommon circumstance within the Merriam site. Most of the species' collection areas are in the southwestern part of San Diego County and the species is probably not present on the site. Based on review of the species' distribution and on-site field surveys, it does not occur on the site.

Harbison's Dun Skipper (*Euphyes vestris harbisoni*)
The larval form of this species is dependent on San Diego sedge (*Carex spissa*), which does occur on the Merriam site in the drainage along Twin Oaks Valley Road. Two visits to this area during the flight season of the butterfly failed to reveal its presence. Additional field visits during the active larval stage failed to detect larva of this species using the *Carex* plants on site. Based on review of the species' distribution and on-site field surveys, it does not occur on the site.

Golden Eagle (*Aquila chrysaetos*)
The potential for golden eagle to occur on site is very low. While the site contains a historical nest site for this species on the prominent high rock outcrops in the east-central portion of the site overlooking I-15, no golden eagles have been observed by Pacific Southwest biologists or others for many years. Unitt (1984) cites a study by Dixon (1937), who mapped territories of golden eagles in the northwestern part of San Diego County and estimated a territory size of 36 square miles per pair. Unitt (1984) further states: "The distribution of breeding golden eagles in the foothill, mountain, and desert zones has changed little through history, but the territories of about 12 pairs in the coastal lowland have been eliminated by urbanization, agricultural development, and human disturbance. This represents a decline of about 23% in the county population [in 1984]. Most of this loss has occurred since 1965, and further decreases can be expected in the future, particularly if development of new avocado orchards continues in the rugged hills of northwestern San Diego County." Golden eagles now nest near the coast only in Camp Pendleton; further south, Lake Hodges, the Rancho Peñasquitos area, and San Miguel Mountain marked the limits of their breeding range in 1981. The abandoned historical golden eagle nest site on Merriam appears well below the nearest mountain peak, on the northeast-facing slope, overlooking Interstate 15.

Eagles typically nest in protected cliffs, outcrops, or tall trees where they can be safe from terrestrial predators and have a broad view of potential foraging areas from the nest site area. The historical nest site on the northeast-facing slope of the Merriam Mountains appears to have a broad view of I-15 and once open areas east of I-15, areas now occupied by the eight-lane freeway and residential developments like Lawrence Welk and the Circle-R Ranch. This nest

may have been abandoned during the expansion of I-15 to its present configuration, or it may have occurred over a longer period of time, with the absence of wildfires leading to denser accumulations of chaparral vegetation and fewer open areas to forage for large rodent- to rabbit-sized prey. The lack of occupation of the historical eagle nest on the Merriam site is further documented by Unitt (2004) in the San Diego County Bird Atlas, which shows no golden eagle observations during the 5-year period between March 1997 and February 2002 in the vicinity of I-15, north of SR 78, or south of Gopher Canyon Road. This study relied on focused field studies during the winter and breeding season countywide on individual cells 3 miles (5 km) on a side. Dr. Thomas Scott (pers. comm. 2005), who studied historical and recent golden eagle nest sites in San Diego County, has indicated that "old guys called this nest "Cozy Nook" and it was last active in the 1980s."

Burrowing Owl (*Athene cunicularia*)
The potential for burrowing owl to occur on site is very low. This typically grassland species has not been observed on the Merriam site during the current round of field work, but was listed in the 1998 species list for the Safa Ranch project (Pacific Southwest 1998) as occurring on the site. The Safa Ranch project included lands from the northern portion of the inner meadow/valley of the Merriam site (Neighborhood 2), and this is the most likely area where a burrowing owl may have been encountered. Unfortunately, no site-specific information was listed in the 1998 report. Based upon the limited habitat on site and the absence of sightings or sign for many years, the species does not occur on site.

Wildlife Corridors

Extensive field qualitative assessments were carried out on the site in July 2003 to determine the patterns and locations of wildlife use on the site. These field assessments indicated that except for the portions of the site that include Gopher and Moosa Creek tributaries, no major wildlife corridors or movement areas occur on the site. Localized wildlife movement trails and canyons identified in field studies on the site are depicted on Figure 3.2-1 and a detailed description of the wildlife corridor study is provided in the Biological Technical Report (Appendix G to the Merriam Mountains Specific Plan Draft EIR, dated August 2007).

Due to the dense nature of the chaparral vegetation found on site, it is highly likely that the existing dirt access roads are the primary avenues for terrestrial wildlife movement, at least for medium-sized and larger mammals. Many of these roads join canyons, which could be used as secondary areas for movement where they are open enough to allow access. An extensive matrix of canyons and roads exist in the northern portion of the site that can support movement and access to a number of locations within the project area and to suitable habitat off site. Since most of the canyon bottoms on the site are clothed in dense chaparral, probably limiting substantial movement within these canyons at present, existing trails and roadways may be more heavily used. In the southern portions of the site, the proximity of adjacent residential and agricultural

uses and roads with higher traffic volumes probably reduce both internal and external wildlife movement in the south.

The South Fork of Gopher Canyon and undeveloped portions of the San Marcos Mountains are located west of Twin Oaks Road and the project site. These areas show favorable attributes as both primary habitat and movement area habitat for larger forms of wildlife. Riparian vegetation found within the South Fork of Gopher Canyon has a more open understory to facilitate movement and is habitat for prey items for bobcat, gray fox, coyotes, and, potentially, mountain lion. Additionally, this area is a tributary to the San Luis Rey River, which is a regionally important riparian habitat and corridor. Riparian habitats provide water, food, cover, and both linear and lateral wildlife movement potential. The San Marcos Mountains also have suitable habitat characteristics for mammal species found on site, and are largely undeveloped at present. These mountains could provide wildlife with important life history resources and potential access through the South Fork of Gopher Canyon back and forth from the San Luis Rey River.

Initial qualitative observations of terrestrial wildlife movement signs on the Merriam site indicate that the site is used primarily by small to medium-sized species such as rodents, squirrels, gray foxes, bobcats, and coyotes.

Existing terrestrial wildlife use of the majority of the dense Southern Mixed Chaparral may be limited because of the lack of habitat diversity and very dense foliage and lack of surface water. Terrestrial wildlife movement appears largely limited to the extensive series of dirt roads on the site formed for water line maintenance or individual lot access. Permanent surface water appears limited to two areas on site, including the South Fork of Gopher Canyon and a major drainage with riparian woodland adjacent to I-15. There is some evidence that pools are formed during winter storms, but these are only temporary sources of surface water for wildlife.

The northern portion of the Merriam site appears to have greater conservation value compared to the southern portion of the site, judging by the following characteristics: (1) it is broader in the east–west direction (reduced surface to area ratio); (2) it is immediately adjacent to areas not generally used for agriculture; (3) it extends west to connect to the San Marcos Mountains across Twin Oaks Valley Road; and (4) it contains more rugged topography, including the highest point on the site. In contrast, the southern portion of the site (1) is narrower in width (higher surface to area ratio); (2) is adjacent to commercial or agricultural lands on the eastern, southern, and southwestern sides; (3) is not adjacent to the San Marcos Mountains or other open areas; and (4) has varying topography, although not to the extent of the northern portion of the site.

As the northern portion of the Merriam site has the greatest potential of supporting wildlife movement both internally and externally to the site, the project has been clustered in an all-south design that concentrates development in the southern portion of the ownership. This design leaves the northern portion of the site consolidated as a single block of habitat, except for two

project access roads, Camino Mayor (leading to Twin Oaks Valley Road) and Lawrence Welk Court (leading to I-15). This design maintains a large, contiguous reservoir of undisturbed Southern Mixed Chaparral with a variety of elevations, slope variations, and slope exposures. Additionally, this redesign ensures that the site maintains a broad habitat connection to the largely undeveloped San Marcos Mountains, adjacent to the west.

A detailed description of the wildlife corridor study is provided in the Biological Technical Report (Appendix G to the Merriam Mountains Specific Plan Draft EIR, dated August 2007).

Regional Conservation Planning Context

Federal Regulations: Federal regulations apply to a number of resources typically found in Southern California, including the Migratory Bird Treaty Act, which protects most native species of birds, while specific regulations, such as the Bald and Golden Eagle Protection Act (United States Code, Title 16, et seq.) prohibits the taking of these species without appropriate permits. The federal Endangered Species Act of 1973 (16 U.S.C. §§ 1531–1544, December 28, 1973, as amended 1976–1982, 1984, and 1988), as amended, protects taking of species of plants and animals listed as threatened or endangered.

The ACOE regulates activities affecting wetlands and non-wetland waters pursuant to Section 404 of the Federal Clean Water Act and Section 10 of the Rivers and Harbors Act (33 U.S.C. § 401 et seq.).

State Regulations: The California Fish and Game Code regulates protection of natural resources under state protection, including the California Endangered Species Act (Sections 2050–2085). The code also applies to protection of streambeds (Sections 1600–1616). The California Regional Water Quality Control Board (RWQCB) regulates activities under Section 401 of the Federal Clean Water Act and the California Porter-Cologne Water Quality Control Act. CEQA (California Public Resources Code, Sections 21000–21178, and Title 14 CCR, Section 753, and Chapter 3, Sections 15000–15387) requires state agencies and local jurisdictions to address environmental consequences of discretionary decisions.

Natural Community Conservation Plans (NCCPs) are authorized under the State of California Fish and Game Code (Sec. 2800–2840, as amended).

Local Policies and Ordinances: The project is located within the Natural Communities Conservation Planning Act (NCCP) planning area. The County of San Diego became a participant in the NCCP in 1993 with the stated intent to "…provide for regional protection and perpetuation of natural wildlife diversity while allowing compatible land use and appropriate development and growth." The NCCP Process Guidelines were established as interim guidelines until formal subregional plans were approved. The draft North County Multiple Species

Conservation Program (NCMSCP) is the proposed subregional plan for this portion of the County of San Diego.

The project must demonstrate conformance with overall goals and policies of the NCCP, and may also be required to make the specific findings applicable to issuance of incidental habitat loss permits (HLPs). Through hardline negotiations with the wildlife agencies, and in signing a hardline agreement for the NCMSCP, the project has demonstrated conformance with the general principles. If the NCMSCP has not been adopted at the time of project approval, the specific findings applicable to NCCP will be made. The hardline agreement has established that the project footprint is consistent with preserve design principles under the NCCP. The NCMSCP Vegetation Map, NCMSCP Habitat Evaluation Model, and County of San Diego SITES Model Results characterize the property's vegetation as predominately Southern Mixed Chaparral and its habitat value as moderate with limited areas of high, very high, and low. However, this area has greater preservation value to because it is such a large natural area with connectivity to the San Marcos Mountains and ultimately to the San Luis Rey River to the north and northwest. Focused planning areas (FPAs) for the SANDAG North County Multiple Habitat Conservation Program (MHCP) and the planning maps for the NCMSCP indicate that most existing connectivity is in the northern and northwestern portions of the site, with connectivity to the south and east being limited by I-15 and existing urban development. The NCMSCP Subarea Working Draft Map identifies the project site with an asterisk, indicating "Properties currently being negotiated for hardline preserve."

Consistent with generally accepted preserve design principles, the project preserves a large block of open space (Biological Open Space), including the northern and northwestern portions of the site, and provides off-site regional linkages between off-site lands in the San Marcos Mountains to the west and north along Gopher Canyon and to the San Luis Rey River. Figure 1.1-4 depicts the areas that will be preserved as Biological Open Space, development areas, natural parks, and other open space areas that were agreed upon by all parties mentioned above. The project's hardline boundary, when the NCMSCP is approved, would eliminate the need for a separate NCCP (HLP) approval from the County of San Diego, CDFG, and USFWS.

Prior to the initiation of the NCMSCP planning effort, the Merriam Mountains were recognized by the County of San Diego North County Metropolitan Subregional Plan by its designation as the Merriam Mountain Resource Conservation Area (RCA). This RCA is characterized as having "Resources in this area similar to the San Marcos Mountains including the same species of rare plants plus *Comarostaphylos diversifolia*." Concerning the San Marcos RCA, the definition states as follows: "These mountains are especially significant because they have rare and endangered plant species such as Parry's tetracoccus (*Tetracoccus dioicus*) and southern mountain misery (*Chamaebatia australis*)."

Resource Protection Plan: The Resource Protection Plan (RPP) is being prepared and reviewed as part of the overall entitlement process for the Merriam Mountains project (Appendix T to the Merriam Mountains Specific Plan Draft EIR, dated August 2007). The RPP is the result of a series of discussions and negotiations between the applicant, the County of San Diego, and the wildlife agencies that resulted in agreement on an MSCP hardline preserve boundary to assemble the Merriam Mountains core area as part of the draft NCMSCP. The agreement was executed by the applicant and the wildlife agencies in October 2005. The hardline preserve depicted in the agreement consolidates development in the southern portion of the site and retains 1,192 acres of Biological Open Space in the northern portion of the site as a large core area. The agreed-upon "hardline" has been determined to be an ecologically superior plan when compared with a more piecemeal preserve design potentially resulting from a plan strictly adhering to the parcel-by-parcel requirements of the RPO.

The RPP addresses landform resources, biological resources (special-status habitats and wetlands), and cultural resources also being addressed in the Merriam Mountains EIR. In some cases, measures incorporated in the RPP provide the basis for mitigation measures identified in this section. The RPP is proposed to be adopted by the County of San Diego in conjunction with entitlement approvals for the Merriam Mountains project along with certification of the Merriam Mountains EIR. Together, these approvals will assure that the policies, programs, and measures included in the RPP are carried out. The RPP and its appendices (conceptual upland and wetland revegetation plans) also include all of the elements of a Resource Management Plan (RMP) prepared in accordance with the county's RMP requirements with the exception of final details regarding revegetation and monitoring, such as specific data collection methods. The RPP will be implemented by area-specific RMPs associated with approval of the final map(s).

3.2.2 Guidelines for the Determination of Significance

Project-related improvements or activities would result in direct, indirect, and/or cumulative impacts that would be detrimental to biological resources if:

Vegetation Community/Habitat Impacts

1. A block of substantially native habitat considered essential to the naturally functioning local or subregional or regional biological environment will be eliminated or substantially degraded such that it no longer provides comparable biological function(s) or value(s).

2. The natural biological diversity and habitat associations are not being preserved in a contiguous, functional habitat area, thereby compromising the long-term health and viability of the ecosystem.

3. Any functionally viable component of native or naturalized habitat will be removal or substantially impacted through grading, clearing, and/or other construction activities.

4. The functional value of habitat will be "moderately to significantly" degraded either immediately or in the long-term, as indicated by one of the following:

   a. A substantial decrease in species composition, diversity, or abundance

   b. A substantial decline in the biological value or function of the habitat.

5. Any of the following will occur to or within County of San Diego–defined wetlands: removal of associated vegetation; grading; obstruction or diversion of water flow; change in velocity or siltation rate; placement of fill; placement of structures; construction of a road crossing; placement of culverts or other underground piping; any disturbance of the substratum; and/or any activity that may cause a change in species composition, diversity, and abundance.

Wildlife Movement Impacts

6. Project-related improvements or activities within or adjacent to local wildlife corridors, subregional or regional linkages, or other areas used for wildlife movement will:

   a. Prevent a substantial proportion of existing wildlife using or relying on the project site from accessing areas considered necessary to their survival (e.g., foraging resources, breeding areas, necessary water sources)

   b. Restrict substantial numbers of wildlife from using their natural movement patterns (i.e., those pathways used when given the choice absent human interference)

   c. Further constrain a narrow wildlife corridor by reducing width, removing available vegetative cover, creating substantially adverse edge effects, or placing barriers in the movement path

   d. Create artificial corridors that do not functionally connect core habitat areas or linkages.

Sensitive Species Impacts

7. Direct, indirect, and/or cumulative impacts may occur that may be detrimental to the regional long-term survival of a County of San Diego special-status animal (those recognized by a government agency or conservation or scientific group as being depleted, potentially depleted, declining, rare, locally endemic, endangered, or threatened (based on scientifically valid criteria), and/or any species nominated for or on a state or federal rare, endangered, or threatened species list within the San Diego subregion) or direct, indirect, and/or cumulative impacts that may reduce the local population of a plant

species listed as federally or state-endangered or threatened, and/or listed as a County of San Diego Group A or B plant species or Group C or D plant species, or a County of San Diego–defined sensitive habitat (any habitat recognized by a government agency or conservation or scientific group as being depleted, rare, and/or endangered, or otherwise sensitive, based on scientifically valid criteria).

8. Grading, clearing, construction, or other activities (including passive and active recreation, permanent development, or recreational activities) will occur within 4,000 feet of an active golden eagle nest during the breeding season (February 15 to July 15) such that it would be likely to interfere with normal nesting activities of the eagle (considers impacts that would not be in the line of sight or where natural noise buffering reduces potential impacts to a less-than-significant level).

9. Grading, clearing, and/or construction will occur within the following distances and within the following time periods for one or more of these species:

Species	Distance	Breeding Season
Coastal cactus wren	300 feet from occupied habitat	February 15 to August 15
Coastal California gnatcatcher	300 feet from occupied habitat	February 15 to August 31
Least Bell's vireo	300 feet from occupied habitat	March 15 to September 15
Southwestern willow flycatcher	300 feet from occupied habitat	May 1 to September 1
Tree-nesting raptors	300 feet from occupied habitat	February 15 to July 15
Ground-dwelling raptors	800 feet from occupied habitat	February 15 to July 15

10. Loss of functional raptor foraging habitat (from a subregional perspective).

Indirect Impacts

11. On- or off-site native habitat will be subjected to substantially adverse urban-type edge effects, including:

    a. Project-generated noise levels in excess of 60 dB during daytime hours and 50 dB during nighttime hours, measured at the edge of native habitats slated for preservation

    b. Artificial light exceeding a level of one-half as bright as a full moon

    c. A drawdown of the groundwater table of 3 feet or more (for groundwater-dependent species or habitats)

    d. Project-generated, unauthorized human encroachment that is substantially detrimental to native flora and fauna, including but not limited to unauthorized clearing, trash dumping, or off-road vehicle traffic within preserve areas

e. Substantial predation or substantial disruption of natural history activities of native species by unrestrained domestic pets

f. A substantially adverse change in pre-project typical range of moisture levels and/or an increase in the spread of pollution and pesticides

g. A substantial change in the composition of native vegetation caused by invasive plants from adjacent ornamental landscaping

h. Introduction or substantial increase in the populations of pest, disease-carrying, or nuisance species (plants or animals) that may adversely affect native species, future project residents, or adjacent residents.

12. Reduced habitat viability in habitats not directly impacted by the proposed project.

Regulatory Compliance

13. The project does not conform to the requirements regarding wetlands, wetland buffers, or sensitive habitat lands as outlined in the County of San Diego RPO.

14. The project does not conform to the goals and requirements of the County of San Diego HLP ordinance or NCCP.

15. The project does not conform to the goals and requirements as outlined in an adopted, applicable HCP, Habitat Management Plan (HMP), Special Area Management Plan (SAMP), or similar regional planning effort.

16. The project does not conform to the goals and requirements of applicable federal or state regulations, including but not limited to the federal Endangered Species Act, Migratory Bird Treaty Act, Bald and Golden Eagle Protection Act, Clean Water Act, Porter-Cologne Water Quality Act, and the California Fish and Game Code.

Guideline Sources: The aforementioned significance criteria are based on Appendix G of the CEQA Guidelines (14 CCR 15000 et. seq.), County of San Diego regulations, state and federal regulations, and other County of San Diego guidance as described below.

Guideline 1 is associated with the protection of biologically important blocks of habitat in a configuration that preserves biological functions and values consistent with accepted conservation biology principles. This guideline is intended to protect the functions and values of such habitat blocks from direct and indirect project-related effects and to maintain the contribution of such areas to the regional biological environment.

Similar to Guideline 1, Guideline 2 and Guideline 12 are associated with preservation of contiguous blocks of open space consistent with accepted conservation biology principles.

The removal of native or naturalized habitat through project-related activities, as described in Guideline 3, would directly affect habitat acreage and plant/animal species located therein, as well as causing potential impacts to associated resources/uses such as species diversity, foraging, breeding, and access.

Guideline 4 is intended to protect the functions and values of habitat areas from direct and indirect project-related effects as well as maintaining a high species diversity and/or abundance within the provided open space areas.

The federal, state, and County of San Diego requirements identified in Guideline 5 and Guideline 13 include goals and objectives intended to protect wetlands. Compliance with the referenced laws and regulations is required. The agencies responsible for enforcing these laws and regulations, including CDFG and ACOE, are responsible agencies with respect to this EIR. These agencies and/or the laws and regulations they enforce are specifically referenced in the CEQA Guidelines, Appendix G (14 CCR 15000 et seq.).

The criteria related to wildlife movement identified in Guideline 6 are intended to protect such areas due to their role in meeting species life history requirements and incorporate the use of site-specific factors consistent with conservation biology principles. CEQA Guidelines Appendix G indicates that a project could have a significant impact if it would "interfere substantially with the movement of any native resident or wildlife species or with established native resident or migratory wildlife corridors."

Impacts to state- or federally listed plant species or County of San Diego Group A or B plant species can potentially be detrimental to long-term regional species survival, as noted in Guideline 7. Group C and D species identified in Guideline 7 are thought to be in decline, although not to the extent that extirpation or extinction is imminent. Because these species are often present in substantial numbers within suitable habitat, habitat-based conservation approaches are generally adequate to protect them.

The criterion related to golden eagles and their nests and offspring as identified in Guideline 8 is intended to protect this species pursuant to the Bald and Golden Eagle Protection Act.

The criteria identified in Guideline 9 are intended to address the potential loss of offspring for particularly sensitive avian species based on the described buffer distances and breeding season dates derived from various studies completed for birds in San Diego County (and generally accepted by the scientific community).

The criterion identified in Guideline 10 is intended to address the raptor species that regularly use both native and non-native grassland habitats for foraging.

The criteria identified in Guideline 11 are directed toward protecting open space from edge effects related to development. The criteria identified for potential project-related edge effects in Guideline 11 were generated on the basis of both local conditions and commonly accepted practices in the biological community.

Guideline 14 addresses applicable goals and requirements under the County of San Diego HLP Ordinance 8365 and related 4(d) rule for the California gnatcatcher. The 4(d) rule authorized a total interim Diegan Coastal Sage Scrub habitat loss of 5% (based on calculations of then existing habitat acreage by an established scientific review panel). An HLP is required for parcels located outside of the NCMSCP, and must be issued prior to issuance of brushing and clearing permits, grading permits, or improvement permits in lieu of grading permits.

Guideline 15 addresses applicable goals and requirements under applicable HCP, SAMP, or similar planning efforts to protect sensitive resources in perpetuity.

The federal and state requirements identified in Guideline 16 include goals and objectives intended to protect (among other issues) sensitive species, habitats, and related resource values such as water quality. Many of these goals and objectives are addressed either directly or indirectly in elements of guidelines 1 through 15. Compliance with the referenced laws and regulations is required. The agencies responsible for enforcing these laws and regulations are responsible agencies with respect to this EIR, including the USFWS, CDFG, RWQCB, and ACOE. These agencies and/or the laws and regulations they enforce are specifically referenced in the CEQA Guidelines, Appendix G.

3.2.3 Analysis of Project Effects and Determination of Significance

Proposed On-Site Land Uses

Implementation of the proposed project would result in impacts to 598 acres for the development sites and secondary access roads, as presented in Table 3.2-6 and shown on Figure 3.2-1. Remaining areas would be preserved within Biological Open Space easements, as depicted on Figure 3.2-3A. Table 3.2-6 lists the existing vegetation types and acreage, with impacted areas resulting from development, which includes impacts from grading activities and fuel treatment. The significance of biological impacts as a result of the project is presented below, and is numbered corresponding to the significance guidelines identified in Section 3.2.2.

Off-Site Improvements

The project would require improvements at 11 off-site intersections, including some located at the project boundaries; Figure 1.1-14 shows the locations of the intersection improvements and impacted areas. All of the intersection improvements would take place within existing right-of-way along roadways. All impacted areas for intersection improvements are located within the

existing rights-of-way, and no equipment staging areas are anticipated to occur outside existing rights-of-ways. A detailed description of the biological conditions at each intersection is provided in the Biological Technical Report (PSBS 2007) (Appendix G to the Merriam Mountains Specific Plan Draft EIR, dated August 2007).

Camino Mayor Improvements: Camino Mayor will be improved to provide a paved secondary emergency gated access roadway within the existing disturbed 40-foot easement. The roadway will be improved from the western project limits to Twin Oaks Valley Road (Figure 1.1-16C). A minimal amount of disturbed chaparral is located within the 40-foot easement, as it is mostly disturbed due to vehicles using the roadway. A detailed description of the biological conditions associated with Camino Mayor is provided in the Biological Technical Report (PSBS 2007) (Appendix G to the Merriam Mountains Specific Plan Draft EIR, dated August 2007) and in the Biological Resources Memorandum (Hayworth 2009) (Appendix G to this EIR). The discussion provided below under Guideline 1 identifies impacts vegetation types and acreage, resulting from Camino Mayor Improvements.

Deer Springs Road Improvements: Widening of Deer Springs Road from the I-15 interchange to Twin Oaks Valley Road and I-15 interchange improvements would be completed in an area containing a variety of native and non-native habitats. Vegetation within the proposed area for improvements consists of Intensive Agriculture, Non-Vegetated Channel, Coast Live Oak Woodland, Coastal Sage–Chaparral Scrub, Disturbed Habitat, Eucalyptus Woodland, Non-Native Grassland, Orchard, and Urban/Developed. Figures 3.2-2A through 3.2-2C show the location for vegetation within and adjacent to improvements along Deer Springs Road and the discussion provided below under Guideline 1 identifies impacts vegetation types and acreage, resulting from Deer Springs Road Improvements.

Twin Oaks Valley Road Widening: Twin Oaks Valley Road would be widened to a four-lane roadway from the intersection with Deer Springs Road to 1,000 feet beyond the Cassou Road intersection. The area proposed for widening consists primarily of Disturbed Habitat. The discussion provided below under Guideline 1 identifies impacts vegetation types and acreage, resulting from Twin Oaks Valley Road Improvements.

Wastewater Upgrade Near Twin Oaks Valley Road: An 800-foot pipeline segment would require upsizing from the existing 18-inch line to a 21-inch line. This segment is located north of East Mission Road between Twin Oaks Valley Road and Vineyard Road. The existing sewer is located behind a commercial/retail development. The discussion provided below under Guideline 1 identifies impacts vegetation types and acreage, resulting from wastewater upgrade near Twin Oaks Valley Road Improvements.

Vegetation Community/Habitat Impacts

Guideline 1: Degradation of Native Habitat

The proposed project would directly impact about 1,135 acres, including development pads and roadways, other open space subject to fuel modification, and secondary access roads, or about 48% of the site's native habitat; an additional 73 acres of both native and non-native habitats would be impacted by off-site improvements. The project design includes 1,192 acres of managed natural habitat Biological Open Space located in the northern portion of the project site. See Table 3.2-5 and 3.2-9 for a summary of impacts to various vegetation communities associated with offsite improvements along Deer Springs Road, Camino Mayor, Twin Oaks Valley Road widening and wastewater improvements adjacent to Twin Oaks Valley Road.

Specific direct (on-site and off-site) vegetation/habitat impacts are as follows:

Disturbed and Other Human-Modified Habitats. The project would result in impacts to 2.1 acres of the existing 27.3 acres of Disturbed Habitat on site, 12.5 acres of the existing 13.0 acres of Urban Developed habitat on site, 0.3 acre of the existing 2.4 acres of Orchard habitat on site, 1.5 acres of the existing 1.5 acres of Eucalyptus Woodland on site, and 3.6 acres of the existing 4.9 acres of Intensive Agriculture on site. Off-site impacts would include impacts to 2.8 acres of Disturbed Habitat, 37.5 acres of Urban/Developed land, 1.3 acres of Orchard, 1.1 acres of Eucalyptus Woodland, and 4.7 acres of Intensive Agriculture. All of these impacts are considered less than significant because they are not natural and they have low habitat quality.

Diegan Coastal Sage Scrub. Of the existing 28.6 acres of Diegan Coastal Sage Scrub on site, the development footprint would result in removal of 18.7 acres; fuel modification would occur on 4.0 acres, 0.4 acre would be impacted through development of on-site secondary access roads; and 2.7 acres would be impacted along Meadow Park Lane, Camino Mayor off-site improvements, the Equestrian Staging Area, and Twin Oaks Valley Road Frontage improvements; while 5.5 acres would be placed in Biological Open Space. Additionally, 3.3 acres of Coastal Sage Scrub–Chaparral Scrub would be impacted by off-site improvements to Deer Springs Road and at the Deer Springs Road/I-15 interchange. These impacts are significant based on the significance guidelines approved by the County of San Diego in the "Guidelines for Determining Significance, Biological Resources, July 30, 2008." Impacts to this community have been avoided and minimized as much as possible given the project design goals to consolidate development in the southern portion of the project site and retain a large block of intact Biological Open Space in the northern 1,000+ acres of this site, consistent with the County's goals to conserve a biological core area in the Merriam Mountains. The Diegan Coastal Sage Scrub that can't be avoided is in one of the most accessible and developable areas in the southern portion of the site adjacent to I-15 and an existing gas station adjacent to the project site. The offsite impacts cannot be avoided because the improvement is associated with a County

of San Diego Circulation Element Road and because of the physical constraints associated with the road engineering.

Impact BIO-1a: Project-related impacts to 29.1 acres of Diegan Coastal Sage Scrub would be significant.

Southern Mixed Chaparral. Of the existing 2,156.6 acres of Southern Mixed Chaparral on site, the development footprint would result in removal of 479.0 acres; fuel modification would occur on 526.7 acres; 59.3 acres would be impacted through development of secondary access roads; and 19.4 acres would be impacted by the development of Meadow Park Lane, Camino Mayor off-site improvements, and Twin Oaks Valley Road frontage improvements; while 1,091.6 acres would be placed in Biological Open Space. Additionally, approximately 0.1 acre of Granitic Southern Mixed Chaparral would be impacted by off-site improvements to Deer Springs Road. These impacts are significant based on the significance guidelines approved by the County of San Diego in the "Guidelines for Determining Significance, Biological Resources, July 30, 2008." This is the dominant vegetation community on the project site, extending over more than 90 percent of the site. Further avoidance and minimization of affected southern mixed chaparral is not possible in the context of the project objectives that call for development of 2,700 dwelling units with a mixture of lot sizes and housing types. The offsite impacts cannot be avoided because the improvement is associated with a County of San Diego Circulation Element Road and because of the physical constraints associated with the road engineering.

Impact BIO-1b: Project-related impacts to 1,084.5 acres of Southern Mixed Chaparral would be significant.

Mafic Chaparral. Of the existing 57.4 acres of Mafic Chaparral located on the project site, frontage improvements along Twin Oaks Valley Road and the Equestrian Staging Area would result in removal of 3.2 acres, while 54.9 acres would be placed in Biological Open Space. These impacts are significant based on the significance guidelines approved by the County of San Diego in the "Guidelines for Determining Significance, Biological Resources, July 30, 2008." Impacts to Mafic Chaparral have been avoided and minimized as much as possible. Further avoidance is not possible due to the location of the Mafic Chaparral to be affected along the fixed alignment of the frontage improvements for Twin Oaks Valley Road which is also the most accessible location for the equestrian staging area, allowing public access for equestrians to the Biological Open Space. Public access to preserved Biological Open Space is one of the objectives for the regional biological preserve/open space system being assembled as part of the County's multiple species planning efforts.

Impact BIO-1c: Project-related impacts to 3.2 acres of Mafic Chaparral would be significant.

Non-Native Grassland. Of the existing 23.2 acres of Non-Native Grassland on site, the development footprint would result in removal of 17.6 acres and fuel modification would occur on 1.9 acres, while 3.7 acres would be placed in Biological Open Space. Additionally, approximately 2.0 acres of this habitat would be impacted by off-site improvements to Deer Springs Road and at the Deer Springs Road/I-15 interchange. These impacts are significant based on the significance guidelines approved by the County of San Diego in the "Guidelines for Determining Significance, Biological Resources, July 30, 2008." The Non-Native Grassland habitat to be affected is located in the flat, valley area that is the most developable portion of Neighborhood 2. Further avoidance and minimization of impacts to this vegetation community is not possible in the context of the project objectives to consolidate development in the southern portion of the project site and provide 1,000+ acres of Biological Open Space in a large habitat block in northern portion of the site. Consolidation of development in the southern portion of the site is consistent with objectives of the Wildlife Agencies as expressed in the hardline points of agreement developed for the proposed project. The offsite impacts cannot be avoided because the improvement is associated with a County of San Diego Circulation Element Road and because of the physical constraints associated with the road engineering.

Impact BIO-1d: Project-related impacts to 21.5 acres of Non-Native Grassland would be significant.

Freshwater Marsh. The project would result in no impacts to Freshwater Marsh; all the existing 0.1 acre of habitat would be preserved in Biological Open Space. There would be no on- or off-site impacts to Freshwater Marsh.

Southern Coast Live Oak Riparian Forest. Of the existing 2.3 acres of Southern Coast Live Oak Riparian Forest on site, the development footprint would result in removal of 1.1 acres, fuel modification would occur on 0.1 acre, and there would be an additional off-site impact of 0.1 acre by development of Meadow Park Lane. The proposed project would preserve 1.1 acres in Biological Open Space. These impacts are significant based on the significance guidelines approved by the County of San Diego in the "Guidelines for Determining Significance, Biological Resources, July 30, 2008." The portions of this vegetation community affected by the project are located in proximity to non-native grassland in the flat, valley area that is the most developable portion of Neighborhood 2. Further avoidance and minimization of impacts to this vegetation community is not possible in the context of the project objectives to consolidate development in the southern portion of the project site and provide 1,000+ acres of Biological Open Space in a large habitat block in the northern portion of the site. Consolidation of development in the southern portion of the site is consistent with the objectives of the Wildlife Agencies as expressed in the hardline points of agreement developed for the proposed project.

Impact BIO-1e: Project-related impacts to 1.3 acres of Southern Coast Live Oak Riparian Forest would be significant.

Sycamore Alluvial Woodlands. Of the existing 1.6 acres of Sycamore Alluvial Woodlands on site, the project would result in no impacts to Sycamore Alluvial Woodlands. The proposed project would preserve all 1.6 acres in Biological Open Space. No impacts would occur on or off site.

Southern Willow Scrub/Mulefat Scrub. Of the existing 0.3 acre Southern Willow Scrub/Mulefat Scrub on site, the project would result in impacts to 0.3 acre on site, with none of this habitat placed in Biological Open Space. There would be no off-site impacts. These impacts are significant based on the significance guidelines approved by the County of San Diego in the "Guidelines for Determining Significance, Biological Resources, July 30, 2008." Further avoidance and minimization of impacts to this vegetation community is not possible due to the locations of this habitat relative to project improvements including development within Neighborhood 1 and necessary project access roads. The proposed development pattern is consistent with project and environmental objectives to consolidate development in the southern portion of the property and retain 1,000+ acres of open space in a large habitat block in the northern portion of the property, resulting in more intense development in the southern portion of the property with little or no flexibility to avoid isolated patches of sensitive habitat in the main development areas.

Impact BIO-1f: Project-related impacts to 0.3 acre of Southern Willow Scrub/Mulefat Scrub would be significant.

Mulefat Scrub. Of the existing 0.2 acre of Mulefat Scrub on site, the project would result in impacts to 0.2 acre within the fuel modification area. There would be no other on- or off-site impacts to Mulefat Scrub. These impacts are significant based on the significance guidelines approved by the County of San Diego in the "Guidelines for Determining Significance, Biological Resources, July 30, 2008." The portions of this vegetation community affected by the project are located in proximity to non-native grassland in the flat, valley area that is the most developable portion of Neighborhood 2. Further avoidance and minimization of impacts to this vegetation community is not possible in the context of the project objectives to consolidate development in the southern portion of the project site and provide 1,000+ acres of Biological Open Space in a large habitat block in the northern portion of the site. Consolidation of development in the southern portion of the site is consistent with the objectives of the Wildlife Agencies as expressed in the hardline points of agreement developed for the proposed project.

Impact BIO-1g: Project-related impacts to 0.2 acre of Mulefat Scrub would be significant.

Southern Willow Scrub. Of the existing 2.6 acres of Southern Willow Scrub on site, the development footprint would result in removal of 0.2 acre, fuel modification would occur on 0.1 acre, and 2.3 acres will be placed in Biological Open Space. Off-site wastewater improvements would result in 0.1 acre of impacts. These impacts are significant based on the significance

guidelines approved by the County of San Diego in the "Guidelines for Determining Significance, Biological Resources, July 30, 2008." This area to be affected is an isolated patch of habitat in the area proposed for development within Neighborhood 1. Neighborhood 1 includes the most intense development proposed by the project and it is not possible to avoid impacts to this isolated patch of habitat and implement the development pattern proposed for Neighborhood 1. Topography, existing development and proximity to I-15 make Neighborhood 1 the logical location for intense development within the specific plan area and changing the location of this development would not be consistent with project objectives. Further avoidance and minimization of impacts to southern willow scrub is therefore not possible or proposed.

Impact BIO-1h: Project-related impacts to 0.4 acre of Southern Willow Scrub would be significant.

Southern Willow Scrub/Tamarisk Scrub. The project would result in no impacts to Southern Willow Scrub/Tamarisk Scrub and 0.6 acre would be placed in Biological Open Space. No off-site impacts would occur.

Coast Live Oak Woodland. Of the existing 4.2 acres of Coast Live Oak Woodland, the development footprint would result in removal of 1.0 acre, fuel modification would occur on 1.1 acres, and 0.2 acre would be impacted through development of secondary access roads, while 1.9 acres would be placed in Biological Open Space. Additionally, approximately 0.4 acre would be impacted by off-site improvements to Deer Springs Road, of which 0.1 acre is associated with a stream. These impacts are significant based on the significance guidelines approved by the County of San Diego in the "Guidelines for Determining Significance, Biological Resources, July 30, 2008." Further avoidance and minimization of impacts to this vegetation community is not possible due to the locations of this habitat relative to project improvements including development within Neighborhood 1 and necessary project access roads. The proposed development pattern is consistent with project and environmental objectives to consolidated development in the southern portion of the property and retain 1,000+ acres of open space in a large habitat block in the northern portion of the property, resulting in more intense development in the southern portion of the property with little or no flexibility to avoid isolated patches of sensitive habitat in the main development areas. The offsite impacts cannot be avoided because the improvement is associated with a County of San Diego Circulation Element Road and because of the physical constraints associated with the road engineering.

Impact BIO-1i: Project-related impacts to 2.7 acres of Coast Live Oak Woodland would be significant.

Non-Vegetated Channel and Unvegetated Wetlands. Off-site roadway improvements associated with Deer Springs Road would result in the loss of 0.5 acre of Non-Vegetated Channel. In addition, on-site development would impact 0.1 acre of Unvegetated Wetlands. These impacts

are significant based on the significance guidelines approved by the County of San Diego in the "Guidelines for Determining Significance, Biological Resources, July 30, 2008." Further avoidance and minimization of this impact is not possible due to the location of this area along the existing alignment of Deer Springs Road. The offsite impacts cannot be avoided because the improvement is associated with a County of San Diego Circulation Element Road and because of the physical constraints associated with the road engineering.

Impact BIO-1j: Project-related impacts to 0.5 acre of Non-Vegetated Channel and 0.1 acre of Unvegetated Wetlands would be significant.

The project includes a substantial block of Biological Open Space, enveloping approximately 60% of the eastern border of the site along I-15, the majority of the northern half of the ownership, as well as substantial connection with open habitats to the San Marcos Mountains to the west. The preserve design is consistent with the NCCP because it maintains a large, intact section of the chaparral ecosystem along with other habitats and maintains existing ecological connections to surrounding blocks of native habitats.

The large project site (2,327 acres) is relatively homogeneous (92% of the site is Granitic Southern Mixed Chaparral). The following habitats would be substantially degraded as described in Guideline 1: Diegan Coastal Sage Scrub, Southern Mixed Chaparral, Non-Native Grassland, Southern Coast Live Oak Riparian Forest, Southern Willow Scrub/Mulefat Scrub, Mulefat Scrub, Southern Willow Scrub, Mafic Chaparral, Coast Live Oak Woodland, Unvegetated Wetlands, and Non-Vegetated Channel (no impacts would occur to Freshwater Marsh, Sycamore Alluvial Woodland, and Southern Willow Scrub/Tamarisk Scrub). Loss of functioning habitats is regarded as a significant impact (see impacts BIO-1a through BIO-1j).

<u>Guideline 2: Preservation of Natural Biological Diversity</u>

As discussed in Guideline 1 above, the project would impact approximately 48% of the naturally functioning habitats on site while retaining approximately 52% in Biological Open Space in a generally contiguous, functional habitat area. The biological open space would be configured as a large habitat block in the northern portion of the property, traversed only by a secondary access road (Lawrence Welk Court) and a gated emergency access route (Camino Mayor). Recreational use of the Biological Open Space will be limited to trails along the existing dirt pathways and trail overlooks as noted in the Merriam Mountains Specific Plan (see Appendix C to this EIR).

This Biological Open Space displays a relatively compact and intact shape, the geometry of which encompasses the majority of the northern portion of the site. Additionally, with most of the fuel modification areas that will retain elements of their native vegetation, more than 80% of the I-15 frontage, including the majority of the steep slopes and canyons adjacent to the I-15, would retain some wildlife function and diversity. The intactness of the northern portion is

considered good, with only one road to provide access to and from the southern areas proposed for development (generally following an existing dirt road), while some of the existing dirt roads would be retained for utility access and recreational trail uses.

Preserving the natural habitats within the Merriam Mountains and linking them with the San Marcos Mountains have been identified by the wildlife agencies and County of San Diego as desirable to conserving biological diversity in Northern San Diego County. Both the Merriam Mountains and the San Marcos Mountains have been identified as RCAs in the County of San Diego General Plan. These areas have also been identified as biological core areas in studies for the draft NCMSCP. The 1,192 acres of Biological Open Space proposed in the northern portion of the project site would provide core habitat in the Merriam Mountains contributing to the preservation of biological diversity in the North County area.

Implementation of the proposed project would result in disturbance of about 48% of the natural habitats on site, including 538 acres of development area, 537 acres of other open space subject to fuel modification, and 60 acres of secondary/emergency access roads within Biological Open Space. Impacts to biological diversity will occur as a result of removing localized pockets of Coast Live Oak Woodland, Diegan Coastal Sage Scrub, and Non-Native Grassland, which represent approximately 1%, 2%, and 0.2% of the total on-site habitats, respectively. These areas tend to support disproportionately higher wildlife habitat diversity than other habitat types on site. Although these habitats typically support a different suite of plants and wildlife compared to Granitic Southern Mixed Chaparral, the dominant habitat on the site, they do not contribute significantly to the average biological diversity per acre of the site because of the strong dominance of Southern Mixed Chaparral (92% of the site).

Impact BIO-2: Project-related impacts to the natural biological diversity would be significant for loss of Coastal Sage Scrub, Coast Live Oak Woodland, and Non-Native Grassland species.

<u>Guideline 3: Removal of Native or Naturalized Habitat</u>

Removal of native or naturalized habitat through grading and clearing has been adequately covered under Guidelines 1 and 2 (above). This section addresses impacts to native or naturalized habitat from construction activities.

During construction activities, edge effects may include dust from construction-related activities, which could disrupt plant vitality in the short term. In addition, soil erosion and water runoff resulting from grading activities could impact vegetation on site and adjacent properties. Adjacent land uses include large-lot single-family residences and avocado groves to the north, west, and south. Existing uses to the south of the site are separated from the site by Deer Springs Road. Existing uses to the east of the site are separated from the site by I-15. Sensitive vegetation

communities or sensitive plants that are planned for preservation on site could be potentially impacted during construction activities. Therefore, the potential for short-term or construction-related impacts resulting from the proposed project through grading, clearing, and/or other construction activities would be significant.

Impact BIO-3: Project-related impacts for short-term or construction-related impacts to native and naturalized habitats would be significant.

Guideline 4: Degradation of Habitat

Due to the high degree of habitat homogeneity of the site (92% of the site is unburned Granitic Southern Mixed Chaparral), the 48% reduction in native habitats proposed by the project would not result in a substantial degradation of habitat.

The project would result in a 48% decrease in biological function because that amount of habitat would be lost to other uses; however, the overall value of the remaining habitats would not be reduced substantially because the proposed project design includes 1,192 acres of managed Biological Open Space in a configuration to preserve core habitat in the Merriam Mountains, enveloping much of the eastern border of the site along I-15 and the majority of the northern half of the ownership, as well as substantial connection with open habitats to the San Marcos Mountains to the west. This design would allow the primary off-site ecological connections to preserve existing ecological functions. The project includes an RPP that describes measures to monitor and maintain the preserve in perpetuity, which would preserve 1,192 acres of habitat value on site. Impacts to the overall value of the natural habitats on site and off site, as identified in Guideline 4, are less than significant because the Biological Open Space would be preserved in perpetuity and managed according to the requirements of the Merriam Mountains RPP, the Biological Open Space would maintain a high biological value and function as a result of design measures incorporated into the proposed project, the Biological Open Space will be preserved and managed in perpetuity, restoration/creation of habitats will largely occur within the Biological Open Space to contribute to the naturally functioning ecosystem, and the project would preserve core habitat in the Merriam Mountains as a large habitat preserve.

Guideline 5: Impacts to Wetlands

The proposed project would avoid and minimize impacts to wetlands with the exception of 2.1 acres of wetland on site for which impacts are unavoidable. Unavoidable on-site impacts include Mulefat Scrub (0.2 acre), South Coast Live Oak Riparian Forest (1.3 acres), Southern Willow Scrub (0.3 acre), Southern Willow Scrub/Mulefat Scrub (0.3 acre), and Unvegetated Wetlands (0.1 acre) (Table 3.2-7). On-site unavoidable wetland impacts would include impacts within the development footprint, off-site impacts, and Southern Coast Live Oak Riparian Forest impacts associated with crossings due to construction of Meadow Park Lane. Unavoidable off-site

impacts include 0.5 acre of Non-Vegetated Channel and 0.1 acre of RPO Coast Live Oak Woodland associated with off-site improvements to Deer Springs Road, a circulation element roadway required to be improved as part of the project. In addition, off-site wastewater improvements located near Twin Oaks Valley Road (Figure 1.1-17) would result in 0.1 acre of impacts to Southern Willow Scrub, and Camino Mayor off-site improvements would result in 0.1 acre of impacts to RPO Southern Willow Scrub.

As discussed above and in Guideline 1, impacts to Mulefat Scrub, Southern Coast Live Oak Riparian Forest, Southern Willow Scrub, Southern Willow Scrub/Mulefat Scrub, Coast Love Oak Woodland, Non-Vegetated Channel, and Unvegetated Wetlands would be significant. The project is designed to minimize impacts to County of San Diego wetlands; however, impacts would occur due to consolidation of development in the southern portion of the site to provide for the configuration of the Biological Open Space as a large block of habitat in the northern portion of the site.

Impact BIO-4: Project-related impacts to 2.1 acres of wetlands on site and 0.2 acre off site along Deer Springs Road and Camino Mayor and 0.1 acre associated with off site wastewater improvements completed adjacent to Twin Oaks Valley Road would be significant.

Wildlife Movement Impacts

Guideline 6: Impacts to Wildlife Corridors and Wildlife Movement

The biological assessment and preliminary wildlife movement study for the project site indicates that the site is fairly homogeneous in terms of vegetation (92% of the site is unburned Granitic Southern Mixed Chaparral); however, the site has varied topography, with substantial areas of steep slopes. There are no major sources of surface water besides a small section of South Fork Gopher Canyon Creek adjacent to Twin Oaks Valley Road and seasonal drainage flows in the Merriam Valley area of the northeast quadrant of the site. Medium to large-sized mammal species probably rely on the extensive network of dirt roads and trails to forage and move within the site. The Inner Meadow area in the southern part of the site is the only large (20± acres) open Non-Native Grassland area likely used for raptor foraging. A major wildlife linkage exists through the approximately half-mile-wide frontage along Twin Oaks Valley Road, where the site connects to the San Marcos Mountains to the west. Because the proposed project design leaves the majority of the northern part of the site in a Biological Open Space (except for the estate lot area on the northeast), it is likely that the site could still be used by mountain lions and mule deer, if they still occur in the area. Preservation of the major linkage to the San Marcos Mountains would allow such wildlife species to move in and out of the project area, but crossing North Twin Oaks Valley Road with its new cut slopes needed for the required frontage widening would still be required.

While the project design maintains wildlife corridors and linkages from east to west and to the north, it limits such movement in the southern part of the site by developing large blocks of residential land uses that are relatively impermeable to wildlife movement. Although east–west wildlife movement is already limited by steep slopes and north–south oriented canyons, it will be further limited by residential development areas. The proposed project would limit wildlife movement within the site by directly removing 48% of the native and naturalized vegetation communities and redirecting animal movement from existing trails to new connecting trails and to and from new wildlife underpasses.

As discussed in Guideline 1, above, the proposed project would impact approximately 48% of the native and non-native habitats on site, while retaining the remaining vegetation in a natural Biological Open Space in a generally contiguous, functional habitat area. The Biological Open Space would be configured as a large habitat block in the northern portion of the property, traversed only by a secondary access road (Lawrence Welk Court) and a gated emergency access route (Camino Mayor). Grading would be required to construct Lawrence Welk Court in steep terrain as depicted in Figure 1.1-21B, and would include landscaped contour grading (1.5:1 slope) with benching every 30 vertical feet at various locations along the road. Recreational use of the Biological Open Space will be limited to trails along the existing dirt pathways and trail overlooks as noted in the Merriam Mountains Specific Plan (see Appendix C to this EIR).

This Biological Open Space displays a relatively compact and intact shape, encompassing the northern portion of the site. Additionally, the Biological Open Space and other open space areas includes more than 80% of the I-15 frontage, including the majority of the steep slopes and canyons adjacent to I-15. It should be noted that the Biological Open Space area includes only one road that provides access to and from the southern areas proposed for development (generally following an existing dirt road); some of the existing dirt roads would be retained for utility access and recreational trail uses.

Preservation of natural habitats within the Merriam Mountains linking them with the San Marcos Mountains has been identified as desirable to conserving biological diversity in Northern San Diego County. Both the Merriam Mountains and the San Marcos Mountains have been identified as RCAs in the County of San Diego General Plan. These areas have also been identified as biological core areas in studies for the draft NCMSCP.

On a subregional level, the string of Coastal Sage Scrub habitats along Interstate 15, particularly between SR 76 and SR 78, probably is used by sage scrub–dependent species, such as the California gnatcatcher, in these habitats and move longitudinally and laterally away from the corridor. The gnatcatcher pair identified on the project site at the north end of Mesa Rock Road is probably part of this corridor population, as it is a historical gnatcatcher location in Caltrans right-of-way near the mouth of Merriam Valley. The project proposes to remove the Mesa Rock

Road gnatcatcher habitat (during the non-nesting period) and purchase and preserve an occupied gnatcatcher habitat along the east side of I-15, near the Circle-R ranch.

A. Prevent substantial numbers of wildlife from accessing areas considered necessary to their survival (e.g., foraging resources, breeding areas, necessary water sources).

The only sources of permanent natural water on the site appear to be the South Fork of Gopher Canyon, located west of Twin Oaks Valley Road, and a riparian canyon draining from the eastern half of the site to a culvert under I-15. However, wide-ranging wildlife may use leaking agricultural water sources in adjacent groves. The project design maintains the only on-site areas of permanent water (along Twin Oaks Valley Road and the western canyon, Merriam Valley). Both these areas are provided along the eastern, northern, and western portions of the site within the Biological Open Space. Thus, the project does not prevent substantial numbers of wildlife from accessing areas necessary for their survival. Impacts would be less than significant. Notable foraging resources and breeding areas other than those mentioned above and water resources for amphibian breeding are not known from the site.

*B. Restrict substantial numbers of wildlife from utilizing their natural movement patterns (i.e., those path-ways used when given the choice absent human interference).*The site contains areas that function both as subregional and local wildlife corridors and linkages. The project site is a large block of relatively undisturbed habitat bounded on the east by I-15 and connected on the west to the relatively undeveloped San Marcos Mountains. However, to the north and south, the site is generally bounded by agricultural lands with limited wildlife habitat and corridor function. The project would provide preserved habitat on both sides of Twin Oaks Valley Road including the South Fork of Gopher Canyon Creek, extending connectivity toward the San Marcos Mountains and prohibiting development along a significant portion of west side of Twin Oaks Valley Road. Lawrence Welk Court would cause some wildlife mortality and thus act as a barrier to wildlife moving east and west through the central portion of the site; however, this barrier is limited because of the relatively low trip count and because vehicle trips would be more frequent in the daytime hours when wildlife is typically less active.

The project design preserves the majority of the northern half of the site, including most of the frontage along I-15, interconnecting dirt roads, and a major connection to the San Marcos Mountains, to allow continued wildlife use and movement to connect to existing trails around development areas and retain the wildlife use of these trails for local wildlife movement; therefore, impacts would be less than significant.

C. Further constrain a narrow wildlife corridor by reducing width, removing available vegetative cover, creating substantially adverse edge effects, or placing barriers in the movement path.

The project design allows individual and genetic interchange from an east-to-west direction because it retains more than 60% of the nearly 3-mile frontage with I-15 as natural preserve, preserves contiguous connections through the project site, and maintains the existing undeveloped nature of the northern half of the site. Additionally, the design maintains substantial habitat connection with Merriam ownership along Twin Oaks Valley Road and the San Marcos Mountains (thereby retaining the potential for wildlife movement between the Merriam and San Marcos Mountains). Therefore, the existing subregional connection from east to west (Merriam Mountains to San Marcos Mountains) is substantially maintained. Because of existing agricultural and large-lot residential uses, there is probably little wildlife movement north and south of the site; therefore, impacts would be less than significant.

Deer Springs Road currently has little opportunity for wildlife movement for a variety of reasons, including that it is a heavily traveled roadway and development and agriculture have altered the natural habitat. In addition, where natural habitat is present little opportunity for wildlife movement exists because on one side, the road is separated from the opposite side by a steep cut bank, fencing, or existing development. There are a number of existing culverts along the roadway. As part of the proposed project, these culverts would all be increased in size from the existing 18- to 36-inch culverts and would be able to accommodate small to medium-sized wildlife species movement. The proposed storm drain pipe sizes would range from no change in diameter (18 inches) to 5- by 10-foot box culverts. All of the culvert lengths would be increased from approximately 30 to 110 feet with the proposed road widening.

At the time of observation, wildlife was found to be using the series of three culverts just east of the intersection of Twin Oaks Valley Road and Deer Springs Road (see Appendix G to this EIR). Wildlife species also were noted to attempt to cross the surface of the roadway. None of the culverts along the alignment would be blocked with the roadway improvements but instead would be improved for wildlife use because the openness ratios (cross section area divided by length) of the culverts would be maintained or increased. Maintaining the existing culvert sizes and/or increasing the culvert size would provide opportunities for medium-sized mammals that are currently potentially using the culverts to continue using the proposed culverts. The widening of Twin Oaks Valley Road south of Deer Springs Road would not result in impacts to native habitat and would not block any existing movement opportunities.

D. Create artificial corridors that do not functionally connect already utilized core habitat areas or existing linkages.

Lawrence Welk Court is proposed as a two-lane access road from the southern development area, through the central and eastern portion of the northern part of the site, joining the existing Lawrence Welk Court. This road would have a relatively low traffic volume, estimated at 320 average daily trips. This road will cause some wildlife mortality and thus act as barrier to wildlife moving east and west through the central portion of the site. This barrier is limited because of the relatively low trip count and because vehicle trips would be more frequent in the daytime hours when wildlife is typically less active. While the project design maintains wildlife corridors and linkages from east to west and to the north, it limits such movement in the southern part of the site by developing large blocks of residential land uses that are relatively impermeable to wildlife movement. Although east–west wildlife movement is already limited by steep slopes and north–south oriented canyons, it will be further limited by residential development areas. The proposed project would limit wildlife movement within the site by directly removing 48% of the native and naturalized habitats and redirecting animal movement from existing trails to new connecting trails and to and from new wildlife underpasses. This impact is considered significant (BIO-5).

Impact BIO-5: The proposed project would limit wildlife movement within the development footprint by directly removing 48% of the native and naturalized habitats and redirecting animal movement from existing trails to new connecting trails, which is regarded as a significant impact.

Sensitive Species Impacts

Guideline 7: Direct, Indirect, and/or Cumulative Impacts that could Effect Long-term Survival of Sensitive Plant and Animal Species

Sensitive Plant Species: The site contains three plant species that are included on the County of San Diego special lists; summer holly, Ramona horkelia, and Engelmann oak.

Summer holly (County of San Diego List A) was observed at 17 locations, generally one or two at a time. Summer holly is widespread in chaparral on the site and would be impacted proportionally with the loss of chaparral. This species is fairly common in low numbers in the chaparral to the north, east, and west of the project site and impacts are not significant and not detrimental to the long-term regional survival of the species.

Ramona horkelia (County of San Diego List A) was observed in a single location with about six individuals. The observed horkelia specimens lacked vigor due to the old-growth chaparral cover

and this single observed location does not constitute a population, as it is not likely to be viable in the long term. The project site may also contain other areas with low numbers of horkelia that were not seen due to the rough terrain and dense chaparral cover. Impacts are not significant and not detrimental to the long-term regional survival of the species.

Several Engelmann oaks (County of San Diego List D) were scattered in a small area of Coast Live Oak Woodland on the southeast corner of the site and would be impacted by the project. This species is fairly common in low numbers throughout the region and has a low sensitivity rating. Impacts are not significant and not detrimental to the long-term regional survival of the species.

Sensitive Animal Species: The project would remove 28.5 acres of Diegan Coastal Sage Scrub habitat including both the project site and off site improvements, some of which is occupied by state- and federally listed threatened California gnatcatcher. Diegan Coastal Sage Scrub is a regionally declining habitat; the project would remove 65% of the habitat on the site plus an additional 3.0 acres for off-site improvements along Deer Springs Road and Meadow Park Lane.

The site contains or is expected to contain several wildlife species considered regionally declining, including Northern red-diamond rattlesnake, San Diego horned lizard, orange-throated whiptail, coastal whiptail, San Diego desert woodrat, California thrasher, and red-shouldered hawk. Due to the dense nature of the site's chaparral, these species are considered potentially present over the entire site, although in relatively low densities. The project would result in direct loss of these species proportional to the loss of 48% of the existing habitats. The loss of habitat, some of which is used by threatened or otherwise sensitive plants and animals, is regarded as a significant impact (Impact BIO-6).

Impact BIO-6: Direct impacts to sensitive plant and animal species are regarded as significant.

Indirect construction impacts and impacts over time would affect these sensitive species on the site because of the addition of 2,700 dwelling units (with additional acres for fuel breaks, roads, and associated activities). There would be an expanded boundary between developed areas and Biological Open Space ("urban–wildland interface"), with potential associated increases in the effects of lighting, runoff, and unsupervised pets and children on the natural habitats. Additionally, the presence of landscaping and irrigation in and around developed areas will substantially increase the diversity of habitats on the site, creating new and expanded habitats for native and non-native bird and insect species that thrive in suburban environments. In the absence of implementation of the RPP to prevent habitat degradation and to minimize indirect edge effects, impacts would be significant (this impact is consistent with Impacts BIO-3, BIO-7, and BIO-9; no additional impacts would result).

Guideline 8: Construction Activities within 4,000 Feet of an Active Golden Eagle Nest

Although the site contains a historical golden eagle nesting site, this site has been abandoned and has not been used by eagles since the early 1980s. Recent land use changes in the local area would likely preclude use of this nesting spot in the future.

Impacts to golden eagle nests would be less than significant since the historical nest on the site has not been occupied and is not likely to be occupied in the future as a result of local land use changes. The project would not have any effect on an active golden eagle nest site.

Guideline 9: Impacts to Nesting Birds and Raptors

As discussed in Guidelines 1 and 2 above, the project would impact approximately 48% of the habitat on the project site plus approximately 69.7 acres associated with road improvements and utilities in off-site areas. During construction activities, edge effects may result in nest disturbance due to activities near nests due to noise during clearing, grading, and construction. California gnatcatchers are known to nest on the site and tree-nesting raptors, such as red-tailed hawks and Cooper's hawks, may well nest on the site. Implementation of the project would result in disturbance of as much as 48% of the habitats on the project site through grading, clearing, and/or other construction activities.

Impact BIO–7: Project-related impacts to nesting birds protected under the Migratory Bird Treaty Act, including California gnatcatcher and tree-nesting raptors during construction activities would be significant.

Guideline 10: Loss of Raptor Foraging Habitat

As discussed in Guidelines 1 and 2 above, the project would result in the loss of about 17.6 acres of Non-Native Grassland on site, 1.9 acres placed in fuel modification area, and 2.0 acres associated with roadway improvements along Deer Springs Road and at the I-15/Deer Springs Road interchange. Therefore, of the existing 23.2 acres of Non-Native Grassland, a habitat typically used by raptors for foraging, 21.5 acres would be impacted. Additionally, the project would remove Granitic Southern Mixed Chaparral, substantially reducing the potential raptor foraging habitat (due to its dense, tall growth resulting from being unburned for over 100 years), consisting of the following: 479 acres within the development impact on site; 526.7 acres within the fuel modification area; 59.3 acres associated with access roads; and 17.9 acres along Meadow Park Lane, Deer Springs Road, Twin Oaks Valley Road frontage improvements, and Camino Mayor off site (total of 1,083 acres). Raptors undoubtedly also use the site's existing dirt roads for occasional foraging as well. The project's provision for fuel treatment and addition of landscape plantings will probably result in an increased area for potential foraging because it would result in more open habitats. Additionally, the project would preserve a large block of

Southern Mixed Chaparral, purchase off-site Non-Native Grassland, and restore Non-Native Grassland on site. The loss of actual or potential raptor foraging habitat is regarded as a significant impact.

Impact BIO-8: Project-related impacts resulting in the removal of Non-Native Grassland and Southern Mixed Chaparral would reduce raptor foraging habitat. This removal of foraging habitat is regarded as significant.

Indirect Impacts

Guideline 11: Result in Adverse Urban-Type Edge Effects

As discussed in Guidelines 1 and 2 above, the project would impact approximately 48% of the habitats on site plus an additional 69.7 acres of various habitats due to off-site transportation and utilities improvements, while retaining approximately 52% of the on-site habitats in Biological Open Space. The Biological Open Space has been configured as a large habitat block in the northern portion of the property, traversed only by a secondary access road (Lawrence Welk Court) and a gated emergency access route (Camino Mayor). To a large degree, backyards would not contribute to the edge effects due to limited accessibility (steep topography and fence/wall barriers) and because there is an expanded urban/wildland interface of approximately 225 feet on the east and north and a small portion of approximately 150 feet on the west, which would reduce the effects of lighting, noise, runoff, and access by unsupervised pets and children.

Implementing the proposed project will result in human activities adjacent to the Biological Open Space. Potential edge effects could include the following: non-permitted activities within the Biological Open Space, introduction of invasive animal or plant species, and debris from recreational users. A Habitat Manager would be responsible for completing inspections for illegal/unauthorized activities, dumping, over-use of trails, significant changes in weedy or exotic species, and other activities that could significantly impact the biological values of the Biological Open Space. In addition, the Habitat Manager will complete monthly site inspections and report illegal/unauthorized activities to the Sheriff and be responsible for removing dumped material and exotic species.

Sensitive vegetation communities or sensitive plants that will be preserved on site could be impacted during construction activities. Therefore, the potential for short-term or construction-related impacts resulting from the proposed project through grading, clearing, and/or other construction activities would be significant (this impact is consistent with impacts BIO-3, BIO-7, and BIO-9; no additional impacts would result).

The proposed project includes a design that concentrates development in the southern part of the project site, preserves habitats in the eastern and northern parts of the project, and attempts to reduce and buffer impacts generated by the development areas to the preserved areas.

Additionally, managing most of the interface by selecting and removing 50 percent of the dense brush and maintaining this area without landscaping and irrigation would increase the diversity to include species preferring more open habitats. Implementation of the RPP would prevent habitat degradation and minimize indirect edge effects impacts by completing regular inspections for potential impacts in relation to trail users, inspecting for potential erosion, and removal of debris.

Furthermore, recreational use in the Biological Open Space will be limited to trails along existing dirt pathways and trail overlooks as noted in the Merriam Mountains Specific Plan (see Appendix C to this EIR).

Implementation of the proposed project would impact 1,205.3 acres (including off-site improvements) of habitat by clearing, grubbing, and grading, along with construction of roads, utilities, and residential housing, some of which would be adjacent to sensitive resources identified above.

Edge Effects from Fuel Modification

The Fire Protection Plan uses drought-tolerant species to minimize the need for long-term irrigation in the planting palette for the fuel modification zones (Appendix A to the Fire Protection Plans included in Appendix K to the Merriam Mountains Specific Plan Draft EIR, dated August 2007). The fuel modification zones would require that highly flammable species such as California sagebrush, chamise, buckwheat and black sage be cut off at ground level, leaving the root system intact for soil erosion control purposes. The remaining native plants would be maintained at a height of 18 inches or less with the exception of natural native tree species and arborescent native shrub species, such as oaks, Mexican elderberry, toyon, mission manzanita, mountain lilac and laurel sumac, lemonade berry and sugar bush that are over 6 feet in height and can be trimmed up to 6 feet from the ground. Trees and arborescent native shrubs must be spaced no closer than 1.5 times the height of the retained tree canopies. Native natural recruitment for additional or replacement of existing native trees would consist of indigenous species to the region and would be approved by the FAHJ. The ground cover (native plants and grasses) below and within 10 feet of tree canopy drip lines would be cut to a 4 inch stubble height after drying out. Open areas resulting from plant removal (root systems to be left intact) would be hydro-seeded with a mix of native annuals and perennial grasses. These species would be allowed to grow and produce seed during the winter and spring months. As the vegetation begins to cure they would be cut down to a 4 inch stubble height or as required by the DSFPD and/or SMFPD. This area, while managed several times a year, would maintain native vegetation

and would not be irrigated in order to deter exotic ants and plants. Keeping the area more open would also allow for wildlife movement and occupation by additional native species.

Methods for thinning in specific areas are uncertain at this time and could include mechanical or hand clearing. Choice of a specific method would be left to the contractor responsible for conducting the thinning, consistent with the FPPs.

Edge Effects from Trail Use

The trail system has been designed for trails to be located on existing dirt access roads to minimize impacts to native habitat and to provide connections to both regional and local trails. Three regional trails and four local trail connections are provided within the 1,192-acre Biological Open Space. There are approximately 7.7 acres of old roadways and trails that will be revegetated to restore native upland habitat lost from the previous site activities. Implementation of the RPP would prevent habitat degradation and minimize indirect edge effects impacts by completing regular inspections for potential impacts in relation to trail users, inspecting for potential erosion, and removal of debris.

As indicated in the RPP, the Habitat Manager would implement the following steps to control the effects of domestic pets on wildlife within the Habitat Management Plan area: (1) promote education of local residents regarding the impacts of uncontrolled pets on wildlife, through measures such as signage and periodic newsletters; (2) Report persistent and chronic problems related to uncontrolled pets in the Biological Open Space area to the County of San Diego designated Animal Control Officer; (3) The Habitat Manager may also identify trails where pets will be restricted based on indirect effects identified from routine inspections (see Policy 4.2 of the RPP). Posting of signs and inspecting for unauthorized trails would also be a part of the long-term Biological Open Space maintenance/monitoring program. Signs shall also be posted along trails noting that dogs must be leashed while on trails. Doggie-bag stations may also be provided if determined to be necessary.

Edge Effects from Road Use

Signage will be placed at the west and east entry points to the Biological Open Space along Lawrence Welk Court indicating that travelers are entering a biological preserve and wildlife may be crossing the roadway so care should be taken. The RPP calls for the Habitat Manager to monitor wildlife use and/or mortality along Lawrence Welk Court and evaluate the need for additional measures such as pavement markings, speed bumps and habitat fencing, if substantial wildlife mortality along the roadway is observed. The Habitat Manager will coordinate with County DPW regarding additional road measures.

Edge Effects from Construction Activities

In locations where grading activities would occur within 100 feet of Biological Open Space, measures will be implemented to minimize edge effect including temporary fencing and construction monitoring by San Diego County-listed biologists. Such monitoring will be required on a continual basis when within 100 feet of Biological Open Space.

It should be noted that blasting would be required as part of the overall grading operation of the project. Blasting is an episodic event that creates a brief noise burst but does not create prolonged noise impacts that would be considered significant. In addition, rock crushing would occur at locations and temporary noise barriers have been required.

Unintended impacts from construction-related activities and the subsequent occupation of new residential housing and other uses are regarded as a significant impact.

Impact BIO–9: Occupation of residential housing and commercial areas near sensitive resources would result in significant edge effects

Guideline 12: Habitat Viability Not Directly Impacted

Refer to discussion under Guideline 11.

Regulatory Compliance

Guideline 13: Conformance to County of San Diego Resource Protection Ordinance Requirements

RPO Wetlands (refer to discussion under Guideline 5). RPO requires avoidance of wetlands. RPO also requires avoidance of the wetland buffer adjacent to the wetlands. The County of San Diego RPO prohibits certain uses within RPO-defined wetlands and requires wetland buffers to protect the environmental and functional habitat values of wetlands, with buffer widths ranging from 50 to 200 feet, based on various factors. The wetlands being maintained on site would be located within the Biological Open Space, which is located a minimum of 300 feet from pad sites and development. Therefore, adequate buffers for wetlands would be provided because the wetlands being maintained on site are located within the Biological Open Space. Wetlands being conserved outside of the project boundaries include wetlands to the south of the proposed alignment of Deer Springs Road. The project design minimizes impacts to wetlands south of the proposed Deer Springs Road alignment through the construction of a retaining wall to ensure adequate distance between the roadway and wetland areas is maintained.

The project would impact 28.5 acres of occupied Coastal Sage Scrub in the southeastern corner of the project, both on site and off site. The presence of Coastal Sage Scrub habitat occupied by

the threatened coastal California gnatcatcher at the Mesa Rock Road cul-de-sac means that the area constitutes RPO special-status habitat lands. Impacts to this occupied habitat by the project would be considered "take" of habitat and would require an HLP from the County of San Diego. Measures to offset impacts to California gnatcatcher–occupied habitat include purchase of a 32-acre site known as Captain's Associates, located along the I-15 corridor 0.5 mile south of the intersection of Nelsen Way and Old Highway 395 (see discussion above under Guideline 7).

Because none of the areas supporting sensitive plants found on the Merriam site constitute Sensitive habitat lands under RPO (see discussion above under Guideline 7), the project is consistent with Sensitive Habitat Lands for sensitive plant populations.

As described previously under Guideline 6, the Merriam site does not contain wildlife movement corridors as defined by the RPO; however, the large blocks of intact native habitat on site do constitute an important core area of undeveloped habitat west of I-15 in the north-central portion of San Diego County. Protection of habitat blocks in the Merriam Mountains and the San Marcos Mountains to the west of Merriam and protection of existing linkages between the two mountainous landform masses are called for in the draft NCMSCP.

The Merriam project would contribute to the draft NCMSCP goals by conserving approximately 1,192 acres of native habitat in the northern portion of the site in a configuration that provides for a large block of habitat and protects the on-site contribution to the Merriam–San Marcos Mountains linkage; this linkage contribution is located east and west of Twin Oaks Valley Road as it traverses the Merriam site and includes the Gopher Canyon tributary along Twin Oaks Valley Road. The habitat block to be conserved in the northern portion of the Merriam site incorporates on-site dirt roads and trails currently used by common mammals for wildlife movement, and would provide significant revegetation to degraded areas.

In the absence of conveyance and management of the Biological Open Space area, impacts to conformance with the RPO requirements would be considered a significant impact (BIO-10).

Impact BIO–10: Inconsistencies with RPO requirements would be a significant impact.

<u>Guideline 14: Conformance with the County of San Diego HLP and NCCP</u>

In addition to the County of San Diego HLP process as noted in Section 1.0, Project Description, the project must demonstrate conformance with overall goals and policies of the NCCP, and may also be required to make the specific findings applicable to issuance of incidental HLPs. Through hardline negotiations with the wildlife agencies, and in signing a hardline agreement for the draft NCMSCP, the project has demonstrated conformance with the general principles. If the NCMSCP has not been adopted at the time of project approval, the specific findings applicable

to the NCCP will be made. The hardline agreement has established that the project footprint is consistent with preserve design principles under the NCCP.

As part of the NCMSCP, findings have been prepared for the preserve design principles for the proposed project (see Appendix G to the Merriam Mountains Specific Plan Draft EIR, dated August 2007.). As seen in these findings, the project would be consistent with a majority of the preserve design principles. These principles include an orderly conveyed management of Merriam Biological Open Space.

As seen in Appendix G to the Merriam Mountains Specific Plan Draft EIR, dated August 2007, an NCCP draft 4(d) Findings in Support of the Issuance of a Habitat Loss Permit has been prepared for the proposed project. The following findings were assessed: Finding 1.a: The habitat loss does not exceed the 5% guideline; Finding 1.b: The habitat loss will not preclude connectivity between areas of high habitat values; Finding 1.c: The habitat loss will not preclude or prevent the preparation of the subregional NCCP (the project has a hardline agreement for consistency with the subregional NCCP); Finding 1.d: Habitat loss has been minimized and mitigated to the maximum extent practicable in accordance with Section 4.3 of the NCCP Process Guidelines (the all-south-clustered development); Finding 2: The habitat loss will not appreciably reduce the likelihood of survival and recovery of listed species in the wild.

The project would impact one pair of gnatcatchers and 28.5 acres of Diegan Coastal Sage Scrub both on site and off site. The project would retain approximately 5.5 acres of Diegan Coastal Sage Scrub in small patches within the Biological Open Space. Mitigation land within the Biological Open Space area will adequately mitigate for these losses without reducing the likelihood of survival of the gnatcatcher and will provide for the preservation of gnatcatcher at the Captain's Associates parcel. The findings prepared in the Biological Resources Technical Report indicate that issuance of an HLP is appropriate for the proposed development (see Appendix G to the Merriam Mountains Specific Plan Draft EIR, dated August 2007).

Connectivity is maintained because the impacts to major wildlife corridors are reduced to less than significant and the major linkage is maintained. Therefore, the project is in conformance with the HLP ordinance because the 4(d) findings can be made for the project and impacts due to inconsistency with NCCP would be less than significant.

<u>Guideline 15: Conformance with the County of San Diego HCP, HMP, and SAMP</u>

There is no existing County of San Diego HCP, HMP, or SAMP for the project site area; therefore, there would be no impacts.

Guideline 16: Conformance to Goals and Requirements of Federal and/or State Regulations

As discussed in Guideline 1, the project would impact approximately 48% of the habitats occurring on site, plus an additional 69.7 acres of habitats occurring off site because of transportation and utility requirements, while retaining approximately 52% of the site in Biological Open Space. Some of the habitats that would be impacted by the project have been shown or could be used by resources protected under the federal Endangered Species Act, Migratory Bird Treaty Act, Bald and Golden Eagle Protection Act, Clean Water Act, Porter-Cologne Water Quality Act, and the California Fish and Game Code.

The project is in conformance with the goals and requirements of applicable federal or state regulations, including but not limited to the federal Endangered Species Act, Migratory Bird Treaty Act, Bald and Golden Eagle Protection Act, Clean Water Act, Porter-Cologne Water Quality Act, and the California Fish and Game Code because conditions of approval will require that the proposed project obtain applicable permits and implement avoidance of migratory birds, raptors, and eagles and conform to the project's SWMP plan.

3.2.4 Cumulative Impact Analysis

The specific cumulative impact area was chosen because it has similar biological resources (dense largely unburned chaparral in association with coastal sage scrub and oak woodlands) and is bound by logical topographic boundaries. The study area is bound on the south by urban lands, on the west by the San Marcos Mountains, on the north by Gopher Canyon Creek and on the east by the mountain ridge east of Welk Village. Of the 132 projects, 69 projects were identified prior to distribution of the August 2007 Draft EIR for public review and an additional 63 projects were identified during and after public review. Potential impacts to biological resources were examined for these cumulative projects including all 132 projects in north-central San Diego County (study area).

The analysis included projects located in the City of San Marcos, City of Vista, City of Escondido, and the County of San Diego, including proposed and recently approved projects. For those projects located within or adjacent to the I-15 corridor, California gnatcatchers are of particular interest, because the associated habitats may serve as a conduit for longitudinal and occasional latitudinal movement about the freeway. Gnatcatchers are relatively uncommon east of the freeway compared to areas to the west.

Impacts to biological resources were calculated for 33 of the 69 original projects considered in the cumulative analysis and are summarized in Table 3.2-8. Impacts to biological resources were not calculated for the remaining 36 projects either because significant biological impacts were not identified for those projects or no data were available.

A screening analysis was completed for the 63 projects identified during and after the initial public review. Of these, 31 were determined to be located within disturbed/developed areas. The remaining 32 cumulative projects were assumed to have potential impacts to biological resources (see Table 1.1-5). For those 32 projects, counter research involving review of available project files was completed at the County of San Diego to assess impacts to biological resources. The results of the counter research yielded the following results. Of the 32 projects, one project was withdrawn and for 10 projects there was no folder available. The remaining 21 projects totaled about 460 acres of which one project was 200 acres in size and the remaining were 20 acres or less. Biological information available in the project folders indicates that combined, the projects could result in about 120 acres to sensitive upland habitats including a mixture of coastal sage scrub, chaparral and non-native grassland (80 acres of potential impact would be associated with the single 200-acre project) along with less than 2 acres of impacts to wetland habitats.

In summary, based on information from Table 3.2-8 and the counter research conducted for the post-public review projects, impacts to biological resources associated with the 132 projects analyzed would include potential effects to about 2,900 acres of sensitive uplands (coastal sage scrub, chaparral, non-native grassland) and about 64 acres of wetland and/or upland/riparian oak woodland habitat. The Merriam project would contribute about 39% of the total cumulative impacts to the sensitive upland habitat and about 8% of the total cumulative impacts to the wetland/oak woodland habitats.

All projects would be required to conform to existing regulations with respect to avoidance, minimization and mitigation of impacts to sensitive habitat achieving no net loss of impacts to wetlands and like/kind replacement for impacts to sensitive habitat that cannot be avoided. Therefore, it is assumed that during the project review and approval process for these projects, the impacts to important biological resources would be mitigated at appropriate ratios, as shown on Table 3.2-9.

The project site and the cumulative projects located in the unincorporated areas are also within the boundaries of the NCMSCP planning area. Since the project has participated in the NCMSCP planning as a hardline project, it will be consistent with and contribute to achievement of MSCP goals, including avoidance of cumulative impacts on sensitive species and habitats, in the North County area.

The project is within the area covered by the existing NCCP for which the County and cities of Escondido, San Marcos, and Vista have signed agreements of participation. The Wildlife Agencies have reviewed the project's findings of conformance with the NCCP planning guidelines and the 4(d) findings for impacts to the Coastal Sage Scrub and have indicated that "incidental take" of California gnatcatcher would be appropriate. Participation in NCCP also includes long-range planning for sensitive species and habitats in the North County area, and

avoidance of cumulative impacts that could preclude or prevent the creation of the NCMSCP subregional plan.

Therefore, even though the project would comprise a substantial percentage of the habitat impacts in the context of the 132 cumulative projects considered, the project's contribution to species impacts would be less than considerable because it preserves and manages a regionally important block of habitat that would substantially contribute to maintaining the ecological functions of the larger North County area.

Analysis of cumulative effects on individual sensitive species is less clear because of the paucity of information from other projects. Because the sensitive plant species found on the site are either scattered throughout the chaparral (Engelmann oak and summer holly) or in numbers too low to constitute a viable population (Ramona horkelia), no cumulative impacts beyond those associated with the vegetation type are expected.

Of the wildlife species found on the site, only California gnatcatcher requires species specific mitigation due to its high level of sensitivity. For the original 69 projects on the cumulative projects list, impacts to the California gnatcatcher are shown in Appendix G, indicate that 15 gnatcatcher loci (assumed to be either mated pairs or individuals) would be impacted. For the post-public review projects analyzed, counter research indicates that one project site, the 200+ acre project, supports up to 3 pairs of gnatcatchers though impacts don't yet appear to have been determined. The Merriam project would affect one pair of gnatcatchers, and although impacts to California gnatcatcher would be cumulatively significant, the granting of "incidental take" under the NCCP indicates that the project's contribution is less than considerable. For the other less sensitive species, no cumulative impacts beyond those associated with the habitat/vegetation type are expected.

Together, the Merriam project and the cumulative projects would result in impacts to vegetation communities and species as noted above. Incorporation of County required avoidance, minimization and mitigation measures into these projects, along with compliance with of the Merriam project with NCCP planning guidelines, as discussed above, would reduce the project's contribution to less than cumulatively considerable.

In addition, the project will satisfy the County's ratio-based mitigation requirements for vegetation/habitat impacts. The County of San Diego's standard habitat mitigation ratios factor in the rarity of habitats with higher ratios for the rarest habitats with the result being extra mitigation for the habitats that would most likely experience cumulative impacts. These standard ratios have been applied to projects within the County of San Diego since DPLU developed its first Biological Report Guidelines in the mid 1990s (adopted by the Board of Supervisors) and are updated periodically. They exceed the required ratios within the MSCP.

Cumulative impacts are also discussed in the in the Biological Technical Report included in Appendix G to the Merriam Mountains Specific Plan Draft EIR, dated August 2007..

3.2.5 Growth-Inducing Impact

As discussed in the Growth Inducement Technical Report (Appendix S to the Merriam Mountains Specific Plan Draft EIR, dated August 2007), the growth induction analysis prepared for the proposed project determined that the project could generate an additional 720 dwelling units within the immediate vicinity of the proposed project boundary. The development of 720 dwelling units could result in impacts to biological resources; however, each individual project would be required to identify these impacts and provide mitigation measures to reduce those potential impacts to less than significant levels. In addition, it should be noted that the Biological Open Space proposed by the project would prevent development from occurring within the block of habitat identified by the County of San Diego, USFWS, and CDFG as having a significant biological value. Therefore, potential impacts generated from the additional growth potentially generated by the proposed project would be less than significant.

Summary of Project Impacts

The following biological impacts have been identified:

<u>Guideline 1: Degradation of Native Habitat</u>

Impact BIO–1a Project-related impacts to 29.1 acres of Diegan Coastal Sage Scrub would be significant.

Impact BIO–1b Project-related impacts to 1,084.5 acres of Southern Mixed Chaparral would be significant.

Impact BIO–1c Project-related impacts to 3.2 acres of Mafic Chaparral would be significant.

Impact BIO–1d Project-related impacts to 21.5 acres of Non-Native Grassland would be significant.

Impact BIO–1e Project-related impacts to 1.3 acres of Southern Coast Live Oak Riparian Forest would be significant.

Impact BIO–1f Project-related impacts to 0.3 acre of Southern Willow Scrub/Mulefat Scrub would be significant.

Impact BIO–1g Project-related impacts to 0.2 acre of Mulefat Scrub would be significant.

Impact BIO–1h Project-related impacts to 0.4 acre of Southern Willow Scrub would be significant.

Impact BIO–1i Project-related impacts to 2.7 acres of Coast Live Oak Woodland would be significant.

Impacts BIO–1j Project-related impacts to 0.5 acre of Non-Vegetated Channel and 0.1 acre of Unvegetated Wetlands would be significant.

Guideline 2: Impacts to Natural Biological Diversity

Impact BIO–2 Project-related impacts to the natural biological diversity would be significant.

Guideline 3: Short-Term and Construction-Related Impacts on Native or Naturalized Habitat

Impact BIO–3 Project-related impacts for short-term or construction-related impacts to native and naturalized habitats would be significant.

Guideline 5: Impacts to Wetlands

Impact BIO–4 Project-related impacts to 2.1 acres of wetlands on site and 0.2 acre off site along Deer Springs Road and Camino Mayor and 0.1 acre associated with offsite wastewater improvements completed adjacent to Twin Oaks Valley Road would be significant.

Guideline 6: Impacts to Wildlife Corridors and Wildlife Movement

Impact BIO–5 The proposed project would limit wildlife movement within the development footprint by directly removing native and naturalized habitats and redirecting animal movement from existing trails to new connecting trails, which is regarded as a significant impact.

Guideline 7: Impacts That Could Affect Long-Term Survival of Sensitive Plant and Animal Species

Impact BIO–6 Direct impacts to sensitive plant and animal species are regarded as significant.

Guideline 9: Short-Term and Construction-Related Impacts to Nesting Birds and Raptors

Impact BIO–7 Project-related impacts to nesting birds protected under the Migratory Bird Treaty Act, including gnatcatcher and tree-nesting raptors during construction activities would be significant.

Guideline 10: Loss of Raptor Foraging Habitat

Impact BIO–8 Project impacts resulting in the removal of Non-Native Grassland and Southern Mixed Chaparral would reduce raptor foraging habitat. This removal of foraging habitat is regarded as significant.

Guideline 11: Result in Adverse Urban-Type Edge Effects, including reduced habitat viability

Impact BIO–9 Occupation of residential housing and commercial areas near special-status resources would result in significant edge effects.

Guideline 13: Conformance to County of San Diego Resource Protection Ordinance Requirements

Impact BIO–10 Inconsistencies with RPO requirements would be a significant impact.

3.2.6 Mitigation Measures

Significant Impact BIO–1: Degradation of Native Habitat

M-BIO–1 For the proposed Merriam Mountains Biological Open Space area, a perpetual open space easement will be dedicated to the County of San Diego and offered to the Department of Fish and Game as a third-party beneficiary.

Within the proposed Merriam Mountains Biological Open Space, revegetation of degraded habitats will be performed. The Wetlands and Uplands Conceptual Revegetation Plans are included as Appendix X to the Merriam Mountains Specific Plan Draft EIR, dated August 2007. The plan provides conceptual guidelines for the mitigation and revegetation of various uplands and wetlands habitats associated with the Merriam Mountains project. This conceptual plan serves as a guide to the proposed acreages and locations for various mitigation needs for the project, which would occur both on site at identified locations and off site at locations that have yet to be determined. Plans for off-site revegetation would be further refined at a later date, once locations have been identified. The conceptual guidelines presented in Appendix X of the Merriam Mountains Specific Plan Draft EIR, dated August 2007, would be used as the basis of design for the final Revegetation Plan. The final Revegetation Plan will also be in compliance with the County's Report Format and Content Requirements for Revegetation Plans.

Proposed on-site coastal sage scrub revegetation areas total approximately 25 acres within the 1,192 acres of preserved and managed Biological Open Space

and consists of small discontiguous areas totaling approximately 2.7 acres of habitat creation and enhancement in the vicinity of the old airstrip; approximately 7.7 acres of revegetation along old disturbed roadways within the Biological Open Space; and approximately 14 acres in a habitat block at the base of two old rock quarry sites within the Biological Open Space. The revegetation areas would include habitat polygons and strips of habitat and native grassland components. The goal would be to create a habitat mosaic within the chaparral by permanently establishing areas of wetlands, scrub, and grassland. While not specifically directed toward occupation by California gnatcatchers, the relatively large acreage of revegetation and proposed distribution in a mosaic with other habitats within the large area of Biological Open Space may result in occupation by the California gnatcatcher over time.

The revegetation sites within the Biological Open Space were chosen because they offered the best opportunities for revegetation areas that could ultimately become self-sustaining over time. Soils analyses will be completed to confirm that the revegetation locations will not convert to chaparral. The combination of appropriate selection of revegetation sites and maintenance and monitoring requirements during revegetation implementation will ensure that revegetated areas do not reconvert to chaparral. In addition, following the 5-year period, revegetated habitats will be managed according to the requirements of the RPP.

For the proposed Merriam Mountains Biological Open Space, the Project Applicant will ensure that perpetual habitat management occurs in conformance with the RPP and implementation of RMPs in conjunction with project implementation. RMPs will be in conformance with the County's Requirements for Resource Management Plans. A qualified non-profit conservation entity acceptable to the County of San Diego will serve as Habitat Manager and duties will include maintaining fencing/barriers, posting of signs, remediation of unauthorized trails, monitoring and management of the biological resources, and preparing annual reports which will be provided to the County of San Diego, USFWS, and CDFG. RPP features that are specifically related to the significant impact associated with the loss of natural habitat include:

Objective B–1: Include large blocks of key biological resource areas within the Biological Open Space.

- Include within the Biological Open Space 1,192 acres of natural habitat; representative populations of sensitive plant and animal species observed on site; existing dirt trails and canyon bottoms currently used by wildlife for movement across the site; and the north–south-trending tributary to Gopher

Canyon along Twin Oaks Valley Road, which provides linkage opportunities to the San Marcos Mountains.

Objective B–3: Provide resource management for the off-site mitigation area.

- Provide mitigation for impacts to coastal sage scrub and the California gnatcatcher consistent with the October 2005 Points of Agreement, (Appendix V to the Merriam Mountains Specific Plan Draft EIR, dated August 2007) consisting of acquiring the 32-acre Captain's Associates property, which will be incorporated into the County of San Diego NCMSCP preserve system and will be protected and managed in a manner consistent with management regimes established by the County of San Diego as part of the draft NCMSCP.

Objective B–5: Track changes in the physical and biological conditions in Biological Open Space to determine active management strategies.

- The habitat manager will provide regular site inspections, which include recording and mapping changes in the biological and physical environment that may affect the Biological Open Space integrity.

Objective B–6: Prevent habitat degradation.

- The following shall be prohibited in the Biological Open Space: grading, placement of structures, grazing, dumping, and vegetation removal. Provide for various potentially adverse effects of human use within the Biological Open Space through trash removal, preventing squatting, and prohibiting the use of firearms for hunting and poaching/collecting.

Objective B–12: Protect critical biological resources during construction.

- Install conspicuous temporary construction fencing where proposed grading or clearing exists within 100 feet of the Biological Open Space, other open space, or off-site native vegetation.
- Employ a construction monitor to perform the following duties: be on site weekly during vegetation clearing, grubbing, and grading when these activities are within 300 feet of Biological Open Space or off-site native vegetation to ensure that all habitat protection measures are in place; inspect fencing and erosion control measures adjacent to preserved areas at least once per week and daily during rain events, and report deficiencies immediately to the Department of Public Works (DPW) Construction Inspector; periodically monitor the work area for excessive dust generation; train contractors and construction personnel, providing the purposes of resource protection, a

description of the California gnatcatcher and its habitat, and the conservation measures that should be implemented during project construction; halt work when deficiencies require mediation and notify the DPW Construction Inspector within 24 hours if it is necessary to halt work; produce weekly reports to keep at the project site; produce a final report at the completion of each phase or unit and submit to the Director of the DPLU; confer with the wildlife agencies within 24 hours any time protected habitat or endangered species are being affected by construction; determine if nesting migratory birds will be affected by clearing and grading and direct construction activities away from nesting areas; and be responsible for notification and overseeing remediation if impacts to preserved habitat should occur.

- Restrict all brushing and clearing such that none will be allowed within 100 feet of native or naturalized habitats during the migratory bird breeding season (defined as occurring from February 1 through August 31), unless the Biological Monitor determines that no migratory bird nests will be affected.

M–BIO–1a Diegan Coastal Sage Scrub Mitigation

Impacts to 29.1 acres Diegan Coastal Sage Scrub shall be mitigated at a ratio of 2:1 by a combination of on-site preservation of 5.5 acres of Diegan Coastal Sage Scrub in the Biological Open Space, acquisition of the Captain's Associates parcel (32 acres), and a Coastal Sage Scrub/Grassland mosaic restoration on site in accordance with the Merriam Mountains Wetlands and Uplands Conceptual Revegetation Plans (Appendix X to the Merriam Mountains Specific Plan Draft EIR, dated August 2007). The Hardline Points of Agreement (Appendix V to the Merriam Mountains Specific Plan Draft EIR, dated August 2007), concluded that the wildlife agencies agree to consider the Captain's Associates parcel as adequate NCMCSP mitigation for Diegan Coastal Sage Scrub impacts to contribute to the assembly of the draft NCMSCP preserve.

M–BIO–1b Southern Mixed Chaparral Mitigation

Impacts to 1,084.5 acres of Southern Mixed Chaparral vegetation shall be mitigated at a ratio of 0.5:1. The project design places 1,091.6 acres of Southern Mixed Chaparral vegetation in Biological Open Space, in accordance with the requirements of the Merriam Mountains RPP.

M–BIO–1c Mafic Chaparral Mitigation

Impacts to 3.2 acres of Mafic Chaparral vegetation shall be mitigated at a ratio of 3:1. The project design places 54.9 acres of Mafic Chaparral vegetation in

Biological Open Space, which exceeds the 9.6-acre mitigation requirement. The mitigation land will be preserved and managed in accordance with the requirements of the Merriam Mountains RPP.

M–BIO–1d Non-Native Grassland Mitigation

The loss of 21.5 acres of Non-Native Grassland shall be mitigated at a ratio of 0.5:1 by the combination of on-site preservation in Biological Open Space (3.7 acres) and creation/enhancement within the Biological Open Space (Figures 3.2-3A through 3.2-3C) prior to issuance of grading permits, in accordance with the Merriam Mountains Wetlands and Uplands Conceptual Revegetation Plans (Appendix X to the Merriam Mountains Specific Plan Draft EIR, dated August 2007).

M–BIO–1e Southern Coast Live Oak Riparian Forest Mitigation

Impacts to 1.3 acres of Southern Coast Live Oak Riparian Forest shall be mitigated off site by creation/enhancement at a 3:1 ratio at an off-site location prior to issuance of grading permits, in accordance with the Merriam Mountains Wetlands and Uplands Conceptual Revegetation Plans (Appendix X to the Merriam Mountains Specific Plan Draft EIR, dated August 2007).

M–BIO–1f Southern Willow Scrub/Mulefat Scrub Mitigation

Impacts to 0.3 acre of Southern Willow Scrub/Mulefat Scrub shall be mitigated on site by restoration/enhancement at a 3:1 ratio at the abandoned airstrip location (Figures 3.2-3A through 3.2-3C) prior to issuance of grading permits, in accordance with the Merriam Mountains Wetlands and Uplands Conceptual Revegetation Plans (Appendix X to the Merriam Mountains Specific Plan Draft EIR, dated August 2007).

M–BIO–1g Mulefat Scrub Mitigation

Impacts to 0.2 acre of Mulefat Scrub shall be mitigated on site by restoration/ enhancement at a 3:1 ratio at the abandoned airstrip location (Figures 3.2-3A through 3.2-3C) prior to issuance of grading permits, in accordance with the Merriam Mountains Wetlands and Uplands Conceptual Revegetation Plans (Appendix X to the Merriam Mountains Specific Plan Draft EIR, dated August 2007).

M–BIO–1h Southern Willow Scrub Mitigation

Impacts to 0.4 acre of Southern Willow Scrub shall be mitigated on site by restoration/enhancement at a 3:1 ratio at the abandoned airstrip location (Figures 3.2-3A through 3.2-3C) prior to issuance of grading permits, in accordance with the Merriam Mountains Wetlands and Uplands Conceptual Revegetation Plans (Appendix X to the Merriam Mountains Specific Plan Draft EIR, dated August 2007).

M–BIO–1i Coast Live Oak Woodland Mitigation

Impacts to 2.7 acres of Coast Live Oak Woodland shall be mitigated at a 3:1 ratio by the combination of on-site preservation (1.9 acres) and restoration in Biological Open Space (Figures 3.2-3A through 3.2-3C) and by identifying an off-site location prior to issuance of grading permits, in accordance with the Merriam Mountains Wetlands and Uplands Conceptual Revegetation Plans (Appendix X to the Merriam Mountains Specific Plan Draft EIR, dated August 2007).

M–BIO–1j Non-Vegetated Channel and Unvegetated Wetlands

Impacts to 0.5 acre of Non-Vegetated Channel shall be mitigated on site at a 1:1 ratio and impacts to 0.1 acre of Unvegetated Wetlands shall be mitigated at a ratio of 3:1 at the abandoned airstrip location (Figures 3.2-3A through 3.2-3C) prior to issuance of grading permits, in accordance with the Merriam Mountains Wetlands and Uplands Conceptual Revegetation Plans (Appendix X to the Merriam Mountains Specific Plan Draft EIR, dated August 2007).

Significant Impact BIO–2: Impacts to Natural Biological Diversity

M–BIO–2 The Merriam Mountains RPP shall be implemented in conjunction with project implementation. As indicated in the RPP, the Biological Open Space Area will be visually inspected for changes during regular maintenance and surveying activities. If substantial changes are noted, the area will be evaluated and remediated if feasible. The baseline vegetation and sensitive species maps will also be updated every five years. The type of surveys that will be conducted within the Biological Open Space Area to measure habitat changes and identify adaptive management strategies will be evaluated by the Habitat Manager based on professional judgment and standard industry practice in relation to the biological resource being surveyed. RPP features specifically related to the significant impacts associated with the preservation of natural biological diversity on the project site include the following:

Objective B–1: Include large blocks of key biological resource areas within the Biological Open Space (see M-BIO-1).

Objective B–2: Enhance and restore sensitive resources within the Biological Open Space.

- Maintain revegetation/creation areas within the Biological Open Space as shown in the Conceptual Uplands and Wetlands Revegetation Plans (Appendix X to the Merriam Mountains Specific Plan Draft EIR, dated August 2007). Maintain County/ACOE/CDFG wetlands within the Biological Open Space.

Objective B–4: Effectively manage the Biological Open Space to protect, maintain, and enhance resources.

- The manager shall maintain the integrity of the preserved habitats by monitoring for changes in the baseline conditions, annual reporting, and updating the RPP every 5 years based on data collected during the annual reporting efforts.

Objective B–6: Prevent habitat degradation (see M-BIO-1).

Objective B–9: Identify and provide for permitted uses within the Biological Open Space consistent with the overall goal of resource protection.

- Recreation users shall be limited to trails, overlooks, and trailheads within the Merriam Biological Open Space. The habitat manager will regularly monitor trail use to identify unauthorized trails. Two secondary access roads (Lawrence Welk Court and Camino Mayor) shall be permitted within the Biological Open Space. Two water tanks (North Tank and Coogan Tank) exist on separate parcels bounded by the Biological Open Space. Fuel management activities shall be permitted along the secondary access roads to these tanks located within the Biological Open Space.

Significant Impact BIO–3: Short-Term or Construction-Related Impacts to Native or Naturalized Habitat

M–BIO–3 The Merriam Mountains RPP shall be implemented in conjunction with project implementation. RPP features specifically related to construction impacts to native or naturalized habitat that would be preserved on the site include the following:

Objective B–12: Protect critical biological resources from impacts during construction (see M-BIO-1).

Significant Impact BIO-4: Impacts to Wetlands

M–BIO–4 The RPP contains specific management guidelines to address preservation and enhancement of wetlands, including the following:

Objective B–2: Enhance and restore sensitive resources within the Merriam Biological Open Space (see M-BIO-2).

Objective B–12: Protect critical biological resources during construction (see M-BIO-1).

M–BIO–4a Wetlands and Jurisdictional Area Mitigation.

The project tentative maps and grading permits shall be conditioned to obtain the following permits (as appropriate) prior to any clearing, grubbing, ground disturbance, or grading of any tentative map area of the site: ACOE 404 permit, RWQCB 401 permit, and/or CDFG Code 1600 Streambed Alteration Permit.

M–BIO–1d Southern Coast Live Oak Riparian Forest Mitigation.

M–BIO–1e Southern Willow Scrub/Mulefat Scrub Mitigation.

M–BIO–1f Mulefat Scrub Mitigation.

M–BIO–1g Southern Willow Scrub Mitigation.

Significant Impact BIO–5: Impacts to Wildlife Corridors and Wildlife Movement

M–BIO–5: The RPP contains specific management guidelines to address potential wildlife movement impacts, including the following objectives:

Objective B–1: Include large blocks of key biological resources areas within the Merriam Biological Open Space (see M-BIO–1).

Objective B–2: Enhance and restore sensitive resources within the Merriam Biological Open Space (see M-BIO–2).

Objective B–3: Provide resource management for the off-site mitigation area (see M-BIO–1).

Significant Impact BIO-6: Direct, Indirect, and/or Cumulative Impacts That Could Effect Long-Term Survival of Sensitive Plant and Animal Species

M–BIO–6 The RPP includes mitigation for the regionally declining species that occur on site.

Objective B–2: Enhance and restore sensitive resources within the Biological Open Space (see M–BIO–2).

Objective B–3: Provide resource management for the off-site mitigation area (see M–BIO–1).

Objective B–5: Track changes in the physical and biological conditions in Biological Open Space to determine active management strategies (see M–BIO–1).

Objective B–6: Prevent habitat degradation (see M–BIO–1).

Objective B–7: Control and remove invasive, exotic plant species.

- Exotic plant species should be targeted for complete elimination from the Biological Open Space area prior to becoming established. Existing locations of eucalyptus or other exotic trees should be evaluated for their removal from the Biological Open Space.

Objective B–8: Control and remove invasive, exotic animal species.

- All trash shall be removed from the Biological Open Space area; legal culling of exotic (non-native) species shall be conducted by the habitat manager with approval of the County of San Diego, CDFG, and USFWS. Control the effects of domestic pets on wildlife within the Biological Open Space by educating local residents through measures such as signage and newsletters. Chronic problems related to uncontrolled pets will be reported by the habitat manager to the Animal Control Officer.

Objective B–9: Identify and provide for permitted uses within the Merriam Biological Open Space consistent with the overall goal of resource protection (see M-BIO–2).

Under Policy 4.2 of the RPP, sensitive species populations and their habitats will be assessed regularly, with focused surveys at least once every three years. Methods of detection will vary based upon the target species, but may include

USFWS protocol surveys, predetermined habitat monitoring locations, specific data collection and reporting, and other techniques as deemed appropriate by the Habitat Manager. Under Policy 9.1 of the RPP, trails located within the Biological Open Space that run adjacent to sensitive habitat and known species locations will be protected by the use of signage and peeler log fencing along the trails to prevent intrusion into the preserve. Signage will read "Sensitive Resources – Please stay on trail." Four-foot-tall peeler log fencing will be installed where feasible along the trail edge in these locations.

Policies 4.2, 5.1, 5.2, 5.3, 6.1, and 6.2 of the RPP address establishment of baseline conditions within the Biological Open Space during the first year of annual monitoring along with assessment of habitat quality during regular intervals and measures to prevent habitat degradation over time. Specific survey methods and responses to habitat quality changes identified in the RMP include:

- Baseline inventory during first year including updated vegetation map and species observations.
- Requirements to develop and provide regular standardized surveys to determine habitat health and to evaluate plant and animal species of interest.
- Sensitive species populations and their habitat assessed regularly, with focused surveys being done at the appropriate time of the year for each species.

The types of surveys will be determined by the Habitat Manager and will be based on the specific resource being addressed.

Significant Impact BIO–7: Short-Term and Construction-Related Impacts to Nesting Birds and Raptors

M–BIO–7 The RPP shall be implemented in conjunction with project implementation. Features specifically related to the significant impact associated with impacts to nesting birds or raptors include the following:

Objective B–12: Protect critical biological resources during construction (see M–BIO–1).

M–BIO–7a Seasonal limitation on clearing, grubbing, and grading.

If clearing and grubbing is scheduled to occur during the avian nesting season (January 15 to August 31), a biological survey for nesting bird species must be conducted within the proposed impact area no more than 72 hours prior to

clearing activities. A letter documenting the results of the breeding bird survey will be submitted to the Director of DPLU. If clearing activities stop for more than 7 days during this season, supplemental surveys shall be done to establish whether additional nesting areas are present. These surveys are necessary to assure avoidance of impacts to nesting sensitive bird species and/or birds protected by the federal Migratory Bird Treaty Act. If any active nests are detected, the area shall be avoided, including a minimum 25-foot buffer for migratory birds, 300 feet for sensitive songbirds, and 500 feet for tree-nesting raptors, as determined by the project biologist. The area shall be flagged and mapped on the construction plans and will be avoided until the nesting cycle is complete.

In order to avoid impacts to nesting California gnatcatcher, brushing, clearing, and/or grading shall be prohibited during the breeding season of the California gnatcatcher (February 15 to August 31) within 300 feet of Coastal Sage Scrub habitat. The Director of DPLU may waive this condition through written concurrence from the U.S. Fish and Wildlife Service and the California Department of Fish and Game, that no California gnatcatcher are present in the vicinity of brushing, clearing, and/or grading.

Significant Impact BIO–8: Loss of Raptor Foraging Habitat

M–BIO–8 The Merriam Mountains RPP shall be implemented in conjunction with project implementation. RPP objectives specifically related to the significant impact associated with the loss of potential raptor foraging habitat identified include the following:

Objective B–1: Include large blocks of key biological resource areas within the Merriam Biological Open Space (see M–BIO–1).

Objective B–2: Enhance and restore special-status resources within the Merriam Biological Open Space (see M–BIO–2).

Objective B–6: Prevent habitat degradation (see M–BIO–1).

M–BIO–1c: Non-Native Grassland mitigation.

Significant Impact BIO–9: Result in Adverse Urban-Type Edge Effects, Including Reduced Habitat Viability

M–BIO–9 The Merriam Mountains RPP shall be implemented in conjunction with project implementation. The RPP includes the following specific objectives related to

impacts associated with placing urban development adjacent to the proposed Biological Open Space, resulting in adverse urban-type edge effects:

Objective B–1: Include large blocks of key biological resource areas within the Merriam Biological Open Space (M–BIO–1).

Objective B–6: Prevent habitat degradation (M–BIO–1).

Objective B–7: Control and remove invasive, exotic plant species (see M–BIO–6).

Objective B–8: Control and remove invasive, exotic animal species (see M-BIO-6).

Objective B–12: Protect critical biological resources during construction (see M–BIO–1).

Objective B–13: Establish and maintain public awareness and education programs to foster community support for the RPP.

- The habitat manager will attend meetings of the local community to inform them of the status of the habitat management program and to enlist their cooperation and support. Interpretative signage will be installed that will help educate users/neighbors of the Merriam area about the ecology of the area and purpose of the Biological Open Space.

M–BIO–9a Secondary effects of grading mitigation.

Grading and/or applicable permits for any permitted activities on the site shall require County of San Diego–required BMPs to control fugitive dust, water, runoff, and noise to protect adjacent Biological Open Space areas. Additionally, any sensitive habitat area should be clearly identified with signage and construction fencing to protect such areas during construction activities.

M–BIO–7a Seasonal limitation on clearing, grubbing, and grading.

M-BIO-6 RPP Protection Measures for Indirect Impacts.

Significant Impact BIO-10: Conformance to County of San Diego Resource Protection Ordinance Requirements

M–BIO–10: The project includes an RPP that addresses all resources covered by the RPO and is included as the functional equivalent to RPO. The RPP includes the following

goals and guidelines with respect to treatment of RPO Wetlands: mitigation at 3:1, management of wetland mitigation sites within the proposed Biological Open Space, and preservation of existing wetlands on site within the Biological Open Space. By consolidating open space and management of RPO resources, the RPP provides for a more comprehensive approach to resource protection and management than would occur under the RPO.

3.2.7 Conclusion

Impacts to sensitive vegetation communities (Impacts BIO-1a through BIO-1j) would be reduced to a level below significance with implementation of mitigation measures M-BIO-1 through M-BIO-1j, because, through preservation, (1) the rarest habitats regionwide are mitigated at a higher ratio while more common habitats are mitigated at a lower ratio, (2) conditions of approvals will require that mitigation land will be of like kind and value, (3) the mitigation land will be preserved and managed in perpetuity, and (4) restoration/creation of habitats will occur in proximity to the project to contribute to a naturally functioning ecosystem (see Table 3.2-9).

Impacts to natural habitats on site (Impact BIO-2) would be mitigated to a level below significance by implementation of M-BIO-2, which would preserve core habitat in the Merriam Mountains as a large habitat block, including contributing to a potential future linkage to the San Marcos Mountains. The identified impacts would be reduced to a level below significance because together, the project design features (including preservation and enhancement of habitats as shown in the RPP), M-BIO-1a through M-BIO-1i, and M-BIO-2 would preserve core habitat in the Merriam Mountains as a large habitat preserve. The Biological Open Space would be preserved in perpetuity and managed according to the requirements of the Merriam Mountains RPP. Project impacts to biological diversity and habitat diversity have been reduced by the provision of 52% of the site as Biological Open Space and adherence to an RPP, as well as on-site revegetation of Oak Woodlands and Non-Native Grasslands to compensate for the loss of diversity as discussed in the Uplands and Wetlands Revegetation Plans (see Appendix X to the Merriam Mountains Specific Plan Draft EIR, dated August 2007) and purchase of the Captain's Associates property. Orderly conveyance and management of the Biological Open Space area would reduce impacts associated with natural biological diversity to less than significant. It should be noted that as seen in the RPP, conveyance of land within the Biological Open Space Preserve will be phased in accordance with the Biological Open Space Conveyance Plan (see Table 3.2-10).

Short-term construction impacts to natural and naturalized habitats during construction, as identified in Impact BIO-3, would be mitigated to a level below significance through features incorporated in the RPP through implementation of the M-BIO-3, because inadvertent dust, noise, erosion, and human- and vehicle-caused damage would be avoided.

Significant impacts to County of San Diego–defined wetlands would occur to 2.1 acres of wetlands on site and 0.2 acre off site along Deer Springs Road and Camino Mayor (Impact BIO 4). Elements of the project design (preservation of 5.9 acres of wetlands in the Biological Open Space and management provided by the RPP) and conditioning the project to require mitigation measures M-BIO-4 and M-BIO-4a (which require permits and creation/enhancement measures prior to impacts) and M-BIO-1d, M-BIO-1e, M-BIO-1f, and M-BIO-1g (which require creation/enhancement of impacted wetlands) would reduce the impacts to a less-than-significant level because impacts to wetlands are mitigated at a 3:1 ratio, conditions of approvals will require that mitigation land be preserved and managed in perpetuity, and restoration/creation of habitats will occur in proximity to the project to contribute to a naturally functioning ecosystem. Through impacted vegetation communities' revegetation on site or through an off-site purchase, as discussed in Appendix X to the Merriam Mountains Specific Plan Draft EIR, dated August 2007, impacts would be reduced to a level below significance because the mitigation would be held to the "no net loss" standard of 3:1, because the mitigation would occur in proximity to the impacts, and because no long-term reduction in species composition, diversity, or abundance will occur.

Impacts to or adjacent to local wildlife corridors, subregional or regional linkages, or other areas used for wildlife movement would be significant (Impact BIO-5). The identified impacts would be mitigated to a level below significance by features incorporated in the project design (preservation of 1,192 acres of Biological Open Space) and mitigation measure M-BIO-5, which requires maintenance of the Biological Open Space such that it provides for long-term management and protection of wildlife, enhances wildlife trail connections where there is the opportunity to do so, and provides for genetic interchange through an existing corridor with the San Marcos Mountains to facilitate wildlife movement. The identified impacts would be reduced to a level below significance because together, the project design features and M-BIO-5 would preserve core habitat in the Merriam Mountains as a large habitat block, including a linkage to the San Marcos Mountains, and preserve a functioning element in the I-15 habitat corridor away from the Merriam site.

Impacts to the long-term survival of a sensitive plants and animals were determined to be significant due to the removal of Diegan Coastal Sage Scrub occupied by California gnatcatcher (Impact BIO-6). Impacts to sensitive species on the site from indirect effects would be reduced to less than significant by elements of the project design and conditioning the project to require mitigation measures M-BIO-6, M-BIO-6a, and M-BIO-6b because the Biological Open Space would preserve a core habitat for these sensitive species and the RPP would provide management of the habitat for the benefit of these species in perpetuity.

Impacts to nesting California gnatcatchers and ground- and tree-nesting raptors would be significant during construction activities (Impact BIO-7). The identified impacts would be

mitigated to a level below significance by mitigation measures M-BIO-7, which provides measures to reduce impacts during construction, including erosion control, exclusion fencing, and dust control; and M-BIO-7a, which includes seasonal limitation of clearing, grubbing, and grading. Through policies included within the RPP pertaining to construction and M-BIO-7a, limiting construction activities during nesting season, impacts would be reduced to a level below significance because together, the proposed measures would minimize impacts to ground- and tree-nesting raptors.

The removal of vegetation containing raptor foraging habitats both on site and off site would be significant (Impact BIO-8). The identified impacts would be mitigated to a level below significance by features incorporated in the project design (preservation of 1,192 acres of Biological Open Space and the RPP) and mitigation measure M-BIO-8, which requires acquisition or enhancement of habitats to compensate for those raptor foraging habitats impacted on site. The identified impacts would be reduced to a level below significance because, taken together, the design features and M-BIO-8 would preserve core habitat in the Merriam Mountains as a large habitat block and acquire, enhance, and restore degraded areas that contain raptor foraging habitat.

Impacts to natural resources and habitat viability would be significant due to urban edge effects and construction activities adjacent to sensitive resources (Impact BIO-9). The identified impacts would be mitigated to a level below significance by features incorporated in the project design (preservation of 1,192 acres of Biological Open Space and the RPP) and mitigation measures M-BIO-9, M-BIO-9a, and M-BIO-7a, which include seasonal limits on clearing, grubbing, and grading, and BMPs to be conditioned to grading or other applicable permits.

In the absence of implementation of the RPP, impacts to conformance with the RPO would be significant (M-BIO-10). The project would be fully consistent with RPO with the exception of unavoidable impacts to 2.1 acres of RPO wetlands on site and 0.2 acre off site along Deer Springs Road and Camino Mayor. These impacts are unavoidable given the project goals of concentrating development in the southern portion of the property to create a biological preserve in the northern portion of the property, providing a core habitat block in the Merriam Mountains. An amendment to RPO is proposed as part of the project to add an Exemption to Section 86.605 of the RPO. The amendment would exempt “any project located within the approximately 2,327-acre property known as “Merriam Mountains Specific Plan” if determined to be consistent with a comprehensive Resource Management Plan (RPP) which has been adopted by the Board of Supervisors as the functional equivalent of RPO.” Implementation of the RPP (M-BIO-10), which addresses all RPO resources and describes features incorporated in the project to protect and manage those resources, would reduce impacts to a level below significance because the RPP completed for the proposed project identifies the benefits of implementing an RPP rather than adhering to the strict requirements of the RPO.

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TABLE 3.2.1
Vegetation Communities

Vegetation Community		Holland Code	Acres (percent coverage)
DH	Disturbed Habitat	11300	27.3 (1%)
UD	Urban Developed	12000	13.0 (<1%)
ORC	Orchard	18100	2.4 (<0%)
IA	Intensive Agriculture	18200	4.9(<0%)
DCSS	Diegan Coastal Sage Scrub	32500	28.6 (1%)
SMC	Southern Mixed Chaparral (granitic type)	37121	2,156.6(92%)
SMC	Mafic Chaparral	37122	57.4(2%)
NNG	Non-Native Grassland	42200	23.2(1%)
FWM	Freshwater Marsh	52410	0.1(<0%)
South CLOWRF	Southern Coast Live Oak Riparian Forest	61310	2.3(<0%)
SAW	Sycamore Alluvial Woodlands	62100	1.6(<0%)
SWS/MFS	Southern Willow Scrub/ Mulefat Scrub	63300	0.3(<0%)
MFS	Mulefat Scrub	63310	0.2(<0%)
SWS	Southern Willow Scrub	63320	2.6<0%)
SWS/TS	Southern Willow Scrub/Tamarisk Scrub	63320	0.6(<0%)
CLOW	Coast Live Oak Woodland	71160	4.2(<0%)
EW	Eucalyptus Woodland	11100	1.5(<0%)

TABLE 3.2-2
RPO Wetlands and Other Jurisdictional Wetlands

Wetlands Habitats	Existing (Acres)
Freshwater Marsh	0.1
Mulefat Scrub	0.2
Oak Riparian Forest	2.3
Southern Willow Scrub	2.6
Southern Willow Scrub/Mulefat Scrub	0.3
Southern Willow Scrub/Tamarisk Scrub	0.6
Sycamore Alluvial Woodland	1.6
Unvegetated Wetlands	0.2
Total RPO Wetlands	*7.9*
Other Jurisdictional Unvegetated Waters	
Total ACOE*	7.1
Total CDFG*	7.3

Source: Pacific Southwest Biological Services, Inc., June 2006.
* Included for disclosure but not considered to be RPO wetlands.

TABLE 3.2-3
Potentially Occurring Sensitive Animal Species

Species Name	Status Federal/ State/ CDFG	San Diego County Status	Habitat Requirements	Probability of Occurrence
Riverside fairy shrimp *Streptocephalus woottoni*	FE/None/CSC	Group 1, Narrow Endemic	Endemic to western RIV and SD Cos, in area of tectonic swales, earth slump basins, in grassland and coastal sage scrub; esp. inhabits seasonally astatic pools, filled by winter/spring rains; hatch in warm water later in the season.	Low: No ponded water habitat on site
San Diego fairy shrimp *Branchinecta sandiegonensis*	FE/None/None	Group 1, Narrow Endemic	Vernal pools.	Low: No ponded water habitat on site
Quino checkerspot butterfly *Euphydryas editha quino*	FE/None/None	Group 1	Sunny openings within chaparral and coastal sage shrublands in parts of Riverside and San Diego Counties; esp. on hills and mesas near the coast, w/high densities of food plants *Plantago erecta, P. insularis, Orthocarpus purpurescens.*	Low: Unlikely to occur because of dense chaparral habitats on site
Thorne's hairstreak butterfly *Callophrys* [*Mitoura*] *thornei*	FSC/None/None	Group 1	Endemic to San Diego County where host plant, Tecate cypress, occurs, including Otay Mountain (Little Cedar Canyon).	Low: No Tecate Cypress on site
Hermes copper *LHermelcycaena hermes*	FSC/None/CSC	Group 1	Endemic to San Diego County. Continuous stands of Southern Mixed Chaparral/ Coastal Sage Scrub with both host plant *Rhamnus crocea* and primary nectaring plant *Eriogonum fasciculatum* in very close proximity. Species usually found along fairly open dirt roads/trails. Fallbrook is most northern record. Flight season: late May–early July.	Low: *Rhamnus crocea* occurs on site, but directed search for Hermes Copper during optimal flight season (late May-early July) has not been made. Project site is north of most recent records for this species
Harbison's dun skipper *Euphyes vestris harbisoni*	FSC/None/None	Group 1	Silverado Canyon, Orange County, through San Diego County foothills; associated w/drainages containing *Carex spissa*. Flight season: mid-May–mid-July.	Low: Known from Daley Ranch and extreme E-part of Escondido, among other areas. Although another *Carex* has been found on the site, additional searches for the host plant and surveys for the butterfly should be conducted if appropriate

TABLE 3.2-3 (CONT.)
Potentially Occurring Sensitive Animal Species

Species Name	Status Federal/ State/ CDFG	San Diego County Status	Habitat Requirements	Probability of Occurrence
Wandering salt marsh skipper *Panoquina errans*	FSC/None/CSC	Group 1	Confined to coastal salt marshes from Santa Barbara through Baja California peninsula; host plant *Distichlis spicata*. Flight season: July–September.	Low: No salt marsh habitat on site
Northern red-diamond rattlesnake *Crotalus exsul ruber*	FSC/None/CSC	Group 2	Chaparral, woodland, grassland, and desert areas, esp. in rocky areas and dense vegetation.	High: Detected on site
Western spadefoot toad *Spea* [*Scaphiopus*] *hammondii*	FSC/None/CSC	Group 2	Grassland habitats, Valley–Foothill Woodlands; requires vernal pools for breeding.	Low: No appropriate breeding habitat on site or in vicinity
Arroyo toad *Bufo californicus*	FE/None/CSC	Group 1	Semi-arid regions near washes or intermittent streams, incl. Valley–Foothill and Desert Riparian, desert wash, etc., esp. rivers w/sandy banks, willows, cottonwoods, sycamores w/loose, gravelly areas.	No appropriate breeding habitat on site or in vicinity and the site is not within 1 km of any known breeding habitat
California red-legged frog *Rana aurora draytonii*	FT/None/CSC	Group 1, Narrow Endemic	Marshes, streams, lakes, reservoirs, ponds and other permanent water sources.	Low: No perennial streams to provide habitat for this species
Southwestern pond turtle *Emys* [*Clemmys*] *marmorata*	FSC/None/CSC	Group 1	Permanent or nearly permanent water in many habitat types; below 6,000 ft, esp. w/basking sites.	Low: No appropriate breeding habitat on site or in vicinity
San Diego horned lizard *Phrynosoma coronatum blainvillei*	FSC/None/CSC	Group 2	Coastal Sage Scrub, Chaparral in arid and semi-arid climate, esp. friable, rocky, or shallow sandy soils.	High: Detected on site
Coronado skink *Eumeces skiltonianus interparietalis*	FSC/None/CSC	Group 2	Grassland, chaparral, pinyon and juniper sage woodland, pine–oak and pine forests in coastal ranges in Southern California; esp. prefers early successional stages or open areas; found in rocky areas close to streams and on dry hillsides.	High: Probably occurs on site, but not observed

TABLE 3.2-3 (CONT.)
Potentially Occurring Sensitive Animal Species

Species Name	Status Federal/ State/ CDFG	San Diego County Status	Habitat Requirements	Probability of Occurrence
Belding's orange-throated whiptail *Aspidoscelis* [*Cnemidophorus*] *hyperythrus beldingi*	FSC/None/CSC	Group 2	Coastal Scrub (low elev.), Chaparral, Valley–Foothill Hardwood, esp. washes and sandy areas w/patches of brush and rocks.	High: Detected on site
Coastal whiptail *Aspidoscelis* [*Cnemidophorus*] *tigris stejnegeri*	FSC/None/None/None	Group 2	Deserts and semiarid areas w. sparse vegetation and open areas, also in woodland and riparian areas, esp. where ground may be firm soil, sandy, or rocky.	High: Detected on site
Silvery legless lizard *Anniella pulchra*	FSC/None/CSC	Group 2	Sparse vegetation of chaparral and riparian, loose soil for burrowing.	Low: Site lacks extensive sandy soil areas
Coastal rosy boa *Charina trivirgata*	FSC/None/Protected	Group 2	Desert and chaparral from coast to Mojave and Colorado Deserts, esp. in moderate to dense vegetation and rocky cover; habitats w/mix of brushy cover and rocky soil like coastal canyons and hillsides, desert canyons, washes, and mountains.	Moderate: May occur on site, but not detected so far
Coast patch-nosed snake *Salvadora hexalepis virgultea*	FSC/None/CSC	Group 2	Brushy or shrubby vegetation in coastal So. California, esp. use small mammal burrows for refuge.	Moderate: May occur on site; not observed
San Diego mountain kingsnake *Lampropeltis zonata pulchra*	None/None/CSC	Group 2	Variety of habitats, incl. Valley–Foothill Hardwood, coniferous, chaparral, riparian, and wet meadows.	Low: Site below species normal elevation; not observed
Two-striped garter snake *Thamnophis hammondii*	FSC/None/CSC	Group 1	Coastal California from Salinas to NW Baja, from sea level to approx. 7000 ft amsl; esp. highly aquatic, found in or near permanent fresh water, often along streams w/rocky beds and riparian growths.	Low: May occur on site; not observed
Northern harrier *Circus cyaneus* (breeding)	None/None/CSC	Group 1	Coastal salt marsh and freshwater marsh; nest and forage in grasslands and farmlands.	Low: No extensive open grassland habitat on site
Sharp-shinned hawk *Accipiter striatus*	None/None/CSC	Group 1	Riparian woodlands, forests at edges of open habitats.	Moderate: May occasionally use oak or riparian habitat on site; not observed
Cooper's hawk, *Accipiter cooperi*	None/None/CSC	Group 1	Woodland, usu. open, interrupted, or marginal type; nests mainly in riparian areas.	High: Probably occurs on site, but not observed

TABLE 3.2-3 (CONT.)
Potentially Occurring Sensitive Animal Species

Species Name	Status Federal/ State/ CDFG	San Diego County Status	Habitat Requirements	Probability of Occurrence
Swainson's hawk *Buteo swainsoni* (nesting)	FSC/CT/None	Group 1	Breeds in stands w/few trees in juniper–sage flats, riparian areas, and in oak savanna. Requires adjacent suitable foraging areas such as grasslands or alfalfa or grain fields supporting rodent populations.	Low: No extensive open grassland habitat on site
Ferruginous hawk *Buteo regalis*	None/None/CSC	Group 1	Winters in So. California. Forages over agricultural lands, grasslands, scrub.	Low: No extensive open grassland habitat on site
Golden eagle *Aquila chrysaetos*	None/None/CSC	Group 1	Foothills, mountains grasslands, deserts, and shrub habitats.	Low: Historical nest on site, but not observed during numerous field visits
American peregrine falcon *Falco peregrinus anatum*	FP/SE/None	Group 1	Variety of habitats, concentrating in coastal area in San Diego County.	Low: Absence of open water probably precludes this species
Canada goose *Branta canadensis*	None/None/None	Group 2	Abundant but localized winter visitor in San Diego County.	Low: No valley grasslands on site
Mountain plover *Charadrius montanus* (wintering)	FPT/None/CSC	Group 2	Short grasslands, freshly plowed fields, newly sprouting rain fields, sometimes sod farms. Short vegetation, bare ground, flat topography. Prefers grazed areas and areas w/burrowing rodents.	Low: No extensive open grassland habitat on site
Burrowing owl *Athene* [*Speotyto*] *cunicularia* (burrow sites)	FSC/None/CSC	Group 1, Narrow Endemic	Open dry annual or perennial grasslands, desert, and scrublands w/low-growing vegetation; uses ground squirrel burrows for nesting.	Moderate: This species was detected in the 1978 surveys for Safa Ranch, which covered the northern part of the central valley of the present Merriam site. The 1978 report had no discussion on this species; any detection of this species must have been in the grassy area of the central valley. No observations have been made of this species in the numerous field visits since 1978.
Western willow flycatcher *Empidonax traillii extimus*	FE/SE/None	Group 1	Extensive thickets of low, dense willows, often near streams; 2,000–8,000 ft amsl.	Low: No appropriate breeding habitat on site or in immediate vicinity
Loggerhead shrike *Lanius ludovicianus*	FSC/None/CSC	Group 1	Open habitats with scattered shrubs and other perches.	Low: Site lacks open grassy or low shrub habitats; not observed

TABLE 3.2-3 (CONT.)
Potentially Occurring Sensitive Animal Species

Species Name	Status Federal/ State/ CDFG	San Diego County Status	Habitat Requirements	Probability of Occurrence
Least Bell's vireo *Vireo bellii pusillus*	FE/CE/None	Group 1	Summer resident in So. California; inhabits low riparian growth in vicinity of water or in dry river bottoms below 2000 ft amsl, usu. willow, baccharis mesquite.	Low: No appropriate breeding habitat on site or in vicinity
Coastal cactus wren *Campylorhynchus brunneicapillus couesi*	None/None/CSC	Group 1	Southern California coastal sage scrub, esp. w/tall opuntia cactus for nesting.	Low: No appropriate breeding habitat on site or in vicinity
Coastal California gnatcatcher *Polioptila californica*	FT/None/CSC	Group 1	Coastal sage scrub, below 2,500 ft amsl in Southern California, esp. low coastal scrub in arid washes, mesas, and slopes.	High: Detected on site
Western bluebird *Sialia mexicana*	None/None/None	Group 2	Small groups in fields or open woodlands, often perched on wires or fences.	Moderate: Not detected but probably occurs during winter months
California thrasher *Toxostoma redivivum*	None/None/None	NA	Fairly common to common resident; closely associated with chaparral in San Diego County.	High: Detected on site
Yellow warbler *Dendroica petechia brewsteri*	None/None/SC	Group 2	Riparian plant associations, prefers willows, cottonwoods, aspens, sycamores and alders for nesting and foraging, esp. nests in montane shrubbery in open conifer forests.	Moderate: May occur in preserved eastern or western riparian habitats during spring summer periods; not detected
Yellow-breasted chat *Icteria virens*	None/None/CSC	Group 1	Summer resident in riparian thickets of willow and other brushy tangles near watercourses, nests in low, dense riparian habitat.	Moderate: May occur in eastern or western riparian habitats during spring summer periods; not detected
Southern California rufous-crowned sparrow *Aimophila ruficeps canescens*	FSC/None/CSC	Group 1	Coastal sage scrub, sparse chaparral, esp. rel. steep, often rocky hillsides w/grass and forb patches.	Moderate: Probably occurs on site, but not observed
Bell's sage sparrow *Amphispiza belli*	FSC/None/CSC	Group 1	Coastal chaparral, coastal sage scrub, and sagebrush desert habitat.	Moderate: May occur on site but not detected
Grasshopper sparrow *Ammodramus savannarum*	None/None/CSC	Group 1	Dense grassland w/tall forbs and scattered shrubs for singing perches.	Low: No extensive grassy habitats required by this species
Tricolored blackbird *Agelaius tricolor* (colony)	FSC/None/CSC	Group 1	Breeds near fresh water in emergent wetlands w/dense cattails or tules. Feeds in grassland and cropland.	Low: No appropriate foraging or nesting habitat

TABLE 3.2-3 (CONT.)
Potentially Occurring Sensitive Animal Species

Species Name	Status Federal/ State/ CDFG	San Diego County Status	Habitat Requirements	Probability of Occurrence
Yellow-headed blackbird *Xanthocephalus xanthocephalus*	None/None/CSC	NA	Uncommon to rare migrant and winter visitor and very rare summer visitor in freshwater marshes in coastal lowlands of San Diego County (Unitt 1984).	Low: No extensive freshwater marsh, croplands, or grasslands on site -
California leaf-nosed bat *Macrotus californicus*	None/None/CSC	Group 2	Distribution poorly known; strongly associated w/desert riparian and wash habitats; roost in mine shafts and caves.	Low: Primarily confined to desert mountain ranges in the Colorado River basin. -
Yuma myotis *Myotis yumanensis*	FSC/None/CSC	Group 2	Open forest and woodlands. Closely tied to bodies of water.	Moderate: Very little roosting habitat on site. May forage in riparian areas with water.
Long-eared myotis *Myotis evotis*	FSC/None/CSC	Group 2	Trees, buildings, caves, and mines. Brush, woodland, forest, <4,000 ft amsl.	Low: Very limited roosting habitat on site.
Western red bat *Lasiurus blossevillii*	None/None/None	Group 2	Trees along or near waterways with open foraging areas. Feeds over grasslands, shrublands, woodlands, and forests.	Moderate: may occur along riparian areas during migration
Townsend's big-eared bat *Corynorhinus townsendii*	FSC/None/CSC	Group 2	Day roosts include caves and mines, but may be found in buildings. Distribution not well known. Prefers mesic habitats.	Low: No appropriate day roosting (cave or cave-like) habitat on site.
Big free-tailed bat *Nyctinomops macrotis*	None/None/CSC	Group 2	Small colonies in rocky cliffs or crevices. Found in desert scrub, desert riparian, scrublands, pinyon and juniper woodlands. Rocky areas with high cliffs.	Low: Very little day roosting (cliff faces) habitat on site. May forage over the site.
Western mastiff bat *Eumops perotis californicus*	FSC/None/CSC	Group 2	Small colonies in rocky cliffs or crevices. Variety of open habitats including woodlands, coastal sage scrub, grasslands, chaparral, desert scrub, and urban.	Low: Very little day roosting (cliff faces) habitat on site. May forage over the site.
San Diego black-tailed jackrabbit *Lepus californicus bennettii*	FSC/None/CSC	Group 2	Variety of habitats including coastal sage scrub, chaparral, and desert scrub.	Moderate: May occur on site but not detected
Dulzura (California) pocket mouse *Chaetodipus californicus femoralis*	FSC/None/CSC	Group 2	Variety of habitats including coastal scrub, chaparral, sagebrush, and grassland. Attracted to grassland–chaparral edges.	Moderate: May occur on site but not detected

TABLE 3.2-3 (CONT.)
Potentially Occurring Sensitive Animal Species

Species Name	Status Federal/ State/ CDFG	San Diego County Status	Habitat Requirements	Probability of Occurrence
Stephens' kangaroo rat *Dipodomys stephensi*	E/T/None	Group 1	Annual and perennial grasslands, also coastal scrub, sagebrush, esp. w/buckwheat, chamise, brome grass and filaree; will burrow into firm soil.	Low: No appropriate habitat on site
San Diego desert woodrat ***Neotoma lepida intermedia***	FSC/None/CSC	Group 2	**Mixed and chamise–redshank chaparral, sagebrush, and other habitats. Prefers rocky areas to build stick nest.**	**High: Detected on site**
American badger *Taxidea taxus*	None/None/None	Group 2	Uncommon resident throughout the state. Abundant in drier open shrub, forest and herbaceous habitats with friable soils.	Low: Site lacks extensive open areas of grassland open shrublands
Mountain lion *Felis* (*Puma*) *concolor*	None/None/Protected	Group 2	Widespread, uncommon resident ranging from sea level to alpine meadows. Variety of habitats except xeric regions of the deserts.	Low: Nearby residents indicate this species occurred on extreme NE part of site but not seen in several years
Southern mule deer ***Odocoileus hemionus***	None/None/Game Species	Group 2	Common to abundant with a wide distribution throughout the state. Prefers mosaic of various-aged vegetation habitats; brushy areas and tree thickets are important for escape cover.	Moderate: Detected on site during early surveys of property.

Source: PSBS 2007.

Bold indicates present on the project site.

Table 3.2-4
Potentially Occurring Sensitive Plant Species

Species Name	Status Federal/State/ CNPS	Habitat Requirements	Probability Of Occurrence	San Diego County Status
Astragalus brauntonii Braunton's milk-vetch	FE/None/1B(3-3-3)	Closed-cone coniferous forest, chaparral, coastal scrub, Valley and Foothill Grassland, esp. recent burns or disturbed areas, in stiff gravelly clay soils overlying granite or limestone, 4–640 m amsl.	No appropriate habitat on site: Low	NA
Acanthomintha ilicifolia San Diego thorn-mint	FT/CE/1B (2-3-2)	Chaparral, coastal scrub, Valley and Foothill Grassland, vernal pools, endemic to active verticol clay soils of mesas and valleys, on clay lenses 2/in grassland or chaparral communities, 10–935 m amsl.	Clay soils (Las Posas) on site limited to preserve area west of Twin Oaks Valley Road; not observed during numerous visits	List A
Adophia californica California adolphia	None/None/2 (1-3-1)	Chaparral, CSS, Valley and Foothill Grassland, from sandy/gravelly to clay soils within grassland, CSS, or chaparral; various exposures, 15–300 m amsl.	Clay soils (Las Posas) on site limited to preserve area west of Twin Oaks Valley Road; not observed during numerous visits	List B
Ambrosia pumila San Diego ambrosia	FE/None/1B (3-3-2)	Chaparral, coastal scrub, Valley and Foothill Grassland, vernal pools, especially in sandy loam or clay soil, in valleys; persists where disturbance has been superficial, 20–415 m amsl.	Clay soils (Las Posas) on site limited to preserve area west of Twin Oaks Valley Road; not observed during numerous visits	List A
Arctostaphylos glandulosa ssp *crassifolia* Del Mar manzanita	FE/None/1B (3-3-2)	Chaparral, closed-cone coniferous forest, especially sandy coastal mesas and ocean bluffs, in chaparral or Torrey pine forest.	The more common, inland species (*A. glandulosa zacaensis*) is found on site	List A
Arctostaphylos rainbowensis Rainbow manzanita	None/None/1B (3-3-3)	Chaparral; previously called *A. peninsularis* or considered a hybrid between *A. glandulosa* and *A. glauca*; found in gabbro chaparral in Riverside and San Diego counties, 270–790 m amsl.	The more common, inland species (*A. glandulosa zacaensis*) is found on site	List A
Baccharis vanessae Encinitas baccharis	FT/SE/1B (2-3-3)	Chaparral, endemic to San Diego County, esp. on sandstone soils in steep, open, rocky areas w/chaparral associates, 60–720 m amsl.	Not known from granodiorite habitats on site	List A

TABLE 3.2-4 (CONT.)
Potentially Occurring Sensitive Plant Species

Species Name	Status Federal/State/ CNPS	Habitat Requirements	Probability Of Occurrence	San Diego County Status
Brodiaea filifolia Thread-leaved brodiaea	FT/CE/1B (3-3-30	Cismontane woodland, coastal scrub, playas, Valley and Foothill Grassland, vernal pools, usu. associated w/annual grassland and vernal pools, often surrounded by shrubland habitats, clay soils, 35–855 m amsl.	Clay soils (Las Posas) on site limited to preserve area west of Twin Oaks Valley Road, vernal pools, or seep-related habitats to support this species; not observed	List A
Brodiaea orcuttii Orcutt's brodiaea	FSC/None/1B (1-3-2)	Vernal pools, Valley and Foothill Grassland, closed-cone coniferous forest, cismontane woodland, chaparral, meadows, mesic, clay habitats, sometimes serpentine, in vernal pools and small drainages, 30–1615 m amsl.	Clay soils (Las Posas) on site limited to preserve area west of Twin Oaks Valley Road, vernal pools, or seep-related habitats to support this species; not observed	List A
Ceanothus verrucosus Wart-stemmed ceanothus	FSC/None/2 (2-2-1)	Chaparral, 1–380 m amsl.	Known from mountains south of San Marcos, but not found on site; only *C. tomentosus* found on site	List B
Centromadia parryi ssp. *Australis* Southern tarplant	FSC/None/1B (3-3-2)	Marshes and swamps (margins), Valley and Foothill Grassland, vernal pools, often in disturbed sites near coast; also in alkaline soils, sometimes with saltgrass; also vernal pools, 0–425 m amsl.	No appropriate habitat on site: Low	List A
Chaenactis glabriuscula var. *orcuttiana* Orcutt's pincushion	None/None/1B (2-3-2)	Coastal bluff scrub, coastal dunes. Sandy sites, 3–100 m amsl.	No appropriate habitat on site: Low	List A
Comarostaphylos diversifolia ssp *diversifolia* Summer holly	FSC/None/1B (2-2-2)	Chaparral, often in mixed chaparral in California, sometimes post-burn, 30–550 m amsl.	Present on the site	**List A**
Eryngium aristulatum var *parishii* San Diego button-celery	FE/CE/1B (2-3-2)	Vernal pools, coastal scrub, Valley and Foothill Grassland, esp. in San Diego mesa hardpan and claypan vernal pools and southern interior basalt flow vernal pools; usually surrounded by scrub, 15–620 m amsl.	No vernal pools present on site	List A

TABLE 3.2-4 (CONT.)
Potentially Occurring Sensitive Plant Species

Species Name	Status Federal/State/ CNPS	Habitat Requirements	Probability Of Occurrence	San Diego County Status
Harpagonella palmeri Palmer's grapplinghook	FSC/—/2 (1-2-1)	Chaparral, coastal scrub, Valley and Foothill Grassland, esp. clay soils, open grassy areas, 15–830 m amsl.	Clay soils (Las Posas) on site limited to preserve area west of Twin Oaks Valley Road; not observed	List D
Horkelia truncata Ramona horkelia	None/None/1B (3-1-2)	Chaparral, cismontane woodland, esp. in mixed chaparral, vernal streams, and disturbed areas near roads, clay soil, 400–1300 m amsl.	A single population of 7 individuals of this plant was located in the southeastern portion of the site; not associated with mapped or site-specific mafic soil	List A
Isocoma menziesii var *decumbens* Decumbent goldenbush	None/None/1B (2-2-2)	Coastal sage, sandy soil, often in disturbed sites, 10–910 m amsl.	Site is too far inland for this species; *I. m. vernonioides,* a common species, was found on the site	List A
Iva haysesiana San Diego marsh-elder	FSC/None/2 (2-2-1)	Marshes and swamps, playas, esp. in riverwashes, 10–500 m amsl.	No appropriate habitat on site: Low	List B
Lepechinia cardiophylla Heart-leaved pitcher sage	None/None/1B (3-2-2)	Closed-cone coniferous forest, chaparral, cismontane woodland, 550–1370 m amsl.	Sought on peaks on site but not encountered	List A
Lepidium virginicum var. *robinsonii* Robinson's pepper-grass	None/None/1B (3-2-2)	Chaparral, coastal scrub. Dry soils, shrubland. 1–945 m amsl.	No found on site	List A
Lessingia [*Corethrogyne*] *filaginifolia* var. *linifolia* Del Mar sand aster	FPT/None/1B (3-2-3)	North coastal areas in sandy soil.	Site beyond normal range of this species	List A
Monardella hypoleuca ssp. *Lanata* Felt-leaved monardella	None/None/1B (2-2-2)	Chaparral, cismontane woodland, esp. in understory in mixed chaparral, chamise chaparral and so. oak woodland; esp. sandy soil, 300–1190 m amsl.	Searched for and not found on site	List A

TABLE 3.2-4 (CONT.)
Potentially Occurring Sensitive Plant Species

Species Name	Status Federal/State/ CNPS	Habitat Requirements	Probability Of Occurrence	San Diego County Status
Navarretia fossalis Spreading navarretia	FT/None/1B (2-3-2)	Vernal pools, chenopod scrub, marshes and swamps, playas, esp. in San Diego hardpan and San Diego claypan vernal pools, in swales and vernal pools, often surrounded by other habitat types; 30–1300 m amsl.	No vernal pools on site	List A
Quercus engelmannii Engelmann oak	None/None/4(1-2-2)	Chaparral, cismontane woodlands, riparian woodland, Valley and Foothill Grassland.	A few of this species occur in the Southern Oak Woodland at the southern corner of the property	List D
Satureja chandleri San Miguel savory	None/None/4 (1-2-2)	Chaparral, cismontane woodland, coastal scrub, riparian woodland, Valley and Foothill Grassland, esp. Gabbroic or Metavolcanic substrate, 120–1,005 m amsl.	Clay soils (Las Posas) on site limited to preserve area west of Twin Oaks Valley Road; not observed	List A
Tetracoccus dioicus Parry's tetracoccus	FSC/None/1B (3-2-2)	Chaparral, coastal scrub, esp. stony fine sandy decomposed gabbro soil, 600–1,500 ft amsl.	Clay soils (Las Posas) on site limited to preserve area west of Twin Oaks Valley Road; not observed	List A

Source: PSBS 2007.

Bold indicates present on the project site.

CODES FOR TABLES 3.2-3 AND 3.2-4

CNPS Lists

List 1A	Plants presumed extinct in California
List 1B	Plants rare, threatened, or endangered in California and elsewhere
List 2	Plants rare, threatened, or endangered in California but more common elsewhere
List 3	Plants about which we need more information—a review list
List 4	Plants of limited distribution—a watch list

CNPS R-E-D Code

R (Rarity)

1	Rare, but found in sufficient numbers and distributed widely enough that the potential for extinction is low at this time
2	Distributed in a limited number of occurrences, occasionally more if each occurrence is small
3	Distributed in one to several highly restricted occurrences, or present in such small numbers that it is seldom reported.

E (Endangerment)

1	Not endangered
2	Endangered in a portion of its range
3	Endangered throughout its range

D (Distribution)

1	More or less widespread outside California
2	Rare outside California
3	Endemic to California

State-Listed/Designated Species

CE	State-listed endangered
CT	State-listed threatened
CR	State-listed rare
CC	Candidate for state listing
CSC	California Special Concern species (Department of Fish and Game)

Federally Listed/Designated Species

FE	Federally listed endangered
FT	Federally listed threatened
FPT	Federally proposed endangered
FSC	Federal Special Concern species

TABLE 3.2-5
Deer Springs Road[1]

Vegetation Type	Impact (acres)
Disturbed Habitat	1.9
Urban Developed	28.6
Orchard	0.7
Eucalyptus Woodland	1.1
Intensive Agriculture	4.7
Disturbed Coastal Sage–Chaparral Scrub	3.3
Non-Native Grassland	2.0
Coast Live Oak Woodland*	0.1
Southern Coast Live Oak Riparian Forest	0.3
Southern Mixed Chaparral	0.1
Non-Vegetated Channel	0.5
Total	43.3

Notes:
* CDFG/RPO (associated with stream)
[1] Includes improvements at the I-15/Deer Springs Road Interchange (0.2 acre DCSS, 0.5 acre NNG, 0.6 DH, 0.1 EUC, 6.0 Urban/Developed).

TABLE 3.2-6
Merriam Existing Vegetation, Development Areas,
Fuel Management Areas/Other Open Space, Secondary Access Roads, and Biological Open Space (Areas in Acres)

	Existing		Impacts						Conserved	
Vegetation Type	Existing Acres	% of Total Project	Development[1] Acres	% of Total Vegetation	Other Open Space[3] Acres	% of Total Vegetation	Secondary Access Roads[2]	% of Total Vegetation	Biological Open Space[2] Acres	% of Total Vegetation
Disturbed Habitat	27.3	1	2.1	7	0.0	0	—	—	25.2	92
Urban Developed	13.0	<1	12.5	95	0.6	4	—	—	0.0	0
Orchard	2.4	<0	0.3	12	1.0	41	0.1	4	1.0	41
Intensive Agriculture	4.9	<0	3.6	73	1.3	27	—	—	0.0	0
Eucalyptus Woodland	1.5	<0	1.5	100	0.0	0	—	—	0.0	0
Total Disturbed, Urban Developed, Orchard, and Intensive Agriculture Habitats	49.1	N/A	20.0	N/A	2.9	N/A	0.1	N/A	26.2	N/A
Diegan Coastal Sage Scrub	28.6	1	18.7	65	4.0	13	0.4	1	5.5	19
Southern Mixed Chaparral	2,156.6	92	479.0	22	526.7	24	59.3	2	1091.6	50
Mafic Southern Mixed Chaparral	57.4	2	0.0	0	0.0	0	—	—	57.4	100
Non-Native Grassland	23.2	1	17.6	75	1.9	8	—	—	3.7	16
Freshwater Marsh	0.1	<0	0.0	0	0.0	0	—	—	0.1	100
Southern Coast Live Oak Riparian Forest	2.3	<0	1.1	48	0.1	4	—	—	1.1	48
Willow/Oaks/Sycamore Woodland	1.6	<0	0.0	0	0.0	0	—	—	1.6	100
Southern Willow Scrub/Mulefat Scrub	0.3	<0	0.3	100	0.0	0	—	—	0.0	0
Mulefat Scrub	0.2	<0	0.0	0	0.2	100	—	—	0.0	0
Southern Willow Scrub	2.6	<0	0.2	8	0.1	3	—	—	2.3	88
Southern Willow Scrub/Tamarisk Scrub	0.6	<0	0.0	0	0.0	0	—	—	0.6	100
Coast Live Oak Woodland	4.2	<0	1.0	19	1.1	39	0.2	4	1.9	37
Unvegetated Wetlands	0.2	<0	0.1	<0	0.0	0	—	—	0.0	0
Total: Native/Naturalized Habitats	2,277.9	N/A	518.0	N/A	534.1	N/A	59.9	N/A	1,165.8	N/A
TOTAL	2,327.0	100%	538.0	23	537.0	23	60.0	3	1,192.0	51

Notes:

1 The impact area does not include off-site impacts for Meadow Park Lane, which includes: 0.9 acre of Disturbed Habitat; 1.2 acres of Diegan Coastal Sage Scrub; 14.2 acres of Southern Mixed Chaparral; 1.3 acres of Urban Development;
0.1 acre of Scrub Oak Woodland, 0.1 acre of Southern Coast Live Oak Riparian Forest, and 0.2 acre of Eucalyptus Woodland.

2 On-site secondary access roads consist of Lawrence Welk Court and Camino Mayor.

3 Other open space totals include impacts to proposed sewer easement, which includes 1.2 acres of Southern Mixed Chaparral.

TABLE 3.2-7
On-Site Encroachment into RPO Wetlands and Other Jurisdictional Waters

Vegetation/Land Cover	Existing (acres)	Impacts (acres)*	Mitigation Ratio	Required Mitigation (acres)	Area Preserved On Site (acres)	Area Created/ Enhanced On Site (acres)	Mitigation Required Off Site (acres)
RPO Wetlands							
Freshwater Marsh	0.1	0.0	3:1	0.0	0.1	0.0	0.0
Mulefat Scrub	0.2	0.2	3:1	0.6	0.0	0.6	0.0
Southern Coast Live Oak Riparian Forest	2.3	1.2	3:1	3.6	1.1	3.6	0.0
Southern Willow Scrub	2.6	0.3	3:1	0.9	2.3	0.9	0.0
Southern Willow Scrub/ Mulefat Scrub	0.3	0.3	3:1	0.9	0.0	0.9	0.0
Southern Willow Scrub/ Tamarisk Scrub	0.6	0.0	3:1	0.0	0.6	0.0	0.0
Sycamore Alluvial Woodland	1.6	0.0	3:1	0.0	1.6	0.0	0.0
Unvegetated Wetlands	0.2	0.1	3:1	0.3	0.1	0.3	0.0
Total RPO Wetlands	*7.9*	*2.1*	*N/A*	*6.3*	*5.8*	*6.3*	*0.0*
Other Jurisdictional Waters of the U.S. and State							
ACOE/CDFG*	7.3	2.0	N/A	N/A	N/A	N/A	N/A

Notes:

* Impacts for disclosure but not considered encroachment into RPO Sensitive habitat or wetlands; mitigation would be determined in conjunction with future resource agency permitting.
Impact area includes Development areas, other open space areas, and secondary access roads.
The impact area does not include off-site impacts for Meadow Park Lane, which includes 0.1 acre of Southern Coast Live Oak Riparian Forest.
The impact area does not include off-site impacts along Deer Springs Road and Camino Mayor, which includes 0.2 acres of Coast Live Oak Woodland
On-site secondary access roads consist of Lawrence Welk Court and Camino Mayor.

N/A = not applicable

Table 3.2-8
Comparison of Cumulative Vegetation Impacts from Assessment Area with Impacts from the Merriam Project[1]

Vegetation Type	Cumulative Impact Total	Merriam SP Cumulative Contribution (ac)	Merriam SP Cumulative Contribution (%)
Eucalyptus Woodland	6.6	2.8	42.4
Disturbed Habitat	35.3	6.7	18.9
Urban Developed	68	43	63.2
Agriculture	81.1	11	13.5
Diegan Coastal Sage Scrub	366.2	29.1	7.9
Chaparral	1,185.4	1,084.5	91.4
Non-Native Grassland	111.7	21.5	19.2
Grassland	0.0	0.0	0.0
Riparian	3.8	1.3	33.6
Wetland	4.2	2.3	54.7
Coyote Bush Scrub	0.6	0.0	0.0
Southern Willow Scrub	5.5	0.4	7.2
Scrub Oak Woodland	2.9	0.0	0.0
Oak	22.9	2.7	11.7
Total	1,894.6	1,205.3	N/A

Note:
[1] Acreages shown are for cumulative projects 1 through 69. See discussion of cumulative impacts in Section 3.2.4. and tabular summary in Appendix R for quantification of impacts to vegetation communities for cumulative projects 70-132

TABLE 3.2-9
Impacted Vegetation and Mitigation Required

Vegetation Type	Existing (on site)	Development Impact (on site)	Other Open Space (on site)	Access Road Impact (on site)[B]	*Meadow Park Ln, Camino Mayor, Twin Oaks Frontage and Equestrian Staging Area Impact (off site)*[C]	*Deer Springs Road Impact (off site)*[F]	*Wastewater improvements (off site)*	Total Impact (on site + off site)	Mitigation Ratio	Required Mitigation Prior to Preservation On Site[D]	Preserved On Site	Remaining Mitigation Requirement[E]
Disturbed Habitat	27.3	2.1	0.0	0.0	*2.2*	*1.9*	*0.5*	6.7	0	0.0	25.2	0.0
Urban Developed	13.0	12.5	0.6	0.0	*1.3*	*28.6*	0.0	43	0	0.0	0.0	0.0
Orchard	2.4	0.3	1.0	0.1	*0.6*	*0.7*	0.0	2.5	0	0.0	1.0	0.0
Intensive Agriculture	4.9	3.6	1.3	0.0	*0.0*	*4.7*	0.0	9.6	0	0.0	0.0	0.0
Eucalyptus Woodland	1.5	1.5	0.0	0.0	*0.2*	*1.1*	0.0	2.8	0	0.0	0.0	0.0
Diegan Coastal Sage Scrub[A]	28.6	18.7	4	0.4	*2.7*	*3.3*	0.0	29.1	2	58.2	5.5	52.7
Granitic Southern Mixed Chaparral	2,156.6	479	526.7	59.3	*19.4*	*0.1*	0.0	1,084.5	0.5	542.3	1,091.6	-549.4
Mafic S-Mixed Chaparral	57.4	0.0	0.0	0.0	*3.2*	*0.0*	0.0	3.2	3	9.6	57.4	-47.8
Non-Native Grassland	23.2	17.6	1.9	0.0	*0.0*	*2.0*	0.0	21.5	0.5	10.8	3.7	7.1
Freshwater Marsh	0.1	0.0	0.0	0.0	*0.0*	*0.0*	0.0	0	3	0.0	N/A	0.0
Southern Coast Live Oak Riparian Forest	2.3	1.1	0.1	0.0	*0.1*	*0.0*	0.0	1.3	3	4.8	N/A	3.9
Sycamore Alluvial Woodland	1.6	0.0	0.0	0.0	*0.0*	*0.0*	0.0	0	3	0.0	N/A	0.0
Southern Willow Scrub/Mulefat Scrub	0.3	0.3	0.0	0.0	*0.0*	*0.0*	0.0	0.3	3	0.9	N/A	0.9
Mulefat Scrub	0.2	0.0	0.2	0.0	*0.0*	*0.0*	0.0	0.2	3	0.6	N/A	0.6
Southern Willow Scrub	2.6	0.2	0.1	0.0	*0.0*	*0.0*	*0.1*	0.4	3	1.2	N/A	1.2
Southern Willow Scrub/Tamarisk Scrub	0.6	0.0	0.0	0.0	*0.0*	*0.0*	0.0	0	3	0.0	N/A	0.0
Coast Live Oak Woodland	4.2	1.0	1.1	0.2	*0.0*	*0.1*	0.0	2.7	3	8.1	1.9	6.2
Non-Vegetated Channel	0.0	0.0	0.0	0.0	*0.0*	*0.5*	0.0	0.5	1	0.5	0.0	0.5
Unvegetated Wetlands	0.2	0.1	0.0	0.0	*0.0*	*0.0*	0.0	0.1	3	0.3	N/A	0.3
TOTALS	2,327	538	537	60	*26.4*	*43.3*	*0.6*	1,205.3	N/A	N/A	1,192	
					[73 ac total off site]							

Notes:

[A] Includes Coast Sage Scrub–Chaparral Scrub and Disturbed CSS–CS

[B] Includes Lawrence Welk Court and Camino Mayor

[C] Includes off-site sewer easement and off-site fuel modification along Camino Mayor

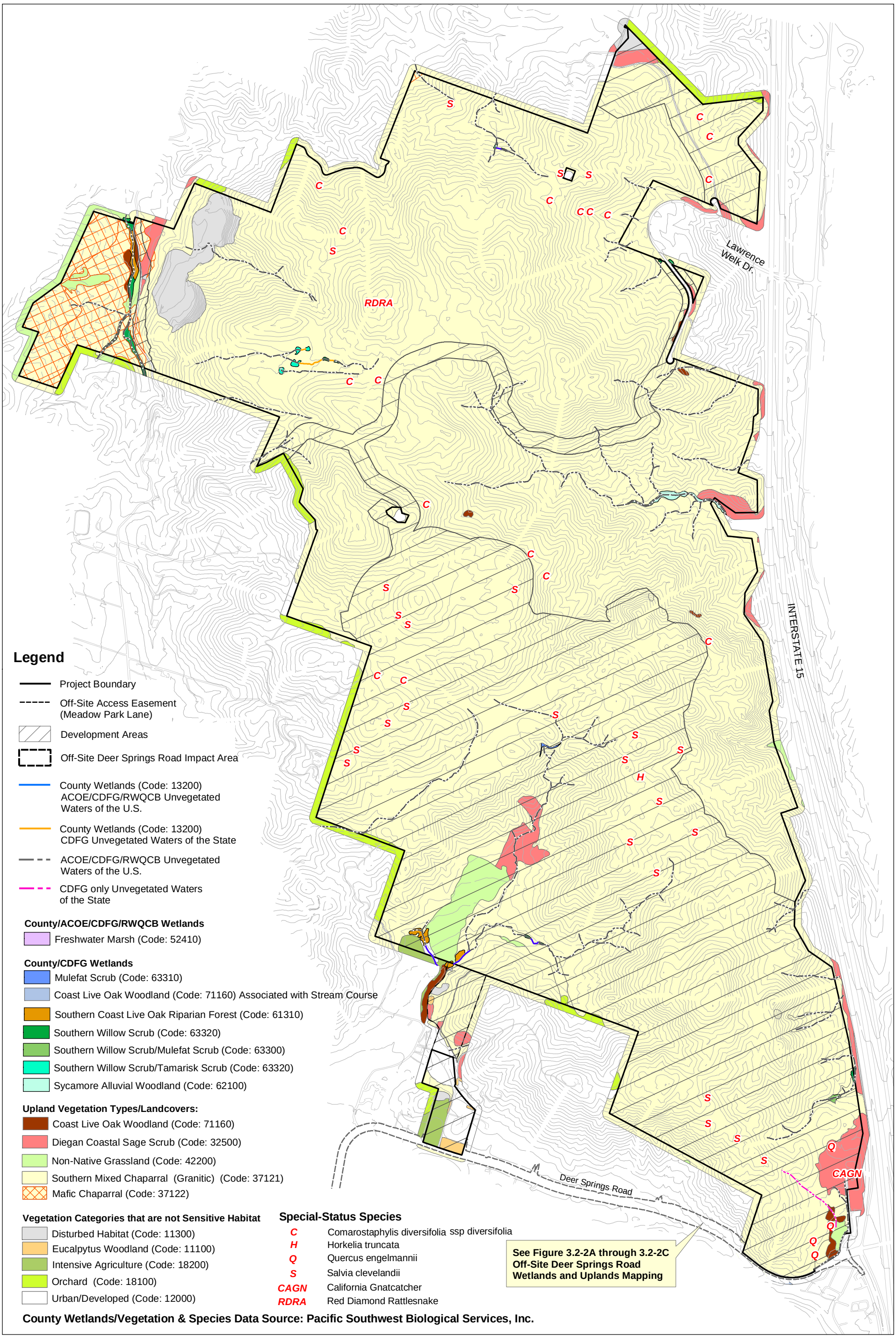
[D] See Jurisdictional Impact Table for Additional Details

[E] Negative numbers mean no off-site mitigation necessary

[F] Includes improvements at the I-15/DSR Interchange (0.2 acre DCSS, 0.5 acre NNG, 0.6 DH, 0.1 EUC, 6.0 Urban)

TABLE 3.2-10
Merriam Biological Open Space Preserve Conveyance Plan (acres)

Open Space No.	Neighborhood	Development Area	Non-Bio Open Space	Impact Acre	Bio Preserve
OS-2 and OS-3	1	121.0	197.2	318.2	333.5
OS-16	2	65.7	175.4	241.1	252.8
OS-5	3	58.3	56.1	114.4	120.4
OS-7	4	92.6	0	92.6	97.7
OS-6,8,15	5	147.0	163.0	310.0	325.6
OS-4	Estate Lots	53.4	5.3	58.7	62.0
Total		538.0	597.0	1,135.0	1,192.0



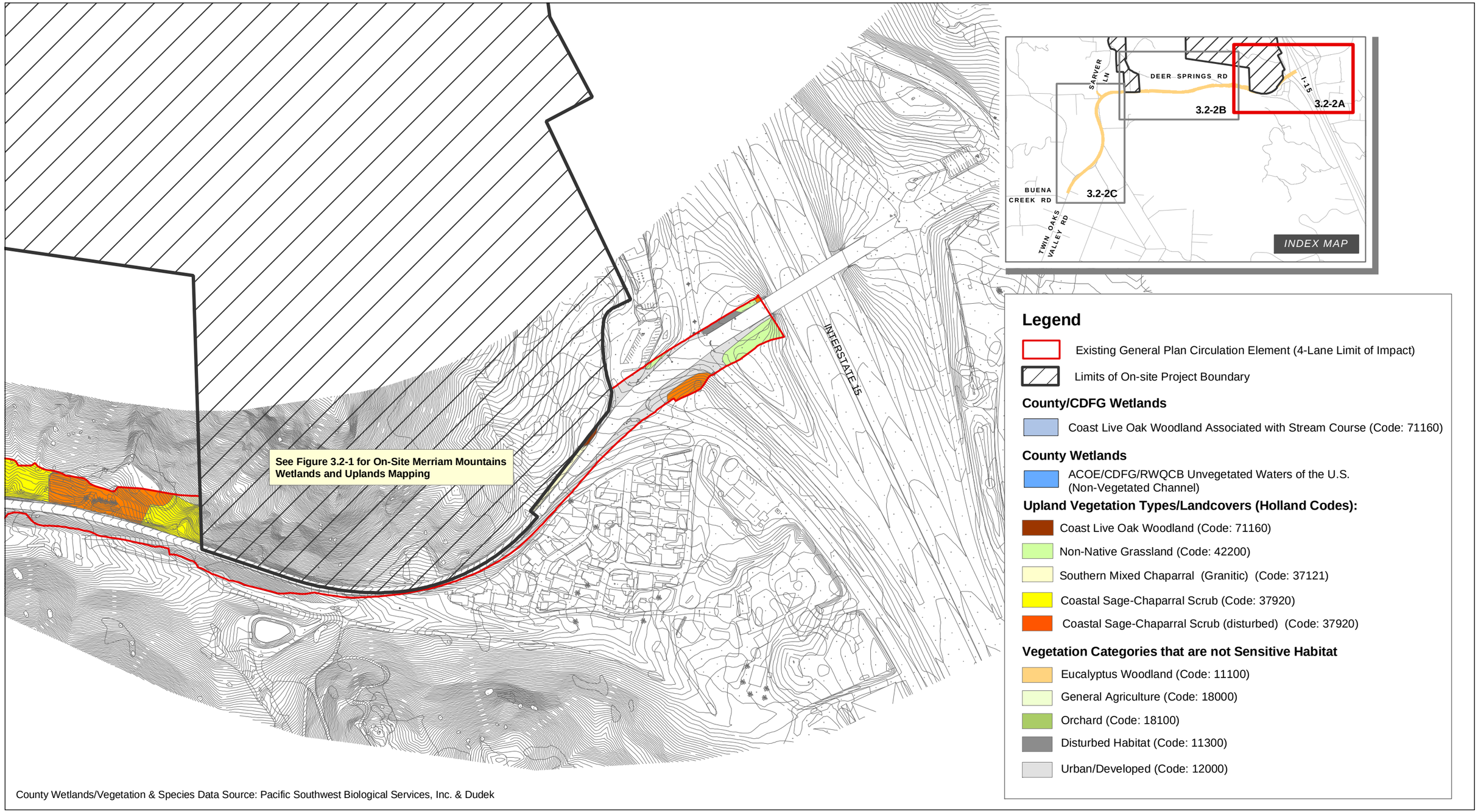
Biological Resources Map - OnSite

FIGURE 3.2-1

MERRIAM MOUNTAINS SPECIFIC PLAN EIR

0 0.125 0.25 0.5 Miles

N



County Wetlands/Vegetation & Species Data Source: Pacific Southwest Biological Services, Inc. & Dudek

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Biological Resources Map - Off-Site Deer Springs Road Impact Area

FIGURE 3.2-2A

MERRIAM MOUNTAINS SPECIFIC PLAN EIR

0 150 300 600
Feet

N

Legend

- Existing General Plan Circulation Element (4-Lane Limit of Impact)
- Limits of On-site Project Boundary

County/CDFG Wetlands

- Coast Live Oak Woodland Associated with Stream Course (Code: 71160)

County Wetlands

- ACOE/CDFG/RWQCB Unvegetated Waters of the U.S. (Non-Vegetated Channel)

Upland Vegetation Types/Landcovers (Holland Codes):

- Coast Live Oak Woodland (Code: 71160)
- Non-Native Grassland (Code: 42200)
- Southern Mixed Chaparral (Granitic) (Code: 37121)
- Coastal Sage-Chaparral Scrub (Code: 37920)
- Coastal Sage-Chaparral Scrub (disturbed) (Code: 37920)

Vegetation Categories that are not Sensitive Habitat

- Eucalyptus Woodland (Code: 11100)
- General Agriculture (Code: 18000)
- Orchard (Code: 18100)
- Disturbed Habitat (Code: 11300)
- Urban/Developed (Code: 12000)

County Wetlands/Vegetation & Species Data Source: Pacific Southwest Biological Services, Inc. & Dudek

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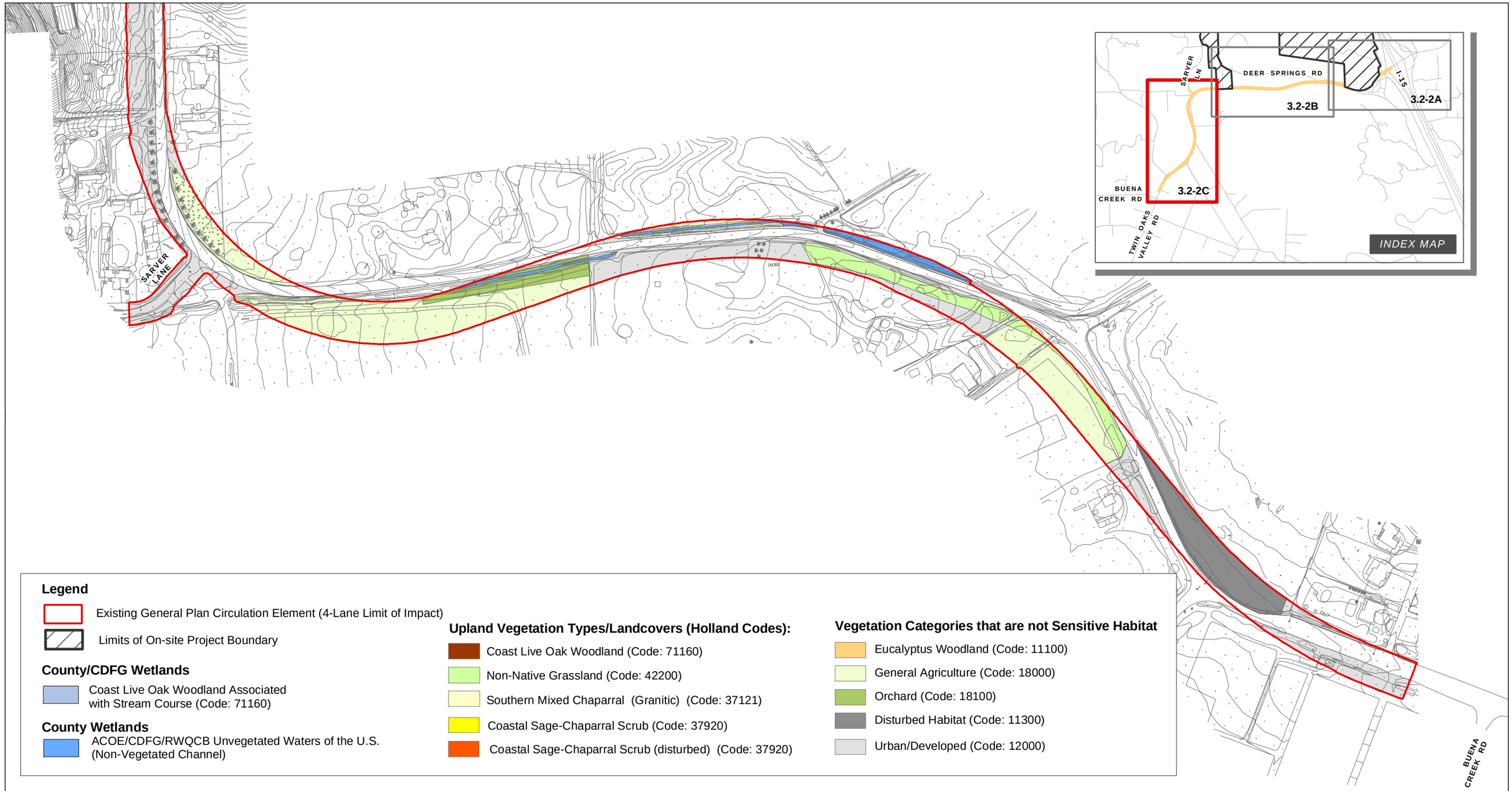
Biological Resources Map - Off-Site Deer Springs Road Impact Area

FIGURE 3.2-2B

MERRIAM MOUNTAINS SPECIFIC PLAN EIR

0 150 300 600 Feet

N



County Wetlands/Vegetation & Species Data Source: Pacific Southwest Biological Services, Inc. & Dudek

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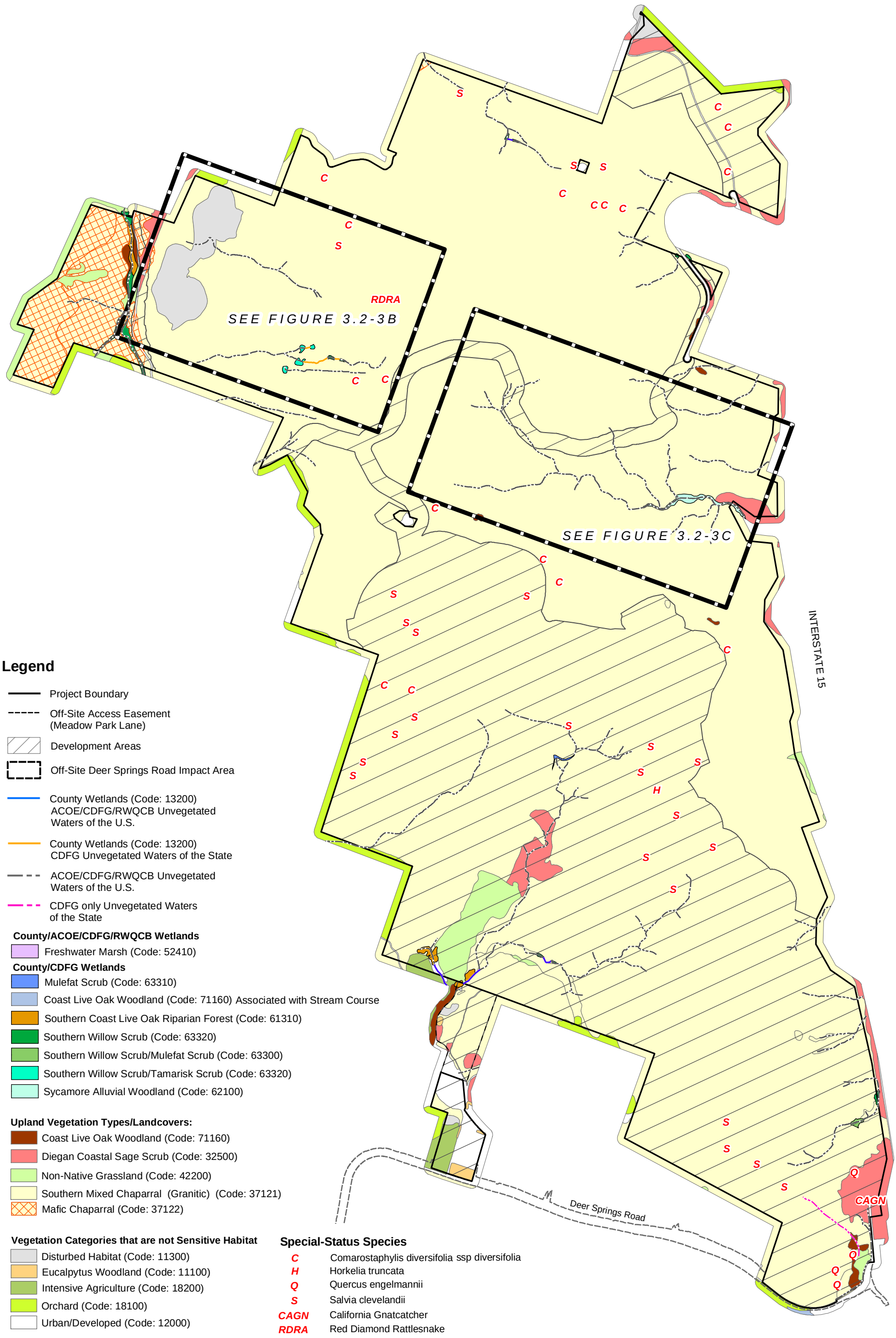
Biological Resources Map - Off-Site Deer Springs Road Impact Area

FIGURE 3.2-2C

MERRIAM MOUNTAINS SPECIFIC PLAN EIR

0 150 300 600
Feet

N



County Wetlands/Vegetation & Species Data Source: Pacific Southwest Biological Services, Inc.

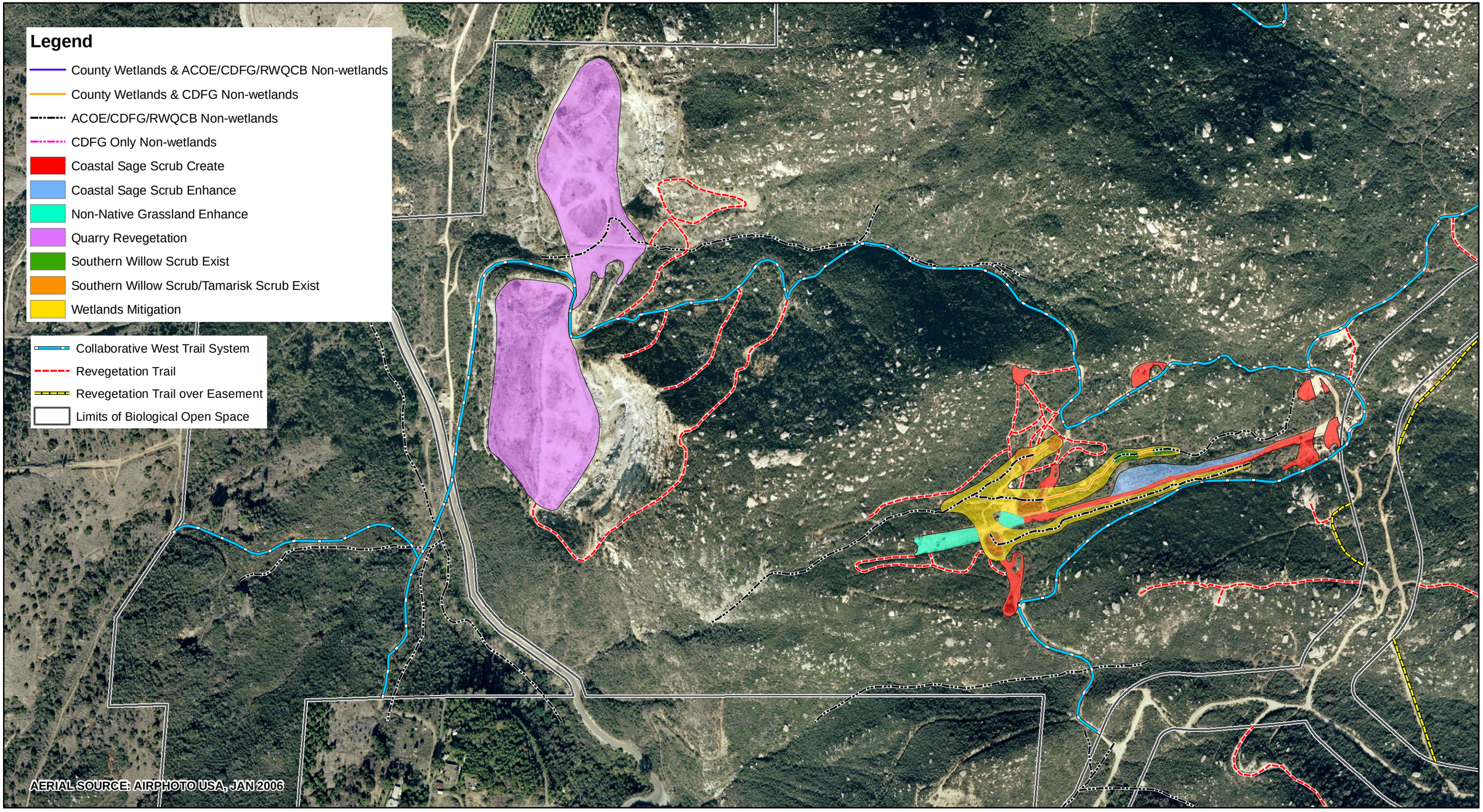
Wetlands and Uplands On-Site Mitigation Conceptual Revegetation Plan Index

FIGURE 3.2-3A

MERRIAM MOUNTAINS SPECIFIC PLAN EIR

0 0.125 0.25 0.5 Miles

N



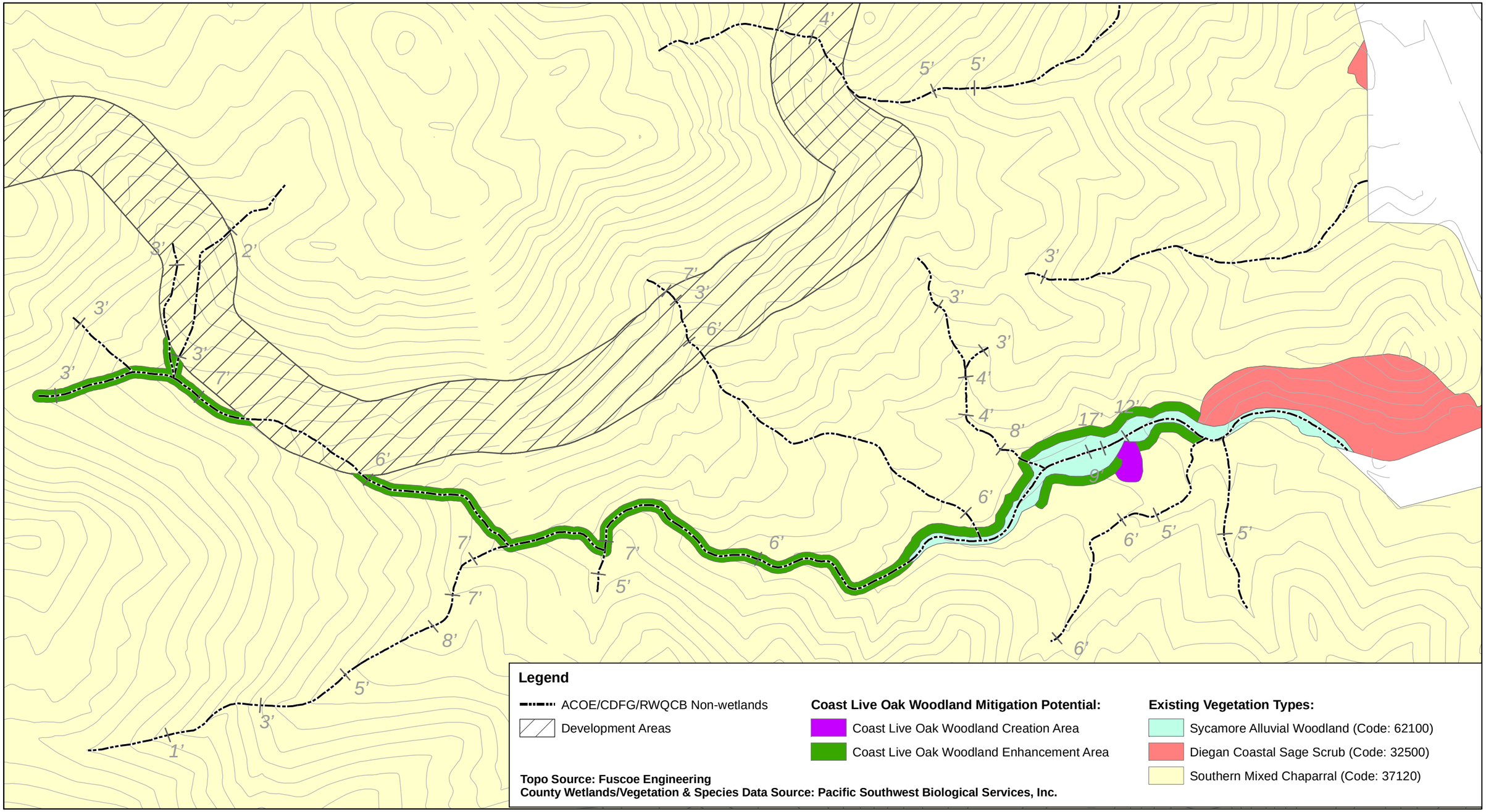
Willow Scrub Wetlands and Coastal Sage Scrub/Chaparral Uplands Revegetation at Abandoned Airstrip and Quarry

FIGURE
3.2-3B

MERRIAM MOUNTAINS
SPECIFIC PLAN EIR

0 200 400 800 Feet

N



Coast Live Oak Woodland Mitigation Potentials at Main On-site Open Space Drainage

FIGURE
3.2-3C

MERRIAM MOUNTAINS
SPECIFIC PLAN EIR

0 150 300 600 Feet

N