above, non-native vegetation in the study area is comprised of plant species such as Peruvian peppertree (*Schinus molle*) and tree of heaven (*Ailanthus altissima*). It appears that these trees were purposely planted around a former home site and may have spread to other small areas of the study area. Non-native vegetation also occurs around a residence in the southwestern corner of the study area. Approximately 0.8 acre of non-native vegetation is mapped on site.

Disturbed Habitat

Disturbed habitat includes areas in which the vegetative cover comprises less than 10 percent of the surface area (disregarding natural rock outcrops) and where there is evidence of soil surface disturbance. Disturbed habitat supports a predominance of non-native and/or weedy species that are indicators of such surface disturbance (County 2010b). Disturbed habitat in the study area includes unvegetated areas such as dirt roads and areas of eroded land vegetated by non-native sparse arrangements of grasses and forbs. Disturbed habitat also occurs along Country Club Drive and adjacent to residences. Approximately 3.6 acres of disturbed habitat are mapped on site.

Urban/Developed

Urban/developed land includes areas that have been constructed upon or otherwise covered with a permanent, unnatural surface and may include, for example, structures, pavement, irrigated landscaping, or hardscape to the extent that no natural land is evident. These areas no longer support native or naturalized vegetation (County 2010b). Urban/developed land in the study area consists of Country Club Drive, Harmony Grove Road, residential properties, paved access to residential properties, and graveled access to a beekeeping area. Approximately 0.9 acre of urban/developed land is mapped on site.

Diegan Coastal Sage Scrub (including Disturbed)

Coastal sage scrub is one of the two major shrub types that occur in southern California, occupying xeric sites characterized by shallow soils (the other is chaparral). Diegan coastal sage scrub may be dominated by a variety of species depending upon soil type, slope, and aspect. Typical species found within Diegan coastal sage scrub include California sagebrush (*Artemisia californica*), California buckwheat, laurel sumac (*Malosma laurina*), lemonadeberry (*Rhus integrifolia*), white sage (*Salvia apiana*), and black sage (*Salvia mellifera*; Holland 1986). Disturbed Diegan coastal sage scrub contains many of the same shrub species as undisturbed Diegan coastal sage scrub, but is sparser and has a higher proportion of non-native, annual species. The total amount of coastal sage scrub reported in the Draft MSCP North County Plan area is 29,888 acres, of which, 23,463 acres are located within areas designated as PAMA (County 2009).

Dominant species in the Diegan coastal sage scrub within the study area include California buckwheat and black sage. The habitat generally occurs in a patchy and fragmented distribution in the northern half of the study area, as relatively small isolated stands and stands that intergrade with adjacent chaparral. In general, the stands that occur in the southern-central and western portions of the site are of low quality and "Low Value" in accordance with the Southern

California Coastal Sage Scrub Natural Community Conservation Planning (NCCP) Conservation Guidelines and Logic Flow Chart (CDFW 1993a, 1993b). There is also a single patch of disturbed coastal sage scrub on the south side of Escondido Creek considered low quality and value due to its sparseness and species composition. The stands that occur in the northern, central, and eastern portions of the site are of moderate quality and "Intermediate Value" in accordance with the NCCP Conservation Guidelines and Logic Flow Chart due to their size, location, species composition, and function. Approximately 10.9 acres of Diegan coastal sage scrub are mapped on site, including 4.6 acres of Low Value and 6.3 acres of Intermediate Value scrub. This represents less than 0.10 percent (0.04 percent) of the total amount reported in the Draft MSCP North County Plan area.

Coastal Sage-Chaparral Transition

Coastal sage-chaparral transition is a mixture of sclerophyllous chaparral shrubs and drought-deciduous sage scrub species regarded as an ecotone (transition) between two vegetation communities. This singular community contains floristic elements of both communities in the study area including California buckwheat, black sage, California sagebrush, San Diego honeysuckle (*Lonicera subspicata* var. *denudata*), and chamise (*Adenostoma fasciculatum*). This community occurs in the northwestern portion of the study area between Diegan coastal sage scrub and southern mixed chaparral. The total amount of coastal sage scrub/chaparral reported in the Draft MSCP North County Plan area is 5,179 acres, of which, 4,040 acres are located within areas designated as PAMA (County 2009). Approximately 4.5 acres of coastal sage-chaparral transition are mapped on site, which represents less than 0.10 percent (0.09 percent) of the total amount reported in the Draft MSCP North County Plan area.

Southern Mixed Chaparral

Southern mixed chaparral is typically found on granitic soils and is composed of broad-leaved, sclerophyllous shrubs that can reach 6 to 10 feet in height and form dense, often nearly impenetrable stands with poorly developed understories. Depending upon relative proximity to the coast, characteristic species may include, for example, chamise, Ramona ceanothus (*Ceanothus tomentosus*), Nuttall's scrub oak (*Quercus dumosa*), toyon (*Heteromeles arbutifolia*), mission manzanita (*Xylococcus bicolor*), sugar bush (*Rhus ovata*), spiny redberry, bushrue (*Cneoridum dumosum*), and San Diego honeysuckle (Holland 1986). Dominant species in this vegetation community in the study area include black sage and mountain mahogany (*Cercocarpus betuloides*). Other shrubs present in the study area include Ramona ceanothus, mission manzanita, sugar bush, toyon, chamise, spiny redberry, scrub oak (*Quercus berberidifolia*), saw-toothed goldenbush (*Hazardia squarrosa* var. *grindelioides*), bushrue, and San Diego honeysuckle. Southern mixed chaparral in the study area is located around the southern and eastern edges of the study area. Approximately 46.8 acres of southern mixed chaparral are mapped on site.

Portions of this vegetation community were preliminarily classified as mafic southern mixed chaparral where the NRCS has roughly mapped Las Posas fine and stony fine sandy loams. Because the results of the geotechnical investigations of the site and initial botanical inventory did not strongly agree with the USDA soils mapping, further investigation was conducted to

more definitively classify the vegetation. On January 13, 2016, HELIX biologists collected data at four points within southern mixed chaparral: two in areas mapped as Las Posas soils and two in areas mapped as Cieneba-Fallbrook rocky sandy loam. Upon visiting sites 1 and 4, which represented sites in areas mapped as Las Posas soils, it was evident that the soil did not have the characteristic red color and other visible attributes expected from mafic soils. There was a small patch of red soil to the north of site 1, but this area had been heavily disturbed and did not have sufficient vegetation cover to classify the vegetation type.

Each sampling point was evaluated using the CNPS and CDFW Combined Vegetation Rapid Assessment and Relevé Field Form (Appendix M). For comparison purposes, the results were classified according to the Vegetation Classification Manual for Western San Diego County. Site 1, located in the northeast portion of the site in an area mapped as Las Posas stony fine sandy loam, was identified as Adenostoma fasciculatum – Xylococcus bicolor association. Sites 2 and 3, in the central part of the site mapped as Cieneba-Fallbrook rocky sandy loam, were identified as Adenostoma fasciculatum – Xylococcus bicolor – Ceanothus verrucosus association. Site 4, in the central portion of the site in an area mapped as Las Posas fine sandy loam, was identified as Ceanothus verrucosus association. This shows that the presence or absence of Las Posas soils was not the determining factor in the vegetation association, since the two sites on Las Posas soils were less similar to each other than they were to the sites on granitic soil.

None of the on-site chaparral vegetation met the definition of mafic southern mixed chaparral in Oberbauer (2008). Mafic chaparral is described as dominated by chamise and Cleveland sage (*Salvia clevelandii*). Three of the four sample sites supported chamise, but Cleveland sage was not observed anywhere on the project site. Chamise is not a mafic indicator species since it is also common in granitic southern mixed chaparral and other chaparral types. The other indicator species associated with mafic southern mixed chaparral are Parry's tetracoccus (*Tetracoccus dioicus*), beargrass (*Nolina interrata* and *cismontana*), Peninsular manzanita (*Arctostaphylos peninsularis*), felt-leaf monardella (*Monaredella hypoleuca* var. *lanata*), and fire reedgrass (*Calamagrostis koeleriodes*). None of these mafic indicator species were observed on site. By contrast, the on-site chaparral supports 10 of the 19 characteristic species for granitic southern mixed chaparral: chamise, Ramona ceanothus, wart-stemmed ceanothus (*Ceanothus verrucosus*), spice-bush (*Cneoridium dumosum*), toyon, southern honeysuckle (*Lonicera subspicata*), laurel sumac, spiny redberry (*Rhamnus crocea*), sugar bush, and mission manzanita. Wart-stemmed ceanothus is also a dominant species in southern maritime chaparral, but the site lacks Del Mar manzanita (*Arctostaphylos glandulosa* ssp. *crassifolia*), which is co-dominant with wart-stemmed ceanothus in southern maritime chaparral. Further, the site is not located within the coastal fog belt or on weathered sands, and does not support characteristic maritime species such as San Diego sea dahlia (*Coreopsis maritima*) or Torrey pine (*Pinus torreyana*). Therefore, the on-site chaparral is more correctly classified as southern mixed chaparral than southern maritime chaparral.

Finally, the vegetation composition of the on-site chaparral is substantially consistent with the composition of chaparral immediately off site to the south in the Del Dios Highlands Preserve. The following is reported in the County's Resource Management Plan (2011b) for the Del Dios Highlands Preserve: "Wart-stemmed ceanothus (*Ceanothus verrucosus*) and mission manzanita (*Xylococcus bicolor*) are co-dominant in the southern mixed chaparral on site. Other species

characteristic of southern mixed chaparral within the Preserve include Eastwood manzanita (*Arctostaphylos glandulosa* ssp. *glandulosa*), chamise (*Adenostoma fasciculatum*), laurel sumac (*Malosma laurina*), toyon (*Heteromeles arbutifolia*), mountain mahogany (*Cerocarpus minutiflorus*), holly-leaved cherry (*Prunus ilicifolia* ssp. *ilicifolia*), summer holly (*Comarostaphylis diversifolia* ssp. *diversifolia*), and Ramona lilac (*Ceanothus tomentosus*). Unique for this region is also the occurrence of the rare Encinitas baccharis (*Baccharis vanessae*)." The chaparral type on Del Dios Highlands Preserve, which occurred on Cieneba-Fallbrook, San Miguel-Exchequer, and Las Posas soils, was classified as southern mixed chaparral. There was no mafic or maritime chaparral identified by the County within the Del Dios Highlands Preserve.

For the reasons detailed above, the on-site chaparral was classified and mapped according to its observed vegetation composition rather than the NRCS soil mapping, and was determined to most closely match granitic southern mixed chaparral, not mafic southern mixed chaparral or southern maritime chaparral.

Non-native Grassland

Non-native grassland is a mixture of annual grasses and broad-leaved, herbaceous species. Annual species comprise from 50 percent to more than 90 percent of the vegetative cover, and most annuals are non-native species. Non-native grasses typically comprise at least 30 percent of the vegetative cover, although this percentage can be much higher in some years and lower in others, depending on land use and climatic conditions. Usually, the grasses are less than 3 feet in height and form a continuous or open cover. Emergent shrubs and trees may be present but do not comprise more than 15 percent of the total cover (County 2010b). Most of the non-native grasses originated from the Mediterranean region, an area with a long history of agriculture and a climate similar to California. In the study area, non-native grassland is dominated by common ripgut grass (*Bromus diandrus*) and oats (*Avena* sp.). A variety of other non-native grasses and forbs are also present. The total amount of non-native grassland reported in the Draft MSCP North County Plan area is 22,355 acres, of which, 14,841 acres are located within areas designated as PAMA (County 2009). Non-native grassland occurs throughout the northern half of the study area. Approximately 42.4 acres of non-native grassland are mapped on site, which together represent less than 1.0 percent (0.19 percent) of the total amount reported in the Draft MSCP North County Plan area.

Southern [Willow] Riparian Forest

Southern riparian forests are composed of winter-deciduous trees (such as willows [*Salix* spp.], Fremont cottonwood [*Populus fremontii*], and western sycamore (*Platanus racemosa*]) that require water near the soil surface. The canopies of individual tree species overlap so that a canopy cover of 100 percent may occur in the upper tree stratum. The southern riparian forest in the study area is dominated by willows, so it has been labeled southern [willow] riparian forest. Dominant species observed in this vegetation community in the study area include red willow (*Salix laevigata*), arroyo willow (*S. lasiolepis*), black willow (*S. gooddingii*), and Fremont cottonwood. Other species include mule fat (*Baccharis salicifolia*), cattail (*Typha* sp.), and great marsh evening-primrose (*Oenothera elata* ssp. *hookeri*). Approximately 0.71 acres of southern

willow riparian forest associated with Escondido Creek are mapped in the off-site portion of the study area.

Mule Fat Scrub

Mule fat scrub is a depauperate, shrubby, riparian scrub community dominated by mule fat and interspersed with small willows. This vegetation community occurs along intermittent stream channels with a fairly coarse substrate and moderate depth to the water table. This early seral community is maintained by frequent flooding, the absence of which could lead to a riparian woodland or forest (Holland 1986). In some environments, limited hydrology may favor the persistence of mule fat. Mule fat scrub in the study area occurs as a very small patch of mule fat along Escondido Creek. Approximately 0.01 acre of mule fat scrub associated with Escondido Creek is mapped in the off-site portion of the study area.

Coast Live Oak Woodland

Coast live oak woodland is an evergreen woodland community, dominated by coast live oak (*Quercus agrifolia*) trees that may reach a height of 35 to 80 feet. The shrub layer may consist of plant species such as toyon, Mexican elderberry (*Sambucus mexicana*), fuchsia-flowered gooseberry (*Ribes speciosum*), or laurel sumac. Other species may also be present such as poison oak (*Toxicodendron diversilobum*), monkeyflower (*Mimulus aurantiacus*), Pacific pea (*Lathyrus vestitus*), and chickweed (*Stellaria media*). This community typically occurs on north-facing slopes and in shaded ravines (Holland 1986). Coast live oak is the dominant species in this community in the study area. Approximately 0.9 acre of coast live oak woodland occurs in gullied uplands along an ephemeral drainage in the southwestern portion of the site.

Eucalyptus Woodland

Eucalyptus woodland is dominated by eucalyptus (*Eucalyptus* sp.), an introduced genus that produces a large amount of leaf and bark litter. The chemical and physical characteristics of this litter, combined with the shading effects of the trees, limit the ability of other species to grow in the understory, and floristic diversity decreases. If sufficient moisture is available, eucalyptus becomes naturalized and is able to reproduce and expand its cover. Eucalyptus woodland occurs around a residence in the southwestern portion of the study area. Approximately 0.3 acre of this habitat type is mapped on site.

1.4.6 Flora

HELIX identified a total of ~~124~~ 127 plant species in the study area, of which 42 (~~34~~ 33 percent) are non-native species (Appendix A).

1.4.7 Fauna

A total of ~~87~~ 97 animal species were observed or otherwise detected in the study area during the biological surveys, including ~~14~~ 23 invertebrate, 2 reptile, ~~66~~ 67 bird, and 5 mammal species (Appendix B).

1.4.8 Sensitive Vegetation Communities/Habitat Types

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

Sensitive vegetation communities/habitat types mapped in the study area include Diegan coastal sage scrub (including disturbed), coastal sage-chaparral transition, southern mixed chaparral, non-native grassland, southern [willow] riparian forest, mule fat scrub, and coast live oak woodland. Non-native vegetation, disturbed habitat, urban/developed, and eucalyptus woodland do not meet the definition of sensitive.

1.4.9 Special Status Plant Species

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

Special Status Plant Species Observed

Five special status plant species were observed in the study area, as listed below in alphabetical order by common name. Each is also described below and shown on Figure 8.

Ashy spike-moss (*Selaginella cinerascens*)
Status: CNPS Rare Plant Rank 4.1; County List D (Appendix E)
Distribution: Orange and San Diego counties; northwestern Baja California, Mexico.
Habitat(s): This perennial, rhizomatous herb can be found on flat mesas in coastal sage scrub and chaparral.
Presence in the Study Area: Four patches of ashy spike-moss, ranging in size from one to 14 square feet, were found in southern mixed chaparral in the southern-central portion of the study area.

San Diego sagewort (*Artemisia palmeri*)
Status: CNPS Rare Plant Rank 4.2; County List D (Appendix E).
Distribution: Coastal San Diego County; Baja California, Mexico.
Habitat(s): This perennial deciduous shrub that may bloom from February to September can be found along stream courses, often within coastal sage scrub or southern mixed chaparral.

Presence in the Study Area: San Diego sagewort was observed in two locations in coast live oak woodland, and three were observed in southern mixed chaparral. All locations were in the southwestern portion of the study area.

Southwestern spiny rush (*Juncus acutus* ssp. *leopoldii*)
Status: CNPS Rare Plant Rank 4.2; County List D (Appendix E).
Distribution: Los Angeles, San Bernardino, San Luis Obispo, Ventura, and San Diego counties; Baja California, Mexico.
Habitat(s): Moist, saline, or alkaline soils in coastal salt marshes and riparian marshes are the preferred habitats of this perennial, rhizomatous herb that may bloom from March to June.
Presence in the Study Area: A single individual of southwestern spiny rush was observed in the study area near the Country Club Drive crossing of Escondido Creek.

Summer holly (*Comarostaphylis diversifolia* ssp. *diversifolia*)
Status: CNPS Rare Plant Rank 1B.2; County List A. This species is proposed as a Covered Species under the Draft North County Plan (Appendix E).
Distribution: Orange, Riverside, and San Diego counties south into Baja California, Mexico.
Habitat(s): This perennial evergreen shrub that may bloom from April to June occurs on mesic north-facing slopes in southern mixed chaparral. Rugged steep drainages seem to be a preferred location for isolated individuals.
Presence in the Study Area: A total of 27 summer holly individuals occur on site, most of them in the southern portions of the study area.

Wart-stemmed ceanothus (*Ceanothus verrucosus*)
Status: CNPS Rare Plant Rank 2B.2; County List B. This species is proposed as a Covered Species under the Draft North County Plan (Appendix E).
Distribution: Western San Diego County and adjacent Baja California, Mexico.
Habitat(s): This perennial evergreen shrub that may bloom from December to May occurs in chaparral.
Presence in the Study Area: The study area supports an estimated 23,113 wart-stemmed ceanothus. A major population of approximately 21,150 wart-stemmed ceanothus individuals occurs in the southern portions of the study area.

Special Status Plant Species with Potential to Occur

Special status plant species that were not observed but may have potential to occur in the study area are listed in Appendix C. There are no special status plant species with a high potential to occur on site.

1.4.10 Special Status Animal Species

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

Special Status Animal Species Observed or Otherwise Detected

Thirteen special status animal (bird) species have been observed or detected in the study area. Each species is listed below in alphabetical order by common name, is described, and is shown on Figure 8.

American peregrine falcon (*Falco peregrinus anatum*)
Status: Federal Bird of Conservation Concern; State Fully Protected; County Group 1 (Appendix E).
Distribution: Rare in San Diego County year-round but more abundant near the coast and in winter.
Habitat(s): Generally, areas with cliffs near water where prey (shorebirds and ducks) is concentrated. Preferred hunting areas are agricultural fields, meadows, marshes, and lakes. Nesting usually occurs on cliff ledges or in a scrape in debris and occasionally in the old nests of other birds.
Presence in the Study Area: Two individual American peregrine falcons were observed flying over the eastern portion of the study area on a single occasion during the 2014 surveys.

Barn owl (*Tyto alba*)
Status: County Group 2 (Appendix E).
Distribution: Occurs throughout much of San Diego County.
Habitat(s): Woodland habitats and open areas with trees or other structures that can offer shelter.
Presence in the Study Area: One barn owl was observed roosting in a Peruvian pepper tree (*Schinus molle*) on a single occasion during the 2014 surveys.

Coastal California Gnatcatcher (*Polioptila californica californica*)
Status: Federal Listed Threatened; State Species of Special Concern; County Group 1. This species is proposed as a Covered Species under the Draft North County Plan (Appendix E).
Distribution: In San Diego County, occurs throughout coastal lowlands.
Habitat(s): Coastal sage scrub, coastal bluff scrub, and coastal sage-chaparral scrub.
Presence in the Study Area: During the protocol survey, one pair of coastal California gnatcatcher was observed moving among patches of Diegan coastal sage scrub and building a nest in an area of Diegan coastal sage scrub and southern mixed chaparral. The nest was being constructed in chamise approximately 2.5 feet off the ground. In addition, on two occasions during site visits performed outside of the breeding season, a gnatcatcher was incidentally detected by call moving through the southern mixed chaparral in the southern/central portion of the site proposed as biological open space for the project.

Great blue heron (*Ardea herodias*)
Status: County Group 2 (Appendix E).
Distribution: Occurs throughout San Diego County.
Habitat(s): Wetland habitats, but can be observed foraging away from water.
Presence in the Study Area: One great blue heron was observed in Escondido Creek on a single occasion during the 2014 surveys.

Green heron (*Butorides virescens*)
Status: County Group 2 (Appendix E).
Distribution: In San Diego County, most widespread in the northern part of coastal lowlands.
Habitat(s): Small ponds in the northern part of the County or major rivers and lakes in the southern part (Unitt 2004).
Presence in the Study Area: One green heron was observed in Escondido Creek on a single occasion during the 2014 surveys.

Least Bell's vireo (*Vireo bellii pusillus*)
Status: Federal Listed Endangered; State Listed Endangered; County Group 1. This species is proposed as a Covered Species under the Draft North County Plan (Appendix E).
Distribution: Observed throughout coastal southern California in the breeding season, south of Santa Barbara, but in smaller numbers in foothills and mountains.
Habitat(s): Riparian woodland, riparian forest, mule fat scrub, and southern willow scrub.
Presence in the Study Area: A single, unpaired, male least Bell's vireo was observed in Escondido Creek, primarily using habitat immediately east of Country Club Drive, during seven of the eight site visits (Figure 8). A male and female least Bell's vireo were observed on May 21, 2014 immediately west of Country Club Drive; however, those individuals were only observed on that one occasion and were not suspected to be breeding, although suitable breeding habitat occurs. A fourth least Bell's vireo was audible on two occasions at the far western portion of the survey area. It is believed that a temporary influx of least Bell's vireo into the survey area followed the mid-May 2014 "Cocos Fire" that likely displaced birds in the surrounding area.

Northern harrier (*Circus cyaneus*)
Status: State Species of Special Concern; County Group 1. This species is proposed as a Covered Species under the Draft North County Plan (Appendix E).
Distribution: In San Diego County, distribution primarily scattered throughout lowlands but can also be observed in foothills, mountains, and desert.
Habitat(s): Open grassland and marsh
Status on site: One northern harrier was observed flying low over chaparral in the central portion of the site on a single occasion during the 2016 field work.

Red-shouldered hawk (*Buteo lineatus*)
Status: County Group 1 (Appendix E).
Distribution: In San Diego County, observed throughout coastal slope.
Habitat(s): Riparian woodland, oak woodland, orchards, eucalyptus groves, or other areas with tall trees.
Presence in the Study Area: A single red-shouldered hawk was observed in perch and calling near Escondido Creek on a single occasion during the 2014 surveys.

Turkey vulture (*Cathartes aura*)
Status: County Group 1 (Appendix E).
Distribution: Observed throughout San Diego County with the exception of extreme coastal San Diego where development is heaviest.

Habitat(s): Foraging habitat includes most open habitats with breeding occurring in crevices among boulders.
Presence in the Study Area: Two turkey vultures were observed on separate occasions during the 2014 surveys soaring over coastal sage scrub and chaparral in the central and southern portions of the study area.

Western bluebird (*Sialia mexicana*)
Status: County Group 2 (Appendix E).
Distribution: Occurs throughout much of San Diego County but concentrated in foothills and mountains.
Habitat(s): Open woodlands and areas where meadows or grasslands occur among groves of oak or pine.
Presence in the Study Area: Western bluebird was observed flying over non-native grassland adjacent to Country Club Drive on two occasions during the 2014 surveys.

White-tailed kite (*Elanus leucurus*)
Status: State Fully Protected; County Group 1 (Appendix E).
Distribution: Found year-round primarily within lowlands of California west of the Sierra Nevada range and southeastern deserts.
Habitat(s): Riparian woodlands and oak or sycamore groves adjacent to grassland.
Presence in the Study Area: One white-tailed kite was observed flying over the northwestern portion of the study area on a single occasion during the 2014 surveys.

Yellow-breasted chat (*Icteria virens*)
Status: State Species of Special Concern; County Group 1. This species is proposed as a Covered Species under the Draft North County Plan (Appendix E).
Distribution: Occurs throughout San Diego County's coastal lowlands in the breeding season.
Habitat(s): Mature riparian woodland.
Presence in the Study Area: Yellow breasted chat was observed in Escondido Creek during the 2014 surveys.

Yellow warbler (*Setophaga petechia*)
Status: Federal Bird of Conservation Concern, State Species of Special Concern; County Group 2 (Appendix E).
Distribution: Observed throughout California during the breeding season with rare sightings in winter.
Habitat(s): Riparian woodland, riparian forest, mule fat scrub, and southern willow scrub.
Presence in the Study Area: Yellow warbler was observed in Escondido Creek during the 2014 surveys.

Special Status Animal Species with Potential to Occur

Special status animal species that were not observed but may have potential to occur in the study area are listed in Appendix D. The 20 additional special status animal species that were not observed but still are considered to have a high potential to occur in the study area are coast horned lizard (*Phrynosoma blainvillii*), coast patch-nosed snake (*Salvadora hexalepis virgultea*),

coastal whiptail (*Aspidoscelis tigris stejnegeri*), Coronado skink (*Plestiodon skiltonianus interparietalis*), red diamond rattlesnake (*Crotalus ruber*), orange-throated whiptail (*Aspidoscelis hyperythra*), California horned lark (*Eremophila alpestris actis*), Cooper's hawk (*Accipiter cooperi*), ferruginous hawk (*Buteo regalis*), grasshopper sparrow (*Ammodramus savannarum*), loggerhead shrike (*Lanius ludovicianus*), prairie falcon (*Falco mexicanus*), red-shouldered hawk (*Buteo lineatus*), sharp-shinned hawk (*Accipiter striatus*), southern California rufous-crowned sparrow (*Aimophila ruficeps canescens*), Dulzura California pocket mouse (*Chaetodipus californicus femoralis*), northwestern San Diego pocket mouse (*Chaetodipus fallax fallax*), San Diego black-tailed jackrabbit (*Lepus californicus bennettii*), San Diego desert woodrat (*Neotoma lepida intermedia*), and southern mule deer (*Odocoileus hemionus*).

In addition, ~~a~~ protocol Hermes copper butterfly *(Lycaena hermes)* surveys conducted in 2014 and 2017 ~~was~~ were negative, indicating the site is not occupied by the Hermes copper. This species does not currently have any federal or State sensitivity status, but is considered a County Group 1 sensitive species. It occurs in San Diego County, south of Fallbrook to northern Baja California, Mexico, within southern mixed chaparral and coastal sage scrub with mature specimens of its larval host plant, spiny redberry (*Rhamnus crocea*). The results of Hermes copper butterfly habitat mapping are included as Figure 9. Although not occupied, the site does support a limited amount of potential Hermes copper habitat as defined by the County guidelines; however, the potential for the species to colonize the site in the future is considered low. The nearest known Hermes copper butterfly location is 1.75 miles away to the southwest. Because the site is more than one mile from a known Hermes copper location, the negative survey results are valid for a period of three years in accordance with County guidelines.

Raptor Foraging

Several raptors were observed, on occasion, during the 2014 biological surveys. On most occasions, these raptors were observed flying and soaring over non-native grassland and chaparral within the study area or perching on taller trees in stands of non-native vegetation and riparian forest. Raptors observed during surveys include turkey vulture, barn owl, red-shouldered hawk, red-tailed hawk, peregrine falcon, American kestrel, northern harrier, and white-tailed kite.

The County (2010b) defines raptor foraging habitat as, "Land that is a minimum of 5 acres (not limited to project boundaries) of fallow or open areas with any evidence of foraging potential (i.e., burrows, raptor nests, etc.)." The non-native grassland in the study area is considered raptor foraging habitat based on this definition since it occupies greater than 40 acres, and it evidently supports burrows of common small mammals, namely, California ground squirrel. The use of the non-native grassland as foraging habitat for raptors observed during 2014 surveys is explained in greater detail below.

The turkey vulture is widespread through San Diego County and commonly observed soaring over rugged terrain and open areas, such as it was over the survey area during the 2014 surveys. The foraging value of the non-native grassland for turkey vulture is low considering this species is an opportunistic scavenger, feeding on carrion and other prey items that can be found over a wide variety of habitat types.

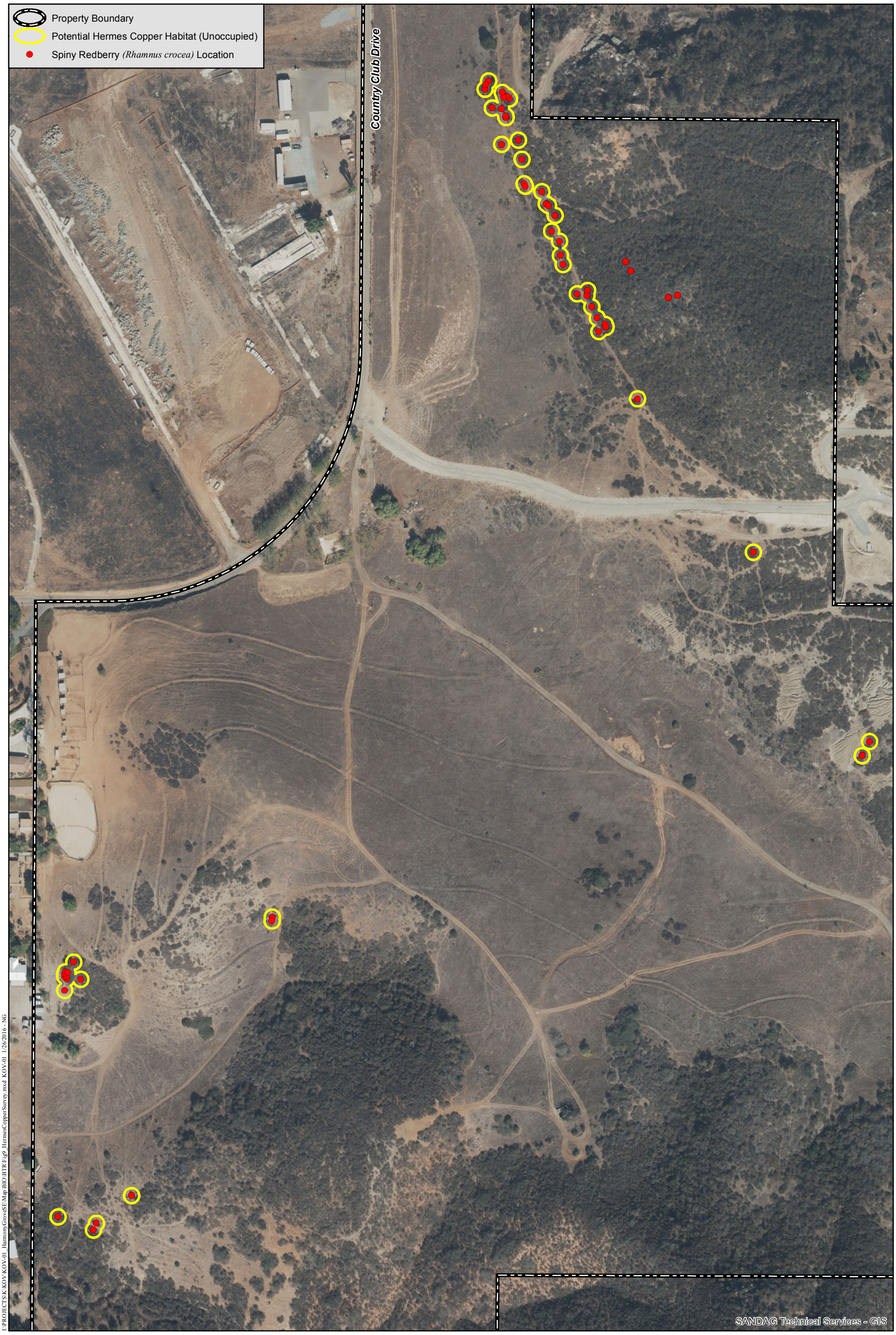
The barn owl is an uncommon resident in San Diego County. It requires open ground over which it can hunt and feeds primarily upon a variety of mice, rats, voles, pocket gophers, and ground squirrels (Zeiner et al. 1990b). Botta's pocket gopher (*Thomomys bottae)* and California ground squirrel were observed and detected in the study area, and the barn owl may forage there. Barn owls are "abundant" and "very common," respectively, in California, however (Zeiner et al. 1990a), and the species has likely benefited from the clearing of scrub and the erection of structures that accompany low-intensity development (Unitt 2004), as is evident in the local area. Clearing of scrub may benefit the pocket gopher and ground squirrel, and indeed, both of these species can be found in association with low-intensity development or other development with associated open space. They are known to damage slopes (through burrowing) and crops, other plantings, and irrigation systems through chewing and foraging for food (University of California 2014a, 2014b). Therefore, it would seem that ample prey and foraging opportunities for the barn owl occur within the study area.

The red-tailed hawk is the most widespread bird of prey in San Diego County and in the United States. The red-shouldered hawk is an uncommon resident of rural and urbanized areas of San Diego County, often found using within open woodlands in urbanized areas, such as that which exists in the immediate vicinity of the study area. Both species use any open area for foraging, despite disturbance, and will take advantage of small patches of undeveloped land, although they favor grasslands with scattered trees. Both species are known to tolerate considerable urbanization. Therefore, the non-native grassland in the study area, while used by the red-tailed hawk and red-shouldered hawk, could be utilized as foraging habitat for these two relatively common and widespread species.

The peregrine falcon is an uncommon resident of San Diego County that hunts on the wing, in flight, primarily for birds. According to the *San Diego County Bird Atlas*, the peregrine falcon typically stays near the coast during the breeding season, but extends inland during the winter (Unitt 2004). This species forages over a wide variety of habitat types for birds, and could use adjacent preserved lands. Because the species hunts on the wing over a wide variety of habitat types and primarily for birds, non-native grassland is not a habitat type that is characteristic of prime foraging habitat for this falcon. The non-native grassland in the study area, although suitable and evidently used by the peregrine falcon, is not essential to the species. American kestrel is a common and widespread falcon, well distributed across San Diego County. It eats mostly insects and other invertebrates, as well as small rodents and birds. The non-native grassland in the study area could be utilized as foraging habitat for the American kestrel.

The northern harrier is an uncommon resident of San Diego County that hunts on the wing, flying low over the ground. Prey include mostly small mammals and birds; also large insects, snakes, lizards, toads and frogs. The foraging value of the non-native grassland for northern harrier is probably low considering that this species was observed only once in all of the surveys conducted on the site. The harrier was observed in an area of chaparral. The non-native grassland in the study area could be utilized as foraging habitat for the northern harrier.

According to Unitt (2004), the white-tailed kite roosts communally, has a history of steep rises and falls in its population, and is concentrated on a single species of prey, the California vole



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Hermes Copper Butterfly Survey Results

HARMONY GROVE VILLAGE SOUTH

HELIX Environmental Planning

0 175 Feet

Figure 9

(*Microtus californicus*). While the white-tailed kite is found in the County year-round, its numbers vary with those of the California vole and the shifting of those communal roosts (Unitt 2004). The California vole is a widespread and common herbivore often found in grassland and meadow habitats with friable soil (Zeiner et al. 1990a), and while the California vole was not specifically observed or otherwise detected in the study area, it is very possible that it is present. No white-tailed kite roosts (or nests) were observed in the study area, and none have been observed during HELIX's biological monitoring of Escondido Creek upstream and downstream of the study area since 2012 (trees in Escondido Creek have the highest potential to support white-tailed kite roosting and nesting in the study area and vicinity). Habitats favoring California vole (e.g., ungrazed or lightly grazed grasslands, agriculture, and grass-dominated wetlands) support more white-tailed kites, and it may be that adequate foraging habitat adjacent to nest sites is important (Moore 2000). Based on checklists submitted to eBird.org, the white-tailed kite is more common at Lake Hodges than at the Del Dios Highlands Preserve adjacent to the site. The white-tailed kite was observed in one third of the 132 checklists submitted for the Lake Hodges-Del Dios hot spot, versus one quarter of the four checklists submitted for the Del Dios Highlands Preserve hot spot. Because the kite is known to use preserved lands in the area, it is not likely to be dependent on the project site for foraging habitat, although it could utilize the site for foraging. With respect to the study area's functions and values for kites, it can be concluded that: 1) the observation of a single white-tailed kite on a single occasion in the study area signifies that the non-native grassland may not support a high prey base of California vole; 2) the non-native grassland in the study area is not evidently used as a primary foraging area and is not associated with a consistent white-tailed kite nesting site in the local area; and/or 3) the non-native grassland in the study area does not appear to be essential to local populations of the species.

1.4.11 Jurisdictional Waters and Wetlands

Waters of the U.S./State

Potential waters of the U.S. under the jurisdiction of the USACE in the study area include wetland waters of the U.S. within Escondido Creek and non-wetland waters of the U.S. within the unnamed ephemeral tributaries to Escondido Creek in the southern portion of the study area (Table 2; Figure 10). The waters of the U.S. summarized below would also represent waters of the State subject to RWQCB jurisdiction pursuant to CWA Section 401. There are no isolated waters of the State subject to RWQCB jurisdiction, exclusively, pursuant to Porter-Cologne.

Table 2
WATERS OF THE U.S./STATE

USACE / RWQCB JURISDICTION	PROJECT SITE		OFF-SITE IMPACT AREAS	
	Area (acres)	Length (feet)	Area (acres)	Length (feet)
Wetland Waters of the U.S./State	--	--	0.33	237
Non-Wetland Waters of the U.S./State	0.15	4,814	0.02	50

TOTAL	**0.15**	**4,814**	**0.35**	**287**

Streambed and Riparian Habitat

Streambed and riparian habitat under the jurisdiction of the CDFW within the study area consists of mule fat scrub, southern willow riparian forest, coast live oak woodland, and unvegetated streambed as presented in Table 3 and shown on Figure 11.

Table 3
STREAMBED AND RIPARIAN HABITAT

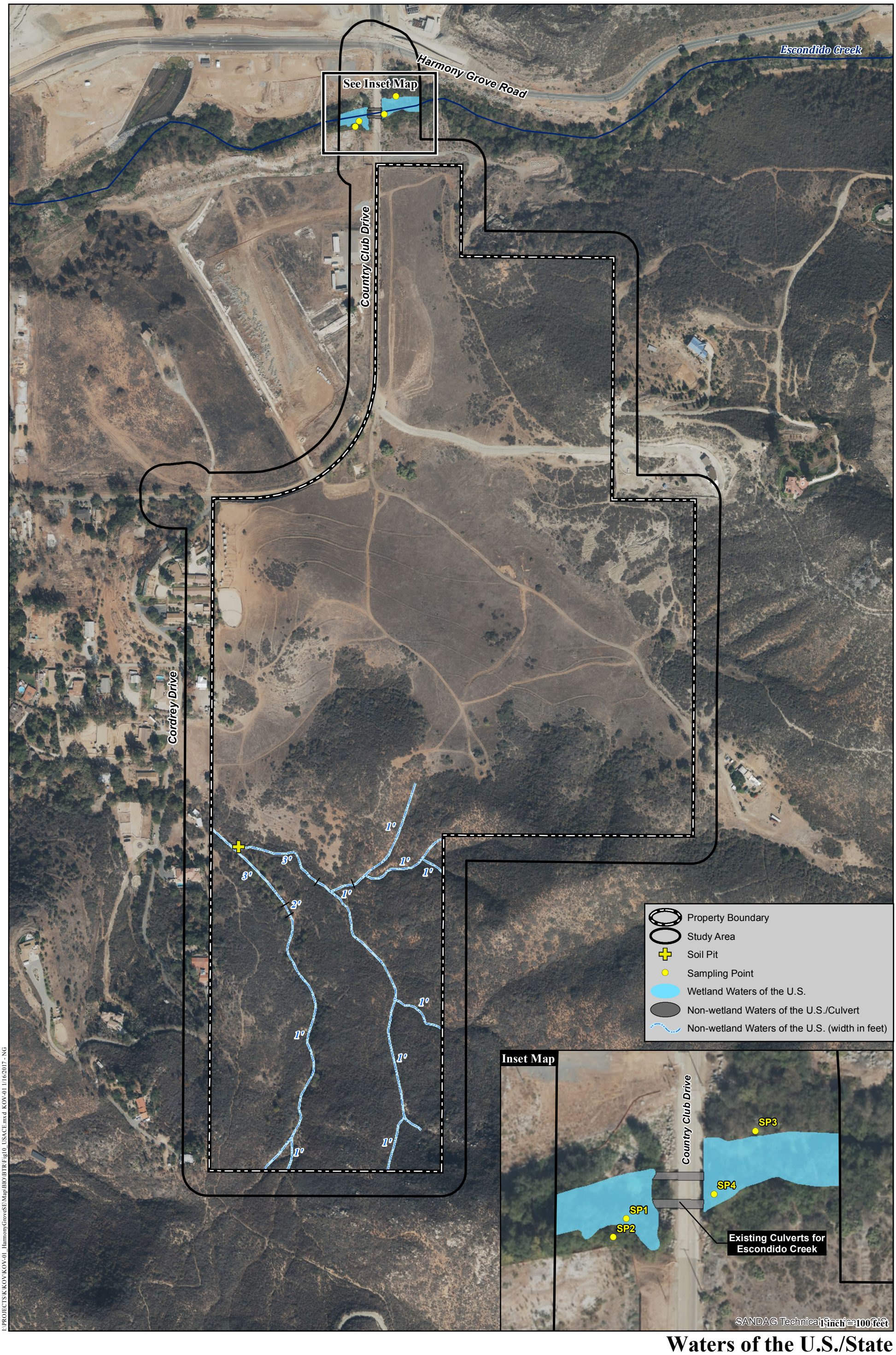
CDFW JURISDICTION	PROJECT SITE		OFF-SITE IMPACT AREAS	
	Area (acres)	**Length** (feet)	**Area** (acres)	**Length** (feet)
VEGETATED STREAMBED				
Mule fat scrub	--	--	0.01	0
Southern [willow] riparian forest	--	--	0.71	237
Coast live oak woodland	0.89	515	0.01	0
UNVEGETATED STREAMBED				
Streambed	0.19	4,250	0.02	50
TOTAL	**1.08**	**4,765**	**0.75**	**287**

County Resource Protection Ordinance Wetlands

Areas meeting the criteria to be considered County RPO wetlands (County 2011) in the study area include mule fat scrub and southern willow riparian forest (Table 4; Figure 12). The unnamed ephemeral drainage features in the southern portions of the study area do not meet the criteria to be considered County RPO wetlands, as detailed below.

Table 4
RPO WETLANDS

COUNTY JURISDICTION	PROJECT SITE	OFF-SITE IMPACT AREAS
	Area (acres)	**Area** (acres)
RPO WETLAND		
Mule fat scrub	--	<0.01
Southern [willow] riparian forest	--	0.71
Coast live oak woodland	--	0.01
TOTAL	**--**	**0.72**



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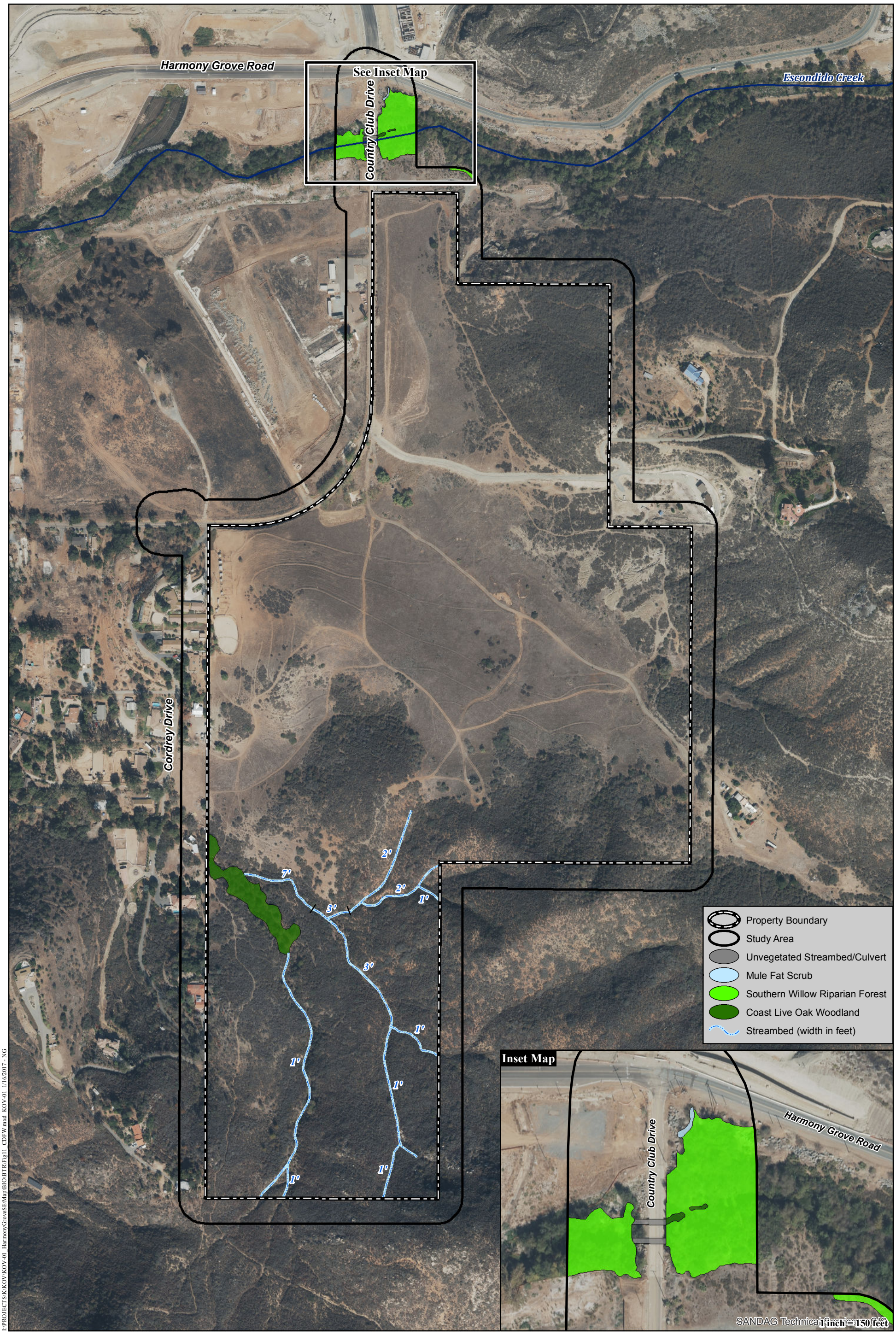
Waters of the U.S./State

HARMONY GROVE VILLAGE SOUTH

HELIX Environmental Planning

Figure 10



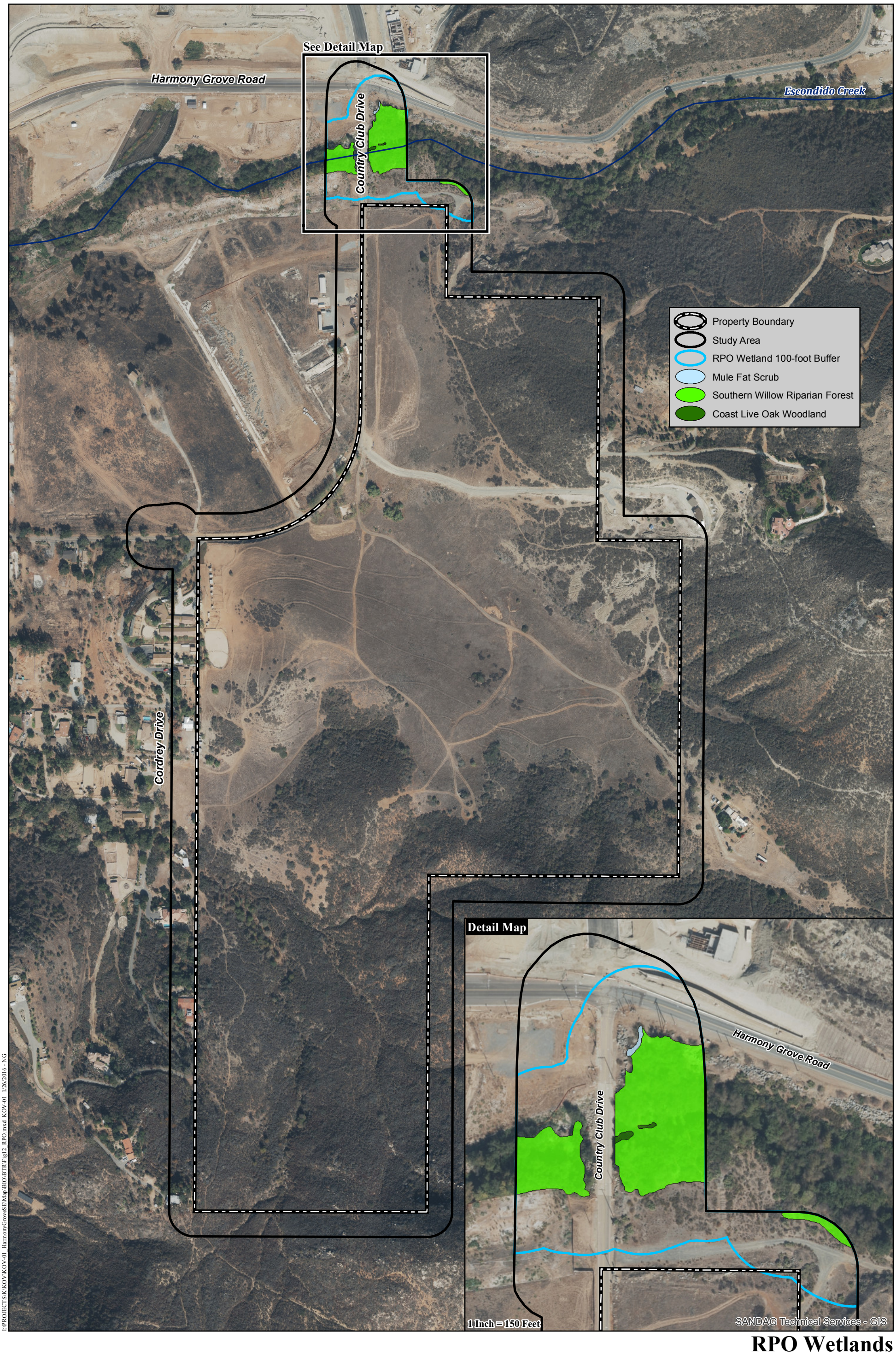
CDFW Jurisdiction

HARMONY GROVE VILLAGE SOUTH

HELIX Environmental Planning

0 350 Feet

Figure 11



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RPO Wetlands

HARMONY GROVE VILLAGE SOUTH

HELIX Environmental Planning

N 0 350 Feet

Figure 12

RPO wetlands are defined as lands having one or more of the following attributes:

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

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

- Lands which have attribute(s) specified above, solely due to man-made structures (e.g., culverts, ditches, road crossings, or agricultural ponds), provided that the Director of PDS determines that they:

    - Have negligible biological function or value as wetlands;
    - Are small and geographically isolated from other wetland systems;
    - Are not vernal pools; and
    - Do not have substantial or locally important populations of wetland dependent sensitive species.

- Lands that have been degraded by past legal land disturbance activities to the point that they meet the following criteria as determined by the Director of PDS:

    - Have negligible biological function or value as wetlands even if restored to the extent feasible; and,
    - Do not have substantial or locally important populations of wetland dependent sensitive species.

The southern portion of the study area supports several unnamed ephemeral tributaries to Escondido Creek. These drainage features drain off site and flow through several rural residential properties before discharging into a reach of Escondido Creek located further to the west of the study area. The drainages represent erosion features cut within the steep topography and upland landscape that characterizes the southern portions of the study area.

The drainage features occur within upland habitat types and do not support a predominance of hydrophytes. Where vegetation occurs, it is composed of upland trees, shrubs, and herbaceous grasses and forbs found in the chaparral and other upland habitat types that encompass the drainage features. The features do not meet this criterion in the RPO wetlands definition.

The drainage features are ephemeral and convey short duration, low volume flows. As such, the underlying soils are not inundated or saturated for sustained periods of time. The soils are sandy loams and non-hydric, including the area characterized by oak woodland, as confirmed by the soil pit evaluated on January 13, 2016 (Appendix L). The substratum is not predominantly undrained hydric soil. The features do not meet this criterion in the RPO wetlands definition.

The features are ephemeral and not perennial. The substratum is composed of non-hydric, sandy loam soil. The substratum is not predominately non-soil. The features drain off-site into rural residential properties before discharging into Escondido Creek further to the west. They do not contribute substantially to the biological functions or values of wetlands in the drainage system. As such, the drainages do not meet this criterion in the RPO wetlands definition.

1.4.12 Habitat Connectivity and Wildlife Corridors

Wildlife corridors connect otherwise isolated pieces of habitat and allow movement or dispersal of plants and animals. Local wildlife corridors allow access to resources such as food, water, and shelter within the framework of their daily routine. Regional corridors provide these functions over a larger scale and link two or more large habitat areas, allowing the dispersal of organisms and the consequent mixing of genes between populations. A corridor is a specific route that is used for the movement and migration of species, and may be different from a linkage in that it represents a smaller or narrower avenue for movement. A linkage is an area of land that supports or contributes to the long-term movement of animals and genetic exchange by providing live-in habitat that connects to other habitat areas. Many linkages occur as stepping-stone linkages that are comprised of a fragmented archipelago arrangement of habitat over a linear distance.

Important corridors and linkages have been identified on a local and regional scale throughout the Multiple Habitat Conservation Program (MHCP) in northwestern San Diego County (covering the cities of Carlsbad, Encinitas, Escondido, Oceanside, San Marcos, Solana Beach, and Vista; AMEC Earth & Environmental et al. 2003) and the County MSCP (County 1998). The planning objectives of most corridors and linkages in western San Diego County include establishing a connection between the northern and southern regional populations of the coastal California gnatcatcher, in addition to facilitating movement and connectivity of habitat for large mammals and riparian bird species.

The study area occurs within lands identified as PAMA under the Draft MSCP North County Plan (Figure 4). It also occurs in the general vicinity of lands identified as Core Area, outside of Linkage Area, in the Plan. PAMA in the region is based on the core and linkage concept of landscape-level conservation. The configuration of preserve lands includes large, contiguous areas of habitat supporting important species populations or habitat areas and important functional linkages and movement corridors between them. Appendix G identifies the Draft MSCP North County Plan conservation goals for the Harmony Grove Core Area and summarizes how the project is consistent with those goals (County 2009).

With respect to wildlife movement in the region, conservation targets generally include conserving a contiguous riparian corridor in Escondido Creek, and conserving a large core area of upland habitat around Del Dios Highlands Preserve and Elfin Forest Recreational Reserve. Related to these are conserving access from core upland areas to the Escondido Creek corridor and conserving regional east-west gnatcatcher movement. These conservation targets are discussed in further detail below.

Escondido Creek

In the vicinity of the study area, Escondido Creek likely functions to facilitate amphibian, bird, and large mammal movement in the local area. The Creek provides habitat for both common and sensitive species. As evidenced by 2014 surveys, sensitive species such as least Bell's vireo, yellow warbler, green heron, and others use the Creek for various life cycle needs. Birds move unobstructed through the local area. Although no evidence of use was observed on the site during surveys, southern mule deer (*Odocoileus hemionus fuliginata*) and coyote (*Canis latrans*) likely move through the local area to and from surrounding undeveloped or open space lands. The Creek provides shelter and resources for breeding and rearing young, a year-round water source and prey items for foraging, and a linear corridor of habitat for dispersal and migration.

Mule deer are generally crepuscular, but in the immediate vicinity of the project site, are likely to be more active at night due to human activity in the area. Because of their needs for forage and cover, mule deer have been reported to prefer edges over open or closed habitats; edge habitat is generally considered important to deer because of high habitat diversity within ecotones and easy access to more than one habitat type (Kremsater and Bunnell 1992). Mature chaparral stands provide essential cover and forage for mule deer during parts of the year (Wallmo et al. 1981). Mule deer summer foraging sites in California chaparral include riparian areas, seeps, springs, streams, and ponds. In fall, foraging sites include stream bottoms, ridge tops, and northern slopes. In winter, mule deer forage on south slopes and sheltered ridges (Ashcraft 1979). Therefore, with respect to the project site and immediate vicinity, mule deer would be most likely to travel, forage and seek cover at the chaparral-grassland edge, along existing trails, within the chaparral, and within the riparian habitat of Escondido Creek.

Coyote are active day and night, but are generally crepuscular, with peaks in activity at sunrise or sunset. In California, it has been reported that coyotes used habitat edges or ecotones, fuel breaks, existing roads and trails, and open chaparral more than dense, unbroken cover. In southern California where chaparral is adjacent to dense blocks of habitat, coyotes forage at night alone edges and return during the day to chaparral cover. The steep slopes and heavy cover of most chaparral communities impede coyote movements (Quinn 1990). Therefore, with respect to the project site and immediate vicinity, coyote would be most likely to travel, forage and seek cover at the chaparral-grassland edge, along existing trails, and within more-open stages of chaparral.

Within the study area itself, Escondido Creek is disturbed as a result of previous land uses, active construction for Harmony Grove Village, and the existing low-water crossing for Country Club Drive. The Creek has also experienced direct and indirect disturbances from previous agricultural uses when the old dairy farm at Harmony Grove Village was in operation, and it is currently impacted by active construction activities for the Harmony Grove Village development. Country Club Drive currently crosses the Creek perpendicularly as a two-lane road built on rip rap, culverts, and concrete over the low-flow channel. The crossing is depended upon by the residents that live to the east and west of the study area. The existing crossing represents a break in the riparian canopy and physical impediment to wildlife movement through the area.

Wildlife movement functions downstream of the study area are high as the habitat improves in overall quality and the topography steepens, although several residential properties occur that might present barriers and disturbances to wildlife movement. Upstream of the study area, approaching the City of Escondido, the Creek diminishes in quality and function. A few thousand feet upstream of the study area, the Creek becomes heavily infested with non-native vegetation (e.g., Eucalyptus trees), and beyond that farther upstream, the soft-bottomed channel terminates where Enterprise Street crosses the Creek. East of the Enterprise Street crossing, Escondido Creek flows in a concrete-lined channel through urban/developed portions of the City of Escondido from just east of Valley Center Road.

In summary, wildlife movement functions in Escondido Creek are probably highest beginning immediately upstream (east) of the study area and extending downstream (west) to Elfin Forest, with a significant barrier to movement existing within the study area at the existing low-water crossing for Country Club Drive.

Del Dios Highlands Preserve - Elfin Forest Recreational Reserve

Abutting the southern boundary of the study area is the County's Del Dios Highlands Preserve. The Preserve connects to the Elfin Forest Recreational Reserve and the San Dieguito River Park Joint Powers Authority's Coast-to-Crest Trail, which stretches from Del Mar to Julian. These areas support habitat connections and functional travel routes and wildlife corridors between the MHCP areas to the north and the Lake Hodges Segment of the South County MSCP Subarea (County 1997) to the south. Most importantly, these areas serve to facilitate regional gnatcatcher and large mammal movement south of the study area, to and from core habitat around Lake Hodges to the east, and Elfin Forest-San Elijo Hills-Rancho La Costa areas to the west.

Intact stands of scrub and chaparral habitat in the southern portions of the study area directly connect with off-site habitat in the Del Dios Highlands Preserve to the south. In essence, the on-site habitat serves as a northern extension of the larger core habitat associated with the Del Dios Highlands Preserve and Elfin Forest Recreational Reserve. This northern extension abruptly terminates on site, in the southern-central portion of the study area, where the scrub and chaparral transition into non-native grassland. The non-native grassland represents the northern terminus of the core habitat and does not significantly contribute to movement functions for large mammals in the area, including mule deer and coyote, because these species are primarily crepuscular and prefer habitat edges, existing trails, and other habitat types for movement. The grassland on the site provides no cover and relatively few resources. As such, no direct, north-south connection of core area habitat exists through the site between the Del Dios Highlands Preserve and Escondido Creek because the areas are separated by non-native grassland. The core habitat extends into the southern portion of the site and bends around the site to the east to connect with Escondido Creek, as explained below.

A constrained, north-south connection of core habitat between Del Dios Highlands Preserve and Escondido Creek exists around the site to the east and along the eastern boundary. One of the Escondido Creek Open Space properties, owned by the Escondido Creek Conservancy, abuts the study area to the north, northeast, and east. Additional undeveloped lands, rural/estate properties, and lands constrained by steep slopes and rugged terrain occur to the immediate east and

southeast of the study area. The Escondido Creek Conservancy and Conservation Biology Institute identify the general area as "important for conservation" (ECC and CBI undated) to connect undeveloped lands. Scrub and chaparral in these areas provide a constrained connection of habitat between Del Dios Highlands Preserve and Escondido Creek. The connection is more constrained within the study area and along the eastern boundary due to existing residential uses, patchiness of scrub and chaparral habitat, and presence of non-native grassland. Rural residential uses abut the eastern boundary of the study area that present an existing constraint to the connection, although developments are limited to several narrow roadways and residential homes amongst the scrub and chaparral. The Draft MSCP North County Plan California Gnatcatcher Habitat Evaluation Model shows the habitat within the study area and along the eastern boundary ranked as having no value to the gnatcatcher for nesting (County 2008b). This is consistent with the patchiness of habitat inventoried during 2014 surveys, despite the gnatcatcher pair confirmed along the eastern boundary. The scrub also supports a prevalence of chaparral constituents due to its adjacency with chaparral that has been established in the area for some time.

While the project site itself does not function as a corridor, the eastern edge of the site likely contributes to north-south wildlife movement that occurs through the general area referred to as West Ridge, which would connect known coastal California gnatcatcher occurrences north of Escondido Creek to other known occurrences south and southeast of the site within the Del Dios Highlands Preserve. There is an area of high value gnatcatcher habitat about half a mile northeast of the site (County 2008b). The high value habitat area is an isolated island preserve designated as draft PAMA within Harmony Grove Village and Rincon del Diablo Water District open space (Figure 4). The project site is separated from this area by Harmony Grove Village developments and local roadways, although a constrained and fragmented connection of scrub and chaparral habitat exists along a linear path to the general northeast, east, and southwest of the site.

A general assessment of off-site lands situated along the constrained linkage was conducted based on surveys and review of aerial imagery. The Harmony Grove Village and Rincon del Diablo Water District island preserve represents the northern limit of the constrained linkage section that was assessed (Figure 4). The West Ridge area to the east of the site represents the approximate center of the linkage. Lands to the south within Del Dios Highlands Preserve and further to the southeast toward Lake Hodges represent the southern limit of the linkage section.

The northern limit at the Harmony Grove Village and Rincon del Diablo Water District island preserve supports coastal sage scrub and coastal sage-chaparral on moderate to steep slopes, with evidence of previous disturbance. This is the area of high value to gnatcatcher based on the County Habitat Evaluation Model, although portions of the habitat appear to be disturbed and no gnatcatcher records are reported at this location. The southern tip of this area is characterized by severe slopes from previous mining activities. Moving south from the Harmony Grove Village and Rincon del Diablo Water District island preserve, the connection of habitat is broken by existing developments. Low- and poor-flying birds, such as gnatcatcher, likely have two avenues of movement at this break point as they continue south toward Escondido Creek and the Escondido Creek Conservancy open space. They could continue directly south, along lands on the north and west side of Harmony Grove Road, or they could continue directly southeast, along lands on the south and east side of Harmony Grove Road.

The avenue of movement directly south of the Harmony Grove Village and Rincon del Diablo Water District island preserve eventually leads to another island preserve within Harmony Grove Village open space, but the path is interrupted by existing graded pads, road developments, and residential developments that range 400 feet to 1,000 feet in length along the movement path. Once at the second Harmony Grove Village island preserve, the habitat is composed of coastal sage scrub and coastal sage-chaparral on moderate to steep slopes. This area is not identified as high value gnatcatcher habitat on the Habitat Evaluation Model, although gnatcatcher records are reported at this location. Moving south toward the Escondido Creek Conservancy open space, gnatcatchers cross Harmony Grove Road, which averages approximately 30 feet in length, before entering the Escondido Creek riparian corridor and undeveloped scrub and chaparral within the Escondido Creek Conservancy open space. These areas are not identified as high value habitat and no gnatcatcher records are reported at these locations.

The movement avenue directly southeast of the Harmony Grove Village and Rincon del Diablo Water District island preserve crosses Harmony Grove Road and eventually leads to the Escondido Creek riparian corridor, with access to larger blocks of undeveloped scrub and chaparral on the south and east sides of the Creek. These areas are also not identified as high value gnatcatcher habitat and no gnatcatcher records are reported at these locations. This path is interrupted by existing roadway and abandoned industrial developments approximately 30 feet to 400 feet in length. Once across these developments, gnatcatchers can continue south and east within Escondido Creek riparian habitat or the adjacent scrub and chaparral within the Escondido Creek Conservancy open space.

Once at the Escondido Creek Conservancy open space, birds would continue south and southeast toward the West Ridge. This north-south trending movement avenue is characterized by scrub and chaparral on moderate slopes, with portions constrained by several narrow driveways and rural residences. The undeveloped areas are characterized by broken and intact stands of coastal sage scrub, coastal sage-chaparral, and mixed chaparral on moderate slopes. None of the areas are identified as high value gnatcatcher habitat and no gnatcatcher records are reported. The total width of the avenue, including the existing undeveloped habitat, driveways, and rural residences, ranges from approximately 1,500 feet to 2,500 feet across the general area east of the site. The scrub and chaparral along the eastern boundary of the site is situated along the westernmost edge of this avenue. As discussed above, the on-site coastal sage scrub in this area is considered to be of “Intermediate Value” due to it being less fragmented than other on-site scrub and due to the presence of a confirmed gnatcatcher breeding territory. Additional coastal sage scrub, coastal sage-chaparral, and mixed chaparral occur off-site to the east toward the West Ridge and along the north-south constrained linkage avenue. Properties along this avenue are either conserved within the Escondido Creek Conservancy open space, built-out to zoning designations with existing rural residences, or characterized by rugged terrain and steeper slopes, which present a significant constraint to future developments.

Once in the vicinity of the project site and areas east near the West Ridge, birds would continue to the general south, southeast, and southwest within a large and contiguous habitat block that includes the Del Dios Highlands Preserve and Elfin Forest Recreational Reserve. This represents

the southern terminus of the constrained linkage. Most of the habitat is mixed chaparral with smaller pockets of coastal sage scrub and coastal sage-chaparral. None of the areas are identified as high value gnatcatcher habitat, although scattered gnatcatcher records are reported further south and southeast of the project site.

In summary, a direct, north-south connection of core habitat between Del Dios Highlands Preserve and Escondido Creek does not exist through the Project site due to the large area of non-native grassland, which serves as an exposed break in the scrub and chaparral. Areas along the eastern boundary of the site could facilitate north-south movement of large mammals to and from Escondido Creek, although the habitat is patchy and constrained by existing residential uses. Areas along further to the east of the site are less constrained, where a more direct connection of scrub and chaparral habitat occurs along West Ridge.

1.5 APPLICABLE REGULATIONS

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

With respect to the proposed Project, the USFWS will be responsible for reviewing issues related to the coastal California gnatcatcher and least Bell's vireo pursuant to the FESA, migratory birds pursuant to the MBTA, Habitat Loss Permit, and regional conservation planning in light of the Draft MSCP North County Plan. The USACE will be responsible for reviewing issues related to waters of the U.S. The RWQCB will be responsible for reviewing issues related to waters of the State pursuant to the CWA. The State Porter-Cologne Water Quality Control Act would not apply as there are no isolated waters of the State in the study area. The CDFW will be responsible for reviewing issues related to vegetated and unvegetated streambeds pursuant CFG Code, nesting birds and raptors pursuant to CFG Code, Habitat Loss Permit, and regional conservation planning in light of the Draft MSCP North County Plan.

The County is the lead agency for the CEQA environmental review process in accordance with State law and local ordinances. During CEQA review, the County will be responsible for reviewing project issues per the Guidelines for Determining Significance for Biological Resources (County 2010a) and the County RPO. The County will also be responsible for reviewing the proposed Project with respect to Habitat Loss Permit, conservation planning in light of the Draft MSCP North County Plan, and consistency with biological goals and policies of the Elfin Forest – Harmony Grove Community Plan.

1.5.1 Federal Government

Federal Endangered Species Act

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

The USFWS designates critical habitat for endangered and threatened species. Critical habitat is defined as areas of land that are considered necessary for endangered or threatened species to recover. The ultimate goal is to restore healthy populations of listed species within their native habitats so they can be removed from the list of threatened or endangered species. Once an area is designated as critical habitat pursuant to the FESA, all federal agencies must consult with the USFWS to ensure that any action they authorize, fund, or carry out is not likely to result in destruction or adverse modification of the critical habitat. There is no designated critical habitat in the study area. The nearest critical habitat is for the coastal California gnatcatcher, approximately 1.3 miles to the southwest.

Sections 7 and 10(a) of the FESA regulate actions that could jeopardize endangered or threatened species. Section 7 describes a process of federal interagency consultation for use when federal actions may adversely affect listed species. In this case, take can be authorized via a letter of biological opinion issued by the USFWS for non-marine related listed species issues. A Section 7 consultation (formal or informal) is required when there is a nexus between endangered species' use of a site and impacts to USACE jurisdictional areas. Section 10(a) allows issuance of permits for incidental take of endangered or threatened species with preparation of a Habitat Conservation Plan (HCP) when there is no federal nexus. The term "incidental" applies if the taking of a listed species is incidental to, and not the purpose of, an otherwise lawful activity. An HCP demonstrating how the taking would be minimized and how steps taken would ensure the species' survival must be submitted for issuance of Section 10(a) permits.

Migratory Bird Treaty Act

All migratory bird species that are native to the U.S. or its territories are protected under the federal MBTA, as amended under the Migratory Bird Treaty Reform Act of 2004 (FR Doc. 05-5127). The MBTA is generally protective of migratory birds but does not actually stipulate the type of protection required. In common practice, the MBTA is now used to place restrictions on disturbance of active bird nests during the nesting season (generally February 1 to August 31). In addition, the USFWS commonly places restrictions on disturbances allowed near active raptor nests.

Clean Water Act and Rivers and Harbors Act

Federal wetland regulation (non-marine issues) is guided by the Rivers and Harbors Act of 1899 and the CWA. The Rivers and Harbors Act deals primarily with discharges into navigable waters, while the purpose of the CWA is to restore and maintain the chemical, physical, and biological integrity of all waters of the U.S. Permitting for projects filling waters of the U.S. is overseen by the USACE under Section 404 of the CWA. Most development projects are permitted using Individual Permit or Nationwide Permit instruments. CWA Section 404 permits require Water Quality Certification by the RWQCB pursuant to CWA Section 401.

1.5.2 State of California

California Environmental Quality Act

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

California Endangered Species Act

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

Native Plant Protection Act

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

California Fish and Game Code

The CFG Code provides specific protection and listing for several types of biological resources. Section 1600 of CFG Code requires a Streambed Alteration Agreement (SAA) for any activity that would alter the flow, change or use any material from the bed, channel, or bank of any perennial, intermittent, or ephemeral river, stream, and/or lake. Typical activities that require an

SAA include excavation or fill placed within a channel, vegetation clearing, structures for diversion of water, installation of culverts and bridge supports, cofferdams for construction dewatering, and bank reinforcement. Notification is required prior to any such activities.

Pursuant to CFG Code Section 3503, it is unlawful to take, possess, or needlessly destroy the nest or eggs of any bird, except as otherwise provided by this code or any regulation made pursuant thereto. Raptors and owls and their active nests are protected by CFG Code Section 3503.5, which states that it is unlawful to take, possess, or destroy any birds of prey or to take, possess, or destroy the nest or eggs of any such bird unless authorized by the CDFW. Section 3513 states that it is unlawful to take or possess any migratory non-game bird as designated in the MBTA. These regulations could require that construction activities (particularly vegetation removal or construction near nests) be reduced or eliminated during critical phases of the nesting cycle unless surveys by a qualified biologist demonstrate that nests, eggs, or nesting birds will not be disturbed, subject to approval by CDFW and/or USFWS.

Natural Communities Conservation Planning Act

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

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

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

1.5.3 County of San Diego

Habitat Loss Permit Ordinance

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

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

Resource Protection Ordinance

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

(a) Wetlands. The following permitted uses shall be allowed:

(1) Aquaculture, provided that it does not harm the natural ecosystem.

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

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

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

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

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

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

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

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

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

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

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

(1) Improvements necessary to protect adjacent wetlands.

(2) All uses permitted in wetland areas.

The study area contains 1.13 acres of RPO wetlands, all of which are off site in Escondido Creek (Table 4 and Figure 12). The off-site RPO wetlands consist of mule fat scrub, southern willow riparian forest, and coast live oak woodland that support wetland conditions. Anticipated improvements to Country Club Drive over Escondido Creek would be restricted to only those necessary to provide a safe crossing and enhance the biological and hydrological functions and services of the reach. The impacts would be primarily temporary and are necessary to remove the existing low-water crossing, construct the new span bridge, stabilize the channel embankment, and restore the riverine hydrology of the reach. During high flows, the existing low-water crossing becomes breached and not possible to cross by vehicle or other means, thereby stranding local residents who rely on that crossing to access Harmony Grove Road.

The anticipated improvements would include construction of a new bridge that would span the flood limits of the Creek and allow for safe passage for the existing residents and future residents of the Project that rely on Country Club Drive. The new bridge would further improve biological functions of the riparian corridor and Creek, providing improved passage for wildlife and benefits to downstream water quality in comparison to existing conditions. The new bridge would further reduce the likelihood of wildlife being harmed by vehicles at the crossing. As stated in Appendix G, the Draft MSCP North County Plan identifies two goals for Escondido Creek, both of which the project will be consistent with and provide for a superior condition compared to the existing baseline condition: (1) protect the Escondido Creek floodplain; and (2) maintain connectivity, particularly east-west, along Escondido Creek canyon by minimizing road and maintaining natural habitat (County 2009). The project has been specifically designed to avoid the Escondido Creek floodplain, with avoidance buffers of 100 feet from the edge of riparian canopy protected by an additional 100 feet of limited building zone easement, for a total setback of 200 feet. With the new span bridge and proposed restoration actions, the project would enhance the biological and hydrologic function of Escondido Creek at the Country Club Drive crossing to a condition superior to what currently exists, thereby enhancing the natural flow regime and habitat connectivity. The project further conserves east-west connectivity along Escondido Creek Canyon by maintaining natural habitat and further constraining widths beyond that which already exists. It conserves wildlife movement patterns across the southern portion of the site and within existing preserved lands and rural-zoned parcels immediately east of the site to access Escondido Creek.

In comparing different options, the replacement could be accomplished through either a new bridge or direct replacement in-place with a wider low-water crossing. Replacement in-place with a wider crossing would result in additional permanent loss of habitat and would not improve water quality, hydrology, or wildlife movement at the crossing. The bridge span represents the least environmentally damaging alternative to crossing the Creek and impacts to RPO wetland are necessary and unavoidable. Temporary impact areas would be restored and the areas would be expected to provide the equivalent or superior functions and services once the restored habitat has established. Permanent impact areas would be limited to small areas for bridge pilings and reinforced embankments, and would be compensated through on- and/or off-site establishment, re-establishment, rehabilitation, enhancement, and/or preservation of in-kind or like-functioning habitat in the region.

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

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

- Land which supports unique vegetation communities, or the habitats of rare or endangered species or sub-species of animals or plants as defined by Section 15380 of the State CEQA Guidelines (14 Cal. Admin. Code Section 15000 *et seq.*), including the area which is necessary to support a viable population of any of the above species in perpetuity, or which is critical to the proper functioning of a balanced natural ecosystem or which serves as a functioning wildlife corridor.

    - "Unique vegetation community" refers to associations of plant species which are rare or substantially depleted. These may contain rare or endangered species, but other species may be included because they are unusual or limited due to a number of factors, for example: (a) they are only found in the San Diego region; (b) they are a local representative of a species or association of species not generally found in San Diego County; or (c) they are outstanding examples of the community type as identified by the CDFW listing of community associations.

Sensitive Habitat Lands in the study area include lands supporting the core on-site population of wart-stemmed ceanothus in the southern portion of the study area. The reason this habitat is considered a Sensitive Habitat Land is provided below.

- Southern mixed chaparral in the southern portion of the study area supporting the core on-site population of wart-stemmed ceanothus.

    - Within the southern portion of the study area, this community supports a core population of an estimated 21,150 wart-stemmed ceanothus individuals. Also present in this area are summer holly (15 individuals), San Diego sagewort (four individuals), and ashy spike-moss (four concentrations). These areas are "unique" in that they support rare plant species and they are considered sensitive by CDFW (2010). CDFW's rarity ranking follows the NatureServe's Heritage Methodology (NatureServe 2009) in which communities are given a G (global) and S (State) rank based on their degree of imperilment (as measured by rarity, trends, and threats). Communities with a Rarity Ranking of S1 (critically imperiled), S2 (imperiled), or S3 (vulnerable) are considered sensitive by the CDFW. Southern mixed chaparral is ranked as G3 and S3. G3 is vulnerable and at moderate risk of extinction or elimination due to a restricted range, recent and widespread declines, or other factors. S3 is vulnerable due to a restricted range, recent and widespread declines, or other factors making it vulnerable to extirpation.

The remaining portions of the study area are not Sensitive Habitat Lands as they do not meet the Sensitive Habitat Lands definition. The remaining portions do not represent areas which are necessary to support a viable population of rare and endangered species in perpetuity, or which are critical to the proper functioning of a balanced natural ecosystem or which serve as a functioning wildlife corridor. The remaining portions of the study area are not unique and are not ranked by the CDFW (2010) as being sensitive or, for coast live oak woodland, are ranked G5 (secure) and S4 (apparently secure).

Although southern willow riparian forest, mule fat scrub, and coast live oak woodland occur in Escondido Creek, the habitat that occurs within the study area is not the highest quality and is disturbed from the existing low-water crossing and impacts associated with Harmony Grove Village restoration efforts. Further, no least Bell's vireo were suspected to be breeding in the habitat during 2014 presence/absence surveys.

Although a single gnatcatcher breeding pair was found in the coastal sage scrub within the study area, the habitat is patchy and fragmented. Its preservation is not vital to support a viable population of gnatcatchers in perpetuity, especially considering the abundance of core habitat located further to the southeast around Lake Hodges, the south around Del Dios and Rancho Cielo, and the west and southwest in the Elfin Forest and Rancho La Costa area.

2.0 PROJECT EFFECTS

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

Following County Guidelines, a total of 77.9 acres of the approximately 111-acre Project site would be considered impacted either by direct physical removal of the habitat as a result of the project, dedication of trail easement, or by further fragmenting and isolating the habitat. Some of the direct impacts would be temporary in nature; these areas would be impacted by Project grading and subsequently restored back to native habitat as a result of the Project. A total of 0.1 acre would be considered impact neutral due to location within an existing easement that would remain in place. The remaining 34.8 acres within the Project site would be placed in biological open space. A total of 4.6 acres of off-site impacts would occur as a result of anticipated improvements to Country Club Drive, including roadway widening and potential bridge construction at the existing Escondido Creek crossing. As with the Project's on-site direct impacts, some of the off-site impacts will be temporary in nature and restored back to native habitat, subject to applicable fuel modification requirements. For example, off-site impact areas that fall outside of permanent roadway (i.e., new paved areas and sidewalks), bridge (i.e., bridge

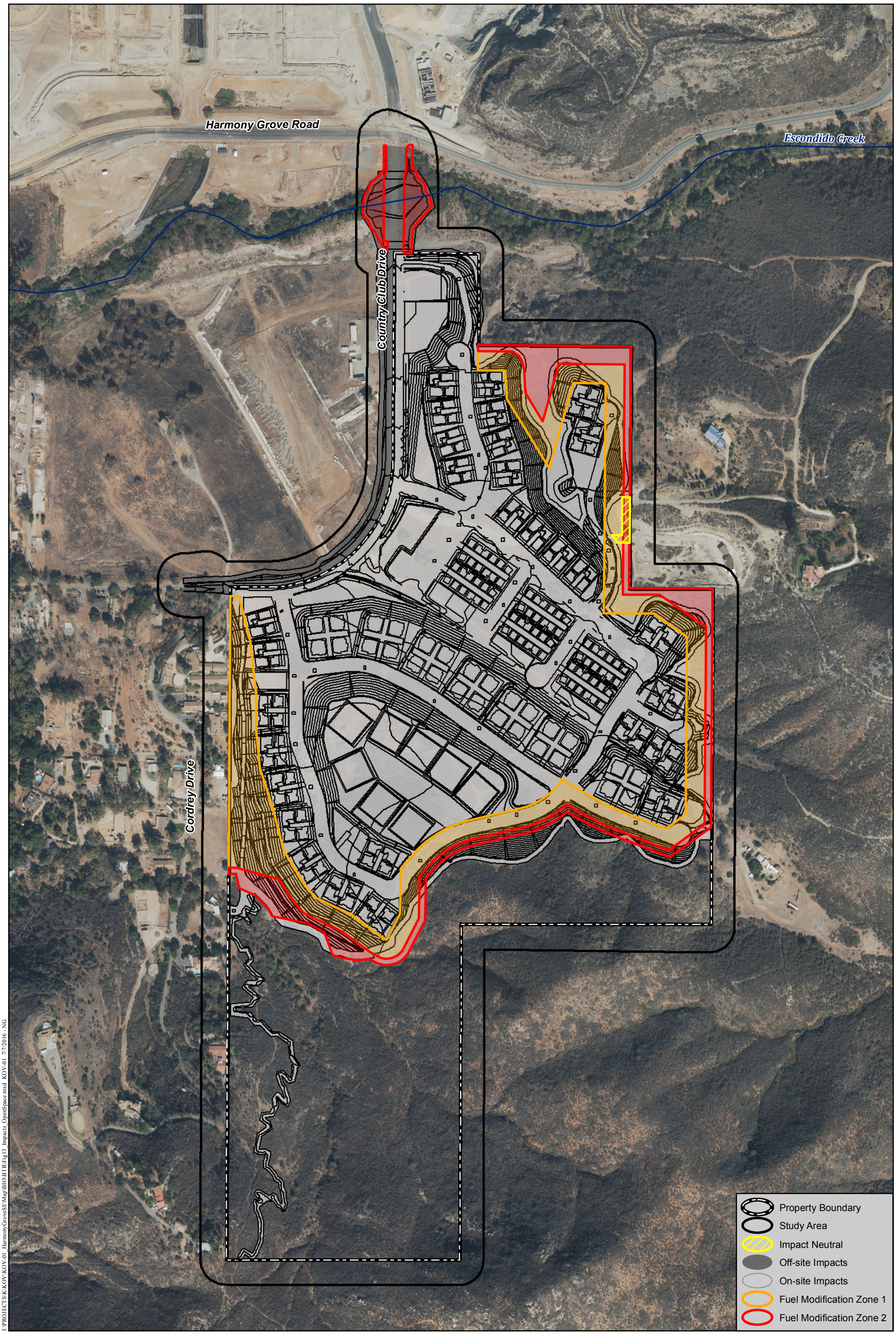
piers, abutments, and bank stabilization), and required fuel modification features could be restored. This includes restoration of the temporary impact area within Escondido Creek, with the commitment to enhance and lift biological and hydrological functions and services, and provide a superior condition compared to that which currently exists. The new bridge would improve biological functions of the riparian corridor and Creek compared to the existing at grade crossing by providing improved passage for wildlife. It would further improve hydrology through the reach and provide benefits to downstream water quality. The Project also proposes several off-site utility connections, including potable water, reclaimed water, and sewer; however, these off-site facilities would be installed using narrow trenches located entirely within existing developed (paved) roadways, and as such, would have no effect on biological resources.

Figure 13 depicts the direct impact areas of the Project, including both on- and off-site impact areas where grading, fuel modification, and other physical disturbances to the land are proposed. Figure 14 depicts the direct impact areas in relation to the biological resources found within the study area. Figure 15 depicts the impacts of the Biologically Superior Alternative in relation to biological resources. Figure 16 provides a plan view and cross-section schematic of the new bridge over Escondido Creek. The proposed biological open space for the Project is depicted on Figures 14, 17, and 18. Figures 14 and 17 also depict the temporary impact areas that would be restored to Diegan coastal sage scrub and included in the biological open space with the proposed Project. In total, these restoration areas amount to approximately 1.8 acres of Diegan coastal sage scrub that will be established within the biological open space as a result of the proposed Project.

As depicted on Figure 15, the alternative would impact 64.6 acres of the site and place 46.5 acres in biological open space. There would be still be 0.4 acre of impact neutral area, and off-site impacts would be the same. Impacts to sensitive habitat types and areas occupied by sensitive species would be reduced. A wider swath of habitat along the eastern boundary of the site would also be conserved to provide additional on-site habitat for north-south wildlife movement. No on-site coastal sage scrub restoration or creation would occur as part of the Biologically Superior Alternative.

The Project has been designed to conserve high quality habitat in the southern portion of the study area that supports a core population of wart-stemmed ceanothus and directly connects to existing preserve lands and open space within the Del Dios Highlands Preserve.

As depicted on Figure 19, the Project is sited at the southern terminus of the larger Harmony Grove Village. The Project's development footprint abuts the boundary of Harmony Grove Village, such that the overall development in the local area is consolidated and the edge effect is minimized. The Project's siting of development and open space design conserves the core area and linkage functions in the region by concentrating development in the lower quality, non-native grasslands on the site, and minimizing edge effect by hugging up against Harmony Grove Village and existing developments to the west. Project development has been consolidated to reduce edge effects and concentrated in the portions of the site with the lowest, relative biological value. The proposed pad locations have been sited as far away from sensitive resources as possible. They are separated from open space and undeveloped areas by manufactured slopes, portions of which would be revegetated with native habitat, in addition to



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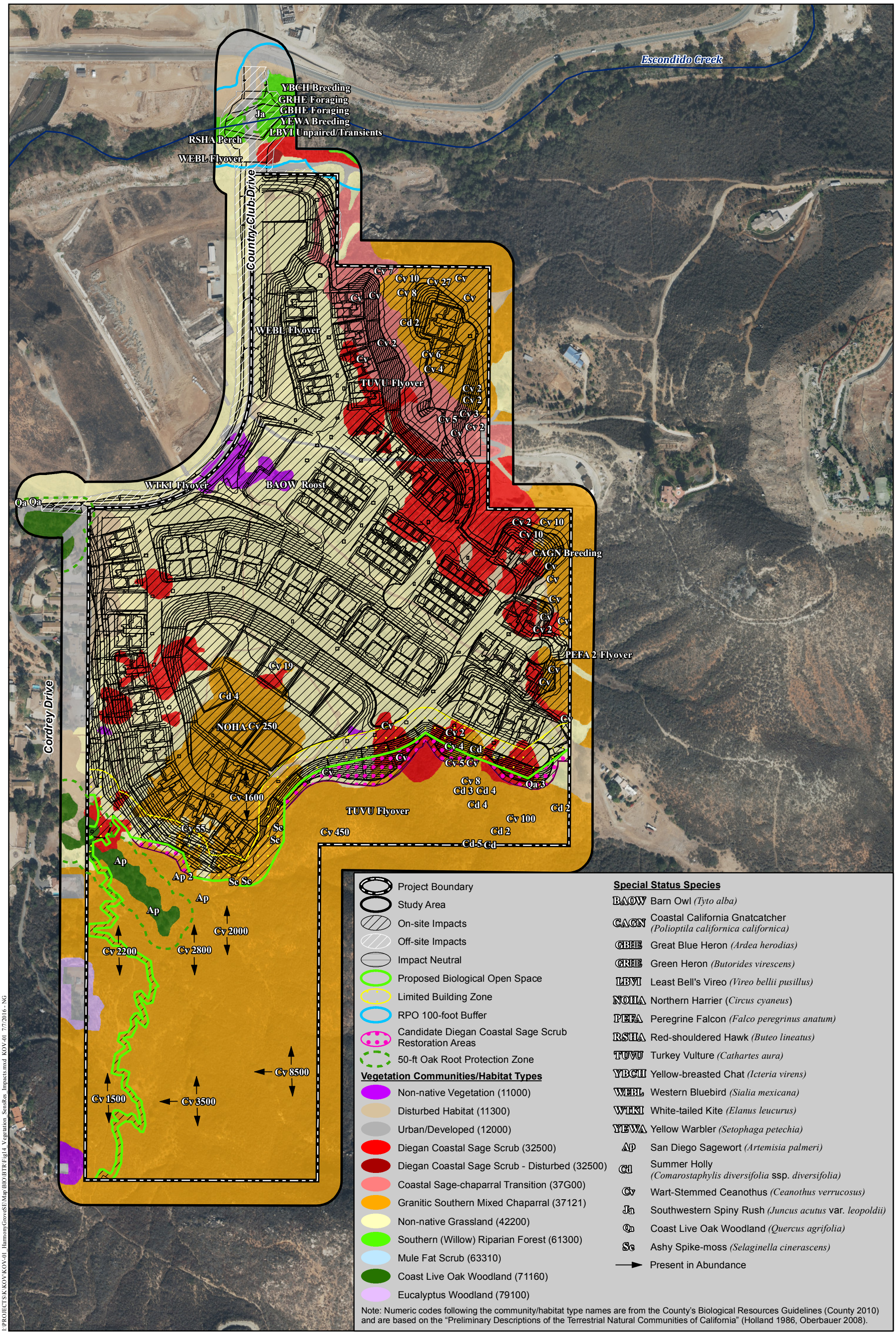
Project Impacts

HARMONY GROVE VILLAGE SOUTH

HELIX Environmental Planning

N 0 350 Feet

Figure 13



Project Boundary
Study Area
On-site Impacts
Off-site Impacts
Impact Neutral
Proposed Biological Open Space
Limited Building Zone
RPO 100-foot Buffer
Candidate Diegan Coastal Sage Scrub Restoration Areas
50-ft Oak Root Protection Zone

Vegetation Communities/Habitat Types

- Non-native Vegetation (11000)
- Disturbed Habitat (11300)
- Urban/Developed (12000)
- Diegan Coastal Sage Scrub (32500)
- Diegan Coastal Sage Scrub - Disturbed (32500)
- Coastal Sage-chaparral Transition (37G00)
- Granitic Southern Mixed Chaparral (37121)
- Non-native Grassland (42200)
- Southern (Willow) Riparian Forest (61300)
- Mule Fat Scrub (63310)
- Coast Live Oak Woodland (71160)
- Eucalyptus Woodland (79100)

Special Status Species

- BAOW Barn Owl *(Tyto alba)*
- CAGN Coastal California Gnatcatcher *(Polioptila californica californica)*
- GBHE Great Blue Heron *(Ardea herodias)*
- GRHE Green Heron *(Butorides virescens)*
- LBVI Least Bell's Vireo *(Vireo bellii pusillus)*
- NOHA Northern Harrier (*Circus cyaneus*)
- PEFA Peregrine Falcon *(Falco peregrinus anatum)*
- RSHA Red-shouldered Hawk *(Buteo lineatus)*
- TUVU Turkey Vulture *(Cathartes aura)*
- YBCH Yellow-breasted Chat *(Icteria virens)*
- WEBL Western Bluebird *(Sialia mexicana)*
- WTKI White-tailed Kite *(Elanus leucurus)*
- YEWA Yellow Warbler *(Setophaga petechia)*
- Ap San Diego Sagewort *(Artemisia palmeri)*
- Cd Summer Holly *(Comarostaphylis diversifolia* ssp. *diversifolia)*
- Cv Wart-Stemmed Ceanothus *(Ceanothus verrucosus)*
- Ja Southwestern Spiny Rush *(Juncus acutus* var. *leopoldii)*
- Qa Coast Live Oak Woodland *(Quercus agrifolia)*
- Sc Ashy Spike-moss *(Selaginella cinerascens)*
- → Present in Abundance

Note: Numeric codes following the community/habitat type names are from the County's Biological Resources Guidelines (County 2010) and are based on the "Preliminary Descriptions of the Terrestrial Natural Communities of California" (Holland 1986, Oberbauer 2008).

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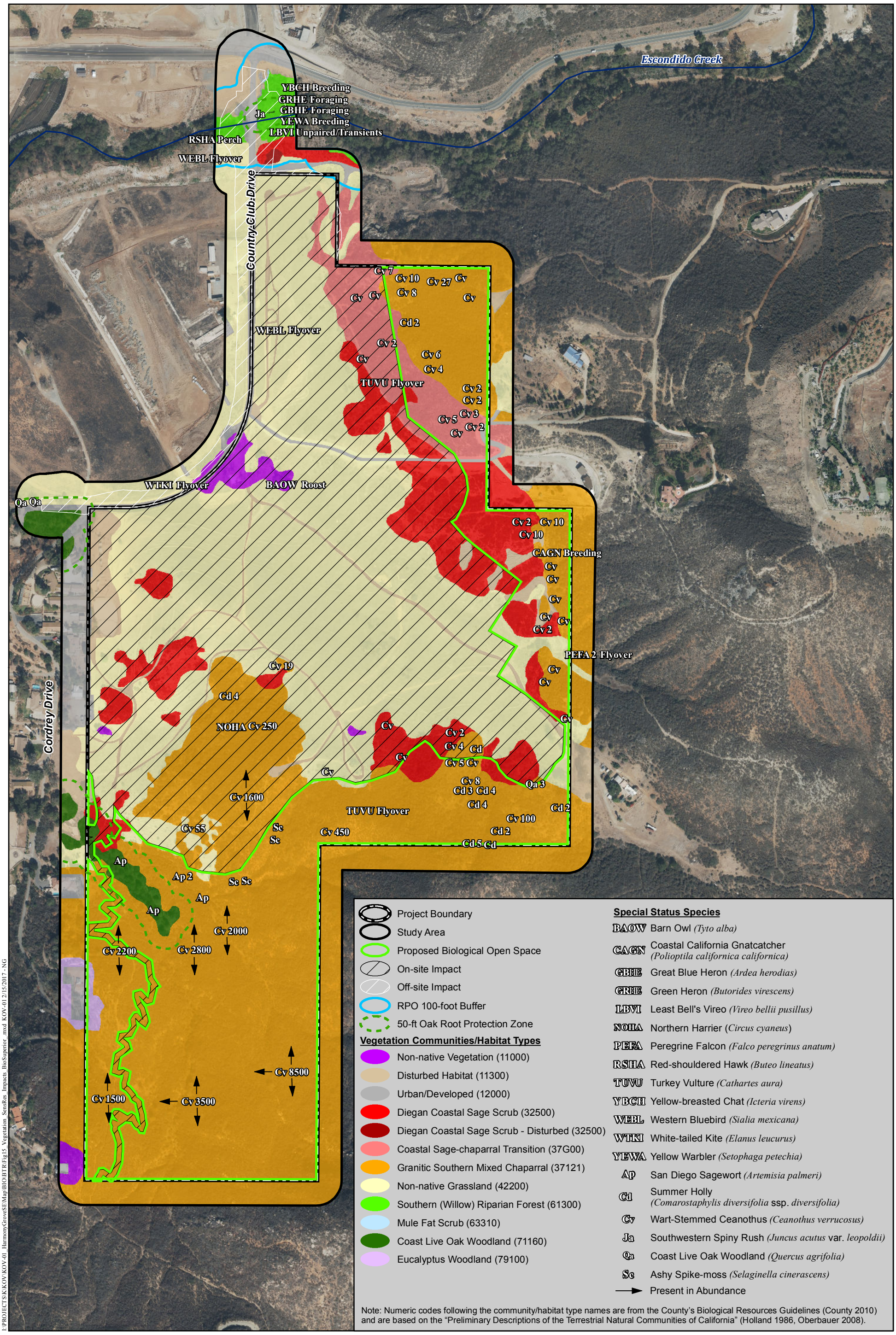
Proposed Project Vegetation and Sensitive Resources/Impacts

HARMONY GROVE VILLAGE SOUTH

HELIX Environmental Planning

N 0 350 Feet

Figure 14



Project Boundary
Study Area
Proposed Biological Open Space
On-site Impact
Off-site Impact
RPO 100-foot Buffer
50-ft Oak Root Protection Zone

Vegetation Communities/Habitat Types

- Non-native Vegetation (11000)
- Disturbed Habitat (11300)
- Urban/Developed (12000)
- Diegan Coastal Sage Scrub (32500)
- Diegan Coastal Sage Scrub - Disturbed (32500)
- Coastal Sage-chaparral Transition (37G00)
- Granitic Southern Mixed Chaparral (37121)
- Non-native Grassland (42200)
- Southern (Willow) Riparian Forest (61300)
- Mule Fat Scrub (63310)
- Coast Live Oak Woodland (71160)
- Eucalyptus Woodland (79100)

Special Status Species

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- CAGN Coastal California Gnatcatcher *(Polioptila californica californica)*
- GBHE Great Blue Heron *(Ardea herodias)*
- GRHE Green Heron *(Butorides virescens)*
- LBVI Least Bell's Vireo *(Vireo bellii pusillus)*
- NOHA Northern Harrier (*Circus cyaneus*)
- PEFA Peregrine Falcon *(Falco peregrinus anatum)*
- RSHA Red-shouldered Hawk *(Buteo lineatus)*
- TUVU Turkey Vulture *(Cathartes aura)*
- YBCH Yellow-breasted Chat *(Icteria virens)*
- WEBL Western Bluebird *(Sialia mexicana)*
- WTKI White-tailed Kite *(Elanus leucurus)*
- YEWA Yellow Warbler *(Setophaga petechia)*
- Ap San Diego Sagewort *(Artemisia palmeri)*
- Cd Summer Holly *(Comarostaphylis diversifolia* ssp. *diversifolia)*
- Cv Wart-Stemmed Ceanothus *(Ceanothus verrucosus)*
- Ja Southwestern Spiny Rush *(Juncus acutus* var. *leopoldii)*
- Qa Coast Live Oak Woodland *(Quercus agrifolia)*
- Sc Ashy Spike-moss *(Selaginella cinerascens)*
- → Present in Abundance

Note: Numeric codes following the community/habitat type names are from the County's Biological Resources Guidelines (County 2010) and are based on the "Preliminary Descriptions of the Terrestrial Natural Communities of California" (Holland 1986, Oberbauer 2008).

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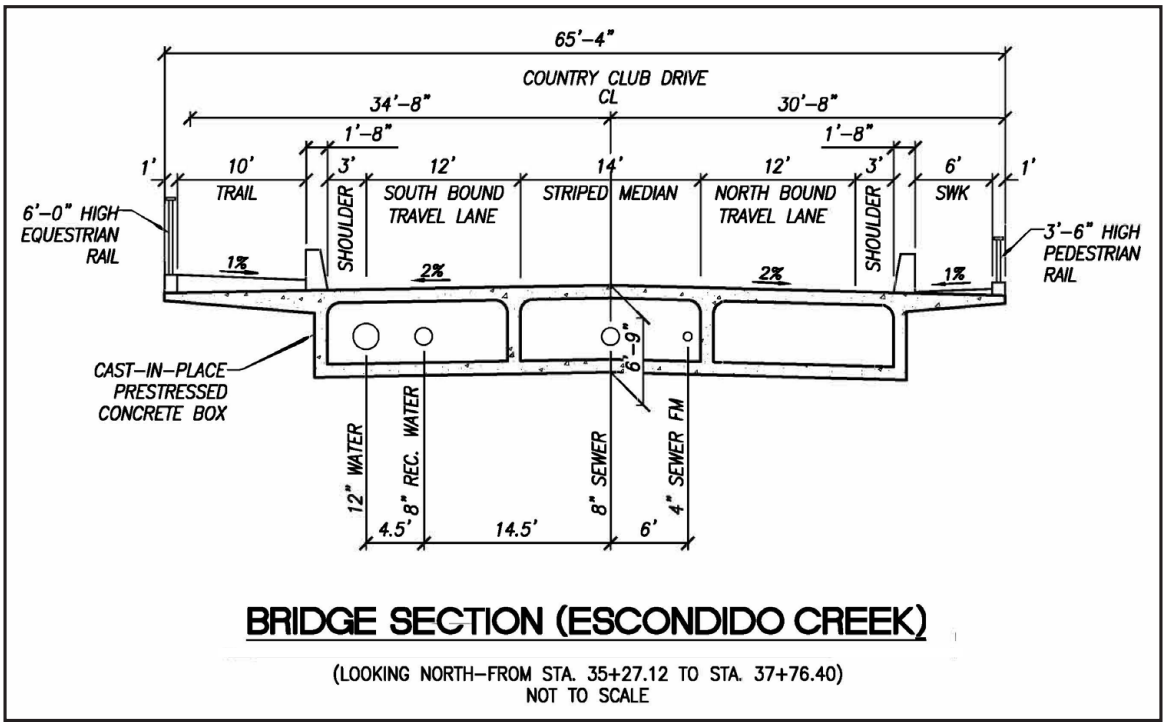
Biologically Superior Alternative Vegetation and Sensitive Resources/Impacts

HARMONY GROVE VILLAGE SOUTH

HELIX Environmental Planning

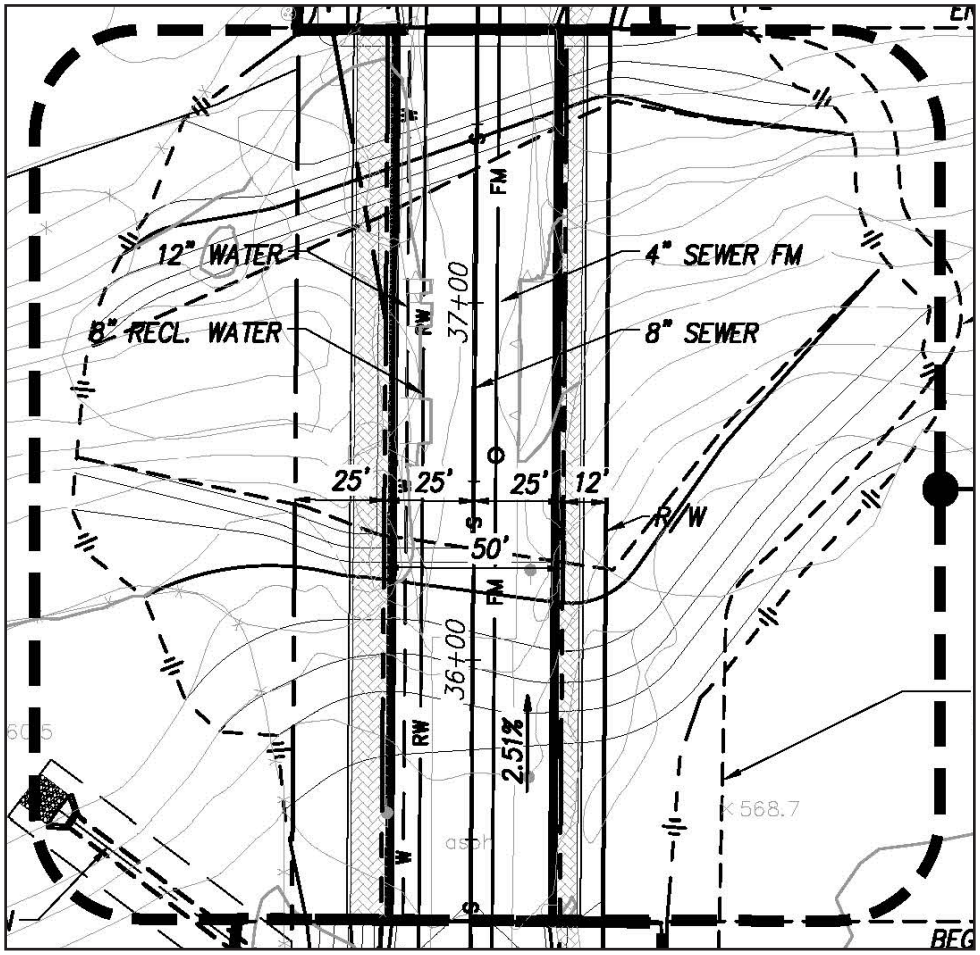
N 0 350 Feet

Figure 15



BRIDGE SECTION (ESCONDIDO CREEK)

(LOOKING NORTH–FROM STA. 35+27.12 TO STA. 37+76.40)
NOT TO SCALE



Source: PDC 2016

Escondido Creek Bridge Schematic

HARMONY GROVE VILLAGE SOUTH

Figure 16

HELIX Environmental Planning