APPENDIX D

Conceptual Upland Restoration Plan

APPENDIX H

CONCEPTUAL UPLAND RESTORATION PLAN
for the
OTAY RANCH RESORT VILLAGE – ALTERNATIVE H
GPA 04-003; SPA 04-002; R04-009; TM 5361RPL; S08-028;
fTER#04-19-005; KIVA#03-1004387

Prepared for the County of San Diego

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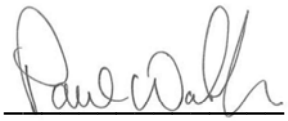

County Approved Preparer: Paul Walsh

MARCH 2019

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EXECUTIVE SUMMARY

The Otay Ranch Resort Village Alternative H Specific Plan area is located in southwestern San Diego County County, approximately 13 miles east of the Pacific Ocean and 6 miles north of the international border with Mexico (Figure 1). The site is located in the Proctor Valley Parcel of the Otay Subregional Plan (SRP), approximately 0.25 mile east of the City of Chula Vista (Figure 2). As part of the planning for the development of Otay Ranch, several villages and planning areas were designated for various types of development, while other areas were reserved for preservation of multiple species and habitats. An effort was undertaken to plan development of the ranch to conserve species and habitats in the region. The Otay Ranch Resort Village Alternative H (Alternative H) site comprises approximately 1,869 acres, is located in an unincorporated portion of the County, and is designated for residential and resort development and for open space by the Otay Ranch *Subregional Plan* (Otay Ranch 1993). Off-site improvements to Otay Lakes Road associated with the project required analysis of an area south and west of the project area.

Alternative H includes approximately 522.6 acres designated for 1,881 single-family detached homes and 57 multi-family homes. Five single-family neighborhoods are planned with average densities ranging from 3.2 to 4.4 dwelling units per acre.

Implementation of Alternative H would result in the direct impacts to sensitive vegetation communities. Impacts would occur as the result of grading and fuel management. Impacts also include the installation of a water tank within the northern open space area.

The purpose of this *Conceptual Uplands Restoration Plan for Otay Ranch Resort Village Alternative H* (Restoration Plan) is to provide site-specific instructions for upland habitat restoration as mitigation for on-site impacts associated with the construction of Alternative H of Otay Ranch. This Restoration Plan provides guidance for on-site restoration of sensitive upland vegetation communities that will be impacted for slope grading associated with allowable uses within the preserve but that will remain within the preserve and will not be subject to brush management activities or long term irrigation.

In accordance with County guidelines, this Restoration Plan presents information on project impacts and mitigation goals, existing conditions, responsible parties, site preparation methods, proposed mitigation, planting and seeding methods, maintenance requirements, monitoring procedures, success criteria, and contingency measures.

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1 DESCRIPTION OF THE DEVELOPMENT PROJECT/IMPACT SITE FOR WHICH COMPENSATORY MITIGATION IS REQUIRED

The purpose of this *Conceptual Uplands Restoration Plan for Otay Ranch Resort Village* (Restoration Plan) is to provide site-specific instructions for upland habitat restoration as mitigation for on-site impacts associated with the construction of the Otay Ranch Resort Village Alternative H (Alternative H) project of Otay Ranch. This Restoration Plan is prepared in accordance with the Otay Ranch Resort Village Biological Resources Technical Report (Dudek 2015; see Section 5.3) and the Biological Resources Technical Report Supplemental Analysis Otay Ranch Resort Village – Alternative H.

1.1 Responsible Parties

The project applicants (Moller Otay Lakes Investments LLC and Baldwin & Sons LLC) are responsible for initiating and funding all maintenance and monitoring requirements during the 5-year program. They shall be responsible for hiring a qualified landscape maintenance contractor to carry out all maintenance work and for hiring a qualified Project Biologist to carry out the monitoring program for the duration of the 5-year period.

1.2 Location of the Development Project

The Otay Ranch Resort Village Alternative H Specific Plan area is located in southwestern San Diego County, approximately 13 miles east of the Pacific Ocean and 6 miles north of the international border with Mexico (Figure 1). The site is located in the Proctor Valley Parcel of the Otay Subregional Plan (SRP) approximately 0.25 mile east of the City of Chula Vista (Figure 2). As part of the planning for the development of Otay Ranch, several villages and planning areas were designated for various types of development while other areas were reserved for preservation of multiple species and habitats. An effort was undertaken to plan development of the ranch to conserve species and habitats in the region. The Otay Ranch Resort Village project area comprises approximately 1,869 acres, is located in an unincorporated portion of the County, and is designated for residential and resort development and for open space by the Otay Ranch *Subregional Plan* (SRP; Otay Ranch 1993). Associated with the project, off-site improvements to Otay Lakes Road required analysis of an area south and west of the project area. These impacts are anticipated to be the same as those reported in the Otay Ranch Resort Village Biological Resources Technical Report (Figure 3; Dudek 2015).

1.3 Summary of Overall Development Project with Proposed Compensatory Mitigation

The Alternative H site comprises approximately 1,869 acres located in the unincorporated portion of San Diego County (County) and is designated for residential and resort development and for open space in the current Otay *Subregional Plan, Volume 2* (Otay SRP; 1993). The proposed land uses for the Otay Ranch Resort Village project consist of single-family neighborhoods, a mixed use residential and commercial use neighborhood, a resort hotel with associated ancillary facilities, an elementary school site, a site for public safety facilities, open space, Otay Ranch Preserve (Preserve) land, conserved open space, and parks and recreational uses. Alternative H includes approximately 522.6 acres designated for 1,881 single-family detached homes and 57 multi-family homes. Other areas of impacts such as temporary, fuel modification, detention basins and off site are included in the total impact analysis.

1.3.1 Topography

Alternative H consists of a broad mesa sloping to the south, broken by several steep canyons draining from north to south. Portions of the relatively flat mesa extend north into the Jamul Mountains, becoming part of steeper slopes. Site elevations range from approximately 500 feet above mean sea level (AMSL) at the southern end of the property to approximately 1,500 feet AMSL in the northeastern portions. The project area lies within the watershed of the Otay River, a westerly flowing stream which drains an area of approximately 145 square miles. The site is upstream of Savage Dam, which creates Lower Otay Reservoir.

The southern half of the site contains three large mesas (K6, K8, and K9 from west to east), an expansive and relatively flat area in the west, and increasing elevations with steep canyons in the north. Drainages bisect the mesas and generally run north–south, with the exception of one drainage running east–west from the center to the western edge of the property. Several stock ponds have been intentionally created along the drainages on the property.

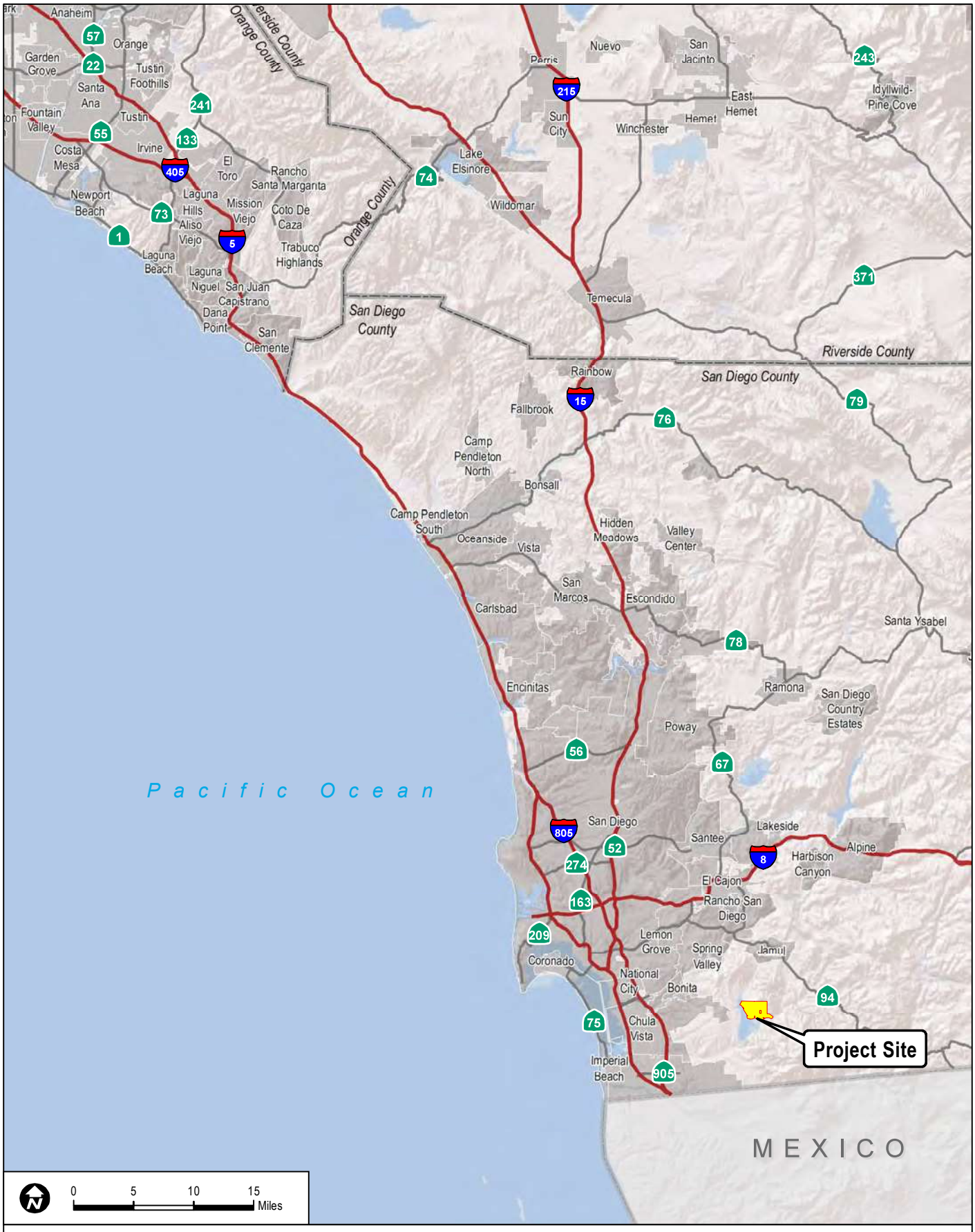

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FIGURE 1
Regional Map

Otay Ranch Resort Village Site - Conceptual Uplands Restoration Plan

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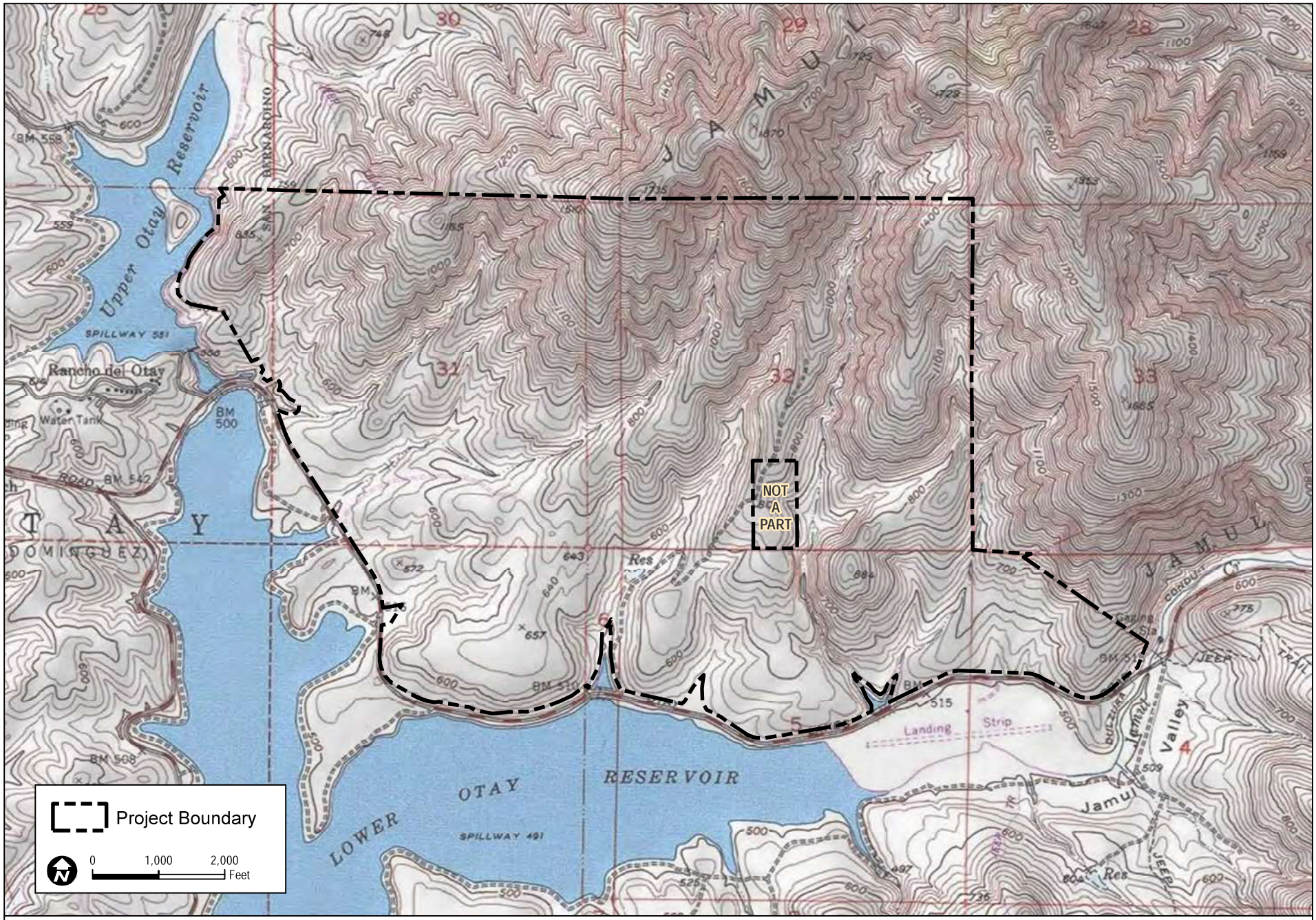

SOURCE: USGS 7.5 Minute Series, Jamul Mountains Quadrangle

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FIGURE 2

Vicinity Map

Otay Ranch Resort Village Site - Conceptual Uplands Restoration Plan

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1.3.2 Vegetation Types

The Alternative H site is dominated by sage scrub, with substantial representation of grassland and chaparral (Table 1). Various wetland plant communities also occur on the site. Portions of the site have been historically mechanically disturbed by farming and grazing activity, reducing the presence of natural vegetation. In total, 13 plant communities and land cover types were mapped within the project area on site and off site, consisting of coastal sage scrub, chamise chaparral, southern mixed chaparral, scrub oak chaparral, valley needlegrass grassland, non-native grassland, cismontane alkali marsh, open water, mulefat scrub, southern willow scrub, stock pond, disturbed habitat and developed land. The coastal sage scrub and chamise chaparral were subdivided as the non-disturbed versus disturbed forms depending on the percent native shrub cover and dominance of non-native species.

Table 1
Acreages of Plant Communities

Plant Community Type	Holland Code	On Site
Coastal Sage Scrub	32500	1,126.83
Disturbed Coastal Sage Scrub	32500	348.69
Chamise Chaparral	37210	143.14
Disturbed Chamise Chaparral	37210	15.67
Scrub Oak Chaparral	37900	22.45
Southern Mixed Chaparral	37121	4.95
Disturbed Valley Needlegrass Grassland	42110	110.46
Non-Native Grassland	42200	79.02
Cismontane Alkali Marsh	52310	1.73
Disturbed cismontane alkali marsh	11200	0.37
Mulefat Scrub, all jurisdictions Mulefat Scrub, CDFW and County only	63310	0.15
Open Water	64140	0.17
Southern Willow Scrub	63320	0.27
Developed Land	12000	0.87
Disturbed Habitat	11300	13.46
Stock Pond	18000	0.79
	Total	**1,869.02**

The following provides a description of the vegetation communities that would be temporarily impacted and restored. The condition of the habitats that would be impacted would be restored to the pre-existing condition or better and hence provide the type, function, and value of the habitats that are impacted.

1.3.2.1 Coastal Sage Scrub/Disturbed Coastal Sage Scrub (CSS/dCSS)

Within the project area, coastal sage scrub occurs in relatively distinct subassociations. Shrub cover in disturbed coastal sage scrub may vary from 5%–50% and typically consists of California sagebrush (*Artemisia californica)*, California buckwheat (*Eriogonum fasciculantum*), deerweed (*Lotus scoparius*), rock-rose (*Helianthemum scoparium*), and laurel sumac (*Malosma laurina*). In addition to these native shrub species, a large percentage of the ground cover is taken up by broad-leaved filaree (*Erodium botrys*) and fascicled tarplant (*Deinandra [Hemizonia] fasciculata*). Other non-natives include grasses such as slender wild-oat (*Avena barbata*), soft chess (*Bromus hordeaceus*), black mustard (*Brassica nigra*), and star-thistle (*Centaurea melitensis*).

Another subassociation occurs in many of the northwestern areas, where coastal sage scrub consists of nearly monotypic stands of Munz's sage (*Salvia munzii*). This subassociation contains a typical shrub cover of 80%– 90%, with Munz's sage comprising approximately 60%–70% of the overall cover. Other species present include San Diego County viguiera (*Viguiera laciniata*), California buckwheat, and occasionally laurel sumac and chamise (*Adenostoma fasciculatum*). The typical non-disturbed coastal sage scrub on site, occurring throughout the site but concentrated in the northern portions, consists of 50%–90% shrub cover with a relative co-dominance of California sagebrush, California buckwheat, and San Diego County viguiera. The density of shrub cover within this sub-type varies with exposure, with denser cover often associated with laurel sumac and white sage (*Salvia apiana*) occurring in more mesic areas and sparser cover often associated with San Diego barrel cactus (*Ferocactus viridescens*) occurring in more xeric conditions. In the eastern portion of the project site shrub cover is relatively low, however, because the percent cover of non-native species is very low it is likely that the low shrub cover is a natural condition due to exposure, slope, and/or soil. There are also small occurrences of coastal sage scrub dominated by broom baccharis (*Baccharis sarothroides*). This form often is the result of historic disturbance or occurs in association with a drainage.

1.3.2.2 Chamise Chaparral/Disturbed Chamise Chaparral (CC/DCC)

A predominant chaparral type found in Ventura, Los Angeles, San Bernardino, Riverside and San Diego counties, chamise chaparral is a plant community overwhelmingly dominated by chamise (*Adenostoma fasciculatum*; Holland 1986). Typically 1–4 meters in height, stands of chamise are adapted to repeated fires because the species is capable of stump-sprouting following wildfire. Associated species may include manzanita (*Arctostaphylos* spp.), ceanothus (*Ceanothus* spp.), California buckwheat, deerweed, scrub oak (*Quercus berberidifolia*), lemonadeberry (*Rhus integrifolia)*, sages (*Salvia* spp.), ashy spike-moss (*Selaginella cinerascens*), and yucca (*Yucca*

spp.). However, associated species do not comprise a significant portion of the overall cover, and mature stands contain very little herbaceous understory or litter.

Chamise chaparral occurs in the north-central portion of the site, often on mesic exposures, and in the southeastern portion on relatively flat topography. Covering relatively large areas, these habitat patches consist of nearly monotypic stands of chamise. In habitat edges, usually adjacent to either coastal sage scrub or scrub oak chaparral, components of those habitats will also be present. For example, California buckwheat, scrub oak, and chaparral broom occur along with chamise in habitat edge areas. Very little understory is present in this community, with the exception of ashy spike-moss and fringed spineflower (Chorizanthe fimbriata) occurring in many of the chamise patches in the eastern areas, and non-native grasses that have filled gaps in a few areas where chamise chaparral occurs as a disturbed community.

1.3.2.3 Scrub Oak Chaparral (SOC)

Regionally, scrub oak chaparral is a dense chaparral up to 20-feet-tall, dominated by scrub oak. Occurring on more mesic areas than other chaparrals, associated species may include manzanitas, ceanothus, bedstraw (*Galium angustifolium*), toyon (*Heteromeles arbutifolia*), honeysuckle (*Lonicera* spp.), holly-leaf cherry (*Prunus ilicifolia*), redberry (*Rhamnus* spp.), and western poison oak (*Toxicodendron diversilobum*) (Holland 1986).

Scrub oak chaparral occurs on north-facing slopes in the west-central and eastern portions of the project site. In the west-central areas, the main component of this vegetation community is Nuttall's scrub oak (*Quercus dumosa*). In more steeply sloped areas, shrub density reaches 100% with the predominant species being Nuttall's scrub oak, mission manzanita (*Xylococcus bicolor*), chamise, and lemonadeberry. In more gently sloped areas, which appear to have been disturbed due to exposure to grazing activity, shrub density is approximately 60%, nearly all of which is composed of Nuttall's scrub oak with the other shrubs occurring only occasionally. This area has an understory of mainly non-native grass species (*Avena barbata*, *Bromus* spp.). The single scrub oak chaparral patch in the eastern portion of the site is dominated by scrub oak, mission manzanita, and chamise.

1.3.2.4 Disturbed Valley Needlegrass Grassland (VGL)

Valley needlegrass grassland is a native grassland dominated by perennial bunchgrasses such as needlegrass (*Nassella* spp.). This plant community typically occurs as a mosaic with coastal sage scrub on heavy or clay soils, often on more mesic exposures and at the bases of slopes, but also may occur in large patches.

On the Alternative H site, Valley needlegrass grassland often occurs on more mesic exposures in the southwestern and central portions of the site. Native and non-native species both are present and include the following species: purple needlegrass (*Nassella pulchra*), foothill needlegrass (*N. lepida*), blue-eyed grass (*Sisyrinchium bellum*), shooting star (*Dodecatheon clevelandii*), checker mallow (*Sidalcea malvaeflora*), Johnny jump-up (*Viola pedunculata*), and California melic (*Melica imperfecta*), as well as non-native grasses (such as *Avena barbata, Bromus madritensis, Vulpia myuros*, and *B. hordeaceus*) and non-native annual forbs (e.g., *Erodium botrys* and *Filago gallica*). Native shrubs also are present to varying degrees, from approximately 2% –10% cover, and mainly include California sagebrush, coastal goldenbush (*Ericameria* sp.), and California buckwheat.

All native grasslands on site appear disturbed, presumably due to past grazing and invasion of non-native species in recent years. Disturbance is indicated by the abundance of invasive non-native species and lower percentage of native grass cover. Grasslands in which at least 10% of the cover consisted of Nassella and other native species were considered Valley needlegrass grasslands; all others were mapped as non-native grasslands. It should be noted that native grassland species including needlegrasses and native annuals are found throughout the site within coastal sage scrub and non-native grassland communities. Densities of native grasses were generally below 10% with the exception of small patches of high density native grasses usually within disturbed coastal sage scrub. The patches were considered too small for mapping purposes.

1.3.2.5 Non-Native Grassland (NNG)

Where the native habitat has been disturbed frequently or intensively by grazing, fire, agriculture, or other activities, the native community usually is incapable of recovering. These areas often are characterized by weedy, introduced annuals, primarily grasses, including especially slender wild oat, bromes, mustards, filaree, and Russian-thistle (*Salsola tragus*).

On the project site, non-native grassland occurs in distinct patches where extensive grazing and possibly mechanical disturbance have reduced the cover of native shrub and grass species to below 5%. These areas typically are dominated by soft chess, foxtail chess, fascicled tarplant, and broad-leaved filaree, but also contain star-thistle, black mustard, and shining peppergrass (*Lepidium nitidum*).

1.3.3 Sensitive Plant Species

Sensitive plant species locations recorded during surveys are summarized in Table 2. In addition to these current surveys, historical records of sensitive plant species were reviewed from the following published databases: Ogden (1992b), MSCP maps (Ogden 1999), and CDFG (2003a).

Table 2
Summary of Sensitive Plant Species Detected Onsite

Scientific Name Common Name	Status Federal/State CRPR MSCP Coverage County List	Locations and Population Size on Site		
		Previous Studies	*Current Surveys*	*Comments*
Acanthomintha ilicifolia San Diego thornmint	FT/SE 1B.1 Covered Narrow Endemic A	MBA 89/91	Observed in all recent surveys	Identified in two disturbed areas with heavy clay soils. Associated vegetation consists of non-native grasses and annuals. Populations cover approximately 0.1 and 3.3 acres each. Because the population is densely distributed in these locations, the actual number of individuals was not quantified. Analysis of this plant is based on the acreage over which it occurs.
Adolphia californica California adolphia	None/None 2B.1 Not Covered B	Not observed	Observed in 1999	Identified in two locations in the western portion of the site within sparse coastal sage scrub (<20 individuals).
Convolvulus simulans Small-flowered morning-glory	None/None 4.2 Not Covered D	Not observed	Observed in 2000	Three locations in western part of project site in clay soil grasslands; approximately 120 total individuals.
Dichondra occidentalis Western dichondra	None/None 4.2 Not Covered D	MBA 89/90	Observed in 1999 and 2000	Recorded in eight locations on the central ridges of the site. A total of 30 patches were recorded that vary from 1 to 500 square feet. This species was recorded based on patch size due to low-growing dense form of the species. The species covers approximately 0.50 acre total over the 30 patches.
Dudleya variegata Variegated dudleya	None/None 1B.2 Covered – Narrow Endemic A	MBA 89/90	Observed in 1999 and 2000	Identified in 40 locations throughout the site. Estimated population size on site is approximately 5,833 individuals. Generally in clay soils and west-facing slopes, ridge lines, or margins of mesas.
Ferocactus viridescens San Diego barrel cactus	None/None 2B.1 Covered B	MBA 89/90	Observed in all recent surveys	Identified in approximately 50 locations throughout the project area, generally on south-facing slopes. Occurrences usually consist of <5 individuals; large stands contain 10–15 individuals. Approximately 217 individuals were recorded. Habitat association is generally open coastal sage scrub.
Harpagonella palmeri Palmer's grapplinghook	None/None 4.2 Not Covered D	Not identified	Observed in 1999 and 2000	Identified in three areas in the eastern and western portions of the site within disturbed coastal sage scrub, dirt road margins, and non-native grassland with heavy clay soils. Approximately 298 individuals were recorded.

Table 2
Summary of Sensitive Plant Species Detected Onsite

Scientific Name Common Name	Status Federal/State CRPR MSCP Coverage County List	Locations and Population Size on Site		
		Previous Studies	*Current Surveys*	*Comments*
Iva hayesiana San Diego marsh-elder	None/None 2B.2 Not Covered B	MBA 89/90	Observed in 1999 and 2000	Abundant within narrow drainages throughout the site. Total on-site population in the thousands. Generally associated with cismontane alkali marsh or sparsely vegetated, rocky stream channels. Due to densely occurring populations within these drainages, this plant was recorded by area rather than number of individuals. A total of 5.4 acres of this species was recorded on site.
Juncus acutus ssp. *leopoldii* Southwestern spiny rush	None/None 4.2 Not Covered D	MBA 89/90	Observed 1999 and 2000	Identified in 11 locations within cismontane alkali marsh. Occurrences typically contain <10 individuals within each location. Approximately 30 individuals present on site.
Microseris douglasii ssp. *platycarpha* Small-flowered microseris	None/None 4.2 Not Covered D	Not observed	Observed in 2000	Six locations identified in the western part of the site in open non-native grassland/coastal sage scrub. Approximately 1,270 individuals recorded on the site.
Bloomeria [Muilla] clevelandii San Diego goldenstar	None/None 1B.1 Covered A	MBA 89/90	Observed in 1999 and 2000	Identified in 21 locations in western and eastern portions of the site on mesic slopes containing sparse coastal sage scrub/native grassland. Approximately 1,146 individuals in western part of site and 1,400 individuals in eastern part in 2000. 1999 observations were fewer in number of individuals than 2000 observations presumably due to rainfall differences.
Myosurus minimus ssp. *apus* Little mousetail	None/None 3.1 Not Covered C	MBA 89/90	Not observed in recent surveys	Number of individuals was not recorded. Was not detected in recent focused surveys and is no longer considered to be present in K6 vernal pools.
Ophioglossum californicum California adder's-tongue	None/None 4.2 Not Covered D	MBA 89/90	Not observed	Two locations described near Otay Lakes Road in west and south-central portions of the site. Location was not mapped by MBA. Not identified during recent surveys; may no longer be present since it was not recorded during the rare plant surveys conducted in 2000.
Pentachaeta aurea ssp. *aurea* Golden-rayed pentachaeta	None/None 4.2 Not Covered D	Not observed	Observed in 2000	Four locations identified in western portion of site; Approximately 91 individuals occur in coastal sage scrub/grassland.

Table 2
Summary of Sensitive Plant Species Detected Onsite

Scientific Name Common Name	Status Federal/State CRPR MSCP Coverage County List	Locations and Population Size on Site		
		Previous Studies	*Current Surveys*	*Comments*
Quercus dumosa Nuttall's scrub oak	None/None 1B.1 Not Covered A	Not observed	Observed in all recent surveys	Occurs as a major component in areas mapped as scrub oak chaparral (approximately 200 individuals per acre). The acreage encompassed by this species is approximately 6.2 acres, including additional small patches within chaparral in the western portion of the site.
Romneya coulteri Coulter's matilija poppy	None/None 4.2 Not Covered D	Not observed	Observed on site	Number, location not mapped. Single location described as being adjacent to a drainage in eastern part of site.
Salvia munzii Munz's sage	None/None 2B.2 Not Covered B	MBA 89/90	Observed in all recent surveys	Occurs throughout the site but most densely in the northwestern quarter. Also occurs on K9 mesa. Most areas containing dense coastal sage scrub in this area contain approximately 50%–80% vegetation cover of S. munzii. Because the population is densely distributed in these locations, the actual number of individuals was not quantified. Analysis of this plant is based on the acreage over which it occurs, approximately 295 acres.
Viguiera laciniata San Diego County viguiera	None/None 4.2 Not Covered D	MBA 89/90	Observed in all recent surveys	Occurs throughout the site but most densely in the northern portion. Encompasses approximately 1,071 acres of the site. Comprises between 5% and 30% of vegetation cover in coastal sage scrub.

Federal Designations:
- FE Federally listed Endangered
- FT Federally listed as Threatened
- FSC Federal Species of Concern

State Designations:
- P CDFG Protected and Fully Protected Species
- R California Rare Species
- SE State-listed as Endangered
- ST State-listed as Threatened.

CNPS Designations:
- List 1A Presumed Extinct in California
- List 1B Rare or Endangered in California and Elsewhere
- List 2 Rare or Endangered in California, More Common Elsewhere
- List 3 Need More Information
- List 4 Plants of Limited Distribution
- .1 Seriously endangered in California
- .2 Fairly endangered in California
- .3 Not very endangered in California

MSCP Designations:
- Covered: Listed as Covered Species in Appendix B of Implementing Agreement between CDFG, USFWS, and County of San Diego (March 1998)

Not Covered: Not Listed as Covered Species in Appendix B of Implementing Agreement between CDFG, USFWS, and County of San Diego (March 1998).

County Designations:

List A Plants rare, threatened, or endangered in California and elsewhere (corresponds to CNPS List 1B)
List B Plants rare, threatened, or endangered in California but more common elsewhere (corresponds to CNPS List 2)
List C Plants which may be quite rare, but need more information to determine their rarity status (corresponds to CNPS List 3)
List D Plants of limited distribution and are uncommon, but not presently rare or endangered (corresponds to CNPS List 4)

1.3.4 Sensitive Wildlife Species

Knowledge concerning the presence/absence of sensitive wildlife species was ascertained from previous studies of Otay Ranch, as well as from focused surveys for fairy shrimp and Quino checkerspot butterfly. Although focused surveys for sensitive nesting bird species, amphibians, reptiles, or mammals have not been conducted, incidental observations of many sensitive wildlife species have been made. Species locations recorded during these surveys are summarized in Table 3. Given the context of the project within the MSCP Subarea Plan and Otay SRP, this level of sensitive wildlife survey information is adequate to assess potentially significant impacts. Evaluation of wildlife use is based on suitable habitat since the species may occur in areas other than where observed.

Table 3
Summary of Sensitive Wildlife Species Detected on Site or with Moderate to High Potential to Occur

Species (Scientific Name)	Regulatory Status: Federal; State; MSCP; County Group	General Habitat Association	Status on Site		
			Previous Studies	*Current Surveys*	*Comments*
San Diego fairy shrimp *(Branchinecta sandiegonensis)*	USFWS: FE CDFW: None MSCP: Covered County: 1	Small, shallow vernal pools, occasionally ditches and road ruts	Not observed	Observed in 2000, 2004, 2008, 2014-2015	A total of nine basins on K8 and one basin on K6 are confirmed occupied by this species.
Quino checkerspot butterfly *(Euphydryas editha quino)*	USFWS: FE CDFW: None MSCP: Not Covered County: 1	Sparsely vegetated hilltops, ridgelines, occasionally rocky outcrops; host plant *Plantago erecta* and nectar plants must be present	Not observed (known from 1970s P. Ehrlich research)	Observed in 1999, 2000, 2004, 2008, 2016	Over five years of surveys, a total of 145 individuals have been observed; 71 observed in 2008 and 16 observed in 2016. A total of 1,470 acres of coastal sage scrub and disturbed coastal sage scrub as potential habitat are on site. A total of 1,624 acres of critical habitat occurs on site. Observations were concentrated in the northern portion and along a ridgeline within the central portion of the site. A number of additional observations were scattered throughout the rest of the site.
Monarch butterfly *(Danaus plexippus*)	USFWS: None CDFW: None MSCP: Not Covered. County: 2	Overwinters in eucalyptus groves	Not observed	Observed	This species occurs on site on occasion as single individuals in flight over the area; however, there are not sufficient resources available to make this a significant overwintering site.
Western spadefoot toad *(Spea hammondii)*	USFWS: None CDFW: CSC MSCP: Not Covered County: 2	Most common in grasslands, coastal sage scrub near rain pools or vernal pools; riparian habitats	Not observed	Observed in 2000	Tadpoles incidentally observed in a single depression on K8 mesa. Could occur within pools that inundate.
Rosy boa *(Charina trivirgata)*	USFWS: None CDFW: None MSCP: Not Covered County: 2	Rocky chaparral, coastal sage scrub, oak woodlands, desert and semi-desert scrub	Not observed	Observed in 2008	Observed in northeastern portion of the project site.

Table 3
Summary of Sensitive Wildlife Species Detected on Site or with Moderate to High Potential to Occur

Species (Scientific Name)	Regulatory Status: Federal; State; MSCP; County Group	General Habitat Association	Status on Site		
			Previous Studies	*Current Surveys*	*Comments*
Western pond turtle *(Emys marmorata)*	USFWS: None CDFW: CSC MSCP: Covered County: 1	Slow-moving permanent or intermittent streams, ponds, small lakes, reservoirs with emergent basking sites; adjacent uplands used during winter	Not observed	Observed in 2000	Incidentally observed laying eggs in a dirt road in northwestern corner of site. Another observation of an individual crossing Otay Lakes Road immediately south of the site.
Orangethroat whiptail *(Aspidoscelis hyperythra)*	USFWS: None CDFW: CSC MSCP: Covered County: 2	Coastal sage scrub, chaparral, grassland, juniper, and oak woodland	MBA 89	Observed in 2000 and 2008	Observed in coastal sage scrub. Probably occurs elsewhere within open patches of coastal sage scrub and grassland.
Coastal whiptail *(Aspidoscelis tigris stejnegeri)*	USFWS: None CDFW: None MSCP: Not Covered County: 2	Coastal sage scrub, chaparral	Not observed	Observed in 2000	Observed in sparse coastal sage scrub on site. Probably resident in open areas and sparse coastal sage scrub and chaparral throughout the site.
San Diego ringneck snake *(Diadophis punctatus similis)*	USFWS: None CDFW: None MSCP: Not Covered County: 2	Open, rocky areas in moist habitats near intermittent streams: marsh, riparian woodland, sage scrub	Not observed	Observed on site.	Observed in the main eastern drainage. Moderate potential to occur within deeper canyons on site and under debris on site.
San Diego [coast; Blainville's] horned lizard *(Phrynosoma blainvillii)*	USFWS: None CDFW: CSC MSCP: Covered County: 2	Coastal sage scrub, non-native grassland, chaparral, oak and riparian woodland, coniferous forest	MBA 89	Observed in 1999, 2000, and 2008	Observed within undisturbed coastal sage scrub and chamise chaparral.
Red-diamond rattlesnake *(Crotalus ruber)*	USFWS: None CDFW: CSC MSCP: Not Covered County: 2	Variety of shrub habitats where there is heavy brush, large rocks, or boulders	Not observed	Observed in 1999, 2000, and 2008	Observed throughout the site within dense and sparse coastal sage scrub and chaparral.

Table 3
Summary of Sensitive Wildlife Species Detected on Site or with Moderate to High Potential to Occur

Species (Scientific Name)	Regulatory Status: Federal; State; MSCP; County Group	General Habitat Association	Status on Site		
			Previous Studies	*Current Surveys*	*Comments*
Two-striped garter snake *(Thamnophis hammondi)*	USFWS: None CDFW: CSC MSCP: Not Covered County: 1	Streams, creeks, pools, streams with rocky beds, ponds, lakes, vernal pools	Not observed	Not observed	Probably occurs on site.
Cooper's hawk *(Accipiter cooperii)*	USFWS: None CDFW: WL MSCP: Covered County: 1	Riparian and oak woodlands, montane canyons	Not observed	Observed in 2000	Observed flying over site; potential for nesting on site is low due to lack of developed forest or woodland habitats.
Southern California rufous-crowned sparrow *(Aimophila ruficeps canescens)*	USFWS: None CDFW: WL MSCP: Covered County: 1	Grass-covered hillsides, coastal sage scrub, chaparral with boulders and outcrops	MBA 89	Observed in 1999, 2000, and 2008	Observed throughout the site and highly likely to nest on site.
Grasshopper sparrow *(Ammodramus savannarum)*	USFWS: None CDFW: CSC MSCP: Not Covered County: 1	Open grassland and prairie, especially native grassland with a mix of grasses and forbs	MBA 89	Observed in 2000 and 2008	Observed mainly in southwestern and central portions of the project site.
Bell's sage sparrow *(Artemisiospiza belli belli)* (taxonomy was changed to Bell's sparrow *Artemisiospiza belli)*	USFWS: None CDFW: WL MSCP: Not Covered County: 1	Coastal sage scrub and dry chaparral along coastal lowlands and inland valleys	MBA 89	Observed in 1999, 2000, and 2008	Identified in eastern and western portions of site in sparse coastal sage scrub.
Golden eagle *(Aquila chrysaetos)*	USFWS: BCC CDFW: P, WL, Golden Eagle Protection Act MSCP: Covered County: 1	Open country, especially hilly and mountainous regions; grassland, coastal sage scrub, chaparral, oak savannas, open coniferous forest	Not observed	Observed in 1999, 2000, and 2008	Observed in eastern and north-central portion of the site. Site is in mapped primary foraging area for known golden eagle territory. Nearest known nest site is >3 miles from project site. No nesting observed; could forage.

Table 3
Summary of Sensitive Wildlife Species Detected on Site or with Moderate to High Potential to Occur

Species (Scientific Name)	Regulatory Status: Federal; State; MSCP; County Group	General Habitat Association	Status on Site		
			Previous Studies	*Current Surveys*	*Comments*
Red-shouldered hawk *(Buteo lineatus)*	USFWS: None CDFW: None MSCP: Not Covered County: 1	Riparian and woodland habitats, eucalyptus	Not observed	Observed on site	Observed foraging over the site near the southern portion. Moderate potential to also occur on site as a breeding bird.
Turkey vulture *(Cathartes aura)*	USFWS: None CDFW: None MSCP: Not Covered County: 1	Rangeland, agriculture, grassland; uses cliffs and large trees for roosting, nesting, and resting	Not observed	Observed in flight over site	Occasionally forages over the project area. No breeding potential.
Northern harrier *(Circus cyaneus)*	USFWS: None CDFW: CSC MSCP: Covered County: 1	Open wetlands (nesting), pasture, old fields, dry uplands, grasslands, rangelands, coastal sage scrub	Not observed	Observed in 1999, 2000, and 2008	Observed foraging over grassland areas in the K6 and K8 mesas. Could nest on site.
White-tailed kite *(Elanus leucurus)*	USFWS: None CDFW: P MSCP: Not Covered County: 1	Open grasslands, savanna-like habitats, agriculture, wetlands, oak woodlands, riparian	Not observed	Observed in 1999 and 2000	Observed foraging in grassland areas; nesting is unlikely due to lack of forest or woodlands.
California horned lark *(Eremophila alpestris actia)*	USFWS: None CDFW: WL MSCP: Not Covered County: 2	Open habitats, grassland, rangeland, shortgrass prairie, montane meadows, coastal plains, fallow grain fields	Not observed	Observed in 1999, 2000, and 2008	Observed within sparse coastal sage scrub and grasslands on the project site.
Prairie falcon (*Falco mexicanus)*	USFWS: BCC CDFW: WL MSCP: Not Covered County: 1	Grassland, savannas, rangeland, agriculture, desert scrub, alpine meadows; nest on cliffs or bluffs	Not observed	Observed in 2000	Observed within coastal sage scrub and grasslands. Rock outcrops on site suggest possible roosting and nesting.

Table 3
Summary of Sensitive Wildlife Species Detected on Site or with Moderate to High Potential to Occur

Species (Scientific Name)	Regulatory Status: Federal; State; MSCP; County Group	General Habitat Association	Status on Site		
			Previous Studies	*Current Surveys*	*Comments*
Loggerhead shrike *(Lanius ludovicianus)*	USFWS: BCC CDFW: CSC MSCP: Not Covered County: 1	Open ground including grassland, coastal sage scrub, broken chaparral, agriculture, riparian, open woodland	MBA 89	Observed in 2000	Likely to nest on site, individuals observed in grassland and sparse coastal sage scrub.
Coastal California gnatcatcher *(Polioptila californica californica)*	USFWS: FT CDFW: CSC MSCP: Covered County: 1	Coastal sage scrub, coastal sage scrub–chaparral mix, coastal sage scrub–grassland ecotone, riparian in late summer	MBA 89	Observed in 1999, 2000, and 2008	Observed nesting in coastal sage scrub and chamise chaparral throughout the site. Coastal sage scrub, coastal sage scrub–chaparral mix, coastal sage scrub–grassland ecotone, riparian in late summer; 29 locations are recorded on site and 3 additional locations are recorded for Cornerstone Land for a total of 32 locations recorded; (MSCP data).
Western bluebird *(Sialia mexicana)*	USFWS: None CDFW: None MSCP: Covered County: 2	Open forests of deciduous, coniferous or mixed trees, savanna, edges of riparian woodland saltmarsh, riparian habitats	Not observed	Observed during winter	This species once did not breed on the coastal plain; however, in recent years it has begun to do so. The only breeding opportunities for this species would be within wooded habitats which are not present on site.
Burrowing owl *(Athene cunicularia)*	USFWS: BCC CDFW: CSC MSCP: Covered County: 1	Grassland, lowland scrub, agriculture, coastal dunes and other artificial open areas	MBA 89	Observed in 2000	Previously identified on eastern slope of K6 mesa as an incidental observation of single individual in central portion of site.
Barn owl *(Tyto alba)*	USFWS: None CDFW: None MSCP: Not Covered County: 2	Open forests of deciduous, coniferous or mixed trees, savanna, riparian habitats , abandoned structures, mines	Not observed	Observed flying over site	This species has abundant foraging opportunities but limited nesting opportunities on site. It is unlikely that there is enough cover on site to support nesting by this species.

Table 3
Summary of Sensitive Wildlife Species Detected on Site or with Moderate to High Potential to Occur

Species (Scientific Name)	Regulatory Status: Federal; State; MSCP; County Group	General Habitat Association	Status on Site		
			Previous Studies	*Current Surveys*	*Comments*
San Diego black-tailed jackrabbit *(Lepus californicus bennettii)*	USFWS: None CDFW: CSC MSCP: Not Covered County: 2	Arid habitats with open ground; grasslands, coastal sage scrub, agriculture, disturbed areas, rangelands	Not observed	Incidentally observed.	Observed throughout the site.
San Diego desert woodrat *(Neotoma lepida intermedia)*	USFWS: None CDFW: CSC MSCP: Not Covered County: 2	Coastal sage scrub, chaparral, pinyon–juniper woodland with rock outcrops, cactus thickets, dense undergrowth	Not observed	Nests incidentally observed.	Middens were observed within chaparral areas on site.
Mountain lion *(Puma concolor)*	USFWS: None CDFW: None MSCP: Covered County: 2	Coastal sage scrub, chaparral, riparian, woodlands, forest; rests in rocky areas, and on cliffs and ledges that provide cover	MBA 89	Not observed	Signs of movement through eastern portion of site.

Federal Designations:
FE Federally listed Endangered
FT Federally listed as Threatened
MNBMC Fish and Wildlife Service Migratory Nongame Birds of Management Concern.

State Designations:
CSC California Special Concern Species
P CDFG Protected and Fully Protected Species
R California Rare Species
SE State-listed as Endangered
ST State-listed as Threatened
WL Watch List.

MSCP Designations:
Covered Listed as Covered Species in Appendix B of Implementing Agreement between CDFG, USFWS, and County of San Diego (March 1998)
Not Covered Not Listed as Covered Species in Appendix B of Implementing Agreement between CDFG, USFWS, and County of San Diego (March 1998).

County Designations:
Group 1: High level of sensitivity, either because listed as threatened or endangered or because species has very specific natural history requirements that must be met
Group 2: Species is becoming less common, but is not yet so rare that extirpation or extinction is imminent without immediate action. These species tend to be prolific within their suitable habitat types.

1.3.5 Sensitive Resources Affected by the Project

Implementation of Alternative H would result in both temporary and permanent losses of the vegetation community acreages presented in Table 4. Losses would occur as the result of grading and fuel management. Impacts also include the installation of a water tank within the northern portion of the Otay Ranch RMP Preserve. The Otay Ranch RMP Preserve vegetation community acreage is shown in Table 5 and includes those areas not impacted by grading or fuel modification zones, as well as areas proposed to be restored and areas that are considered to be acceptable as a land use within the Preserve. These land uses include the water tank, and the road that provides access to the water tank. The restoration includes the slopes along the water tank and its access road, slopes along Otay Lakes Road, water line, and the natural drainage bypass facilities. A vegetation map with the proposed development footprint is provided in Figure 3. Permanent impacts to sensitive vegetation communities are mitigated per the Otay Ranch Resource Management Plan.

Table 4
Summary of Impacts to Vegetation Communities within the Project Site

		Total On-Site Impacts (Acres)						
		Outside Preserve	*Allowable Uses Inside Otay Ranch RMP Preserve*					
		*Proposed Development Impacts (Includes Fuel Modification, Detention Basins, Manufactured slopes)**	*Permanent Impacts*	*Temporary Impacts*				
Vegetation Community Type	**Existing On-Site* (Acres)**		*Water Tank and Road to Water Tank*	*Temporary Slopes (along Otay Lakes Road and slopes for water tank)*	*Water Line*	*Natural Drainage Bypass Facilities*	**Total Otay Ranch RMP Preserve Not Impacted**	**Conserved Open Space Not Impacted**
Coastal Sage Scrub	1,126.83	115.76	2.16	7.94	0.23	0.83	970.64	29.37
Disturbed Coastal Sage Scrub	348.69	273.09	--	3.02	—	—	48.21	24.36
Chamise Chaparral	143.14	89.95	—	0.43	—	—	49,06	3.70
Disturbed Chamise Chaparral	15.67	14.09	—	—	—	—	1.58	—
Scrub Oak Chaparral	22.45	22.10	—	—	—	—	0.35	—
Southern Mixed Chaparral	4.95	0.00	—	—	—	—	4.95	—

Table 4
Summary of Impacts to Vegetation Communities within the Project Site

Vegetation Community Type	Existing On-Site* (Acres)	Total On-Site Impacts (Acres)					Total Otay Ranch RMP Preserve Not Impacted	Conserved Open Space Not Impacted
		Outside Preserve	*Allowable Uses Inside Otay Ranch RMP Preserve*					
		*Proposed Development Impacts (Includes Fuel Modification, Detention Basins, Manufactured slopes)**	*Permanent Impacts*	*Temporary Impacts*				
			Water Tank and Road to Water Tank	*Temporary Slopes (along Otay Lakes Road and slopes for water tank)*	*Water Line*	*Natural Drainage Bypass Facilities*		
Disturbed Valley Needlegrass Grassland	110.46	102.94	--	0.02	—	—	7.50	—
Nonnative Grassland	79.02	64.49	--	—	—	—	3.11	11.42
Cismontane Alkali Marsh	1.73	0.06	—	—	—	—	1.58	—
Disturbed Cismontane Alkali Marsh	0.37	0.19	--		—	—	0.18	—
Mulefat Scrub (CDFW jurisdiction only)	0.15	0.06	—	—	—	—	0.09	—
Open Water	0.17	0.17	—	—	—	—	—	—
Southern Willow Scrub	0.27	0.01	—	—	—	—	0.29	—
Developed Land	0.87	0.79	--	0.08	—	—	—	—
Disturbed Habitat	13.46	7.79	0.02	0.15	—	—	4.55	0.95
Stock Pond	0.79	0.50	—	—	—	—	0.29	—
Totals	**1,869.02**	**691.99**	**2.18**	**11.65**	**0.23**	**0.83**	**1092.35**	**69.80**

* All impacts are considered permanent. Proposed Development impacts do not include the off-site road improvements. The off-site impacts are anticipated to remain the same as shown in Table 12 of the Biological Resources Technical Report (March 2015) and include the areas required for the improvements to Otay Lakes Road.

** These impacts are associated with allowable uses within the Preserve. Total acreage for Otay Ranch RMP Preserve and Conserved Open Space is 1,177 acres.

Table 5 Summary of Impacts to Vegetation Communities within Otay Ranch RMP Preserve On-site

Vegetation Community Type	Total Otay Ranch RMP Preserve Impacted and Not Impacted (Acres)	Allowable Uses within the Otay Ranch RMP Preserve (Impacted Acres)				Otay Ranch RMP Preserve Not Impacted
		Permanent Impacts	*Temporary Impacts*			
		Water Tank and associated road grading for the tank	*Slope grading to be revegetated (for water tank slopes and Otay Lakes Road Slopes)*	*Natural Drainage Bypass Facilities*	*Water line (trench then restore)*	
Coastal Sage Scrub	981.70	2.16	7.94	0.83	0.23	970.64
Disturbed Coastal Sage Scrub	51.24	—	3.02	—	—	48.21
Chamise Chaparral	49.49	—	0.43	—	—	49,06
Disturbed Chamise Chaparral	1.58	—	—	—	—	1.58
Scrub Oak Chaparral	0.35	—	—	—	—	0.35
Southern Mixed Chaparral	4.95	—	—	—	—	4.95
Disturbed Valley Needlegrass Grassland	7.52	—	0.02	—	—	7.50
Nonnative Grassland	3.11	—	—	—	—	3.11
Cismontane Alkali Marsh	1.67	—	—	—	—	1.58
Disturbed Cismontane Alkali Marsh	0.18	—		—	—	0.18
Mulefat Scrub	0.09	—	—	—	—	0.09
Open Water	0.00	—	—	—	—	—
Southern Willow Scrub	0.26	—	—	—	—	0.29
Developed Land	0.08	—	0.08	—	—	—
Disturbed Habitat	4.72	0.02	0.15	—	—	4.55
Stock Pond	0.29	—	—	—	—	0.29
Total	**1,107.23**	**2.18**	**11.65**	**0.83**	**0.23**	**1092.35**

1.3.6 Mitigation Strategy for Restoring Impacted Functions and Services

This Restoration Plan provides guidance for on-site restoration of 12.47 acres of sensitive upland vegetation communities, consisting of coastal sage scrub (9.0 acres), disturbed coastal sage scrub (3.02 acres), chamise chaparral (0.43 acre), disturbed Valley needlegrass grassland (0.02 acre) which are shown in Table 5. Temporary off-site impacts to sensitive vegetation communities will be immediately restored and are not otherwise a part of the proposed on-site project open space. These areas are anticipated to be the same as those provided in the Otay Ranch Resort Village Biological Resources Technical Report (Dudek 2015)

Although not discussed in this Restoration Plan, mitigation for the Resort Village also includes the conveyance of 786.7 acres of Otay Ranch RMP Preserve in conformance with requirements of the Otay Ranch Resource Management Plan (RMP; Otay Ranch 2011). At a future date, the remaining onsite areas of the Otay Ranch RMP Preserve will be conveyed or used as mitigation as required by the Wildlife Agencies. The Conserved Open Space will be protected by a Biological Open Space Easement or will be placed in the Otay Ranch RMP Preserve either with the first Final Map or at a later date in accordance with a Boundary Line Adjustment. The entire Otay Ranch RMP Preserve onsite will be protected by a biological open space easement. This Restoration Plan has been written to comply with this condition as stated in the *Otay Ranch Resort Village Biological Resources Technical Report* (Dudek 2015):

> Graded slopes that are proposed to remain within the MSCP Preserve are proposed to be restored to native habitat appropriate for the location and the previous condition of the area. These areas include a total of approximately 12 acres of upland habitat.
>
> Restoration areas may incorporate salvaged materials, such as seed collection and translocation of plant materials as determined to be appropriate. This includes California adolphia, San Diego barrel cactus, San Diego thornmint, San Diego goldenstar, and variegated dudleya. The project biologist shall review the plant materials prior to grading and will determine if salvage is warranted. Based on preliminary review of the proposed restoration areas, the slopes along the water tank and roads would be suitable for California adolphia and San Diego barrel cactus and the areas within the natural drainage facilities would be appropriate for the variegated dudleya, San Diego goldenstar and San Diego thornmint due to the clay soils. If salvage is not appropriate due to site conditions, plant conditions, or reproductive stage of the plants, a letter indicating that will be prepared and submitted to the Director of the Department of Planning and Development Services and the Director of Parks and Recreation. Prior to grading the project, a Conceptual Upland Restoration Plan (Appendix H) [this document] will be submitted to and receive approval from the

Director of the Department of Planning and Development Services (or their designee) and the Director of Parks and Recreation.

The Conceptual Upland Restoration Plan shall include, but not be limited to, the following to ensure the establishment of the restoration objectives: a 24- by 36-inch map showing the restoration areas, site preparation information, type of planting materials (species ratios, source, size of container, etc.), planting program, 80% success criteria, 5-year monitoring plan, and detailed cost estimate. The cost estimate shall include planting, plant materials, irrigation, maintenance, monitoring, and report preparation. The report shall be prepared by a County approved biologist and a state of California licensed landscape architect. The habitat created pursuant to the Conceptual Upland Restoration Plan must be placed within an open space easement dedicated to the County prior to or immediately following the approval of the Conceptual Upland Restoration Plan.

The upland restoration will occur on slopes that will be temporarily disturbed during the implementation of the development plan and that are inside the Otay Ranch Preserve (Preserve). The upland restoration areas are included within the Preserve boundaries and will be managed as part of the Preserve once they are reestablished. The restoration areas are located in several areas surrounding the development footprint. No restoration that is proposed to remain within the Preserve will be located within Brush Management Zones. The restoration plan has been reviewed and approved by the Wildlife Agencies. Slopes that are within the project development footprint that are not part of this restoration plan are addressed in the landscape plans and will be composed on native plant species where adjacent to the Preserve.

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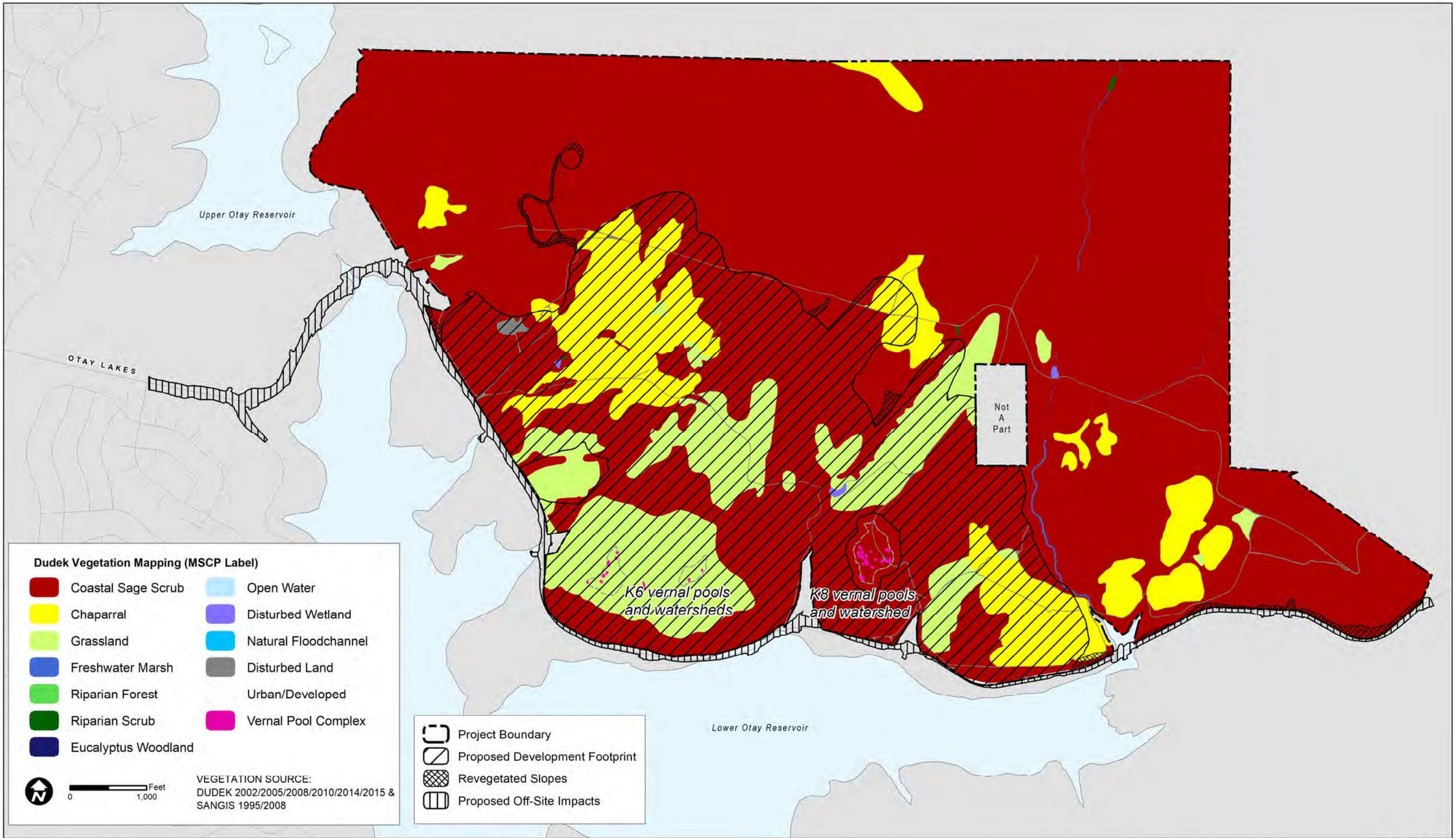

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FIGURE 3

Vegetation Map with Proposed Development Footprint

Otay Ranch Resort Village Site - Conceptual Uplands Restoration Plan

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2 GOAL OF THE COMPENSATORY MITIGATION PROJECT

The primary goal of the proposed upland slope restoration mitigation for the Otay Ranch Resort Village Alternative H is to compensate for the impacts to the upland habitats located on site within the development footprint through and restoration of slopes that are proposed to remain within the preserve and that will be preserved on site in perpetuity.

2.1 Responsibilities

The project applicants (Moller Otay Lakes Investments LLC and Baldwin & Sons LLC) are responsible for initiating and funding all maintenance and monitoring requirements during the 5-year program. They shall be responsible for hiring a qualified landscape maintenance contractor to carry out all maintenance work and for hiring a qualified biological monitor to carry out the monitoring program for the duration of the 5-year period. The specific identity of the compensatory mitigation project designer, the installation contractor, the Project Biologist and the restoration maintenance contractor will be determined at a later date during the permitting process.

2.1.1 Applicant Responsibilities

Dudek submits this Restoration Plan on behalf of the applicant, Baldwin & Sons LLC (contact: Mr. Stephen Haase) and Moller Otay Lakes Investments LLC (contact: Mr. Chuck Miller).

The applicant shall be financially responsible for all negotiations and costs associated with the implementation, monitoring, maintenance and long-term management and protection of the mitigation area, as defined in this document. The applicant shall select and may replace, at their discretion, the landscape contractor, maintenance contractor, and Project Biologist for this project at any time. The applicant or current owner shall submit a bond to cover the anticipated costs for the implementation, maintenance, and monitoring of the program through the end of a 5-year maintenance and monitoring program outlined herein. The applicant, or current owner, shall place a conservation easement over the new mitigation areas before project installation.

The applicant shall be responsible for directing the project grading contractor to salvage topsoil under the direction of the Project Biologist.

Proposed mitigation areas shall be accessible to the County throughout the Alternative H review and permitting phase, as well as during the installation and 5-year maintenance and monitoring period.

2.1.2 Project Biologist Responsibilities

A qualified Project Biologist shall be retained to monitor the implementation and perform long-term project biological monitoring, as outlined in this Restoration Plan. The Project Biologist may be an individual or a team of individuals and must have demonstrated experience in upland habitat restoration. The Project Biologist must demonstrate an understanding of local plant community ecology and habitat restoration, and have expertise in plant and wildlife identification.

The Project Biologist shall help ensure that the applicant follows the guidelines of this Restoration Plan, County permits, and final detailed restoration construction documents for the interpretation of such plans, field monitoring of project installation, monitoring through the 120-day maintenance period, and biological monitoring throughout the 5-year monitoring period.

The Project Biologist shall be required to monitor throughout the construction period. Monitoring time may increase or decrease as required by field conditions, construction activities, and resource agency permit requirements. During the construction, the Project Biologist will have the authority to stop work in situations where biological resources, not permitted to be impacted, are in imminent danger of impacts from construction activities. Each site visit will be documented in a monitoring observation report that will note construction activities relating to the mitigation plan and any project deficiencies.

Biological monitoring will be performed following acceptance of mitigation installation and throughout the 5-year, long-term monitoring phase.

2.1.3 Restoration Contractor Responsibilities

Restoration project installation and associated labor shall be provided by a contractor who has a valid California landscape contractor's license, has previous experience with habitat restoration in the region, and can demonstrate successful similar restoration project experience in Southern California. The contractor must demonstrate knowledge of techniques for growing, transplanting, and installing native upland species.

The contractor will be responsible for conformance to this Restoration Plan, resource agency permits, and construction documents. The construction documents will include detailed graphic restoration construction plans and written specifications that are in substantial conformance with the information and direction contained within this Restoration Plan. The contractor's responsibility will continue until successful restoration and final acceptance by the project applicant and Project Biologist at the end of the initial 120-day plant establishment period. The contractor will not be released from contractual obligations until written notification is received from the applicant, in consultation with the Project Biologist, certifying satisfactory completion of

all required installation tasks as defined in the installation contract, construction documents, this Restoration Plan, and resource agency permits.

After initial installation and completion of the 120-day plant establishment period, the applicant will have 5-year maintenance services performed by an experienced landscape maintenance contractor that specializes in habitat restoration. Maintenance work shall be performed as indicated herein and according to the Project Biologist's recommendations. The applicant may choose to hire a maintenance contractor that is separate from the installation contractor.

2.1.4 Landscape Maintenance Contractor Responsibilities

A landscape contractor shall provide 5-year maintenance. The contractor shall possess a valid California landscape contractor's license, have previous experience with habitat restoration in the region, and be able to demonstrate successful similar restoration project experience in Southern California. The contractor must demonstrate knowledge of techniques for maintaining native upland species and control of non-native species.

The contractor must possess a Qualified Applicator's License or certificate issued by the California Department of Pesticide Regulation, and maintenance laborers must receive appropriate annual herbicide training. Maintenance laborers must be trained to distinguish common native and non-native plants.

Maintenance work shall be performed as indicated herein and according to the Project Biologist's recommendations. The landscape maintenance contractor will be responsible for conformance to this Restoration Plan and any other conditions of County or resource agency permits. The contractor's responsibility will continue until final project approval by the County. The contractor will not be released from contractual obligations until written notification is received from the applicant certifying satisfactory completion of all required maintenance activities.

2.1.5 Seed and Plant Collection and Procurement Responsibilities

Plant material may be purchased from a native plant nursery (such as Tree of Life Nursery in San Juan Capistrano, Las Pilitas Nursery in Escondido, Moosa Creek in Valley Center, HRS Nursery in Carlsbad, El Nativo Nursery in Azusa, Matilija Nursery in Moorpark, or other sources of local native plant material approved by the Project Biologist). If project timing allows, seed collected from the project area will be provided for propagation to one of the native plant nurseries listed above. The container plant provider is responsible for providing the quantity and sizes of plants specified in this Restoration Plan in a pest and disease-free condition.

Seed for inclusion in the hydroseed mixtures may be obtained from S&S Seeds in Carpinteria, California, or an alternative source approved by the Project Biologist. The seed provider will be responsible for meeting the pure live seed and germination percentages standards listed in this Restoration Plan and documenting the provenance of the seed collected. If feasible, seed shall be collected from the project site.

2.2 Type and Area of Habitat to be Restored

The purpose of this Restoration Plan is to provide site-specific instructions for upland habitat restoration as on-site mitigation for Alternative H impacts to sensitive habitat areas that will be included within the Preserve. The slope impacts resulting from the disturbance will be restored to native habitat, including coastal sage scrub, grassland, or chaparral, as appropriate, and retained within the designated Preserve.

2.2.1 Restoration Areas

This Restoration Plan provides guidance for on-site restoration of approximately 12 acres of sensitive upland vegetation communities, consisting of coastal sage scrub (9.0 acres), disturbed coastal sage scrub (3.02 acres), chamise chaparral (0.43 acres), and disturbed Valley needlegrass grassland (0.02 acre) which are shown in Figure 4 (Table 6).

Table 6
Proposed Restoration for Upland Slope Areas for Alternative H

Vegetation Type	Total On-site Slope Restoration
Coastal sage scrub ; 32500	9.00
Disturbed coastal sage scrub; 32500	3.02
Chamise chaparral; 37210	0.43
Disturbed Valley needlegrass grassland; 42110	0.02
Total	**12.47**

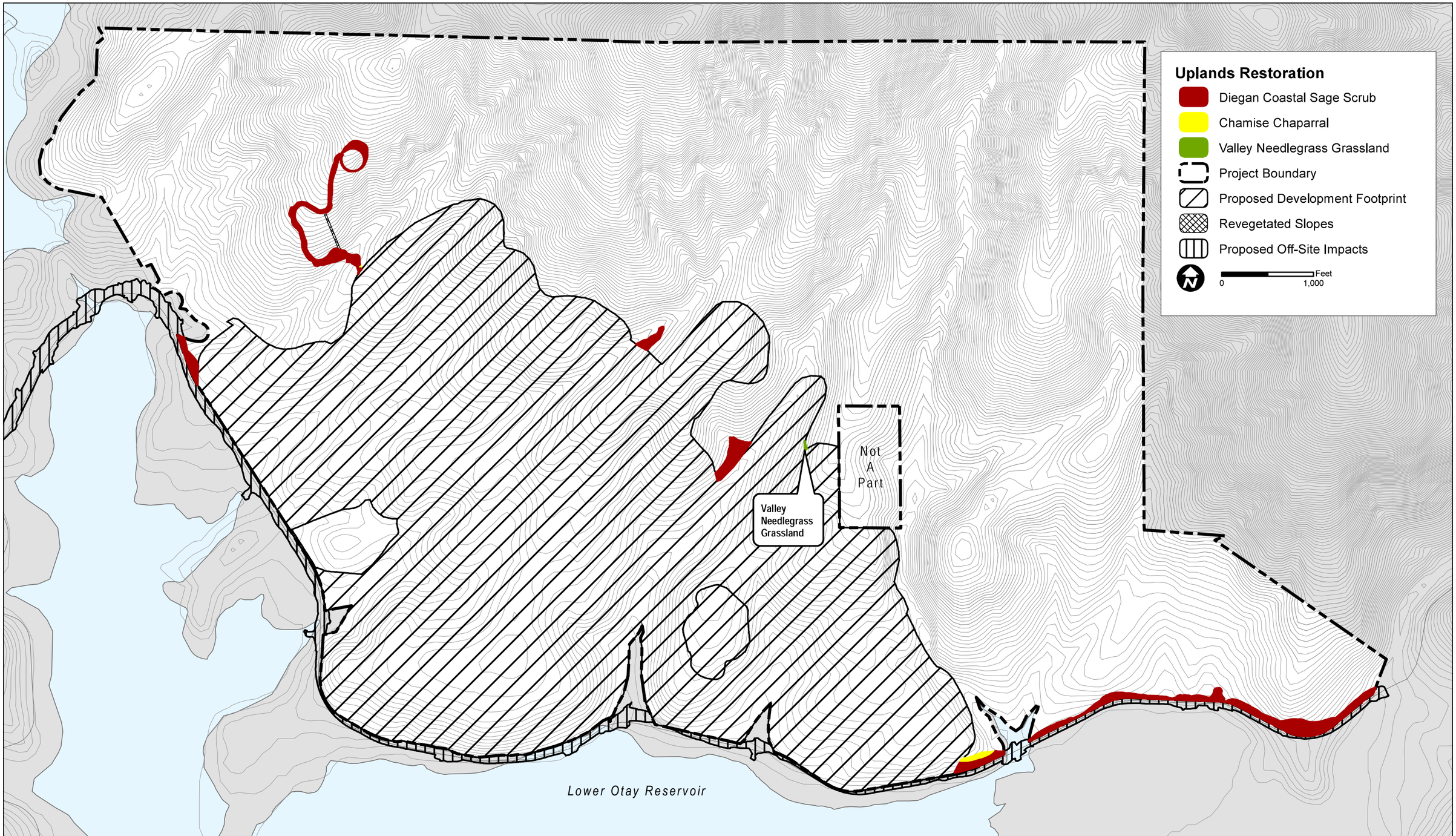

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FIGURE 4

Slope Revegetation Areas

Otay Ranch Resort Village Site - Conceptual Uplands Restoration Plan

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2.2.2 Goals

The primary goal of the Restoration Plan is to restore both on- and off-site upland vegetation communities that are temporarily impacted by the proposed development.

2.3 Functions and Values

Secondary goals of the restoration effort include providing for the establishment or translocation through a salvage task of special-status plant species that will be impacted by the proposed development, such as San Diego sunflower (*Viguiera laciniata*), Nuttall's scrub oak (*Quercus dumosa*), California adolphia, San Diego barrel cactus (*Ferocactus viridescens*), and variegated dudleya (*Dudleya variegata*), San Diego thornmint (*Acanthomintha ilicifolia),* San Diego goldenstar (*Bloomeria clevelandii)* and providing species-rich and structurally diverse native vegetation communities that will provide for plant and wildlife species diversity in the area. Additionally, coastal sage scrub dominated by San Diego viguiera (2.5 acres) or dominated by Munz's sage (6.5 acres) will also be provided in appropriate locations determined during the preparation of the plans and specifications. The requirement for the salvage of San Diego thornmint, San Diego goldenstar, variegated dudleya, San Diego barrel cactus and coastal sage scrub habitat dominated by San Diego viguiera or Munz's sage are requirements of the Otay Ranch RMP2. Achievement of the performance criteria described herein would create areas of suitable habitat for special-status plant and wildlife species.

It is anticipated that the restoration areas will become self-sustaining over time, needing little or no maintenance once established. Maintenance activities during the establishment period will focus on ensuring the establishment of self-sustaining habitat. Upon completion of 5 years of maintenance and monitoring of the restoration areas, and acceptance of the site by the County, the restoration area shall enter the long-term management phase along with the overall Preserve.

2.4 Time Lapse

It is anticipated that the upland mitigation will be installed within the same calendar year that the impact occurs with success criteria being met five years after installation.

2.5 Cost

This cost estimate is based on the project as described in this Restoration Plan and includes estimated costs for construction, installation, and monitoring of the approximately 12-acre area (see items A through E below). The cost estimate does not include costs associated with construction of the development or associated construction monitoring. The total cost estimate is **$1,350,000.**

Item A: Site Work and Construction

Includes site clearing, collection and chipping of native brush, topsoil salvage and replacement (1,613 cubic yards), site grading and contouring, incorporation of soil amendments and fertilizer, spreading native mulch, and installing silt fencing. It should be noted that some of these activities (e.g., soil salvage and replacement, installation of silt fencing) may be included with the overall site grading contract rather than the upland restoration work.

Cost Estimate: $345,000

Item B: Temporary Irrigation System

Includes the installation of an on-grade temporary irrigation system. Estimate assumes that the system can be tied in to an existing back-flow preventer, pressure regulator, and water meter.

Cost Estimate.....$230,000

Item C: Plant and Seed Installation

Includes installation of 18,690 one-gallon container plants and the hydroseed mix, as specified in this Restoration Plan.

Cost Estimate: $315,000

Item D: 5-Year Maintenance Period

Includes maintenance according to the maintenance schedule described in this Restoration Plan, including eight visits in Years 1 and 2, six visits in Year 3, and four visits in Years 4 and 5.

Cost Estimate: $400,000

Item E: Biological Monitoring During 5-Year Maintenance Period

Includes monitoring mitigation installation work, preparing an as-built report, monthly monitoring during the 120-day plant establishment period, bimonthly monitoring during the Year 1, quarterly monitoring during Years 2–5, quantitative data collection in Years 2–5, and preparation of five annual monitoring reports.

Cost Estimate: $85,000

TOTAL COST ESTIMATE (ITEMS A–E) $1,375,000

3 DESCRIPTION OF THE PROPOSED COMPENSATORY MITIGATION SITE

3.1 Site Selection

The restoration site includes those slopes that are within the proposed preserve. The surrounding area is a mosaic of grassland and scrub habitats hence the slopes are appropriate for having those habitats as the targeted goal of the plan. The restoration areas will be provided protection by being separated from development by back yard fencing and fuel modification zones, and by being in the Otay Ranch RMP Preserve. The habitat is historically and currently occupied within the greater preserve area, by sensitive plant and wildlife species and thus the restoration will contribute to the resources for these species.

3.2 Location and Size of Compensatory Mitigation Site

The size of the restoration areas are provided in Table 6. Locations of restoration areas are shown on Figure 4.

3.3 Functions and Values

Section 2.3 outlines the functions and values of the mitigation site.

3.4 Present and Proposed Uses

The present uses of the mitigation area are as undeveloped land. The proposed uses are as preserve land for Otay Ranch within which restoration is appropriate.

3.5 Reference Sites

Reference site information has not been collected at this time. However, the entire site has been mapped for vegetation communities and descriptions of the existing vegetation communities are provided in Section 1.3.2.

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4 IMPLEMENTATION PLAN FOR THE COMPENSATORY MITIGATION SITE

4.1 Rationale for Expecting Implementation success

Following approval of this Restoration Plan, detailed construction drawings and specifications will be prepared for construction purposes. Construction documents will conform with all aspects of this plan and to any subsequent permit conditions required by resource agencies. These documents may be subject to the review and comment by the County. Construction documents will incorporate the most current site condition information available. The construction document plan package will include a site plan that includes irrigation plans and planting plans, and associated legends, details, and specifications. The construction documents will indicate container plant species, container sizes, general planting locations, and areas to be seeded. All construction documents must conform with all aspects of this plan and to subsequent permit conditions required by the resource agencies. Restoration of the temporary impact areas is expected to be successful based on the presence of the native soils, the use of appropriate native plants and seeds, acquired from local sources, the inclusion of a temporary irrigation to help establish native seeds and plants, and by having an experienced maintenance contractor perform timely weeding and irrigation adjustments. Restoration success will be further ensured by having an experienced biologist/restorationist closely monitor and report on the progress of the project

4.2 Financial Assurances

The applicant will be required to provide a letter of credit, performance bond, or other special funding to ensure attainment of the approved compensatory mitigation project success criteria, as required by the County. The County will determine the monetary value of the letter of credit or performance bond based on an estimate of the total cost of the proposed compensatory mitigation project provided by the applicant. A restoration agreement shall be signed and notarized by the property owner following approval of this restoration plan and accompanied by the required security as agreed upon by the County of San Diego.

4.3 Schedule

To be provided.

4.4 Site Preparation

The landscape contractor shall be responsible for site and soil preparation. Before restoration work begins, the limit of work boundaries shall be delineated and staked to ensure that the contractor

stays within the limit of work and/or the proper acreage is restored. Removal of debris is not anticipated to be necessary.

4.4.1 Native Mulch Salvage

Native vegetation removed during the grubbing phase of construction will be stockpiled and mulched. The mulch will be spread in windrows no higher than 6 feet for storage until use. Distribution in windrows and limit of height will provide adequate air circulation to reduce amount of water weight and compression within piles. No irrigation system is anticipated for windrows. The mulch will primarily provide organic matter to the soil, and secondarily may provide a source of native seed. The native mulch will be applied to the restoration areas and incorporated into the top 12 inches before planting container plants and applying seed.

4.4.2 Topsoil Salvage

Topsoil shall be salvaged for placement in the graded restoration areas where special-status plant species will be transplanted or where grassland (native and non-native) restoration is planned. Grasslands and the special-status species requiring transplantation occur in clay soil. Therefore, soil shall be salvaged from areas of the project site with clay soil for use in the restoration effort. Salvaged topsoil is anticipated to provide soil physical structure and nutrients that would be lacking on the cut slopes to be revegetated as well as contain additional native seeds and microbes that may augment plant species diversity and enhance nutrient cycling and other ecosystem functions.

Before grading, the Project Biologist shall delimit approximately 1 acre of high-quality (i.e., relatively high proportion of native species) clay soil within the areas to be graded. When the topsoil has dried and before the onset of winter rains, the grading contractor will drive over the vegetation to crush the plant parts and incorporate them into the soil. The upper approximately 1foot of topsoil will be bladed and moved to soil stockpile storage areas to be determined by the contractor and the Project Biologist. The Project Biologist shall ensure that all stockpiling occurs outside of sensitive areas that the grading contractor uses areas within the grading footprint.

The topsoil shall be placed in separate, clearly marked, temporary topsoil storage piles. Piles shall be covered with a tarp prior to the onset of winter rains, if necessary.

4.4.3 Initial Weed Control

The restoration areas include graded slopes, and therefore the vegetation and resident seed bank will likely have been removed during the grading process. Thus, initial weed control may not be necessary. However, if the restoration area, or area immediately adjacent to the restoration area, on property owned by the responsible party supports non-native species, they shall be controlled prior to planting.

Where practical, "grow and kill" weed treatments will be conducted by the landscape contractor before the installation of native seed and container plants. The temporary irrigation system (if present) will be operated to encourage seed germination. When weeds have begun to grow, a foliar application of an appropriate herbicide will be applied to kill target weeds. If necessary, the cycle shall be repeated. Additional cycles may be required as recommended by the Project Biologist. Any herbicide application shall be conducted in accordance with label instructions under the direction of a state-certified qualified applicator. All dead weeds shall be removed from the soil surface, or ripped into the soil, if deemed appropriate by the Project Biologist.

4.4.4 Mulch Application and Soil Preparation

After completion of grading and before placement of salvaged topsoil and/or salvaged mulch, the soil within the slope restoration areas will be scarified. In areas where salvaged soil is placed, it shall be applied to a depth of approximately 1 foot. Salvaged mulch shall be spread over all restoration areas and incorporated into the top 12 inches. Restoration areas will be track-walked up and down slope after placement of salvaged soil and salvaged mulch to reduce erosion potential.

Areas where salvaged soil is not placed shall be amended. Soil tests shall be performed and analyzed for the cut slope areas to determine what soil amendments may be necessary for plant growth. Soil amendments shall be applied to the soil surface and incorporated into the top 12 inches.

4.5 Planting Plan

4.5.1 Seed Sources and Procurement

Container plant material may be purchased from a native plant nursery. If project timing permits, container plants will be grown from plant material collected from the project site and surrounding vicinity.

Seed for inclusion in the hydroseed mixtures may be obtained from S&S Seeds in Carpinteria, California, or an alternative source approved by the Project Biologist. To the maximum extent feasible, seeds and container plants shall be from southwestern San Diego County. If such seed is not available commercially, and project timing does not permit additional collection, the Project Biologist will consult with County staff to determine whether to use seed from outside of this area or substitute a different species in the seed mix.

4.5.2 Coastal Sage Scrub and Disturbed Coastal Sage Scrub Plant Palette

The restoration strategy for restoration of coastal sage scrub habitat includes reintroducing appropriate on-site native coastal sage scrub species (Table 7). A disturbed coastal sage scrub plant

palette has not been generated for this plan, as the areas mapped as disturbed will be treated the same in the restoration process as those not mapped as disturbed. The plant palette has been designed to provide a diverse mix of species, including nurse crop species for quick establishment and erosion control. Some species, particularly dot-seed plantain (*Plantago erecta*) and deerweed, are expected to germinate readily in response to adequate weather conditions and provide an initial ground cover layer that will reduce erosion potential. Shrubs and subshrubs, such as coastal goldenbush and California buckwheat, may germinate later and will provide greater structural diversity.

Table 7
Coastal Sage Scrub Plant Palette

Scientific Name	Common Name	Minimum Percent Live Seed	Rate (pounds/acre)
Seed Mix			
Cryptantha intermedia	common forget-me-not	5	2
Deinandra fasciculata	fascicled tarplant	20	1
Eriophyllum confertiflorum var. *confertiflorum*	long-stem golden yarrow	25	1
Eschscholzia californica	California poppy	85	1
Gnaphalium californicum	California everlasting	2	1
Gutierrezia sarothrae	broom snake-weed, matchweed	2	3
Isocoma menziesii ssp. *veneta*	Coastal goldenbush	15	1
Lasthenia californica	California goldfields	50	2
Acmispon glaber	deerweed	85	1
Lupinus bicolor	pygmy lupine	90	2
Nassella lepida	foothill stipa	65	4
Phacelia parryi	Parry's phacelia	80	2
Plantago erecta	dot-seed plantain	85	1
Salvia columbariae	chia	65	1
		Total Pounds/Acre	**23**
Scientific Name	**Common Name**	**Size**	**Spacing (feet on center)**
Container Plants			
Adolphia californica	California adolphia	1	5
Artemisia californica	coastal sagebrush	1	4
Cneoridium dumosum	bushrue	1	6
Encelia californica	California sunflower	1	4
Eriogonum fasciculatum	California buckwheat	1	5
Helianthemum scoparium var. *aldersonii*	Alderson's rockrose	1	3
Isomeris arborea	bladderpod	1	5
Lonicera subspicata var. *denudata*	southern honeysuckle	1	5

Table 7
Coastal Sage Scrub Plant Palette

Scientific Name	Common Name	Minimum Percent Live Seed	Rate (pounds/acre)
Seed Mix			
Malacothamnus fasciculatus	chaparral mallow	1	6
Malosma laurina	laurel sumac	1	8
Mimulus aurantiacus	Bush monkeyflower	1	4
Mirabilis californica var. *californica*	California wishbone bush	1	3
Rhamnus crocea	redberry	1	5
Salvia apiana	white sage	1	5
Salvia munzii	Munz's sage	1	5
Sambucus mexicana	blue elderberry	1	12
Viguiera laciniata	San Diego sunflower	1	5

4.5.3 Chamise Chaparral Plant Palette

Chamise chaparral is predominantly composed of chamise. The planting palette includes the dominant and component species of the vegetation community.

The restoration strategy for chaparral restoration is to plant the component species from container plants (chaparral species are difficult to establish from seed), and include some annual species to provide initial cover for erosion control and species diversity (Table 8). Additionally, the plant palette includes coastal sage scrub species because chaparral habitat develops slowly, and coastal sage scrub species will establish more quickly to provide greater structure on the restored slopes.

Table 8
Chaparral Plant Palette

Scientific Name	Common Name	Minimum Percent Live Seed	Rate (Pounds/Acre)
Seed Mix			
Deinandra fasciculata	Fascicled tarplant	20	1
Eriophyllum confertiflorum var. *confertiflorum*	Long-stem golden yarrow	25	1
Eschscholzia californica	California poppy	85	1
Gnaphalium californicum	California everlasting	2	1
Gutierrezia sarothrae	broom snake-weed, matchweed	2	3
Lasthenia californica	California goldfields	50	2
Lupinus bicolor	pygmy lupine	90	2
Nassella lepida	foothill stipa	65	4
Plantago erecta	dot-seed plantain	85	1
Salvia columbariae	chia	65	1
		Total Pounds/Acre	**17**
Scientific Name	**Common Name**	**Size**	**Spacing (feet on center)**
Container Plants			
Adenostoma fasciculatum	chamise	1	4
Artemisia californica	coastal sagebrush	1	4
Baccharis sarothroides	chaparral broom	1	5
Cneoridium dumosum	bushrue	1	6
Eriogonum fasciculatum	California buckwheat	1	5
Helianthemum scoparium var. *aldersonii*	Alderson's rockrose	1	3
Isomeris arborea	bladderpod	1	5
Malacothamnus fasciculatus	chaparral mallow	1	6
Malosma laurina	laurel sumac	1	8
Quercus dumosa	Nuttall's scrub oak	1	3
Rhamnus crocea	redberry	1	5
Rhus integrifolia	lemonadeberry	1	8
Xylococcus bicolor	mission manzanita	1	5

4.5.4 Valley Needlegrass Grassland Plant Palette

The restoration strategy for disturbed Valley needlegrass grassland is to plant most of the component species from seed, with some complimentary shrub species from container stock to increase species and structural diversity (Table 9). The shrubs shall be planted in small clusters of 5 to 10 plants within the grassland restoration areas.

Table 9
Grassland Plant Palette

Scientific Name	Common Name	Minimum Percent Live Seed	Rate (Pounds/Acre)
Seed Mix			
Cryptantha intermedia	common forget-me-not	5	2
Deinandra fasciculata	fascicled tarplant	20	1
Eriophyllum confertiflorum var. confertiflorum	long-stem golden yarrow	25	1
Eschscholzia californica	California poppy	85	1
Lasthenia californica	California goldfields	50	2
Lupinus bicolor	pygmy lupine	90	2
Nassella lepida	foothill stipa	65	4
Nassella pulchra	purple needlegrass	75	8
Phacelia parryi	Parry's phacelia	80	2
Plantago erecta	dot-seed plantain	85	1
Salvia columbariae	chia	65	1
Sisyrinchium bellum	blue-eyed grass	80	2
		Total Pounds/Acre	**27**
Scientific Name	**Common Name**	**Size**	**Spacing (feet on center)**
Container Plants			
Artemisia californica	Coastal sagebrush	1	4
Eriogonum fasciculatum	California buckwheat	1	4
Gnaphalium californicum	California everlasting	1	2
Gutierrezia sarothrae	broom snake-weed, matchweed	1	3
Melica imperfecta	California melic	1	2
Mimulus aurantiacus	Bush monkeyflower	1	3
Mirabilis californica var. californica	California wishbone bush	1	3
Sidalcea malvaeflora	checker mallow	1	2

4.6 Planting Design

Plant materials for the restoration areas will include the container stock and seed mixes indicated in the plant palettes provided in Tables 7 through 9. Exceptions include the off-site temporary impact areas and small on-site restoration areas (less than 0.10 acre), which may not be irrigated and may not be planted with container plants due to their isolation and small size. These areas will rely on the application of a native seed mix only.

Implementation of the mitigation efforts must be coordinated among the restoration contractor, the Project Biologist, and the nursery/seed supplier providing the plant materials and seed mixes from appropriate nursery stock, native seed stock, or both.

Planting locations will be shown on construction documents (planting plans) or be flagged in the field. Container plant materials will be planted in small clusters or groups to develop natural patchiness.

4.6.1 Seed Application Methods

Seed will be mixed uniformly in a slurry composed of water and virgin wood fiber mulch, and which will include:

- Seed mixture at indicated pounds-per-acre
- Virgin wood cellulose fiber mulch at 2,500 pounds-per-acre
- 'Az-tac' binder at 100 pounds-per-acre (if seed mix is to be installed between November and February)
- Amendments based on soil test results

Appropriate timing of application of the hydroseed and container planting will increase the survival of the plants. The best survival rates are achieved when container plants and seed are installed from late fall to early winter. Planting and seeding at the site should be timed to take advantage of seasonal rainfall patterns and should be accomplished no later than late winter of the implementation year.

Seed mixes shall be applied equally to all areas indicated on plans. Seeding shall only occur when environmental conditions are favorable for such activities, based on standard horticultural practices. Seeding shall not take place if temperatures are unreasonably high, or if the site is excessively wet or muddy. Best management practices shall be incorporated as an erosion control measure along all hydroseeded slopes, including silt fencing at the toe of the slope.

4.6.2 Container Planting Methods

Container stock shall be installed using industry standard techniques. A hole two times the diameter of the root ball will be excavated to the depth of the root ball. Each hole will be filled with water and allowed to drain prior to plant installation. Each container plant root ball shall be scarified prior to installation. Backfill soil will contain no amendments and fertilizers unless shown in the construction documents, recommended by soil test results and/or by the Project Biologist. After installation, each plant shall be thoroughly irrigated to the depth of the root ball. The location of each container plant shall be pin-flagged to aid in future identification, weeding, and survival monitoring.

4.7 Irrigation

A temporary above-grade irrigation system is proposed to provide supplemental irrigation to facilitate weed control and successful establishment of native container plants and seed installed at the site. The irrigation system will be used only until the plants are established such that they can survive on their own from seasonal rainfall. It is expected that the irrigation system will be removed at the end of Year 3 of the 5-year maintenance and monitoring period, depending upon the level of plant establishment achieved by that time. Watering on site will gradually be decreased prior to the irrigation system being abandoned in order to allow the plants to acclimate to the site's natural conditions.

The irrigation system will be installed as an aboveground system so that irrigation equipment may be removed once the system has been decommissioned, and once the resource agencies and the County have approved and signed off the site. The applicant will be responsible for removal of the irrigation system prior to project completion. The irrigation system will use a water source located as close to the site as possible. All on-site irrigation will consist of polyvinyl chloride pipe staked on grade at approximately 10 feet on center and at all corners, providing coverage of the restoration areas using spray and/or rotor heads, where appropriate. The landscape contractor will install all irrigation. Irrigation will be discontinued by the end of the Year 3, and all aboveground components will be removed from the site prior to the end of the 5-year period.

The contractor will inspect the irrigation system regularly and make any necessary repairs and adjustments as required. Plants growing near the sprinkler heads may be pruned to maintain adequate sprinkler coverage. Where pruning is not feasible or allowed, irrigation heads may need to be raised up on staked risers to reach above developing plants to avoid head blockage. Once the plants are well established, the irrigation schedule will be reduced and/or terminated on direction of the Project Biologist

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5 MAINTENANCE DURING MONITORING

5.1 120-Day Establishment Period

The installation contractor shall complete a 120-day plant establishment maintenance period following container plant installation and hydroseed application. Maintenance responsibilities include weed control to promote successful establishment of the applied native seed mix and erosion control until the vegetative cover has established on the restored slopes. Weed control methods may include mechanical removal and chemical treatment of non-native weed species.

During the initial 120-day plant establishment period, following the container plant installation and seeding, the Project Biologist will monitor site conditions twice monthly. The Project Biologist will note seedling germination, container plant survival, soil erosion, and weed and exotic species control to determine if the plants are becoming adequately established and to verify that the seed application has been successful. If the seed application has been successful and adequate germination occurs, then rapid seedling emergence should limit the need for erosion control devices. Potential remedial actions if germination is not sufficient include reseeding, installation of additional erosion control devices, and follow-up weed control.

The Project Biologist will inform the installation contractor of concerns regarding successful plant establishment and will coordinate appropriate remedial actions

5.2 Five-year Maintenance Plan

The purpose of the maintenance plan is to provide guidelines for long-term maintenance of the restoration areas during the 5-year establishment period. Maintenance activities shall occur in consultation with the Project Biologist.

The maintenance period shall begin upon successful completion of the 120-day establishment period. The maintenance period is scheduled to last for 5 years and will conclude once the County determines that the project is successful.

Because the goal of this project is to establish a natural system that can support itself with little or no maintenance, the primary focus of the maintenance plan is concentrated in the first few seasons of plant growth following the restoration effort, when weeds can easily out-compete native plants. The intensity of the maintenance activity is expected to decrease each year as the native plant materials become more established and as local competition from non-native plants for resources on the site is minimized through direct removal and treatment of non-natives. However, long-term maintenance concerns for the site will include non-native, exotic, and invasive plant species adjacent to the site and potential establishment from wind-borne seed.

The risk of large-scale reinvasion of non-native plants onto the site can be adequately minimized during the first 5 years by adhering to these specific maintenance and management guidelines.

5.2.1 Schedule of Maintenance Inspections

Maintenance activities, including weed control, shall be conducted by the maintenance contractor at least monthly during the winter and spring (January–June) in Years 1 and 2, and at increasing intervals for the remainder of the 5-year maintenance program (Table 10).

Table 10
Preliminary Project Maintenance Schedule

Task	Timing/Frequency
Site Preparation and Establishment	
Site clearing, mulch salvage and application, and soil preparation/perimeter exotic removal	Summer or fall, or per Migratory Bird Treaty Act restrictions
Installation of temporary irrigation system	Fall (following site clearing and soil preparation)
Weed/exotic removal and grow–kill cycles	Fall (following site preparation)
Planting container stock	Early winter (following grow–kill cycles)
Hydroseed application	Winter (following planting)
Completion of 120-day establishment period	Spring
Maintenance Program	
Year 1	Eight (8) times (monthly January through June; August; November)
Year 2	Eight (8) times (see Year 1)
Year 3	Six (6) times (bimonthly)
Year 4	Four (4) times (approximately quarterly)
Year 5	Four (4) times (approximately quarterly)
Final Signoff	End of Year 5

5.2.2 Site Protection

The restoration areas are located within the Preserve area. It is anticipated that the Preserve area will be fenced. Because of the dispersed distribution of the restoration areas, no special fencing or signage is proposed to distinguish these areas from the larger Preserve area. However, signage shall be installed to indicate the location of the habitat restoration sites.

5.2.3 Weed Control

Weeds (non-native/exotic plant species) are expected to be the primary pest problem, particularly during the first few years of the maintenance period. The maintenance contractor shall control weeds within the mitigation site. The contractor shall control weeds so they do not prevent the

establishment of native species or invade adjacent areas. The contractor shall control weeds prior to setting seed. The contractor shall use a combination of herbicide treatment, mechanical treatments (weed whipping), and physical removal to control non-native plant species.

Herbicide application is an efficient method to control non-native plants, particularly during the first year's maintenance when weeds can be abundant. Herbicide application is also favorable because it kills non-native plants without soil disruption, which can invigorate additional weed seeds to germinate. However, herbicide application must be conducted by knowledgeable, experienced staff who can recognize and distinguish native species from non-native species to avoid problems with damage to native species. In general, a broad spectrum, systemic herbicide, such as glyphosate, will be applied as a foliar spray to target plants. Herbicide applicators shall be properly trained in general herbicide safety and in the label requirements of all herbicides used, and shall be able to identify target and non-target plant species. All herbicide applications will be conducted under the supervision of a state-licensed or certified qualified applicator.

Maintenance activities in the coastal sage scrub restoration areas that are conducted during the breeding season of coastal California gnatcatcher (February 15 and August 31) shall be coordinated with the Project Biologist. The Project Biologist may recommend a survey for gnatcatchers within the coastal sage scrub restoration areas prior to maintenance activities.

5.2.4 Trash and Debris Removal

Deadwood and leaf litter of native vegetation shall not be removed, unless extensive growth is causing a maintenance problem outside of the mitigation area. Deadwood and leaf litter provide valuable microhabitats for invertebrates, reptiles, small mammals, and birds. The Project Biologist shall approve pruning or clearing of native vegetation. Deadwood and leaf litter of native vegetation will be left in place to replenish soil nutrients and organic matter.

Trash consists of all man-made materials, equipment, or debris dumped, thrown, washed into, or left within the restoration areas. The maintenance contractor shall remove trash during each maintenance visit and shall dispose trash legally.

5.2.5 Erosion Control

Where needed, erosion control measures (e.g., installation of silt fencing, fiber rolls, etc.) may be required until target vegetation establishes within the restoration areas. The Project Biologist shall determine the need for erosion control in the field. The landscape maintenance contractor shall determine the type and placement of erosion control devices, in consultation with the Project Biologist and following standard best management practices.

5.2.6 Replacement Plantings and Reseeding

If annual container plant survival performance criteria are not met, the Project Biologist will determine the number of container plants required to meet annual survival requirements and will develop a list of the number of each species to be planted. The Project Biologist will determine the appropriate species and number to be planted based on site conditions, natural recruitment, and survival and growth trends of the target plant species in the replanting locations.

If the seed application fails, resulting in low seed germination, the Project Biologist may recommend re-seeding. Depending on the suspected cause of the failed seed application, modifications to the seeding methods and/or seed mix components may be made.

Either the landscape maintenance contractor or installation contractor may implement hydroseeding or container planting, as determined by the project applicant. Ideally, replacement planting and seeding shall be conducted after the onset of seasonal rains according to the methods described in Section 4.6. Replacement plantings or seeding will not be subject to a 120-day establishment period, but the Project Biologist will inspect these areas to assure adequate establishment.

5.2.7 Vandalism

Vandalism is not anticipated to be a problem during the 5-year maintenance period because the restoration areas will be located within a fenced preserve area. However, if vandalism becomes a problem, the applicant will be responsible for repairing any damage.

6 MONITORING PLAN FOR THE COMPENSATORY MITIGATION SITE

The Project Biologist shall monitor the restoration areas to (1) monitor the progress by assessing native habitat establishment (percent native and non-native coverage via quantitative and qualitative methods), relative to the established performance criteria; and (2) direct and monitor the maintenance activities and determine remedial actions in a manner that ensures that appropriate maintenance occurs in a timely manner. Target acreage and functions and values are provided in Table 6.

6.1 Performance Standards

Performance standards have been established for the restoration areas based on expected vegetative development within properly functioning habitat. The performance standards listed herein do not apply to the restoration of the off-site temporary impact areas because of their small size and because they will not be part of the Preserve.

Native plant cover criteria are based on the assumption that the greatest contribution to native plant cover will be provided initially by hydroseeded and container plants, but that in later years, natural recruitment and/or seeds from adjacent native areas and the growth of individual container plants will contribute more to plant cover. Lower performance standards for chaparral are based on the assumption that container plants used will grow more slowly and contribute less to overall vegetation cover. Maximum non-native plant cover criteria for each vegetation type are identical, as listed under "% Maximum Non-native Plant Cover" in Table 11.

Table 11
Performance Standards

Year	% Native Plant Cover			% Maximum Non-native Plant Cover	% Container Plant Survival
	Coastal Sage Scrub	*Chaparral*	*Grassland*	*All Restoration Areas*	*All Restoration Areas*
Year 1	20	10	30	10	95
Year 2	40	20	50	10	90
Year 3	55	40	60	10	85
Year 4	70	60	70	5	85
Year 5	80	70	80	5	85

Performance standards consist of the "% Native Plant Cover" and "% Maximum Non-native Plant Cover" standards listed in Table 11. Even if overall success criteria are achieved, if any subarea misses any performance criterion by more than 15% (e.g., native plant cover in a coastal sage scrub area in Year 2 is less than 40% in one subarea), specific remedial measures will be developed for that subarea.

Container plant survival performance criteria will be assessed during the final monitoring visit of the calendar year (November), and native and non-native plant cover criteria will be assessed during the latter portion of the growing season (i.e., late spring or summer) through the 5-year maintenance and monitoring program.

These performance criteria shall be used to assess the annual progress of the restoration areas and are regarded as interim project objectives designed to reach the final goals. The Project Biologist will also provide an annual qualitative assessment of the species composition of each subarea to assure that the vegetation is appropriate for the target plant community; for instance, a site dominated by early-successional native plant species and with small surviving container plants may not be considered to meet performance standards even if the criteria listed above were attained.

Fulfillment of these criteria will indicate that the uplands restoration areas on the project site are progressing toward the habitat types and functions that constitute the long-term goals of the plan. If the restoration efforts fail to meet the performance standards in any one year, the Project Biologist may recommend remedial action to be implemented the following year that will enhance the vegetation to a level of conformance with the original standard. These remedial actions may include re-seeding, applying soil amendments, additional weed control measures, erosion control, or adjustments to the irrigation and maintenance practices.

6.2 Monitoring Methods

The Project Biologist will conduct qualitative monitoring visits throughout the 5-year monitoring period. Qualitative monitoring will include reviewing the health and vigor of container plants and seed plantings, checking for the presence of pests and disease, reviewing soil moisture content and the effectiveness of the irrigation system, erosion problems, invasion of weeds/invasive species, and the occurrence of trash and/or vandalism. Contractor maintenance will be reviewed as well. Each monitoring visit will be followed by a written summary of observations, recommendations, and conclusions to be forwarded to the landscape maintenance contractor and applicant within 2 weeks of completion of the visit.

Attainment of percent native and non-native cover success criteria in the first year will be measured by visual estimation coupled with photo-documentation. To document overall site conditions, a minimum of one permanent photo point (for the duration of the 5-year monitoring program) will be established in each restoration area that is at least 0.5 acre in size.

Starting in Year 2, quantitative data collection will begin. Quantitative data collection will consist of transect data collection using the point-intercept methodology. Transects will be established in restoration areas that are at least 0.5 acre in size. The transect locations shall be spaced throughout

the restoration areas, and their exact locations shall be randomly determined. The transect locations shall be mapped using a global positioning system and shown on a figure in the annual reports. The transects shall be marked with metal t-posts at each end so the same locations can be sampled each year. Transect data shall be collected in late spring or early summer each year to show native cover by species, weed/invasive cover by species, total vegetated cover, and total unvegetated cover. In addition, a comprehensive plant species list shall be compiled for the restoration area.

Quantitative evaluation of container plant survival shall be determined through counts of dead container plants. The fall site visit shall assess plant mortality and recommend container plant replacement, if needed.

6.3 Monitoring and Reporting Schedules

The Project Biologist shall be responsible for monitoring activities of the installation contractor and the building contractor during preparation of the restoration areas as described in Table 12, including staking project boundaries, grading, irrigation installation, grow–kill cycles, container plantings, and seed application. During the 120-day plant establishment period, the Project Biologist will qualitatively monitor progress monthly and will conduct a final quantitative inventory of container plant survival during the last visit.

Table 12
Preliminary Project Monitoring Schedule

Task	Timing/Frequency
Site Preparation and Establishment	
Staking project perimeter	When scheduled to occur; present during boundary delineation of restoration areas
Grading	When scheduled to occur; present during grading of restoration areas
Installation of temporary irrigation system	Fall; confirm proper installation
Weed/invasive removal and grow–kill cycles	Fall; approximately monthly
Planting container stock	Early winter; present during all planting
Hydroseed application	Winter; present during all hydroseeding
120-day establishment period installation	Monthly (four (4) times)
Monitoring Program	
Year 1	Eight (8) times (monthly January through June; August; November)
Year 2	Six (6) times (bimonthly)
Year 3	Four (4) times (approximately quarterly)
Year 4	Four (4) times (approximately quarterly)
Year 5	Four (4) times (approximately quarterly)
Final signoff	End of Year 5

The Project Biologist will communicate and coordinate with the landscape contractor to assure the timely performance of project activities. The schedule discussed below is a recommended minimum monitoring schedule that the Project Biologist may revised in consultation with the applicant and landscape contractor, if site conditions warrant.

During Year 1, the Project Biologist will monitor the site eight times, on the approximate schedule shown in Table 12. Container plant survival will be quantified during the November visit to permit supplemental planting, if needed, to coincide with the onset of winter rains. The Project Biologist will assess native and non-native plant cover performance criteria during the final spring monitoring visit.

During Year 2, the Project Biologist will monitor the site six times, on an approximately bimonthly schedule. Site visits may be more frequent (up to once every 6 weeks) during the winter and spring, and less frequent (at least once every 3 months) during the dry season.

During Years 3 through 5, the Project Biologist will monitor the site four times annually, approximately on a quarterly schedule (visits may be concentrated somewhat during the winter and spring, if appropriate). If container plant survival rates have been achieved during the first 2 years and other native plant cover criteria are being met, continued monitoring of container plant survival will not be required. Otherwise, container plant survival will be quantified during the fall visit until survival criteria have been met successfully for 2 consecutive years and native plant cover criteria are also met.

The Project Biologist shall submit to the applicant/owner and County a letter report within 60 days of completion of the 120-day plant establishment period, and annual reports within 2 months following the anniversary date during the 5-year monitoring period.

6.4 Annual Monitoring Reports

An annual report outlining the results of each year's monitoring surveys shall be submitted to the applicant and County by June 1 following the anniversary date of each year's monitoring period throughout the 5-year maintenance and monitoring period. The monitoring reports shall describe the existing conditions of the site, compare existing conditions with the performance guidelines, identify any shortcomings of the restoration program, and recommend remedial measures necessary to help guide the project to a successful completion.

The reports will also include:

- A list of names, titles, and companies of all persons who prepared the content of the annual report and participated in maintenance and monitoring activities
- Prints of photo-point locations.
- Maps identifying the monitoring areas, transect locations, planting zones, etc., as appropriate.

7 COMPLETION OF COMPENSATORY MITIGATION

7.1 Notification of Completion

If the applicant believes the final success criteria have been met at the end of the 5-year monitoring period, the applicant shall notify the County upon submitting the annual report for the final year and request acceptance of the site. Early release may be possible if success criteria/performance standards are met early and the County agrees with the level of establishment.

Following the receipt of notification of completion, the County may visit the site to confirm completion of the mitigation efforts and issue letters of formal acceptance. Any remaining bond monies would also be granted release at that time.

7.2 Long-Term Management

The primary goal of this plan is the successful establishment of self-sustaining target upland habitats. Long-term management of the mitigation area is necessary to ensure the long-term viability of the restoration effort described in this Restoration Plan. The restoration areas will be included in the proposed Preserve system. Upon successful completion of 5 years of maintenance and monitoring of the restoration areas, and acceptance of the site by the County of San Diego (County), the restoration areas will be managed along with the overall Preserve lands in accordance with the RMP and *Subregional Plan* (SRP; Otay Ranch 1993).

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8 CONTINGENCY MEASURES

8.1 Initiating Procedures

If annual performance criteria are not met within any subarea in any year, or if the final success criteria are not met, the Project Biologist shall prepare an analysis of the cause(s) of failure and, if determined necessary by the County, propose remedial contingency measures. If the mitigation sites have not met the performance criteria, the responsible party's maintenance and monitoring obligations will continue, or alternative contingency measures will be negotiated, until the County or resource agencies gives final project permit compliance/approval.

8.2 Funding Mechanism

The same funding source for the proposed project, as established by the applicant, will provide funding for any additional planning, implementation, and monitoring of any contingency procedures that may be required to achieve the mitigation goals.

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9 REFERENCES

Bowman, R.H. 1973. *Soil Survey, San Diego Area, California, Part 1.* U.S. Department of the Agriculture. 104 pp. + appendices.

Dudek. 2014. Otay Ranch Resort Village *Biological Resources Technical Report, San Diego California*. Prepared for Baldwin and Sons, LLC, and the Otay Ranch Company JPB Development LLC. October.

Holland, R.F. 1986. *Preliminary Descriptions of the Terrestrial Natural Communities of California.* Nongame-Heritage Program, California Department of Fish and Game.

MSCP (Multiple Species Conservation Program) Policy Committee and MSCP Working Group. 1996. *MSCP Plan*. San Diego, California.

Otay Ranch. 1993. "Otay Subregional Plan, Volume 2." *General Development Plan/Subregional Plan*. Applicant: Otay Vista Associates. Prepared for Otay Ranch Joint Planning Project. Approved by: City of Chula Vista and County of San Diego. October 28.

Otay Ranch. 2011. *Otay Ranch Resource Management Plan*. Prepared by Dudek & Associates, Inc. for Otay Ranch Joint Planning Project. Approved by: City of Chula Vista and County of San Diego.

San Diego, County of. 2004. Biological Mitigation Ordinance, Ordinance No. 8845, 9246, 9632. Amendments effective 4/23/2004.

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APPENDIX E

Conceptual Resource Management Plan

CONCEPTUAL RESOURCE MANAGEMENT PLAN for
Otay Ranch Resort Village – Alternative H
Conserved Open Space Areas
San Diego County, California
GPA 04-003, SP 04-002, TM5361RPL, REZ 04-009; S08-028
Environmental Log Number ER 04-19-005; KIVA 03-1004387

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1 INTRODUCTION

This Conceptual Resource Management Plan (CRMP) has been prepared for the proposed Otay Ranch Resort Village Alternative H ("Alternative H") Project in accordance with the mitigation requirements identified in the Biological Resources Technical Report Supplemental Analysis Otay Ranch Resort Village – Alternative H (Dudek 2019). This document is consistent with the format and content requirements of the County of San Diego (County) Report Format and Content Requirements – Biological Resources for preparing a CRMP (County of San Diego 2010a). This CRMP covers the management of the Conserved Open Space areas to remain as part of the on-site biological open space on the project Site.

Approximately 70 acres of coastal scrub, chaparral, grassland, and non-native communities is proposed as on-site open space (Conserved Open Space) as part of the mitigation for the proposed project. The proposed Conserved Open Space design consists of three blocks of key biological resources situated along the northern, and eastern boundaries of the proposed development in the project Site, as well as an additional two blocks of open space in the center of the proposed development. Each of these blocks compares favorably in size and biologic importance to a number of other preserve areas. This CRMP includes a description of management tasks for the 70 acres of Conserved Open Space.

A CRMP is required for projects in the County when a planned project proposes Conserved Open Space preservation that would significantly benefit from active management and/or monitoring of biological and/or cultural resources.

1.1 Purpose of Biological Resources Management Plan

The purpose of this CRMP is to provide direction for the permanent preservation and management of the on-site biological Conserved Open Space preserve. The objectives of this CRMP are to:

A. Guide management of vegetation communities/habitats, plant and animal species, cultural resources, and programs described herein to protect and, where appropriate, enhance biological and cultural values.

B. Serve as a descriptive inventory of vegetation communities, habitats, and plant and animal species that occur on or use this property.

C. Establish the baseline conditions from which adaptive management will be determined and success will be measured.

D. Provide an overview of the operation, maintenance, administrative, and personnel requirements to implement management goals, and serve as a budget planning aid.

The details of this Conceptual RMP may be modified when the Final RMP is prepared and submitted to the County for approval. The County will review the Final RMP to ensure that it meets the specified purpose and objectives.

1.2 Implementation

1.2.1 Resource Manager Qualifications and Responsible Parties

Proposed Resource Manager

This CRMP will be implemented and managed by one of the following resource managers:

- Conservancy group
- Natural resources land manager
- Natural resources consultant
- County Department of Parks and Recreation
- County Department of Public Works
- Federal or state wildlife agency (U.S. Fish and Wildlife Service, California Department of Fish and Wildlife (CDFW; formerly California Department of Fish and Game))
- Federal land manager, such as Bureau of Land Management
- City land managers, including but not limited to departments of public utilities, parks and recreation, and environmental services.
- State land managers, such as California State Parks

If the developer desires that the department of parks and recreation manage the land, the following criteria must be met:

a. The land must be located inside a pre-approved mitigation area (PAMA) or proposed PAMA, or otherwise deemed acceptable by the director of parks and recreation (DPR).
b. The land must allow for public access.
c. The land must allow for passive recreation opportunities, such as a trails system.

The resource manager shall be approved in writing by the director of Planning and Development Services (PDS), the director of public works (DPW), or the DPR. Any change in the designated resource manager shall also be approved in writing by the direct County department that originally approved the resource manager. Appropriate qualifications for resource managers include, but are not limited to:

- Ability to carry out habitat monitoring or mitigation activities
- Fiscal stability, including preparation of an operational budget (using an appropriate analysis technique) for the management of this CRMP
- At least one staff member with a biological, ecological, or wildlife management degree, or a Memorandum of Understanding (MOU) with a qualified person with such a degree
- If cultural sites are present, a cultural resource professional on staff or an MOU with a cultural consultant
- Experience with habitat and cultural resource management in Southern California.

Proposed Land Owner

Fee title of separate open space lots may be held by the HOA, a land/resource manager or another appropriate land owner (e.g., land trust, conservancy, or public agency), depending on the particular circumstance.

Proposed Easement Holder

If the land is transferred in fee title to a non-governmental entity, a Biological Open Space Easement or Conservation Easement must be recorded. This easement should be dedicated to the County, but it may also include other appropriate agencies as a grantee or third-party beneficiary. If title to the land is transferred to the County or other public conservation entity, no easement is necessary. Currently, it is proposed that an easement will be recorded on these Conserved Open Space areas.

Restoration Entity

If revegetation/restoration activities are required, management responsibility for the revegetation/restoration area shall remain with the restoration entity until restoration/revegetation has been completed. Upon County/agency acceptance of the revegetated/restored area, management responsibility for the revegetation/restoration area will be transferred to the resource manager. Currently, no restoration is anticipated for four of the areas. There is restoration proposed for the area that contains vernal pools, the K8 mesa.

1.2.2 Financial Mechanism

Acceptable financial mechanisms include the following:

- Special District. Formation of a Lighting and Landscape District or Zone, or Community Facility District as determined appropriate by the Director of the Planning and Development Services (PDS), DPW or DPR.
- Endowment. A one-time, non-wasting endowment, which is tied to the property, and is intended to be used by the Resource Manager to implement the RMP.
- Other acceptable types of mechanisms including annual fees, to be approved by the Director of PDS, DPW or DPR.
- Transfer of ownership to existing entity (e.g., County of San Diego) for management.

The project applicant is responsible for all RMP funding requirements, including direct funds to support the RMP start-up tasks as well as an ongoing funding source for annual tasks, which is tied to the property to fund long-term RMP implementation. Start-up tasks include fence and sign installation around the on-site Conserved Open Space preserve, and database compilation. Long-term tasks involve the management and maintenance of the Conserved Open Space preserve in perpetuity, including habitat monitoring and mapping, exotic species control, and general monitoring and reporting. These habitat management tasks commence immediately upon initiation of long-term management by the resource manager.

1.2.3 Conceptual Cost Estimate

Table 1 includes the resource management tasks that are proposed for the Alternative H CRMP. A Property Analysis Record (PAR) is not included at this time.

Table 1
Biological Resource Management Tasks

Check if Applies	Tasks	Frequency (Times per year)
Biological Tasks		
✔	Baseline Inventory of resources (if original inventory is over 5 years old)	One time
✔	Update biological mapping	Once every 5 years.
✔	Update aerial photography	Once every 5 years.
✔	Removal of invasive species	Annually
	Predator control	
	Habitat Restoration/Installation	

Table 1
Biological Resource Management Tasks

Check if Applies	Tasks	Frequency (Times per year)
	Habitat Restoration/Monitoring and Management	
	Poaching control	
✔	Species Surveys (include a separate line for each species) 1. Focused protocol surveys for Quino checkerspot butterfly (*Euphydryas editha quino*) 2. San Diego fairy shrimp (*Branchinecta sandiegonensis*) 3. Riverside fairy shrimp (*Streptocephalus woottoni*) 4. Rare plants	Once every 5 years
✔	Species Management (include separate line for each specific task) 1. Quino checkerspot butterfly (*Euphydryas editha quino*) 2. San Diego fairy shrimp (*Branchinecta sandiegonensis*) 3. Riverside fairy shrimp (*Streptocephalus woottoni*) 4. Rare plants	As-needed basis
	Noise management, if required	
	For lands within the MSCP and outside PAMA, consult Table 3-5 of the MSCP Plan for required biological resource monitoring	
✔	Monitoring visits	Quarterly
	Operations, Maintenance, and Administration Tasks	
✔	Establish and maintain database and analysis of data	Annually
✔	Prepare and submit annual report to County	Annually
✔	Review fees for County review of annual report	Annually
✔	Review and if necessary, update management plan	Every 5 years
✔	Construct permanent signs	One time in coordination with other areas of the Otay Ranch RMP Preserve
✔	Replace signs	Every 10 years
✔	Construct permanent fencing	One time in coordination with other areas of the Otay Ranch RMP Preserve
✔	Maintain permanent fencing	Annually in coordination with other areas of the Otay Ranch RMP Preserve
✔	Replace permanent fencing	Every 20 years in coordination with other areas of the Otay Ranch RMP Preserve
✔	Remove trash and debris	Quarterly
	Coordinate with Department of Environmental Health (DEH) and Sheriff	
	Maintain access road	
	Install stormwater best management practices (BMPs)	
	Maintain stormwater BMPs	

Table 1
Biological Resource Management Tasks

Check if Applies	Tasks	Frequency (Times per year)
	Restore built structure	
	Maintain built structure	
	Maintain regular office hours	
	Inspect and service heavy equipment and vehicles	
	Inspect and repair buildings, residences, and structures	
	Inspect and maintain fuel tanks	
✔	Coordinate with utility providers and easement holders (SDG&E)	As-needed basis
	Manage erosion and sediment control (as required)	
✔	Coordinate with law enforcement and emergency services (e.g., fire)	As-needed basis
	Coordinate with adjacent land managers	
	Remove graffiti and repair vandalism	
Public Use Tasks		
	Construct trail(s)	
	Monitor, maintain/repair trails (unless a trail easement has been granted to the County)	
✔	Control public access	Quarterly
	Provide ranger patrol	
	Manage fishing and/or hunting program (if one is allowed)	
	Provide Neighbor Education – Community Partnership	
	If homeowners association (HOA) is funding management, provide annual presentation to HOA	
	Coordinate volunteer services	
	Provide emergency services access/response planning	
Fire Management Tasks		
✔	Coordinate with applicable fire agencies and access (gate keys, etc.) for these agencies	As-needed basis
	Plan fire evacuation for public use areas	
	Protect areas with high biological importance	
	Hand-clear vegetation	
	Mow vegetation	
Post-Fire Tasks		
✔	Evaluate for post-fire actions/needs	
	Control post-fire erosion	
	Remove post-fire sediment	
	Reseed after fire	
	Replant after fire	

1.2.4 Reporting Requirements

An RMP annual report will be submitted to the County (and resource agencies, as applicable), along with the submittal fee to cover County staff review time. The annual report shall discuss the previous year's management and monitoring activities, as well as management/monitoring activities anticipated in the upcoming year.

The annual report shall provide a concise but complete summary of management and monitoring methods, identify any new management issues, and address the success or failure of management approaches (based on monitoring). The report shall include a summary of changes from baseline or previous year conditions for species and habitats, and address any monitoring and management limitations, including weather (e.g., drought). The report shall also address any adaptive management (changes) resulting from previous monitoring results and provide a methodology for measuring the success of adaptive management.

For new special-status species observations or significant changes to previously reported species, the annual report shall include copies of completed California Natural Diversity Database forms with evidence that they have been submitted to the State of California (State). The report shall also include copies of invasive plant species forms submitted to the State or County.

A fee for staff review time will be collected by the PDS upon submittal of the annual report. The RMP may also be subject to an ongoing deposit account for staff to address management challenges as they arise. Deposit accounts, if applicable, must be replenished to a defined level as necessary.

1.2.5 RMP Agreement

The County will require an agreement with the applicant when an RMP is required. The agreement will be executed when the County accepts the final RMP. The agreement will obligate the applicant to implement the RMP and provide a source of funding to pay the cost to implement the RMP in perpetuity. The agreement shall also provide a mechanism for the funds to be transferred to the County if the resource manager fails to meet the goals of the RMP.

The agreement will specify that RMP funding or a funding mechanism be established prior to the following milestones:

- For subdivisions, prior to the approval of grading or improvement plans, or prior to approval of the parcel/final map, whichever is first
- For permits, prior to construction or use of the property in reliance on the permit.

This agreement will be provided at a later date.

1.3 Limitations and Constraints

Management constraints that may affect meeting the RMP goals could include environmental factors; legal, political, or social factors; or financial factors.

Altered Fire Regime. This region has experienced periodic fires over the years. The proposed development and subsequent removal of vegetation could alter the natural fire regime. A catastrophic fire within the Conserved Open Space preserve could alter the existing vegetation, convert vegetation communities, and reduce habitat for species.

Urbanized Environment. Although the Conserved Open Space preserve area is designed as a large, contiguous block of habitat, the associated residential development could have direct and indirect impacts on the open space environment. Disturbances of plants and wildlife by humans and domestic pets include the following: introduction/expansion of non-native species, littering, trampling of vegetation, altered hydrology through landscaping and irrigation, disturbance from lighting associated with the residences and cars, and increased noise impacts. Human presence can particularly disturb wildlife during the breeding/nesting season.

These are some examples of potential constraints with respect to obtaining the Conserved Open Space preserve goals and objectives. At this time, no legal, political, or financial constraints are known.

2 PROPERTY DESCRIPTION

2.1 Legal Description

The Alternative H Project is located on a 1,869-acre property in the Proctor Valley Parcel of Otay Ranch General Development Plan within unincorporated San Diego County, California (Figure 1). The project Site is approximately 13 miles east of the Pacific Ocean and six miles north of the international border with Mexico. Access is provided via Telegraph Canyon Road, which transitions into Otay Lakes Road, as an east–west arterial that forms the southern boundary of the project site (Figure 2). The project proposes the construction of 1,881 single-family homes and 57 multi-family homes for a total of 1,938 homes within a total impact area of 692 acres. The Project also includes off-site improvements to Otay Lakes Road on approximately 40-acres south and west of the project area.

2.2 Environmental Setting

2.2.1 Site Description

Site elevations range from approximately 500 feet above mean sea level at the southern end of the property to approximately 1,500 feet above mean sea level in the northeastern portions. The project Site is located at the interface of urban development and scenic open space. Prior to 2001, the southern half of the project area was used for ranching, specifically cattle grazing, and possibly crop cultivation purposes. In addition, crop cultivation likely occurred on the southwestern corner of the property decades ago. The site is bounded on the south by Otay Lakes Road and Jamul Creek is located just east of the eastern boundary. Lower Otay Lake (which is owned by the City of San Diego) is located south of the site; open space in the Jamul Mountains is adjacent to the site in the north and east (which is owned by the U.S. Bureau of Land Management (BLM) and private parties).

2.2.2 Topography and Soils

The project Site consists of a broad mesa sloping to the south, broken by several steep canyons draining from north to south, towards Otay Lakes Road. Portions of the relatively flat mesa extend north into the Jamul Mountains, becoming part of steeper slopes. The majority of the survey area is currently vacant, but characteristic of a landscape that has been used historically for grazing. A few dirt roads traverse the sites.

The project Site lies within the watershed of the Otay River, a westerly flowing stream that drains an area of approximately 145 square miles. The site is upstream of Savage Dam, which creates Lower Otay Lake. The southern half of the site contains three large mesas (K6, K8, and K9 from west to east), an expansive relatively flat area in the west, and increasing elevations with steep canyons to the north. Drainages bisect the mesas and generally run north to south, with the

exception of one drainage running east to west from the center to the western edge of the property. Several stock ponds have been intentionally created along the drainages on the property.

According to Bowman (1973), soils within the project Site are mostly Olivenhain cobbly loam, San Miguel–Exchequer rocky silt loams, Redding cobbly loam, and Friant rocky fine sandy loam.

2.2.3 Fire Factors

San Diego County is prone to increased fire risk due to drought conditions in the region. Analysis of fire within the region has been provided by the fire protection plan consultant for the project.

2.3 Land Use

Land use within the Conserved Open Space and in the surrounding areas is a mixture of undeveloped lands and urban development. The Otay Valley Parcel of Otay Ranch, the East Lake Vistas residential community, the East Lake Woods residential community, and the U.S. Olympic Training Center compose the edge of urban development to the west. Prior to 2001, the southern half of the project area was used for ranching.

The site is located in the Proctor Valley Parcel of the Otay Subregional Plan (SRP) approximately 0.25 mile east of the City of Chula Vista (Figure 2). As part of the planning for the development of Otay Ranch, several villages and planning areas were designated for various types of development while other areas were reserved for preservation of multiple species and habitats. An effort was undertaken to plan development of the ranch so as to conserve species and habitats in the region. The Otay Ranch Resort Village project area comprises approximately 1,869 acres, is located in an unincorporated portion of the County, and is designated for residential and resort development and for open space by the Otay Ranch *Subregional Plan* (SRP; Otay Ranch 1993).

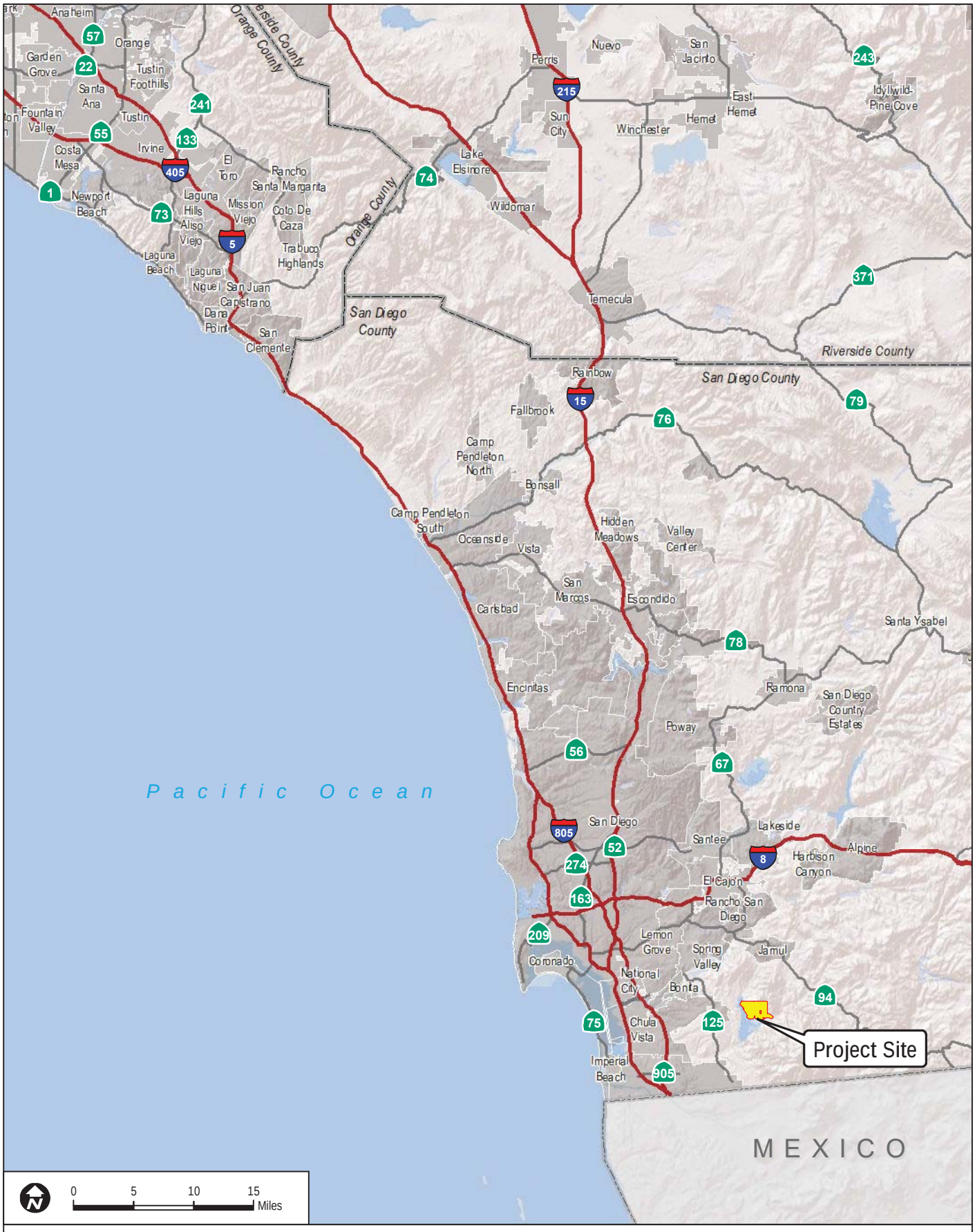

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FIGURE 1

Regional Map

Conceptual Resource Management Plan for Otay Ranch Resort Village - Alternative H

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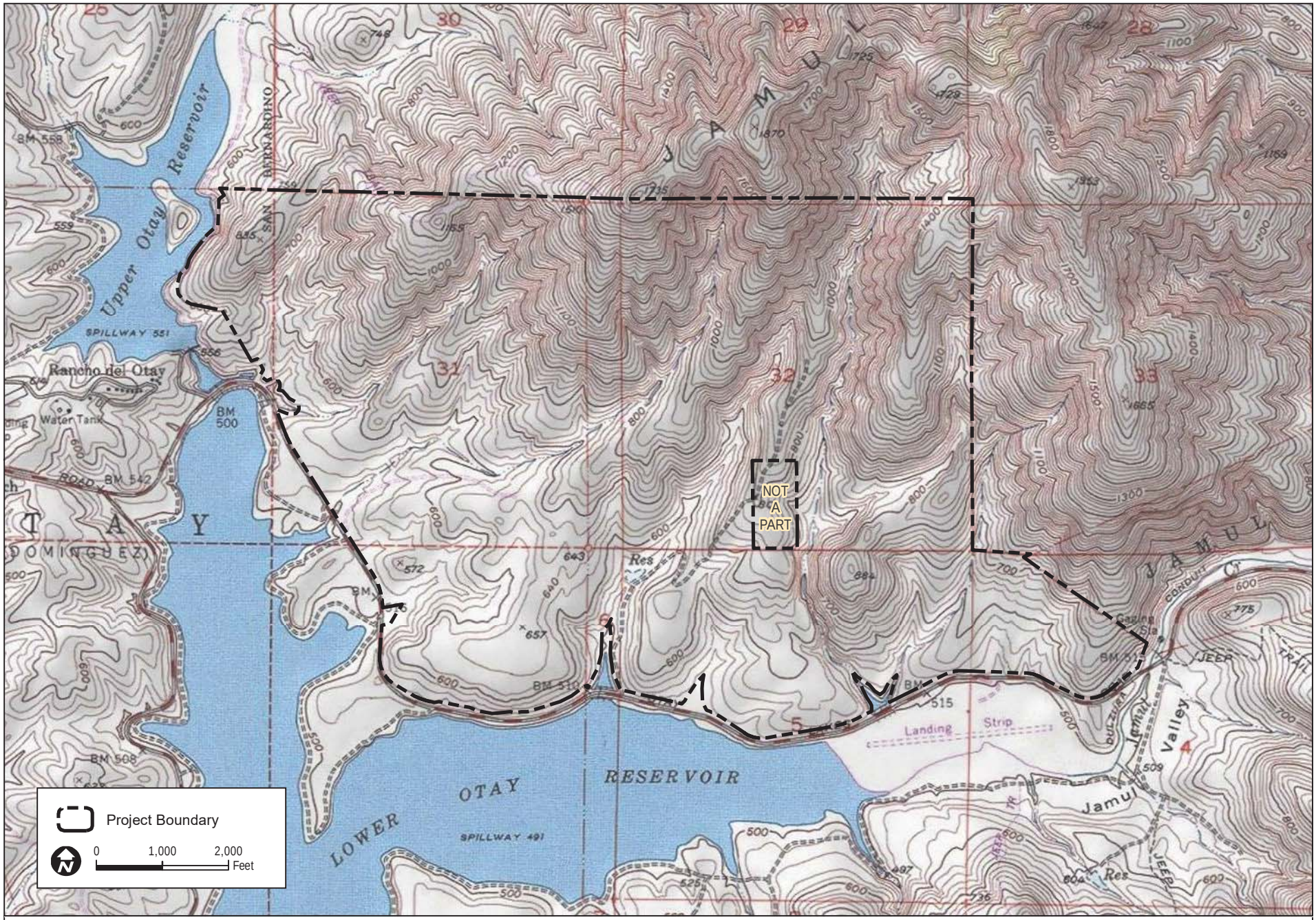

SOURCE: USGS 7.5 Minute Series, Jamul Mountains Quadrangle

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FIGURE 2
Vicinity Map

Conceptual Resource Management Plan for Otay Ranch Resort Village - Alternative H

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3 BIOLOGICAL RESOURCES DESCRIPTION

A biological resources technical report has been prepared and used to prepare this CRMP (Dudek 2015). The following information is based on resource mapping that was completed in 2018.

3.1 Habitat Types/Vegetation Communities

Five vegetation communities and land cover types were identified within the Conserved Open Space preserve areas and include the following general vegetation communities: coastal sage scrub, chaparral, and non-native areas (Figure 3, Table 2). The status of vegetation communities was determined using Holland (1986), as modified by Oberbauer et al. (2008), and the County's Guidelines for Determining Significance and Report Format and Content Requirements (County 2010b). Refer to the Biological Resources Technical Report for the proposed project prepared by Dudek (2015) for a more detailed description of the biological resources on site.

Table 2
Vegetation Communities and Land Cover Types
Conserved Open Space Preserve

Habitat Types/Vegetation Communities	Code [1]	Conserved Open Space San Diego Thorn-Mint (Ac.)	Conserved Open Space Vernal Pool (Ac.)	Conserved Open Space "finger north of the NAP" (Ac.)	Conserved Open Space (was formerly the realigned Otay Lakes Road) (Ac.)	Total Conserved Open Space Preserve (Ac.)
Upland						
Diegan Coastal Sage Scrub*	32500	-	-	6.72	22.65	29.37
Disturbed Diegan Coastal Sage Scrub*	32500	3.41	12.29	4.01	4.65	24.36
Chamise Chaparral*	37210	-	-	-	3.70	3.70
Nonnative Grassland*	42200	10.22	-	-	1.20	11.42
Subtotal		*13.63*	*12.29*	*10.73*	*32.20*	*68.85*
Non-Natural Land Covers						
Disturbed Habitat	11300	-	0.23	0.43	0.29	0.95
Subtotal		-	*0.23*	*0.43*	*0.29*	*0.95*
Total		13.63	12.52	11.16	32.49	69.80

[1] Holland (1986) as modified by Oberbauer et al. (2008).
* Considered special-status by the County (2010a).

3.1.1 Coastal Sage Scrub

This plant community is considered sensitive by resource agencies and the County of San Diego. According to Holland (1986), Diegan coastal sage scrub is composed of a variety of soft, low

shrubs, characteristically dominated by drought-deciduous species such as California sagebrush (*Artemisia californica*), California buckwheat (*Eriogonum fasciculatum*), and sages, with scattered evergreen shrubs, including lemonadeberry (*Rhus integrifolia*) and laurel sumac (*Malosma laurina*). It typically develops on xeric slopes.

Diegan coastal sage scrub and all its variants generally are recognized as special-status plant communities by local, state, and federal resource agencies. It supports a diversity of special-status plants and animals, and it is estimated that it has been reduced by 75% to 80% of its historical coverage throughout Southern California. It is the focus of the current State of California Natural Communities Conservation Planning Program (NCCP). Diegan coastal sage scrub is a MSCP Tier II vegetation community (County of San Diego 1997).

Diegan coastal sage scrub vegetation on site occurs in relatively distinct subassociations. Shrub cover in disturbed coastal sage scrub may vary from 5% to 50% and typically consists of California sagebrush (*Artemisia californica)*, California buckwheat (*Eriogonum fasciculatum*), deerweed (*Lotus scoparius*), rock-rose (*Helianthemum scoparium*), and laurel sumac (*Malosma laurina*). In addition to these native shrub species, a large percentage of the ground cover is taken up by broad-leaved filaree (*Erodium botrys*) and fascicled tarplant (*Deinandra [Hemizonia] fasciculata*). Other non-natives include grasses such as slender wild-oat (*Avena barbata*), soft chess (*Bromus hordeaceus*), black mustard (*Brassica nigra*), and star-thistle (*Centaurea melitensis*). The majority of the property is mapped as Diegan coastal sage scrub. A disturbed form of Diegan coastal sage scrub is found on site, primarily adjacent to areas that are mapped as disturbed or developed lands where there are more non-native species present.

3.1.2 Chamise Chaparral

A predominant chaparral type found in Ventura, Los Angeles, San Bernardino, Riverside and San Diego counties, chamise chaparral is a plant community overwhelmingly dominated by chamise (Holland 1986). Typically between 1 and 4 meters in height, stands of chamise are adapted to repeated fires because the species is capable of stump-sprouting following wildfire. Associated species may include manzanita (*Arctostaphylos* spp.), ceanothus (*Ceanothus* spp.), California buckwheat, deerweed, scrub oak (*Quercus berberidifolia*), lemonadeberry (*Rhus integrifolia)*, sages (*Salvia* spp.), ashy spike-moss (*Selaginella cinerascens*), and yucca (*Yucca* spp.). However, associated species do not comprise a significant portion of the overall cover, and mature stands contain very little herbaceous understory or litter. Chamise chaparral is a MSCP Tier IIIA vegetation community (County of San Diego 1997).

Chamise chaparral occurs in the north-central portion of the site, often on mesic exposures, and in the southeastern portion on relatively flat topography. Covering relatively large areas, these habitat patches consist of nearly monotypic stands of chamise. In habitat edges, usually adjacent to either coastal sage

scrub or scrub oak chaparral, components of those habitats will also be present. For example, California buckwheat, scrub oak, and chaparral broom occur along with chamise in habitat edge areas. Very little understory is present in this community, with the exception of ashy spike-moss and fringed spineflower (*Chorizanthe fimbriata*) occurring in many of the chamise patches in the eastern areas, and non-native grasses that have filled gaps in a few areas where chamise chaparral occurs as a disturbed community.

3.1.3 Non-Native Grassland

Where the native habitat has been disturbed frequently or intensively by grazing, fire, agriculture, or other activities, the native community usually is incapable of recovering. These areas often are characterized by weedy, introduced annuals, primarily grasses, including especially slender wild oat, bromes, mustards, filaree, and Russian-thistle (*Salsola tragus*). Non-native grassland is a MSCP Tier IIIB vegetation community (County of San Diego 1997).

In the project area, non-native grassland occurs in distinct patches where extensive grazing and possibly mechanical disturbance have reduced the cover of native shrub and grass species to below 5%. These areas typically are dominated by soft chess, foxtail chess, fascicled tarplant, and broad-leaved filaree, but also contain star-thistle, black mustard, and shining peppergrass (*Lepidium nitidum*).

3.1.4 Disturbed Habitat

Disturbed habitat was mapped along major dirt roads greater than 5 feet wide where vegetation has been cleared. In addition, a single area in the western part of the site contains some old corral and tank structures that have been cleared of vegetation surrounding them. This area also was mapped as disturbed habitat. Developed land was mapped in the project area for the portions of Otay Lakes Road that intersect the project boundary.

3.2 Jurisdictional Wetlands and Waters

The southern portion of the Conserved Open Space contains one large mesa, K8, an expansive and relatively flat area in the west, and increasing elevations with steep canyons in the north. Mesa K8 consists of space coastal sage scrub. The Conceptual Vernal Pool Mitigation Plan for the Otay Ranch Resort Village provides guidance for on-site restoration and enhancement of vernal pools within the K8 vernal pool complex to compensate for significant impacts to 0.11 acre of vernal pools in the K6 vernal pool complex. Additional vernal pool mitigation has been proposed at the K8 vernal pool complex as mitigation for impacts to vernal pools associated with the Otay Ranch Villages Two and Three Projects (Dudek 2008). Because the K6 vernal pools impacted by the proposed project are characterized as having low to moderate value, the proposed mitigation will use a 2:1 mitigation ratio for the pools not occupied by San Diego fairy shrimp and 5:1 mitigation ratio for the occupied pool. Thus 0.025 acre will mitigate for impacts to the occupied pool, and 0.214 acre will mitigate for the impacts to the unoccupied pools for a total mitigation of 0.239 acre

of vernal pool basin area. Additional information regarding the vernal pool mitigation is provided in the Conceptual Vernal Pool Mitigation Plan for the Otay Ranch Resort Village.

Other jurisdictional resources are present within the Conserved Open Space in the form of waters of the U.S. These features are located within the far eastern area and are shown on Figure 4.

3.3 Flora

Four special-status plant species were detected within the Conserved Open Space preserve: San Diego thornmint, Munz's sage, San Diego barrel cactus, San Diego County viguiera, San Diego marsh elder, small-flowered microseris, small-flowered morning glory, golden-flowered pentachaeta, and variegated dudleya (Figure 5).

3.4 Fauna

The study area supports habitat for common upland species. Diegan coastal sage scrub and chamise chaparral within the Conserved Open Space provide foraging and nesting habitat for migratory and resident bird species and other wildlife species.

There were 150 species observed in the project Site. Species richness in the study area is moderate due to the property size, amount of undeveloped land, and the number of native upland habitats. Species richness generally increases with the presence of more habitat types and ecotones. Although species richness is moderate, the number of species and the wildlife population levels (i.e., number of individuals) is typical for undeveloped areas in this region, particularly those areas that support the habitat types on site. Special status wildlife species that have been recorded for the Conserved Open Space include California gnatcatcher, Quino checkerspot butterfly, San Diego fairy shrimp, horned lizard, and western spadefoot (Figure 6).

3.7 Overall Biological Value

The vegetation communities/habitats that will be preserved and managed are described in Table 2. The Conserved Open Space preserve is shown on Figure 3.

The Conserved Open Space preserve has a high functional value because it supports sensitive plant communities, a robust population of the endangered San Diego thornmint, multiple vernal pools with San Diego fairy shrimp, documented occurrences of Quino checkerspot butterfly and habitat that is connected to other open space areas within the Otay Ranch RMP Preserve. The areas provide live-in habitat for wildlife and plant species. The high quality coastal sage scrub, that would be preserved within the areas is contiguous with preserved open space would remain intact for use by migratory birds and resident bird species, such as the coastal California gnatcatcher.

Project Boundary
Conserved Open Space
Proposed Development Footprint
Allowable Use

Dudek Vegetation Mapping

Coastal Sage Scrub
Chaparral
Grassland
Freshwater Marsh
Riparian Forest
Riparian Scrub
Eucalyptus Woodland
Open Water
Disturbed Wetland
Natural Floodchannel
Disturbed Land
Urban/Developed
Vernal Pool Complex

VEGETATION SOURCE:
DUDEK 2002/2005/2008/2010/2014/2015
AND SANGIS 1995/2008

N
0 Feet 1,000

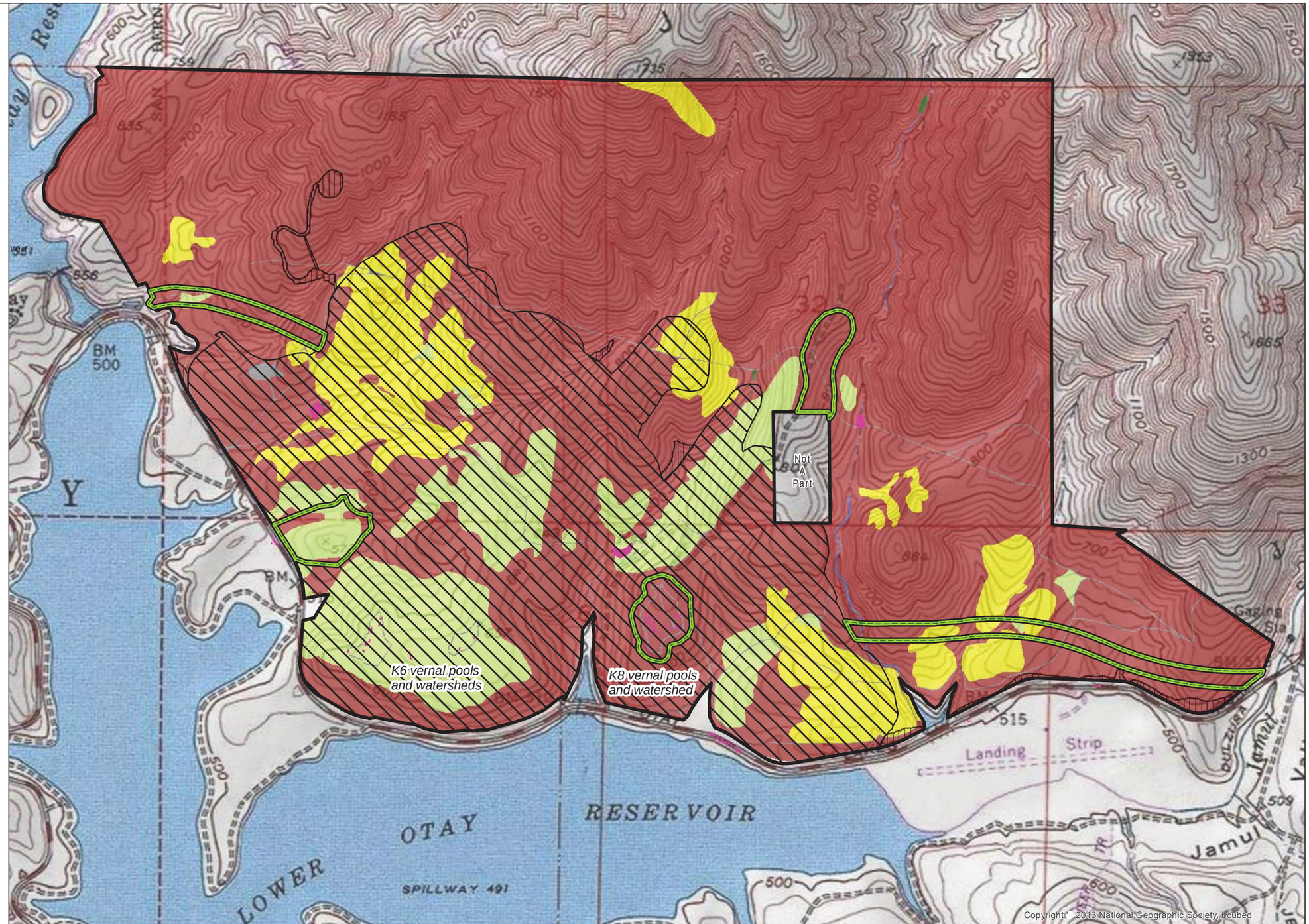

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FIGURE 3

Otay Ranch Resort Village - Alternative H Conserved Open Space Preserve

Conceptual Resource Management Plan for Otay Ranch Resort Village - Alternative H

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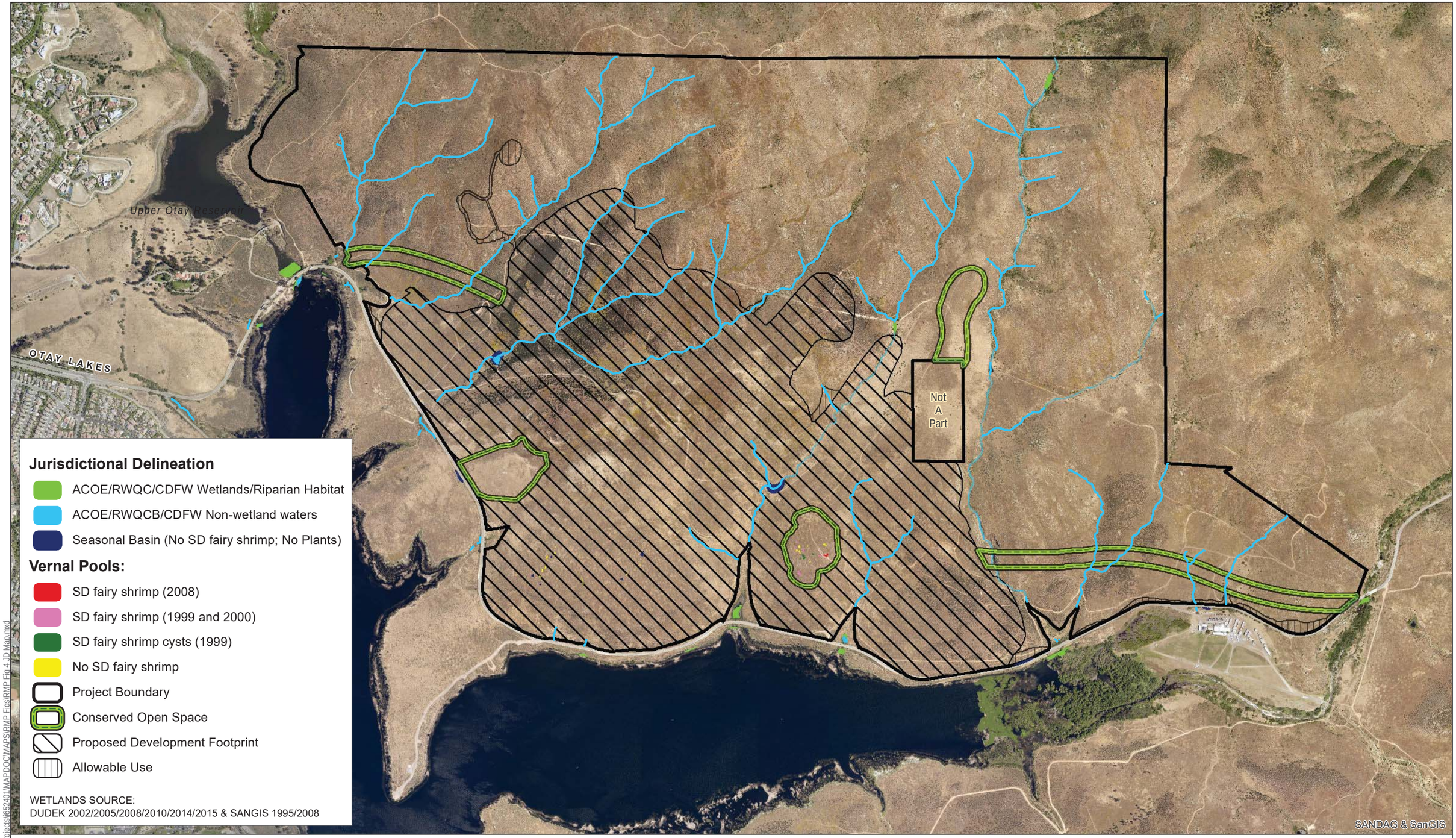

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SOURCE: AERIAL-SANGIS 2017

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0 600 1,200 Feet

FIGURE4

Jurisdictional Resources Map

Conceptual Resource Management Plan for Otay Ranch Resort Village - Alternative H

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Conserved Open Space

Project Boundary

Proposed Development Footprint

Allowable Use

Sensitive Plant Species (Point Data):

Ac = California adolphia

Ai = San Diego thornmint

Cs = Small-flowered morning-glory

Do = Western dichondra

Dv = Variegated dudleya

Fv = San Diego barrel cactus

Hp = Palmer's grapplinghook

Hv = Wand tarbush

Ih = San Diego marsh-elder

Ja = Southwestern spiny rush

Mc = San Diego goldenstar

Md = Small-flowered microseris

Pa = Golden-flowered pentachaeta

Qd = Nuttall's scrub oak

Sm = Munz's sage

Vl = San Diego County viguiera

N

0 Feet 1,000

Sensitive Plant Species (Polygon Data):

- San Diego thornmint
- San Diego barrel cactus
- San Diego marsh-elder
- Southwestern spiny-rush
- Nuttall's scrub oak
- Western dichondra
- Munz's sage
- San Diego County viguiera
- California desert-thorn
- Wand tarbush

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FIGURE 5

Sensitive Plant Species Map with Alternative H Conserved Open Space Preserve

Conceptual Resource Management Plan for Otay Ranch Resort Village - Alternative H

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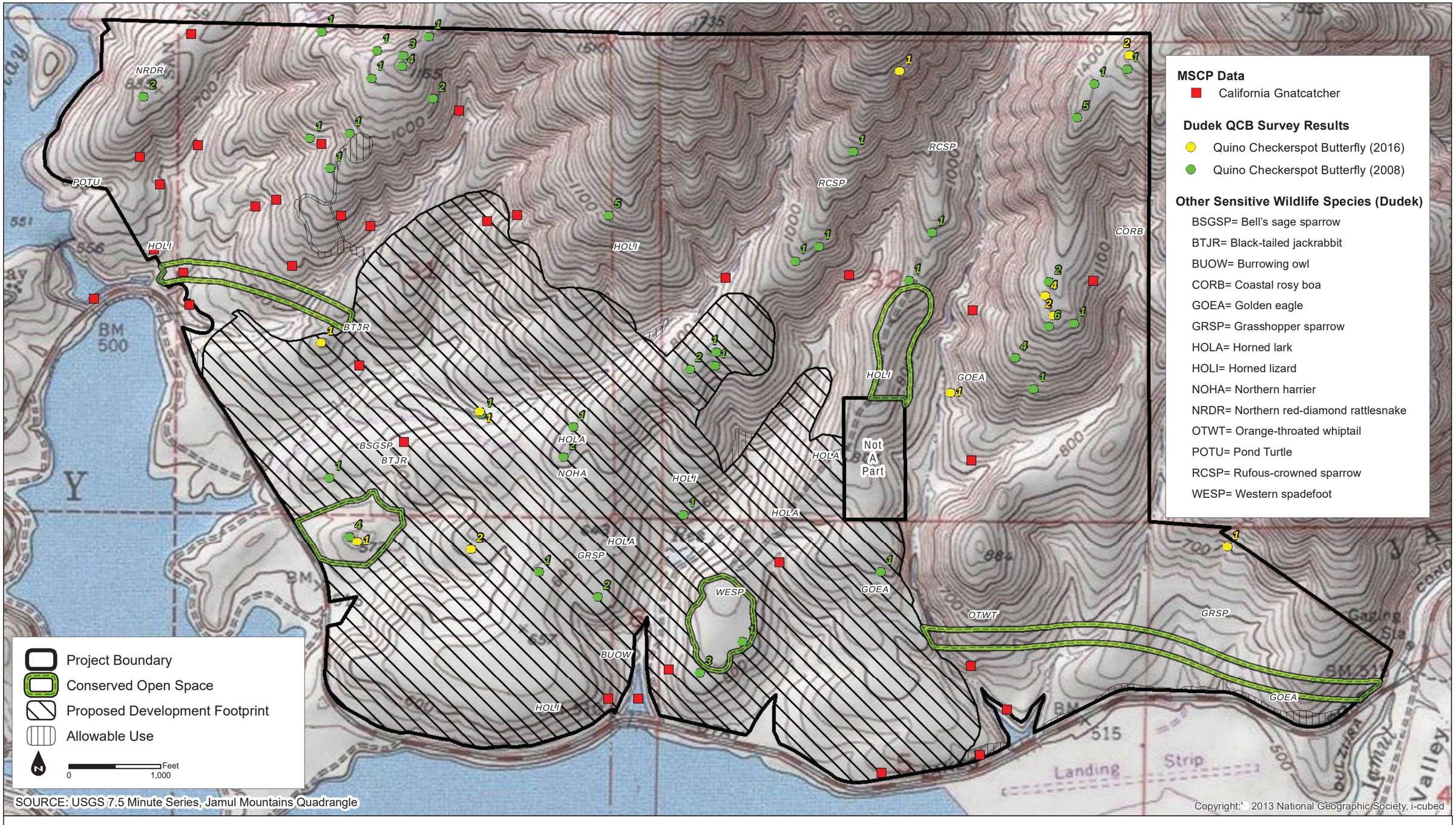

SOURCE: USGS 7.5 Minute Series, Jamul Mountains Quadrangle

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FIGURE 6

Sensitive Wildlife Species Map with Alternative H Conserved Open Space Preserve

Conceptual Resource Management Plan for Otay Ranch Resort Village - Alternative H

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4 BIOLOGICAL RESOURCE MANAGEMENT

4.1 Management Goals

Goal: To preserve and manage lands to the benefit of the flora, fauna, and native ecosystem functions reflected in the natural communities occurring within the open space preserve.

A baseline inventory has been collected as part of the evaluation of the project during surveys from 1998 to 2016. Ongoing species and habitat monitoring shall occur in accordance with County and regional standards. These standards typically include vegetation mapping every 5 years. Habitat maintenance may be required if vegetation mapping indicates habitat conversion that is detrimental to the preservation of native ecosystem functions. Specific management tasks are described below.

4.2 Biological Management Tasks

Maintenance work within the Conserved Open Space preserve area shall be conducted by the designated Resource Manager at regular intervals and shall include regular inspections of the signage and fencing, human disturbance, presence of trash, and presence of exotic species (plants and animals). A general inventory will be conducted in the initial startup of the open space management. This will establish a baseline inventory and resource map.

The baseline inventory update will be conducted during the first year of active management. These data will allow the Resource Manager to measure habitat changes caused by natural and human effects and to evaluate management efforts during subsequent years. To optimize the probability of detecting sensitive species reported or expected to occur within on site, this survey should be conducted between March and June, when the majority of sensitive plant and wildlife species are most likely to be detected. The biological management tasks are outlined in Table 1, and are discussed below.

4.2.1 Update Biological Mapping

Every 5 years, the Resource Manager will update the vegetation and sensitive resources mapping on a current aerial photograph of the site. This task includes mapping vegetation over the entire Conserved Open Space preserve and updating the aerial photography.

4.2.2 Exotic Plant Control

The Resource Manager will identify and track exotic species infestations if they should occur. Weed control measures will be implemented as necessary to prevent expansion of existing or establishment of new exotic species in the Conserved Open Space preserve.

If the use of herbicide is deemed necessary, application should be minimal and may only occur in compliance with all federal and state laws. Use of chemical herbicides should be determined in coordination with the County Department of Environmental Health. All herbicide use will be applied by backpack sprayers or stump painting directly on target weeds and will involve short-duration, biodegradable chemicals.

4.2.3 Species Surveys

The following survey shall be conducted every 5 years for special-status wildlife species:

- **Quino Checkerspot Butterfly.** Surveys shall follow the 2014 USFWS Quino checkerspot butterfly survey protocol (USFWS 2014) as modified by the 2016 Building Industry Association (BIA) deviation protocol outlined in the negotiated *Proposed 2016 Quino Checkerspot Survey Protocol* (BIA 2016) or other protocol as required.
- **San Diego and Riverside Fairy Shrimp.** Surveys will be conducted for the presence/absence of San Diego fairy shrimp in accordance with the USFWS survey protocol for listed fairy shrimp species (USFWS 2012).
- **Sensitive Plant Species**. Focused surveys for the state-listed endangered and federally listed threatened San Diego thornmint and other narrow endemic plant species.

4.2.4 Species Management

Based on the species surveys described earlier, management tasks for the Quino checkerspot butterfly and San Diego fairy shrimp are required, as needed based on survey results. Management may also be required for rare plant species.

4.2.5 Monitoring

The County requires monthly monitoring of the Conserved Open Space preserve. The Resource Manager shall visit the Conserved Open Space preserve quarterly in order to monitor the overall conditions of the Conserved Open Space preserve and determine if any management tasks are required.

4.3 Adaptive Management

The Conserved Open Space preserve supports a number of special-status plant and wildlife species and important vegetation communities. If it is determined that the special-status wildlife or plant species are documented to be declining over time, then remedial measures may need to be initiated. Prior to initiation of any remedial measures, a study shall be conducted to determine potential causes of such species decline. If the causes of species decline are a result of human activity, then

the Conserved Open Space preserve manager shall develop and implement a program in conjunction with consultation with the County to address the issues causing the species decline. The responsibility for payment for additional studies or other protective measures shall be the responsibility of the developer and/or HOA, who shall coordinate with the Conserved Open Space preserve resource manager accordingly.

The Resource Manager is responsible for interpreting the results of site monitoring to determine the ongoing success of the RMP. If it is necessary to modify the plan between regularly scheduled updates, plan changes shall be submitted to the County and agencies for approval as required.

4.4 Operations, Maintenance, and Administration Tasks

Section 4.2.1 describes a list of tasks such as baseline inventory, vegetation mapping, and regular visits to be conducted by the Resource Manager. Regular visits will occur quarterly.

4.4.1 Data and Reporting

The following tasks shall be completed annually.

1. Maintain a resource database of pertinent documents and biological resource data;
2. Prepare and submit a report to the County, described in more detail in Section 1.2.4; and
3. Review fees for county review of annual report.

In addition, every 5 years, the Resource Manager shall review, and if necessary, update the management plan.

4.4.2 Installation of Fencing and Signs

The project developer will be responsible for coordinating with the Preserve Owner Manager for the Otay Ranch RMP Preserve for the installation of permanent preserve signs on the permanent fencing. If fencing is not appropriate to be installed because the area is contiguous with other open space, that will be coordinated with the manager of the Otay Ranch RMP Preserve.

Maintenance/replacement of fencing and signs shall be done on an as-needed basis by the Reserve Manager in coordination with the Preserve Owner Manager.

4.4.3 Trash/Debris Removal

The Reserve Manager will conduct general trash removal within the Conserved Open Space preserve during regular management site visits. Additionally, damage caused by vandalism will

be repaired. Small trash removal and vandalism repair will occur as needed during regular site visits quarterly. Large trash removal would be conducted annually.

4.4.4 Utilities

The Reserve Manager will coordinate with utility easement holders as needed as needed to conduct management activities within the preserve. Currently, no tasks have been identified.

4.4.5 Law Enforcement and Emergency Services

The Reserve Manager will coordinate with the local sheriff's department, fire department, and emergency services department on an as-needed basis for activities related to management of the preserve (e.g., illegal trespassing).

4.5 Public Use Tasks

The Conserved Open Space preserve will not have public trails or other facilities. The Conserved Open Space preserve is intended to serve as a habitat preserve and as such is not compatible with most activities.

Activities that will be specifically prohibited include:

1. Use of herbicides (except to remove non-native species as necessary), pesticides, rodenticides, biocides, fertilizers, or other agricultural chemicals;
2. Use of OHVs and any other motorized vehicles except in the execution of management duties;
3. Grazing or other agricultural activity of any kind;
4. Recreational activities including, but not limited to, horseback riding, biking, target shooting, hunting, or fishing;
5. Commercial or industrial uses;
6. Construction, reconstruction, or placement of any building or other improvement, billboard, or sign;
7. Depositing or accumulation of soil, trash, ashes, refuse, waste, bio-solids or any other material;
8. Planting, introduction, or dispersal of non-native or exotic plant or animal species;
9. Altering the general topography of the open space preserve, including but not limited to building of roads and flood control work;

10. Removing, destroying, or cutting of trees, shrubs, or other vegetation, except as required by federal, state, or local law or by governmental order for (1) emergency fire breaks; (2) maintenance of existing roads; (3) prevention or treatment of disease; or (4) required mitigation programs; and
11. Manipulating, impounding, or altering any natural watercourse, body of water, or water circulation on the open space preserve, and activities or uses detrimental to water quality, including but not limited to degradation or pollution of any surface or sub-surface waters.

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5 REFERENCES

Bowman, R.H. 1973. *Soil Survey, San Diego Area, California, Part 1*. United States Department of the Agriculture. 104 pp. + appendices.

Building Industry Association (BIA). 2016. Proposed 2016 Quino Checkerspot Survey Protocol. Carlsbad Field Office, Carlsbad, California. January 11, 2016.

CAL FIRE. 2011. California Department of Forestry and Fire Protection. Accessed at: http://www.fire.ca.gov/index.php.

CDFW (California Department of Fish and Wildlife). 2016. "Special Animals List (900 taxa)." California Natural Diversity Database. CDFW, Biogeographic Data Branch. September 2016. http://www.dfg.ca.gov/biogeodata/cnddb/plants_and_animals.asp.

County of San Diego. 2010a. *County of San Diego Report Format and Content Requirements: Biological Resources*. Fourth Revision. September 15, 2010.

County of San Diego. 2010b. *County of San Diego Guidelines for Determining Significance and Report Format and Content Requirements: Biological Resources*. Fourth Revision. Land Use and Environment Group, Department of Land Use and Planning & Development Services, Department of Public Works. September 15, 2010.

Holland, R.F. 1986. *Preliminary Descriptions of the Terrestrial Natural Communities of California.* Nongame-Heritage Program, California Department of Fish and Game. October 1986.

Oberbauer, T., M. Kelly, and J. Buegge. 2008. *Draft Vegetation Communities of San Diego County* prepared by Robert F. Holland, Ph.D. for State of California, The Resources Agency, Department of Fish and Game (October 1986). March 2008.

USFWS (U.S. Fish and Wildlife Service). 2014. Quino Checkerspot Butterfly Survey Guidelines. Carlsbad Field Office. Carlsbad, California. December 15, 2014.

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APPENDIX F

Offsite Impacts -
Otay Lakes Road Impact Memorandum

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ENCINITAS, CALIFORNIA 92024
T 760.942.5147 F 760.632.0164

APPENDIX F
MEMORANDUM

To:	County of San Diego; Planning & Development Services
From:	Anita Hayworth, PhD; Dudek
Subject:	Offsite Impacts – Otay Lakes Road Impact Memorandum
Date:	April 4, 2019
cc:	Stephen Haase and Eric Johnston (Baldwin & Sons); Ted Shaw (Moller);
Attachment(s)	Figures 1–5

Off-site impacts, totaling approximately 59 acres, are anticipated to occur as a result of the widening and improvements to Otay Lakes Road (Figure 1). These offsite impacts will occur to areas within the City of San Diego Cornerstone Lands, County of San Diego lands (Otay Lakes Right-of-Way), lands within the City of Chula Vista, and off-site areas within the Otay Ranch that are not a part of the proposed project and thus are considered off site.

Alternative H would amend the Otay SRP classification of Otay Lakes Road from a 6-Lane Prime Arterial to a 4-Lane Boulevard with Raised Median beginning at the Chula Vista/County of San Diego municipal boundary west of Alternative H and continuing along the project frontage to the second project entry (proposed Piazza Urbino). East of the second project entry, Otay Lakes Road transitions to a 2-Lane Community Collector with Intermittent Turn Lanes in its current alignment.

Vegetation Communities

Table 1 summarizes the overall impacts to vegetation communities to these off-site areas combined for ownership (Figure 2).

Table 1. Impact Acreages on Vegetation Communities and Land Cover Types within the Offsite Project Area

Plant Community Type	Holland Code	Off Site Impact Acreage
Sensitive Upland Communities		
Coastal Sage Scrub	32500	18.38
Disturbed Valley Needlegrass Grassland	42110	0.07
Non-Native Grassland	42200	11.78
	Subtotal	*30.23*
Sensitive Wetland Communities		
Arundo	N/A	0.09
Freshwater Marsh	52410	0.74
Mulefat Scrub	63310	0.26

Table 1. Impact Acreages on Vegetation Communities and Land Cover Types within the Offsite Project Area

Plant Community Type	Holland Code	Off Site Impact Acreage
Open Water	64140	0.23
Southern Willow Scrub	63320	0.46
Southern Arroyo Willow Riparian	61320	0.16
Disturbed Wetland	N/A	0.47
	Subtotal	*2.41*
Non-Sensitive Communities and Land Covers		
Developed Land	12000	22.50
Disturbed Habitat	11300	0.71
Eucalyptus Woodland	79100	1.53
Non-Native Vegetation	11000	1.87
	Subtotal	*26.61*
	Total	**59.25**

Table 2 provides a detail accounting of the impact to the vegetation communities as determined by location and ownership of the property within which the impact occurs.

Table 2. Impact Acreages on Vegetation Communities and Land Cover Types within the Ownerships of the Offsite Project Area

Plant Community Type	Holland Code	County of San Diego (Right of Way)	City of San Diego Cornerstone Lands	City of Chula Vista (Eastlake and City)	Other Otay Ranch Lands (S & M Birch)	Total Off Site Impact Acreage
Sensitive Upland Communities						
Coastal Sage Scrub	32500	3.67	12.76	1.03	0.92	18.38
Disturbed Valley Needlegrass Grassland	42110	0.03	0.04			0.07
Non-Native Grassland	42200	1.11	4.32	2.08	4.27	11.78
	Subtotal	*4.81*	*17.12*	*3.11*	*5.19*	*30.23*
Sensitive Wetland Communities						
Arundo	N/A		0.09			0.09
Freshwater Marsh	52410		0.74			0.74
Mulefat Scrub	63310	0.01	0.25			0.26
Open Water	64140		0.23			0.23
Southern Willow Scrub	63320		0.46			0.46
Southern Arroyo Willow Riparian	61320		0.16			0.16

Table 2. Impact Acreages on Vegetation Communities and Land Cover Types within the Ownerships of the Offsite Project Area

Plant Community Type	Holland Code	County of San Diego (Right of Way)	City of San Diego Cornerstone Lands	City of Chula Vista (Eastlake and City)	Other Otay Ranch Lands (S & M Birch)	Total Off Site Impact Acreage
Disturbed Wetland	N/A		0.47			0.47
	Subtotal	*0.01*	*2.40*	*0.00*	*0.00*	*2.41*
Non-Sensitive Communities and Land Covers						
Developed Land	12000	19.67	0.24	2.57	0.02	22.50
Disturbed Habitat	11300	0.21	0.50			0.71
Eucalyptus Woodland	79100	0.35	0.77		0.41	1.53
Non-Native Vegetation	11000	0.22	0.42	0.67	0.56	1.87
	Subtotal	*20.45*	*1.93*	*3.24*	*0.99*	*26.61*
	Total	**25.27**	**21.45**	**6.35**	**6.18**	**59.25**

County of San Diego Lands

As shown in Table 2, direct impacts to lands within the County of San Diego, Otay Lakes Road Right-of-Way, as a result of the widening of Otay Lakes Road total 25.27 acres. Of this total, 4.81 acres are impacts to Sensitive Upland Communities, 0.01 acre is impact to wetlands, and 20.45 acres are impacts to non-sensitive communities. This off-site area is located outside of the Otay Ranch boundary and is within the jurisdiction of the County of San Diego. All of the impacts are within the right-of-way of Otay Lakes Road. Impacts are required to comply with the regulations set forth by the County. In compliance with the MSCP Subregional Plan and the County of San Diego Subarea Plan (County MSCP; County of San Diego 1997), the County established the Biological Mitigation Ordinance (BMO; County of San Diego 2010) to provide the requirements and mitigation measures necessary for projects within the plan area. Certain areas within the County MSCP were designated as "Take Authorized Areas" within the South County Segment of the MSCP. The Take Authorized Areas designated in the County MSCP were developed through a comprehensive planning effort with the affected jurisdictions and describe areas that are not subject to further mitigation because direct and cumulative impacts to MSCP Covered Species were considered in the overall MSCP planning effort. The County specifically exempted the Take Areas from the BMO at Sec. 86.503. Exemptions, (a) (4), which states that the chapter shall not apply to "Any Take Authorization Area approved by the Board of Supervisors and the Wildlife Agencies as part of the County Subarea Plan, as shown on Attachment B of Document No. 0769999 on file with the Clerk of the Board or any approved Habitat Loss Permit issued pursuant to 16 U.S.C. Sec. 1533(d)." The right-of-way for Otay Lakes Road is located within the South County segment of the MSCP and the proposed impact area is designated as Take Authorized. As such, and in accordance with the County MSCP and BMO, no additional biological mitigation is required for development to occur. The "take" as defined by the Endangered Species Act already has been adequately mitigated in the form of land set aside as "Hard Line" preserves during the negotiations between the landowners, wildlife agencies, and County during preparation of the Subarea Plan. The off-site impact areas are consistent with the requirements for the road improvements per the County and do not conflict with the goals or standards of the County's Subarea Plan.

City of San Diego MSCP Cornerstone Lands

Otay Lakes Road is currently adjacent to City of San Diego MSCP Cornerstone Lands around Lower Otay Lake. As shown in Table 2, direct impacts to City of San Diego Cornerstone Lands as a result of the widening of Otay Lakes Road total 21.45 acres. Of this total, 17.12 acres are impacts to Sensitive Upland Communities, 2.40 acres occur to wetlands and 1.93 acres are non-sensitive communities.

The City of San Diego requires projects to demonstrate they avoid or reduce impacts to Cornerstone Lands to the maximum extent feasible. Regardless, impacts to Cornerstone Lands are significant absent mitigation (M-BI-2), Appendix D-3.

Lands Within City of Chula Vista

In compliance with the MSCP Subregional Plan and the Subarea Plan, the City of Chula Vista established development standards, the Habitat Loss and Incidental Take (HLIT) Ordinance, as a condition of issuance of Take Authorization by the wildlife agencies. The HLIT is consistent with the conservation and mitigation goals of the MSCP Subregional Plan and the City of Chula Vista Subarea Plan, which require impacts to sensitive vegetation communities to be avoided and minimized to the maximum extent practicable. Furthermore, the HLIT identifies specific impact and mitigation requirements for impacts to native and some non-native communities (e.g., non-native grassland).

As shown in the Table 2, direct impacts to lands within the City of Chula Vista as a result of the widening of Otay Lakes Road total 6.35 acres. Of this total, 3.11 acres are to Sensitive Upland Communities and 3.24 acres are to non-sensitive communities. This off-site area is located outside of the Otay Ranch boundary and is subject to the City of Chula Vista HLIT Ordinance. The off-site impact areas within City of Chula Vista are consistent with City Planning Guidelines and do not conflict with the goals or standards of the City's Subarea Plan since the impacts are for the road improvements; however, compliance with the City's HLIT Ordinance will require conformance with several standard measures to address habitat loss.

Impacts to native upland vegetation communities and wetland habitats are considered significant absent mitigation under the City's HLIT Ordinance and require mitigation (City of Chula Vista 2003, Tables 5-3 and 5-6). Vegetation communities considered sensitive under the City Subarea Plan are those listed as Tier I through Tier III (rare uplands to common uplands), as well as wetlands. Significant impacts include non-native grassland (Tier III), and the disturbed and non-disturbed coastal sage scrub (Tier II). Impacts to vegetation communities that are not considered significant include impacts to Tier IV habitats (other uplands) consisting of disturbed land and developed land on site. Impacts to areas subject to HLIT are quantified in Table 2 and mitigated as described in M-BI-3, Appendix D-3. There are no impacts to jurisdictional wetlands within the City of Chula Vista.

Off-site Otay Ranch Lands

As shown in Table 2, direct impacts to off-site lands within the Otay Ranch as a result of the widening of Otay Lakes Road total 6.18 acres. Of this total, 5.19 acres are to Sensitive Upland Communities and 0.99 acres are to non-sensitive communities. This off-site area is located outside of the Otay Ranch Resort Village boundary but within the Otay Ranch. The impacts to these off-site Otay Ranch lands are subject to the requirements of the Otay Ranch

RMP. Because the impacts to the off-site Otay Ranch lands are associated with road improvements as required by the County of San Diego, conveyance per the Otay Ranch RMP is not required.

Jurisdictional Resources

There are 0.24 acres (404 linear feet) of non-wetland waters of the United States off site (Figure 3). There are 2.18 acres (1,370 linear feet) of jurisdictional wetlands within the off site for a total of 2.42 acres of agency regulated wetlands. The vegetation communities within the jurisdictional wetlands off site are quantified in Table 3. Impacts to jurisdictional wetlands and waters are significant and require mitigation per M-BI-5 and M-BI-6, Appendix D-3.

Table 3. Jurisdictional Non-Wetland Waters and Wetlands within Ownerships in Off Site Impact Areas

Jurisdictional Resource	County of San Diego (Right of Way)	City of San Diego Cornerstone Lands	City of Chula Vista (Eastlake and City)	Other Otay Ranch Lands (S & M Birch)	Total Off Site Impact Acreage	Total Off-Site Linear Feet Impact
Non-Wetland Waters of the United States						
Ephemeral Stream Channel		0.01			0.01	241
Open Water		0.23			0.23	163
Non-Wetland Waters of the United States		*0.24*			*0.24*	*404*
Wetlands						
Arundo		0.09			0.09	–
Freshwater Marsh		0.74			0.74	887
Mulefat Scrub	0.01	0.25			0.26	97
Southern Willow Scrub		0.46			0.46	150
Southern Arroyo Willow Riparian		0.16			0.16	106
Disturbed Wetland		0.47			0.47	130
Wetlands	*0.01*	*2.17*			*2.18*	*1,370*
Total	**0.01**	**2.41**	**0.0**	**0.0**	**2.42**	**1,774**

Special Status Species and Critical Habitat

This section provides a description of the federally listed species within the offsite areas, including focused surveys that were conducted, quantification of impacts and provision of mitigation measures if needed.

Rare Plants

Focused surveys for sensitive plant species were conducted within the project site including offsite areas over a number of years but focused on the offsite areas in 2006. Surveys were conducted by Tish Schuyler and Vipul Joshi.

The surveys were conducted on foot with focus given to areas that exhibited appropriate soil conditions for rare plants. Species were recorded with GPS or mapped by hand onto 200-scale aerial photographic or topographic maps. Population sizes were visually estimated at each location. Species that were determined to be present within the offsite impact area include: San Diego barrel cactus, San Diego goldenstar, San Diego marsh-elder, and San Diego County viguiera. Impacts to San Diego barrel cactus, San Diego goldenstar, and San Diego marsh-elder are significant and mitigated by M-BI-8, Appendix D-3. The area where San Diego County viguiera is located is not CSS that is dominated by the species so impacts are less than significant and no mitigation is required.

San Diego Fairy Shrimp

San Diego fairy shrimp are most commonly found within the coastal portions of San Diego County. This species occurs in vernal pools and other ephemeral ponds (e.g., road ruts, swales, ephemeral drainages, stock ponds) within coastal mesa areas. Focused fairy shrimp surveys were conducted in multiple years (2006, 2007, 2008, and 2014) within the offsite areas to determine the presence/absence of San Diego and Riverside fairy shrimp within the proposed improvements areas of Otay Lakes Road. Focused survey reports for these years are provided in the Otay Ranch Resort Village Biological Resources Technical Report (March 2015), which is Appendix C-3 to the Otay Ranch Resort Village Draft EIR.

A focused survey of the off-site area was performed in winter 2006 by Vipul Joshi in accordance with the USFWS survey protocol for listed fairy shrimp species (USFWS 1996). The surveys consisted of an inspection of six basins (OLR-1 through OLR-6; Table 4), one located in a dirt road and five located adjacent to the road shoulder. Of the six basins identified during the survey, none were found to contain branchiopod species (Dudek 2006a).

A focused survey of the off-site area was again performed in winter 2007 (January to February 2007) by Mr. Joshi and Brock Ortega. Surveys were conducted in accordance with the USFWS survey protocol for listed fairy shrimp species (USFWS 1996). The surveys consisted of an inspection of 19 ponded road ruts/basins (OLR-7 through OLR-25; Table 4): one located in a dirt road and the others located adjacent to the road shoulder. Of the 19 features, seven were found to contain San Diego fairy shrimp (Dudek 2007).

A complete focused survey of the off-site area was conducted in 2008 and 2014 by Thomas S. Liddicoat (permit #TE-139634-0). The 2008 and 2014 surveys included visits to all basins observed within the off-site area. Figure 3 shows the locations of the off-site basins. No impacts will occur to either vernal pools or San Diego fairy shrimp as a result of the offsite impacts and no mitigation is required.

Table 4. Basins and Fairy Shrimp Occurrence within the Otay Ranch Resort Village Off-Site Area

Basin ID	Size of Basin (Square Feet)	Size of Basin (Acres)	Fairy Shrimp Cysts Present[1]	San Diego Fairy Shrimp Present[2]	Vernal Pool Plant Indicator Present[3]	Acreage of Basins Concluded to be Vernal Pools
OLR-1	132	0.003	—	—	—	—
OLR-2	900	0.021	—	—	—	—
OLR-3	537	0.012	—	—	—	—
OLR-4	23	0.001	—	—	—	—
OLR-5	129	0.003	—	—	—	—

Table 4. Basins and Fairy Shrimp Occurrence within the Otay Ranch Resort Village Off-Site Area

Basin ID	Size of Basin (Square Feet)	Size of Basin (Acres)	Fairy Shrimp Cysts Present[1]	San Diego Fairy Shrimp Present[2]	Vernal Pool Plant Indicator Present[3]	Acreage of Basins Concluded to be Vernal Pools
OLR-6	352	0.008	—	—	—	—
OLR-7	281	0.006	—	x	—	—
OLR-8	649	0.015	—	x	—	—
OLR-9	589	0.014	—	x	—	—
OLR-10	190	0.004	—	x	—	—
OLR-11	191	0.004	—	x	—	—
OLR-12	1,101	0.025	—	x	—	—
OLR-13	60	0.001	—	x	—	—
OLR-14	941	0.022	—	x	—	—
OLR-15	368	0.008	—	x	—	—
OLR-16	19	<0.001	—	x	—	—
OLR-17	19	<0.001	—	x	—	—
OLR-18	522	0.012	—	x	—	—
OLR-19	719	0.017	—	—	—	—
OLR-20	101	0.002	—	—	—	—
OLR-21	124	0.003	—	—	—	—
OLR-22	127	0.003	—	—	—	—
OLR-23	90	0.002	—	—	—	—
OLR-24	58	0.001	—	—	—	—
OLR-25	1,224	0.028	—	—	—	—

1 No dry-season surveys conducted.
2 Based on wet-season surveys conducted in 2006, 2007, 2008, and 2014. "X" indicates that San Diego fairy shrimp was detected.
3 Based on focused surveys of vernal pool plant species conducted in 2001.

Quino Checkerspot Butterfly

Quino checkerspot butterfly is a federally endangered species, found only in western Riverside County, southern San Diego County, and northern Baja California, Mexico (USFWS 2003). This species is found on sparsely vegetated hilltops, ridgelines, and occasionally on rocky outcrops in open chaparral and coastal sage scrub habitat.

The off-site area was surveyed by Dudek biologists according to the 2002 protocol (USFWS 2002) in 2006 (Dudek 2006b). No Quino checkerspot butterflies were observed within the offsite areas. Additional surveys were conducted in 1998, 1999, 2000, 2004, 2008, and 2016 within the Alternative H project footprint that identified Quino checkerspot butterflies and habitat within the project site. Mitigation is included within the project EIR that would require pre-construction surveys, conservation of suitable or occupied Quino checkerspot habitat and preparation of a Quino Checkerspot butterfly management plan in order to reduce impacts to the species. No mitigation is required for the offsite impacts.

Coastal California Gnatcatcher

Coastal California gnatcatcher is federally threatened, a Species of Special Concern, an MSCP Covered Species, and a County Group 1 species. This species occurs in coastal Southern California and Baja California year-round, where it depends on a variety of arid scrub habitats. California gnatcatcher occurs mainly on cismontane slopes (coastal side of the mountains) in Southern California, ranging from Ventura and northern Los Angeles Counties south through the Palos Verdes Peninsula to Orange, Riverside, San Bernardino, and San Diego Counties.

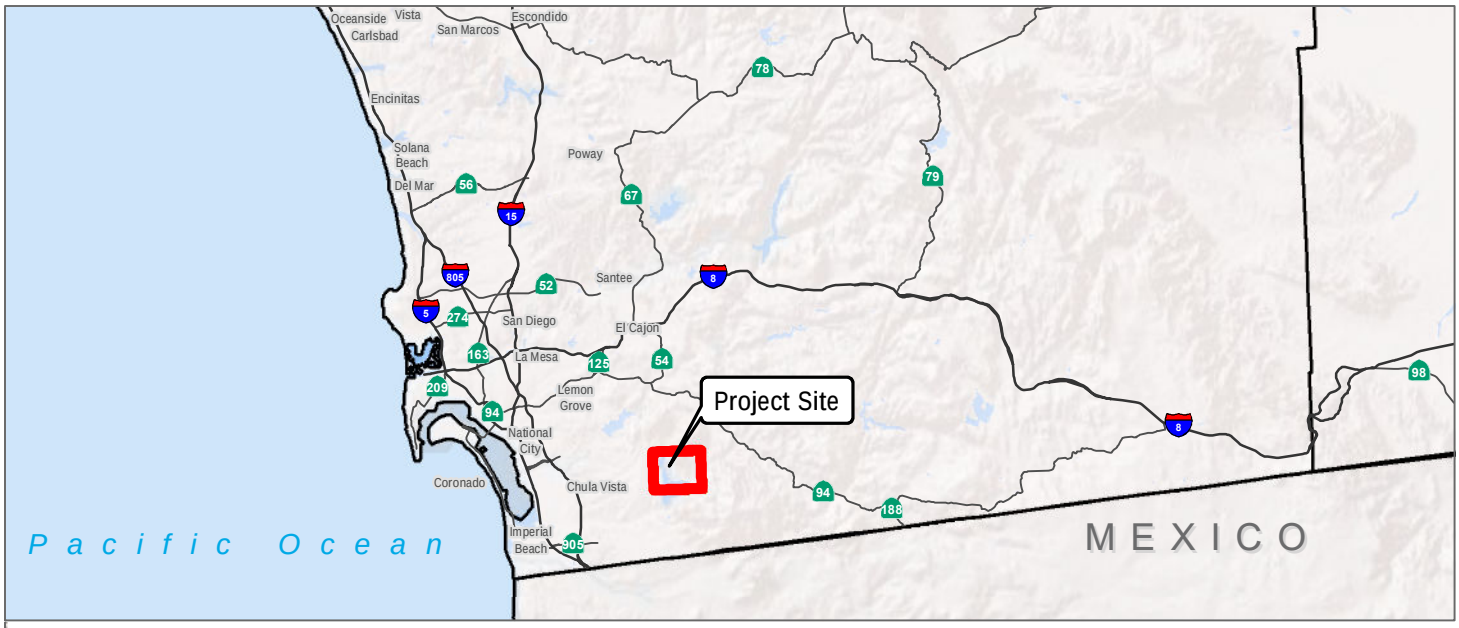
Focused surveys for coastal California gnatcatcher were not conducted due to assumed occupation of all coastal sage scrub and disturbed coastal sage scrub vegetation communities. Extensive occurrence data has been compiled through the MSCP and were used for the species analysis for the proposed project. The data indicate that there are approximately two occurrences of the species within the City of San Diego-owned Cornerstone Lands areas (Dudek 2015a) (Figure 5). Impacts to the California gnatcatcher are significant and are mitigated per M-BI-15, Appendix D-3.

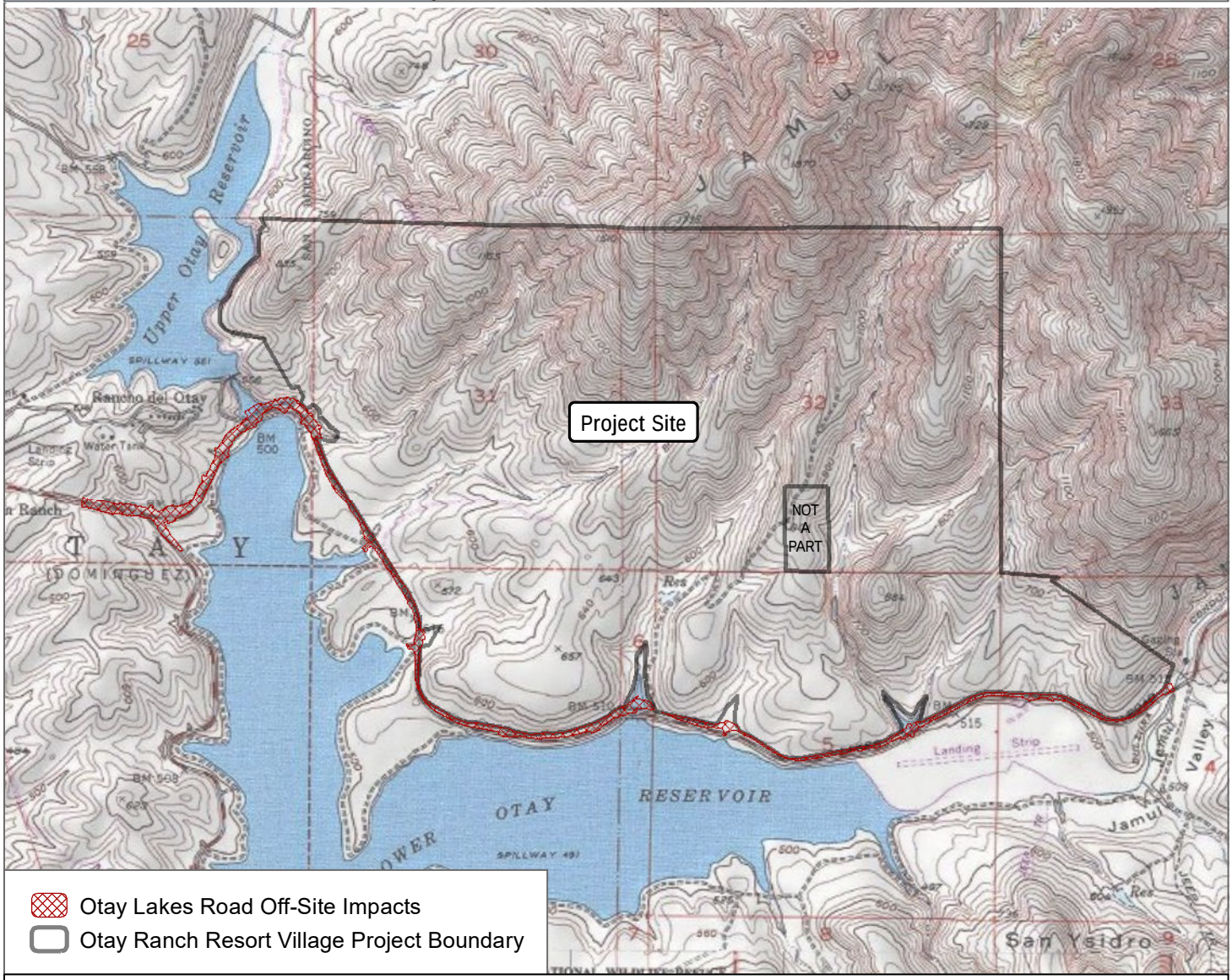
Least Bell's Vireo

Least Bell's vireo is a federally and state endangered species. In addition, least Bell's vireo is covered under the MSCP. This species is largely associated with early successional riparian scrub and woodlands dominated by species such as mulefat, willows, cottonwood (*Populus* sp.), and blue elderberry to an elevation of 4,100 feet above mean sea level.

Focused surveys for least Bell's vireo, as well as for the federally-listed endangered southwestern willow flycatcher (*Empidonax traillii extimus*), were conducted by Dudek biologists in the spring and summer of 2006. The surveys were conducted in the off-site portions of the project area, as this is where suitable riparian habitat is located. One pair of least Bell's vireo was detected during these focused surveys (Figure 5). The pair was located within the easternmost portion adjacent to the project boundary, but offsite within Jamul Creek on the south side of Otay Lakes Road. No southwestern willow flycatchers were observed (Dudek 2006c). Impacts to least Bell's vireo are significant and are mitigated per M-BI-18, Appendix D-3.

Portions of Otay Lakes Road impact overlaps with critical habitat for least Bell's vireo (Figure 5). The proposed project will result in 6.20 acres of effects to least Bell's vireo critical habitat. The large majority of impacts to least Bell's vireo critical habitat are comprised of impacts to existing road. Impacts to critical habitat will be addressed during the wetland permitting process with the U.S. Army Corps of Engineers.





Otay Lakes Road Off-Site Impacts

Otay Ranch Resort Village Project Boundary

SOURCE: USGS 7.5-Minute Series Quadrangle

DUDEK

0 1,200 2,400 Feet

FIGURE 1

Regional Map

Offsite Impacts - Otay Ranch Resort Village Alternative H

Document Path: Z:\Projects\j652401\MAPDOC\MAPS\Offsite OLRd Memo 20190329\Memo Fig 1 Project Location USGS.mxd

Document Path: Z:\Projects\j652401\MAPDOC\MAPS\Offsite OLR\d Memo 20190329\Memo Fig 2 Veg Impacts.mxd

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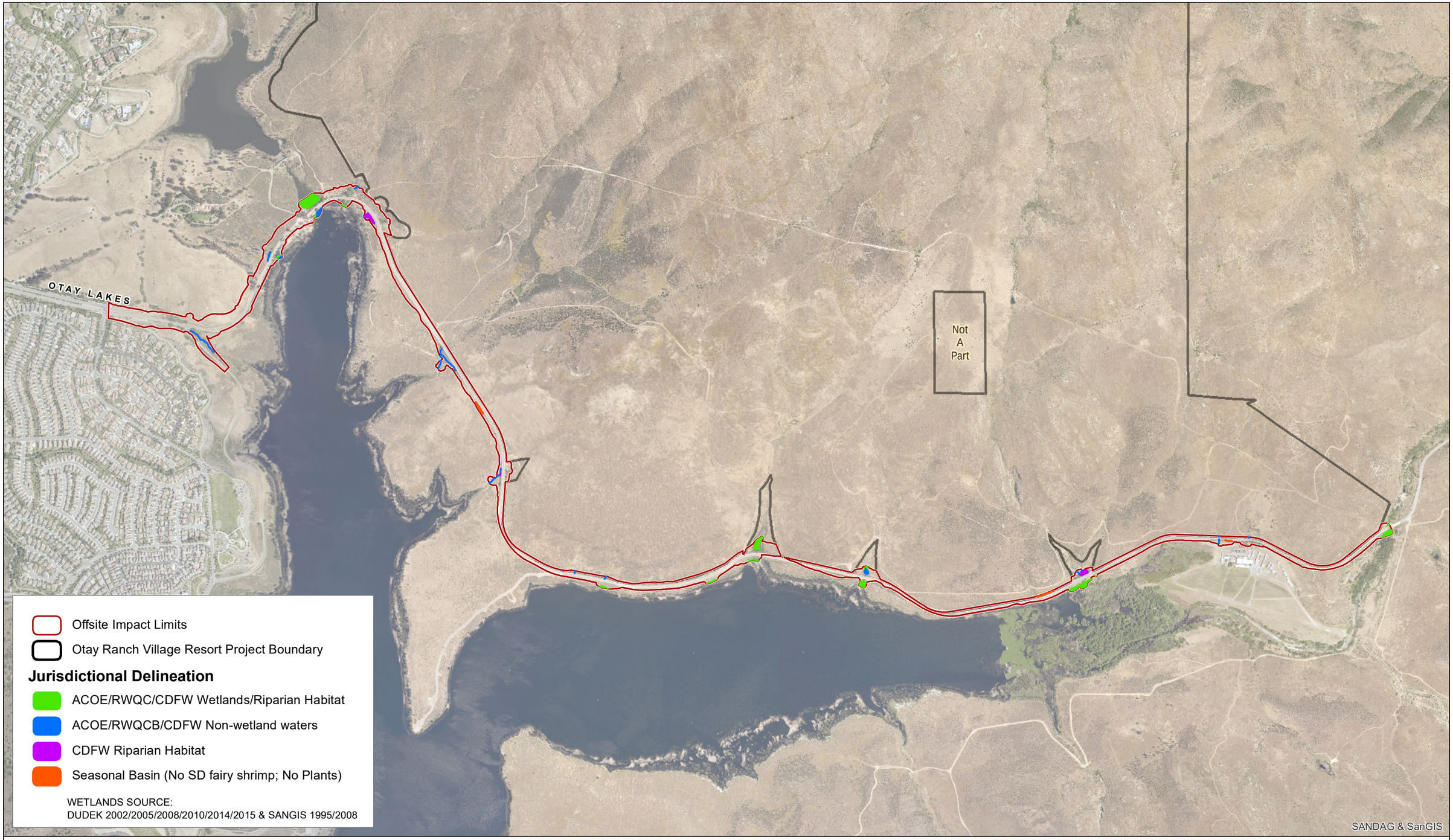
FIGURE 2

Vegetation Communities

Offsite Impacts - Otay Ranch Resort Village Alternative H



SOURCE: AERIAL-SANGIS 2017

DUDEK

0 600 1,200 Feet

FIGURE 3

Jurisdictional Resources

Offsite Impacts - Otay Ranch Resort Village Alternative H

Document Path: Z:\Projects\j652401\MAPDOC\MAPS\Offsite OLRd Memo 20190329\Memo Fig 3 JD Impacts.mxd

Document Path: Z:\Projects\j652401\MAPDOC\MAPS\Offsite OLRd Memo 20190329\Memo Fig 4 Plants Impacts.mxd

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FIGURE 4

Sensitive Plant Species

Offsite Impacts □ Otay Ranch Resort Village Alternative H

SOURCE: USGS 7.5 Minute Series, Jamul Mountains Quadrangle

Document Path: Z:\Projects\j652401\MAPDOC\MAPS\Offsite OLRd Memo 20190329\Memo Fig 5 Wildlife Impacts.mxd

DUDEK

FIGURE 5

Sensitive Wildlife Species

Offsite Impacts - Otay Ranch Resort Village Alternative H