5.0 ENVIRONMENTAL IMPACT ANALYSIS

4. BIOLOGICAL RESOURCES

The length and complexity of the biological resources analysis herein relates to the number and range of resources to be considered and requires this section to be organized differently than the rest of the Draft Environmental Impact Report (EIR). Conventionally, the description of recommended mitigation measures follows the entire impact analysis. For this section, however, each individual impact is discussed in tandem with the mitigation measures proposed to address it and reduce its significance. This allows the reader to understand more clearly the connection between each impact and its associated mitigation measures and facilitates the readability of the section.

1. INTRODUCTION

This section of the Draft EIR analyzes the Entrada South Project's (Project's) potential impacts with respect to biological resources, including plants, wildlife, vegetation communities, critical habitat, and jurisdictional waters and wetlands. The analysis is based on the *Biological Technical Report for the Entrada South Site* (Biota Report) prepared by Dudek in April 2015, provided in **Appendix 5.4A** of this Draft EIR, as well as the *Oak Tree Report—Entrada VTTM 53295* (Oak Tree Report) prepared by Land Design Consultants Inc. (LDC) in January 2011 and amended in a separate letter in January 2014, which are included in **Appendix 5.4B** and **Appendix 5.4C**, respectively, of this Draft EIR.

a. Project Background

The Project is a proposed residential and commercial development on unincorporated land owned by The Newhall Land and Farming Company (Newhall, or the Applicant). The Project Site is located just west of Interstate 5 (I-5) and the City of Santa Clarita (City) and immediately south of Six Flags Magic Mountain in northwestern Los Angeles County (County), as shown in **Figure 5.4-1**, Regional Map, on page 5.4-2, and **Figure 5.4-2**, Vicinity Map, on page 5.4-3. Currently, the Project Site is predominantly undeveloped, but about 26 percent of the site (approximately 130 acres) has been previously altered by oil extraction activities, agriculture, and other manmade disturbances.

The 501.4-acre Project Site encompasses 382.3 acres within proposed Vesting Tentative Tract Map No. 53295 (VTTM 53295) as well as 119.1 acres of supportive improvements and infrastructure referred to as the External Map Improvements, much of

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Figure 5.4-1
Regional Map

Source: Dudek, 2014.

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Figure 5.4-2
Vicinity Map

Source: Dudek, 2014.

which overlap with the Mission Village project site within the Newhall Ranch Specific Plan (Specific Plan) area located immediately to the west. As discussed further in **Section 3.0**, Project Description, of this Draft EIR, the External Map Improvements will be developed either as part of the Mission Village project or Entrada South, whichever occurs first, but nonetheless are evaluated herein as part of the Project.

b. Environmental Planning Background and Regional Context

Several regional planning efforts have occurred in the Project vicinity in the recent past that are relevant to or provide contextual information for the Project, each of which is discussed further below:

- Newhall Ranch Specific Plan EIR, with Revised Additional Analysis[1]
- Environmental Impact Statement (EIS)/EIR for the Newhall Ranch Resources Management and Development Plan/Spineflower Conservation Plan (RMDP/SCP) Project[2]
- Natural River Management Plan (NRMP).[3]

(1) Newhall Ranch Specific Plan EIR

The Newhall Ranch Specific Plan Program EIR, which the County approved in 1999 and reapproved in 2003, evaluated development proposed within the Applicant's lands immediately west of the Entrada South site, including the portion of the Project Site that overlaps with Mission Village. As a result, the Specific Plan EIR analyzed: (1) biological resources (i.e., vegetation communities, topography, and soils) on lands within a portion of and adjacent to the Project Site; and (2) biological resources similar in character to those on the Project Site. The analysis herein incorporates the results of the many biological studies conducted in the Specific Plan area since 1988 (see summary of

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[1] *County of Los Angeles Department of Regional Planning. Revised Draft Additional Analysis to the Newhall Ranch Specific Plan and Water Reclamation Plant Final Environmental Impact Report (Volumes 1 and 2) and Final Additional Analysis to the Newhall Ranch Specific Plan and Water Reclamation Plant Final Environmental Impact Report (Volumes 3–7), Project No. 94087, SCH No. 95011015, November 2002 to May 2003, prepared by Impact Sciences Inc.*

[2] *U.S. Army Corps of Engineers and California Department of Fish and Wildlife (Corps and CDFW). 2010. Newhall Ranch Resource Management and Development Plan and Spineflower Conservation Plan Joint Environmental Impact Statement and Environmental Impact Report. Final. SCH No. 2000011025, June 2010.*

[3] *U.S. Army Corps of Engineers and California Department of Fish and Wildlife (Corps and CDFW). Final Environmental Impact Statement/Environmental Impact Report 404 Permit and 1603 Streambed Alteration Agreement for Portions of the Santa Clara River and its Tributaries. SCH No. 970061090, August 1998.*

studies reviewed in Subsection 3.a.(1), Literature Review). The approved Specific Plan also sets forth a comprehensive set of plans, development regulations, design guidelines, and implementation programs to develop the Specific Plan site, consistent with the goals, objectives, and policies of the County's General Plan and the Santa Clarita Valley (Valley) Area Plan, as amended by General Plan Amendment No. 94-087-(5), approved May 27, 2003. Although the Project is not subject to the Specific Plan, the proposed Project will incorporate similar approaches to evaluating and mitigating significant impacts to biological resources on the site resulting from Project implementation.

(2) RMDP/SCP

In 2010, the U.S. Army Corps of Engineers (Corps) and California Department of Fish and Wildlife (CDFW) approved the EIS/EIR for the RMDP/SCP Project.[4] The RMDP/SCP Project consists of two components. The first is the RMDP, which is a conservation, mitigation, and permitting plan for sensitive biological resources within the RMDP Project area. Newhall is relying on the RMDP to obtain federal and state permits for implementing certain infrastructure and facilities required to build out the approved Specific Plan, Entrada South, and Valencia Commerce Center (VCC). Those facilities include the Magic Mountain Parkway extension through Entrada South and the Specific Plan area. The RMDP directs both resource management and development within the RMDP area, as shown on Figure 2.0-3 of the EIS/EIR. The second component is the SCP, which is a conservation and management plan to permanently protect the San Fernando Valley spineflower (*Chorizanthe parryi* var. *fernandina*, "spineflower"), a federal candidate and state-listed endangered species, through an actively managed system of preserves. The SCP addresses known spineflower populations located within the Specific Plan area and in study areas within VCC and Entrada South. The RMDP/SCP Project area and related jurisdictional areas within Entrada South are depicted in **Figure 5.4-3**, Entrada South Site Jurisdictional Areas within Alternative 13 LEDPA Development Plan, on page 5.4-6.

Because the infrastructure components of the RMDP (e.g., certain roadways such as the Magic Mountain Parkway extension, bank stabilization, bridges, etc.) would facilitate development of the Specific Plan and Entrada South, and because such development would result in impacts to the spineflower, which necessitated the SCP and an Incidental Take Permit (ITP), the Corps and California Department of Fish and Wildlife (CDFW) elected to prepare a comprehensive EIS/EIR addressing all of these issues. That

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[4] *The California Department of Fish and Game (CDFG) was officially renamed the California Department of Fish and Wildlife (CDFW) as of January 1, 2013. Where references are made in this document to the department for background information, documents, permits, consultations, etc., whether prior to or after January 1, 2013, the current title (CDFW) is used, except when referenced within a previously approved mitigation measure.*

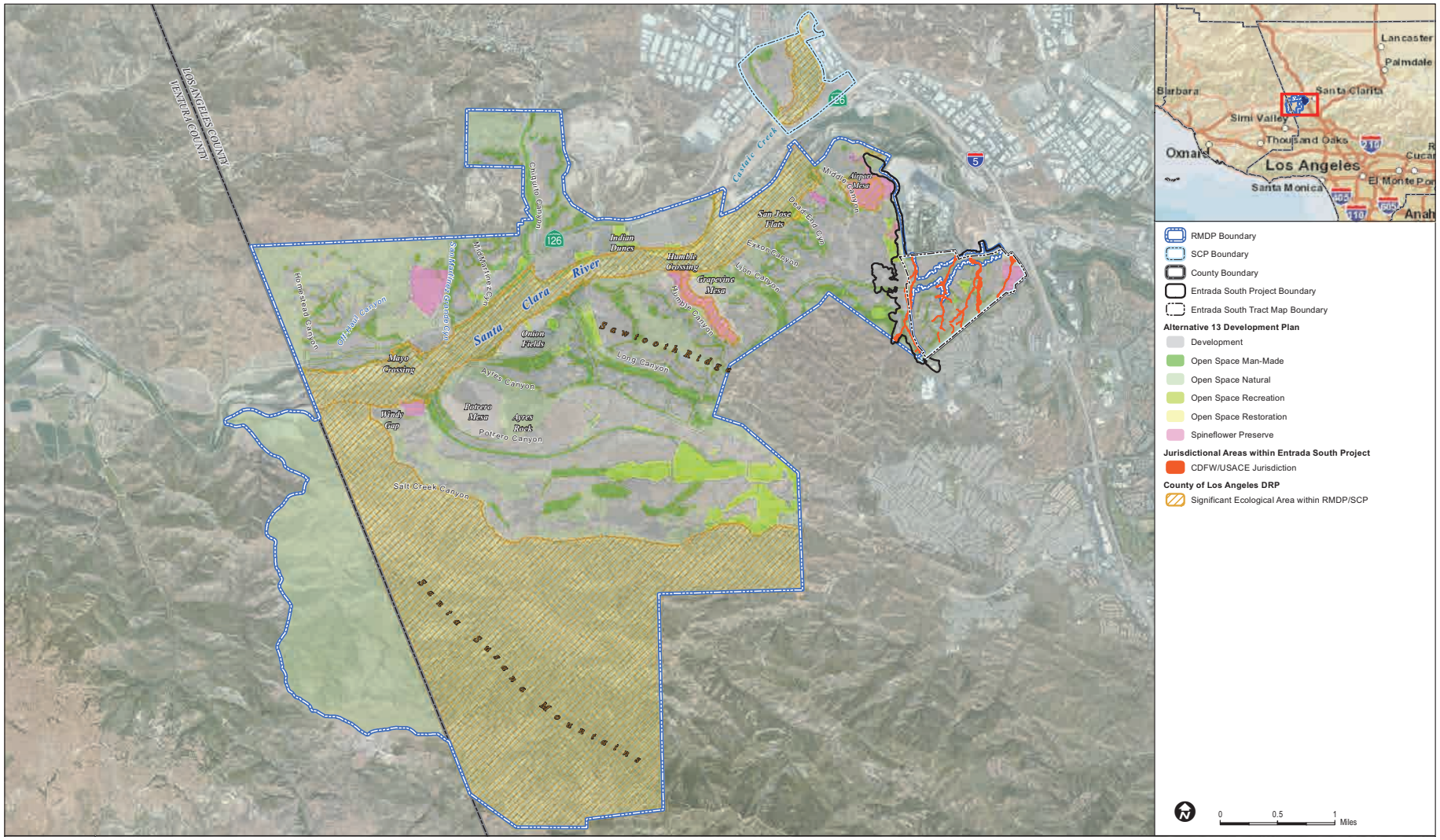

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Figure 5.4-3

Entrada South Site Jurisdictional Areas within Alternative 13 LEDPA Development Plan

Source: Dudek, 2014.

document analyzed: (1) the direct environmental impacts of the RMDP's infrastructure/ facilities; (2) the direct impacts of the SCP and ITP for spineflower; (3) the indirect impacts from those residential, commercial, and non-residential projects (i.e., Specific Plan, Entrada South, and VCC) that would be facilitated by the RMDP/SCP Project; and (4) the secondary impacts that could occur outside the development footprints of such facilitated projects. Thus, Entrada South was among the projects whose overall impacts were evaluated in the EIS/EIR.

The EIS/EIR, along with its technical appendices, provided the most up-to-date analysis of existing biological conditions within the RMDP/SCP area, including those within the Entrada South Project Site as of 2010. The biological resources analysis is based on more than 100 biological surveys conducted over a span of 22 years, as described later in this Draft EIR section. In addition, the EIS/EIR includes extensive discussions of the life histories of each special-status species that exists or has the potential to exist within the RMDP/SCP area, including within the Entrada South Project Site. Further, it also evaluates impacts from the projects facilitated by the RMDP/SCP, including impacts to (1) vegetation communities and land covers; (2) wildlife movement, including live-in habitat linkages, travel corridors, and wildlife crossings; (3) common plant and wildlife species; and (4) special-status plant and wildlife species. Entrada South's impacts are also included in the EIS/EIR's cumulative impacts analysis. Where biological impacts would be caused by non-biological factors, such as hydrology or noise, the EIS/EIR evaluates those effects as well. Finally, Entrada South's impacts are factored into the RMDP/SCP mitigation measures, including those that establish ratios for habitat preservation, enhancement, restoration, and creation. Since the EIS/EIR was completed in 2010, several additional biological surveys have been conducted both on the Entrada South Project Site and in the immediate Project vicinity:

- Vegetation mapping updates in 2012;
- Focused botanical surveys in 2012;
- Focused surveys for the federally-listed coastal California gnatcatcher (*Polioptila californica californica*), the special-status grasshopper sparrow (*Ammodramus savannarum*), and other wildlife in 2012;
- Focused surveys for special-status bats in 2012; and
- Waters (including wetlands) jurisdictional delineation in 2012.

These more recent studies are described later in this Draft EIR section.

As part of the RMDP/SCP Project, the Applicant requested and obtained from CDFW ITPs for spineflower and three other special-status species—the western

yellow-billed cuckoo (*Coccyzus americanus occidentalis*), southwestern willow flycatcher (*Empidonax traillii extimus*), and least Bell's vireo (*Vireo bellii pusillus*) (collectively referred to herein as the Covered Species). Newhall and CDFW also entered into a Master Streambed Alteration Agreement (MSAA) for Project-related changes to the River and its tributaries. In addition, Newhall obtained from the Corps a Clean Water Act Section 404(b)(1) permit, following review and approval of its Least Environmentally Damaging Practical Alternative (LEDPA). The analysis on which the MSAA and LEDPA approvals were granted covered Project impacts to jurisdictional waters located within the Entrada South Project Site.

The LEDPA process resulted in a Final Newhall Ranch Project LEDPA that was a modified version of the Draft LEDPA described in the Final RMDP/SCP EIS/EIR.[5] The Final LEDPA avoids an additional 18.4 acres of waters of the United States compared to the Draft LEDPA, primarily by reconfiguring development in Potrero Canyon and relocating development in San Martinez Grande Canyon (thus allowing bank stabilization to occur entirely in upland areas).

Note also that the LEDPA, in response to input from CDFW, provides for increased spineflower preserve acreage by adding two new spineflower preserves—the Magic Mountain and Spring preserves. Finally, the LEDPA provides for larger riparian corridors within five major tributaries: lower Potrero Canyon (by eliminating Potrero Canyon Bridge); Long Canyon (new channel construction); and in Lion, San Martinez Grande, and Chiquito canyons by incorporating limited channel grading to expand the drainages and adjacent riparian areas and realign their banks. Of the total 660.1 acres of waters of the United States present on the RMDP site, the LEDPA would avoid permanent or temporary impacts to approximately 87 percent (576.9 acres), compared to 85 percent avoidance for the Draft LEDPA. The Section 404 Individual Permit (IP) was based on the LEDPA-authorized fill of approximately 47.9 acres of the Corps-jurisdictional waters of the United States and temporary disturbance of 35.3 acres.

The MSAA and IP authorized the conversion to buried storm drain of Magic Mountain Canyon (6,111 linear feet), Unnamed Creek 1 (4,647 linear feet), and Unnamed Creek 2 (416 linear feet). The IP authorized the fill of 7.21 acres of Corps-jurisdictional non-wetland waters, and the MSAA authorized the fill of 7.38 acres of CDFW-jurisdictional streambed associated with the extension of Magic Mountain Parkway through the Entrada South Project Site.

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[5] *Carpenter, M. 2011. "Final Newhall Ranch Project Description." Attachment 3 to Letter from M. Carpenter (Newhall) to A. Allen. August 2011.*

However, the MSAA did not cover all jurisdictional impacts associated with the residential and commercial development elements of the Entrada South Project. The Entrada South Project would result in impacts to 14.68 acres of CDFW-jurisdictional streambed (as evaluated later in this section), only 7.38 acres of which are covered under the existing MSAA. Therefore, impacts to approximately 7.3 acres would have to be covered under a new permit or streambed alteration agreement for Entrada South. Likewise, the Project would result in impacts to 8.01 acres of waters of the United States (as discussed later in this section), only 7.21 acres of which are covered under the existing IP. Therefore, the Applicant would have to obtain a new permit for Entrada South to cover the remaining 0.8 acre of impacts to waters of the United States.

With respect to spineflower, surveys conducted for the EIS/EIR documented populations within the Entrada South Project Site. Newhall is authorized to disturb spineflower on the Entrada South Project Site, but only if such disturbance is consistent with the SCP and covered under the approved spineflower ITP. The SCP requires, among other things, that Newhall establish a spineflower preserve system comprised of the major population areas within Newhall's holdings. One of the preserves is located on the Entrada South Project Site and consists of 1.04 acres of occupied spineflower habitat, 16.36 acres of unoccupied habitat, and 9.79 acres of buffer, for a total preserve area of 27.19 acres.

Taking into consideration the extensive environmental planning context, this Draft EIR section includes a description and evaluation of known and potential biological resources on the Project Site and analyzes impacts to these biological resources pursuant to the California Environmental Quality Act (CEQA) and County requirements. Based on the identification of significant impacts to biological resources, this Draft EIR recommends mitigation measures that would reduce these impacts to less than significant. Where applicable, this Draft EIR recommends that mitigation measures identical or substantially similar to RMDP/SCP mitigation measures be adopted as part of the Entrada South Project.

(3) Natural River Management Plan

In 1998, the Corps and CDFW prepared the NRMP for the Valencia Company, a wholly owned subsidiary of Newhall, for approximately 15 miles of the Santa Clara River (River) main channel and tributaries in the Santa Clarita Valley. The NRMP provides a long-range management plan to protect the River and its natural functions, while identifying acceptable development along the River and its two major tributaries: San Francisquito Creek and South Fork. The NRMP study area covered the reach of the Santa Clara River from approximately Saugus to downstream of the confluence with Castaic Creek, where it overlaps with the RMDP Project area. The NRMP requires Newhall to place wetlands and riparian lands into a conservation easement upon completion of the Valencia development project. Newhall obtained approval of

the NRMP from the Corps and CDFW in 1998. The NRMP and RMDP are to be implemented in a coordinated and complementary fashion. Although regulatory permits associated with the NRMP and RMDP do not apply to the Project (with the exception of the extension of Magic Mountain Parkway through the Entrada South Project Site as noted above), this Draft EIR section evaluates the potential effects of the Project on the NRMP and RMDP.

(4) Existing and Planned Conservation

Open space in the RMDP/SCP study area (referred to as Open Area) would be permanently protected within the tract map boundaries of the communities in the study area (i.e., Landmark Village, Mission Village, Homestead South, Homestead North, Potrero Village, Entrada South, and VCC) in the form of seven Spineflower Preserves, the San Martinez Grande Adaptive Management Area, the Mariposa Lily Reserve, land designated as natural open space, and the Santa Clara River Special Management Area/Significant Ecological Area (SMA/SEA). The total Open Area protected within the tract map communities comprises 3,770 acres. Outside the tract maps, open space would be protected within the High Country SMA/SEA (4,167 acres) located in the Specific Plan area and the Salt Creek area (1,518 acres) located in Ventura County. The total Open Area protected within the study area totals 9,417 acres, as illustrated in **Figure 5.4-3**, Entrada South Site Jurisdictional Areas within Alternative 13 LEDPA Development Plan.

This large, interconnected system of conservation areas provides the core of mitigation for the Applicant's projects, including the Project, as discussed in more detail in Subsection 3.d, Project Impacts, and in the Comprehensive Mitigation Implementation Plan (CMIP) provided in Appendix A of the Biota Report.

The Santa Clara River SMA/SEA overlies the River and provides an important east–west riparian corridor in the region. This corridor also serves as an important connection between the upland habitats to the north and south of the River. The Santa Clara River SMA/SEA is composed of aquatic, riparian, and floodplain habitats within the River corridor that support a variety of listed and special-status species. In 2013, the County revised the Santa Clara River SMA/SEA to include the two previously recorded conservation easements protecting the Grapevine Mesa and Airport Mesa occurrences of the spineflower. However, the Entrada South Project Site is not located within the Santa Clara River SMA/SEA.

The High Country SMA/SEA is located in the southern portion of the Newhall Ranch Specific Plan area and includes oak savannahs, high ridgelines, and various canyon drainages, including the portion of Salt Creek located in Los Angeles County. Contiguous with the High Country SMA/SEA is the Salt Creek conservation area in

Ventura County. The entire Salt Creek is a regionally significant wildlife corridor that provides an important north–south habitat link to the Santa Clara River that allows for wildlife movement between the Santa Susana Mountains and the River and provides a direct connection between the Santa Clara River SMA/SEA and the High Country SMA/SEA.

The Spineflower Preserves provide an additional approximately 227 acres of conservation as mitigation for impacts to the spineflower associated with Newhall projects, including Entrada South. The seven preserves are shown in **Figure 5.4-3**, Entrada South Site Jurisdictional Areas within Alternative 13 LEDPA Development Plan.

The South Coast Missing Linkages Project (SCMLP) is also relevant to Entrada South with regard to regional habitat connectivity issues insofar as the Entrada South Project is located within the general area analyzed for regional-scale habitat linkages, and its mitigation could contribute to regional habitat connectivity. The South Coast Missing Linkages Project is a planning document showing broad-scale regional connections that would provide for landscape-scale habitat connectivity between the Santa Susana Mountains to the south and Los Padres National Forest to the north. As shown in **Figure 5.4-4**, South Coast Wildlands Open Space Connectivity and Linkage, on page 5.4-12, these conceptual linkages encompass the High Country SMA/SEA and the Salt Creek conservation area within the Newhall Ranch Specific Plan area, as well as the Santa Clara River west of the Specific Plan area. The South Coast Missing Linkages Project takes into account the High Country SMA/SEA and Salt Creek area, along with regional open space conservation areas and initiatives such as "SOAR" (Save Open Space and Agricultural Resources) in Ventura County, to create a linkage design that connects the Santa Monica Mountains, San Gabriel Mountains, and the Sierra Madre Mountains.[6] However, it is important to note that portions of the SCMLP linkage design, as shown in the planning document, do not currently exist as managed preserve areas, and there is no guarantee th[at all lands with the linkage design will be preserved in the future. However, the RMDP/SCP EIS/EIR determined that significant impacts would occur to wildlife resources.[7] As noted above, open space would be protected within the High Country SMA/SEA (4,167 acres) located in the Specific Plan area and the Salt Creek area (1,518 acres)

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[6] *SOAR is a non-profit organization that seeks to maintain agricultural, open space, and rural lands within Ventura County and surrounding regions. Development activities within the SOAR boundaries are limited by County ordinance.*

[7] *U.S. Army Corps of Engineers and California Department of Fish and Wildlife (Corps and CDFW). 2010. Newhall Ranch Resource Management and Development Plan and Spineflower Conservation Plan Joint Environmental Impact Statement and Environmental Impact Report. Final. SCH No. 2000011025. Los Angeles, California: Corps and CDFW. June 2010.*

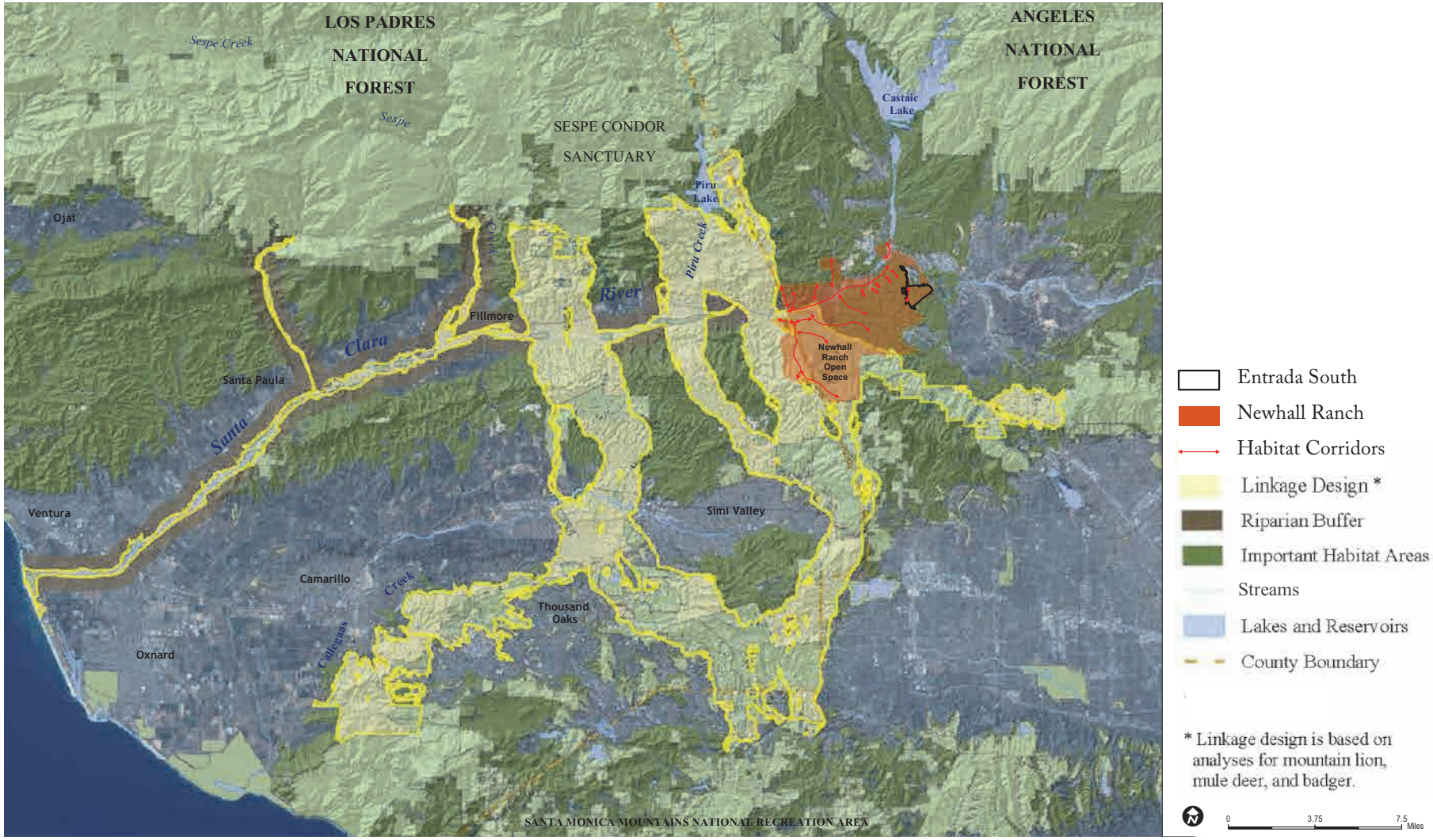

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Figure 5.4-4
South Coast Wildlands Open Space Connectivity and Linkage

Source: Dudek, 2014.

located in Ventura County, both of which are within the linkage design and substantially contribute to its completion.

(5) Non-Preserve Land Uses

(a) On-Site Land Uses

Most of the Project Site is undeveloped due to its rugged terrain, but there is direct disturbance from past oil and gas operations on about 26 percent (approximately 130 acres) of the site, including associated dirt roads and oil pad ground clearance zones. There is also an existing disturbance along Magic Mountain Canyon adjacent to Six Flags Magic Mountain, which has been used for fire suppression related to fireworks displays at the park. The northernmost part of the Project Site next to the River is an agricultural field used as non-irrigated pasture. In addition, Southern California Edison (SCE) and Southern California Gas Company have transmission corridors within easements along the southern boundary of the Project Site where high-voltage electric transmission lines and towers as well as a high-pressure natural gas main are located. SCE actively maintains the easements/transmission lines and associated access roads.

(b) Surrounding Land Uses

There is substantial existing and planned development near the Project Site, including I-5 to the east, State Route 126 (SR-126) to the north, and secondary roadway infrastructure to the south, east, and north. The existing Westridge community, a medium-density residential housing development and integrated golf course is adjacent to the site on the south, and Six Flags Magic Mountain, a major commercial recreational theme park, is adjacent to the north and east. Additionally, as previously indicated, the approved Newhall Ranch Specific Plan area, where five interconnected communities are planned, is located directly west of the Project Site. The proposed Legacy Village and Entrada North projects are also located to the southwest and the north, respectively.

2. ENVIRONMENTAL SETTING

a. Regulatory Setting

(1) Federal Regulations

(a) Clean Water Act of 1972, as amended

This discussion focuses primarily on Section 404 of the Clean Water Act (CWA), which authorizes the Secretary of the Army, acting through the Corps, to issue permits regulating the discharge of dredged or fill materials into the “navigable waters at specified disposal sites.” CWA Section 502 further defines “navigable waters” as “waters of the

United States, including territorial seas." "Waters of the United States" are broadly defined in the Code of Federal Regulations (C.F.R.), Title 33, Section 328.3(a) to include navigable waters, perennial and intermittent streams, lakes, rivers, ponds, as well as wetlands, marshes, and wet meadows.[8]

The lateral limits of the Corps' CWA Section 404 jurisdiction in non-tidal waters are defined by the "ordinary high-water mark" (OHWM), unless adjacent wetlands are present. The OHWM is a line on the shore or edge of a channel established by the fluctuations of water and indicated by physical characteristics such as a clear, natural line impressed upon the bank, shelving, changes in the character of soil, destruction of vegetation, or presence of debris.[9] As such, waters of the United States are recognized in the field by the presence of a defined watercourse with appropriate physical and topographic features. If wetlands occur within, or adjacent to, waters of the United States, the lateral limits of the Corps' jurisdiction will extend beyond the OHWM to the outer edge of the wetlands. The upstream limit of jurisdiction in the absence of adjacent wetlands is the point beyond which the OHWM is no longer perceptible.[10,11]

The 404(b)(1) Guidelines govern the issuance of permits authorizing the discharge of fill material into waters of the United States, and state that:

> [N]o discharge of dredged or fill material shall be permitted if there is a practicable alternative to the proposed discharge which would have less adverse impacts on the aquatic ecosystem, so long as the alternative does not have other significant adverse environmental consequences.[12]

Under the 404(b)(1) Guidelines, the Applicant must demonstrate avoidance or minimization of impacts to waters of the United States to the maximum extent practicable.

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[8] *This regulation, 33 C.F.R. Section 328.3, and the definitions contained therein, have been the subject of recent litigation. In addition, the U.S. Supreme Court has recently addressed the scope and extent of the Corps' jurisdiction over "navigable waters" and "waters of the United States" under the CWA. See, e.g., Solid Waste Agency of Northern Cook Cty v. U.S. Army Corps of Engineers, 531 U.S. 159 (2001) ("SWANCC"); Rapanos v. United States, 126 S.Ct. 2208 (2006). Despite the impact of these recent decisions, the definitions continue to provide guidance to the extent that they establish an outer limit for the extent of the Corps' jurisdiction over "waters of the United States," and therefore are referenced here for that purpose.*

[9] *33 C.F.R. 328.1–328.5. Definition of Waters of the United States.*

[10] *Ibid.*

[11] *51 CF.R. 41217. "Migratory Bird Rule."*

[12] *40 C.F.R. 230.10a. Section 404(b)(1)—Guidelines for Specification of Disposal Sites for Dredged or Fill Material: Restrictions on Discharge.*

Under the above requirements, the Corps can only issue a CWA Section 404 permit for the LEDPA. In addition, as stated, the Corps is prohibited from issuing a permit that is contrary to the public interest.[13]

Section 401 of the CWA requires an Applicant requesting a federal permit (including a Section 404 permit) for an activity that may result in any discharge into navigable waters to provide state certification that the proposed activity will not violate state and federal water quality standards.

In addition to the above regulations on discharges of dredged or fill material into waters of the United States, CWA Section 404 extends additional protection to certain rare and/or sensitive "special aquatic sites," in particular wetlands.[14]

The 404 (b)(1) Guidelines require consideration of whether an activity associated with a proposed discharge is dependent on access or proximity to or siting within a special aquatic site to fulfill its basic Project purpose. If an activity is determined not to be water dependent, the 404 (b)(1) Guidelines establish the following two presumptions that the Applicant is required to rebut in addition to satisfying the alternatives analysis requirements:

- That practicable alternatives not involving discharges of fill material into special aquatic sites are presumed to be available; and
- That all practicable alternatives to the proposed discharge not involving a discharge into a special aquatic site are presumed to have less adverse impacts on the aquatic ecosystem.[15]

For nonwater-dependent projects, the Applicant must rebut these presumptions in order to demonstrate compliance with the 404 (b)(1) Guidelines.

Corps regulations define wetlands as:

> [T]hose areas that are inundated or saturated by surface or groundwater at a frequency and duration sufficient to support, and that under normal

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[13] *33 C.F.R. 320.4. General Policies for Evaluating Permit Applications.*

[14] *40 C.F.R. 230.40–230.45. Potential Impacts on Special Aquatic Sites.*

[15] *40 C.F.R. 230.10(a)(3). Section 404(b)(1)—Guidelines for Specification of Disposal Sites for Dredged or Fill Material: Restrictions on Discharge.*

circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions.[16]

The Corps has developed a field technique to identify wetlands, often referred to as the "three-parameter technique."[17] This method involves a procedure to identify the three requisite characteristics of a CWA Section 404 jurisdictional wetland:

- Hydrophytic vegetation: more than 50 percent of dominant plants are adapted to anaerobic soil conditions;
- Hydric soils: soils classified as hydric or that exhibit characteristics of a reducing soil environment; and
- Wetland hydrology: inundation or soil saturation during at least 5 percent of the growing season (in southern California, this is equal to 18 days).

The Corps' wetlands delineation manual describes an approach to identify field indicators of the above characteristics.[18] In general, all three characteristics must be evident by field indicators, and their presence must be determined independent of the other characteristics. Positive identification of wetlands based on the presence of fewer than three characteristics can only occur when one or more parameters is absent due to normal seasonal variation in environmental conditions ("Problem Areas"), or due to recent human activities ("Atypical Situations"). Delineation of wetlands using the Corps' 1987 manual requires a systematic field investigation of soil, plants, and hydrology using formal data forms. In September 2008, the Corps published a Regional Supplement to the 1987 Wetland Delineation Manual for use in the arid west region of the United States, which provides technical guidance and procedures for identifying and delineating wetlands under Section 404 of the CWA.[19]

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[16] *33 C.F.R. 328.3(b). Definitions of Waters of the United States: Definitions: Wetlands.*

[17] *U.S. Army Corps of Engineers. 1987. Corps of Engineers Wetland Delineation Manual. Online ed. Environmental Laboratory, Wetlands Research Program Technical Report Y-87-1. Vicksburg, Mississippi: U.S. Army Engineer Waterways Experiment Station. January 1987. Available at www.fedcenter.gov/Bookmarks/index.cfm?id=6403&pge_id=1606, accessed March 9, 2015.*

[18] *Ibid.*

[19] *U.S. Army Corps of Engineers. 2008. Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region (Version 2.0). Edited by J.S. Wakeley, R.W. Lichvar, and C.V. Noble. ERDC/EL TR-08-28. Vicksburg, Mississippi: U.S. Army Engineer Research and Development Center. September 2008. Available at http://el.erdc.usace.army.mil/elpubs/pdf/trel08-28.pdf, accessed March 9, 2015.*

(b) Endangered Species Act of 1973

The federal Endangered Species Act (ESA) and the implementing regulations include provisions for the protection and management of federally listed threatened or endangered plants and animals and their designated critical habitats by the U.S. Fish and Wildlife Service (USFWS) and the National Oceanic and Atmospheric Administration (NOAA) Fisheries.[20,21] ESA Section 4 requires USFWS and/or NOAA Fisheries to make determinations on whether any species should be listed as an endangered or threatened species and to designate critical habitat for endangered and threatened species.[22] ESA Section 3 defines critical habitat for endangered and threaten species as follows:

(i) the specific areas within the geographical area occupied by the species, at the time it is listed in accordance with the provisions of § 1533 of this title, on which are found those physical or biological features (I) essential to the conservation of the species and (II) which may require special management considerations or protection; and

(ii) specific areas outside the geographic area occupied by the species at the time it is listed in accordance with the provisions of § 1533 of this title, upon a determination by the Secretary that such areas are essential for the conservation of the species.[23]

ESA Section 4 also requires the preparation of recovery plans for the conservation and survival of an endangered or threatened species, unless such a plan would not promote the conservation of the species. Recovery plans include: a description of site-specific management actions necessary to achieve the goal(s) for conservation and survival of the species; objective measurable criteria which, if met, would result in a determination of removing the species from the endangered or threatened species list; and estimates of the time required and cost to carry out the measures needed to achieve the plan's goal(s) and to achieve the immediate steps to the goal(s).[24]

ESA Section 7 requires federal agencies to formally consult with USFWS and/or NOAA Fisheries and obtain a biological opinion prior to carrying out any federal program or agency action that may adversely affect threatened or endangered species or may

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[20] *16 U.S.C. 1531–1544. Endangered Species Act of 1973, as amended.*

[21] *50 CFR 17.1–17.108. Endangered and Threatened Wildlife and Plants.*

[22] *16 U.S.C. 1531–1544. Endangered Species Act of 1973, as amended.*

[23] *16 U.S.C. 1532(5)(A). Definitions.*

[24] *16 U.S.C. 1533. Determination of Endangered Species and Threatened Species.*

adversely modify designated critical habitat. The formal Section 7 consultation and biological opinion process includes an evaluation of whether a federal action is likely to jeopardize the continued existence of any endangered or threatened species or result in the "destruction or adverse modification" of critical habitat and requires the inclusion of reasonable and prudent measures in the implementation of a project or agency action in order to minimize any impact.[25]

(c) Fish and Wildlife Coordination Act

The Fish and Wildlife Coordination Act provides authority for the USFWS to evaluate impacts to fish and wildlife from proposed water resource development projects.[26] Fish and Wildlife Coordination Act Section 2 requires federal agencies to consult with the USFWS when the waters or channel of a stream or other body of water are proposed to be modified pursuant to a federal permit or license.[27] Applicability depends on federal jurisdiction over some aspect of the Project, and the consultation is undertaken with a view toward conservation of wildlife resources by preventing loss of and damage to such resources. With regard to the proposed Project, the Corps will comply with these requirements in coordination with the USFWS.

(d) Migratory Bird Treaty Act

The Migratory Bird Treaty Act includes provisions for the protection of migratory birds and prohibits the non-permitted take of most migratory birds, under the authority of the USFWS and CDFW.[28] More specifically, the act prohibits the taking, killing, possessing, transporting, and importing of migratory birds, parts of migratory birds, and their eggs and nests, except when specifically authorized by the Department of the Interior. The act defines "take" as "to pursue, hunt, capture, collect, kill or attempt to pursue, hunt, shoot, capture, collect or kill, unless the context otherwise requires." Most birds are considered migratory under the Migratory Bird Treaty Act.

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[25] *16 U.S.C. 1533. Interagency Cooperation.*

[26] *16 U.S.C. 661–668ss. Protection and Conservation of Wildlife.*

[27] *16 U.S.C. 662. Impounding, Diverting, or Controlling of Waters.*

[28] *16 U.S.C. 703–711. Migratory Bird Treaty Act.*

(e) Bald and Golden Eagle Protection Act

In addition to the provisions of the Migratory Bird Treaty Act, the Bald and Golden Eagle Protection Act includes specific protection for bald eagles (*Haliaeetus leucocephalus*) and golden eagles (*Aquila chrysaetos*).[29]

(2) State Regulations

(a) California Endangered Species Act

The California Endangered Species Act (CESA) is intended to conserve, protect, restore, and enhance species designated as endangered or threatened and their habitat.[30] The California Fish and Game Commission, a constitutionally established commission distinct from CDFW, has exclusive statutory authority under CESA to designate species as endangered or threatened.[31,32,33] Animal species designated as endangered or threatened under CESA are listed in California Code of Regulations, Title 14, Section 670.5. Plant species designated as endangered or threatened under CESA, or designated as a rare plant species under the California Native Plant Protection Act, are listed in California Code of Regulations, Title 14, Section 670.2.[34]

CESA directs all state agencies, boards, and commissions to seek to conserve endangered and threatened species and to utilize their authority in furtherance of that policy.[35] For purposes of CESA, "conserve," "conserving," and "conservation" mean to use, and the use of all methods and procedures which are necessary to bring any endangered species or threatened species to the point at which the species protections provided by CESA are no longer necessary. These methods and procedures include, but are not limited to, all activities associated with scientific resources management, such as research, census, law enforcement, habitat acquisition, restoration and maintenance, propagation, live trapping, and transplantation, and, in the extraordinary case where population pressures within a given ecosystem cannot be otherwise relieved, may include regulated

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[29] *16 U.S.C. 668–669d. Bald and Golden Eagle Protection Act.*

[30] *California Fish and Game Code, Sections 2050–2115.5. California Endangered Species Act.*

[31] *Note that although CDFG has changed its name to CDFW, both the California Fish and Game Commission and the California Fish and Game Code have retained their original names.*

[32] *California Constitution, article IV, Section 20, subdivision (b).*

[33] *California Fish and Game Code, Section 2070. Listing of Endangered Species.*

[34] *California Fish and Game Code, Section 1900–1913. California Native Plant Protection Act.*

[35] *California Fish and Game Code, Sections 2050–2115.5. California Endangered Species Act, Section 2055.*

taking.[36] CESA also emphasizes, consistent with its goal to conserve species, the policy of the State of California to acquire lands for habitat for endangered and threatened species.[37] Finally, CESA indicates that state agencies should not approve projects that would jeopardize the continued existence of any endangered or threatened species or result in the destruction or adverse modification of habitat essential to the continued existence of those species if there are reasonable and prudent alternatives available, consistent with conserving the species or its habitat that would prevent jeopardy.[38]

With respect to lands under private ownership, CESA underscores that the cooperation of owners of land identified as habitat for endangered or threatened species is essential for the conservation of those species and that it is the policy of the State of California to foster and encourage that cooperation in furtherance of CESA's conservation goals.[39] To the extent that CESA requires a person to provide mitigation measures or alternatives to address a particular impact on a designated endangered, threatened, or candidate species, the Fish and Game Code provides that any required measures or alternatives shall be roughly proportional in extent to any impact on those species caused by that person. Likewise, where various measures or alternatives are available to meet this requirement, CESA directs that those measures or alternatives shall maintain the person's objectives to the greatest extent possible.[40] To that same end, CESA directs CDFW to work with project proponents to develop reasonable and prudent alternatives, consistent with CESA's conservation goals, while at the same time maintaining the project purpose to the greatest extent possible.[41,42]

Species designated as endangered, threatened, or as candidates for listing or delisting under CESA are subject to what is commonly known as CESA's "take" prohibition. In general, this prohibition provides that no person shall import into the State, export out of the State, or take, possess, purchase, or sell within the State (or attempt to do any of those acts) any species, or any part or product thereof, designated by the Fish and Game Commission as protected under CESA, except as otherwise provided by law.[43,44] The

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[36] *Ibid., Section 2061.*

[37] *Ibid., Section 2052.*

[38] *Ibid., Section 2052.1.*

[39] *Ibid., Section 2056.*

[40] *Ibid., Section 2052.1.*

[41] *Ibid., Section 2053.*

[42] *14 CCR 783.2(b). Incidental Take Permit Applications (information requirements).*

[43] *California Fish and Game Code, Sections 2050–2115.5. California Endangered Species Act, Sections 2080–2085, Taking, Importation, Exportation, or Sale.*

California Fish and Game Code defines "take" to mean "hunt, pursue, catch, capture, or kill," or an attempt to do any such act, and violations of CESA's take prohibition are criminal misdemeanors under state law.[45]

(b) California Fish and Game Code Sections 1600–1616

California Fish and Game Code Section 1602 (Chapter 6, Fish and Wildlife Protection and Conservation) states that it is unlawful for any person to "substantially divert or obstruct the natural flow of, or substantially change or use any material from the bed, channel, or bank of, any river, stream, or lake" without first notifying CDFW of that activity. Thereafter, if CDFW determines and informs the entity that the activity will not substantially adversely affect any existing fish or wildlife resources, the entity may commence the activity. If, however, CDFW determines that the activity may substantially adversely affect an existing fish or wildlife resource, the entity may be required to obtain from CDFW a Streambed Alteration Agreement, which will include reasonable measures necessary to protect the affected resource(s), before the entity may conduct the activity or activities described in the notification.[46]

Streambed Alteration Agreements are typically required for activities such as excavation or placement of fill within a stream channel, vegetation clearing, installation (and sometimes operation) of structures that divert the flow of water, installation of culverts and bridge supports, cofferdams for construction dewatering, and bank reinforcement. "Streams," "rivers," and "lakes" are not defined in California Fish and Game Code Section 1600 et seq. (Section 1600), and CDFW has not defined those terms in its regulations. However, generally speaking, CDFW would agree with the California Fish and Game Commission's definition of a stream or river in the California Code of Regulations, Title 14, Section 1.72, as:

> [A] body of water that flows at least periodically or intermittently through a bed or channel having banks and supports fish or other aquatic life. This includes watercourses having a surface or subsurface flow that supports or has supported riparian vegetation.

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[44] *14 CCR 670.2(i)(1)(B)1. California Fish and Game Commission Endangered and Rare Plant List.*

[45] *California Fish and Game Code, Section 86, Definition of "Take," and Section 12000, Definition of violations of code as a misdemeanor. See also Department of Fish and Game v. Anderson–Cottonwood Irrigation District, 1992. 8 Cal.App.4th 1554.*

[46] *California Fish and Game Code, Section 1602. Lake and Streambed Alteration Program.*

Further, CDFW interprets "streambed" to encompass all portions of the bed, banks, and channel of any stream, including intermittent and ephemeral streams, extending laterally to the upland edge of riparian vegetation. In the case of watercourses with vegetated floodplains, such as the Santa Clara River, this interpretation often results in an asserted jurisdictional area that is much wider than the active channel of the stream. The upstream limit of CDFW's asserted jurisdiction is the point upstream of which there is no evidence of a defined bed and bank, and riparian vegetation is not present.

It should be noted that the Corps' CWA Section 404 jurisdiction is a subset of CDFW's Section 1600 jurisdiction. That is, although the two may be coterminous, as is the case in many smaller, ephemeral streams lacking riparian plant communities, CDFW jurisdictional area will never be smaller than that defined using the Corps' "OHWM" criterion.

Although Section 1600 does not specifically contain provisions regulating activities that would impact wetlands, isolated areas containing riparian vegetation, or wetland hydrology, such activities are considered by CDFW to be subject to the Streambed Alteration Agreement program. However, there is no California Fish and Game Code analogous to the "special aquatic site" concept found in the CWA.

(c) Native Plant Protection Act of 1977

The Native Plant Protection Act of 1977 authorizes the California Fish and Game Commission to designate rare and endangered native plants and provides specific protection measures for these listed species.[47]

(d) California Public Resources Code Section 21083.4

This section of CEQA provides for the conservation of oak woodlands through conservation easements and mitigation measures and includes certain exemptions. Specifically, the section requires that a county determine whether a project in its jurisdiction may result in a conversion of oak woodlands ("oak" is defined to apply only to those oak trees that are five inches or more in diameter at breast height (dbh)) that will have a significant effect on the environment. If the county determines that there may be a significant effect to oak woodlands, the county must require one or more of the following mitigation measures:

(1) Conserve oak woodlands through the use of conservation easements.

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[47] *California Fish and Game Code, Section 1900–1913. Native Plant Protection Act.*

(2) Plant an appropriate number of trees, including maintaining plantings and replacing dead or diseased trees. Planted trees must be maintained for seven years, and the plantings shall not fulfill more than one-half of the mitigation requirement for the Project.

(3) Contribute funds to the Oak Woodlands Conservation Fund. Or,

(4) Other mitigation measures developed by the county.

(3) County Regulations

(a) County of Los Angeles General Plan

As discussed in more detail in **Section 5.11**, Land Use and Planning, of this Draft EIR, the County's General Plan directs future growth and development in the County's unincorporated areas and establishes goals, policies, and objectives that pertain to the entire County. The current General Plan, adopted in 1980, includes a Conservation and Open Space Element that serves as a long-range plan and sets policy direction for the open space resources of the County. The Element addresses land and water areas, recreation, scenic beauty, agriculture, and mineral production, among other things. The Element also contains several action programs designed to implement the goals and policies stated therein. Relevant policies support the preservation of significant ecological areas and habitat management areas; protection of watersheds, streams, and riparian vegetation; and preservation of heritage trees. In addition, the Land Use Element addresses the conservation of ecological resources and calls for effective protection of significant ecological and habitat resources through land use controls.

As also discussed further in **Section 5.11**, Land Use and Planning, of this Draft EIR, the County circulated a draft General Plan update, entitled Los Angeles County General Plan 2035 (Draft General Plan), in January 2014 and a Draft EIR addressing the Draft General Plan in June 2014. This Draft General Plan contains a new Conservation and Natural Resources Element that includes a section on biological resources and addresses regional habitat linkages, forests, coastal zones, woodlands, SEAs, and riparian habitats, streambeds, and wetlands. Relevant policies address the conservation and enhancement of natural habitats and biological resources; conservation and sustainable management of forests and woodlands; development within SEAs; and the restoration of significant riparian resources.

The General Plan policy consistency analysis provided in **Section 5.11**, Land Use and Planning, of this Draft EIR indicates the Project would be consistent with relevant General Plan polices related to biological resources.

(b) Santa Clarita Valley Area Plan: One Valley One Vision 2012

As discussed in greater detail in **Section 5.11**, Land Use and Planning, of this Draft EIR, the recently updated Santa Clarita Valley Area Plan: One Valley One Vision 2012 (Area Plan), serves as a long-term guide for development in the Valley Planning Area over the next 20 years. The Area Plan ensures consistency between the General Plans of the County and City in order to achieve common goals. The Area Plan's Conservation and Open Space Element includes policies regarding habitat preservation, the use of site-appropriate native or adapted plant materials, maintaining wildlife corridors, and the protection of wetlands, heritage oak trees, and biological resources in SEAs,

The Area Plan policy consistency analysis provided in **Section 5.11**, Land Use and Planning, of this Draft EIR, indicates the Project would be consistent with applicable Area Plan polices related to biological resources.

(c) County of Los Angeles Oak Tree Ordinance (CLAOTO)

CLAOTO, codified at Los Angeles County Code Chapter 22.56, Part 16, prohibits damaging or removing oak trees with trunks that are at least eight inches in diameter (or that have two trunks totaling at least 12 inches in diameter) as measured 4.5 feet above natural ground.[48] A heritage oak, as defined by CLAOTO, is any oak tree measuring 36 inches or more in diameter as measured 4.5 feet above natural ground, or any oak of 36 inches or less in diameter having a significant historical or cultural importance to the community. CLAOTO requires that all potential impacts to oak trees regulated by this ordinance be preceded by an application to the County that includes a detailed oak tree report. Mitigation for impacts to oak trees is usually required as a condition of an Oak Tree Permit issued by the County.

b. Existing Conditions

(1) Surrounding Area

The Project region is located in a broad ecological and biogeographic transition zone for the coastal and mountain ecoregions. The alluvial River Valley also provides access via the Santa Clara River to the edges of the Mojave Desert and the foothills of the San Gabriel Mountains. While much of the region has been subject to rapid urbanization and historical agricultural and oil development practices, large areas of open space and natural lands border the region. Los Padres National Forest is

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[48] *County of Los Angeles. 1988. Los Angeles County Code, Chapter 22.56, Part 19. County of Los Angeles Oak Tree Ordinance.*

located to the north of the Project Site and Angeles National Forest lies to the north and east. The Santa Susana Mountains, a region of gently rolling hills and sharp, steep walled canyons, are located south of the Project Site.

(2) Project Site

The 501.4-acre Project Site is located in an unincorporated portion of northwestern Los Angeles County within the Santa Clara River Valley, as shown in **Figure 5.4-1**, Regional Map. The Project Site lies just west of I-5 and the City of Santa Clarita and south of the Santa Clara River and Six Flags Magic Mountain, as shown in **Figure 5.4-2**, Vicinity Map. The Project Site is located in the U.S. Geological Survey (USGS) 7.5-minute Newhall quadrangle map, Township 4 North, Range 16 West, and generally in Sections 19, 20, and 30.

(a) Land Uses

Most of the Project Site is undeveloped due to its rugged terrain, but there is direct disturbance from past oil and natural gas operations on about 26 percent (approximately 130 acres) of the site, including associated dirt roads and oil pad ground clearance zones. There is also an existing disturbance along Magic Mountain Canyon adjacent to Six Flags Magic Mountain, which has been used for fire suppression related to fireworks displays at the theme park, as well as a small plant nursery used by Six Flags Magic Mountain. The northernmost portion of the Project Site next to the River is currently used as pasture.[49] In addition, as previously indicated, the southern boundary of the Project Site is developed with SCE electric transmission lines and towers, and a high pressure natural gas transmission pipeline traverses the southernmost portion of the Project Site from east to west. It is likely that smaller-diameter pipelines associated with past oil field operations also may be present.

(b) Topography

The Project Site is located south of the Santa Clara River on rugged terrain dominated by steep slopes. It is dissected by four south–north trending tributaries to the Santa Clara River, including one along Magic Mountain Canyon and Unnamed Creeks 1, 2, and 3, as depicted on **Figure 5.4-5**, Site Topography, on page 5.4-26.[50] All four tributaries exit the Project Site through storm drain systems before eventually

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[49] *At the time of the Notice of Preparation for the Project in June 2010, this area was an irrigated agricultural field. However, this area is no longer irrigated but is still used as pasture land.*

[50] *The drainage channels associated with these creeks are generally referred to as Unnamed Canyons 1, 2, and 3 within this Draft EIR.*

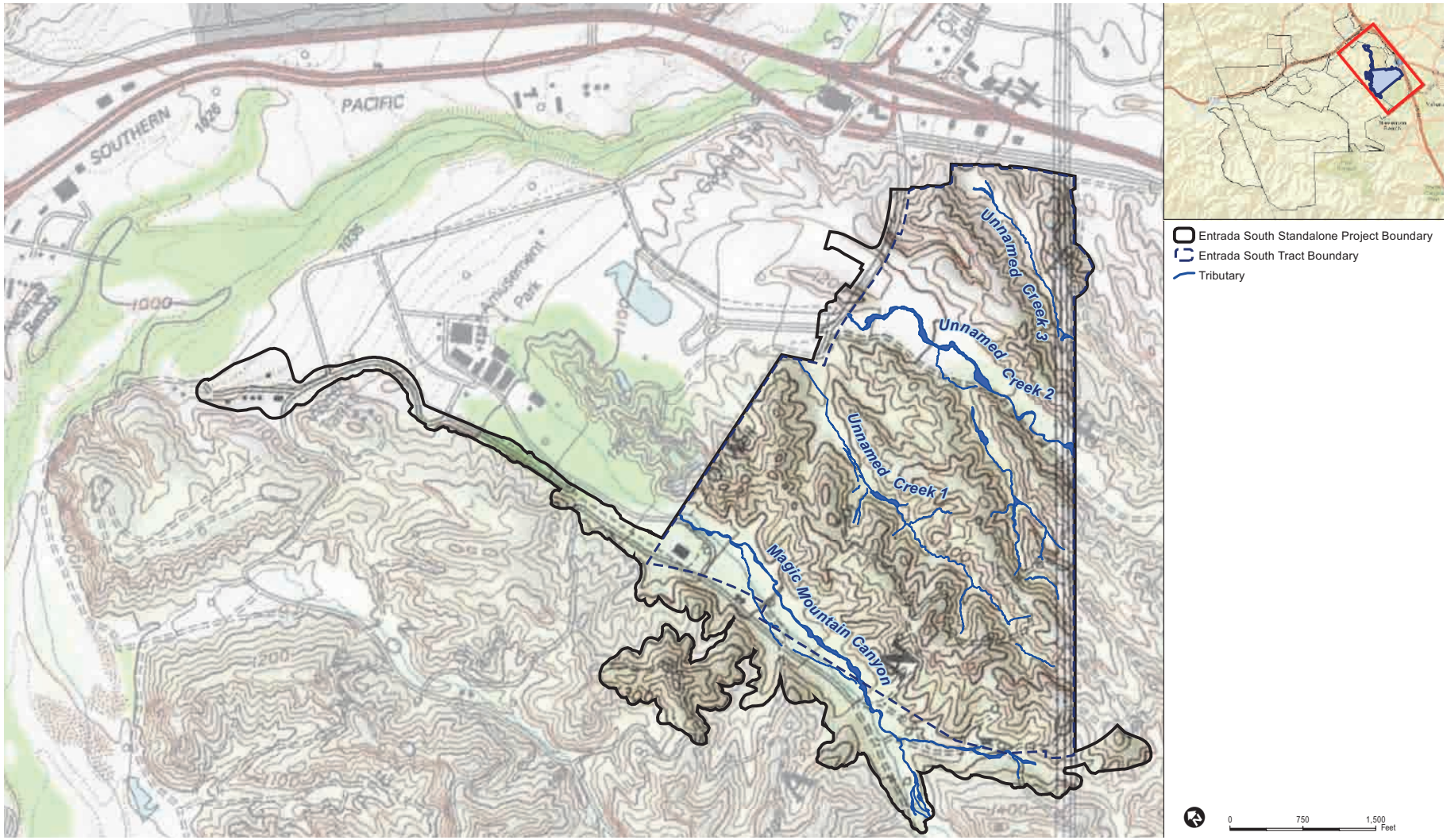

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Figure 5.4-5
Site Topography

Source: Dudek, 2014.

discharging to the River. Topographically, the southern portion of the site is dominated by several north–south trending ridges. A narrow panhandle (roughly 330 feet wide) extends north along the western portion of the site to a fairly level agricultural field adjacent to the River. Site elevations range from approximately 1,000 feet above mean seal level (AMSL) along the River to approximately 1,400 feet AMSL on the ridges in the southwestern portion of the Project Site.

(c) Soils

The soil mapping data discussed herein is from the U.S. Department of Agriculture (USDA) Soil Survey for the Antelope Valley Area and the USDA Natural Resources Conservation Service (Conservation Service) Soil Survey Geographic database.[51,52] The soils on and immediately adjacent to the Project Site are shown on **Figure 5.4-6**, Soils, on page 5.4-28, and listed in **Table 5.4-1**, Soils On and Adjacent to the Entrada South Site, on page 5.4-29.

Castaic-Balcom silty-clay loam (CmF), 30 to 50 percent slopes, is by far the most dominant soil type on the Project Site, accounting for 64 percent of the total area and comprising the central portion and western edge of the site. This soil is well-drained and formed from soft shale and sandstone. It consists of about 60 percent Castaic silty clay loam and 40 percent Balcom silty clay loam.[53]

Hanford sandy loam (HcC), 2 to 9 percent slopes, occurs in a very limited area along the southeastern edge of the Project Site. This is a well-drained to somewhat excessively drained soil formed from granitic alluvium. It is dominated by sandy loam and fine sandy loam.

Metz loam (MgB), 2 to 5 percent slopes, occurs along Unnamed Creek 2 in the east-central portion of the Project Site and in a small polygon on the eastern edge of the site. This soil is somewhat excessively drained and formed in mixed alluvium.

Mocho loam (MpA), 0 to 2 percent slopes, is limited to a level area in the northern part of the Project Site northwest of Six Flags Magic Mountain. Mocho loam (MpC), 2 to

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[51] *U.S. Department of Agriculture. Natural Resources Conservation Service, Soil Survey Staff. 2015. Web Soil Survey. Website http://websoilsurvey.nrcs.usda.gov/, accessed March 2015.*

[52] *U.S. Department of Agriculture, Natural Resources Conservation Service. 2013. "Official Soil Series Descriptions." Soil Survey Staff, Lincoln, Nebraska. Website www.nrcs.usda.gov/wps/portal/nrcs/detail/national/home/?cid=nrcs142p2_053587, accessed July 2013.*

[53] *U.S. Department of Agriculture. 1969. "Soil Survey, Antelope Valley Area, California."*

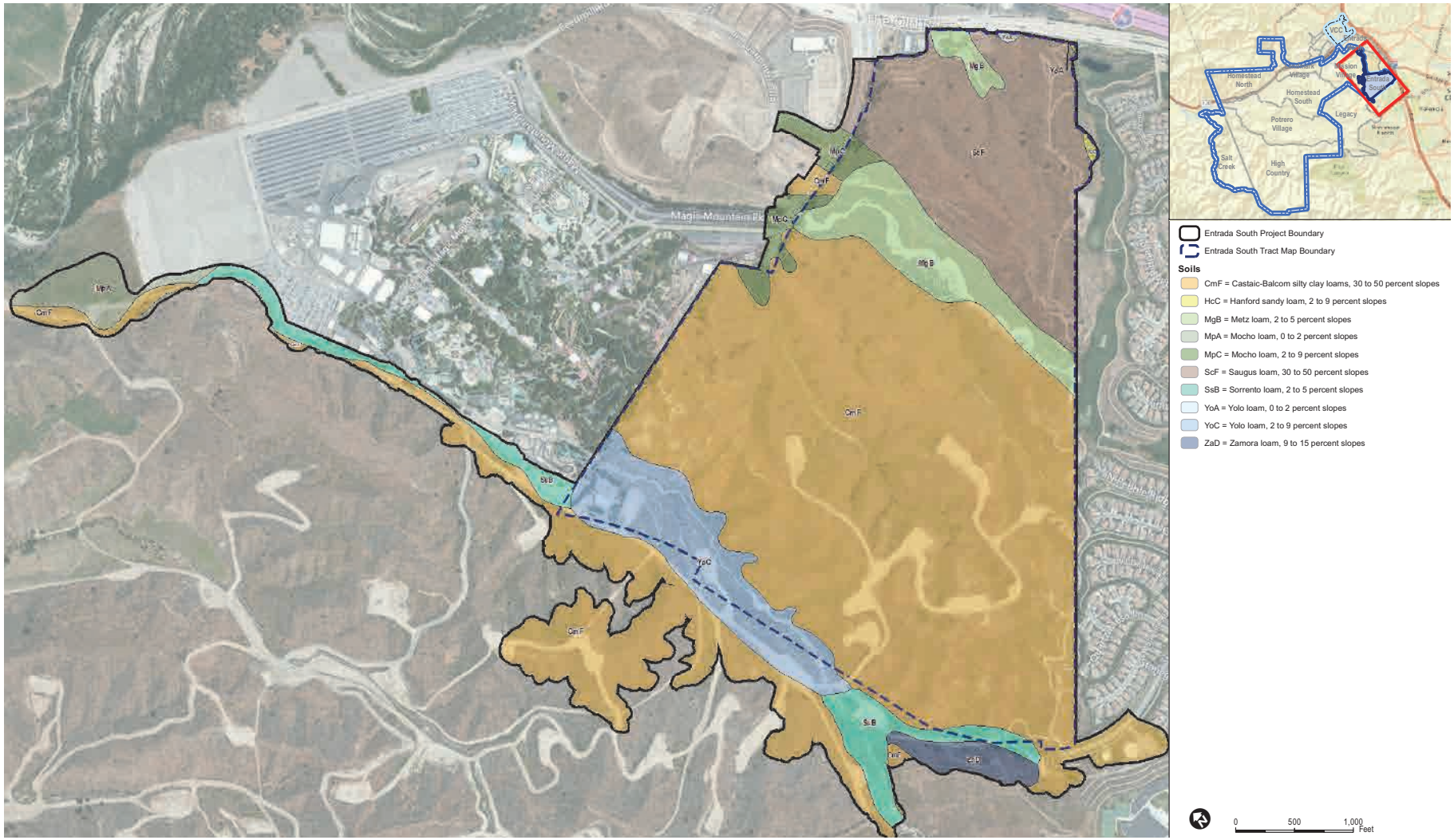

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Figure 5.4-6
Soils

Source: Dudek, 2014.

Table 5.4-1
Soils On and Adjacent to the Entrada South Site

Soil Mapping Unit	Acres
Castaic-Balcom silty-clay loams (30% to 50% slopes)	320.5
Hanford sandy loam (2% to 9% slopes)	0.4
Metz loam (2% to 5% slopes)	29.1
Mocho loam (0% to 2% slopes)	9.0
Mocho loam (2% to 9% slopes)	9.5
Saugus loam (30% to 50% slopes)	72.8
Sorrento loam (2% to 5% slopes)	19.6
Yolo loam (0% to 2% slopes)	0.3
Yolo loam (2% to 9% slopes)	33.6
Zamora loam (9% to 15% slopes)	6.6

Source: U.S. Department of Agriculture, Natural Resources Conservation Service, Soil Survey Staff, 2015. Web Soil Survey. Available at http://websoilsurvey.nrcs.usda.gov/, accessed March 2015; and U.S. Department of Agriculture, Natural Resources Conservation Service, Soil Survey Staff, 2013. "Official Soil Series Descriptions." Available at www.nrcs.usda.gov/wps/portal/nrcs/detail/national/home/?cid=nrcs142p2_053587, accessed July 2013.

9 percent slopes, is located along the northern boundary of the tract map portion of the Project Site. The Mocho soils are moderately well-drained soils that formed in sedimentary alluvium and typically occur in alluvial fans along major drainageways (e.g., the Santa Clara River).

Saugus loam (ScF), 30 to 50 percent slopes, dominates the eastern third of the Project Site, accounting for 15 percent of the site. This is a well-drained soil on uplands that formed from weakly consolidated sediment and may contain pebble and cobblestones in some areas.

Sorrento loam (SsB), 2 to 5 percent slopes, occurs along the northern extension of the Project Site west of and adjacent to Six Flags Magic Mountain and in the southwestern corner of the Project Site in Magic Mountain Canyon. This is a well-drained soil on alluvial fans that formed from mixed alluvium.

Yolo loam (YoA), 0 to 2 percent slopes, is limited to the eastern boundary of the Project Site. Yolo loam (YoC), 2 to 9 percent slopes, occurs in Magic Mountain Canyon in the western portion of the site. The Yolo soils are well-drained soils on alluvial fans that formed in sedimentary alluvium.

Zamora loam (ZaD), 9 to 15 percent slopes, is limited to a small drainage in the southwestern portion of the Project Site that is a tributary to Magic Mountain Canyon. The Zamora soils are well-drained soils located on terraces that formed in old alluvium from material that was dominantly sedimentary.

A large majority of the Project Site has burned at least once since 1982, with controlled burns on the western two-thirds of the site in 1983 and 1986, as shown on Figure 7, Fire History, of the Biota Report. The most recent wildfire occurred on the southern portion of the Project Site in 2007.

(d) Geology

The Project Site is located within the Transverse Range geomorphic province of southern California in the eastern portion of the Ventura depositional basin. This basin was produced by tectonic downwarping in the geologic past to produce a large-scale synclinal structure in which a thick sequence of Cenozoic sediments has accumulated. These sediments have been lithified into a sequence of sedimentary rock that has subsequently been uplifted, tilted, and tectonically deformed. They are cut by segments of the Del Valle and Salt Creek faults. Bedrock formations found in the area include the Modelo, Towsley, Pico, Saugus, and Pacoima formations, as well as Quaternary Terrace deposits. Surficial deposits found in the area include Quaternary alluvium, slopewash, soil, and artificial fill.[54,55]

(e) Climate

The Project region has a Mediterranean climate with cool, wet winters and hot, dry summers. Rainfall occurs primarily between October and March, with the heaviest rainfall occurring in mountainous regions in the Angeles and Los Padres National Forests. According to the Piru 2 ESE (east-southeast) weather station in Los Angeles County, the mean annual rainfall for the region is 17.4 inches of rain per year; however, some portions of the region remain in the rain shadow of the Santa Susana Mountains and receive considerably less rainfall than areas north of the River.[56]

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[54] *Allan E. Seward Engineering Geology Inc. 2002. "Geologic Evaluation: San Fernando Valley Spineflower Occurrences." Letter report prepared for Gatzke, Dillon and Balance LLP. October 1, 2002.*

[55] *Allan E. Seward Engineering Geology Inc. 2004. "Surface and Subsurface Geologic Evaluation: San Fernando Valley Spineflower Occurrences." Letter report prepared for The Newhall Land and Farming Company. August 2004.*

[56] *Western Regional Climate Center. 2012. "Piru 2 ESE, California (046940)." Reno, Nevada: National Oceanic and Atmospheric Administration, National Climatic Data Center, WRCC. Available at www.wrcc.*

(Footnote continued on next page)

(f) Vegetation Communities

The vegetation of the Project Site was originally mapped in 2006 as part of the RMDP/SCP Project vegetation. The site's vegetation map was then updated in 2012.[57] The majority of the Entrada South site consists of annual grassland, scrub and chaparral habitat, and disturbed land, but also includes small mapped areas of woodland and riparian vegetation. **Table 5.4-2**, Existing Vegetation Communities, Floristic Alliances and Associations, and Land Cover Types on the Entrada South Project Site, on page 5.4-32, provides a list of the vegetation communities and land covers and their acreages on-site. These vegetation communities and land covers are shown on **Figure 5.4-7**, Vegetation, on page 5.4-34. These vegetation communities and land covers are described in detail in Section 4.3.1 of the Biota Report at the floristic alliance level where applicable.

dri.edu/cgi-bin/cliMAIN.pl?ca6940, accessed March 2015; and Western Regional Climate Center. 2013. "Piru Remote Automatic Weather Station (RAWS)." Reno, Nevada: National Oceanic and Atmospheric Administration, National Climatic Data Center, WRCC. Available at www.raws.dri.edu/cgi-bin/rawMAIN.pl?caCPIR, accessed March 2015.

[57] *Dudek. 2012b. "2012 Botanical Survey Results for the Entrada South Site, Los Angeles, California." Prepared for The Newhall Land and Farming Company. Valencia, California: Dudek. December 2012.*

Table 5.4-2
Existing Vegetation Communities, Floristic Alliances and Associations, and Land Cover Types on the Entrada South Project Site

General Physiognomic and Physical Location[a]	General Habitat Type	Floristic Alliance	Association	CDFW (2010) Nomenclature	Acreage
Grass and Herb Dominated Communities	Non-native Grassland	California annual grassland	Not mapped to association level	California Annual and Perennial Grassland	65.8
Scrub and Chaparral	Coastal Scrub	California sagebrush scrub	Not mapped to association level	*Artemisia californica* (California sagebrush scrub) Alliance (includes 4.8 acres of disturbed)	123.4
			California sagebrush-coastal sagebrush	*Artemisia californica*	9.9
			California sagebrush-purple sage	*Artemisia californica-Salvia leucophylla* (California sagebrush) Alliance	11.6
		Restored California sagebrush scrub	Not mapped to association level	*Artemisia californica* (California sagebrush scrub) Alliance	2.9
		California sagebrush–California buckwheat scrub	Not mapped to association level	*Artemisia californica–Eriogonum fasciculatum* (California sagebrush–California buckwheat scrub) Alliance	85.3
	Undifferentiated Chaparral Scrubs	Not mapped to alliance level	Not mapped to association level	California Chaparral	25.1
		Thickleaf yerba santa scrub (Provisional Alliance)	Not mapped to association level	*Eriodictyon crassifolium* (Thickleaf yerba santa scrub) Alliance	0.1
Broad Leafed Upland Tree Dominated	Oak Woodland and Forest	Valley oak forest and woodland	Valley oak/grass	*Quercus lobata / grass*	5.4
Riparian and Bottomland Habitat	Low to High Elevation Riparian Scrub	Blue elderberry stands	Blue elderberry	*Sambucus nigra* (Blue elderberry stands) Alliance	0.2
	Other Riparian/ Wetland	Riverwash	Not mapped to association level	N/A	17.6
		Alluvial scrub	Not mapped to association level	N/A	0.3
		Big sagebrush scrub	Not mapped to association level	*Artemisia tridentata* (Big sagebrush) Alliance	24.7
Man-Made Land Cover Types		Agriculture	N/A	NA	8.0
		Developed	N/A	N/A	25.0
		Disturbed land	N/A	N/A	96.1
Total					**501.4**

Table 5.4-2 (Continued)
Existing Vegetation Communities, Floristic Alliances and Associations, and Land Cover Types on the Entrada South Project Site

General Physiognomic and Physical Location[a]	General Habitat Type	Floristic Alliance	Association	CDFW (2010) Nomenclature	Acreage

[a] *The general physiognomic and physical location, general habitat type, floristic alliance, and assocation provide a step-down hierarchical structure (from general to specific) for the vegetation communities/land covers identified on-site using the Hierarchical List of Natural Communities with Holland Types recognized by the CNDDB (CDFW),and as described in more detail in the Biota Report.*

Source: Dudek 2015, see the Biota Report provided in ***Appendix 5.4A*** *of this Draft EIR; and CDFG, Hierarchical List of Natural Communities with Holland Types, September 2010, available at www.dfg.ca.gov/biogeodata/vegcamp/natural_comm_list.asp.*

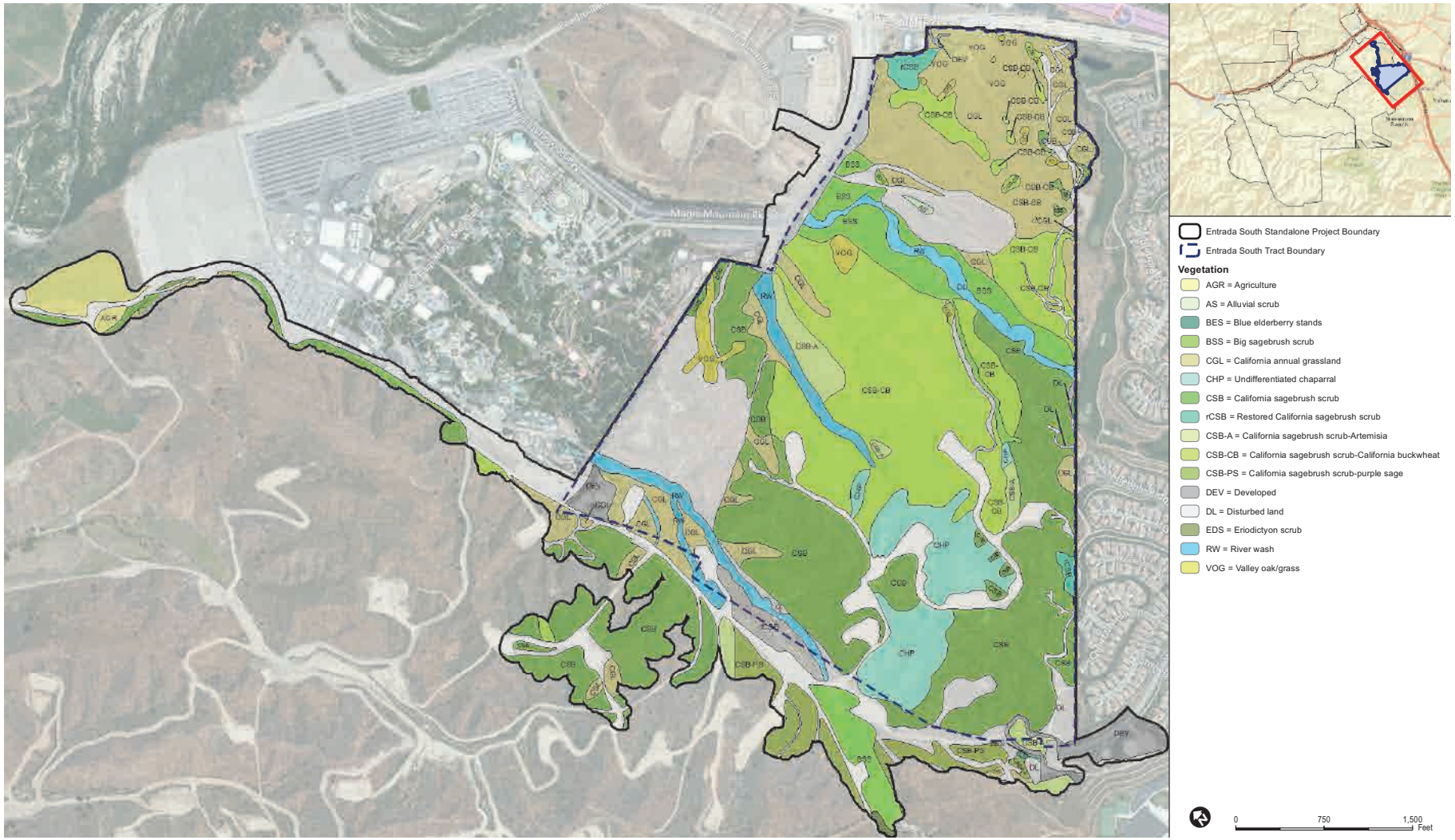

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Figure 5.4-7
Vegetation

Source: Dudek, 2014.

(g) Oak Trees

The site contains 104 mapped oaks, including 64 valley oaks, 35 scrub oaks, three coast live oaks, and two valley oak-scrub oak hybrids (*Quercus lobata-berberidifolia* hybrid),[58] as depicted on **Figure 5.4-8**, Oak Trees, on page 5.4-36.[59] Of the 64 valley oaks, seven qualify as heritage oaks, which are defined by CLAOTO as any oak tree measuring 36 inches or more dbh as measured 4.5 feet above natural ground. Heritage oaks also include any oak less than 36 inches dbh, but having a significant historical or cultural importance to the community; no oaks meeting this criterion were mapped on the Project Site.

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[58] *Also referred to as MacDonald oaks.*

[59] *Land Design Consultants. 2011. "Oak Tree Report 'Entrada' V.T.T.M. No 53295." Prepared for Newhall Land. February 2007, revised January 2011.*

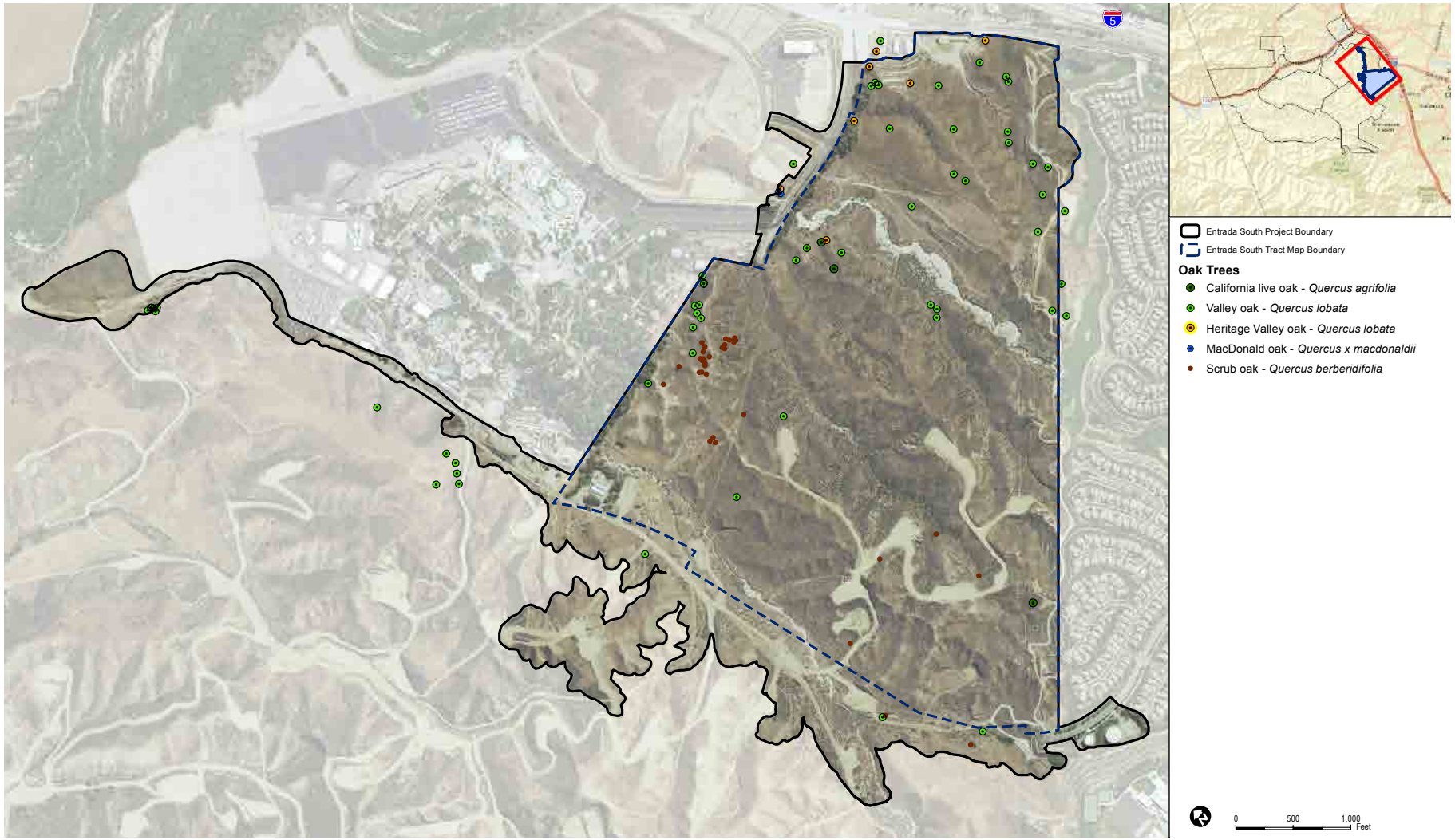

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Figure 5.4-8
Oak Trees

Source: Dudek, 2014.

(h) Jurisdictional Waters

In 2012, URS inspected the Entrada South site and delineated waters of the United States (including wetlands) regulated by the Corps, jurisdictional streams regulated by CDFW, and waters of the State regulated by the LA Regional Water Board. The results of the delineation are summarized in **Table 5.4-3**, Jurisdictional Acreages on the Entrada South Site, below, and shown in **Figure 5.4-9**, Jurisdictional Wetlands and Streambeds, on page 5.4-38. The waters of the United States are inclusive within the CDFW streambeds. The waters of the United States and the waters of the State are identical on this Project Site. The four jurisdictional areas are described in Section 4.3.4 of the Biota Report.

Table 5.4-3
Jurisdictional Acreages on the Entrada South Site

Area	Waters of the United States			CDFW Jurisdictional Streambeds (acres)
	Non-Wetland Waters (acres)	Wetland Waters (acres)	Total Waters of the U.S. (acres)	
Magic Mountain Canyon	2.62	—	2.62	4.41
Unnamed Creek 1	0.66	—	0.66	1.68
Unnamed Creek 2	2.74	—	2.74	7.79
Unnamed Creek 3	0.31	0.43	0.74	1.49
Total Jurisdictional Area	**6.33**	**0.43**	**6.77**	**15.37**

Source: URS, 2014. "Wetland Delineation and Jurisdictional Determination Report for the Entrada Project, Los Angeles County, California." Prepared for The Newhall Land and Farming Company. Santa Barbara, California: URS. April 28, 2014; and Dudek 2015, see the Biota Report provided in ***Appendix 5.4A*** *of this Draft EIR.*

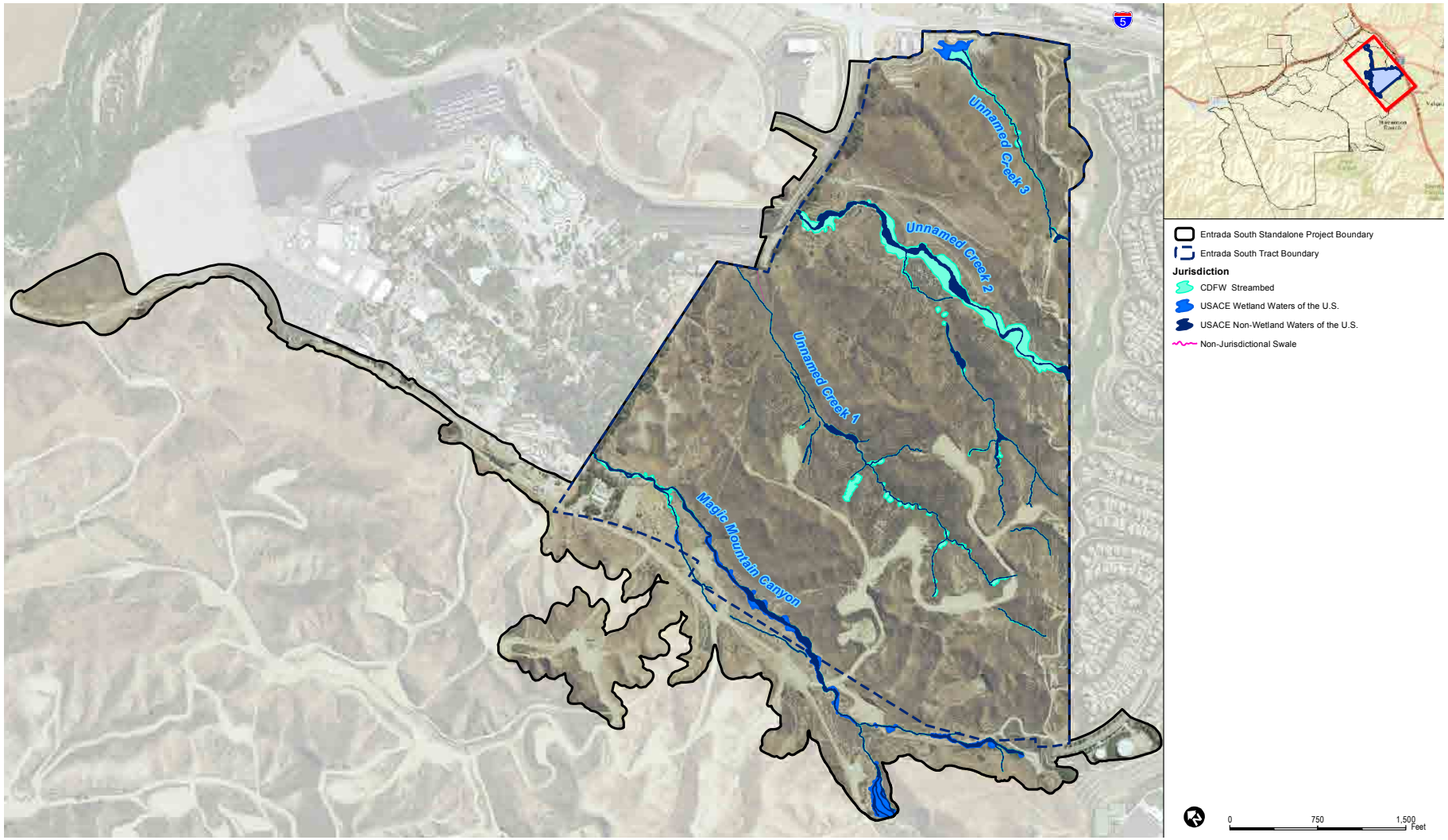

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Figure 5.4-9
Jurisdictional Wetlands and Streambeds

Source: Dudek, 2014.

(i) Watersheds

The Project Site is within the Santa Clara River Watershed, which comprises a total of 1,634 square miles and drains portions of Los Padres National Forest, Angeles National, and the Santa Susana Mountains. Near the Ventura County Line, the River's drainage area encompasses approximately 640 square miles, of which the 501.4-acre Project Site represents approximately 0.12 percent.[60] The watershed is divided into 14 sub-basins, which range in size from the 7,433-acre Sisar sub-basin in the western part of the watershed to the 291,730-acre Eastern sub-basin, within which the Project Site is located. Reflecting urban and agricultural uses, in terms of total area converted, the Eastern sub-basin has the most land conversion at 27,353 acres, or 9 percent of the sub-basin.[61] However, most of the upper part of the Eastern sub-basin is open space contained within Angeles National Forest.

3. ENVIRONMENTAL IMPACTS

a. Methodology

(1) Literature Review

Dudek compiled and reviewed technical literature to evaluate the natural resources found or potentially occurring on the Project Site. Much of the information referenced in this Draft EIR section was collected for prior planning and permitting efforts. In particular, the RMDP/SCP EIS/EIR, which CDFW approved in 2010, specifically analyzed the effects of the Entrada South Project and incorporated numerous environmental surveys and studies conducted in support of that project.[62] That work effort included a review of the scientific literature on the entire suite of special-status species in the study area. Since approval of the RMDP/SCP EIS/EIR, several additional field surveys have been conducted in the Project vicinity, including Mission Village, Landmark Village, Homestead South, Potrero Village, the Project Site, and VCC in the RMDP/SCP area, as well as the Legacy Village site just southwest of the Project Site. The database used includes more than 500 individual field

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[60] *U.S. Army Corps of Engineers and California Department of Fish and Wildlife (Corps and CDFW). 2010. Newhall Ranch Resource Management and Development Plan and Spineflower Conservation Plan Joint Environmental Impact Statement and Environmental Impact Report, revised Section 4.1, pp. 4.1-6 through 4.1-8. Final. SCH No. 2000011025. Los Angeles, California: Corps and CDFW. June 2010.*

[61] *Based on California GAP data reported in: Dudek. 2008a. "Draft Santa Clara River Watershed Study." Prepared for The Newhall Land and Farming Company. Valencia, California: Dudek. October 2008.*

[62] *U.S. Army Corps of Engineers and California Department of Fish and Wildlife (Corps and CDFW). 2010. Newhall Ranch Resource Management and Development Plan and Spineflower Conservation Plan Joint Environmental Impact Statement and Environmental Impact Report. Final. SCH No. 2000011025. Los Angeles, California: Corps and CDFW. June 2010.*

surveys resulting in more than 160 technical reports, as listed in **Table 5.4-4**, Biological Surveys Conducted on the Project Site and Vicinity through 2013, on page 5.4-41.

As shown in **Table 5.4-4**, Biological Surveys Conducted on the Project Site and Vicinity through 2013, many of the studies conducted since 2003 were in direct support of the RMDP/SCP Project, and more than 30 additional surveys were conducted from 2010 through 2013 following approval of the RMDP/SCP Project, including several on the Project Site (discussed in more detail in Subsection 3.a.(2), Field Reconnaissance). The SCP alone represented eight years of field surveys and research studies; peer science review; extensive consultation with CDFW and leading botanical experts; preserve design; and preparation of a conservation and management plan, including adaptive management and conservation funding to address all known spineflower populations on the Applicant's lands, including the Project Site. CDFW approved the SCP in December 2010.

Dudek identified general floristic and special-status botanical resources occurring or potentially occurring on the Project Site by consulting the following sources: the California Natural Diversity Database (CNDDB) for the Newhall Santa Susana, Oat Mountain, Mint Canyon, San Fernando, Green Valley, Warm Springs Mountain, Whitaker Peak, Thousand Oaks, and Val Verde quadrangle maps; Inventory of Rare and Endangered Plants of California; RMDP/SCP Final EIS/EIR; plant surveys conducted adjacent to the site to present; and plant surveys conducted on the Project Site in 2011 and 2012.[63,64,65] General information regarding vegetation communities was obtained from Sawyer et al.[66] Vegetation community and land cover classifications used in this report primarily follow the Hierarchical List of Natural Communities with Holland Types recognized by the CNDDB,

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[63] *California Department of Fish and Wildlife. 2012a. RareFind 4: Commercial version. Online database. California Natural Diversity Database. CDFG, Biogeographic Data Branch. Accessed March 2012. Available at www.dfg.ca.gov/biogeodata/cnddb/mapsanddata.asp.*

[64] *California Native Plant Society. 2012. Inventory of Rare and Endangered Plants. Online ed. Version 8-01a. Sacramento, California: CNPS. Available at http://cnps.site.aplus.net/cgi-bin/inv/inventory.cgi, accessed April 2012.*

[65] *Dudek. 2012a. "2011 Botanical Survey Results for the Entrada South Site, Los Angeles, California." Prepared for The Newhall Land and Farming Company. Valencia, California: Dudek. January 2012; Dudek. 2012b. "2012 Botanical Survey Results for the Entrada South Site, Los Angeles, California." Prepared for The Newhall Land and Farming Company. Valencia, California: Dudek. December 2012.*

[66] *Sawyer, J.O., T. Keeler-Wolf, and J.M. Evens. 2009. A Manual of California Vegetation. 2nd edition. Sacramento, California: California Native Plant Society.*

Table 5.4-4
Biological Surveys Conducted on the Project Site and Vicinity through 2013

Type of Survey	Reference
General Biological Resource Surveys	Compliance Biology Inc. 2006d[1]
	Dudek 2006g,[2] 2012l[3]
	RECON and Impact Sciences Inc. 1996[4]
	SMEA 1995b[5]
Special-Status Plants (including oaks)	FL*x* 2002a,[6] 2002b,[7] 2002c,[8] 2004a,[9] 2004b,[10] 2005,[11] 2006a,[12] 2006b[13]
	Dudek 2006a,[14] 2006b,[15] 2006c,[16] 2006d,[17] 2006e,[18] 2006f,[19] 2006g,[2] 2007a,[20] 2007b,[21] 2007c,[22] 2012a,[23] 2012b,[24] 2012g,[25] 2012l,[3] 2012n,[26] 2013a,[27] 2013b,[28] 2013c,[29] 2013d[30]
	Dudek and Associates Inc. 2002a,[31] 2002b,[32] 2002c,[33] 2004a,[35] 2004b,[36] 2004c,[37] 2004g,[38] 2004j,[39] 2004n[40]
	Impact Sciences Inc. 2006b,[41] 2006c,[42] 2006d[43]
	LDC 2011, 2014[44]
	RJA 2007[45]
Special-Status Birds	Bloom Biological Inc. 2007,[46] 2008,[47] 2009,[48] 2011,[49] 2012,[50] 2013[51]
	Compliance Biology Inc. 2003a,[52] 2003b,[53] 2006a,[54] 2008[55]
	Impact Sciences Inc. 2000[56]
	Dudek 2012c,[57] 2012d,[58] 2012f,[59] 2012i,[60] 2012k,[61] 2012l,[3] 2013e[62]
	Guthrie 1988,[63] 1989,[64] 1990,[65] 1991a,[66] 1991b,[67] 1992,[68] 1993a,[69] 1993b,[70] 1994a,[71] 1994b,[72] 1995a,[73] 1995b,[74] 1996a,[75] 1996b,[76] 1997a,[77] 1997b,[78] 1998a,[79] 1998b,[80] 1999a,[81] 1999b,[82] 1999c,[83] 2000a,[84] 2000b,[85] 2000c,[86] 2000d,[87] 2000e,[88] 2000f,[89] 2000g,[90] 2001a,[91] 2001b,[92] 2002a,[93] 2002b,[94] 2003a,[95] 2003b,[96] 2004a,[97] 2004b,[98] 2004c,[99] 2004d,[100] 2004e,[101] 2004f,[102] 2004g,[103] 2004h,[104] 2004i,[105] 2005a,[106] 2005b,[107] 2005c,[108] 2006a,[109] 2006b,[110] 2006c[111]
	Labinger and Greaves 1999[112]
	Labinger et al. 1995,[113] 1996,[114] 1997a,[115] 1997b[116]
	Niemela 2009[117]
	PCR 1998[118]
	Priest 2007a,[119] 2007b[120]
	SAIC 2003[121]
Special-Status Amphibians and Reptiles	Bloom 2007[122]
	Carpenter, pers. comm. 2007,[123] 2009[124]
	Dudek 2012m[125]
	Compliance Biology 2004d,[126] 2004e,[127] 2004f,[128] 2004g,[129] 2006b,[130] 2006c,[131] 2012a,[132] 2012b,[133] 2012c,[134] 2012d[135]
	Ecological Sciences Inc. 2003a,[136] 2003b,[137] 2003c,[138] 2003d,[139] 2003e,[140] 2003f,[141] 2004a,[142] 2004b,[143] 2004c,[144] 2004d,[145] 2005a,[146] 2005b[147]
	Huntley 2006[148]
	Impact Sciences Inc. 2001,[149] 2002,[150] 2006a[151]
	RECON 1999a,[152] 1999b[153]
	Sandburg 2001[154]

Table 5.4-4 (Continued)
Biological Surveys Conducted on the Project Site and Vicinity through 2013

Type of Survey	Reference
	SMEA 1994a,[155] 1994b[156]
Special-Status Mammals	Huntley 2008[157]
	Impact Sciences Inc. 2005[158]
	Johnson 2006[159]
	Brown-Berry Biological Consulting 2012[160]
	Dudek 2012e,[161] 2012h,[162] 2012l,[3] 2013e,[62] 2013f[163]
	Compliance Biology Inc. 2013[164]
	Rahn Conservation Consulting LLC 2013a,[165] 2013b[166]
Special-Status Invertebrates	Compliance Biology Inc. 2004a,[167] 2004b,[168] 2004c,[169] 2005,[170] 2012a,[132] 2012b,[133] 2012c,[134] 2012d[135]
	Dudek 2008b[171]
	Huntley 2010[172]
	RECON 1999c[173]
Special-Status Aquatic Resources	ENTRIX 1994,[174] 1995,[175] 1996,[176] 1998,[177] 1999,[178] 2000,[179] 2006a,[180] 2006b,[181] 2009[182]
	Haglund 1989[183]
	Haglund and Baskin 2000[184]
	Impact Sciences Inc. 2003a,[185] 2003b,[186] 2003c,[187] 2003d[188]
	SMEA 1995a[189]
	Swift 2009[190]
Jurisdictional Delineation	Glenn Lukos Associates Inc. 2006[191]
	URS 2014[192]

[1] *Compliance Biology Inc. 2006d. Biological Resource Assessment, Castaic Mesa Project, Los Angeles County, California. Prepared for Newhall Land and Farming Company. Camarillo, California: Compliance Biology Inc. October 16, 2006.*

[2] *Dudek. 2006g. Biological Resources Technical Report, Entrada, Los Angeles County, California. Prepared for The Newhall Land and Farming Company. Encinitas, California: Dudek. October 2006.*

[3] *Dudek. 2012l. Focused American Badger, Burrowing Owl, San Emigdio Blue Butterfly, and General Wildlife Survey Report for the Mission Village Site Los Angeles County, California. Prepared for The Newhall Land and Farming Company. Valencia, California: Dudek. August 2012.*

[4] *RECON and Impact Sciences Inc. 1996. Biota Report: Newhall Ranch Specific Plan; Santa Clara River Valley, California; Tentative Tract Map 44831. Prepared for Los Angeles County, Department of Regional Planning. September 7, 1995; revised July 1996.*

[5] *SMEA. 1995b. Rare Plant and Animal Survey; Santa Clarita Water District Service Area, Los Angeles County, California. Prepared for Santa Clarita Water Company. San Marino, California: San Marino Environmental Associates. August 1995.*

[6] *FLx. 2002a. Rare Plant Surveys: Newhall Ranch Specific Plan Project Sites, Los Angeles County, California. Prepared for Impact Sciences, Inc. Santa Barbara, California: FLx. September 2002.*

[7] *FLx. 2002b. Rare Plant Survey for Helianthus sp., River Village and Water Reclamation Plant, Los Angeles County, California. Prepared for Impact Sciences, Inc. Santa Barbara, California: FLx.*

Table 5.4-4 (Continued)
Biological Surveys Conducted on the Project Site and Vicinity through 2013

Type of Survey	Reference
[8]	*FLx. 2002c. Rare Plant Survey for Helianthus sp.; Castaic Junction, Los Angeles County, California. Prepared for Impact Sciences, Inc. Santa Barbara, California: FLx. November 2002.*
[9]	*FLx. 2004a. Sensitive Plant Species Surveys: Santa Clara River, Newhall Ranch/Valencia Company Project Sites, Los Angeles County, California. Prepared for Newhall Land and Farming Company. Santa Barbara, California: FLx. October 2004.*
[10]	*FLx. 2004b. "Sensitive Plant Species Surveys at the Magic Mountain Entertainment Site Fireworks Area." Letter report from N. Gale and A.K. Parikh (FLx) to C. Perez (The Newhall Land and Farming Company). Santa Barbara, California: FLx. May 8, 2004.*
[11]	*FLx. 2005. "Sensitive Plant Species Surveys at the Magic Mountain Entertainment Site Fireworks Area." Letter report from N. Gale and A.K. Parikh (FLx) to C. Perez (The Newhall Land and Farming Company). Santa Barbara, California: FLx. May 7, 2004.*
[12]	*FLx. 2006a. "Sensitive Plant Species Surveys at the Magic Mountain Entertainment Site Fireworks Area." Letter report from N. Gale and A.K. Parikh (FLx) to C. Perez (The Newhall Land and Farming Company). Santa Barbara, California: FLx. May 7, 2006.*
[13]	*FLx. 2006b. "Sensitive Plant Species Survey for the Potrero Irrigation Project." Letter report from N. Gale and A.K. Parikh (FLx) to C. Perez (The Newhall Land and Farming Company). Santa Barbara, California: FLx. April 25, 2006.*
[14]	*Dudek. 2006a. 2005 Sensitive Plant Survey Results for the Newhall Ranch Specific Plan Area, Los Angeles County, California. Prepared for The Newhall Land and Farming Company. Encinitas, California: Dudek and Associates, Inc. June 2006.*
[15]	*Dudek. 2006b. 2005 Sensitive Plant Survey Results for the Entrada Site, Los Angeles, California. Prepared for The Newhall Land and Farming Company. Encinitas, California: Dudek. June 2006.*
[16]	*Dudek. 2006c. 2005 Sensitive Plant Survey Results for the Valencia Commerce Center, Los Angeles, California. Prepared for The Newhall Land and Farming Company. Encinitas, California: Dudek. October 2006.*
[17]	*Dudek. 2006d. 2006 Sensitive Plant Survey Results for the Newhall Ranch Specific Plan Area, Los Angeles County, California. Prepared for The Newhall Land and Farming Company. Encinitas, California: Dudek. October 2006.*
[18]	*Dudek. 2006e. 2006 Sensitive Plant Survey Results for the Entrada Site, Los Angeles, California. Prepared for The Newhall Land and Farming Company. Encinitas, California: Dudek. October 2006.*
[19]	*Dudek. 2006f. 2006 Sensitive Plant Survey Results for the Valencia Commerce Center, Los Angeles, California. Prepared for The Newhall Land and Farming Company. Encinitas, California: Dudek. October 2006.*
[20]	*Dudek. 2007a. 2007 Sensitive Plant Survey Results for the Newhall Ranch Specific Plan Area, Los Angeles County, California. Prepared for The Newhall Land and Farming Company. Valencia, California: Dudek. December 2007.*
[21]	*Dudek. 2007b. 2007 Sensitive Plant Survey Results for the Entrada Site, Los Angeles, California. Prepared for The Newhall Land and Farming Company. Valencia, California: Dudek. December 2007.*
[22]	*Dudek. 2007c. Dudek. Draft RMDP Slender Mariposa Lily Mitigation and Monitoring Plan. Prepared for Newhall Land and Farming. Valencia, California: Dudek. August 2007.*
[23]	*Dudek. 2012a. 2011 Sensitive Plant Survey Results for the Entrada South Site, Los Angeles County, California. Prepared for The Newhall Land and Farming Company. Valencia, California: Dudek. January 2012.*
[24]	*Dudek. 2012b. 2012 Botanical Survey Results for the Entrada South Site, Los Angeles, California. Prepared for The Newhall Land and Farming Company. Valencia, California: Dudek. December 2012.*
[25]	*Dudek. 2012g. 2012 Botanical Survey Results for the Homestead South Site, Los Angeles, California.*

Table 5.4-4 (Continued)
Biological Surveys Conducted on the Project Site and Vicinity through 2013

Type of Survey	Reference
	Prepared for The Newhall Land and Farming Company. Valencia, California: Dudek. December 2012.
[26]	*Dudek. 2012n. 2012 Botanical Survey Results for Mission Village Site, Los Angeles, California. Prepared for The Newhall Land and Farming Company. Valencia, California: Dudek. December 2012.*
[27]	*Dudek. 2013a. 2013 Survey Results for San Fernando Valley Spineflower within the Spineflower Conservation Plan Area Los Angeles County, California. Prepared for The Newhall Land and Farming Company. Dudek. June 2013.*
[28]	*Dudek. 2013b. 2012 and 2013 Botanical Survey Results for Homestead South Village Site, Los Angeles, California. Prepared for The Newhall Land and Farming Company. Valencia, California: Dudek. August 2013.*
[29]	*Dudek. 2013c. 2012 and 2013 Botanical Survey Results for the Advanced Mitigation Sites, Los Angeles, California. Prepared for The Newhall Land and Farming Company. Valencia, California: Dudek. October 2013.*
[30]	*Dudek. 2013d. 2013 Botanical Survey Results for Potrero Village Site, Los Angeles, California. Prepared for The Newhall Land and Farming Company. Valencia, California: Dudek. October 2013.*
[31]	*Dudek and Associates Inc. 2002a. 2002 Sensitive Plant Survey Results for Newhall Ranch Specific Plan Area, Los Angeles County, California. Prepared for The Newhall Land and Farming Company. Encinitas, California: Dudek and Associates Inc. November 2002.*
[32]	*Dudek and Associates Inc. 2002b. 2002 Sensitive Plant Survey Results for Entrada [Magic Mountain Entertainment], Los Angeles County, California. Draft. Prepared for The Newhall Land and Farming Company. Encinitas, California: Dudek and Associates Inc. January 2003.*
[33]	*Dudek and Associates Inc. 2002c. 2002 Sensitive Plant Survey Results for the Valencia Commerce Center, Los Angeles County, California. Draft. Prepared for The Newhall Land and Farming Company. Encinitas, California: Dudek and Associates Inc. January 2003.*
[34]	*Dudek and Associates Inc. 2003. Special-Status Plant Survey (Including Oaks).*
[35]	*Dudek and Associates Inc. 2004a. 2003 Sensitive Plant Survey Results for the Isola and Ventura Homestead Sites, Los Angeles County, California. Prepared for The Newhall Land and Farming Company. Encinitas, California: Dudek and Associates Inc. June 2004.*
[36]	*Dudek and Associates Inc. 2004b. 2003 Sensitive Plant Survey Results for the Valencia Commerce Center, Los Angeles County, California. Prepared for The Newhall Land and Farming Company. Encinitas, California: Dudek and Associates Inc. June 2004.*
[37]	*Dudek and Associates Inc. 2004c. 2003 Sensitive Plant Survey Results for Newhall Ranch Specific Plan Area, Los Angeles County, California. Prepared for The Newhall Land and Farming Company. Encinitas, California: Dudek and Associates Inc. June 2004.*
[38]	*Dudek and Associates Inc. 2004g. 2004 Sensitive Plant Survey Results for the Valencia Commerce Center, Los Angeles County, California. Prepared for The Newhall Land and Farming Company. Encinitas, California: Dudek and Associates Inc. October 2004.*
[39]	*Dudek and Associates Inc. 2004j. Special-Status Plant Survey (Including Oaks).*
[40]	*Dudek and Associates Inc. 2004n. Special-Status Plant Survey (Including Oaks).*
[41]	*Impact Science, Inc. 2006b. 2004 and 2006 Reptile Survey Results, Newhall Ranch Specific Plan Area, Los Angeles County, California. Prepared for The Newhall Land and Farming Company. Camarillo, California: Impact Sciences Inc. October 2006.*
[42]	*Impact Sciences Inc. 2006c. Mission Village Oak Tree Report, Los Angeles County, California. Prepared for The Newhall Land and Farming Company. Camarillo, California: Impact Sciences Inc. December 2006.*
[43]	*Impact Sciences Inc. 2006d. Landmark Village Planning Area Oak Tree Report, Los Angeles County, California. Prepared for The Newhall Land and Farming Company. Camarillo, California: Impact*

Table 5.4-4 (Continued)
Biological Surveys Conducted on the Project Site and Vicinity through 2013

Type of Survey	Reference
	Sciences Inc. September 2006.
	[44] *Land Design Consultants (LDC). 2011. Oak Tree Report "Entrada" V.T.T.M. No 53295. Prepared for Newhall Land. February 2007, revised January 2011.*
	[45] *Richard Johnson & Associates Inc. (RJA) 2007. Arborist Survey Report for Valencia Commerce Center VTPM 18108, Los Angeles County, California. Prepared for Valencia Company, Valencia, California. April 3, 2007.*
	[46] *Bloom Biological Inc. 2007. Summary of Late Winter and Spring Avian Survey with Focus on the California Condor (Gymnogyps californianus) on Portions of Newhall Land and Farming Company Property, Los Angeles County, California. Revised. Prepared for Newhall Land Company. Ventura, California: Bloom Biological Inc. July 2007.*
	[47] *Bloom Biological Inc. 2008. Interim Report of Winter Surveys of Special-Status Bird Species on Portions of Newhall Land and Farming Company Property (Including Newhall Ranch), Los Angeles County, California. Prepared for The Newhall Land and Farming Company. Santa Ana, California: Bloom Biological Inc. February 28, 2008.*
	[48] *Bloom Biological Inc. 2009. Report on White-Tailed Kites on Portions of Newhall Land and Farming Company Property (including Newhall Ranch); Los Angeles and Ventura Counties, California. Prepared for The Newhall Land and Farming Company. Santa Ana, California: Bloom Biological Inc. January 2009.*
	[49] *Bloom Biological Inc. 2011. 2011 NRMP Bird Survey Report. Prepared for The Newhall Land and Farming Company. Santa Ana, California: Bloom Biological Inc. August 2011.*
	[50] *Bloom Biological Inc. 2012. Results of Special-Status Riparian Bird Surveys Conducted on Newhall Land and Planning Areas in Spring and Summer 2012. Prepared for Newhall Land. Santa Ana, California: Bloom Biological Inc. August 2012.*
	[51] *Bloom Biological Inc. 2013. 2013 Natural River Management Plan Riparian Bird Surveys—Suitable Habitat for Least Bell's Vireo and Southwestern Willow Flycatcher. Prepared for Newhall Land. Lake Forest, California: Bloom Biological Inc. August 2013.*
	[52] *Compliance Biology Inc. 2003a. Results of Focused Coastal California Gnatcatcher Surveys; Prospective Water Tank Locations, River Park Project, Los Angeles County, California. Prepared for Impact Sciences, Inc. Camarillo, California: Compliance Biology.*
	[53] *Compliance Biology Inc. 2003b. Results of Focused Survey for Coastal California Gnatcatcher Surveys; River Park Project, Santa Clarita, Los Angeles County, California. Prepared for Impact Sciences, Inc. Agoura Hills, California: Compliance Biology, January 24, 2003.*
	[54] *Compliance Biology Inc. 2006a. Results of Focused Coastal California Gnatcatcher Surveys; Castaic Mesa Project, Los Angeles County, California. Prepared for Newhall Land Company. Camarillo, California: Compliance Biology Inc.*
	[55] *Compliance Biology Inc. 2008. Results of Focused California Gnatcatcher Surveys on the Valencia Commerce Center SCP Site; Los Angeles County, California. Prepared for Newhall Land and Farming Company. Camarillo, California: Compliance Biology Inc. August 28, 2008.*
	[56] *Impact Sciences Inc. 2000. "Results of Focused Surveys for the Coastal California Gnatcatcher, ±156-Acre Project Site, Santa Clarita, Los Angeles County, California." Letter report from S.D. Cameron (Impact Sciences, Inc.) to M. Weinstein (Science Applications International Corporation). Agoura Hills, California: Impact Sciences Inc. July 7, 2000.*
	[57] *Dudek. 2012c. Focused Grasshopper Sparrow and General Wildlife Report for the Entrada South Site Los Angeles County, California. Prepared for The Newhall Land and Farming Company. Santa Barbara, California: Dudek. August 2012.*
	[58] *Dudek. 2012d. Focused California Gnatcatcher Survey, Entrada North and South Projects, Los*

Table 5.4-4 (Continued)
Biological Surveys Conducted on the Project Site and Vicinity through 2013

Type of Survey	Reference
	Angeles County, California. Prepared for U.S. Fish and Wildlife Service, Ventura Fish and Wildlife Office. July 2012.
[59]	*Dudek. 2012f. Focused California Gnatcatcher Survey, Homestead South Project, Los Angeles County, California. Prepared for U.S. Fish and Wildlife Service, Ventura Fish and Wildlife Office. August 2012.*
[60]	*Dudek. 2012i. Focused California Gnatcatcher Survey, Legacy Project, Los Angeles County, California. Prepared for U.S. Fish and Wildlife Service, Ventura Fish and Wildlife Office. August 2012.*
[61]	*Dudek. 2012k. Focused California Gnatcatcher Survey, Mission Village Project, Los Angeles County, California. Prepared for U.S. Fish and Wildlife Service, Ventura Fish and Wildlife Office. August 2012.*
[62]	*Dudek. 2013e. Focused Grasshopper Sparrow and General Wildlife Survey Report for the Homestead South Site, Los Angeles County, California. Prepared for The Newhall Land and Farming Company. Valencia, California: Dudek. October 2013.*
[63]	*Guthrie, D.A. 1988. Status of the Least Bell's Vireo along the Santa Clara River and Its Tributaries near Valencia, California, Spring 1988. Prepared for Valencia Company and Sikand Engineering. Claremont, California: Joint Science Department, Claremont Colleges.*
[64]	*Guthrie, D.A. 1989. Status of the Least Bell's Vireo along the Santa Clara River and Its Tributaries near Valencia, California, Spring 1989. Prepared for Valencia Company. Claremont, California: Joint Science Department, Claremont Colleges. July 5, 1989.*
[65]	*Guthrie, D.A. 1990. Birds along the Santa Clara River and Its Tributaries near Valencia, California, with Special Reference to Least Bell's Vireo; Spring 1990. Prepared for Valencia Company. Claremont, California: Joint Science Department, Claremont Colleges. July 26, 1990.*
[66]	*Guthrie, D.A. 1991a. Surveys for Least Bell's Vireo Along the Santa Clara River and Its Tributaries near Valencia. Prepared for M. Subbotin, Valencia Corporation. Claremont, California: Joint Science Department, Claremont Colleges.*
[67]	*Guthrie, D.A. 1991b. Surveys along Castaic Creek for Least Bell's Vireo. Claremont, California: Joint Science Department, Claremont Colleges.*
[68]	*Guthrie, D.A. 1992. Bird Surveys along the Santa Clara River and Its Tributaries near Valencia, California. Prepared for M. Subbotin, Valencia Corporation. Claremont, California: Joint Science Department, Claremont Colleges.*
[69]	*Guthrie, D.A. 1993a. Bird Surveys along the Santa Clara River and Its Tributaries near Valencia, California. Prepared for M. Subbotin, Valencia Corporation. Claremont, California: W.M. Keck Science Center.*
[70]	*Guthrie, D.A. 1993b. Bird Surveys along the Santa Clara River, 1993; Castaic Creek Downstream to just below Newhall Ranch. Prepared for B. Braly, Newhall Land and Farming. Claremont, California: W.M. Keck Science Center. August 4, 1993.*
[71]	*Guthrie, D.A. 1994a. Bird Surveys along the Santa Clara River and Its Tributaries near Valencia, California. Prepared for M. Subbotin, Valencia Corporation. Claremont, California: W.M. Keck Science Center. July 5, 1994.*
[72]	*Guthrie, D.A. 1994b. Bird Surveys along the Santa Clara River, 1994; Castaic Creek Downstream to just below Las Brisas Crossing. Prepared for B. Braly, Newhall Land and Farming. Claremont, California: W.M. Keck Science Center. July 5, 1994.*
[73]	*Guthrie, D.A. 1995a. Bird Surveys along the Santa Clara River and Its Tributaries near Valencia, California, 1995. Prepared for M. Subbotin, Valencia Corporation. Claremont, California: W.M. Keck Science Center. July 12, 1995.*
[74]	*Guthrie, D.A. 1995b. Bird Surveys along the Santa Clara River, 1995; Castaic Creek Downstream to just below Las Brisas Crossing. Prepared for J. Harter, Newhall Land and Farming. Claremont, California: W.M. Keck Science Center. July 13, 1995.*

Table 5.4-4 (Continued)
Biological Surveys Conducted on the Project Site and Vicinity through 2013

Type of Survey	Reference
[75]	*Guthrie, D.A. 1996a. Bird Surveys along the Santa Clara River and Its Tributaries near Valencia, California, 1996. Prepared for M. Subbotin, Valencia Corporation. Claremont, California: W.M. Keck Science Center. July 10, 1996.*
[76]	*Guthrie, D.A. 1996b. Bird Surveys along the Santa Clara River, 1996; Castaic Creek Downstream to just below Las Brisas Crossing. Prepared for J. Harter, Newhall Land and Farming. Claremont, California: W.M. Keck Science Center. July 11, 1996.*
[77]	*Guthrie, D.A. 1997a. Bird Surveys along the Santa Clara River and Its Tributaries near Valencia, California, 1997. Prepared for M. Subbotin, Valencia Corporation. Claremont, California: W.M. Keck Science Center. June 23, 1997.*
[78]	*Guthrie, D.A. 1997b. Bird Surveys along the Santa Clara River, 1997; Castaic Creek Downstream to just below Las Brisas Crossing. Prepared for J. Harter, Newhall Land and Farming. Claremont, California: W.M. Keck Science Center. June 23, 1997.*
[79]	*Guthrie, D.A. 1998a. Bird Surveys along the Santa Clara River, 1998; Castaic Creek Downstream to just below Las Brisas Crossing. Prepared for M. Subbotin, Newhall Land and Farming. Claremont, California: W.M. Keck Science Center. July 28, 1998.*
[80]	*Guthrie, D.A. 1998b. Bird Surveys along the Santa Clara River and Its Tributaries near Valencia, California, 1998. Prepared for M. Subbotin, Valencia Corporation. Claremont, California: W.M. Keck Science Center. July 28, 1998.*
[81]	*Guthrie, D.A. 1999a. Bird Surveys along a Portion of the Santa Clara River and Its Tributaries Upstream from the Castaic Creek Confluence, near Valencia California, 1999. Prepared for M. Subbotin, Valencia Corporation. Claremont, California: W.M. Keck Science Center. August 26, 1999.*
[82]	*Guthrie, D.A. 1999b. Bird Surveys in the Proposed Riverwood Project Area, near Valencia, California. Prepared for M. Subbotin, Valencia Corporation. Claremont, California: W.M. Keck Science Center. August 26, 1999.*
[83]	*Guthrie, D.A. 1999c. Bird Surveys along the Santa Clara River, 1999; Ventura County Line Downstream to just below Las Brisas Crossing. Prepared for M. Subbotin, Newhall Land and Farming. Claremont, California: W.M. Keck Science Center. August 26, 1999.*
[84]	*Guthrie, D.A. 2000a. Bird Observations for Spring 2000 in the Proposed Potrero and Long Canyon Development Area near Valencia, California. Prepared for M. Subbotin, Valencia Corporation. Claremont, California: W.M. Keck Science Center. July 17, 2000.*
[85]	*Guthrie, D.A. 2000b. Bird Observations for Spring 2000 in the Proposed Mesa Development near Valencia, California. Revised. Prepared for M. Subbotin, Valencia Corporation. Claremont, California: W.M. Keck Science Center. July 17, 2000.*
[86]	*Guthrie, D.A. 2000c. Bird Surveys along the Santa Clara River, 2000; Mouth of Castaic Creek Downstream to the Los Angeles/Ventura County Line. Prepared for M. Subbotin, Newhall Land and Farming. Claremont, California: W.M. Keck Science Center. August 2, 2000.*
[87]	*Guthrie, D.A. 2000d. Bird Surveys in the Proposed Magic Mountain Entertainment Project Area, near Valencia, California, 2000. Revised. Prepared for M. Subbotin, Valencia Corporation. Claremont, California: W.M. Keck Science Center. July 17, 2000.*
[88]	*Guthrie, D.A. 2000e. Bird Surveys along a Portion of the Santa Clara River and Its Tributaries Upstream from the Castaic Creek Confluence, near Valencia California, 2000. Prepared for M. Subbotin, Valencia Corporation. Claremont, California: W.M. Keck Science Center. August 2, 2000.*
[89]	*Guthrie, D.A. 2000f. Bird Surveys of Castaic Junction, an Area on the North Side of the Santa Clara River at the Junction of State Route 126 and Interstate 5, near Valencia, California. Prepared for M. Subbotin, Valencia Corporation. Claremont, California: W.M. Keck Science Center. July 17, 2000.*
[90]	*Guthrie, D.A. 2000g. Bird Surveys along the Santa Clara River; Los Angeles/Ventura County Line*

Table 5.4-4 (Continued)
Biological Surveys Conducted on the Project Site and Vicinity through 2013

Type of Survey	Reference
	Downstream to Just Below Las Brisas Crossing. Prepared for M. Subbotin, Newhall Land and Farming. Claremont, California: W.M. Keck Science Center. August 2, 2000.
[91]	*Guthrie, D.A. 2001a. Bird Surveys along a Portion of the Santa Clara River and Its Tributaries Upstream from the Castaic Creek Confluence, near Valencia California, 2001. Corrected version. Prepared for M. Subbotin, Valencia Corporation. Claremont, California: W.M. Keck Science Center. September 14, 2001.*
[92]	*Guthrie, D.A. 2001b. Bird Surveys along the Santa Clara River, 2001; Mouth of Castaic Creek Downstream to just below Las Brisas Crossing. Corrected version. Prepared for M. Subbotin, Newhall Land and Farming. Claremont, California: W.M. Keck Science Center. September 14, 2001.*
[93]	*Guthrie, D.A. 2002a. Bird Surveys along a Portion of the Santa Clara River and Its Tributaries Upstream from the Castaic Creek Confluence, near Valencia California, 2002. Revised. Prepared for M. Subbotin, Valencia Corporation. Claremont, California: W.M. Keck Science Center. August 16, 2002.*
[94]	*Guthrie, D.A. 2002b. Bird Surveys along the Santa Clara River, 2002; Mouth of Castaic Creek Downstream to just below Las Brisas Crossing. Prepared for M. Subbotin, Newhall Land and Farming. Claremont, California: W.M. Keck Science Center. August 16, 2002.*
[95]	*Guthrie, D.A. 2003a. Bird Surveys along a Portion of the Santa Clara River and Its Tributaries Upstream from the Castaic Creek Confluence, near Valencia California, 2003. Revised. Prepared for M. Subbotin, Valencia Corporation. Claremont, California: W.M. Keck Science Center. July 28, 2003.*
[96]	*Guthrie, D.A. 2003b. Bird Surveys along the Santa Clara River, 2003; Mouth of Castaic Creek Downstream to just below Las Brisas Crossing. Prepared for M. Subbotin, Newhall Land and Farming. Claremont, California: W.M. Keck Science Center. July 28, 2003.*
[97]	*Guthrie, D.A. 2004a. Bird Observations for Spring 2004 in the Proposed Homestead and Chiquito Areas, near Valencia, California. Revised. Prepared for M. Subbotin, Valencia Corporation. Claremont, California: W.M. Keck Science Center. August 24, 2004.*
[98]	*Guthrie, D.A. 2004b. Bird Observations in the Commerce Center Project Site, near Valencia, California, 2004. Revised. Prepared for M. Subbotin, Valencia Corporation. Claremont, California: W.M. Keck Science Center. August 24, 2004.*
[99]	*Guthrie, D.A. 2004c. Bird Observations in the Stevenson Ranch, Phase 5 Area, near Valencia, California, 2004. Prepared for M. Subbotin, Valencia Corporation. Claremont, California: W.M. Keck Science Center. July 2, 2004.*
[100]	*Guthrie, D.A. 2004d. Bird Observations for Spring 2004 in the Proposed Potrero Valley, Long Canyon, Oak Valley and Onion Fields Development Areas near Valencia, California. Revised. Prepared for M. Subbotin, Valencia Corporation. Claremont, California: W.M. Keck Science Center. August 24, 2004.*
[101]	*Guthrie, D.A. 2004e. Bird Observations for Spring 2004 in the Proposed Mesa East and West Development near Valencia, California. Revised. Prepared for M. Subbotin, Valencia Corporation. Claremont, California: W.M. Keck Science Center. August 24, 2004.*
[102]	*Guthrie, D.A. 2004f. Bird Surveys along a Portion of the Santa Clara River and Its Tributaries Upstream from the Castaic Creek Confluence, near Valencia, California, 2004. Prepared for M. Subbotin, Valencia Corporation. Claremont, California: W.M. Keck Science Center. August 24, 2004.*
[103]	*Guthrie, D.A. 2004g. Bird Observations in the Proposed Magic Mountain Entertainment Project Area, near Valencia, California, 2004. Revised. Prepared for M. Subbotin, Valencia Corporation. Claremont, California: W.M. Keck Science Center. August 24, 2004.*
[104]	*Guthrie, D.A. 2004h. Bird Surveys along the Santa Clara River, 2004; Mouth of Castaic Creek Downstream to just below Las Brisas Crossing. Prepared for M. Subbotin, Newhall Land and Farming. Claremont, California: W.M. Keck Science Center. August 24, 2004.*

Table 5.4-4 (Continued)
Biological Surveys Conducted on the Project Site and Vicinity through 2013

Type of Survey	Reference
[105] *Guthrie, D.A. 2004i. Bird Observations during 2004 at Castaic Junction, an Area on the North Side of the Santa Clara River at the Junction of State Route 126 and Interstate 5, near Valencia, California. Revised. Prepared for M. Subbotin, Valencia Corporation. Claremont, California: W.M. Keck Science Center. August 24, 2004.*	
[106] *Guthrie, D.A. 2005a. Bird Surveys along a Portion of the Santa Clara River and Its Tributaries Upstream from the Castaic Creek Confluence, near Valencia California. Prepared for M. Subbotin, Newhall Land and Farming. Claremont, California: W.M. Keck Science Center.*	
[107] *Guthrie, D.A. 2005b. Bird Surveys along the Santa Clara River, 2005; Mouth of Castaic Creek Downstream to just below Las Brisas Crossing. Prepared for M. Subbotin, Newhall Land and Farming. Claremont, California: W.M. Keck Science Center.*	
[108] *Guthrie, D.A. 2005c. White-Tailed Kite Populations along the Upper Santa Clara River. Revised. Prepared for S. Rojas, Newhall Land. Claremont, California: W.M. Keck Science Center. July 26, 2005.*	
[109] *Guthrie, D.A. 2006a. Bird Surveys along the Santa Clara River, 2006; Mouth of Castaic Creek Downstream to just below Las Brisas Crossing. Final Report. Prepared for M. Carpenter, Newhall Land and Farming. Claremont, California: W.M. Keck Science Center. October 11, 2006.*	
[110] *Guthrie, D.A. 2006b. Bird Surveys of The Old Road Phase III Environmental Project Study Area, near Valencia, California, 2006. Claremont, California: W.M. Keck Science Center. July 20, 2006.*	
[111] *Guthrie, D.A. 2006c. Bird Surveys along a Portion of the Santa Clara River and Its Tributaries Upstream from the Castaic Creek Confluence, near Valencia California. Prepared for M. Carpenter, Valencia Corporation. Claremont, California: W.M. Keck Science Center. October 11, 2006.*	
[112] *Labinger, Z., and J. Greaves. 1999. Results of 1998 Avian Surveys and Least Bell's Vireo Monitoring: Restoration Phase of the ARCO/Four Corners January 17, 1994 Oil Spill on the Santa Clara River, California. Draft. Prepared for the U.S. Fish and Wildlife Service. Goleta, California: Labinger Biological Consulting. March 1, 1999.*	
[113] *Labinger, Z., J. Greaves, and D. Haupt. 1995. Preliminary Results of Avian Surveys Following the January 17, 1994, ARCO/Four Corners Oil Spill on the Santa Clara River, California. Draft. Goleta, California: Labinger Biological Consulting.*	
[114] *Labinger, Z., J. Greaves, and D. Haupt. 1996. Results of 1995 Avian Surveys following the January 17, 1994, ARCO/Four Corners Oil Spill on the Santa Clara River, California. Draft. Goleta, California: Labinger Biological Consulting. January 17, 1996.*	
[115] *Labinger, Z., J. Greaves, and D. Haupt. 1997a. 1996 Avian Survey Results following the ARCO/Four Corners Oil Spill (January 17, 1994) on the Santa Clara River, California. Draft. Prepared for the U.S. Fish and Wildlife Service. Goleta, California: Labinger Biological Consulting. January 9, 1997.*	
[116] *Labinger, Z., J. Greaves, and D. Haupt. 1997b. Results of 1997 Avian Surveys and Least Bell's Vireo Monitoring: Restoration Phase of the ARCO/Four Corners January 17, 1994, Oil Spill on the Santa Clara River, California. Draft. Prepared for the U.S. Fish and Wildlife Service. Goleta, California: Labinger Biological Consulting. November 30, 1997.*	
[117] *Niemela, C. 2009. Memo from C. Niemela (Bloom Biological) to J. Grantham (USFWS) regarding observations of California condor in Potrero Canyon in January 2009. March 11, 2009.*	
[118] *Planning Consultants Research (PCR). 1998. "Results of Focused California Gnatcatcher Surveys for the West Creek/East Creek Project Site, Valencia, Los Angeles County." Letter report from S.G. Nelson (PCR) to D. Krofta (U.S. Fish and Wildlife Service). Santa Monica, California: PCR. August 25, 1998.*	
[119] *Priest, J. 2007a. "Documentation of California Gnatcatcher Observation at Newhall, Valencia Commerce Center Project on 10/5/07." Memorandum from J. Priest (Dudek) to D. Crawford and R. Francis (Compliance Biology Inc.). October 8, 2007.*	

Table 5.4-4 (Continued)
Biological Surveys Conducted on the Project Site and Vicinity through 2013

Type of Survey	Reference
[120] *Priest, J. 2007b. "Focused California Gnatcatcher Survey, Landmark Village Project, Los Angeles County, California." Letter report from J.D. Priest (Dudek) to U.S. Fish and Wildlife Service. July 9, 2007.*	
[121] *Science Applications International Corporation (SAIC). 2003. "Results of Focused Coastal California Gnatcatcher Surveys for the Stevenson Ranch Phase V Project Site, Los Angeles, California." Letter report from M. Blain (SAIC) to R. Farris (U.S. Fish and Wildlife Service). September 3, 2003.*	
[122] *Bloom, P.H. 2007. Report on Arroyo Toad Surveys on Landmark Village, Newhall Land and Farming Company Property, Los Angeles County, California. Prepared for U.S. Fish and Wildlife Service. Santa Ana, California: P.H. Bloom (Bloom Biological Inc.). November 2007.*	
[123] *Carpenter, M. 2007. Verbal communication by M. Carpenter (Newhall Land and Farming Company) regarding incidental observations of the southwestern pond turtle in the Santa Clara River in relation to agricultural crossings and ponded water, August 2007.*	
[124] *Carpenter, M. 2009. "RE: Potrero Canyon Pond Turtle Record." Email from M. Carpenter (Newhall Land) to P. Behrends (Dudek), January 2009.*	
[125] *Dudek. 2012m. Report for Focused Arroyo Toad Surveys for the Mission Village Project, Newhall Ranch, Los Angeles County, California. Prepared for The Newhall Land and Farming Company. Valencia, California: Dudek. August 2012.*	
[126] *Compliance Biology Inc. 2004d. Results of Focused Surveys for Arroyo Toad and Special-Status Aquatic Reptiles and Amphibians, River Village Project; Newhall Ranch, Valencia, California. Prepared for Newhall Ranch Company. Camarillo, California: Compliance Biology, Inc. October 2004.*	
[127] *Compliance Biology Inc. 2004e. "Results of Focused Western Spadefoot Toad Surveys on the River Village Project Site and Associated Borrow Sites." Letter report from D. Crawford (Compliance Biology) to Newhall Ranch Company. Camarillo, California: Compliance Biology, Inc. November 3, 2004.*	
[128] *Compliance Biology Inc. 2004f. Results of Focused Surveys for Arroyo Toad and Special Status Aquatic Reptiles and Amphibians, Newhall Ranch, Valencia, California. Prepared for Newhall Ranch Company. Camarillo, California: Compliance Biology, Inc. September 2004.*	
[129] *Compliance Biology Inc. 2004g. Western Spadefoot Toad Habitat Enhancement and Monitoring Plan, Valencia Commerce Center Project, Los Angeles County, California. Prepared for Newhall Ranch Company. Camarillo, California: Compliance Biology, Inc. November 2004.*	
[130] *Compliance Biology Inc. 2006b. Results of the Focused Western Spadefoot Toad Surveys on the Castaic Mesa Project Site. Prepared for Newhall Land Company. Camarillo, California: Compliance Biology Inc.*	
[131] *Compliance Biology Inc. 2006c. Results of the Focused Western Spadefoot Toad Surveys on the Mission Village Project Site. Prepared for Newhall Land. Camarillo, California: Compliance Biology Inc.*	
[132] *Compliance Biology Inc. 2012a. Results of Focused Western Spadefoot Toad and Fairy Shrimp Habitat Surveys on the Entrada South Project Site. Prepared for Newhall Land and Farming Company. Camarillo, California: Compliance Biology Inc. July 2012.*	
[133] *Compliance Biology Inc. 2012b. Results of Focused Western Spadefoot Toad and Fairy Shrimp Habitat Surveys on the Entrada Project Site. Prepared for Newhall Land and Farming Company. Camarillo, California: Compliance Biology Inc. May 2012.*	
[134] *Compliance Biology Inc. 2012c. Results of Focused Western Spadefoot Toad and Fairy Shrimp Habitat Surveys on the Homestead Project Site. Prepared for Newhall Land and Farming Company. Camarillo, California: Compliance Biology Inc. May 2012.*	
[135] *Compliance Biology Inc. 2012d. Results of Focused Western Spadefoot Toad and Fairy Shrimp Habitat Surveys on the Legacy Village Project Site. Prepared for Newhall Land and Farming Company. Camarillo, California: Compliance Biology Inc. May 2012.*	

Table 5.4-4 (Continued)
Biological Surveys Conducted on the Project Site and Vicinity through 2013

Type of Survey	Reference
[136] *Ecological Sciences Inc. 2003a. "Results of Focused Arroyo Toad Surveys, Castaic Creek, Santa Clarita, California." Letter report from S.D. Cameron (Ecological Sciences Inc.) to M. Subbotin (Newhall Ranch Company). Oxnard, California: Ecological Sciences Inc. August 31, 2003.*	
[137] *Ecological Sciences Inc. 2003b. "Results of Focused Arroyo Toad Surveys, Castaic Reservoir Site, Santa Clarita, California." Letter report from S.D. Cameron (Ecological Sciences Inc.) to M. Subbotin (Newhall Ranch Company). Oxnard, California: Ecological Sciences Inc. August 27, 2003.*	
[138] *Ecological Sciences Inc. 2003c. "Results of Focused Arroyo Toad Surveys, Hart/Pony Baseball Site and Hart/Pony Commercial Site, Santa Clarita, California." Letter report from S.D. Cameron (Ecological Sciences Inc.) to M. Subbotin (Newhall Ranch Company). Oxnard, California: Ecological Sciences Inc. August 21, 2003.*	
[139] *Ecological Sciences Inc. 2003d. "Results of Focused Arroyo Toad Surveys, NRMP Project Area, Santa Clarita, California." Letter report from S.D. Cameron (Ecological Sciences Inc.) to M. Subbotin (Newhall Ranch Company). Oxnard, California: Ecological Sciences Inc. August 31, 2003.*	
[140] *Ecological Sciences Inc. 2003e. "Results of Focused Arroyo Toad Surveys, Round Mountain Site, Santa Clarita, California." Letter report from S.D. Cameron (Ecological Sciences Inc.) to M. Subbotin (Newhall Ranch Company). Oxnard, California: Ecological Sciences Inc. August 25, 2003.*	
[141] *Ecological Sciences Inc. 2003f. "Results of Focused Arroyo Toad Surveys, Soledad Site, Santa Clarita, California." Letter report from S.D. Cameron (Ecological Sciences Inc.) to M. Subbotin (Newhall Ranch Company). Oxnard, California: Ecological Sciences Inc. August 23, 2003.*	
[142] *Ecological Sciences, Inc. 2004a. "Results of Focused Arroyo Toad Surveys, Castaic Creek, Santa Clarita, California." Letter report from S.D. Cameron (Ecological Sciences Inc.) to M. Subbotin (Newhall Ranch Company). Santa Paula, California: Ecological Sciences Inc. August 11, 2004.*	
[143] *Ecological Sciences Inc. 2004b. "Results of Focused Arroyo Toad Surveys, Portions of Santa Clara River/South Fork, Santa Clarita, California." Letter report from S.D. Cameron (Ecological Sciences Inc.) to M. Subbotin (Newhall Ranch Company). Santa Paula, California: Ecological Sciences Inc. August 21, 2004.*	
[144] *Ecological Sciences Inc. 2004c. "Results of Focused Arroyo Toad Surveys, NRMP Soledad/Riverpark Area, Santa Clarita, California." Letter report from S.D. Cameron (Ecological Sciences Inc.) to S. Tebo (Impact Sciences). Santa Paula, California: Ecological Sciences Inc. August 29, 2004.*	
[145] *Ecological Sciences Inc. 2004d. "Results of Focused Arroyo Toad Surveys, San Francisquito Creek, Santa Clarita, California." Letter report from S.D. Cameron (Ecological Sciences Inc.) to M. Subbotin (Newhall Ranch Company). Santa Paula, California: Ecological Sciences Inc. August 25, 2004.*	
[146] *Ecological Sciences Inc. 2005a. "Results of Focused Arroyo Toad Surveys, Castaic Creek, Santa Clarita, California." Letter report from S.D. Cameron (Ecological Sciences Inc.) to M. Subbotin (Newhall Ranch Company). Santa Paula, California: Ecological Sciences Inc. August 17, 2005.*	
[147] *Ecological Sciences Inc. 2005b. "Results of Focused Arroyo Toad Surveys, San Francisquito Creek, Santa Clarita, California." Letter report from S.D. Cameron (Ecological Sciences Inc.) to M. Subbotin (Newhall Ranch Company). Santa Paula, California: Ecological Sciences Inc. August 21, 2005.*	
[148] *Huntley, C. 2006. Observations of reptiles in the Project area, including coast horned lizard (south of The Old Road Bridge) and silvery legless lizard (in Long Canyon). Personal communication (in written comments) from C. Huntley (Aspen) to S. Miller (Dudek), October 2006.*	
[149] *Impact Sciences Inc. 2001. Results of Focused Surveys for Arroyo Toad and Special-Status Aquatic Reptiles and Amphibians within the Natural River Management Plan Area, Valencia, California. Prepared for Valencia Company. Agoura Hills, California: Impact Sciences Inc. September 19, 2001.*	
[150] *Impact Sciences Inc. 2002. Results of Focused Surveys for Arroyo Toad and Special-Status Aquatic Reptiles and Amphibians, Newhall Ranch, Valencia, California. Prepared for Newhall Ranch Company.*	

Table 5.4-4 (Continued)
Biological Surveys Conducted on the Project Site and Vicinity through 2013

Type of Survey	Reference
	Agoura Hills, California: Impact Sciences Inc. May 21, 2002.
	[151] *Impact Sciences Inc. 2006a. Newhall Ranch Oak Tree Survey. Camarillo, California: Impact Sciences Inc.*
	[152] *RECON. 1999a. Survey for Arroyo Southwestern Toad for Newhall Ranch. Prepared for Newhall Ranch Company. San Diego, California: RECON. July 12, 1999.*
	[153] *RECON. 1999b. Santa Clara River Corridor Habitat Assessment for Newhall Ranch. Prepared for Newhall Ranch Company. San Diego, California: RECON. December 28, 1999.*
	[154] *Sandburg, N.H. 2001. "Field Summary of Santa Clara River Surveys for Bufo californicus and Rana aurora draytonii, May 8 through May 29, 2001." Letter report from N.H. Sandburg (Biological Consultant). Santa Barbara, California. June 6, 2001.*
	[155] *San Marino Environmental Associates (SMEA). 1994a. Two-Striped Garter Snake Data, ARCO Natural Resource Damage Assessment. San Marino, California: SMEA.*
	[156] *San Marino Environmental Associates. 1994b. Southwestern Pond Turtle Data, ARCO Natural Resource Damage Assessment. San Marino, California: SMEA.*
	[157] *Huntley, C. 2008. Observation of mountain lion in the Project area (in upper Middle Canyon) from C. Huntley (Aspen) to M. Carpenter (Newhall Land). 2008.*
	[158] *Impact Sciences Inc. 2005. Assessment and Survey of Mammals within the Newhall Ranch Specific Plan Area, Los Angeles County, California. Draft. Prepared for The Newhall Land and Farming Company. Camarillo, California: Impact Sciences Inc. May 2005.*
	[159] *Johnson, H.L. 2006. "Bat Survey; August 7–10, 2006 for the Newhall Ranch, Valencia, California." Letter report by H.L. Johnson prepared for G. Ainsworth (Impact Sciences Inc.). October 10, 2006.*
	[160] *Brown-Berry Biological Consulting. 2012. Bat Roosting Habitat Assessment for Mission Village. Prepared for Dudek. August 2012.*
	[161] *Dudek. 2012e. Bat Survey, Entrada South Project, Los Angeles County, California. Prepared for The Newhall Land and Farming Company. Valencia, California: Dudek. October 2012.*
	[162] *Dudek. 2012h. Bat Survey, Legacy Project, Los Angeles County, California. Prepared for The Newhall Land and Farming Company. Valencia, California: Dudek. October 2012.*
	[163] *Dudek. 2013f. Newhall Ranch Potrero Bat Survey. Memorandum prepared for The Newhall Land and Farming Company. Valencia, California: Dudek. November 2013.*
	[164] *Compliance Biology Inc. 2013. Results of Small Mammal Trapping Surveys; Entrada South Project. Prepared for Newhall Land and Farming Company. Camarillo, California: Compliance Biology Inc. September 2013.*
	[165] *Rahn Conservation Consulting LLC. 2013a. Bat Surveys and Habitat Assessment: SR 126/Commerce Center Drive Project. Prepared for AECOM. August 2013.*
	[166] *Rahn Conservation Consulting LLC. 2013b. Bat Surveys and Habitat Assessment: SR 126/Commerce Center Drive Project, Fall Survey Addendum. Prepared for AECOM. September 2013.*
	[167] *Compliance Biology Inc. 2004a. Results of Butterfly Surveys on the Newhall Ranch Project Site, Los Angeles County, California. Camarillo, California: Compliance Biology, Inc. September 16, 2004.*
	[168] *Compliance Biology Inc. 2004b. Results of Butterfly Surveys on Newhall Land, Stevenson Ranch Phase V Site, Los Angeles County, California. Camarillo, California: Compliance Biology, Inc. September 16, 2004.*
	[169] *Compliance Biology Inc. 2004c. Results of Butterfly Surveys on Magic Mountain Entertainment Site, Los Angeles County, California. Camarillo, California: Compliance Biology, Inc. August 4, 2004.*
	[170] *Compliance Biology Inc. 2005. Results of Butterfly Surveys on Newhall Salt Canyon Habitat Preservation Area, Los Angeles County, California. Prepared for Newhall Land and Farming Company.*

Table 5.4-4 (Continued)
Biological Surveys Conducted on the Project Site and Vicinity through 2013

Type of Survey	Reference
	Camarillo, California: Compliance Biology Inc. July 31, 2005.
	[171] *Dudek. 2008b. Wet Season Presence/Absence Survey for Vernal Pool Branchiopods for Newhall Ranch, Los Angeles County, California. Encinitas, California: Dudek. October 2008.*
	[172] *Huntley, C. 2010. "Re: Snail Methods, etc." Email from C. Huntley (Aspen) to P. Behrends (Dudek), A.C. Lynch (Sohagi Law Group), D. Bedford (CDFW), K. Drewe (CDFW), S. White (Aspen), M. Carpenter (Newhall Land), S. Rojas (Newhall Land), and S. Miller (Dudek). March 12, 2010.*
	[173] *RECON. 1999c. Quino Checkerspot Butterfly Habitat Assessment for Phase 1 Development and Permit Areas of Newhall Ranch. Prepared for Newhall Ranch Company by G.A. Scheid (RECON). San Diego, California: RECON. July 15, 1999.*
	[174] *ENTRIX Inc. 1994. Results of Fish Passage Monitoring at the Vern Freeman Diversion Facility, Santa Clara River. Prepared for United Water Conservation District, Santa Paula, California. December 2, 1994.*
	[175] *ENTRIX Inc. 1995. Results of Fish Passage Monitoring at the Vern Freeman Diversion Facility, Santa Clara River. Prepared for United Water Conservation District, Santa Paula, California. October 11, 1995.*
	[176] *ENTRIX Inc. 1996. Results of Fish Passage Monitoring at the Vern Freeman Diversion Facility, Santa Clara River. Prepared for United Water Conservation District, Santa Paula, California. December 26, 1996.*
	[177] *ENTRIX Inc. 1998. Vern Freeman Diversion Fish Passage Study, 1998 Fish Handling and Data Collection Protocols. Prepared for United Water Conservation District, Santa Paula, California. April 7, 1998.*
	[178] *ENTRIX Inc. 1999. Results of Fish Passage Monitoring at the Vern Freeman Diversion Facility, Santa Clara River, 1997. Prepared for United Water Conservation District, Santa Paula, California. September 15, 1999.*
	[179] *ENTRIX Inc. 2000. Results of Fish Passage Monitoring at the Vern Freeman Diversion Facility, Santa Clara River, 1994–1998. Final Report. Prepared for United Water Conservation District, Santa Paula, California. March 14, 2000.*
	[180] *ENTRIX Inc. 2006a. Focused Special-Status Aquatic Species Assessment—Santa Clara River, Mission Village Project, Newhall Ranch, California. Prepared for Newhall Land. Ventura, California: ENTRIX.*
	[181] *ENTRIX Inc. 2006b. Focused Special-Status Aquatic Species Assessment—Santa Clara River, Landmark Village Project, Newhall Ranch, California. Prepared for Newhall Land. Ventura, California: ENTRIX.*
	[182] *ENTRIX Inc. 2009. Focused Special-Status Fish Species Habitat Assessment—Santa Clara River and Tributary Drainages, Newhall Ranch, Los Angeles County, California. Prepared for Newhall Land. Ventura, California: ENTRIX.*
	[183] *Haglund, T.R. 1989. Current Status of the Unarmored Threespine Stickleback (Gasterosteus aculeatus williamsoni) along Portions of the Santa Clara River Drainage. Prepared for Newhall Land and Farming Company. Los Angeles, California: University of California.*
	[184] *Haglund, T.R., and J.N. Baskin. 2000. Fish and Wildlife Survey and Habitat Assessment of the Santa Clara River at Interstate 5. Prepared for Environmental Planning Branch, California State Department of Transportation. Pomona, California: California State Polytechnic University. October 2000.*
	[185] *Impact Sciences Inc. 2003a. Results of Focused Surveys for Unarmored Threespine Stickleback and Other Special-Status Fish Species; Newhall Ranch, Valencia, California. Prepared for Newhall Land and Farming. Agoura Hills, California: Impact Sciences Inc. January 24, 2003.*
	[186] *Impact Sciences Inc. 2003b. Results of Focused Surveys for Unarmored Threespine Stickleback and*

Table 5.4-4 (Continued)
Biological Surveys Conducted on the Project Site and Vicinity through 2013

Type of Survey	Reference
	Other Special-Status Fish Species; Natural River Management Plan Area, Valencia, California. Prepared for Newhall Land and Farming. Agoura Hills, California: Impact Sciences Inc. June 2003.
	[187] *Impact Sciences Inc. 2003c. Annual Status Report for Unarmored Threespine Stickleback within the Natural River Management Plan Area, Valencia, California. Prepared for Newhall Land and Farming. Agoura Hills, California: Impact Sciences Inc. October 1, 2003.*
	[188] *Impact Sciences Inc. 2003d. Results of Focused Surveys for Unarmored Threespine Stickleback and Other Special-Status Fish Species; Castaic Mesa, Castaic Creek, Los Angeles County, California. Prepared for Newhall Land and Farming. Agoura Hills, California: Impact Sciences Inc. June 2003.*
	[189] *San Marino Environmental Associates. 1995a. Sensitive Aquatic Species Survey; Santa Clara River and San Francisquito Creek; Newhall Land and Farming Company Property; Los Angeles, California. Final report. Prepared for M. Subbotin, Valencia Company, by J.N. Baskin and T.R. Haglund. San Marino, California: SMEA. December 1995.*
	[190] *Swift, C.C. 2009. Summary of the recent reconnaissance survey work conducted to detect freshwater snail presence in selected aquatic habitat locations on Newhall Ranch. Memorandum from C.C. Swift (ENTRIX) to M. Carpenter (Newhall Land). April 7, 2009.*
	[191] *Glenn Lukos Associates Inc. 2006. "Jurisdictional Delineation for Entrada, an Approximately 850-Acre Property in Los Angeles County, California." Letter report from A. Kessans (Glenn Lukos Associates Inc.) to A. Herrell (Newhall Land). October 18, 2000; revised 2006.*
	[192] *URS Corporation. 2014. Wetland Delineation and Jurisdictional Determination Report for the Entrada Project, Los Angeles County, California. Prepared for The Newhall Land and Farming Company. Santa Barbara, California: URS. April 28, 2014.*
*Source: Dudek 2015; see the Biota Report provided in **Appendix 5.4A** of this Draft EIR.*	

with a few exceptions.[67] In certain instances, the vegetation communities observed in the field did not match the vegetation communities described by CDFW.[68]

Dudek identified general and special-status wildlife species present or potentially present on the Project Site through the CNDDB search for the quadrangles listed above, the RMDP/SCP Final EIS/EIR, and the numerous wildlife surveys conducted in the Project region. General information regarding species distributions was obtained from the CDFW California Wildlife Habitat Relationships Program; from Stebbins and California Herps for reptiles and amphibians; Birds of North America, Garrett and Dunn, and Shuford and

[67] *California Department of Fish and Wildlife. 2010. Hierarchical List of Natural Communities with Holland Types. September 2010. Available at www.dfg.ca.gov/biogeodata/vegcamp/natural_comm_list.asp.*

[68] *Refer to **Appendix 5.4D** of this Draft EIR for a survey of scientific literature that addresses the intersection of global climate change and biological resources and this Draft EIR's determination regarding the effects of global climate change on such resources.*

Gardali for birds; Ingles and Hall for mammals; and Emmel and Emmel for butterflies.[69,70,71,72,73,74,75,76,77]

(2) Field Reconnaissance

Several biological surveys specific to the Entrada South Project Site have been conducted, including vegetation mapping, general plant surveys, general wildlife surveys, and focused surveys for special-status/regulated species, as summarized in **Table 5.4-5**, Summary of Biological Surveys Conducted on the Entrada South Project Site, on page 5.4-56. The surveys conducted between 2002 and 2007 helped to develop baseline data for the RMDP/SCP EIS/EIR, but included five special-status plants surveys, vegetation mapping, and a general wildlife survey on the Entrada South site. The surveys conducted on-site from 2011 to 2013 provide additional and up-to-date Project-specific information in support of the Entrada South EIR.

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[69] *CDFW California Wildlife Habitat Relationships Program website, www.dfg.ca.gov/biogeodata/cwhr/cawildlife.aspx; California Herps website, www.californiaherps.com; Birds of North America website, http://bna.birds.cornell.edu/bna.*

[70] *Stebbins, R.C. 2003. A Field Guide to Western Reptiles and Amphibians. 3rd edition. New York, New York: Houghton Mifflin Company.*

[71] *Nafis, G. 2014. California Herps: A Guide to the Amphibians and Reptiles of California. Website www.californiaherps.com/index.html.*

[72] *Poole, A. (ed.). 2005. The Birds of North America Online. Ithaca, New York: Cornell Laboratory of Ornithology. Website http://bna.birds.cornell.edu/BNA/.*

[73] *Garrett, K., and J. Dunn. 1981. The Birds of Southern California: Status and Distribution. Los Angeles Audubon Society.*

[74] *Shuford, W.D., and T. Gardali, eds. 2008. "California Bird Species of Special Concern: A Ranked Assessment of Species, Subspecies, and Distinct Populations of Birds of Immediate Conservation Concern in California." Studies of Western Birds 1. Camarillo, California: Western Field Ornithologists, and Sacramento, California: California Department of Fish and Wildlife.*

[75] *Ingles, L.G. 1965. Mammals of the Pacific States: California, Oregon, Washington. Stanford, California: Stanford University Press.*

[76] *Hall, E.R. 1981. The Mammals of North America. 2nd ed. New York, New York: John Wiley & Sons.*

[77] *Emmel, T.C., and J.F. Emmel. 1973. "The Butterflies of Southern California." Science Series 26:1–148. Los Angeles, California: Natural History Museum of Los Angeles County.*

Table 5.4-5
Summary of Biological Surveys Conducted on the Entrada South Project Site

Study Title	Survey Focus	Survey Date(s)	Survey Personnel	Cumulative Staff Hours Survey Time (time of day)	Air Temp. Range (°F)
2002 Sensitive Plant Survey Results for the Entrada Site[a]	Special-Status Plants	5/7-9, 12, 13, 9/17/02	ME, JV, CW	120 hrs	N/A
2003 Sensitive Plant Survey Results for the Entrada Site[b]		4/14-17, 22-24/03	ME, MSE, KaM, AT, AS, TW, VJ, NG, AP	140 hrs	N/A
2004 Sensitive Plant Survey Results for the Entrada Site[c]		4/14-16, 20, 21, 24/04, 8/19/04	MSE, DF, MB, DG, VJ, NG, AP	165 hrs	N/A
2005 Sensitive Plant Survey Results for the Entrada Site[d]		4/18-21, 25-29/05	CK, KaM, SB, CO, DF, MB, RK	320 hrs	N/A
2006 Sensitive Plant Survey Results for the Entrada Site[e]		5/22-24/06	CK, CO, PS, MM, SaS	140 hrs	N/A
2007 Sensitive Plant Survey Results for the Entrada Site[f]		6/5-8, 12, 13/07	BS, CF, GH, DG, CF, TS, BW, MO	230 hrs	N/A
2011 Sensitive Plant Survey Results for Entrada Site[g]		7/5/12	KD, SM, TC	30 hrs	N/A
2013 Survey Results for San Fernando Valley Spineflower within the Spineflower Conservation Plan Area[h]	San Fernando Valley Spineflower (*Chorizanthe parryi* var. *fernandina*)	4/18, 19, 22/13	EW, KD, RI, DM	48 hrs	N/A
Biological Resources Technical Report, Entrada[i]	Vegetation Map	8/1/06	SM, PB	NR	N/A
	General Wildlife Assessment	9/1/06	PL	NR	NR
2012 Botanical Survey Results for Entrada South Site[j]	Vegetation Map Update	4/19/12	KD, BS	8 hrs	N/A
	Special-Status Plants/San Emigdio Blue Butterfly Habitat Assessment	6/11-13, 19/12	EW, KD, CF, DM, ChK, KM	72 hrs	N/A

Table 5.4-5 (Continued)
Summary of Biological Surveys Conducted on the Entrada South Project Site

Study Title	Survey Focus	Survey Date(s)	Survey Personnel	Cumulative Staff Hours Survey Time (time of day)	Air Temp. Range (°F)
2012 and 2013 Botanical Survey Results for Homestead South Village Site[k]	Vegetation Map Update	5/8/12-5/9/12	KD, BS, HM, EW	10 hrs	N/A
	Special-Status Plants/San Emigdio Blue Butterfly Habitat Assessment	6/18, 26-29, 7/2, 3, 5, 6, 9, 10/12 and 5/3/13	CK, DM, DG, BS, KD, MB, RM, HM, TC, EW	146 hrs	N/A
2012 and 2013 Botanical Survey Results for the Advanced Mitigation Sites[l]	Vegetation Map Update	5/8/12	KD	2 hrs	N/A
	Special-Status Plants/San Emigdio Blue Butterfly Habitat Assessment	6/21-22, 7/15/2012	DG, RM, KD, CK	12.5 hrs	N/A
	Special-Status Plants	4/23, 5/8-10, 13/2013	DM, RM, DG, JP	23.5	N/A
2013 Botanical Survey Results for the Potrero Village Site[m]	Vegetation Map Update	5/9/13	EW	7	N/A
	Special-Status Plants/San Emigdio Blue Butterfly Habitat Assessment	4/30, 5/1-3, 6-9/13	JP, KD, BS, HM, DM, EW, CK, KM	70	N/A
Focused California Gnatcatcher Survey, Entrada North and South Projects[n]	Survey Area 1	3/22, 4/2, 12, 19, 26, 5/3/12	TC, PL	28 hrs	53°–82°
	Survey Area 2	3/23, 4/5, 16, 24, 5/1, 17/12	TC, TW	26 hrs	52°–82°
	Survey Area 3	3/27, 5/3, 17, 24, 6/14, 28/12	TC, TL, PL, JP	27 hrs (0625-1145)	52°–80°
Focused Grasshopper Sparrow and General Wildlife Report for the Entrada South Site[o]	Grasshopper Sparrow and General Wildlife	5/23, 25, 6/14/12	DC	7.5 hrs (0615-1000)	60°–77°

Table 5.4-5 (Continued)
Summary of Biological Surveys Conducted on the Entrada South Project Site

Study Title	Survey Focus	Survey Date(s)	Survey Personnel	Cumulative Staff Hours Survey Time (time of day)	Air Temp. Range (°F)
Bat Survey, Entrada South Project[p]	Bat Acoustic Monitoring—Survey Point 1	5/17-23, 2012	TC	6 Survey Nights	N/A
	Bat Acoustic Monitoring—Survey Point 2	6/12-19, 2012	TC	7 Survey Nights	N/A
	Bat Acoustic Monitoring—Survey Point 3	7/16-23, 2012	TC	7 Survey Nights	N/A
	Bat Acoustic Monitoring—Survey Point 3	8/9-16,2012	TC	7 Survey Nights	N/A
Results of Small Mammal Trapping Surveys; Entrada South Project[q]	Special-Status Small Mammals	8/23-27/2012	CB	5 Survey Nights	
Results of Focused Western Spadefoot Toad and Fairy Shrimp Habitat Surveys on the Entrada South Project Site[r]	Presence/Absence of Western Spadefoot (*Spea hammondii*) and Fairy Shrimp	2/6, 4/2, 4/18/12	CB	NR	NR

Personnel: AP = Anuja Parikh; AS = Andrew Sanders; AT =Andrew Thomson; BS = Britney Strittmater; BW = Briana Wood; CB = Compliance Biology Inc.; CF = Callie Ford; ChK = Chris Kallstrand; CK = Colin Khoury; CO = Chris Oesch; CW = Cathleen Wiegand; DC = Dave Compton; DF = Dave Flietner; DG = Doug Gettinger; DM = Danielle Mullen; EW = Emily Wier; GH = Galen Hagen; JP = Jeffrey Priest; JV = Julie Vanderwier; KD = Kathleen Dayton; KaM =Kam Muri; KM = Karen Mullen; MB = Michelle Balk; ME = Mark Elvin; MM = Makela Mangrich; MO = Marcus Obregon; MSE = Megan Enright; NG = Nathan Gale; PB = Phil Behrends; PL =Paul Lemons; PS = Patricia Schuyler; RI = Randall McInvale; RK = Rebekah Krebs; SaS = Saudomini Sindhar; SB = Scott Boczkiewicz; SM = Sherri Miller; SS = Sparrow Serrano; TC = Traci Caddy; TS = Travis Smith; TL = Thomas Liddicoat; TW = Tricia Wotipka; VJ = Vipul Joshi

N/A = not applicable to this survey type

NR= not recorded during this survey

[a] *Dudek and Associates Inc. 2002b. 2002 Sensitive Plant Survey Results for Entrada [Magic Mountain Entertainment], Los Angeles County, California. Draft. Prepared for The Newhall Land and Farming Company. Encinitas, California: Dudek and Associates Inc. January 2003.*

[b] *Dudek and Associates Inc. 2004e. 2003 Sensitive Plant Survey Results for the Magic Mountain Entertainment Site, Los Angeles County, California. Prepared for The Newhall Land and Farming Company. Encinitas, California: Dudek and Associates Inc. June 2004.*

[c] *Dudek and Associates Inc. 2004h. 2004 Sensitive Plant Survey Results for the Entrada Site, Los Angeles County, California. Prepared for The Newhall Land and Farming Company. Encinitas, California: Dudek and Associates Inc. October 2004.*

[d] *Dudek. 2006b. 2005 Sensitive Plant Survey Results for the Entrada Site, Los Angeles, California. Prepared for The Newhall Land and Farming Company. Encinitas, California: Dudek. October 2006.*

Table 5.4-5 (Continued)
Summary of Biological Surveys Conducted on the Entrada South Project Site

Study Title	Survey Focus	Survey Date(s)	Survey Personnel	Cumulative Staff Hours Survey Time (time of day)	Air Temp. Range (°F)
[e] *Dudek. 2006e. 2006 Sensitive Plant Survey Results for the Entrada Site, Los Angeles, California. Prepared for The Newhall Land and Farming Company. Encinitas, California: Dudek. October 2006.*					
[f] *Dudek. 2007b. 2007 Sensitive Plant Survey Results for the Entrada Site, Los Angeles, California. Prepared for The Newhall Land and Farming Company. Valencia, California: Dudek. December 2007.*					
[g] *Dudek. 2012a. 2011 Botanical Survey Results for the Entrada South Site, Los Angeles, California. Prepared for The Newhall Land and Farming Company. Valencia, California: Dudek. January 2012.*					
[h] *Dudek. 2013a. 2013 Survey Results for San Fernando Valley Spineflower within the Spineflower Conservation Plan Area Los Angeles County, California. Prepared for The Newhall Land and Farming Company. Dudek. June 2013.*					
[i] *Dudek. 2006g. Biological Resources Technical Report, Entrada, Los Angeles County, California. Prepared for The Newhall Land and Farming Company. Encinitas, California: Dudek. October 2006.*					
[j] *Dudek. 2012b. 2012 Botanical Survey Results for the Entrada South Site, Los Angeles, California. Prepared for The Newhall Land and Farming Company. Valencia, California: Dudek. December 2012.*					
[k] *Dudek. 2013b. 2012 and 2013 Botanical Survey Results for Homestead South Village Site, Los Angeles, California. Prepared for The Newhall Land and Farming Company. Valencia, California: Dudek. August 2013.*					
[l] *Dudek. 2013c. 2012 and 2013 Botanical Survey Results for the Advanced Mitigation Sites, Los Angeles, California. Prepared for The Newhall Land and Farming Company. Valencia, California: Dudek. October 2013.*					
[m] *Dudek. 2013d. 2013 Botanical Survey Results for Potrero Village Site, Los Angeles, California. Prepared for The Newhall Land and Farming Company. Valencia, California: Dudek. October 2013.*					
[n] *Dudek. 2012d. Focused California Gnatcatcher Survey, Entrada North and South Projects, Los Angeles County, California. Prepared for U.S. Fish and Wildlife Service, Ventura Fish and Wildlife Office. July 2012.*					
[o] *Dudek. 2012c. Focused Grasshopper Sparrow and General Wildlife Report for the Entrada South Site Los Angeles County, California. Prepared for The Newhall Land and Farming Company. Valencia, California: Dudek. August 2012.*					
[p] *Dudek. 2012e. Bat Survey, Entrada South Project, Los Angeles County, California. Prepared for The Newhall Land and Farming Company. Valencia, California: Dudek. October 2012.*					
[q] *Compliance Biology Inc. 2013. Results of Small Mammal Trapping Surveys; Entrada South Project. Prepared for Newhall Land and Farming Company. Camarillo, California: Compliance Biology Inc. September 2013.*					
[r] *Compliance Biology Inc. 2012a. Results of Focused Western Spadefoot Toad and Fairy Shrimp Habitat Surveys on the Entrada South Project Site. Prepared for Newhall Land and Farming Company. Camarillo, California: Compliance Biology Inc. July 2012.*					
*Source: Dudek 2015, see the Biota Report provided in **Appendix 5.4A** of this Draft EIR.*					

(a) Vegetation Community and Land Cover Mapping

In 2006, Dudek mapped vegetation communities and land covers on the Entrada South site while mapping the vegetation communities in the entire

RMDP/SCP Project area. Vegetation community classifications used in the initial mapping primarily followed the Vegetation Classification and Mapping Program, List of California Terrestrial Natural Communities Recognized by the CNDDB with a few exceptions. In certain instances, the vegetation communities observed in the field did not match the vegetation communities described by CDFW.[78]

In 2012, Dudek updated the vegetation map by using the Hierarchical List of Natural Communities with Holland Types recognized by the CNDDB (**Table 5.4-2**, Existing Vegetation Communities, Floristic Alliances and Associations, and Land Cover Types on the Entrada South Project Site), with a few exceptions.[79] In certain instances, the vegetation communities observed in the field did not match the vegetation communities described by CDFW. These discrepancies in the mapping data were reconciled by overlaying the existing vegetation map polygons onto the latest available aerial photography, revised to match vegetation signatures on-site in 2012, and spot-checked in the field to confirm trends. The vegetation map was further revised to reflect the wetlands delineation performed by URS Corporation in 2012, described in Subsection 3.a.(2)(d), Special-Status and/or Regulated Resources.[80]

(b) Flora

Appendix B of the Biota Report lists all plant species encountered during the botanical field surveys conducted for the RMDP/SCP Project (between 2002 and 2007) and Entrada South (in 2012). Species that could not be identified in the field were brought into the laboratory for further investigation. Latin and common names for plant species with a California Rare Plant Rank (CRPR) (formerly the CNPS List) follow the California Native Plant Society (CNPS) Online Inventory of Rare and Endangered Plants of California. For plant species without a CRPR, Latin names follow the Jepson Interchange List of Currently Accepted Names of Native and Naturalized Plants of California and common names follow the USDA Natural Resources Conservation Service (Conservation Service) PLANTS Database.[81]

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[78] *California Department of Fish and Wildlife. 2003. The Vegetation Classification and Mapping Program List of California Terrestrial Natural Communities Recognized by The California Natural Diversity Database. September 2003.*

[79] *California Department of Fish and Wildlife. 2010. Hierarchical List of Natural Communities with Holland Types. September 2010. Website www.dfg.ca.gov/biogeodata/vegcamp/natural_comm_list.asp.*

[80] *URS Corporation. 2014. "Wetland Delineation and Jurisdictional Determination Report for the Entrada Project, Los Angeles County, California." Prepared for The Newhall Land and Farming Company. Santa Barbara, California: URS. April 28, 2014.*

[81] *U.S. Department of Agriculture, Natural Resources Conservation Service. 2012. "California." State PLANTS Checklist. Website http://plants.usda.gov/dl_state.html, accessed May 2, 2012.*

The large majority of the surveys for special-status species were conducted during the spring blooming period (primarily April), which coincides with the blooming period for the majority of special-status species with potential to occur on-site. However, Parish's big sagebrush (*Artemisia tridentata* ssp. *parishii*) blooms October to November and would not be identifiable during the time of the surveys. Other species with suitable habitat on-site, such as Malibu baccharis (*Baccharis malibuensis*), island mountain-mahogany (*Cercocarpus betuloides* var. *blancheae*), undescribed everlasting (*Gnaphalium* sp. *nova*), Palmer's grapplinghook (*Harpagonella palmeri*), and white rabbit-tobacco (*Pseudognaphalium leucocephalum*), which may bloom outside the times the surveys were conducted, would still have been observable outside of the blooming period.

Variation in rainfall also may affect the detection of plants due to reduced germination and/or limited blooming periods. For example, lower-than-average rainfall occurred in winter 2011 and 2012, and no rainfall occurred after March 2012.[82] However, botanical surveys have been conducted on the Project Site over numerous years, as summarized in **Table 5.4-5**, Summary of Biological Surveys Conducted on the Entrada South Project Site, and under various environmental conditions, so variable rainfall patterns likely are not a substantial limitation on the survey results for botanical resources.

(c) Fauna

A general reconnaissance survey for wildlife on the Project Site was conducted in 2006 as part of the broader RMDP/SCP surveys, and several focused wildlife surveys were conducted in 2012, as also summarized in **Table 5.4-5**, Summary of Biological Surveys Conducted on the Entrada South Project Site. In general, wildlife surveys were conducted by walking transects throughout the Project Site and surveying all portions of the site (all canyons, ridgelines, and vegetation types). Biologists periodically stopped during surveys to listen for wildlife vocalizations. All wildlife species detected during field surveys by sight (with the aid of binoculars), calls, tracks, scat, and other signs were recorded and are listed in Appendix C of the Biota Report. Focused surveys for particular special-status wildlife species are described in detail in Subsection 3.a.(2)(d), Special-Status and/or Regulated Resources.

Note that with the exception of the bat study by Dudek in 2012 and the small mammal trapping study by Compliance Biology Inc. in 2013, both conducted on the Entrada South site, the wildlife surveys on-site were conducted during the day. Because

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[82] *Western Regional Climate Center. 2012. "Piru 2 ESE, California (046940)." Reno, Nevada: National Oceanic and Atmospheric Administration, National Climatic Data Center, WRCC. Website www.wrcc.dri.edu/cgi-bin/cliMAIN.pl?ca69z40 and www.wrcc.dri.edu/cgi-bin/cliMAIN.pl?ca6940, accessed 2012.*

some reptiles and amphibians and many mammals are only active at night and dormant or in refugia during the daytime, their presence can only be visually confirmed through diagnostic signs such as scat and tracks. In addition, meandering transects are not highly effective for detecting reptiles and amphibians that typically are cryptic and secretive in their habitats. For this reason, biologists on the RMDP/SCP Project employed focused surveys using appropriate methods for detecting such species, including pit-fall trapping for reptiles and amphibians and camera stations, scent/track stations, and spotlight surveys for medium and large mammals.[83,84]

In addition to the bat and small mammal trapping studies on Entrada South, acoustic bat surveys and small mammal trapping have also been conducted elsewhere in the RMDP/SCP area.[85,86,87,88,89] The potential for such species to occur on the Project Site can be inferred from these studies. Another limitation is the seasonal timing of surveys. Most wildlife surveys were conducted on the Project Site in the spring/early summer, which is optimal for detecting nesting birds. However, fall migrants and wintering species that may use the site for limited periods may not have been detected. The potential for these occasional species to occur on the Project Site is determined based on several factors, including suitable habitat present on-site, known or suspected migratory and wintering patterns, and the professional experience and judgment of the field biologists.

Latin and common names for wildlife species generally are from Crother for reptiles and amphibians, the American Ornithologists' Union for birds, Wilson and Reeder for mammals, and the North American Butterfly Association for butterflies.[90,91,92,93,94,95,96,97]

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[83] *Impact Sciences Inc. 2006a. "Newhall Ranch Oak Tree Survey." Camarillo, California: Impact Sciences Inc.*

[84] *Impact Sciences Inc. 2005. "Assessment and Survey of Mammals within the Newhall Ranch Specific Plan Area, Los Angeles County, California." Draft. Prepared for The Newhall Land and Farming Company. Camarillo, California: Impact Sciences Inc. May 2005.*

[85] *Dudek. 2012h. "Bat Survey, Legacy Project, Los Angeles County, California." Prepared for The Newhall Land and Farming Company. Valencia, California: Dudek. October 2012.*

[86] *Dudek. 2013f. "Newhall Ranch Potrero Bat Survey." Memorandum prepared for The Newhall Land and Farming Company. Valencia, California: Dudek. November 2013.*

[87] *Brown-Berry Biological Consulting. 2012. "Bat Roosting Habitat Assessment for Mission Village." Prepared for Dudek. August 2012.*

[88] *Impact Sciences Inc. 2005. "Assessment and Survey of Mammals within the Newhall Ranch Specific Plan Area, Los Angeles County, California." Draft. Prepared for The Newhall Land and Farming Company. Camarillo, California: Impact Sciences Inc. May 2005.*

[89] *Johnson, H.L. 2006. "Bat Survey; August 7–10, 2006 for the Newhall Ranch, Valencia, California." Letter report by H.L. Johnson prepared for G. Ainsworth (Impact Sciences, Inc.), October 10, 2006.*

[90] *Crother, B.I. 2008. Scientific and Standard English Names of Amphibians and Reptiles of North America North of Mexico, with Comments Regarding Confidence in our Understanding. 6th ed. Edited by J.J.*

(Footnote continued on next page)

Exceptions for Latin names are noted for some species where taxonomic information in the peer-reviewed scientific literature supersedes the general citation.

(d) Special-Status and/or Regulated Resources

Special-status biological resources are those defined as follows: (1) species that have been given special recognition by federal, state, or local resource agencies and environmental organizations due to limited, declining, or threatened population sizes; (2) species and habitat types recognized by local and regional resource agencies as special-status; (3) habitat areas or vegetation communities that are unique, are of relatively limited distribution, or are of particular value to wildlife; (4) wildlife corridors and habitat linkages; and (5) Corps jurisdictional waters of the United States (including wetlands), CDFW-jurisdictional streams, and waters of the State subject to the permitting authority of the Los Angeles Regional Water Quality Control Board (LA Regional Water Board). Regulated biological resources may or may not be considered special-status, but are regulated under local, state, and/or federal laws.

Moriarty. Society for the Study of Amphibians and Reptiles (SSAR); Herpetological Circular No. 37. January 2008. Available at www.ssarherps.org/pdf/HC_37_6thEd.pdf.

[91] *American Ornithologists' Union. 1998. Check-List of North American Birds: The Species of Birds of North America from the Arctic through Panama, including the West Indies and Hawaiian Islands. 7th ed. Lawrence, Kansas: Allen Press Inc. Website www.aou.org/checklist/north/print.php, accessed March 31, 2010.*

[92] *American Ornithologists' Union. 2000. "Forty-Second Supplement to the American Ornithologists' Union Check-List of North American Birds." The Auk 117(3):847–858.*

[93] *American Ornithologists' Union. 2013. "Fifty-Fourth Supplement to the American Ornithologists' Union Check-List of North American Birds." The Auk 130(3):558–571.*

[94] *Wilson, D.E., and D.M. Reeder, eds. 2005. Mammal Species of the World: A Taxonomic and Geographic Reference. 3rd ed. Online version. Baltimore, Maryland: Johns Hopkins University Press. Website www.bucknell.edu/msw3/, accessed August 17, 2010.*

[95] *North American Butterfly Association. 2001. North American Butterfly Association (NABA) Checklist & English Names of North American Butterflies. 2nd ed. Morristown, New Jersey: NABA. Website www.naba.org/pubs/checklst.html, accessed August 16, 2010.*

[96] *North American Butterfly Association. 2003. "Report of the NABA Names Committee." By M. Caterino, J. Glassberg, and J. Heraty. In American Butterflies:24–27. Update to North American Butterfly Association (NABA) Checklist & English Names of North American Butterflies (2nd ed., 2001). Website www.naba.org/pubs/checklst.html, accessed August 16, 2010.*

[97] *North American Butterfly Association. 2012. "Checklist of North American Butterflies Occurring North of Mexico." Update to North American Butterfly Association (NABA) Checklist & English Names of North American Butterflies (2nd ed., 2001). May 13, 2012. Website www.naba.org/pubs/enames2.html, accessed March 24, 2015.*

Special-status plant species are defined as plants that are state- and/or federally listed or that otherwise have a CRPR. Dudek conducted botanical surveys for special-status plant species on the Project Site annually from 2002 through 2007 and 2011 through 2013, as indicated in **Table 5.4-5**, Summary of Biological Surveys Conducted on the Entrada South Project Site. Botanical surveys of the site generally were conducted during the spring blooming season, primarily in April. Approximately 1,265 field-hours were spent conducting botanical surveys within the Project Site over the nine years of surveys. Surveys were conducted in teams of two or more biologists, with at least one senior-level botanist included with each team. Biologists were able to observe reference populations of the state-listed endangered San Fernando Valley spineflower and other special-status plant species in order to ensure flowering status and develop a search-image (i.e., a mental picture to aid detection) prior to conducting surveys of the Entrada South site. Surveys focused on the identification and location of San Fernando Valley spineflower. Additional special-status plant species observed during San Fernando Valley spineflower surveys, including CRPR 1B and 4 species and Los Angeles County sensitive species, were also recorded. [98]

Because the County considers oak trees sensitive, Newhall retained LDC to conduct an oak tree inventory from November 2004 to January 2005 in conjunction with the broader RMDP/SCP Project surveys. LDC re-surveyed the same areas in November 2006 to check for any removals or mortalities in the two years since the original survey. In 2009, LDC resurveyed trees that were in the potential encroachment zone of the Project, defined as within 200 feet of proposed development. This information is reported in the 2011 update of the 2007 report. Each tree was evaluated for a variety of health,

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[98] *Special-status plants are assigned to one of six CRPR categories.*

1A: Plants presumed extirpated in California and either rare or extinct elsewhere.

1B: Plants rare, threatened, or endangered in California and elsewhere.

2A: Plants extirpated in California, but common elsewhere.

2B: Plants rare, threatened, or endangered in California, but more common elsewhere.

3: Needs review.

4: Plants of limited distribution (a watch list).

In addition to the CRPR, CNPS assigns threat categories to the lists as follows:

0.1: Seriously threatened in California (over 80 percent of occurrences threatened/high degree and immediacy of threat) (e.g., 1B.1 would be a plant rare, threatened, or endangered in California and elsewhere and more than 80 percent of the occurrences threatened or with a high degree of threat).

0.2: Moderately threatened in California (20 percent to 80 percent occurrences threatened/moderate degree and immediacy of threat).

0.3: Not very threatened in California (<20 percent of occurrences threatened/low degree and immediacy of threat or no current threats known).

structural, and aesthetic qualities, and the tree number, location, canopy, and protected zone of each tree was recorded and mapped. Trunk diameter was measured at breast height, approximately 4.5 feet above natural grade. For trees that exhibited lateral branching at or below breast height, the trunk diameter measurement was made at the nearest point where the measurement could be accomplished without being impeded by the branches. For multi-trunk trees, biologists recorded the number of trunks and the dbh of each trunk. Trees with a dbh of 36 inches or more were classified as "heritage" trees. In 2011, LDC prepared an update memorandum for the status of oak trees on the site.[99] In 2014, LDC prepared an updated letter as an amendment to the 2011 Oak Tree Report to describe changes to the Project's oak tree impacts resulting from revisions to the Vesting Tentative Tract Map No. 53295.[100]

Based on the vegetation communities on the Project Site and the literature review, focused surveys were conducted for several special-status wildlife taxa, including coastal California gnatcatcher, grasshopper sparrow, western spadefoot (*Spea hammondii*), fairy shrimp (*Branchinecta* spp. and *Streptocephalus woottoni*), special-status bats, and special-status small mammals, as described below.

(i) Coastal California Gnatcatcher

Dudek conducted and/or supervised focused protocol surveys for the federally listed threatened coastal California gnatcatcher on the Project Site in three separate areas in spring and summer of 2012.[101] Dudek biologists with federal permits for California gnatcatcher surveys conducted such surveys on-site pursuant to the accepted protocol of the USFWS's *Coastal California Gnatcatcher (*Polioptila californica californica*) Presence/Absence Survey Protocol*.[102] The survey included six visits at a minimum of seven-day intervals, and total survey time on the Project Site was approximately 81 hours. Survey routes completely cover all areas of suitable coastal scrub habitat on-site. Survey conditions (time of day and weather conditions) were within protocol limits specific in the survey protocol. The biologists played a tape of recorded vocalizations approximately every 50 to 100 feet to elicit a response from any gnatcatcher present on-site. All other

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[99] *LDC. 2011. Oak Tree Report "Entrada" V.T.T.M. No 53295. Prepared for Newhall Land. January 2011. See* ***Appendix 5.4B*** *of this Draft EIR.*

[100] *LDC. 2014. "V.T.T.M. 53295—'Entrada South.'" Prepared for Newhall Land. January 20, 2014. See* ***Appendix 5.4C*** *of this Draft EIR.*

[101] *Dudek. 2012d. "Focused California Gnatcatcher Survey, Entrada North and South Projects, Los Angeles County, California." Prepared for U.S. Fish and Wildlife Service, Ventura Fish and Wildlife Office. July 2012.*

[102] *U.S. Fish and Wildlife Service. 1997. Coastal California Gnatcatcher (Polioptila californica californica) Presence/Absence Survey Protocol. July 28, 1997.*

avian species detected during surveys were recorded. The full survey report is provided in Dudek 2012d.

(ii) Grasshopper Sparrow

Dudek conducted a focused survey for the special-status grasshopper sparrow, as well as other wildlife species, on the Project Site in 2012.[103] There is no accepted survey protocol for grasshopper sparrow, so the survey methods were based on the best available information for the species and Dudek's experience in detecting grasshopper sparrows. Two surveys were conducted on the site in late May and mid-June during morning daylight hours (prior to 11:00 a.m.) During the initial survey, the entire site was covered by vehicle to obtain views into all areas and walked in areas where views could not be obtained from roads. When suitable habitat was identified, all habitat was walked within 100 meters (approximately 330 feet), while listening and watching for grasshopper sparrows. At least 15 minutes was spent per survey in all suitable areas (open native and non-native grassy areas) that were small enough to be covered from a single observation point. Longer periods were required in larger habitat areas. The timing of the surveys coincided with the breeding period for grasshopper sparrows, when this species is regularly singing, but was after the period when most migrants are believed to pass through.[104] The full survey report is provided in the report by Dudek.

(iii) Bats

Acoustic surveys for special-status bats were conducted on the Project Site at four point locations in spring/summer of 2012, as listed in **Table 5.4-5**, Summary of Biological Surveys Conducted on the Entrada South Project Site.[105] Passive acoustic surveys using Anabat SD2 ultrasonic detectors were conducted over a total of 27 detector nights at four point locations within the Entrada South site, as shown in Figure 8, Anabat Survey Locations, of the Biota Report. The Anabat was set to record bat vocalizations each night starting before dusk from 6:00 p.m. to 6:00 a.m. the following morning to coincide with peak bat activity periods, and data was downloaded at the end of each survey week.

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[103] *Dudek. 2012c. "Focused Grasshopper Sparrow and General Wildlife Report for the Entrada South Site Los Angeles County, California." Prepared for The Newhall Land and Farming Company. Valencia, California: Dudek. August 2012.*

[104] *Garrett, K., and J. Dunn. 1981. The Birds of Southern California: Status and Distribution. Los Angeles Audubon Society.*

[105] *Dudek. 2012e. "Bat Survey, Entrada South Project, Los Angeles County, California." Prepared for The Newhall Land and Farming Company. Valencia, California: Dudek. October 2012.*

After completion of the passive surveys, the acoustic data were sent to bat expert Dr. Michael O'Farrell for species identification. Dr. O'Farrell made the species-level identifications using the methods of O'Farrell et al. based on frequency characteristics, call shape, and comparison with a comprehensive library of vocal signatures developed by O'Farrell and colleagues.[106] Thus, species richness (number of species verified as present) was obtained for each location. An index of abundance, or the magnitude of each species contribution to spatial use, was obtained using the sum of 1-minute time increments for which a species was detected as present, divided by the number of nights of sampling.[107] The full report is provided in the bat survey report prepared by Dudek.

(iv) Small Mammals (excluding bats)

Compliance Biology Inc. conducted live trapping for special-status small mammals (i.e., rodents) potentially occurring of the Project Site. [108] Five separate traplines were established in representative habitat types and 15 to 20 traps were set on each trapline over a five-night period in August 2012. Traps were baited with a mixture of rolled oat, bird seed, and dry cat food. Traps were checked each morning and then closed for the day. The full trapping report is provided in the report prepared by Compliance Biology Inc.

(v) Western Spadefoot and Fairy Shrimp

Compliance Biology Inc. conducted a focused survey on the Project Site for western spadefoot and fairy shrimp (vernal pool fairy shrimp (*Branchinecta lynchi*), Riverside fairy shrimp (*Streptocephalus woottoni*) and conservancy fairy shrimp (*B. conservatio*)) in winter/spring of 2012. This survey took place during two discrete periods: a visit in February and two visits in April after some late season storms. Environmental conditions for the surveys were not ideal due to rainfall patterns in 2012 (large storms early in the season, an extended dry period in the middle of the rainy season, and storms late in the season). Extended inundation periods are required for the western spadefoot and fairy shrimp to complete the aquatic phases of their life cycles. Therefore, one focus of the survey was to identify potential breeding pool locations based on topography and suitable soils, in addition to surveying sites supporting standing water at the time of the surveys. Biologists systematically walked all of the flat areas of the Project Site in search of either

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[106] *O'Farrell, M.J., B.W. Miller, and W.L. Gannon. 1999. "Qualitative Identification of Free-Flying Bats Using the Anabat Detector." Journal of Mammalogy 80:11-23.*

[107] *Miller, B.W. 2001. "A Method for Determining Relative Activity of Free Flying Bats Using a New Activity Index for Acoustic Monitoring." Acta Chiropterologica 3:93–105.*

[108] *Compliance Biology Inc. 2013. "Results of Small Mammal Trapping Surveys; Entrada South Project." Prepared for Newhall Land and Farming Company. Camarillo, California: Compliance Biology Inc. September 2013.*

standing water or larger depressions that appeared to have held standing water in the past. Additionally, biologists surveyed all dirt roads, as western spadefoots and fairy shrimp use deep road ruts that fill with rainwater. Finally, biologists inspected areas with standing water for presence of western spadefoot and fairy shrimp. The full survey report is provided in a report prepared by Compliance Biology Inc.[109]

(vi) Wetland Delineation and Jurisdictional Determination

URS Corporation prepared a *Wetland Delineation and Jurisdictional Determination Report* for the Project Site in 2012 that includes an assessment and delineation of Corps-jurisdictional waters of the United States (including wetlands), CDFW-jurisdictional streams, and waters of the State subject to the permitting authority of the LA Regional Water Board.[110]

Prior to field efforts, URS reviewed the USGS Newhall 7.5-minute quadrangle map, soil data from the USDA Conservation Service's Soil Survey Geographic database, the National Hydrography Dataset, and a high-quality aerial photograph of the Entrada South site and the surrounding lands to locate potential hydrologic features.[111,112] This review identified the presence of four jurisdictional water courses on the site: Magic Mountain Canyon and three unnamed creeks, called "Unnamed-1," "Unnamed-2," and "Unnamed-3" in the report. The RMDP/SCP EIS/EIR had previously identified these drainages as jurisdictional waters of the United States and as CDFW streambeds. Recent aerial photographs of the site did not indicate the presence of any new canyons or drainages, so the present delineation effort focused on these four areas. URS performed the formal field delineation of waters of the United States (including wetlands), waters of the State, and CDFW-jurisdictional streambeds on the Project Site on August 30 and 31 and September 4, 5, 20, 21, 25, and 26, 2012. URS biologists Julie Love and William Fletcher conducted the field delineations using Global Positioning System (GPS) for accessible areas and hand-mapping for inaccessible areas and later digitization using ArcGIS software.

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[109] *Compliance Biology Inc. 2012a. "Results of Focused Western Spadefoot Toad and Fairy Shrimp Habitat Surveys on the Entrada South Project Site." Prepared for Newhall Land and Farming Company. Camarillo, California: Compliance Biology Inc. July 2012.*

[110] *URS Corporation. 2014. "Wetland Delineation and Jurisdictional Determination Report for the Entrada Project, Los Angeles County, California." Prepared for The Newhall Land and Farming Company. Santa Barbara, California: USR. April 28, 2014.*

[111] *U.S. Department of Agriculture, Natural Resources Conservation Service. Soil Survey Staff. 2013. Official Soil Series Descriptions. Website www.nrcs.usda.gov/wps/portal/nrcs/detail/national/home/?cid=nrcs142p2_053587, accessed July 2013.*

[112] *U.S. Geological Survey. 2012. NHD flowline map. National Hydrography Dataset (NHD). July 7, 2012.*

Delineation of Waters of the United States

Waters of the United States can be wetland or non-wetland. The extent of non-wetland waters was determined based on the location of the OHWM, as indicated by signs of flow, drift deposits, changes in vegetation, and other field indicators. As for potential wetlands, these were delineated according to the methods described in the Wetland Delineation Manual and the Arid West Regional Supplement to that manual.[113,114] In accordance with the Wetland Delineation Manual, sampling points were established within all areas containing potential wetlands, and were situated in areas most likely to exhibit wetland characteristics, based on visual observations. Each sampling point was analyzed for hydrophytic vegetation, hydric soil, and wetland hydrology, and a Wetland Delineation Data Form was completed at each point. See URS report for full details of methods.

Delineation of CDFW-Jurisdictional Streambeds

The extent of streambeds falling under the jurisdiction of the CDFW pursuant to Section 1600 was determined based on the presence of a defined physical bed, bank, or channel, or the outer edge of riparian vegetation contiguous with the bank of the watercourse. Mapping methods were the same as for waters of the United States.

Delineation of Waters of the State

The extent of waters of the State on-site subject to the authority of the LA Regional Water Board under the Porter-Cologne Water Quality Control Act was determined to be coterminous with the extent of waters of the United States, due to the simple nature of the drainages present and the absence of any aquatic features that would be under the jurisdiction of one agency but not the other. Therefore, the geographic information system (GIS) shapefiles representing Corps jurisdiction were also used to calculate the extent of waters of the State.

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[113] *U.S. Army Corps of Engineers. 1987. Corps of Engineers Wetland Delineation Manual. Online ed. Environmental Laboratory, Wetlands Research Program Technical Report Y-87-1. Vicksburg, Mississippi: U.S. Army Engineer Waterways Experiment Station. January 1987. Website www.fedcenter.gov/Bookmarks/index.cfm?id=6403&pge_id=1606, accessed September 1, 2010.*

[114] *U.S. Army Corps of Engineers. 2008. Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region (Version 2.0). Edited by J.S. Wakeley, R.W. Lichvar, and C.V. Noble. ERDC/EL TR-08-28. Vicksburg, Mississippi: U.S. Army Engineer Research and Development Center.*

b. Proposed Design Elements/Project Design Features

As discussed in **Section 3.0**, Project Description, of this Draft EIR, Project implementation would introduce new land uses in the largely undeveloped Project Site and replace the limited agricultural uses, small plant nursery, abandoned oil wells, and associated access roads that currently exist on-site. Following Project completion, approximately 44 percent of the Project Site would be covered with impermeable surfaces, while the remaining 56 percent would consist of non-erodible surfaces, landscaping, and undeveloped areas. The discussion that follows summarizes those aspects of Project construction and operation that could influence or affect biological resources, including habitat conditions.

Project grading would require the removal and recompaction of approximately 7.8 million cubic yards of existing material in a balanced cut and fill operation. Graded slopes would be landscaped and irrigated pursuant to County grading and erosion control requirements. The detailed subset maps of VTTM 53295, provided in **Appendix 3** of this Draft EIR, depict the Project's grading plan and contours.

The Project includes a comprehensive system of drainage, flood control, and water quality improvements, as shown in **Figure 3-15**, Project Drainage and Water Quality Plan, in **Section 3.0**, Project Description. On-site surface runoff would be intercepted by curb inlets, debris basins, and/or desilting basins and conveyed to a network of storm drains that would lead to a series of water quality facilities, including water quality basins, prior to discharge into existing drains that outlet to the Santa Clara River. Additional drainage-related improvements would include underground pipes and energy dissipaters. To reduce debris discharged through and from the Project Site, 12 debris basins are proposed at the downstream ends of natural areas to intercept flows from undeveloped upland areas prior to their discharge into the on-site storm system. A majority of these debris basins are located on the southerly and westerly edges of the Project Site, where the Project abuts natural land.

Implementation of the drainage system would necessitate modifications to the primary drainage areas within the Project Site, although general drainage patterns (i.e., northerly towards the River) would remain unchanged, as discussed in more detail in **Section 5.9**, Hydrology and Water Quality—Hydrology, of this Draft EIR. Portions or all of the tributary drainages (i.e., Magic Mountain Canyon and Unnamed Creeks 1, 2, and 3) would be channelized and/or converted to buried storm drains. Of note, approximately 1,400 linear feet of Unnamed Creek 2 would remain in a natural state with a soft bottom before entering a closed pipe system.

Following Project implementation, a total of approximately 119 acres would be maintained as natural open space, of which 27.2 acres would be established as a Spineflower Conservation Area (Spineflower Preserve).[115] Specifically, 92 acres of this natural open space would be provided throughout the Project Site, including along Magic Mountain Parkway, along the southern site boundary where the SCE electric transmission lines and towers are located, and interspersed between the residential and commercial uses. As shown in **Figure 3-7**, Entrada South Spineflower Preserve, in **Section 3.0**, Project Description, of this Draft EIR, the proposed 27.2-acre Spineflower Preserve would be located in the southeastern portion of the Project Site. The boundaries of the Spineflower Preserve have been delineated in consultation with the County and CDFW and have been configured to ensure the continued existence of the species in perpetuity. The Project Applicant is responsible for the funding and implementation of management activities, including monitoring, as approved by the County, CDFW, Corps, and USFWS. As discussed further below, the Entrada South Spineflower Preserve is consistent with the SCP.

As part of the Project, a comprehensive landscape plan would be implemented to enhance the existing natural features in the Project vicinity. In accordance with the County's Drought-Tolerant Landscaping ordinance, at least 75 percent of the Project's landscaped area would contain plants from the Los Angeles County Drought-Tolerant Plant List. In addition, native trees, including oak trees, would be planted and enhanced with complementary native vegetation. Landscaping would be integrated into the design of Project structures and would include grass/turf yards, small plants and shrubs, street trees, and landscaped parkways and medians. As discussed further below, Project implementation would require the removal of up to 64 oak trees, including three heritage oak trees, and encroachment on up to 28 other oak trees, including four heritage oak trees. As such, the Project would require the planting of 189 new oak trees of 15-gallon size per the County's Oak Tree Ordinance and current County practices and consistent with BIO-22. In addition, oak trees that are not removed but are encroached upon within their protected zone (as defined by CLAOTO) due to site grading and development will be monitored for a period of time to be identified in the oak tree permit issued for each individual project. Oak trees that die during this monitoring period, as attributed to indirect impacts from the development, will be replaced in accordance with the oak tree permit or compensated with a monetary contribution to the County of Los Angeles Oak Forest Special Fund in accordance with CLAOTO.

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[115] *Total open space includes 101.7 acres of designated open space lots, as well as natural drainage courses, roadway medians, and landscaped parkways adjacent to on-site roadways, in addition to the proposed park, recreation centers, and Spineflower Preserve.*

Since the Project Site is located in a designated Very High Fire Hazard Severity Zone, a fuel modification plan would be required to minimize the risk of wildfires. The fuel modification plan for the Project would set forth buffer zones around the proposed structures and would dictate the types of vegetation permitted within each zone. Under the preliminary fuel modification plan, three zones would be established to provide adequate defensible space in a fire environment, and routine landscape maintenance would be required per the County Fire Department's Fuel Modification Plan Guidelines. The preliminary fuel modification plan was approved by the Los Angeles County Fire Department's Forestry Division on April 3, 2015. Refer to **Section 5.15**, Public Services—Fire Protection, of this Draft EIR for further discussion; the Preliminary Fuel Modification Plan is provided in **Appendix 5.15B** of this Draft EIR.

The Project also would incorporate a number of design features to minimize indirect, or secondary, impacts to wildlife from noise and lighting during construction and over the course of the long-term operations. The Project would include the following features, which represent regulatory requirements, to minimize noise impacts:

- Project contractor(s) would equip all construction equipment, fixed or mobile, with properly operating and maintained noise mufflers, consistent with the equipment manufacturers' standards.
- Building mechanical/electrical equipment, including any proposed booster pump(s), would be designed to meet the noise limit requirements of Los Angeles County Code, Chapter 12.08—Noise Control.

Project lighting would be designed to ensure visibility and safety while minimizing light spillover and skyglow. Measures such as light control devices on fixtures and careful fixture placement would be implemented to ensure minimal light spillover onto native habitat areas, including the Spineflower Preserve. Fixtures may include post lights, building mounted fixtures, and landscape lighting, all of which would be carefully placed and directed to reduce glare and maximize comfort, security, and visibility.

In addition, based on the applicable regulations and requirements previously discussed, the following compliance measures would be implemented as part of the Project:

- All necessary permits, agreements, and/or letters of exemption from the Corps and/or CDFW for Project-related development within their respective jurisdictions must be obtained prior to issuance of grading permits.

c. Significance Thresholds

Based on Appendix G of the CEQA Guidelines and other relevant criteria, the Los Angeles County Department of Regional Planning has established the following criteria for determining whether the Project would have a potentially significant impact on biological resources:[116]

Threshold 5.4-1: Would the Project have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the CDFW or USFWS?

Threshold 5.4-2: Would the Project have a substantial adverse effect on any sensitive natural communities (e.g., riparian habitat, coastal sage scrub, oak woodlands, non-jurisdictional wetlands) identified in local or regional plans, policies, regulations, or by the CDFW or USFWS?

Threshold 5.4-3: Would the Project have a substantial adverse effect on federally or state protected wetlands (including, but not limited to, marshes, vernal pools, coastal wetlands, and drainages) or waters of the United States, as defined by Section 404 of the federal Clean Water Act (CWA) or California Fish and Game Code Section 1600 et seq., through direct removal, filling, hydrological interruption, or other means?

Threshold 5.4-4: Would the Project interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?

Threshold 5.4-5: Would the Project convert oak woodlands (as defined by the State, oak woodlands are oak stands with greater than 10 percent canopy cover with oaks at least five inches in diameter measured at 4.5 feet above mean natural grade) or otherwise contain oak or other unique native trees (e.g., junipers, Joshuas, southern California black walnut)?

Threshold 5.4-6: Would the Project conflict with any local policies or ordinances protecting biological resources, including Wildflower Reserve Areas (L.A. County Code, Title 12, Ch. 12.36), the Los Angeles County Oak Tree Ordinance (L.A. County Code, Title 22, Ch. 22.56, Part 16), the Significant Ecological Areas (SEAs) (L.A. County Code, Title 22, Section 22.56.215), and Sensitive Environmental Resources Areas (SERAs) (L.A. County Code, Title 22, Ch. 22.44, Part 6)?

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[116] *14 CCR 15000–15387 and Appendices A–L. Guidelines for Implementation of the California Environmental Quality Act, as amended.*

Threshold 5.4-7: Would the Project conflict with the provisions of an adopted state, regional, or local habitat conservation plan?

Threshold 5.4-8: Would the Project's grading, fire clearance, or flood-related improvements remove substantial natural habitat areas?

Threshold 5.4-9: Is a drainage course located on the Project Site that is depicted on U.S. Geological Survey quad sheets by a dashed blue line or that may contain a bed, channel, or bank of any perennial, intermittent, or ephemeral river, stream, or lake?

d. Project Impacts

Threshold 5.4-1: Would the Project have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the CDFW or USFWS?

Threshold 5.4-5: Would the Project convert oak woodlands (as defined by the state, oak woodlands are oak stands with greater than 10 percent canopy cover with oaks at least five inches in diameter measured at 4.5 feet above mean natural grade) or otherwise contain oak or other unique native trees (junipers, Joshuas, southern California black walnut)?

Threshold 5.4-6: Would the Project conflict with any local policies or ordinances protecting biological resources, including Wildflower Reserve Areas (L.A. County Code, Title 12, Ch. 12.36), the Los Angeles County Oak Tree Ordinance (L.A. County Code, Title 22, Ch. 22.56, Part 16), the Significant Ecological Areas (SEAs) (L.A. County Code, Title 22, Section 22.56.215), and Sensitive Environmental Resources Areas (SERAs) (L.A. County Code, Title 22, Ch. 22.44, Part 6)?

Project impacts with respect to Thresholds 5.4-1, 5.4-5, and 5.4-6 are addressed in the following combined analysis since these criteria all touch upon oak trees and oak woodlands, which are considered sensitive and are protected by local ordinance and plans. However, it is noted that although an oak woodland vegetation community has been mapped on site and is discussed below, the Project Site does not contain any oak woodlands as defined in Threshold 5.4-5, nor other unique native trees (e.g., junipers (*Juniperus* spp.), Joshuas (*Yucca brevifolia*), southern California black walnut (*Juglans californica*)).[117]

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[117] *As described in Threshold 5.4-5, oak woodlands as defined by the State are oak stands with greater than 10 percent canopy cover with oaks at least five inches in diameter measured at 4.5 feet above mean natural grade. The valley oak/grass on-site is an association of the valley oak woodland floristic*
(Footnote continued on next page)

As previously indicated, proposed mitigation measures (MMs) are discussed below in conjunction with each identified impact, as appropriate, and will be implemented as part of the Entrada South (ES) Project.

(1) Plants

This subsection analyzes direct and indirect impacts to all observed special-status plants and those species with at least moderate potential to occur, as mapped in **Figure 5.4-10**, Special-Status Plants, on page 5.4-76, and listed in Table 5 in the Biota Report.

Six special-status plants have been documented on the Project Site during studies conducted between 2002 and 2013, as discussed further below, including the following:

- Oaks (special-status species according to LA County, abbreviated hereafter as just "LA County")
- San Fernando Valley spineflower (SE, FC, 1B.1, LA County)
- Mainland cherry (LA County)
- Island mountain-mahogany (4.3, LA County)
- Slender mariposa lily (1B.2, LA County)
- Peirson's morning-glory (4.2, LA County).

In addition, Parish's big sagebrush (LA County) is expected to occur on-site within the big sagebrush vegetation community.

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*alliance; however, the valley oak/grass on-site includes primarily valley oaks (*Quercus lobata*) sparsely populated (up to 10 percent canopy cover) within California annual grassland and so does not meet the state definition of oak woodlands. Nonetheless, for purposes of this Draft EIR, the valley oak/grass is mitigated as oak woodland.*

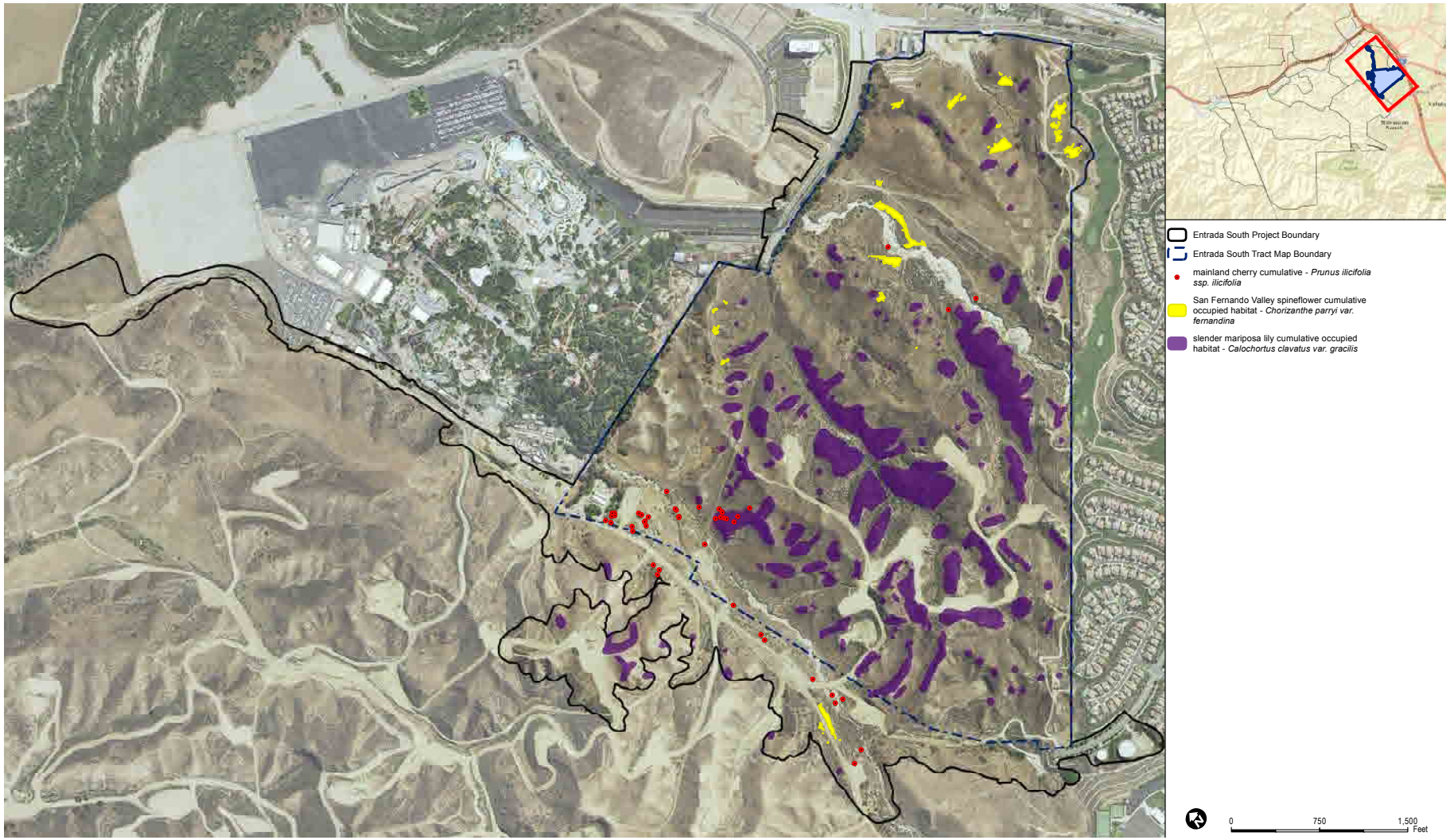

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Figure 5.4-10
Special-status Plants

Source: Dudek, 2014.

(a) Direct Impacts

(i) Oak Trees and Oak Woodland

Impact BIO-2[118]

As described in the Biota Report, **Impact BIO-2** relates to the Project's direct impacts on oaks regulated by the CLAOTO. Specifically, the Project Site contains 64 valley oaks (*Quercus lobata*), 35 scrub oaks (*Q. berberidifolia*), three coast live oaks (*Q. agrifolia*), and two valley oak–scrub oak hybrids.[119] These oak trees, and impacts to them, are regulated by CLAOTO. The proposed Project would remove 29 valley oaks, 35 scrub oaks, one coast live oak, and two valley oak–scrub oak hybrids. Of the 67 oak trees to be removed, three are heritage oak trees. The Project would encroach on up to 11 other oak trees, including two heritage oak trees. The proposed Project would result in permanent direct impacts to 4.4 acres of valley oak/grass on-site. The Project would result in temporary direct impacts to less than 0.1 acre of valley oak/grass on-site. These direct impacts would be significant.

Project-related impacts to valley oak/grass and individual oaks regulated by the CLAOTO would result primarily from the conversion of undeveloped land to urban uses. Temporary disturbance to valley oak/grass would also occur from clearing and grading associated with the construction of access roads, grade control structures, installation of culverts and other improvements. The temporary disturbance areas would be restored following construction, and the individual oaks regulated by the CLAOTO would be mitigated according to CLAOTO.

Mitigation for Impact BIO-2

In accordance with CEQA Section 21083.4(b), impacts to oak woodland must be mitigated through a combination of one or more of the following alternatives:

(1) Conserve oak woodlands through the use of conservation easements;

(2) Plant an appropriate number of trees, including maintaining plantings and replacing dead or diseased trees. The requirement to maintain trees terminates seven years after the trees are planted. This mitigation cannot account for more

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[118] *Impacts to valley oak/grass are more fully addressed under **Impact BIO-1** in Subection 3.d.(3) below as part of the analysis of impacts to vegetation communities.*

[119] *Also referred to as MacDonald oaks.*

than one-half of the mitigation requirement for the project. This mitigation may be used to restore former oak woodlands;

(3) Contribute funds to the Oak Woodlands Conservation Fund, as established under subdivision (a) of Section 1363 of the California Fish and Game Code, for the purpose of purchasing oak woodlands conservation easements, as specified under paragraph (1) of subdivision (d) of that section and the guidelines and criteria of the Wildlife Conservation Board; or

(4) Other mitigation measures developed by the County.

To mitigate the effects of the Project on oak woodlands, Newhall would replace oak trees in or adjacent to existing oak woodlands and savannahs in accordance with a proposed Oak Resources Management Plan (ORMP; see MM ES 5.4-22), which includes measures to create, enhance, and/or restore 4.5 acres of valley oak/grass within off-site lands owned by the Applicant. Maintenance of the oak woodland restoration sites would be required for a period of no less than five years total and no less than two years after removal of irrigation (if any). During the maintenance period, maintenance measures would be provided to ensure the oak trees become successfully established and are ultimately able to survive under natural conditions following the maintenance period.

While many county and city oak tree protection ordinances focus on individual trees, the functional unit that should be considered for restoration is the oak woodland community. Mitigation such as restoration and compensation should focus on oak woodlands rather than a certain number or size of individual trees.[120] Protecting only those trees over a certain size results in the loss of woodlands as the younger components of the woodland are removed, and consequently structural complexity is lost. The proposed ORMP considers the community as a whole in order to replace impacted oak tree habitat; restore, enhance, and maintain the communities on-site; and create new or expand existing oak woodland communities on-site. This mitigation measure would replace the lost habitat and provide for the long-term preservation of oak communities in the Project area.

The new, enhanced, and/or restored valley oak/grass area(s) would be subject to performance criteria established in the ORMP. For example, successful completion of each woodland creation or enhancement site must not involve any irrigation, planting, or re-seeding for a minimum of three years; oak trees must be within 5 percent of the plan

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[120] *Light, R.H., and L.E. Pedroni. 2002. "When Oak Ordinances Fail: Unaddressed Issues of Oak Conservation." In Proceedings of the Fifth Symposium on Oak Woodlands: Oaks in California's Challenging Landscape, edited by R.B. Standiford, 483–500. General Technical Report PSW-GTR-184. Albany, California: Pacific Southwest Research Station, Forest Service, U.S. Department of Agriculture.*

target density for surviving, healthy oak trees; and non-native grass cover must not exceed the target amount of woodland non-native grass cover. The plan shall be subject to the requirements of CLAOTO and shall address impacts to oak resources, including oak trees of the sizes regulated under CLAOTO.

Conclusion

Based on the foregoing, Project impacts on oak trees and oak woodlands would be mitigated to less than significant levels.

(ii) San Fernando Valley Spineflower

Impact BIO-4

As described in the Biota Report, **Impact BIO-4** relates to the Project's direct impacts on San Fernando Valley spineflower. Based on nine surveys of the Project Site conducted between 2002 and 2013, the site supports a cumulative total of 2.10 acres of occupied spineflower habitat. Of these 2.10 acres, the Project would permanently affect 1.10 acres (53 percent). The precise number of individual plants that would be lost cannot be quantified due to the dramatic variability in the number of plants that express themselves aboveground each year, as indicated in Table 7 in the Biota Report. The loss of 53 percent of occupied spineflower habitat would be potentially significant since the plant is a narrow endemic species that is endangered in California and is only known from Newhall Ranch and Laskey Mesa.

Loss of or harm to individual spineflower on construction sites would likely result from physical damage or removal caused by machinery used during construction. In addition to the removal of individuals, potential impacts to spineflower include root damage, soil excavation and compaction, grade changes, loss of canopy, and accidental wildfire ignition.

Mitigation for Impact BIO-4

In order to mitigate the direct impacts to spineflower, the Applicant would implement a set of mitigation measures designed to permanently protect and manage a system of spineflower preserves. These include MM ES 5.4-61, MM ES-5.4-62, MM ES 5.4-20, MM ES 5.4-21, MM ES 5.4-63, MM ES 5.4-68, MM ES 5.4-18, MM ES 5.4-19, MM ES 5.4-22, MM ES 5.4-23, MM ES 5.4-52, MM ES 5.4-25 through MM ES 5.4-30, and MM ES 5.4-64 through MM ES 5.4-66. The proposed mitigation measures would implement and are consistent with the CDFW-approved SCP and the ITP, the adequacy of which was confirmed by the Court of Appeals in *Center for Biological Diversity, et al. v. Department of Fish and Wildlife* (2014) 224 Cal.App.4th 1105.

Applicable mitigation measures for the establishment, design, and long-term management of a system of spineflower preserves include MM ES 5.4-68 (storm drain system requirements for spineflower preserve areas); MM ES 5.4-64 (fire management plan to avoid and minimize impacts to the spineflower); MM ES 5.4-65 (minimization of changes in surface water flows to spineflower preserves); MM ES 5.4-18 and MM ES 5.4-19 (spineflower preserve establishment and management); MM ES 5.4-20 (guidelines for restoration and enhancement of degraded and/or damaged spineflower habitat); MM ES 5.4-21 (emergency fire response plan and response strategies for wildfire or mass movement (e.g., landslides, slope sloughing, or other geologic events) within the spineflower preserves); MM ES 5.4-30, MM ES 5.4-31, and MM ES 5.4-32 (restricting access to spineflower preserves through fencing and signage); and MM ES 5.4-33 and MM ES 5.4-34 (restrictions on storm drains within spineflower preserves). In addition, suitable habitat for San Fernando Valley spineflower would be preserved through MM ES 5.4-61 (preservation of 25.2 acres of undifferentiated chaparral within the Salt Creek area within lands owned by the Applicant) and MM ES 5.4-62 (preservation of 67.7 acres of California annual grassland, agriculture, and/or disturbed land on-site, within the High Country SMA/SEA and other open space areas within lands owned by the Applicant).

Additional mitigation measures for the establishment, design, and long-term management of a system of spineflower preserves to address direct impacts to San Fernando Valley spineflower include MM ES 5.4-22, MM ES 5.4-23, and MM ES 5.4-26 (spineflower preserve temporary fencing requirements and education of construction workers); MM ES 5.4-52, MM ES 5.4-27, and MM ES 5.4-28 (control of construction-related dust, erosion, and water quality within spineflower preserve, and quarterly monitoring for Argentine ants along the construction–open space interface); MM ES 5.4-25 (pre-construction review of construction plans and specifications); MM ES 5.4-29 (review of plant palettes used within 200 feet of spineflower preserves and inspection of all container plants within 200 feet for disease and pests); and MM ES 5.4-66 (biweekly biological monitoring of grading and fence/utility installation activities; submission of monthly monitoring reports). These mitigation measures listed here are intended to implement the SCP and comply with the ITP. As previously discussed, the SCP is a conservation and management plan to permanently protect the San Fernando Valley spineflower through an actively managed system of preserves within Newhall's landholdings. An ITP was issued pursuant to California Fish and Game Code Section 2081 that permits the take of San Fernando Valley spineflower within the Specific Plan area, Entrada South, and the VCC planning area.

Conclusion

Based on the foregoing analysis, the Project has the potential to cause significant direct impacts to spineflower, but such impacts would be reduced to a less-than-significant

level with application of the mitigation measures proposed herein. This finding is consistent with the significance determination and mitigation finding of the RMDP/SCP EIS/EIR for this impact.

(iii) Mainland Cherry

Impact BIO-5

As described in the Biota Report, **Impact BIO-5** relates to the Project's direct impacts on mainland cherry (*Prunus ilicifolia*). In 2012, 46 mainland cherry plants were identified and mapped on the Entrada South site, all of which would be permanently removed (45 individuals) or temporarily disturbed (one individual). The loss of 100 percent of the mainland cherry plants on-site would be significant, as the County considers this species sensitive.

Specifically, Project construction would involve the removal of individual mainland cherry shrubs and could include root damage, soil excavation and compaction, grade changes, loss of canopy, deliberate or accidental wildfire ignition, and wounds to trunks.

Mitigation for Impact BIO-5

In order to avoid, minimize, and mitigate direct impact to mainland cherry, the Applicant would implement the following mitigation measures: MM ES 5.4-40 would provide pre-Project information to identify potential impacts to mainland cherry that may need to be addressed prior to initiating Project construction. To reduce potential impacts to mainland cherry individuals from the loss of habitat during construction activities, the Applicant would implement MM ES 5.4-40, which provides for pre-construction educational meetings, construction-limit staking, and biological monitoring during vegetation clearing and grading activities. Under MM ES 5.4-40 all construction/contractor personnel would complete a Worker Environmental Awareness Program (WEAP) to ensure compliance with environmental/permit regulations and mitigation measures. Construction-limits staking and biological monitoring would prevent inadvertent impacts on mainland cherry and its habitat.

Impacts to mainland cherry individuals would be further addressed through the ORMP (MM ES 5.4-17), which would be prepared pursuant to CLAOTO. The ORMP establishes mitigation ratios for mainland cherry individuals. MM ES 5.4-59 would address impacts to mainland cherry individuals as any impacted mainland cherry trees or shrubs outside riparian areas greater than one inch dbh shall be replaced at a minimum 2:1 ratio. In addition, the Applicant would mitigate the permanent loss of suitable habitat for mainland cherry by implementing measures (MM ES 5.4-61, MM ES 5.4-1, MM ES 5.4-16, and MM ES 5.4-2 through MM ES 5.4-14) that require preservation, enhancement and restoration, and management. Implementation of these mitigation measures would result

in the protection and management of approximately 335.8 acres of suitable habitat for mainland cherry and would allow mainland cherry to persist in the Project vicinity, including on-site and within the High Country SMA, Salt Creek area, and other open space within lands owned by the Applicant. Because mainland cherry is also associated with wetland and riparian habitats, development of a conceptual wetlands mitigation plan and riparian restoration activities on the Project Site would benefit this species and address impacts to its suitable habitat.

Conclusion

Based on the foregoing, Project impacts to mainland cherry would be mitigated to less than significant levels.

(iv) Island Mountain-Mahogany

Impact BIO-6

As described in the Biota Report, **Impact BIO-6** relates to the Project's direct impacts on island mountain-mahogany.

Island mountain-mahogany was detected on-site in chaparral, but individuals were not mapped. The Project would permanently affect all 25.2 acres of the undifferentiated chaparral scrub that provides habitat for island mountain-mahogany. This impact is significant because it would eliminate 100 percent of the suitable on-site habitat for island mountain-mahogany, a CRPR 4.3 and County-designated sensitive species.

Impacts to suitable habitat for island mountain-mahogany would occur during vegetation clearing and construction/grading activities.

Mitigation for Impact BIO-6

In order to avoid, minimize, and mitigate the Project's direct impacts on island mountain-mahogany, the Applicant would implement the following mitigation measures: Under MM ES 5.4-40, pre-Project information would be collected to identify potential impacts to island mountain-mahogany that may need to be addressed prior to initiating Project construction. To reduce potential impacts to island mountain-mahogany individuals from the loss of habitat during construction activities, MM ES 5.4-40 provides for pre-construction educational meetings, construction-limit staking, and biological monitoring during vegetation clearing and grading activities. Also under MM ES 5.4-40, all construction/contractor personnel would complete a WEAP to ensure compliance with environmental/permit regulations and mitigation measures.

In addition, suitable habitat for island mountain-mahogany would be preserved through MM ES 5.4-61 (preservation of 25.2 acres of undifferentiated chaparral within the Salt Creek area within lands owned by the Applicant).

Conclusion

Based on the foregoing, the Project's direct impacts on island mountain-mahogany would be mitigated to less than significant levels.

(v) Slender Mariposa Lily

Impact BIO-7

As described in the Biota Report, **Impact BIO-7** relates to the Project's direct impacts on slender mariposa lily (*Calochortus clavatus* var. *gracilis*).

Slender mariposa lily was detected on-site during surveys conducted in 2003 through 2005, but not during subsequent surveys. Flowering individuals ranged from 419 in 2004 to 7,780 in 2003. Because counts of flowering individuals only provide a relative estimate of the total population and can vary widely from year to year, this analysis bases its direct impact analysis on the cumulative occupied acreage for the species. A total of 42.8 acres of occupied habitat for slender mariposa lily have been mapped on the Project Site. Of these, the Project would impact 41.0 acres (96 percent). This impact is significant because it would permanently affect 96 percent of the occupied on-site habitat for a species that is moderately threatened in California (CRPR 1B.2) and a County sensitive species.

Project-related construction activities, such as vegetative clearing and grading, would adversely affect individuals and suitable habitat for slender mariposa lily. This impact would be reduced to less than significant by the following proposed mitigation measures.

Mitigation for Impact BIO-7

In order to avoid, minimize, and mitigate the Project's direct impacts on slender mariposa lily, the Applicant will implement a number of mitigation measures. MM ES 5.4-40 provides for pre-construction educational meetings, construction-limit staking, and biological monitoring during vegetation clearing and grading activities. Under MM ES 5.4-40 all construction/contractor personnel will complete a WEAP to ensure compliance with environmental/permit regulations and mitigation measures. Construction-limits staking and biological monitoring will prevent inadvertent impacts on slender mariposa lily and its habitat.

In order to address impacts to habitat for slender mariposa lily, prior to grading disturbance, the Applicant would prepare and submit to CDFW for review and approval a Slender Mariposa Lily Mitigation and Monitoring Plan (MM ES 5.4-35). Upon approval, the plan will be implemented by the Applicant or its designee. Habitat replacement/ enhancement will be at a 1:1 ratio (acres restored/enhanced to acres impacted) within the High Country SMA/SEA, San Martinez Grande Canyon area, and other open space areas within lands owned by the Applicant. To address impacts to slender mariposa lily individuals, the plan will also specify methods to collect propagules and introduce slender mariposa lily to off-site mitigation sites. Newhall may salvage bulbs from slender mariposa lily plants that occur in areas of disturbance and then transplant those bulbs in suitable habitat areas outside the impact zone. Alternately, seeds from slender mariposa lily may be collected from protected occurrences, following CDFW-approved seed collection guidelines (i.e., MOU for rare plant seed collection) and then replanted in new areas.

In addition, the Applicant will preserve suitable habitat for slender mariposa lily through MM ES 5.4-61 (preservation of 25.2 acres of undifferentiated chaparral within the Salt Creek area within lands owned by the Applicant) and MM ES 5.4-62 (preservation of 67.7 acres of California annual grassland, agriculture, and/or disturbed land on-site, within the High Country SMA/SEA, and in other open space areas within lands owned by the Applicant).

Conclusion

Based on the foregoing analysis, this Draft EIR section finds that the Project may cause significant direct impacts to slender mariposa lily, but that such impacts can be reduced to less than significant levels, provided the Applicant implements the mitigation measures recommended herein. This finding is consistent with the significance determination and mitigation finding of the RMDP/SCP EIS/EIR for this impact.

(vi) Peirson's Morning-Glory

As described in the Biota Report, **Impact BIO-8** relates to the Project's direct impacts on Peirson's morning-glory (*Calystegia peirsonii*). Peirson's morning-glory was detected on-site from 2002 through 2005 but not during subsequent surveys. Due to its low sensitivity status, individuals and locations were not mapped, so impacts are based on the loss of suitable on-site habitat, including chaparral, coastal scrub, California annual grassland, and valley oak/grass. Of the 324.1 acres of suitable habitat for Pierson's morning-glory, 273.2 acres (84 percent) would be permanently impacted and 8.8 acres would be temporarily impacted. This impact would be significant because it would result in the permanent loss of impact 84 percent of the suitable on-site habitat for a species that has a limited distribution and is designated as moderately threatened in California (CRPR 4.2) and a sensitive species in the County.

Impacts to suitable habitat for Peirson's morning-glory would occur during vegetation clearing and construction/grading activities. This impact would be reduced to a less than significant level by the following proposed mitigation measures.

Mitigation for Impact BIO-8

In order to avoid, minimize, and mitigate direct impacts to Peirson's morning glory, the Applicant would implement several mitigation measures, including the following: MM ES 5.4-40 provides for pre-construction educational meetings, construction-limit staking, and biological monitoring during vegetation clearing and grading activities. Under MM ES 5.4-40 all construction/contractor personnel will complete a WEAP to ensure compliance with environmental/permit regulations and mitigation measures. Construction-limits staking and biological monitoring will prevent inadvertent impacts on Peirson's morning-glory and its habitat.

In addition, the Applicant will mitigate the permanent loss of suitable habitat for Peirson's morning glory by implementing measures that require preservation, enhancement and restoration, and management. These mitigation measures include MM ES 5.4-61, MM ES 5.4-62, and MM ES 5.4-16. Implementation of these mitigation measures will result in the protection and management of approximately 403.4 acres of suitable habitat for Peirson's morning-glory and will allow Peirson's morning-glory to persist in the Project vicinity, on-site within Entrada South, and within the High Country SMA/SEA, Salt Creek area, and other open space within lands owned by the Applicant.

Conclusion

Based on the foregoing analysis, this Draft EIR section finds that the Project may cause significant direct impacts to Peirson's morning-glory, but that such impacts can be reduced to less than significant levels, provided the Applicant implements the mitigation measures recommended herein. This finding is consistent with the significance determination and mitigation finding of the RMDP/SCP EIS/EIR for this impact.

(vii) Parish's Big Sagebrush

Impact BIO-9

As described in the Biota Report, **Impact BIO-9** relates to the Project's direct impacts on habitat for Parish's big sagebrush. Parish's big sagebrush is expected to occur on-site within the big sagebrush vegetation community. Of the 24.7 acres of big sagebrush scrub on-site, 23.6 acres (95 percent) would be permanently impacted and 0.3 acre would be temporarily impacted. This impact would be significant because it would permanently impact 95 percent of suitable on-site habitat for a County sensitive species.

This impact would be reduced to less than significant by the following proposed mitigation measures.

Impacts to suitable habitat for Parish's big sagebrush would occur during vegetation clearing and construction/grading activities. This impact would be reduced to a less than significant level by the following proposed mitigation measures.

Mitigation for Impact BIO-9

In order to avoid, minimize, and mitigate direct impacts on habitat for Parish's big sagebrush, the Applicant will implement several mitigation measures, including the following:

MM ES 5.4-40 provides for pre-construction educational meetings, construction-limit staking, and biological monitoring during vegetation clearing and grading activities. Under MM ES 5.4-40 all construction/contractor personnel will complete a WEAP to ensure compliance with environmental/permit regulations and mitigation measures. Construction-limits staking and biological monitoring will prevent inadvertent impacts on Parish's big sagebrush and its habitat.

Permanent loss of suitable habitat for Parish's big sagebrush will be mitigated by measures requiring preservation, enhancement and restoration, and management. These mitigation measures include MM ES 5.4-1 and MM ES 5.4-2 through MM ES 5.4-14. Because Parish's big sagebrush is associated with wetland and riparian habitats, development of a conceptual wetlands mitigation plan and riparian restoration activities on the Project Site would benefit this species and address impacts to its suitable habitat. These mitigation measures include MM ES 5.4-1 through MM ES 5.4-16.

Conclusion

Based on the foregoing analysis, this Draft EIR section finds that the Project may cause significant direct impacts to Parish's big sagebrush, but that such impacts can be reduced to less than significant levels, provided the Applicant implements the mitigation measures recommended herein. This finding is consistent with with the significance determination and mitigation finding of the RMDP/SCP EIS/EIR for this impact.

(b) Indirect Impacts

Potential indirect impacts to special-status plants are essentially the same as the indirect impacts for vegetation communities. Potential short-term impacts include fugitive dust; runoff, sedimentation, chemical pollution, and erosion; litter; and accidental clearing, grading, and trampling, fertilizers and herbicides, increased urban and stormwater runoff, invasive plant species, and wildfires. As discussed in Subsection 3.d.(1)(a), Direct

Impacts, most of the known occurrences, occupied habitat for observed plants, and suitable habitat for other special-status plants would be directly impacted, and almost all of the surrounding areas are either already developed or will be developed in the future (e.g., the adjacent approved Mission Village project). For the most part, indirect effects to special-status plants on-site and adjacent to the site would be limited. The exception is the potential for indirect impacts on San Fernando Valley spineflower within the proposed Spineflower Preserve on-site.

(i) San Fernando Valley Spineflower

Impact BIO-10

As described in the Biota Report, **Impact BIO-10** relates to the Project's short-term and long-term indirect impacts to San Fernando Valley spineflower. Potential indirect impacts on spineflower would include invasive plant and animal species (in particular the Argentine ant (*Linepithema humile*)), vegetation clearing, trampling, changes in hydrology, introduction of chemical pollutants, and increased fire frequency. These potential indirect impacts would be significant.

Mitigation for Impact BIO-10

Indirect impacts to spineflower will be mitigated through the SCP, a conservation and management plan designed to protect the San Fernando Valley spineflower. Specifically, the SCP establishes a system of spineflower preserves that would protect spineflower populations permanently through conservation easements granted to CDFW. The management and monitoring framework provided by the SCP, which includes the mitigation measures discussed below, would maximize the likelihood that these populations persist in perpetuity. The mitigation measures proposed as part of the Project are intended to implement the SCP and comply with the ITP. As previously discussed, an ITP was issued pursuant to California Fish and Game Code Section 2081 that permits the take of spineflower within the Specific Plan area, Entrada South, and the VCC planning area. The specific mitigation measures are described below.

To reduce short-term construction-related impacts—such as accidental clearing, trampling, and grading; runoff, sedimentation, erosion, and chemical and toxic compound pollution; exposure to fugitive dust; hydrological alterations; and water quality impacts—the Applicant would implement MM ES 5.4-22, MM ES 5.4-23, and MM ES 5.4-26 (spineflower preserve temporary fencing requirements and education of construction workers) and MM ES 5.4-25 (pre-construction review of construction plans and specifications). Short-term indirect impacts associated with accidental clearing, trampling, and grading would be further mitigated by implementation of MM ES 5.4-63 (temporary fencing and signage around the spineflower preserve(s), open space connections, and buffer areas;

permanent fencing and signage along the spineflower preserve boundary) and MM ES 5.4-66 (biweekly biological monitoring of grading and fence/utility installation activities; submission of monthly monitoring reports). MM ES 5.4-66 would also serve to mitigate short-term indirect dust impacts, as would MM ES 5.4-28 (control of construction-related dust, erosion, and water quality within spineflower preserve, and quarterly monitoring for Argentine ants along the construction–open space interface).

The Applicant will mitigate short-term indirect hydrology and water quality impacts to spineflower by implementing MM ES 5.4-65 (minimization of changes in surface water flows within spineflower preserves).

The Applicant will further mitigate impacts from non-native, invasive plant species by implementing MM ES 5.4-21 (emergency fire response plan and response strategies for wildfire or mass movement (e.g., landslides, slope sloughing, or other geologic events) within the spineflower preserves) and MM ES 5.4-29 (review of plant palettes used within 200 feet of spineflower preserves and inspection of all container plants within 200 feet for disease and pests).

Applicable mitigation measures to reduce long-term direct impacts due to increased human activity, trampling, and soil compaction include MM ES 5.4-63 (temporary fencing and signage around the spineflower preserve(s), open space connections, and buffer areas; permanent fencing and signage along the spineflower preserve boundary) and MM ES 5.4-30, as well as MM ES 5.4-31 and MM ES 5.4-32 (restricting access to spineflower preserves through fencing and signage).

Applicable mitigation measures to avoid and minimize long-term direct impacts due to hydrological alterations and water quality impacts include MM ES 5.4-68 (storm drain system requirements for spineflower preserve areas), and MM ES 5.4-33 and MM ES 5.4-34 (restrictions on storm drains within spineflower preserves).

Applicable mitigation measures to address long-term direct impacts resulting from increased fire frequency include MM ES 5.4-64 (fire management plan to avoid and minimize impacts to the spineflower) and MM ES 5.4-21 (emergency fire response plan and response strategies for wildfire or mass movement (e.g., landslides, slope sloughing, or other geologic events) within the spineflower preserves).

Conclusion

Based on the foregoing analysis, the Project may cause significant indirect impacts to spineflower, but such impacts can be reduced to less than significant levels, provided the Applicant implements the mitigation measures recommended herein. This finding is

consistent with the significance determination and mitigation finding of the RMDP/SCP EIS/EIR for this impact.

(ii) Other Sensitive Plant Species

Indirect impacts to mainland cherry, island mountain-mahogany, slender mariposa lily, and Peirson's morning-glory could occur, but would not be substantial because very few individuals are expected to remain in proximity to the Project subsequent to construction and operation, due to the fact that: (1) virtually all individuals of these four species on-site would sustain direct impacts and (2) most of the lands adjacent to the Project Site are either already developed or will be developed in the future. For these reasons, potential indirect impacts to mainland cherry, island mountain-mahogany, slender mariposa lily, and Peirson's morning-glory would be less than significant.

(2) Wildlife

Several special-status wildlife species have been detected on the Project Site or have moderate potential to occur on-site based on the presence of suitable habitat and their known occurrence in the Project vicinity. Because both direct and indirect impacts would affect many of the species with similar life histories and behaviors in much the same way, the discussion of impacts is organized by species guild as follows:

- Insect: Emigdio blue butterfly
- Fish: arroyo chub, Santa Ana sucker, unarmored threespine stickleback, southern steelhead (indirect impacts only)
- Mollusk: Trask shoulderband
- Reptile—Low Mobility: coast horned lizard, coast patch-nosed snake, coastal whiptail, rosy boa, San Bernardino ringneck snake, silvery legless lizard
- Reptile and Amphibian—Semi-aquatic: arroyo toad, western pond turtle, western spadefoot
- Bird—Foraging Raptor: American peregrine falcon, California condor, ferruginous hawk, golden eagle, merlin
- Bird—Nesting/Foraging Raptor: Cooper's hawk, western burrowing owl, white-tailed kite, loggerhead shrike (although not technically a "raptor," it shares raptorial life history traits and habitat associations with the raptors on-site)
- Bird—Upland Grassland/Agriculture: California horned lark, grasshopper sparrow

- Bird—Upland Scrub and Chaparral: Allen's hummingbird, Bell's sage sparrow, black-chinned sparrow, coastal California gnatcatcher, Costa's hummingbird, rufous hummingbird, southern California rufous-crowned sparrow

- Bird—Upland Woodland: chipping sparrow, Lawrence's goldfinch, Nuttall's woodpecker, oak titmouse, yellow warbler

- Bat—fringed myotis, hoary bat, long-legged myotis, pallid bat, pocketed free-tailed bat, silver-haired bat, Townsend's big-eared bat, western mastiff bat, western long-eared myotis, western red bat, western small-footed myotis, Yuma myotis

- Mammal—Low Mobility: San Diego desert woodrat

- Mammal—Moderate Mobility: American badger, San Diego black-tailed jackrabbit

- Mammal—High Mobility: mountain lion, mule deer.

The Project also would impact federally designated critical habitat for arroyo toad (*Anaxyrus californicus*) and least Bell's vireo. These impacts are discussed below.

(a) Direct Impacts

This analysis determines the significance of direct impacts to special-status wildlife by evaluating Project-related loss of suitable habitat for the species in question. However, in some cases, the Project's construction activities have the potential to cause direct impacts on individuals (e.g., injury, mortality) of a particular species or species guild. Where this could occur, the significance of individual impacts is also addressed.

(i) Insect (San Emigdio blue butterfly)

This species was not detected during surveys, but 0.4 acre of four-winged saltbush (*Atriplex canescens*) was mapped in the southernmost portion of the Project Site along the eastern boundary adjacent to The Old Road. This habitat is potentially suitable for San Emigdio blue butterfly (*Plebejus emigdionis*). The Project would not directly affect the 0.4 acre of four-winged saltbush on-site; thus, no direct impacts to this species are anticipated.

(ii) Mollusk (Trask shoulderband)

Impact BIO-11

Impact BIO-11 relates to the Project's potential direct impacts on suitable habitat for Trask shoulderband snails (*Helminthoglypta traskii traskii*). Although reconnaissance surveys for the Trask shoulderband snail were negative, the presence of two non-special-status helminthoglyptid taxa (southern California shoulderband snail (*Helminthoglypta tudiculata*) and Vasquez Rocks shoulderband snail (*Helminthoglypta vasquezi*)) suggest the potential to occur in suitable habitat in the Project vicinity.[121] The Project Site supports 300.9 acres of suitable habitat for Trask shoulderband, which includes coastal scrub, chaparral, riparian scrub, and other riparian/and wetland communities. The Project would permanently impact 273.7 acres (91 percent) and temporarily impact 8.3 acres (3 percent) of suitable habitat for this species. This impact would be significant because it would permanently impact 91 percent of the suitable on-site habitat for a state Special Animal that has a very limited distribution in southern California. If Trask shoulderband snails are present on-site, construction activities could result in the loss of individual snails through mechanical disturbance or alteration of habitat. While it is likely that some individual snails, if present, would be subject to mortality during vegetation clearing and/or grading activities, specific mitigation to identify or relocate these species is not warranted or feasible. This is largely because shoulderband snails are difficult to detect and occur in limited areas.

Mitigation for Impact BIO-11

To reduce potential impacts to individual snails from the loss of habitat during construction activities, the Applicant will implement MM ES 5.4-40, which provides for pre-construction educational meetings, construction-limit staking, and biological monitoring during vegetation clearing and grading activities. Under MM ES 5.4-40 all construction/contractor personnel will complete a WEAP to ensure compliance with environmental/permit regulations and mitigation measures. Construction-limits staking and biological monitoring will prevent inadvertent impacts on Trask shoulderband snails and their habitat.

The Project's construction and grading activities could cause permanent loss of and/or temporary impacts to microhabitats, thereby reducing the available habitat for this species. The Applicant will mitigate the permanent loss of suitable habitat for Trask shoulderband snail by implementing measures that require preservation, enhancement and restoration, and management. These mitigation measures include MM ES 5.4-61 and

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[121] *Huntley, C. 2010. "Re: Snail Methods, etc." Email from C. Huntley (Aspen) to P. Behrends (Dudek), A.C. Lynch (Sohagi Law Group), D. Bedford (CDFW), K. Drewe (CDFW), S. White (Aspen), M. Carpenter (Newhall Land), S. Rojas (Newhall Land), and S. Miller (Dudek). March 12, 2010.*

MM ES 5.4-16, implementation of which would result in the protection and management of approximately 335.8 acres of suitable habitat for Trask shoulderband and would allow Trask shoulderband to persist in the Project vicinity, on-site within Entrada South, and within the High Country SMA/SEA, Salt Creek area, and other open space within lands owned by the Applicant.

In addition, riparian habitats impacted will be replaced and restored under guidelines described in MM ES 5.4-2 through MM ES 5.4-14, describing the wetlands mitigation plan and riparian restoration activities on the Project Site. Implementation of these measures will permit the Trask shoulderband snail to persist in the Project vicinity.

Conclusion

Based on the foregoing analysis, this Draft EIR section finds that the Project could cause significant direct impacts to Trask shoulderband, but that such impacts would be reduced to less than significant with application of the mitigation measures recommended herein. This finding is consistent with the significance determination and mitigation findings of the RMDP/SCP EIS/EIR for this impact.

(iii) Reptile—Low Mobility (coast horned lizard, coast patch-nosed snake, coastal whiptail, rosy boa, San Bernardino ringneck snake, silvery legless lizard)

Coast horned lizard (*Phrynosoma blainvillii*) and coastal whiptail (*Aspidoscelis tigris stejnegeri*) were not observed on-site, but have a high potential to occur based on presence of suitable habitat. Coast patch-nosed snake (*Salvadora hexalepis*), rosy boa (*Lichanura trivirgata*), San Bernardino ringneck snake (*Diadophis punctatus modestus*), and slivery legless lizard (*Anniella pulchra pulchra*) were not documented on-site, but have a moderate potential to occur based on presence of suitable habitat.

Reptile—Low Mobility guild species generally inhabit grassland, coastal scrub, chaparral, valley oak/grass and the drier riparian and other riparian/wetland communities, although some of the species are more likely to occupy certain microhabitats, as detailed in Table 8 in the Biota Report. The Project would permanently impact 319.2 acres (86 percent) and temporarily impact 9.3 acres (2 percent) of suitable on-site habitat for the Reptile—Low Mobility species. These reptile species are not very mobile and usually only move short distances at a time. Large-scale construction and/or grading activities causing permanent and temporary impacts likely could result in injury or mortality of individuals as a result of direct contact with or crushing by construction equipment used for vegetation clearing and grading. In addition, aestivating and hibernating individuals could be injured or killed during construction and/or grading activities conducted during colder months by entombment or direct contact with grading equipment. Activities associated with

implementation of the SCP (e.g., fence construction) could also result in impacts to individuals of most of these species if fence construction occurred during colder months when individuals are hibernating. These species are probably capable of escaping potential impacts from fence construction when they are active on the ground surface in the warmer months because ground disturbances would be much more localized. Impacts to these species are described further below.

Impacts BIO-12 through BIO-17

Impact BIO-12 relates to the Project's direct impacts on suitable habitat for coast horned lizard individuals. The proposed Project would result in permanent direct impacts to 319.2 acres and temporary direct impacts to 9.3 acres of suitable habitat for coast horned lizard on-site. Individuals are cryptic and slow moving on the surface or are otherwise underground and, therefore, are highly vulnerable to injury and mortality during construction. These impacts would be significant due to the loss and/or disturbance of suitable habitat on-site for an uncommonly occurring CSC and County sensitive species that has experienced substantial habitat loss and fragmentation from urban and agricultural development throughout its range, and individuals could be injured and killed during construction.

Impact BIO-13 relates to the Project's direct impacts on coast patched-nosed snake, including habitat suitable for the species. The proposed Project would result in permanent direct impacts to 319.1 acres and temporary direct impacts to 9.3 acres of suitable habitat for coast patch-nosed snake on-site. Individuals are slow moving on the surface or are otherwise underground and, therefore, are highly vulnerable to injury and mortality during construction. These impacts would be significant because they would permanently impact 86 percent and temporarily impact 4 percent of the suitable habitat on-site for an uncommonly occurring CSC and County sensitive species that has experienced substantial habitat loss and fragmentation from urban and agricultural development throughout its range, and individuals could be injured and killed during construction.

Impact BIO-14 relates to the Project's direct impacts on coastal whiptail and habitat suitable for the species. The proposed Project would result in permanent direct impacts to 319.2 acres and temporary direct impacts to 9.3 acres of suitable habitat for coastal whiptail on-site. Although individuals can move quickly over short distances in short bursts, they do not move far, and therefore are highly vulnerable to injury and mortality during construction. These impacts would be significant because they would permanently impact 86 percent and temporarily impact 4 percent of the suitable habitat on-site for an uncommonly occurring SA and County sensitive species that has experienced substantial habitat loss and fragmentation from urban and agricultural development throughout its range, and individuals could be injured and killed during construction.

Impact BIO-15 relates to the Project's direct impacts on rosy boa and habitat suitable for the species. The proposed Project would result in permanent direct impacts to 319.2 acres and temporary direct impacts to 9.3 acres of suitable habitat for rosy boa on-site. This slow-moving snake is highly vulnerable to injury and mortality during construction. These impacts would be significant because they would permanently impact 86 percent and temporarily impact 4 percent of the suitable habitat on-site for an uncommonly occurring SA and County sensitive species that has experienced substantial habitat loss and fragmentation from urban and agricultural development throughout its range, and individuals could be injured and killed during construction.

Impact BIO-16 relates to the Project's direct impacts on San Bernardino ringneck snake and habitat suitable for the species. The proposed Project would result in permanent direct impacts to 319.2 acres and temporary direct impacts to 9.3 acres of suitable habitat for San Bernardino ringneck snake on-site. Because this snake shows strong site tenacity (i.e., they do not move large distances) and are often inactive during the day under surface objects, it is highly vulnerable to injury and mortality during construction. These impacts would be significant because they would permanently impact 86 percent and temporarily impact 2 percent of the suitable habitat on-site for an uncommon SA that has experienced substantial habitat loss and fragmentation from urban and agricultural development throughout its range, and individuals could be injured and killed during construction.

Impact BIO-17 relates to the Project's direct impacts on silvery legless lizard and habitat suitable for the species. The proposed Project would result in permanent direct impacts to 319.2 acres and temporary direct impacts to 9.3 acres of suitable habitat for silvery legless lizard on-site. Because this species remains underground and is difficult to detect, it is highly vulnerable to injury and mortality during construction. These impacts would be significant because they would permanently impact 86 percent and temporarily impact 2 percent of the suitable habitat on-site for an uncommon CSC and County sensitive species that has experienced substantial habitat loss and fragmentation from urban and agricultural development throughout its range, and individuals could be injured and killed during construction.

Mitigation for Impacts BIO-12 through BIO-17

Significant impacts to special-status Reptile—Low Mobility guild species (**Impacts BIO-12** through **BIO-17**) would be reduced to less than significant by the following proposed mitigation measures.

MM ES 5.4-42 requires surveys to capture and relocate coast horned lizard, silvery legless lizard, coastal western whiptail, rosy boa, San Bernardino ringneck snake, and coast patch-nosed snake individuals 30 days prior to construction activities in suitable habitats.

MM ES 5.4-69 will allow reptiles to leave disturbance areas with minimal risk. MM ES 5.4-40 provides for pre-construction educational meetings, construction-limit staking, and biological monitoring during vegetation clearing and grading activities. Under MM ES 5.4-40 all construction/contractor personnel will complete a WEAP to ensure compliance with environmental/permit regulations and mitigation measures. Construction-limits staking and biological monitoring will prevent inadvertent impacts on Reptiles—Low Mobility guild species and their habitat.

In addition, the Applicant will mitigate the permanent loss of suitable habitat for Reptile—Low Mobility guild species by implementing measures that require preservation, enhancement and restoration, and management. These mitigation measures include MM ES 5.4-61, MM ES 5.4-62, MM ES 5.4-16, and MM ES 5.4-20. Implementation of these mitigation measures will result in protection and management of approximately 403.5 acres of suitable habitat for Reptile—Low Mobility guild species and will allow them to persist in the Project vicinity, on-site within Entrada South, and within the High Country SMA/SEA, Salt Creek area, and other open space within lands owned by the Applicant. In addition, MM ES 5.4-1 requires that riparian habitats impacted be replaced and restored under guidelines described in MM ES 5.4-2 through MM ES 5.4-14. Implementation of these measures will permit species in the Reptiles—Low Mobility guild to persist in the Project vicinity.

Conclusion

Based on the foregoing analysis, this Draft EIR section finds that the Project may cause significant direct impacts to Reptile—Low Mobility guild species, but that such impacts can be reduced to less than significant with application of the mitigation measures recommended herein. This finding is consistent with the significance determination and mitigation findings of the RMDP/SCP EIS/EIR for these impacts.

(iv) Reptile and Amphibian—Semi-Aquatic (arroyo toad, western pond turtle, western spadefoot)

Although not observed on-site, arroyo toad adults may aestivate on-site in the agricultural area adjacent to the River in areas mapped as moderate and low habitat quality. No aquatic breeding habitat is present on-site for this species. Western pond turtle (*Actinemys marmorata*) was not detected on-site during wildlife surveys. Western pond turtle is not expected to breed or forage on-site due to lack of aquatic habitat, but has a moderate potential to aestivate or nest in the agricultural area adjacent to the River. Surveys for western spadefoot in 2012 were negative, but survey conditions were suboptimal for detection. Western spadefoot has a moderate potential to occur based on presence of suitable habitat.

The Reptile and Amphibian—Semi-Aquatic guild species on-site would be most vulnerable to direct impacts during the upland phases of their life histories, including aestivation and nesting (western pond turtle). If arroyo toad uses the site for aestivation and/or if western pond turtle uses the site for aestivation or nesting, the Project's direct effects on these two species would be most likely to occur in the 10.8-acre pasture area next to the River in the northern portion of the Project Site (9.5 acres of permanent impacts; 1.3 acres of temporary impacts). These species are unlikely to occur in the upland habitats in the southern portion of the site, which is almost one mile from the River (where these species are known to occur).

Impacts to suitable habitat for western spadefoot are not quantified because the species was not detected during focused surveys in 2012 and no breeding sites have been identified on-site. If present on-site, it would occur in very localized areas and a habitat-based analysis would greatly exaggerate impacts.

Impacts BIO-18 through BIO-20

Impact BIO-18 relates to the Project's direct impacts on western pond turtle, including upland aestivation and nesting habitat. The proposed Project would result in permanent direct impacts to 9.5 acres and temporary direct impacts to 1.3 acres of suitable aestivation and nesting habitat for western pond turtle on-site. Western pond turtles typically dig burrows in this habitat, and therefore are difficult to detect. This makes them highly vulnerable to injury and mortality during construction. Impacts to all 10.8 acres of aestivation and nesting habitat would be adverse, but less than significant because the pasture on-site is marginally suitable habitat for pond turtle, and there is ample aestivation and nesting habitat in the floodplain of the Santa Clara River and elsewhere in uplands adjacent to the river. However, any direct impacts to individuals of this uncommon CS would be significant.

Impact BIO-19 relates to the Project's direct impacts on arroyo toad, including suitable upland aestivation habitat for the species. Such impacts are unlikely, as no arroyo toads have been observed on or near the Project Site. For this reason, the USFWS, in its Biological Opinion dated June 6, 2011, concluded that the RMDP and related projects, including the Project, would not cause take of arroyo toad or otherwise jeopardize the species.

The proposed Project would result in permanent direct impacts to 9.5 acres and temporary direct impacts to 1.3 acres of suitable aestivation habitat for arroyo toad on-site. Arroyo toads are usually in burrows in upland habitats, and therefore are difficult to detect. This makes them highly vulnerable to injury and mortality during construction. Impacts to 10.8 acres of aestivation habitat would be adverse, but less than significant because the

agriculture on-site has low habitat value, and there is ample aestivation habitat in the floodplain of the Santa Clara River. However, any direct impacts to individuals of this federally listed endangered, CSC, and County sensitive species would be significant.

Impact BIO-20 relates to the Project's direct impacts on western spadefoot and habitat suitable for the species. Direct impacts to suitable western spadefoot habitat were not quantified because the species has not been detected on-site, and its occurrence is tied to certain microhabitats that support ephemeral ponding. Western spadefoots spend most of their time in burrows and are therefore difficult to detect during much of the year, which makes them highly vulnerable to injury and mortality during construction. Direct impacts to individuals of this CSC and County sensitive species that has experienced substantial declines due to habitat loss and fragmentation from urban and agricultural development of breeding sites and adjacent aestivation habitat would be significant.

Mitigation for Impacts BIO-18 through BIO-20

The impacts on the Reptile and Amphibian—Semi-Aquatic guild, described above, would be reduced to less than significant by the following proposed mitigation measures.

MM ES 5.4-15, MM ES 5.4-39, and MM ES 5.4-41 will provide pre-Project information to identify potential impacts to species in the Reptile and Amphibian—Semi-Aquatic guild that may need to be addressed prior to initiating Project construction (e.g., presence of arroyo toads within nearby portions of the Santa Clara River). Pre-construction surveys will be conducted per MM ES 5.4-17 (for arroyo toad), MM ES 5.4-39 (for western pond turtle), and MM ES 5.4-41 (for western spadefoot). These measures include additional requirements for monitoring in areas of suitable habitat for Reptile and Amphibian—Semi-Aquatic guild species, worker education, consultation with USFWS to ensure that construction activities take place in locations and at times least likely to impact arroyo toad individuals, installation of fencing to ensure construction vehicles do not stray outside of designated work areas, suspending construction activities if arroyo toads are found within construction areas, relocation of Reptile and Amphibian—Semi-Aquatic guild species when necessary, and avoidance of western pond-turtle nesting areas. MM ES 5.4-40 provides for pre-construction educational meetings, construction-limit staking, and biological monitoring during vegetation clearing and grading activities. Under MM ES 5.4-40 all construction/contractor personnel will complete a WEAP to ensure compliance with environmental/permit regulations and mitigation measures. Construction-limits staking and biological monitoring will prevent inadvertent impacts on Reptile and Amphibian—Semi-Aquatic species and their habitat.

In addition, the Applicant will mitigate the permanent loss of suitable habitat for Reptile and Amphibian—Semi-Aquatic guild species by implementing measures that

require preservation, enhancement and restoration, and management. These mitigation measures include MM ES 5.4-61 and MM ES 5.4-62. Implementation of these mitigation measures will result in protection and management of approximately 92.9 acres of suitable habitat for Reptile and Amphibian—Semi-Aquatic guild species and will allow these species to persist in the Project vicinity, on-site within Entrada South, and within the High Country SMA/SEA, Salt Creek area, and other open space within lands owned by the Applicant. In addition, as specified in MM ES 5.4-1, riparian habitats impacted will be replaced and restored under guidelines described in MM ES 5.4-2 through MM ES 5.4-14, describing the wetlands mitigation plan and riparian restoration activities on the Project Site. Implementation of these measures will allow the Reptile and Amphibian—Semi-Aquatic guild species to persist in the Project vicinity. In addition, if western spadefoot is identified on the Project Site, MM ES 5.4-41 provides for creation of western spadefoot habitat at a ratio of 2:1 within lands owned by the Applicant and relocation of western spadefoots to the new site. The design and location of the created habitat would be approved by CDFW and the relocation site would be monitored for five years.

Conclusion

Based on the foregoing analysis, this Draft EIR section finds that the Project may cause significant direct impacts to Reptile and Amphibians—Semi-Aquatic guild species, but that such impacts can be reduced to less than significant with application of the mitigation measures recommended herein. This finding is consistent with the significance determination and mitigation findings of the RMDP/SCP EIS/EIR for these impacts.

(v) Bird—Foraging Raptor (American peregrine falcon, California condor, ferruginous hawk, golden eagle, merlin)

American peregrine falcon (*Falco peregrinus anatum*) was observed on-site on a transmission tower along the southern boundary of the site in 2012. California condor (*Gymnogyps californianus*) has not been observed on-site, but has a moderate potential to occasionally land on-site to feed on large mammal carcasses (e.g., mule deer (*Odocoileus hemionus*)). Ferruginous hawk (*Buteo regalis*) has not been observed on-site, but has a high potential to occur occasionally as a winter forager based on the presence of suitable habitat. Golden eagle has not been observed on-site, but has a high potential to occasionally forage on-site, and nesting and roosting habitat is available adjacent to the site. Merlin (*Falco columbarius*) has not been observed on-site, but has a moderate potential to occur as a winter forager based on presence of suitable habitat.

The Bird—Foraging Raptor species could forage virtually anywhere on-site where prey are available, although species such as ferruginous hawk and merlin tend to forage in more open habitats such as grasslands and agricultural areas. As a group, all of the natural habitats, agriculture, and disturbed lands on the site provide potential foraging

habitat for these species, totaling 476.4 acres. The Project would permanently impact 413.6 acres (87 percent) and temporarily impact 12.1 acres (3 percent) of suitable on-site habitat for Bird—Foraging Raptor species.

Individuals of these species are unlikely to be directly killed or injured during construction activities because they use the site only for foraging. During construction, these highly mobile species are likely to avoid the site due to both human activities and a lack of prey once areas are cleared of vegetation and graded. The condor may be at some risk because this species is sometimes attracted to construction sites and is therefore more susceptible to collisions and ingestion of trash and pollutants such as antifreeze and petroleum products. However, these risks are low.

Note that although American peregrine falcon was observed on-site in 2012 and may occasionally forage there, its special-status designation is for nest sites, which are not present on-site. No substantial adverse direct or indirect impacts to this species are anticipated; therefore, impacts to this species would be less than significant.

With respect to the merlin, this species was not observed on the Project Site, but has been observed on different occasions hunting over agricultural fields along the Santa Clara River. Foraging habitat on-site would only be used by wintering and migrant individuals during the winter months. Wintering and migrating merlins are not restricted to any one migration route or wintering habitat area and use a variety of habitats throughout the state. They are somewhat nomadic during the non-breeding period in the southern portion of the state. In addition, approximately 3,181 acres of foraging habitat would remain in the Santa Clara River SMA/SEA, High Country SMA/SEA, and Salt Creek area. For these reasons, the loss of foraging habitat on-site would not have a substantial adverse effect on this species, and direct and indirect impacts would be less than significant.

Impacts BIO-21 through BIO-23

Impact BIO-21 relates to the Project's direct impacts to foraging habitat for California condor, a species that is state and federally listed as endangered and is "fully protected" under the California Fish and Game Code. This impact is not significant, however, because the site does not support large mammalian carrion (i.e., dead cattle are absent, and mule deer, while observed, are relatively uncommon on-site) and other prey species that condor require. While 2009 flight data provided to CDFW by the USFWS indicates that the condor frequently flies over the Project area when moving between the Sespe Wilderness area to the northwest and the San Gabriel Mountains to the southeast of the Project area, these flights are generally at high altitudes and are not for the purpose of foraging in the Project area. The few condors that have landed on Newhall Ranch since 2008 foraged not within Entrada South but in an area referred to as Potrero Canyon

(located approximately four miles west of the Project Site), where cattle grazing still takes place.[122]

In addition, the Project could affect condor individuals by attracting them to construction sites, where they might collide with construction vehicles or ingest construction debris or trash. Such impacts are not likely to occur, however, because there is no evidence that condors use the Entrada South site for foraging or any other purpose. Note also that the project would not result in "take" of condor as defined in Section 86 of the California Fish and Game Code.

The proposed Project would result in permanent direct impacts to 413.6 acres and temporary direct impacts to 12.1 acres of suitable foraging habitat for California condor on-site. Direct impacts to 425.7 acres of foraging habitat would be adverse but less than significant because condors are expected to occur rarely on-site and the site is a very small part of the condor's foraging range in southern California. Condors may be attracted to construction sites, increasing the possibility of impacts to individuals. However, such impacts are unlikely given that no condors have been observed flying over or using the Project Site.

Impact BIO-22 relates to the Project's direct impacts on foraging habitat for ferruginous hawk. The proposed Project would result in permanent direct impacts to 413.6 acres and temporary direct impacts to 12.1 acres of suitable foraging habitat for ferruginous hawk on-site. These impacts would be significant because they would permanently impact 87 percent and temporarily impact 3 percent of the suitable foraging habitat on-site for an uncommon BCC, SA, and County sensitive species that has experienced substantial wintering habitat loss from urban development in southern California.

Impact BIO-23 relates to the Project's direct impacts on foraging habitat for golden eagle, a state fully protected species. It is important to note that golden eagle was not observed on-site during surveys. Nevertheless, the proposed Project would result in permanent direct impacts to 413.6 acres and temporary direct impacts to 12.1 acres of suitable foraging habitat for golden eagle on-site. These impacts would be significant because they would permanently impact 87 percent and temporarily impact 3 percent of the suitable foraging habitat on-site for an uncommon BCC, WL, FP, and County sensitive

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[122] *U.S. Army Corps of Engineers and California Department of Fish and Wildlife. 2010. Newhall Ranch Resource Management and Development Plan and Spineflower Conservation Plan Joint Environmental Impact Statement and Environmental Impact Report. Final. SCH No. 2000011025. Los Angeles, California: Corps and CDFW. June 2010.*

species that has experienced substantial foraging habitat loss from urban and agricultural development in California. [123]

Mitigation for Impacts BIO-21 through BIO-23

Significant impacts to habitat for the Bird—Foraging Raptor guild (**Impacts BIO-21** through **BIO-23**) would be reduced to less than significant by the following proposed mitigation measures.

The Applicant will mitigate the permanent loss of suitable habitat for Bird—Foraging Raptor guild species by implementing measures that require preservation, enhancement and restoration, and management. These mitigation measures include MM ES 5.4-61, MM ES 5.4-62, MM ES 5.4-16, and MM ES 5.4-17. Implementation of these mitigation measures will result in protection and management of approximately 403.5 acres of suitable habitat for Bird—Foraging Raptor guild species and will allow them to persist in the Project vicinity, on-site within the Project, and within the High Country SMA/SEA, Salt Creek area, and other open space within lands owned by the Applicant.

As stated above, California condors may be attracted to the construction site, potentially leading to adverse impacts to the species. To minimize this risk, the Project Applicant will implement MM ES 5.4-40, which provides for pre-construction educational meetings and requires that all construction/contractor personnel complete a WEAP to ensure compliance with environmental/permit regulations and mitigation measures.

Conclusion

Based on the foregoing analysis, this Draft EIR section finds that the Project may cause significant direct impacts to Bird—Foraging Raptor guild species, but that such impacts can be reduced to less than significant with application of the mitigation measures recommended herein. This finding is consistent with the significance determination and mitigation findings of the RMDP/SCP EIS/EIR for these impacts.

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[123] *BCC: USFWS Birds of Conservation Concern*

WL: CDFW Watch List

FP: CDFW Fully Protected

(vi) Bird—Nesting/Foraging Raptor (Cooper's hawk, western burrowing owl, white-tailed kite, loggerhead shrike)

A Cooper's hawk (*Accipiter cooperii*) nest was observed along the site's southern boundary in 2007; it was also observed on-site during 2006 and 2012 surveys. A nest was observed in pepper trees along the northern boundary of the site in 2012. Western burrowing owl (*Athene cunicularia hypugaea*) was incidentally observed on-site on one occasion. White-tailed kite (*Elanus leucurus*) was observed on-site during 2006 and 2012 surveys. Loggerhead shrike (*Lanius ludovicianus*) was observed on-site, but nesting was not confirmed.

The Bird—Nesting/Foraging Raptor species are expected to use habitats on the Project Site differently. Cooper's hawk and white-tailed kite may nest on-site in valley oak/grass, which totals 5.4 acres on-site. The Project would permanently impact 4.4 acres (84 percent) of valley/oak grass.

Cooper's hawk also may forage in the coastal scrub, thickleaf yerba santa scrub, and blue elderberry stands on-site, totaling 233.3 acres on-site. The Project would permanently impact 207.3 acres (89 percent) and temporarily impact 7.9 acres of foraging habitat for Cooper's hawk. White-tailed kites forage over a broader range of habitats.

The western burrowing owl may nest and forage in California annual grassland, valley oak/grass, agriculture, riverwash, and disturbed California sagebrush scrub, totaling 101.6 acres on-site. The Project would permanently impact 75.0 acres (74 percent) and temporarily impact 1.7 acres (2 percent) of nesting and foraging habitat for burrowing owl.

Potential foraging habitats for white-tailed kite include grassland, coastal scrub, valley oak/grass, riparian/wetland, agriculture, and disturbed lands that total 433.0 acres on-site. The Project would permanently impact 370.4 acres (86 percent) and temporarily impact 11.9 acres (3 percent) of foraging habitat for white-tailed kite.

The loggerhead shrike may nest and/or forage in almost all land covers on-site except developed, totaling 476.4 acres on-site. The Project would permanently impact 413.6 acres (87 percent) and temporarily impact 12.1 acres (3 percent) of foraging habitat for loggerhead shrike.

Individual adults of these species are unlikely to be directly killed or injured during construction activities because they are highly mobile and would likely leave the area during construction. However, nesting activities could be disrupted if construction occurs during the breeding season as a result of nest abandonment or reduced reproductive success. Nests, eggs, and young could be directly affected by vegetation clearing and

grading. All of these impacts can be reduced to less than significant levels through appropriate and feasible mitigation measures.

Impacts BIO-24 through BIO-27

Impact BIO-24 relates to the Project's direct impacts on nesting and foraging habitat for Cooper's hawk. The proposed Project would result in permanent direct impacts to 4.4 acres of suitable nesting habitat for Cooper's hawk on-site. The proposed Project would also result in permanent direct impacts to 207.3 acres and temporary direct impacts to 7.9 acres of suitable foraging habitat for Cooper's hawk on-site. Although a relatively small amount of nesting habitat would be affected, these impacts would be significant because they would permanently impact 89 percent and temporarily impact 3 percent of the suitable foraging habitat on-site for a WL and County sensitive species. Any direct impacts to individuals, nests, eggs, or young, including nest abandonment, as a result of construction activities would also be significant.

Impact BIO-25 relates to the Project's direct impacts on nesting and foraging habitat for western burrowing owl. The proposed Project would result in permanent direct impacts to 75.0 acres and temporary direct impacts to 1.7 acres of suitable nesting and foraging habitat for western burrowing owl on-site. These impacts would be significant because they would permanently impact 74 percent and temporarily impact 2 percent of the suitable foraging nesting and foraging habitat on-site for a BCC, CSC, and County sensitive species. Any direct impacts to individuals, nests, eggs, or young, including nest abandonment, as a result of construction activities would also be significant.

Impact BIO-26 relates to the Project's direct impacts on nesting and foraging habitat for white-tailed kite. The proposed Project would result in permanent direct impacts to 4.4 acres of suitable nesting habitat for white-tailed kite on-site. The proposed Project would also result in permanent direct impacts to 370.4 acres and temporary direct impacts to 11.9 acres of suitable foraging habitat for white-tailed kite on-site. The Project would disturb a small amount of nesting habitat, and while this impact is considered significant, it would be mitigated through pre-construction nest surveys and nest avoidance. The Project also would cause permanent impacts to 86 percent of the suitable foraging habitat on-site and cause temporary impacts to 3 percent of the suitable foraging habitat on-site. This impact is significant absent mitigation. Any direct impacts to individuals, nests, eggs, or young, including nest abandonment, caused by construction activities would also be significant absent mitigation. Such impacts, however, are unlikely given the mobility of the species and the fact that no white-tailed kite nests have been observed on-site (see Subsection 3.d.(5)(b), Indirect Impacts).

Impact BIO-27 relates to the Project's direct impacts on nesting and foraging habitat for loggerhead shrike. The proposed Project would result in permanent direct impacts to 413.6 acres and temporary direct impacts to 12.1 acres of suitable nesting and foraging habitat for loggerhead shrike on-site. These impacts would be significant because they would permanently impact 87 percent and temporarily impact 3 percent of the suitable nesting and foraging habitat on-site for an uncommon BCC, CSC, and County sensitive species that has experienced substantial habitat loss and fragmentation from urban development in California. Any direct impacts to individuals, nests, eggs, or young, including nest abandonment, as a result of construction activities would also be significant.

Mitigation for Impacts BIO-24 through BIO-27

Significant direct impacts to Bird—Nesting/Foraging Raptor (**Impacts BIO-24** through **BIO-27**) would be reduced to less than significant by the following proposed mitigation measures.

The Project Applicant will conduct pre-construction surveys for active nest sites per MM ES 5.4-43 and MM ES 5.4-44 (for western burrowing owl) and work within 500 feet of any active nest will be postponed until young have fledged. For non-breeding birds, MM ES 5.4-22 will allow birds to leave disturbance areas with minimal risk. MM ES 5.4-40 provides for pre-construction educational meetings, construction-limit staking, and biological monitoring during vegetation clearing and grading activities. Under MM ES 5.4-40 all construction/contractor personnel will complete a WEAP to ensure compliance with environmental/permit regulations and mitigation measures. Construction-limits staking and biological monitoring will prevent inadvertent impacts on Bird—Nesting/Foraging Raptor guild species and their habitat.

In addition, the Applicant will mitigate the permanent loss of suitable habitat for Bird—Nesting/Foraging Raptor guild species by implementing measures that require preservation, enhancement and restoration, and management. These mitigation measures include MM ES 5.4-61, MM ES 5.4-62, MM ES 5.4-16, and MM ES 5.4-17. Implementation of these mitigation measures will result in protection and management of approximately 403.5 acres of suitable habitat for Bird—Nesting/Foraging Raptor guild species and will allow them to persist in the Project vicinity, on-site within the Project, and within the High Country SMA/SEA, Salt Creek area, and other open space within lands owned by the Applicant.

Conclusion

Based on the foregoing analysis, this Draft EIR section finds that the Project could cause direct impacts to Bird—Nesting/Foraging Raptor guild species, but that such impacts can be reduced to less than significant with application of the mitigation measures

recommended herein. This finding is consistent with the significance determination and mitigation findings of the RMDP/SCP EIS/EIR for these impacts.

(vii) Bird—Upland Grassland/Agriculture (California horned lark, grasshopper sparrow)

California horned lark (*Eremophila alpestris actia*) was observed on-site during 2012 surveys in agriculture adjacent to the Santa Clara River. Nests were not identified but the species has a high potential to nest on-site. Focused surveys for grasshopper sparrow were negative in 2012, but this species has a high potential to occur based on presence of suitable habitat.

The Bird—Upland Grassland/Agriculture species may nest and forage in California annual grassland, valley oak/grass and agriculture, totaling 79.2 acres on-site. The Project would permanently impact 52.7 acres (67 percent) and temporarily impact 1.6 acres (2 percent) of habitat for these species.

Individual adults of these species are unlikely to be directly killed or injured during construction activities because they are highly mobile and would likely leave the area during construction. However, nesting activities by California horned lark and grasshopper sparrow could be disrupted if construction occurs during the breeding season as a result of nest abandonment or reduced reproductive success. Nests, eggs, and young could be directly affected by vegetation clearing and grading.

Impacts BIO-28 and BIO-29

Impact BIO-28 relates to the Project's direct impacts on nesting and foraging habitat for California horned lark. The proposed Project would result in permanent direct impacts to 52.7 acres and temporary direct impacts to 1.6 acres of suitable nesting and foraging habitat for California horned lark on-site. The loss of nesting and foraging habitat would be less than significant because it would not substantially reduce the available habitat for this species in the Project vicinity. Any direct impacts to individuals, nests, eggs, or young, including nest abandonment, of this WL and County sensitive species as a result of construction activities would be significant.

Impact BIO-29 relates to the Project's direct impacts on nesting and foraging habitat for grasshopper sparrow. The proposed Project would result in permanent direct impacts to 52.7 acres and temporary direct impacts to 1.6 acres of suitable nesting and foraging habitat for grasshopper sparrow on-site. The loss of nesting and foraging habitat would be less than significant because it would not substantially reduce the available habitat for this species in the Project vicinity. Any direct impacts to individuals, nests, eggs, or young,

including nest abandonment, of this CSC as a result of construction activities would be significant.

Mitigation for Impacts BIO-28 and BIO-29

Significant direct impacts to Bird—Upland Grassland/Agriculture (**Impacts BIO-28** and **BIO-29**) would be reduced to less than significant by the following proposed mitigation measures.

The Project Applicant will conduct pre-construction surveys for active nest sites per MM ES 5.4-43, and would postpone work within 300 feet of any active nest until young have fledged. For non-breeding birds, MM ES 5.4-22 would allow birds to leave disturbance areas with minimal risk. MM ES 5.4-40 provides for pre-construction educational meetings, construction-limit staking, and biological monitoring during vegetation clearing and grading activities. Under MM ES 5.4-40 all construction/contractor personnel would complete a WEAP to ensure compliance with environmental/permit regulations and mitigation measures. Construction-limits staking and biological monitoring would prevent inadvertent impacts on Bird—Upland Grassland/Agriculture guild species and their habitat.

Conclusion

Based on the foregoing analysis, this Draft EIR section finds that the Project could cause significant direct impacts to Bird—Upland Grassland/Agriculture guild species, but that such impacts can be reduced to less than significant with application of the mitigation measures recommended herein. This finding is consistent with the significance determination and mitigation findings of the RMDP/SCP EIS/EIR for these impacts.

(viii) Bird—Upland Scrub and Chaparral (Allen's hummingbird, Bell's sage sparrow, black-chinned sparrow, coastal California gnatcatcher, Costa's hummingbird, rufous hummingbird, southern California rufous-crowned sparrow)

Allen's hummingbirds (*Selasphorus sasin*) were observed on-site in 2006 and 2012. Bell's sage sparrow (*Artemisiospiza bellii*), black-chinned sparrow (*Amphispiza bilineata*), Costa's hummingbird (*Calypte costae*), and southern California rufous-crowned sparrow (*Aimophila ruficeps canescens*) were observed on-site during 2012 surveys, but nests/territories were not specifically identified. Coastal California gnatcatcher was not observed during protocol surveys in 2012, but has at least moderate potential to occur based on presence of suitable habitat and recent observations of both transient individuals (2007 and 2008) and a breeding pair (2012) in the Project vicinity.

The Bird—Upland Scrub and Chaparral guild species (except the migratory rufous hummingbird (*Selasphorus rufus*)) may nest in coastal scrub, chaparral, and alluvial scrub, totaling 258.6 acres on-site. The Project would permanently impact 232.6 acres (90 percent) and temporarily impact 7.9 acres (3 percent) of habitat for these species.

Individual adults of these species are unlikely to be directly killed or injured during construction activities because they are highly mobile and would likely leave the area during construction. However, nesting activities by these species (except the migrant rufous hummingbird) could be disrupted if construction occurs during the breeding season as a result of nest abandonment or reduced reproductive success. Nests, eggs, and young could be directly affected by vegetation clearing and grading.

Note that the rufous hummingbird is a wide-ranging species and is a fairly uncommon transitory migrant in the Project vicinity. The infrequent observations of migrating individuals on-site suggest that it is not dependent on the Project vicinity for migration. Furthermore, this species uses a variety of scrub, chaparral, riparian, and woodland habitats, and at least 5,350 acres of suitable habitat in the Santa Clara River SMA/SEA, High Country SMA/SEA, and Salt Creek area would remain as protected open space after buildout of the area. For these reasons, the loss of foraging habitat on-site used by migrants would not have a substantial adverse effect on this species, and direct and indirect impacts would be less than significant.

With respect to the black-chinned sparrow, this species was observed on-site during 2012 surveys. However, based on a general lack of observations of this species in the Project vicinity over numerous years, it is expected to occur only rarely as a migrant. Furthermore, during migration black chinned sparrows use coastal scrub and chaparral habitats throughout the State and are not restricted to any one migration route or winter habitat area. For these reasons, the loss of habitat on-site would not have a substantial adverse effect on individuals migrating through the area. Furthermore, pre-construction surveys would be required for nesting birds to comply with the federal Migratory Bird Treaty Act and California Fish and Game Code Section 3503, so in the unlikely event the species were to nest on-site, no nests, eggs, nestlings, and/or fledglings would be lost as a direct result of construction activities. For these reasons, the foraging habitat on-site used by migrants would not have a substantial adverse effect on this species and direct and indirect impacts would be less than significant.

Impacts BIO-30 through BIO-34

Impact BIO-30 relates to the Project's direct impacts on nesting and foraging habitat for Allen's hummingbird. The proposed Project would result in permanent direct impacts to 232.6 acres and temporary direct impacts to 7.9 acres of suitable nesting and

foraging habitat for Allen's hummingbird on-site. The loss of nesting and foraging habitat would be less than significant because it would not substantially reduce the available habitat for this species in the Project vicinity, and this species is still wide-ranging and uses a variety of habitats. However, any direct impacts to individuals, nests, eggs, or young, including nest abandonment, of this BCC and SA species as a result of construction activities would be significant.

Impact BIO-31 relates to the Project's direct impacts on nesting and foraging habitat for Bell's sage sparrow. The proposed Project would result in permanent direct impacts to 232.6 acres and temporary direct impacts to 7.9 acres of suitable nesting and foraging habitat for Bell's sage sparrow on-site. These impacts would be significant because they would permanently impact 90 percent and temporarily impact 3 percent of the suitable nesting and foraging habitat on-site for an uncommon BCC, WL, and County sensitive species that has experienced substantial habitat loss and fragmentation from urban development in southern California. Any direct impacts to individuals, nests, eggs, or young, including nest abandonment, as a result of construction activities would also be significant.

Impact BIO-32 relates to the Project's direct impacts on nesting and foraging habitat for coastal California gnatcatcher. Note, however, that impacts to individual gnatcatchers are unlikely, as no gnatcatchers have been observed on the Project Site despite numerous avian surveys. The gnatcatcher is a federally listed threatened species, a California Species of Concern (CSC), and a County of Los Angeles sensitive species.

The proposed Project would result in permanent direct impacts to 232.6 acres and temporary direct impacts to 7.9 acres of suitable nesting and foraging habitat for coastal California gnatcatcher on-site. These impacts would be significant because they would permanently disturb 90 percent and temporarily disturb 3 percent of the suitable nesting and foraging habitat on-site for this species, which has experienced substantial habitat loss and fragmentation from urban development in southern California. Any direct impacts to individuals, nests, eggs, or young, including nest abandonment, as a result of construction activities would also be significant.

Impact BIO-33 relates to the Project's direct impacts on nesting and foraging habitat for Costa's hummingbird. The proposed Project would result in permanent direct impacts to 232.6 acres and temporary direct impacts to 7.9 acres of suitable nesting and foraging habitat for Costa's hummingbird on-site. The loss of nesting and foraging habitat would be less than significant because it would not substantially reduce the available habitat for this species in the Project vicinity, and this species is still wide-ranging and uses a variety of habitats. However, any direct impacts to individuals, nests, eggs, or young,

including nest abandonment, of this SA species as a result of construction activities would be significant.

Impact BIO-34 relates to the Project's direct impacts on nesting and foraging habitat for southern California rufous-crowned sparrow. The proposed Project would result in permanent direct impacts to 232.6 acres and temporary direct impacts to 7.9 acres of suitable nesting and foraging habitat for southern California rufous-crowned sparrow on-site. These impacts would be significant because they would permanently impact 90 percent and temporarily impact 3 percent of the suitable nesting and foraging habitat on-site for a WL and County of Los Angeles sensitive species that has experienced substantial habitat loss and fragmentation from urban development in southern California. Any direct impacts to individuals, nests, eggs, or young, including nest abandonment, as a result of construction activities would also be significant.

Mitigation for Impacts BIO-30 through BIO-34

Significant direct impacts to the Bird—Upland Scrub and Chaparral guild (**Impacts BIO-30** through **BIO-34**) would be reduced to less than significant by the following proposed mitigation measures.

The Project Applicant will conduct pre-construction surveys for active nest sites per MM ES 5.4-43 and will postpone work within 300 feet of any active nest until young have fledged. MM ES 5.4-43 also specifies that focused protocol presence/absence surveys for coastal California gnatcatchers be conducted in suitable habitat within 500 feet of access or construction-related disturbance areas. It further specifies establishment of a 500-foot disturbance-free buffer demarcated by fencing or flagging for gnatcatcher territories or nests and monitoring of activities in suitable gnatcatcher habitat by a full-time qualified biologist. For non-breeding birds, MM ES 5.4-22 will allow birds to leave disturbance areas with minimal risk. MM ES 5.4-40 provides for pre-construction educational meetings, construction-limit staking, and biological monitoring during vegetation clearing and grading activities. Under MM ES 5.4-40, all construction/ contractor personnel will complete a WEAP to ensure compliance with environmental/ permit regulations and mitigation measures. Construction-limits staking and biological monitoring will prevent inadvertent impacts on Bird—Upland Scrub and Chaparral guild species and their habitat.

In addition, the Applicant will mitigate the permanent loss of suitable habitat for Bird—Upland Scrub and Chaparral guild species by implementing measures that require preservation, enhancement and restoration, and management. These mitigation measures include MM ES 5.4-61, MM ES 5.4-16, and MM ES 5.4-17. Implementation of these mitigation measures will result in protection and management of approximately 335.8 acres

of suitable habitat for Bird—Upland Scrub and Chaparral guild species and will allow these species to persist in the Project vicinity, on-site within Entrada South, and within the High Country SMA/SEA, Salt Creek area, and other open space within lands owned by the Applicant.

Conclusion

Based on the foregoing analysis, this Draft EIR section finds that the Project could cause significant direct impacts to Bird—Upland Scrub and Chaparral guild species, but that such impacts can be reduced to less than significant with application of the mitigation measures recommended herein. This finding is consistent with the significance determination and mitigation findings of the RMDP/SCP EIS/EIR for these impacts.

(ix) Bird—Upland Woodland (chipping sparrow, Lawrence's goldfinch, Nuttall's woodpecker, oak titmouse, yellow warbler)

Chipping sparrow (*Spizella passerina*) was not observed in 2006 and 2012 surveys, but was observed on-site in previous annual surveys. Lawrence's goldfinch (*Spinus lawrencei*) was observed on-site in 2007 but not during 2006 and 2012 surveys. Nuttall's woodpecker (*Picoides nuttallii*) was observed on-site during 2006 and 2012 surveys. Oak titmouse (*Baeolophus inornatus*) was observed on-site in 2012 and is expected to regularly occur in the oak woodlands on-site. Yellow warbler (*Setophaga petechia*) was observed during a 2006 survey conducted in early September, so nesting was not confirmed on-site.

The Bird—Upland Woodland species may nest and forage in the valley oak/grass, totaling 5.4 acres on-site. The Project would permanently impact 4.4 acres (81 percent) of habitat for these species.

Individual adults of these species are unlikely to be directly killed or injured during construction activities because they are highly mobile and would likely leave the area during construction. However, nesting activities could be disrupted if construction occurs during the breeding season as a result of nest abandonment or reduced reproductive success. Nests, eggs, and young could be directly affected by vegetation clearing and grading.

Impacts BIO-35 through BIO-39

Impact BIO-35 relates to the Project's direct impacts on nesting and foraging habitat for chipping sparrow. The proposed Project would result in permanent direct impacts to 4.4 acres of suitable nesting and foraging habitat for chipping sparrow site. The loss of nesting and foraging habitat would be less than significant because a small amount of habitat would be affected, it would not substantially reduce the available habitat for this

species in the Project vicinity, and this species is still wide-ranging and common. However, any direct impacts to individuals, nests, eggs, or young, including nest abandonment, of this SA species as a result of construction activities would be significant.

Impact BIO-36 relates to the Project's direct impacts on nesting and foraging habitat for Lawrence's goldfinch. The proposed Project would result in permanent direct impacts to 4.4 acres of suitable nesting and foraging habitat for Lawrence's goldfinch on-site. The loss of nesting and foraging habitat would be less than significant because a small amount of habitat would be affected, it would not substantially reduce the available habitat for this species in the Project vicinity, and this species is still wide-ranging and common. However, any direct impacts to individuals, nests, eggs, or young, including nest abandonment, of this BCC and SA species as a result of construction activities would be significant.

Impact BIO-37 relates to the Project's direct impacts on nesting and foraging habitat for Nuttall's woodpecker. The proposed Project would result in permanent direct impacts to 4.4 acres of suitable nesting and foraging habitat for Nuttall's woodpecker on-site. The loss of nesting and foraging habitat would be less than significant because a small amount of habitat would be affected, it would not substantially reduce the available habitat for this species in the Project vicinity, and this species is still wide-ranging and common. However, any direct impacts to individuals, nests, eggs, or young, including nest abandonment, of this BCC and SA species as a result of construction activities would be significant.

Impact BIO-38 relates to the Project's direct impacts on nesting and foraging habitat for oak titmouse. The proposed Project would result in permanent direct impacts to 4.4 acres of suitable nesting and foraging habitat for oak titmouse on-site. The loss of nesting and foraging habitat would be less than significant because a small amount of habitat would be affected, it would not substantially reduce the available habitat for this species in the Project vicinity, and this species is still wide-ranging and common. However, any direct impacts to individuals, nests, eggs, or young, including nest abandonment, of this BCC and SA species as a result of construction activities would be significant.

Impact BIO-39 relates to the Project's direct impacts on nesting and foraging habitat for yellow warbler. The proposed Project would result in permanent direct impacts to 4.4 acres of suitable nesting and foraging habitat for yellow warbler on-site. The loss of nesting and foraging habitat would be less than significant because a small amount of habitat would be affected, it would not substantially reduce the available habitat for this species in the Project vicinity, and this species is still wide-ranging and common. Although the valley oak/grass on-site is not highly suitable for nesting, any direct impacts to individuals, nests, eggs, or young, including nest abandonment, of this BCC, CSC and Los Angeles County species as a result of construction activities would be significant.

Mitigation for Impacts BIO-35 through BIO-39

Significant direct impacts to Bird—Upland Woodland (**Impacts BIO-35** through **BIO-39**) would be reduced to less than significant by the following proposed mitigation measures.

The Project Applicant will conduct pre-construction surveys for active nest sites per MM ES 5.4-43 and will postpone work within 300 feet of any active nest until young have fledged. For non-breeding birds, MM ES 5.4-22 will allow birds to leave disturbance areas with minimal risk. MM ES 5.4-40 provides for pre-construction educational meetings, construction-limit staking, and biological monitoring during vegetation clearing and grading activities. Under MM ES 5.4-40 all construction/contractor personnel will complete a WEAP to ensure compliance with environmental/permit regulations and mitigation measures. Construction-limits staking and biological monitoring will prevent inadvertent impacts on Bird—Upland Woodland guild species and their habitat.

Based on the foregoing analysis, this Draft EIR section finds that the Project could cause significant impacts on to individuals in the Bird—Upland Woodland guild, but that such impacts can be reduced to less than significant with application of the mitigation measures recommended herein. This determination is consistent with the significance determination and mitigation findings of the RMDP/SCP EIS/EIR for this impact.

(x) Bats (fringed myotis, hoary bat, long-legged myotis, pallid bat, pocketed free-tailed bat, silver-haired bat, Townsend's big-eared bat, western long-eared myotis, western mastiff bat, western red bat, western small-footed myotis, Yuma myotis)

Fringed myotis (*Myotis thysanodes*), long-legged myotis (*M. volans*), pallid bat (*Antrozous pallidus*), silver-haired bat (*Lasionycteris noctivagans*), Townsend's big-eared bat (*Corynorhinus townsendii*), and western long-eared myotis (*Myotis evotis*), were not detected during acoustic surveys in 2012, but suitable habitat occurs on-site. Hoary bat (*Lasiurus cinereus*) was detected on-site at one survey location during acoustic surveys in 2012. Pocketed free-tailed bat (*Nyctinomops femorosaccus*) was detected on-site at two survey locations during acoustic surveys in 2012; this species has a low potential to roost on-site due to lack of suitable roosting habitat. Western mastiff bat (*Eumops perotis*) was detected on-site at two survey locations during acoustic surveys in 2012 and has a moderate potential to roost on-site in woodlands. Western red bat (*Lasiurus blossevillii*) was detected on-site at two survey locations during acoustic surveys in 2012; suitable roosting and foraging habitat for this species is present on the Project Site. Western small-footed bat (*Myotis ciliolabrum*) was detected on-site at three survey locations during acoustic surveys in 2012. Yuma myotis (*M. yumanensis*) was detected on-site at all

four survey locations during acoustic surveys in 2012 and has a moderate potential to roost in trees on-site.

The bats, with the exception of Yuma myotis, may forage in virtually all of the non-developed land covers on-site where there is insect prey. Potential foraging habitat totals 492.0 acres on-site. The Project would permanently impact 410.8 acres (83 percent) and temporarily impact 20.7 acres (4 percent) of foraging habitat for these species. Yuma myotis usually forages in areas associated with water. Potential foraging habitat for Yuma myotis on-site probably is mostly limited to the riparian/wetland habitats on-site, totaling 43.0 acres. The Project would permanently impact 41.2 acres (96 percent) and temporarily impact 0.8 acre (2 percent) of foraging habitat for Yuma myotis. Pallid bat, western red bat, hoary bat, fringed myotis, and Yuma myotis also may roost in the valley oaks on-sites. The Project would permanently impact 3.7 acres (84 percent) and temporarily impact 0.5 acre (10 percent) of valley oak/grass that provides potential roosting habitat for pallid bat, western red bat, hoary bat, silver-haired bat, fringed myotis, and Yuma myotis.

Because the pallid bat, western red bat, hoary bat, fringed myotis, long-legged myotis, and Yuma myotis may roost on-site, roosting activities could be disrupted, especially during the breeding season for pallid bat, fringed myotis, long-legged myotis, and Yuma myotis if maternity roosts were established on-site; however, the potential for maternity roosts likely is low because these three species tend to establish maternity roosts in cliffs, crevices, and buildings. Western red bat and hoary bat, which are migratory species, are not expected to breed on-site.

Individual adults of these species foraging on-site are unlikely to be directly killed or injured during construction activities because they are highly mobile and only active at night. However, individuals could be killed or harmed if active roost sites were removed, either causing direct mortality or more likely causing abandonment during the day.

Impacts BIO-40 through 51

Impact BIO-40 relates to the Project's direct impacts on foraging and roosting habitat for fringed myotis. The proposed Project would result in permanent direct impacts to 410.8 acres and temporary direct impacts to 20.7 acres of suitable foraging habitat for fringed myotis on-site. The proposed Project would also result in permanent direct impacts to 3.7 acres and temporary direct impacts to 0.5 acre of suitable roosting habitat on-site. These impacts would be significant because they would permanently impact 83 percent and temporarily impact 4 percent of the foraging habitat on-site for an SA that has experienced substantial habitat loss and fragmentation and disturbance of roost sites from urban development in southern California. Any direct impacts to individuals, including young, at roost sites, as a result of construction activities would also be significant.

Impact BIO-41 relates to the Project's direct impacts on foraging and roosting habitat for hoary bat. The proposed Project would result in permanent direct impacts to 410.8 acres and temporary direct impacts to 20.7 acres of suitable foraging habitat for hoary bat on-site. The proposed Project would also result in permanent direct impacts to 3.7 acres and temporary direct impacts to 0.5 acre of suitable roosting habitat on-site. This loss of foraging habitat would be less than significant because this species is the most widespread bat species in North America, it does not breed on-site (it may occur on-site during the winter or during migration), and the Project would not substantially reduce the available habitat for this species in the Project vicinity during wintering or migration. However, any direct impacts to individuals at roost sites as a result of construction activities would be significant.

Impact BIO-42 relates to the Project's direct impacts on foraging and roosting habitat for long-legged myotis.

The proposed Project would result in permanent direct impacts to 410.8 acres and temporary direct impacts to 20.7 acres of suitable foraging habitat for long-legged myotis on-site. The proposed Project would also result in permanent direct impacts to 3.7 acres and temporary direct impacts to 0.5 acre of suitable roosting habitat on-site. These impacts would be significant because they would permanently impact 83 percent and temporarily impact 4 percent of the foraging habitat on-site for an SA and County sensitive species that has experienced substantial habitat loss and fragmentation from urban development in southern California. Any direct impacts to individuals, including young, at roost sites, as a result of construction activities would also be significant.

Impact BIO-43 relates to the Project's direct impacts on foraging and roosting habitat for pallid bat.

The proposed Project would result in permanent direct impacts to 410.8 acres and temporary direct impacts to 20.7 acres of suitable foraging habitat for pallid bat on-site. The proposed Project would also result in permanent direct impacts to 3.7 acres and temporary direct impacts to 0.5 acre of suitable roosting habitat on-site. These impacts would be significant because they would permanently impact 83 percent and temporarily impact 4 percent of the foraging habitat on-site for a CSC and County sensitive species that has experienced substantial habitat loss and fragmentation from urban development in southern California. Any direct impacts to individuals, including young, at roost sites, as a result of construction activities would also be significant.

Impact BIO-44 relates to the Project's direct impacts on foraging and roosting habitat for silver-haired bat.

The proposed Project would result in permanent direct impacts to 410.8 acres and temporary direct impacts to 20.7 acres of suitable foraging habitat for western red bat on-site. The proposed Project would also result in permanent direct impacts to 3.7 acres and temporary direct impacts to 0.5 acre of suitable roosting habitat on-site. These impacts would be significant because they would permanently impact 83 percent and temporarily impact 4 percent of the foraging habitat on-site for an SA that has experienced habitat loss in southern California. Any direct impacts to individuals at roost sites, as a result of construction activities, would also be significant.

Impact BIO-45 relates to the Project's direct impacts to foraging and roosting habitat for western long-eared myotis.

The proposed Project would result in permanent direct impacts to 410.8 acres and temporary direct impacts to 20.7 acres of suitable foraging habitat for western long-eared myotis on-site. The proposed Project would also result in permanent direct impacts to 3.7 acres and temporary direct impacts to 0.5 acre of suitable roosting habitat on-site. These impacts would be significant because they would permanently impact 83 percent and temporarily impact 4 percent of the foraging habitat on-site for an SA and County sensitive species that has experienced substantial habitat loss and fragmentation from urban development in southern California. Any direct impacts to individuals, including young, at roost sites, as a result of construction activities would also be significant.

Impact BIO-46 relates to the Project's direct impacts on foraging and roosting habitat for western red bat.

The proposed Project would result in permanent direct impacts to 410.8 acres and temporary direct impacts to 20.7 acres of suitable foraging habitat for western red bat on-site. The proposed Project would also result in permanent direct impacts to 3.7 acres and temporary direct impacts to 0.5 acre of suitable roosting habitat on-site. These impacts would be significant because they would permanently impact 83 percent and temporarily impact 4 percent of the foraging habitat on-site for a CSC sensitive species that has experienced substantial wintering and migration habitat loss in southern California (i.e., extensive riparian zones). Any direct impacts to individuals at roost sites, as a result of construction activities, would also be significant.

Impact BIO-47 relates to the Project's direct impacts to foraging and roosting habitat for Yuma myotis.

The proposed Project would result in permanent direct impacts to 41.2 acres and temporary direct impacts to 0.8 acre of suitable foraging habitat for Yuma myotis on-site. Unlike other bat species detected or potentially occurring on-site, Yuma myotis usually

forages in areas associated with water. Potential foraging habitat for Yuma myotis on-site is probably mostly limited to the riparian/wetland habitats on-site, totaling 42.0 acres. The proposed Project would also result in permanent direct impacts to 3.7 acres and temporary direct impacts to 0.5 acre of suitable roosting habitat on-site. These impacts would not be significant because they would permanently impact a relatively small amount of habitat for the species and substantial foraging and roosting habitat of much higher quality for the species would remain in Santa Clara River. However, any direct impacts to individuals, including young, at roost sites, as a result of construction activities would be significant.

Impact BIO-48 relates to the Project's direct impacts on foraging habitat for pocketed free-tailed bat.

The proposed Project would result in permanent direct impacts to 410.8 acres and temporary direct impacts to 20.7 acres of suitable foraging habitat for pocketed free-tailed bat on-site. These impacts would be significant because they would permanently impact 83 percent and temporarily impact 4 percent of the suitable foraging habitat on-site for a CSC and County sensitive species that is rare in southern California.

Impact BIO-49 relates to the Project's direct impacts on foraging habitat for Townsend's big-eared bat.

The proposed Project would result in permanent direct impacts to 410.8 acres and temporary direct impacts to 20.7 acres of suitable foraging habitat for Townsend's big-eared bat on-site. These impacts would be significant because they would permanently impact 83 percent and temporarily impact 4 percent of the suitable foraging habitat on-site for a state-candidate threatened, CSC, and County sensitive species that is declining in southern California.

Impact BIO-50 relates to the Project's direct impacts to foraging habitat for western mastiff bat.

The proposed Project would result in permanent direct impacts to 410.8 acres and temporary direct impacts to 20.7 acres of suitable foraging habitat for western mastiff bat on-site. These impacts would be significant because they would permanently impact 83 percent and temporarily impact 4 percent of the suitable foraging habitat on-site for a CSC and County sensitive species that is rare in southern California.

Impact BIO-51 relates to the Project's direct impacts to foraging habitat for western small-footed myotis.

The proposed Project would result in permanent direct impacts to 410.8 acres and temporary direct impacts to 20.7 acres of suitable foraging habitat for western small-footed myotis on-site. These impacts would be significant because they would permanently impact 83 percent and temporarily impact 4 percent of the suitable foraging habitat on-site for a SA and County sensitive species.

Mitigation for Impacts BIO-40 through BIO-51

Significant direct impacts to bats (**Impacts BIO-40** through **BIO-51**) would be reduced to less than significant by the following proposed mitigation measures.

The Project Applicant will conduct pre-construction surveys for active bat roosts per MM ES 5.4-47 and, if an active maternity roost is found, would postpone all work within 300 feet of the roost until the roost is vacated and juveniles have fledged. In addition, MM ES 5.4-51 calls for the replacement of day roosts found during pre-construction surveys conducted per MM ES 5.4-47. MM ES 5.4-40 provides for pre-construction educational meetings, construction-limit staking, and biological monitoring during vegetation clearing and grading activities. Under MM ES 5.4-40, all construction/contractor personnel will complete a WEAP to ensure compliance with environmental/permit regulations and mitigation measures. Construction-limits staking and biological monitoring will prevent inadvertent impacts on species in the Bat guild and their habitat.

In addition, the Applicant will mitigate the permanent loss of suitable foraging habitat for bats by implementing measures that require preservation, enhancement and restoration, and management. These mitigation measures include MM ES 5.4-61, MM ES 5.4-62, MM ES 5.4-16, and MM ES 5.4-17. Implementation of these mitigation measures will result in protection and management of approximately 394.3 acres of suitable foraging habitat for bats and will allow bats to persist in the Project vicinity, on-site within Entrada South, and within the High Country SMA/SEA, Salt Creek area, and other open space within lands owned by the Applicant. In addition, MM ES 5.4-1 requires that riparian habitats impacted be replaced and restored under guidelines described in MM ES 5.4-2 through MM ES 5.4-14. Implementation of these measures will permit Bat guild species to persist in the Project vicinity.

The RMDP/SCP EIS/EIR determined that impacts to individual Townsend's big-eared bats, western mastiff bats, and western small-footed myotis would be significant, absent mitigation. This determination, however, pertained to suitable roosting sites, which are lacking in the Project area. Therefore, this Draft EIR's finding that the Project would not have significant impacts on roosting habitats is consistent with the significance determination and mitigation findings of the RMDP/SCP EIS/EIR for these impacts. In addition, the RMDP/SCP EIS/EIR did not address several bat species discussed above (hoary bat, silver-haired bat,

western long-eared myotis) due to a lack of documented occurrence records in the Project area at the time. However, the significance finding and the determination that significant direct impacts to these species would be reduced to less than significant with application of the mitigation measures proposed for the Entrada South Project is consistent with the significance determination and mitigation findings of the RMDP/SCP EIS/EIR for impacts to bat species in general.

Conclusion

Based on the foregoing analysis, this Draft EIR section finds that the Entrada South Project could cause significant direct impacts to bat species, but that such impacts can be mitigated to less than significant provided the mitigation measures recommended herein are implemented.

(xi) Mammal—Low Mobility (San Diego desert woodrat)

Woodrat sign (i.e., middens, scat) was detected on-site during general wildlife surveys, but live trapping in August 2012 did not capture any woodrats. The site has suitable habitat for San Diego desert woodrat (*Neotoma lepida intermedia*) and is within its range; therefore, the species is considered to have a high potential to occur on-site.

Impact BIO-52 relates to the Project's direct impacts to suitable habitat for San Diego desert woodrat, which could directly affect individuals. The San Diego desert woodrat may inhabit coastal scrub, chaparral, alluvial scrub, and big sagebrush scrub, totaling 283.3 acres on-site. The proposed Project would result in permanent direct impacts to 256.2 acres (90 percent) and temporary direct impacts to 8.2 acres (3 percent) of suitable habitat for San Diego desert woodrat on-site. These impacts would be significant because they would permanently impact 90 percent and temporarily impact 3 percent of the suitable habitat on-site for a CSC and County sensitive species that has experienced substantial habitat loss and fragmentation from urban and agricultural development in southern California. San Diego desert woodrats could also be killed or injured during vegetation clearing and grading. Individuals may escape direct impacts but unless they were able to move into adjacent habitat, their chance of survival upon being flushed from a midden would be low. Therefore, both adults and young dependent on the nest would be highly vulnerable to injury and mortality during construction. Direct impacts to individuals would be significant absent mitigation. These impacts would be reduced to less than significant by the following proposed mitigation measures.

The Project would result in two types of significant direct impacts to species in the Mammal—Low Mobility guild (the San Diego desert woodrat): (1) impacts to individuals and (2) loss of suitable habitat.

Mitigation for Impact BIO-52

To avoid, minimize, and mitigate **Impact BIO-52**, the Applicant will implement several mitigation measures to avoid direct impacts to individual San Diego desert woodrats.

Pre-construction surveys for active San Diego woodrat nest sites will be conducted per MM ES 5.4-45 and will postpone work in the vicinity of any active nest. Woodrats located within the disturbance zone during the non-breeding season will be relocated to a suitable location outside the disturbance zone. MM ES 5.4-22 will allow individual San Diego woodrats to leave disturbance areas with minimal risk. MM ES 5.4-40 provides for pre-construction educational meetings, construction-limit staking, and biological monitoring during vegetation clearing and grading activities. Under MM ES 5.4-40, all construction/ contractor personnel will complete a WEAP to ensure compliance with environmental/ permit regulations and mitigation measures. Construction-limits staking and biological monitoring will prevent inadvertent impacts on San Diego desert woodrats and their habitat.

In addition, the Applicant would mitigate the permanent loss of suitable habitat for San Diego desert woodrat by implementing measures that require preservation, enhancement and restoration, and management. These mitigation measures include MM ES 5.4-61 and MM ES 5.4-16. Implementation of these mitigation measures would result in protection and management of approximately 317.2 acres of suitable habitat for San Diego desert woodrat and would allow this species to persist in the Project vicinity, on-site within Entrada South, and within the High Country SMA/SEA, Salt Creek area, and other open space within lands owned by the Applicant. Permanent loss of suitable habitat for the San Diego desert woodrat would be mitigated by measures requiring preservation, enhancement and restoration, and management that would provide suitable habitat to support San Diego desert woodrats in the Project vicinity. Implementation of MM ES 5.4-61 and MM ES 5.4-16 would result in protection and management of approximately 335.8 acres of suitable habitat for San Diego desert woodrats, including chaparral and coastal scrub on lands owned by the Applicant, allowing San Diego desert woodrats to persist in the Project vicinity.

Based on the foregoing analysis, this Draft EIR section finds that the Project could cause significant direct impacts to San Diego desert woodrat, but that such impacts can be reduced to less than significant with application of the mitigation measures recommended herein. This determination is consistent with the significance determination and mitigation findings of the RMDP/SCP EIS/EIR for this impact.

(xii) Mammal—Moderate Mobility (American badger, San Diego black-tailed jackrabbit)

American badger (*Taxidea taxus*) and San Diego black-tailed jackrabbit (*Lepus californicus bennettii*) were not detected on-site, but have a moderate potential to occur based on the presence of suitable habitat.

American badger and San Diego black-tailed jackrabbit may occur in California annual grassland, valley oak/grass, coastal scrub, alluvial scrub, riverwash, big sagebrush scrub, agriculture, and disturbed lands, totaling 451.0 acres on-site. The Project would permanently impact 388.2 acres (86 percent) and temporarily impact 12.1 acres (3 percent) of habitat for American badger and San Diego black-tailed jackrabbit on-site.

Individual adults of these species are unlikely to be directly killed or injured during construction activities because they are fairly mobile and should be able to escape from construction areas. The greatest potential for direct impacts to badgers would be mortality of young in a natal den and potentially the mother, which fiercely defends the natal den. Similarly, construction activities could result in destruction of jackrabbit natal sites (dens, burrows, and depressions), and mortality of young, which are not well coordinated for the first two or three days after birth and are dependent on the nest. Abandonment of the natal den by the mother could also result in the mortality of young.

Impact BIO-53 relates to the Project's direct impacts to suitable habitat for San Diego black-tailed jackrabbit, which could directly affect individuals; however, these impacts would be reduced to less than significant with the proposed mitigation.

The proposed Project would result in permanent direct impacts to 388.2 acres and temporary direct impacts to 12.1 acres of suitable habitat for San Diego black-tailed jackrabbit on-site. These impacts would be significant because they would permanently impact 86 percent and temporarily impact 3 percent of the suitable habitat on-site for a CSC and County sensitive species that is very uncommon in the Project vicinity and that has experienced substantial habitat loss and fragmentation from urban and agricultural development in southern California. While adults are highly mobile and can usually escape human disturbances, young dependent on the nest would be highly vulnerable to injury and mortality during construction. Direct impacts to individuals would be significant absent mitigation.

Impact BIO-54 relates to the Project's direct impacts to suitable habitat for American badger, which could directly affect individuals. The proposed Project would result in permanent direct impacts to 388.2 acres and temporary direct impacts to 12.1 acres of suitable habitat for American badger on-site. These impacts would be significant because

they would permanently impact 86 percent and temporarily impact 3 percent of the suitable habitat on-site for a CSC that is uncommon in the Project vicinity and that has experienced substantial habitat loss and fragmentation from urban and agricultural development in southern California. While adults are highly mobile and can usually escape human disturbances, young in natal dens and females defending natal dens would be highly vulnerable to injury and mortality during construction. Direct impacts to individuals would be significant absent mitigation.

The Project would result in two types of significant direct impacts to species in the Mammal—Moderate Mobility guild: (1) impacts to individuals and (2) loss of suitable habitat.

Mitigation for Impacts BIO-53 and BIO-54

Significant direct impacts to Mammal—Moderate Mobility guild species (**Impacts BIO-53** and **BIO-54**) would be reduced to a less-than-significant level by the following proposed mitigation measures.

Pre-construction surveys for San Diego black-tailed jackrabbits would be conducted per MM ES 5.4-45 and work within 200 feet of any den, depression, nest, or burrow occupied by a San Diego jackrabbit pup would be postponed until the young leave the site. Adult jackrabbits would be flushed from areas to be disturbed prior to construction. Pre-construction surveys for American badger would be conducted per MM ES 5.4-36, and construction within 200 feet of any active maternity den during the pup-rearing season (February 15 through July 1) would be postponed until the maternity den is vacated. A 50-foot avoidance area would be established around occupied non-maternity dens. Implementation of MM ES 5.4-22 would allow individuals of Mammal—Moderate Mobility guild species to leave disturbance areas with minimal risk. MM ES 5.4-40 provides for pre-construction educational meetings, construction-limit staking, and biological monitoring during vegetation clearing and grading activities. Under MM ES 5.4-40, all construction/ contractor personnel would complete a WEAP to ensure compliance with environmental/ permit regulations and mitigation measures. Construction-limits staking and biological monitoring would prevent inadvertent impacts on Mammal—Moderate Mobility guild species and their habitat.

In addition, the Applicant would mitigate the permanent loss of suitable habitat for San Diego black-tailed jackrabbit and American badger by implementing measures that require preservation, enhancement and restoration, and management. These mitigation measures include MM ES 5.4-61, MM ES 5.4-62, and MM ES 5.4-16. Implementation of these mitigation measures would result in protection and management of approximately 394.3 acres of suitable habitat for San Diego black-tailed jackrabbit and American badger

and will allow these species to persist in the Project vicinity, on-site within the Project, and within the High Country SMA/SEA, Salt Creek area, and other open space within lands owned by the Applicant.

Conclusion

Based on the foregoing analysis, this Draft EIR section finds that the Project could cause significant direct impacts to Mammal—Moderate Mobility guild species, but that such impacts can be reduced to less than significant with application of the mitigation measures recommended herein. This finding is consistent with the significance determination and mitigation findings of the RMDP/SCP EIS/EIR for this impact.

(xiii) Mammal—High Mobility (mountain lion, mule deer)

Mountain lion (*Puma concolor*) scat was detected on-site during gnatcatcher surveys. The site may be a part of a resident lion's home range or support a transient individual on occasion. Mule deer were observed on-site in 2006 and 2012.

Mountain lion and mule deer may occur in coastal scrub, chaparral, valley oak/grass, and riparian/wetland, which total 306.3 acres on-site. The Project would permanently impact 278.1 acres (91 percent) and temporarily impact 8.3 acres (3 percent) of habitat for mountain lion and mule deer.

Individual adults of these species are unlikely to be directly killed or injured during construction activities because they are highly mobile and would likely leave construction areas. Young mountain lions are also unlikely to be directly killed or injured. Mountain lions typically den in more rocky areas with caves or cavities suitable for dens that are more likely found in the upland habitats of High Country SMA/SEA than the habitats found on the Project Site. Therefore, it is unlikely that construction activities would result in injury or mortality of very young mountain lions still confined to natal dens. No significant impacts to mountain lion individuals are expected during construction.

Sign of mountain lion was observed on the Project Site and the site may be part of a resident individual's range or may support transient individuals on occasion. While considered "special-status" for this Draft EIR because it is a regulated species in California, it is still widespread and relatively common throughout its range in California and is not particularly vulnerable to habitat loss outside urbanizing areas. With protection of habitat in the Santa Clara River SMA/SEA, High Country SMA/SEA, and Salt Creek, after buildout of the area mountain lions are expected to remain relatively common in the region. For these reasons, the loss of habitat on-site would not have a substantial adverse effect on this species, and direct impacts would be less than significant.

Mule deer has been observed on the Project Site and is common in the Project vicinity. While considered "special-status" for purposes of this analysis because it is a regulated species in California, it is still widespread and relatively common throughout its range in California and is not particularly vulnerable to habitat loss. With protection of habitat in the Santa Clara River SMA/SEA, High Country SMA/SEA, and Salt Creek, mule deer are expected to remain common in the region after buildout of the area. For these reasons, the loss of habitat on-site and potential indirect impacts would not have a substantial adverse effect on this species, and these direct impacts would be less than significant.

(b) Indirect Impacts

Indirect impacts to special-status wildlife species may include both habitat degradation and effects on individuals. Habitat degradation may occur in the same manner as for vegetation communities. Short-term construction effects on wildlife habitat may include fugitive dust; runoff, sedimentation, chemical pollution, and erosion; litter; and accidental clearing, grading, and trampling. Over the long term, increases in human activity along the open space–urban interface (also referred to as "edge areas") may also result in the trampling of vegetation and compaction of soils. This can affect the long-term viability of plant communities and degrade wildlife habitat quality.

Specific indirect impacts on special-status wildlife may occur during construction activities and over the long term as a result of development. However, over the long term, indirect impacts on wildlife are expected to be limited along the open space–urban interface because most of the Project Site is bordered by existing and future development, and there will be a relatively small amount of interface (or edge) between development and open space.

Short-term construction-related indirect impacts to wildlife generally include noise, vibration, lighting, increased human activity, hydrologic changes and degradation of water quality (e.g., chemical pollution, increased turbidity, excessive sedimentation, flow interruptions, and changes in water temperature), and trash and garbage, which can attract predators such as American crows (*Corvus brachyrhynchos*), common ravens (*Corvus corax*), and coyotes (*Canis latrans*), as well as mesopredators such as northern raccoons (*Procyon lotor*) and striped skunks (*Mephitis mephitis*).

Long-term development-related indirect impacts to wildlife generally include noise, lighting, increased predation or harassment by pet, stray, and feral cats and dogs as well as other mesopredators, invasion by exotic wildlife species (e.g., Argentine ants), pesticide use, altered fire regimes, and increased roadkill.

Table 5.4-6, Potential Indirect Effects on Special-Status Wildlife Guilds, on page 5.4-125, summarizes the Project's potential indirect impacts on the special-status wildlife guilds. As shown, an Aquatic/Riparian guild is included for special-status wildlife species not expected to occur on the Project Site, but which are known from the Santa Clara River and therefore could be indirectly affected by the Project.

Table 5.4-6, Potential Indirect Effects on Special-Status Wildlife Guilds, shows that noise, vibration, and lighting can affect a large range of species. For example, noise can cause western spadefoots to emerge prematurely from burrows because vibration can mimic rainfall, which is a trigger for breeding activity.[124] Construction noise and vibration may disturb bird and bat breeding activities, potentially resulting in nest or roost abandonment or reduced productivity. Noise can raise the level of stress hormones, interfering with sleep and other activities. Chronic vehicle noise can also affect birds by masking calls, affecting behaviors such as mate attraction and territory defense. Mammals may generally avoid noisy areas due to increased stress and associated human activities. Vibration may also directly disturb terrestrial species that occupy burrows, dens, and depressions, or cause collapse of burrow systems and dens of fossorial (burrowing) species in areas with highly friable soils.

Lighting related to construction and over the long term can have well-documented indirect effects on wildlife, including disorientation; avoidance of areas; disturbances of nighttime rest and sleep periods of diurnal birds; simulated increased day length, affecting reproductive cycles by triggering premature reproductive activity; and increased risk of predation.[125]

Increased human activity during construction and over the long term may also affect most of the guilds. Increased human activity during construction areas could affect essential behavioral activities and physiology of wildlife, including disturbing rest or sleep periods, annoying them and causing them to abandon nests or den sites, as well as disrupting their normal biological rhythms and raising the level of stress hormones. Abandonment (even temporary) of active nests or dens increases the risk to eggs, nestlings, fledglings, and other dependent young. Flushing animals from nests, dens, and other refuges also increases their risk of injury or mortality from collisions with construction equipment and other vehicles, as well as predation. Human presence may also alter the

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[124] *Dimmitt, M.A., and R. Ruibal. 1980. "Environmental Correlates of Emergence in Spadefoot Toads (Scaphiopus)." Journal of Herpetology 14(1):21–29.*

[125] *Longcore, T., and C. Rich. 2004. "Ecological Light Pollution." Frontiers in Ecology and the Environment 2:191–198.*

Table 5.4-6
Potential Indirect Effects on Special-Status Wildlife Guilds

Wildlife Guild	Noise and Vibration	Lighting	Increased Human Activity	Altered Hydrology and Water Quality	Pet, Stray, Feral Animals and Mesopredators	Pesticides	Altered Fire Regime	Vehicle Collisions	Exotic Wildlife	Trash and Garbage	Disease
Insect						x	x	x	x		
Mollusk			x		x	x	x	x	x		
Reptile—Low Mobility		x	x		x		x	x	x		
Reptile and Amphibian—Semi-Aquatic[a]	x	x	x	x	x	x	x	x	x		x
Bird—Foraging Raptor			x		x	x	x	x			
Bird—Nesting/ Foraging Raptor	x	x	x	x	x	x	x	x	x	x	
Bird—Upland Grassland/ Agriculture	x	x	x		x	x	x	x	x	x	
Bird—Upland Scrub and Chaparral	x	x	x		x	x	x	x	x	x	
Bird—Upland Woodland	x	x	x	x	x	x	x	x	x	x	
Bat	x (roosts)	x	x (roosts)	x	x (roosts)	x	x				
Mammal—Low Mobility	x	x	x		x	x	x	x			
Mammal—Moderate Mobility	x	x	x		x	x	x	x			
Mammal—High Mobility	x	x	x		x		x	x			
Aquatic/Riparian[b]				x		x	x		x	x	

[a] *The Reptile and Amphibian—Semi-Aquatic guild includes species known from or potentially occurring in the Santa Clara River but not expected to occur on the Project Site, including two-striped garter snake (Thamnophis hammondii) and California red-legged frog (Rana draytonii).*

[b] *The Aquatic/Riparian guild includes fish species known from the Santa Clara River, including Santa Ana sucker (Catostomus santaanae), unarmored threespine stickleback (Gasterosteus aculeatus williamsoni), and arroyo chub (Gila orcuttii), and riparian bird species, including tricolored blackbird (Agelaius tricolor), western yellow-billed cuckoo, southwestern willow flycatcher, yellow-breasted chat (Icteria virens), summer tanager (Piranga rubra), vermilion flycatcher (Pyrocephalus rubinus), and least Bell's vireo.*

Source: Dudek 2015, see the Biota Report provided in ***Appendix 5.4A*** *of this Draft EIR.*

spatial behavior of animals, causing them to avoid certain parts of their home range, which may prevent them from using critical resources such as water.

Altered hydrology and water quality could affect species guilds associated with riparian/wetland habitats, including the Reptile and Amphibian—Semi-Aquatic guild and the Aquatic/Riparian guild (i.e., special-status fish and birds in the River). Indirect impacts include changes in flow rates and patterns in streams and rivers; dewatering that may affect adjacent and downstream aquatic, wetland, and riparian vegetation communities; and water temperature changes that could affect habitat suitability. For the bats, altered hydrology and water quality could affect the prey base. However, the River and Tributaries Drainage Analysis prepared by Pacific Advanced Civil Engineering Inc. (PACE) to support the RMDP/SCP EIS/EIR found that there would be no significant impacts to water flows, velocities, depth, sedimentation, or floodplain and channel conditions downstream of the Project area over the long term as a result of the proposed Project, which was included in the RMDP/SCP project.[126] These hydrologic effects were also found to be insufficient to alter the amount, location, and nature of aquatic and riparian habitats, including refugia for wildlife (e.g., dry terraces in the floodplain for terrestrial and semi-aquatic species such as western pond turtle and aquatic refugia for fish such as backwater areas), within the Project area and downstream into Ventura County. The PACE study determined that the River would retain sufficient width to allow natural fluvial processes to continue. For this reason, any altered hydrology resulting from the Project is expected to be minor. Potential water quality effects on fish and wildlife include chemical and toxic compound pollution (fuel, oil, lubricants, paints, release agents, and other construction materials), erosion, increased turbidity, and excessive sedimentation.

Pet, stray, and feral animals and mesopredators may affect almost all of the wildlife guilds through increased predation and by outcompeting smaller native species (e.g., woodrats) for available resources.[127] The increase in mesopredators in fragmented habitats is often considered an edge effect, but because some of these species can penetrate long distances into natural habitats in the absence of top predators such as coyotes and bobcats, they can also have landscape-level effects. Also, domestic cats and dogs may be vectors for diseases that affect native wildlife, such as feline

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[126] *Pacific Advanced Civil Engineering Inc. (PACE). 2010. "Newhall Ranch Resource Management & Development Plan River & Tributaries Drainage Analysis—Santa Clara River." Prepared for The Newhall Land and Farming Company. Fountain Valley, California: PACE. June 2010.*

[127] *Crooks, K.R., and M.E. Soulé. 1999. "Mesopredator Release and Avifaunal Extinctions in a Fragmented System." Nature 400:563–566.*

immunodeficiency virus, feline leukemia virus, feline infectious peritonitis, feline and canine distemper, panleukopenia, and rabies.[128,129]

Pesticides (including herbicides and rodenticides) may affect almost all of the wildlife guilds indirectly by degrading habitat quality, by being directly toxic to species, by being indirectly toxic through prey vectors, or by reducing prey abundance. These substances may penetrate the open space–urban interface through urban runoff from residential and commercial landscape areas and golf courses, overspray, wind, direct applications in interface areas, soil penetration, and wildlife vectors. Rodenticides, in particular, affect wildlife in various ways. Rodenticides are directly toxic to rodents, but may also indirectly affect rodent predators, such as hawks and owls, coyotes, snakes, etc., either through loss or contamination of prey. Eradication of rodents also can affect habitat quality for other species, such as burrowing owls that use ground squirrel burrows and many species of reptiles, amphibians, and insects that use rodent burrows as refugia and aestivation and hibernation habitat.

Altered natural wildfire regimes, in terms of the frequency and intensity of fires, as well as in regard to the strategic and tactical approaches to preventing and fighting wildfires, have their primary effect on habitat quality, but can also cause direct mortality of wildlife. All of the wildlife guilds could be affected by altered wildfire regimes, including the Aquatic/Riparian guild as a result of associated water quality impacts. Frequent fires can drastically affect plant and animal communities through increases or decreases in the natural fire interval to which these communities have adapted. Longer than natural fire intervals can result in excessive buildup of fuel loads, so that when fires do occur, they are catastrophic. Altered wildfire regimes, and particularly increased incidence of fires in urbanizing areas, often occur from human activities at the open space–urban interface, including accidental ignitions from sparks from equipment (e.g., mowers striking rocks), cigarettes, children playing with matches, etc., as well as intentional ignitions.

Vehicle collisions with wildlife are likely to increase after the Project is implemented, particularly in areas that were frequently used by wildlife before roads were constructed or improved and other development was built. Almost all of the species guilds are vulnerable to increased traffic collision.

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[128] *Foley, J. 1996. "The Potential for Catastrophic Infectious Disease Outbreaks in Populations of Mountain Lions in the Western United States." In Proceedings of the Fifth Mountain Lion Workshop, edited by W.D. Padley, 29–36. Organized by the California Department of Fish and Wildlife and the Southern California Chapter of the Wildlife Society; San Diego, California, February 27–March 1, 1996.*

[129] *Florida Fish and Wildlife Conservation Commission. 2003. "Issue Assessment: Impacts of Feral and Free-Ranging Cats on Wildlife in Florida." Prepared by the Feral Cat Issue Team. Available at http://myfwc.com/cats/resources/whitepaper.pdf.*

Invasive wildlife may affect several of the species guilds. Development attracts or can provide suitable habitat for several common native wildlife such as common ravens, American crows, rock pigeons (*Columba livia*), northern raccoons, and striped skunks, and non-native species such as Argentine ants, Virginia opossums (*Didelphis virginiana*), rats (*Rattus* spp.), house mice (*Mus musculus*), and feral cats and dogs. Humans may also release non-native species into the wild, such as red-eared slider turtles (*Trachemys scripta elegans*). These species may thrive in disturbed or otherwise marginal habitats and can harm native species through predation, competition, and displacement. At particular risk from invasive wildlife are the native reptiles and amphibians and native nesting birds.

Trash and other garbage associated with construction activities and long-term development can degrade vegetation communities and wildlife habitat and can attract nuisance and pest species that affect several of the wildlife guilds. Trash and debris include discarded construction-related materials, such as packaging materials and plastic sheeting, which may be dispersed into natural areas by wind or along creeks and streams. Trash generated by construction personnel, such as food packaging and cigarette butts, also can be dispersed by wind and water into natural areas. Pest and predatory species, such as American crows and common ravens, coyotes, striped skunks, and northern raccoons may be attracted to discarded food. Increased human activity over the long term is also expected to increase the amount of trash and garbage in open space areas.

As indicated above, long-term indirect effects along the urban–open space interface are expected to be limited because most of the Project Site is bordered by existing and future planned/approved development. Long-term indirect edge effects from noise, vibration, lighting, and pesticides (except for impacts on water quality) therefore are expected to be minor. However, indirect impacts that can occur over a larger landscape could be more substantial, including increased human activity; pet, stray, and feral animals and mesopredators; altered fire regime; vehicle collisions; exotic wildlife; trash and garbage; and disease. Also, effects on species in the River could occur, including impacts associated with water quality and exotic wildlife.

Impacts BIO-55 through BIO-65

The Project would result in two types of indirect impacts to special-status wildlife species in the Insect, Mollusk, Reptile—Low Mobility, Reptile and Amphibian—Semi-Aquatic, Bird—Foraging Raptor, Bird—Nesting/Foraging Raptor, Bird—Upland Grassland/Agriculture, Bird—Upland Woodland, Bat, Mammal—Low Mobility, Mammal—Moderate Mobility, Mammal—High Mobility, and Aquatic/Riparian guilds: (1) short-term construction-related impacts and (2) long-term development-related indirect impacts.

Short-term construction-related indirect impacts include noise and vibration, lighting, increased human activity, hydrologic and water quality, and trash and garbage that attract predators and mesopredators. These impacts may potentially affect all guilds occurring in the Project area. Fugitive dust may affect habitat for the Insect guild (San Emigdio blue butterfly) and for the Aquatic/Riparian guild (particularly fish).

Impact BIO-55 relates to the Project's indirect impacts to individuals and suitable habitat for the Insect guild (San Emigdio blue butterfly). In addition to general indirect effects on the host plant on-site (four-winged saltbush) (e.g., dust, trampling, non-native species), the San Emigdio blue butterfly is likely most vulnerable to pesticides that could kill individuals and wildfire that could eliminate host plants and kill individuals, including adults and larvae. Adult butterflies also would be at risk of vehicle collisions. Because suitable habitat occupies such a small area of the Project Site and a population, if present, would be small and relatively isolated, these indirect impacts would be significant.

Impact BIO-56 relates to the Project's indirect impacts to individuals and suitable habitat for the Mollusk guild (Trask shoulderband). In addition to general indirect effects on the habitat for Trask shoulderband, the species is likely most vulnerable to pesticides that could kill individuals and wildfire that could eliminate habitat and kill individuals. This species may also be vulnerable to increased human activity; exotic invasive wildlife, including Argentine ants and introduced non-native snails such as decollate snails; and pet, stray, and feral animals. If this species occurs on the site, it likely is present in small numbers. Nonetheless, these indirect impacts would be significant.

Impact BIO-57 relates to the Project's indirect impacts to individuals and suitable habitat for the Reptile—Low Mobility guild (coast horned lizard, coast patch-nosed snake, coastal whiptail, rosy boa, San Bernardino ringneck snake, silvery legless lizard). Species in this guild generally are vulnerable to short-term construction-related indirect impacts, including noise and vibration, lighting, and increased human activity. These species are also generally vulnerable to long-term indirect effects including noise; lighting; increased human activity; pet, stray, and feral animals and mesopredators; pesticides; altered fire regime; vehicle collisions; and exotic wildlife (especially Argentine ant). However, because the Project Site would be almost entirely bordered by development after buildout of nearby projects, indirect impacts that tend to occur along open space–urban interfaces, including noise, vibration, lighting, pesticides, and exotic wildlife (primarily Argentine ant), would be relatively minor. Nonetheless, indirect impacts that can extend into open space at the broader landscape level, including increased human activity, pet, stray, and feral animals and mesopredators, altered fire regime, and vehicle collisions, could have a significant indirect impact on the species in this guild.

Impact BIO-58 relates to the Project's indirect impacts to individuals and suitable habitat for the Reptile and Amphibian—Semi-Aquatic guild (arroyo toad, California red-legged frog, western pond turtle, two-striped gartersnake, western spadefoot). To evaluate indirect impacts, the California red-legged frog and two-striped gartersnake are included because both species have the potential to occur in the Santa Clara River. Species in this guild generally are vulnerable to short-term construction-related indirect impacts, including noise and vibration, lighting, increased human activity, and altered hydrology and water quality. These species are also generally vulnerable to long-term indirect effects including noise; lighting; increased human activity; altered hydrology and water quality; pet, stray, and feral animals and mesopredators; pesticides; altered fire regime; vehicle collisions; exotic wildlife (especially Argentine ant); trash and garbage; and disease (e.g., viruses and chytridiomycosis caused by the chytrid fungus). For most of the species, short-term construction impacts related to noise and vibration and increased human activity could occur from disturbances adjacent to the River. For western spadefoot, noise and vibration could affect breeding populations, if present, in the main portion of the Project Site south of Six Flags Magic Mountain and well south of the River. Short-term impacts to hydrology and water quality in the River could occur during construction on the entire site. However, the *Newhall Ranch Resource Management Development Plan Floodplain Hydraulics Impacts Assessment—Santa Clara River* concluded that the Project would not substantially affect the long-term hydrology of the River. Furthermore, the Entrada South Project Site has no direct River frontage, aside from the small area in the northern portion of the Project Site near the River bank, and most of the Project-related impacts on the River would occur as a result of discharges to tributary drainages located on-site. Construction-related indirect impacts on the species in this guild would be short term but potentially significant.

There would minor, if any, long-term indirect effects of lighting and noise on the species present in the River. However, indirect impacts that can extend into open space at the broader landscape level, including reduced water quality (including pesticide runoff); increased human activity; pet, stray, and feral animals and mesopredators; altered fire regime; vehicle collisions; and trash and garbage could have a significant indirect impact on the species in this guild.

Impact BIO-59 relates to the Project's indirect impacts to individuals and suitable habitat for the Bird—Foraging Raptor guild (California condor, ferruginous hawk, golden eagle). (Note that American peregrine falcon and merlin are not included.) Species in this guild generally are vulnerable to short-term construction-related indirect impacts, including noise and increased human activity. Long-term indirect effects generally include increased human activity in open space areas, pesticides (particularly rodenticides) that could cause secondary poisoning and reduce prey abundance, and potential harassment and predation by pet, stray, and feral cats and dogs. These short-term and long-term indirect impacts

may deter species in this guild from foraging in open spaces in close proximity to urban development. Altered fire regimes may degrade foraging habitat quality by altering vegetation communities and reducing prey (although in some cases foraging habitat quality could be increased). Increased traffic would increase the chance of vehicle collisions. These indirect impacts could have a significant impact on the species in this guild.

Impact BIO-60 relates to the Project's indirect impacts to individuals and suitable habitat for the Bird—Nesting/Foraging Raptor guild (Cooper's hawk, western burrowing owl, white-tailed kite, loggerhead shrike) and the Bird—Upland Woodland guild (chipping sparrow, Lawrence's goldfinch, Nuttall's woodpecker, oak titmouse, yellow warbler). Species in these guilds generally are vulnerable to short-term construction-related indirect impacts, including noise and vibration, lighting, and increased human activity. Long-term indirect effects generally include noise; lighting; increased human activity in open space areas; altered hydrology; pesticides (particularly rodenticides) that could cause secondary poisoning and reduce prey abundance; and potential harassment and predation by pet, stray, and feral cats and dogs, and exotic wildlife (e.g., Argentine ant, which may attack young). These short-term and long-term indirect impacts may deter species in these guilds from nesting and foraging in open spaces in close proximity to urban development. Altered fire regimes may degrade nesting and foraging habitat quality by altering vegetation communities and removing or degrading potential nest sites and reducing prey (although in some cases foraging habitat quality could be increased). Altered hydrology (e.g., infiltration, runoff patterns) could degrade potential upland nest trees for Cooper's hawk and white-tailed kite and the species in the Bird—Upland Woodland guild. Increased traffic would increase the chance of vehicle collisions. Trash and garbage could attract urban-related predators such as common ravens and American crows. These indirect impacts could have a significant impact on the species in these guilds.

Impact BIO-61 relates to the Project's indirect impacts to individuals and suitable habitat for the Bird—Upland Grassland/Agriculture guild (California horned lark, grasshopper sparrow) and the Bird—Upland Scrub and Chaparral guild (Allen's hummingbird, Bell's sage sparrow, coastal California gnatcatcher, Costa's hummingbird, southern California rufous-crowned sparrow). (Note that black-chinned sparrow and rufous hummingbird are not included.) Species in these guilds generally are vulnerable to short-term construction-related indirect impacts, including noise and vibration, lighting, and increased human activity. Long-term indirect effects generally include noise; lighting; increased human activity in open space areas; pesticides that could cause secondary poisoning and reduce prey abundance; potential harassment and predation by pet, stray, and feral cats and dogs, and exotic wildlife (e.g., Argentine ants, which may attack nestlings, and brown-headed cowbirds, which may parasitize nests); and trash and garbage. These short-term and long-term indirect impacts may deter species in this guild from nesting and foraging in open spaces in close proximity to urban development. Altered

fire regimes may degrade nesting and foraging habitat quality by altering vegetation. Increased traffic would increase the chance of vehicle collisions. Trash and garbage could attract urban-related predators such as common ravens and American crows. These indirect impacts could have a significant impact on the species in these guilds.

Impact BIO-62 relates to the Project's indirect impacts to individuals and suitable habitat for the Bat guild (fringed myotis, hoary bat, long-legged myotis, pallid bat, pocketed free-tailed bat, silver-haired bat, Townsend's big-eared bat, western mastiff bat, western long-eared myotis, western red bat, western small-footed myotis, Yuma myotis). Species in this guild that may roost on the Project Site generally are vulnerable to short-term construction-related indirect impacts, including noise and vibration, lighting, and increased human activity. Long-term indirect effects generally include noise, lighting, increased human activity in open space areas, altered hydrology, pesticides that could cause secondary poisoning and reduce prey abundance, and potential harassment and predation by pet, stray, and feral cats and dogs. Species roosting in the Project vicinity (e.g., in the Santa Clara River) would be most vulnerable to these impacts. These short-term and long-term indirect impacts may deter species in this guild from roosting or foraging in open spaces in close proximity to urban development. Altered fire regimes may degrade roosting and foraging habitat quality by altering vegetation and removing or degrading roost sites. Altered hydrology could affect prey availability and degrade trees that serve as roost sites. These indirect impacts could have a significant impact on the species in this guild.

Impact BIO-63 relates to the Project's indirect impacts to individuals and suitable habitat for the Mammal—Low Mobility guild (San Diego desert woodrat) and the Mammal—Moderate Mobility guild (American badger, San Diego black-tailed jackrabbit). Species in this guild generally are vulnerable to short-term construction-related indirect impacts, including noise and vibration, lighting, and increased human activity. Long-term indirect effects generally include noise, lighting, increased human activity in open space areas, pesticides that could cause secondary poisoning and reduce prey abundance, and potential harassment and predation by pet, stray, and feral cats and dogs. These short-term and long-term indirect impacts may deter species in this guild from using open spaces in close proximity to urban development. Altered fire regimes may degrade habitat quality by altering vegetation composition and structure. Increased traffic may increase the chance of vehicle collisions. These indirect impacts could have a significant impact on the species in this guild.

Impact BIO-64 relates to the Project's indirect impacts to individuals and suitable habitat for the Mammal—High Mobility guild (mountain lion). (Note that mule deer is not included.) Mountain lions may be vulnerable to short-term construction-related indirect impacts, including noise and vibration, lighting, and increased human activity.

Long-term indirect effects generally include noise, lighting, increased human activity in open space areas, and potential harassment, and predation by pet, stray, and feral dogs. These short-term and long-term indirect impacts may deter this species from using open space in close proximity to urban development. Altered fire regimes may degrade habitat quality by altering vegetation composition and structure. Increased traffic may increase the chance of vehicle collisions. These indirect impacts could have a significant impact on the mountain lion.

Impact BIO-65 relates to the Project's indirect impacts to individuals and suitable habitat for the Aquatic/Riparian guild (fish, riparian birds). (Note that southern steelhead is not included; see Subsection 3.d.(2)(c), Indirect Impacts to Other Special-Status Species—Southern Steelhead.) Several special-status fish and riparian birds occur off site in the Santa Clara River. These species could be indirectly affected in the short term during construction and in the long term by development. Altered hydrology and water quality are the main potential indirect impacts during construction. Altered hydrology and water quality (including pesticide runoff), altered fire regime (which may directly remove riparian and wetland vegetation), exotic wildlife (e.g., brown-headed cowbird), and trash and garbage from recreation activities are potential long-term indirect impacts. Altered hydrology and vegetation could also affect water temperature and water chemistry, which may affect habitat suitability for the fish. These indirect impacts could have a significant impact on this guild. These impacts would be reduced to less than significant by the following proposed mitigation measures.

Mitigation for Impacts BIO-55 through BIO-65

Various measures requiring pre-construction surveys for special-status species would provide pre-Project information to identify potential indirect impacts to various species. All San Emigdio blue butterfly habitat would be flagged prior to construction per MM ES- 5.4-50, and the boundaries of the habitat would be identified to construction personnel to prevent the inadvertent construction related loss of quail brush (*Atriplex lentiformis*) or other host plants associated with the habitat. Pre-construction surveys for active bird nests would be conducted per MM ES 5.4-43 and work within up to 500 feet of any active nest would be postponed until young have fledged; MM ES 5.4-43 would provide protection from construction-related indirect impacts to species in the Bird—Nesting/Foraging Raptor, Bird—Upland Grassland/Agriculture, Bird—Upland Scrub and Chaparral, Bird—Upland Woodland, and Aquatic/Riparian guilds. MM ES 5.4-44 provides similar protection specifically for western burrowing owls. For Bat guild species, pre-construction surveys for active roosts would be conducted per MM ES 5.4-47 and, if an active maternity roost is found, all work within 300 feet of the roost would be postponed until the roost is vacated and juveniles have fledged. Pre-construction surveys for American badger would be conducted per MM ES 5.4-36, and construction within 200 feet of any maternity den would be postponed during the pup-rearing season (February 15

through July 1) until the den is vacated. A 50-foot avoidance area would be established around other occupied non-maternity dens. For mountain lions, pre-construction surveys per MM ES 5.4-46 would be conducted in all areas within 2,000 feet of disturbance activities for natal dens 30 days prior to construction activities. If any mountain lion natal dens are found, a qualified biologist would determine an appropriate setback, and no construction would take place within the designated setback until the cubs have been successfully reared and the cats have left the area.

Several other measures would provide mitigation for specific short-term indirect impacts. MM ES 5.4-40 provides for pre-construction educational meetings, construction-limit staking, and biological monitoring during vegetation clearing and grading activities. Under MM ES 5.4-40 all construction/contractor personnel would complete a WEAP to ensure compliance with environmental/permit regulations and mitigation measures. Construction-limits staking and biological monitoring would prevent inadvertent impacts on species of all guilds and their habitat. MM ES 5.4-14 requires that construction plans include necessary design features and construction notes to ensure protection of vegetation communities and special-status plant and aquatic wildlife species adjacent to construction. In addition to erosion control and dust control, the Project SWPPP shall include BMPs to minimize indirect impacts. These requirements would ensure protection of adjacent habitats and wildlife species during construction.

MM ES 5.4-53 requires implementation and maintenance of dust control measures to prevent dust from impacting vegetation communities and special-status plant and aquatic wildlife species. Where determined necessary by a qualified biologist, a screening fence would be installed to protect special-status species locations. MM ES 5.4-38 ensures that water containing mud, silt, or other pollutants from construction activities would not be allowed to enter a flowing stream or be placed in locations that may be subject to normal storm flows during periods when storm flows can reasonably be expected to occur. Finally, MM ES 5.4-71 requires several fire prevention measures during the construction period, including a fire watch during welding operations; spark arresters on all equipment or vehicles operating in a high fire hazard area; designated smoking and non-smoking areas; and water availability pursuant to the County Fire Department requirements.

Long-term development-related indirect impacts to special-status wildlife, as discussed above, include noise, lighting, increased predation or harassment by pet, stray, and feral cats and dogs as well as other mesopredators, invasion by exotic wildlife species, pesticide use, altered fire regimes, and increased roadkill. The Applicant would implement measures that require preservation, enhancement and restoration, and management. MM ES 5.4-61 and MM ES 5.4-62 would result in protection and management of California annual grassland, agriculture, and disturbed land on lands owned by the Applicant.

Management of this area would, in part, mitigate long-term indirect impacts to species in the Reptile—Low Mobility, Reptile and Amphibian—Semi-Aquatic, Bird—Nesting/Foraging Raptor, Bat, Mammal—Low Mobility, Mammal—Moderate Mobility, Mammal—High Mobility, and Aquatic/Riparian guilds in the Project vicinity, on-site within Entrada South, and within the High Country SMA/SEA, Salt Creek area, and other open space within lands owned by the Applicant. In addition, other measures would mitigate specific indirect impacts to wildlife species. MM ES 5.4-60 would ensure that all lighting along the perimeter of natural areas will be downcast luminaries with light patterns directed away from natural areas. MM ES 5.4-49 requires implementation of the Integrated Pest Management Plan that would ensure that pesticide and rodenticide use application methods avoid and minimize adverse effects on the natural environment. Trash and garbage would be controlled in areas adjacent to development through implementation of MM ES 5.4-72, which requires installation of waste and recycling receptacles that discourage wildlife foraging in common areas/parks. MM ES 5.4-70 would ensure that the wildfire fuel modification plan will be consistent with the County fuel modification ordinance requirements and will include tree pruning, removal of dead plant material, and weed and grass cutting.

Several other mitigation measures would result in the control of exotic wildlife and plant species and thus benefit wildlife species that persist in open space adjacent to development. These include MM ES 5.4-56 (monitoring and control of invasive, non-native aquatic wildlife species for up to five years), MM ES 5.4-9 and MM ES 5.4-10 (control invasive exotic plant species), MM ES 5.4-48 (control of pet, stray, and feral cats and dogs in or near open space areas), MM ES 5.4-58 (quarterly monitoring and control measures for Argentine ants for up to five years), MM ES 5.4-54 (review of plant palettes and inspection of container plants for use within 200 feet of native vegetation for pests and disease; restrictions on invasive plants and irrigation), and MM ES 5.4-55 (cowbird monitoring and trapping program).

Conclusion

Based on the foregoing analysis, this Draft EIR section finds that the Project could cause significant indirect impacts to wildlife guilds, but that such impacts can be reduced to less than significant with application of the mitigation measures recommended herein. This finding is consistent with the significance determination and mitigation findings of the RMDP/SCP EIS/EIR for this impact.

(c) Indirect Impacts to Other Special-Status Species—Southern Steelhead

As discussed in detail in Appendix E of the Biota Report, indirect impacts to southern steelhead would be less than significant. The discussion below summarizes potential indirect impacts to southern steelhead.

Southern steelhead are not expected to occur in the Project area. There is no historical record of steelhead use of the Santa Clara River or tributaries upstream of Piru Creek and the "Dry Gap" (discussed below); however, southern steelhead is known to occur in the lower Santa Clara River and some tributaries.[130,131] Specifically, adult steelhead have been observed in the lower Santa Clara River and a subset of Ventura County tributaries in February, March, and early April.[132] Downstream migration of juveniles usually occurs between March and June.[133] In southern California, steelhead typically migrate to the ocean as one- or two-year-olds.[134] Out-migrating steelhead in the Santa Clara River have been observed from January through early June, but the majority of steelhead smolt emigrate during the period from March through early May, and the timing of migration strongly depends on stream flows.[135]

A recognized, natural barrier to fish migration within the Santa Clara River, referred to as the "Dry Gap," exists downstream of the Entrada South Project and upstream of the Piru Creek confluence. The Dry Gap is an ephemeral reach of the River that consists of an area downstream of the Los Angeles County/Ventura County line where surface flows are lost to the Piru groundwater basin, eliminating the possibility of upstream fish migration.

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[130] *Titus, G.G., D.C. Erman, and W.M. Snider. n.d. "History and Status of Steelhead in California Coastal Drainages South of San Francisco Bay." Forthcoming.*

[131] *Stoeker, M., and E. Kelly. 2005. "Santa Clara River Steelhead Trout: Assessment and Recovery Opportunities." Prepared for The Nature Conservancy and The Santa Clara River Trustee Council.*

[132] *U.S. Army Corps of Engineers and California Department of Fish and Wildlife. 2010. Newhall Ranch Resource Management and Development Plan and Spineflower Conservation Plan Joint Environmental Impact Statement and Environmental Impact Report. Final. SCH No. 2000011025. Los Angeles, California: Corps and CDFW. June 2010.*

[133] *Shapovalov, L., and A.C. Taft. 1954. "The Life Histories of the Steelhead Trout (Salmo gairdneri) and Silver Salmon (Oncorhynchus kisutch) with Special Reference to Waddell Creek, California, and Recommendation Regarding their Management." CDFW Fish Bulletin No. 98.*

[134] *U.S. Army Corps of Engineers and California Department of Fish and Wildlife. 2010. Newhall Ranch Resource Management and Development Plan and Spineflower Conservation Plan Joint Environmental Impact Statement and Environmental Impact Report. Final. SCH No. 2000011025. Los Angeles, California: Corps and CDFW. June 2010.*

[135] *ENTRIX Inc. 2000. "Results of Fish Passage Monitoring at the Vern Freeman Diversion Facility, Santa Clara River, 1994–1998." Final Report. Prepared for United Water Conservation District, Santa Paula, California. March 14, 2000.*

However, surface runoff during major storm events, which would include future discharges from the Entrada South Project, provides temporary surface water connections through the Dry Gap that periodically allow flows to directly reach downstream to occupied southern steelhead habitat. Therefore, there is a potential for constituents of the runoff to affect aquatic habitat occupied by the steelhead.

Short-term construction-related effects include hydrologic and water quality effects, such as sedimentation and increased turbidity, temperature changes, and pollutants (e.g., petroleum products). It is unlikely that these short-term impacts could affect southern steelhead in the Santa Clara River in downstream populations. Most construction on the Project Site is not within the Santa Clara River stream area, even in heavy flow conditions, and in any event is likely to occur during periods when the surface flow is underground in the Dry Gap. During storm flows, sedimentation and turbidity effects likely would be a minor contribution to temporary high-volume flows. In addition, the recommended mitigation measures to protect water quality during construction, including MM ES 5.4-38 (prevention of mud and pollutants from entering streams and storm flows), would further reduce any downstream effects related to sedimentation, increased turbidity, and temperature changes.

Potential long-term indirect impacts from the Project that could indirectly affect downstream habitat for southern steelhead include physical changes in the river and increased discharges that could alter base flows; timing and duration of flood flows; biochemistry; condition and composition of the substrate and aquatic and riparian vegetation (including exotic species); and water temperatures, as well as increased pollutants from irrigation runoff and increased runoff from roadways.

With regard to physical changes, the River and Tributaries Drainage Analysis found that there would be no significant impacts to water flows, velocities, depth, sedimentation, or floodplain and channel conditions downstream of the RMDP project area over the long term as a result of the proposed RMDP improvements.[136] Therefore, channel morphology and substrate composition conditions downstream that support steelhead migration in Ventura County would not be affected. These hydrologic effects were also found to be insufficient to alter the amount, location, and nature of aquatic and riparian habitats within the RMDP area and downstream into Ventura County. The River and Tributaries Drainage Analysis determined that the River would retain sufficient width to allow natural fluvial processes to continue. As a result, the mosaic of habitats in

[136] *Pacific Advanced Civil Engineering Inc. 2009. "Newhall Ranch Resource Management Development Plan Floodplain Hydraulics Impacts Assessment—Santa Clara River." Prepared for The Newhall Land and Farming Company. Fountain Valley, California: PACE.*

downstream portions of the River that support southern steelhead would not be substantially affected.

Southern steelhead (*Oncorhynchus mykiss*) are not expected to occur in the Project area because (1) the Project Site does not support suitable spawning substrate and cool water temperatures required for spawning and (2) the Project is upstream from the "Dry Gap," an area in which the Santa Clara River, except in very high flow periods, does not flow on the surface, eliminating the possibility of fish migration upstream through the area. However, southern steelhead are known to occur in the lower Santa Clara River and a subset of Ventura County tributaries. An increase in the in-stream dissolved copper concentration in the Santa Clara River where and when steelhead smolts (juveniles) are present may have a deleterious effect on the smolts. A NOAA Technical Memorandum (NOAA Memo) states that salmonid behavior, specifically predator avoidance, can be disrupted at concentrations of dissolved copper that are at or slightly above ambient background concentrations (i.e., those levels existing prior to Project development). Because southern steelhead are not expected to occur in the Project area, impacts associated with in-stream dissolved copper concentration in the Santa Clara River are addressed below in Section 6, Cumulative Impacts. Taking these factors into account, the Project's discharges are not expected to significantly impact juvenile steelhead downstream of the Project.

Threshold 5.4-2: Would the project have a substantial adverse effect on any sensitive natural communities (e.g., riparian habitat, coastal sage scrub, oak woodlands, non-jurisdictional wetlands) identified in local or regional plans, policies, regulations, or by the CDFW or USFWS?

Threshold 5.4-8: Would the project's grading, fire clearance, or flood-related improvements remove substantial natural habitat areas?

(3) Vegetation Communities

(a) Direct Impacts

Direct permanent and temporary impacts to vegetation communities on the Project Site are summarized in **Table 5.4-7**, Permanent and Temporary Impacts to Vegetation Communities and Land Covers on the Entrada South Project Site, on page 5.4-139, and shown on **Figure 5.4-11**, Entrada South Impacts to Vegetation Communities, on page 5.4-141. The Project would result in the permanent loss of approximately 435 acres (87 percent) and temporary direct impacts to approximately 15 acres (3 percent) of the vegetation communities and other land covers on the Project Site, resulting in total impacts to approximately 450 acres, or 90 percent of the site. An estimated 42 percent (181.2 acres) of the total direct permanent impacts and 86 percent (13.3 acres) of the total direct temporary impacts overlap with the Mission Village project site.

Table 5.4-7
Permanent and Temporary Impacts to Vegetation Communities and Land Covers on the Entrada South Project Site

General Physiognomic and Physical Location	General Habitat Type	Floristic Alliance	Association	Total Acreage	Direct Permanent Impacts	Direct Temporary Impacts
Grass and Herb Dominated Communities	Non-native Grassland	California annual grassland	Not mapped to association level	65.8	41.0	0.9
Scrub and Chaparral	Coastal Scrub	*Total Impacts to Coastal Scrubs*		*233.0*	*207.0*	*7.8*
		California sagebrush scrub	Not mapped to association level	123.4	105.1	5.6
			California sagebrush–coastal sagebrush	9.9	9.3	0.4
			California sagebrush–purple sage	11.6	10.0	1.6
		Restored California sagebrush scrub	Not mapped to association level	2.9	2.1	0.0
		California sagebrush–California buckwheat scrub	Not mapped to association level	85.3	80.5	0.3
	Undifferentiated Chaparral Scrubs	*Total Impacts to Chaparral Scrubs*		*25.2*	*25.2*	*0.0*
		Not mapped to alliance level	Not mapped to association level	25.1	25.1	0.0
		Thickleaf yerba santa scrub (Provisional Alliance)	Not mapped to association level	0.1	0.1	0.0
Broad Leafed Upland Tree Dominated	Oak Woodland and Forest	Valley oak forest and woodland	Valley oak/grass	5.4	4.4	0.0

Table 5.4-7 (Continued)
Permanent and Temporary Impacts to Vegetation Communities and Land Covers on the Entrada South Project Site

General Physiognomic and Physical Location	General Habitat Type	Floristic Alliance	Association	Total Acreage	Direct Permanent Impacts	Direct Temporary Impacts
Riparian and Bottomland Habitat	Low to High Elevation Riparian Scrub	Blue elderberry stands	Blue elderberry	0.2	0.2	0.0
	Other Riparian/ Wetland	*Total Impacts to Other Riparian/Wetland*		*42.7*	*41.4*	*0.5*
		Riverwash	Not mapped to association level	17.6	17.5	0.1
		Alluvial scrub	Not mapped to association level	0.3	0.3	0.0
		Big sagebrush scrub	Not mapped to association level	24.7	23.6	0.3
Man-Made Land Cover Types		*Total Impacts to Man-Made Land Covers*		*129.1*	*115.6*	*6.2*
		Agriculture	N/A	8.0	7.3	0.7
		Developed	N/A	25.0	21.3	3.4
		Disturbed land	N/A	96.1	87.0	2.2
Total				**501.4**	**434.9**	**15.5**

*Source: Dudek 2015, see the Biota Report provided in **Appendix 5.4A** of this Draft EIR.*

All of the natural vegetation types on the site would be permanently impacted, including 62 percent of the California annual grassland, 89 percent of the coastal scrubs, 99 percent of the chaparral, 82 percent of valley oak/grass, 100 percent of the blue elderberry stands, and 97 percent of the other riparian/wetlands. As explained below, these are considered significant impacts requiring mitigation.

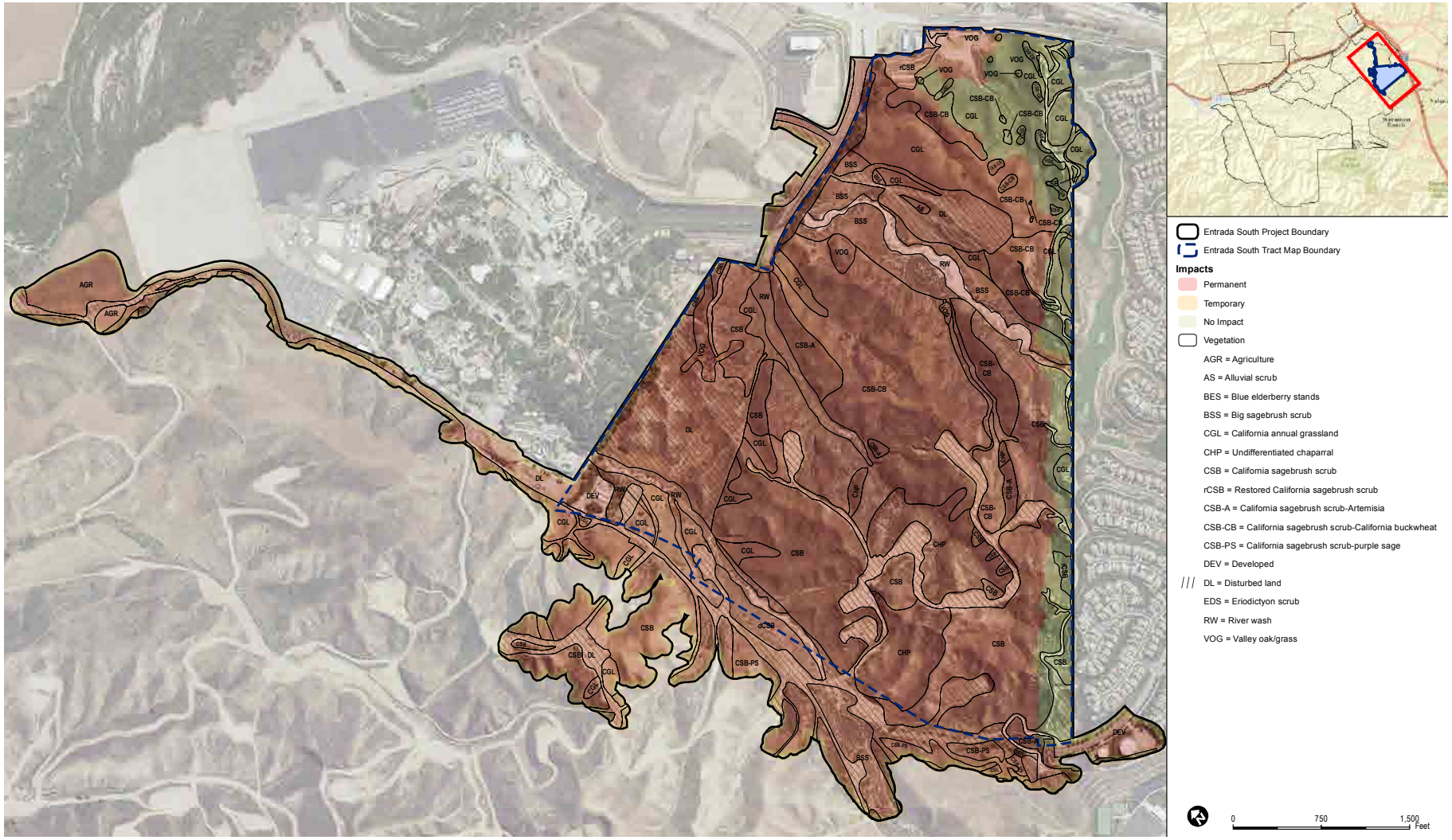

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Figure 5.4-11
Entrada South Impacts to Vegetation Communities

Source: Dudek, 2014.

The vegetation types on the Project Site that are considered special status by CDFW and/or Los Angeles County are thickleaf yerba santa scrub (G3S3), valley/oak grass (G3S3), and blue elderberry stands (G3S3).[137]

As described in the Biota Report, **Impact BIO-1**[138] relates to the Project's direct impacts to valley oak/grass. The proposed Project would result in permanent direct impacts to 4.4 acres and temporary direct impacts to less than 0.1 acre of valley oak/grass on-site. This impact would be significant because it would permanently impact 82 percent of a sensitive vegetation type on-site.

The Project Site contains 0.1 acre of thickleaf yerba santa scrub, of which almost all (0.1 acre) would be permanently impacted and less than 0.1 acre would be temporarily impacted. Yerba santa scrub has a G3S3 sensitivity, meaning that is it vulnerable globally and statewide, but not considered imperiled. Further, the Project Site is not representative of the typical environmental setting for thickleaf yerba santa scrub where protection of this community would be most needed. The maximum elevation of the Project Site is 1,438 feet (438 meters) above mean sea level, whereas thickleaf yerba santa scrub is described as occurring on typically exposed lower and upper slopes between 825 and 1,730 meters (2,207–5,676 feet) above mean sea level, although additional sampling is needed to understand this community.[139] Also, this community has not been mapped elsewhere in the RMDP/SCP project area, so the 0.1-acre stand on-site is not part of a larger occurrence of thickleaf yerba santa scrub in the Project vicinity. Therefore, although 100 percent of this vegetation type would be directly affected, the impact would be less than significant since only 0.1 acre of this vegetation community would be disturbed.

The Project Site contains 0.2 acre of blue elderberry stands. Although 100 percent of this vegetation type would be permanently directly impacted, this impact would not be significant because only a very small amount of blue elderberry stands would be affected. This is a small proportion of the approximately 13 acres of blue elderberry stands in the

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[137] *Ranking of alliances according to their degree of imperilment (as measured by rarity, trends, and threats) follows NatureServe's Heritage Methodology, in which all alliances are listed with a G (global) and S (state) rank. For alliances with State ranks of S1 and S2, all associations within them are considered to be critically imperiled or imperiled, respectively. Alliances with a State rank of S3 are considered to be moderately vulnerable to risk of extinction and could be declining, but are not yet imperiled or critically imperiled. A question mark (?) denotes an inexact numeric rank due to insufficient samples over the full expected range of the type, but existing information points to this rank.*

[138] *Impacts to oak trees are addressed under **Impact BIO-2** in Subection 3.d.(1) above as part of the analysis of impacts to plants.*

[139] *Sawyer, J.O., T. Keeler-Wolf, and J.M. Evens. 2009. A Manual of California Vegetation. 2nd edition. Sacramento, California: California Native Plant Society.*

RMDP/SCP project area. In addition, this community is categorized as G3S3 and, although considered to be vulnerable, it still has a widespread range in California. The geographic range of blue elderberry stands includes the south coast region from southern Ventura County to the U.S./Mexico border; the western Sierra Nevada foothills from Tehama County south to southern Tulare County; and the Bay Area and Delta region from southern Sonoma County south to Santa Cruz County and inland to Santa Clara, Alameda, Contra Costa, Sacramento and San Joaquin Counties. Therefore, the impact would be less than significant since only 0.2 acre of this vegetation community would be disturbed.

Impacts to the other vegetation communities and land covers listed in **Table 5.4-7**, Permanent and Temporary Impacts to Vegetation Communities and Land Covers on the Entrada South Project Site, would not be significant because: (1) they are not designated as special-status by the resource agencies; and (2) they are generally widespread in the region and the Project's impacts would not substantially reduce their abundance and/or distribution. However, to the extent impacts to these vegetation communities would result in habitat loss for special-status plant and wildlife species, such losses, if deemed significant, would be mitigated through a variety of measures, including dedication and management of open space supporting these communities. Therefore, even though mitigation is not required to offset the loss of non-sensitive vegetation communities (e.g., coastal scrub), mitigation for significant impacts to an associated special-status species would provide de facto mitigation for these communities.

Based on the foregoing analysis, this Draft EIR section finds that the Project has the potential to cause significant direct impacts to vegetation communities, but that such impacts can be reduced to less than significant with application of the mitigation measures recommended herein. This determination is consistent with the significance determination and mitigation finding of the RMDP/SCP EIS/EIR for this impact.

(b) Indirect Impacts

Short-term construction effects to vegetation communities may include fugitive dust; runoff, sedimentation, chemical pollution, and erosion; litter; and accidental clearing, grading, and trampling. Excessive dust from short-term construction can decrease or limit plant survivorship by decreasing photosynthetic output, reducing transpiration, and adversely affecting reproductive success. Construction or other infrastructure upgrades including mass grading can severely or permanently alter the surface hydrology in an area and affect plant communities by reducing access to sheet flow during rain events or increasing the chance of erosion. Operation and maintenance of construction equipment can increase the chance of petroleum or other chemical spills or leaks (e.g., fuels, lubricants, cleaning solutions) that can enter soil and/or surface waters and affect off-site

vegetation. Vegetation can also be crushed through the inadvertent clearing of vegetation located outside the designated Project footprint.

Over the long term, increases in human activity along the open space–urban interface and within open space areas (e.g., use of trails within and adjacent to the Santa Clara River SMA/SEA, High Country SMA/SEA, and Salt Creek area) may also result in the trampling of vegetation and compaction of soils. This can affect the long-term viability of plant communities and degrade wildlife habitat quality. Trampling of vegetation and compaction of soils also interacts with the soil chemistry and can affect soil moisture, water penetration, surface flows, and erosion. Other long-term secondary effects include the following:

- Fertilizers and herbicides may penetrate open space areas through run-off and overspray, adversely affect vegetation communities by killing or weakening native species and/or allowing establishment of non-native species in edge areas.

- Increased urban and stormwater runoff from impervious surfaces such as roads or structures may result in long-term hydrological alterations including increased runoff volume.

- Increased peak flow rates, increased duration of flows, and altered patterns in the tributary drainages on-site.

- Invasive plant species that thrive in edge habitats are a well-documented problem along the open space–urban interfaces in southern California. Invasive species can degrade habitat by forming monocultures that displace native communities and can colonize virtually any area that is subject to some kind of disturbance, such as the banks of stream channels and adjacent upland areas including road shoulders, cleared zones along housing developments, and fire breaks.

- Urbanization also alters wildfire regimes as a result of human activities at the open space–urban interface, such as accidental ignitions from sparks from equipment such as mowers striking rocks, cigarettes, children playing with matches, and intentional ignitions such as arson. While wildfires are most likely to be ignited in edge areas, the actual effect of large wildfires can occur at the much broader landscape level, especially when fires are quickly spread into undeveloped lands by strong winds.

Note that within the general development area, the 22 acres of temporarily impacted areas would be restored as “man-made” open space. These areas would be small polygons and strips of open space that will be public amenities in the development area. Due to their small size and narrow shapes, however, they will have relatively low

long-term value as natural vegetation communities and habitat for native plants and wildlife. Therefore, these smaller man-made open space areas are not considered mitigation for biological impacts.

The Project's primary indirect effects on natural vegetation would occur outside the development area in open space areas. Specifically, as shown in **Figure 5.4-11**, Entrada South Impacts to Vegetation Communities, the Project would have indirect effects on: (1) the Entrada South Spineflower Preserve in the southeast corner of the Project Site, as well as the Magic Mountain and Airport Mesa spineflower preserves located off site but immediately adjacent to the Project Site; (2) natural open space along the southern boundary of the Project Site (i.e., the SCE easement, which is actively maintained); and (3) some small natural open space areas along the southwestern boundary. As described previously, the Project Site is currently bordered by medium-density residential housing and a golf course to the south and major commercial land uses to the north and east, including Six Flags Magic Mountain. Ultimately, the Project Site will be bordered by the Mission Village and Legacy Village communities to the west. Therefore, indirect effects on natural vegetation communities after buildout will be limited, other than within the previously mentioned spineflower preserves. However, the main concern will be indirect effects to riparian and wetland communities in the River as a result of altered hydrology and runoff. In addition, public use of the open spaces areas on-site (other than within the SCE easement and proposed Spineflower Preserve, which would not be open to the public) could result in substantial indirect effects.

Impact BIO-3

Impact BIO-3 relates to the Project's indirect impacts to vegetation communities. Most of the Project's indirect impacts to on-site vegetation communities would not be substantial. However, indirect impacts to the following could be significant: (1) on-site oaks to remain; (2) vegetation on the Entrada South, Magic Mountain, and Airport Mesa spineflower preserves; and (3) riparian/wetland communities in the Santa Clara River SMA/SEA. These impacts would be reduced to less than significant by the following proposed mitigation measures.

In order to reduce short-term and long-term indirect impacts to special-status vegetation communities resulting from Project implementation, the Applicant will implement a set of mitigation measures. Many of the proposed mitigation measures address the effects of several impacts. For example, the creation and maintenance of buffer areas (as described in the Preliminary Fuel Modification Plan, provided in **Appendix 5.15B** of this Draft EIR) can reduce the spread of wildfires, limit herbicide or fertilizer transport to native plant communities, inhibit the spread of exotic species, and attenuate the effects of human trampling on vegetation. BMPs that reduce off-site sediment transport or nuisance water (e.g., irrigation runoff) will also effectively mitigate the effects of both construction and

indirect effects including irrigation or fertilizer use. Specific mitigation measures are described below.

Mitigation for Impact BIO-3

Mitigation measures have been designed to limit the amount of particulate matter (dust) that leaves the construction area and include actions such as daily watering of disturbed areas and the use of chemical tackifiers. BMPs would also be employed to reduce the off-site transport of sediment or sediment-laden water during storm events. The applicable mitigation measures to reduce impacts from fugitive dust, runoff, erosion, sedimentation, and chemical pollutants include the previously incorporated measures MM ES 5.4-40 (pre-construction educational meetings, construction-limit staking, and biological monitoring during vegetation clearing and grading activities); MM ES 5.4-52, MM ES 5.4-25, MM ES 5.4-27, and MM ES 5.4-28 (control of construction-related dust, erosion, and water quality within spineflower preserve); and MM ES 5.4-53 (dust control measures).

The Applicant would also develop and construct a storm drain system that emulates the existing hydrology to preserve the integrity of vegetated areas. This would prevent stormwater from collecting in vegetated areas and increasing soil moisture. In some cases, increases in soil moisture can alter the vegetation community present at a site where plants have adapted to specific hydrologic conditions. Flood control facilities would be designed pursuant to adopted BMPs and NPDES permitting requirements. The Newhall Ranch Sub-Regional Stormwater Mitigation Plan prescribes the post-development stormwater management facilities to treat or detain runoff to ensure compliance with the Basin Plan and other policies regarding issues such as hydromodification. Further, drainage structures would focus on managing the amount of debris that would enter the drainage system, balancing the amount of sedimentation or erosion that would occur, and maintaining the quality of water in the drainage system at a level consistent with the Clean Water Act and Porter-Cologne Water Quality Control Act.

The possibility of herbicides or fertilizers accessing adjacent habitat may occur in a number of ways. Applicators could inadvertently apply the material to the vegetation; the chemicals can be associated with soil that washes off treated sites; or through drift from treated areas to adjacent habitat. To reduce these effects the Applicant would ensure that the use of herbicides takes place over short periods of time, and would be applied either by or under the supervision of a licensed professional to ensure that specific safety measures are followed. To reduce the potential for spills, the refueling or refilling of portable equipment shall occur within a contained area and applications would not occur during the wet season. These measures, coupled with the use of buffer areas including detention basins and naturally vegetated areas, would decrease the potential for windblown or surface transported herbicides or fertilizers from reaching adjacent vegetation. The

mitigation measures described above for short-term water quality impacts would also reduce the potential effects of changes in hydrology and use of herbicides and fertilizers.

Additional applicable mitigation measures to reduce impacts from changes in hydrology and use of herbicides and fertilizers include MM ES 5.4-33 and MM ES 5.4-34 (restrictions on storm drains within spineflower preserves); MM ES 5.4-49 (Integrated Pest Management plan); MM ES 5.4-14 (project design features, construction notes, erosion and dust control, and SWPPP BMPs to ensure protection of vegetation communities and special-status species); MM ES 5.4-68 (storm drain system requirements for spineflower preserve areas); and MM ES 5.4-65 (minimization of changes in surface water flows to spineflower preserves).

Measures to reduce indirect effects of the proposed Project include educating homeowners regarding the sensitivity of natural lands, using landscape plant species that are non-invasive or have limited potential, routine weeding of restored habitat, and using buffer areas to separate residential landscaping from natural areas. Invasive insects may also replace native insects responsible for pollinating native plant species. Applicable mitigation measures to address these invasive species impacts include MM ES 5.4-54 (review of plant palettes and inspection of container plants for use within 200 feet of native vegetation for pests and disease; restrictions on invasive plants and irrigation); MM ES 5.4-9 and MM ES 5.4-10 (control invasive exotic plant species); MM ES 5.4-29 (review of plant palettes used within 200 feet of spineflower preserves and inspection of all container plants within 200 feet for disease and pests); and MM ES 5.4-58 and MM ES 5.4-57 (control of Argentine ants).

Short-term impacts resulting from accidental clearing, grading, and trampling will be minimized through the use of clearly identified construction areas and full-time biological monitoring to reduce the potential for equipment to stray into adjacent vegetation. The applicable mitigation measures to reduce impacts from trampling and clearing of vegetation outside of the construction zone include MM ES 5.4-37 (protective fencing around oaks during clearing and grading activities); MM ES 5.4-40 (pre-construction educational meetings, construction-limit staking, and biological monitoring during vegetation clearing and grading activities); and MM ES 5.4-22, MM ES 5.4-23, and MM ES 5.4-26 (spineflower preserve temporary fencing requirements, construction documents and education of construction workers).

Long-term effects of trampling and littering would be reduced through the preservation of mitigation lands, signage, and fencing, which would prevent people from entering the preserved mitigation lands. Mitigation measures that would accomplish these goals include MM ES 5.4-61 (preservation of 25.2 acres of undifferentiated chaparral on-site and/or within lands owned by the Applicant); MM ES 5.4-62

(preservation of 67.7 acres of California annual grassland, agriculture, and/or disturbed land on-site and/or within lands owned by the Applicant); MM ES 5.4-30, MM ES 5.4-31, and MM ES 5.4-32 (restricting access to spineflower preserves through fencing and signage); MM ES 5.4-20 (guidelines for restoration and enhancement of degraded and/or damaged spineflower habitat); and MM ES 5.4-63 (temporary fencing and signage around the spineflower preserve(s), open space connections, and buffer areas; permanent fencing and signage along the spineflower preserve boundary).

Increased fire frequency or alteration of the fire regime from construction or urbanization can adversely affect special-status vegetation communities. Mitigation measures to address this effect include MM ES 5.4-21 (emergency fire response plan and response strategies for wildfire or mass movement (e.g., landslides, slope sloughing, or other geologic events) within the spineflower preserves) and MM ES 5.4-64 (fire management plan to avoid and minimize impacts to the spineflower).

Conclusion

Based on the foregoing analysis, this Draft EIR section finds that the Project has the potential to cause significant indirect impacts to vegetation communities, but that such impacts can be reduced to less than significant with application of the mitigation measures recommended herein. This finding is consistent with the significance determination and mitigation finding of the RMDP/SCP EIS/EIR for this impact.

(4) Critical Habitat

(a) Direct Impacts

(i) Arroyo Toad Critical Habitat

The Project Site includes a very small area (0.005 acre) of federally designated critical habitat (Unit 6b) for arroyo toad.[140] This area is mapped as disturbed land and would be temporarily impacted. **Impact BIO-19**, discussed above, identifies potential impacts to arroyo toads that may be aestivating in the uplands adjacent to the River as significant. However, temporary impacts to 0.005 acre of disturbed land within arroyo toad critical habitat would be less than significant because the disturbed land is not a primary constituent element of critical habitat for the species and would be a very small temporary impact, which would be restored following construction.

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[140] *76 FR 7246–7467. Final rule: "Endangered and Threatened Wildlife and Plants; Revised Critical Habitat for the Arroyo Toad." February 9, 2011. Subunit 6b includes Castaic Creek below Castaic Lake to the confluence with the Santa Clara River.*

(ii) Least Bell's Vireo Critical Habitat

The Project would directly affect 6.1 acres of federally designated critical habitat for least Bell's vireo.[141] This impact consists of (1) the permanent loss of 4.2 acres and temporary disturbance of 0.3 acre of critical habitat mapped as agriculture, (2) the permanent loss of 1.0 acre and temporary disturbance of 0.2 acre of critical habitat mapped as disturbed lands, and (3) the permanent loss of 0.2 acre and temporary disturbance of 0.2 acre of critical habitat mapped as coastal scrub. As to the impacts to agricultural and disturbed land, neither of these land cover types provide primary constituent elements of vireo critical habitat, which USFWS defines as riparian vegetation that generally contains both canopy and shrub layers and includes some associated upland shrub habitats used for foraging that are within about 100 feet of riparian vegetation.[142] With respect to impacts to coastal scrub habitat, the affected area is located west of the agricultural area approximately 300 feet from the edge of riparian vegetation along the River (see Figure 15 in the Biota Report). If the impacted coastal scrub were within 100 feet of riparian vegetation in the River, it would likely qualify as a primarily constituent element of the critical habitat. Given that it is located about 300 feet from the edge of riparian vegetation along the River, it does not constitute a primary constituent element of least Bell's vireo critical habitat. For these reasons, impacts to least Bell's vireo critical habitat would be less than significant.

Threshold 5.4-3: Would the project have a substantial adverse effect on federally or state protected wetlands (including, but not limited to, marshes, vernal pools, coastal wetlands, and drainages) or waters of the United States, as defined by Section 404 of the federal Clean Water Act (CWA) or California Fish and Game Code Section 1600 et seq., through direct removal, filling, hydrological interruption, or other means?

Threshold 5.4-9: Is a drainage course located on the Project Site that is depicted on USGS quad sheets by a dashed blue line or that may contain a bed, channel, or bank of any perennial, intermittent or ephemeral river, stream, or lake?

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[141] *59 FR 4845–4867. Final rule: "Endangered and Threatened Wildlife and Plants; Designation of Critical Habitat for the Least Bell's Vireo." February 2, 1994.*

[142] *Kus, B.E., and K.L. Miner. 1989. "The Use of Non-Riparian Habitats by Least Bell's Vireos (Vireo bellii pusillus)." In California Riparian Systems Conference: Protection, Management, and Restoration for the 1990s; September 22–24, 1988, Davis, California, ed. D.L. Abell. U.S. Forest Service General Technical Report. PSW 110. Berkeley, California: U.S. Forest Service, Pacific Northwest Forest and Range Experiment Station.*

(5) Waters and Wetlands

(a) Direct Impacts

Impact BIO-66

As described in the Biota Report, **Impact BIO-66** relates to the Project's direct impacts to waters (including wetlands) regulated by the Corps, jurisdictional streams regulated by CDFW, and waters of the State regulated by the LA Regional Water Board.

The jurisdictional waters present on the site are shown in Table 10 of the Biota Report. The Project would not directly impact the Santa Clara River itself. Impacts would occur within Magic Mountain Canyon, a USGS blue line drainage course, and within three additional unnamed creeks (Unnamed Creeks 1, 2, and 3) that run roughly north–south through the site east of Magic Mountain Canyon. Impacts to jurisdictional waters including wetlands would be as follows and are depicted in **Table 5.4-8**, Jurisdictional Impacts on the Entrada South Site, on page 5.4-151:

- Permanent direct impacts to 6.55 acres and temporary direct impacts to 0.01 acre of waters of the United States and waters of the State (out of 6.77 acres), including:
  - Permanent impacts to 6.12 acres of non-wetland waters;
  - Temporary impacts to 0.01 acre of non-wetland waters; and
  - Permanent impacts to 0.43 acre of wetland waters.
- Permanent direct impacts to 14.77 acres and temporary direct impacts to 0.04 acre of CDFW-jurisdictional streambeds (out of 15.37 acres). The CDFW-jurisdictional streambeds are inclusive of the waters of the United States and waters of the State.

These impacts to federal and state jurisdictional waters and wetlands would be significant. These impacts would be reduced to less than significant with proposed mitigation measures.

Table 5.4-8
Jurisdictional Impacts on the Entrada South Site

	Total Acres	Permanent Impacts (acres)	Temporary Impacts (acres)
Waters of the United States			
Non-Wetland Waters	*6.35*	*6.01*	*0.09*
Wetland Waters	*1.91*	*1.88*	*0.03*
Total Waters of the United States	8.26	7.89	0.12
Waters of the State			
CDFW-Jurisdictional Streambeds	15.41	14.22	0.46

*Source: "Upper Santa Clara River Watershed Study" prepared by Dudek in June 2014; included as Appendix G of the Biota Report provided in **Appendix 5.4A** of this Draft EIR.*

Mitigation for Impact BIO-66

The primary mechanism for mitigating the permanent loss of jurisdictional waters including wetlands is implementing mitigation measures designed to replace the habitat functions and services/values of jurisdictional waters/wetlands that were lost through construction and the dedication and maintenance of existing natural lands in the Santa Clara River SMA/SEA. Mitigation measures would offset the direct removal of riparian vegetation communities in the Project area.

Mitigation measures have been designed to limit the amount of particulate matter (dust) that leaves the construction area control dust and include actions such as daily watering of disturbed areas and the use of chemical tackifiers. The Applicant will use BMPs to reduce the off-site transport of sediment or sediment-laden water during storm events, including per MM ES 5.4-38 (prevention of mud and pollutants from entering streams and storm flows).

In order to reduce direct impacts to riparian vegetation communities due to the removal of vegetation, the Applicant will implement a set of mitigation measures designed to restore the functions and services/values provided by the communities lost as a result of development. These impacts would be reduced through the implementation of MM ES 5.4-1 and MM ES 5.4-2 through MM ES 5.4-14. The permanent removal of existing habitats in Corps and/or CDFW-jurisdictional areas shall be replaced by creating habitats of similar functions and values/services (see MM ES 5.4-4) on the Project Site or within lands owned by the Applicant, or as allowed under MM ES 5.4-10.

The detailed wetlands mitigation plan (MM ES 5.4-1) shall specify, at a minimum, the following: (1) the location of mitigation sites; (2) site preparation, including grading, soils preparation, and irrigation installation; (2a) the quantity (seed or nursery stock) and species of plants to be planted (all species to be native to region); (3) detailed procedures for creating additional vegetation communities; (4) methods for the removal of non-native plants; (5) a schedule and action plan to maintain and monitor the enhancement/ restoration area; (6) a list of criteria by which to measure success of the mitigation sites (e.g., percent cover and richness of native species, percent survivorship, establishment of self-sustaining native plantings, maximum allowable percent of non-native species); (7) measures to exclude unauthorized entry into the creation/enhancement areas; and (8) contingency measures in the event that mitigation efforts are not successful.

Success criteria for wetlands (MM ES 5.4-6) include:

- Regardless of the date of initial planting, any restoration site must have been without active manipulation by irrigation, planting, or seeding for a minimum of three years prior to Agency consideration of successful completion.
- The percent cover and species richness of native vegetation shall be evaluated based on local reference sites established by CDFW and the Corps for the plant communities in the impacted areas.
- Native shrubs and trees shall have at least 80 percent survivorship after two years beyond the beginning of the success evaluation start date. This may include natural recruitment.
- Non-native species cover will be no more than 5 percent absolute cover through the term of the restoration.
- Giant reed (*Arundo donax*), tamarisk (*Tamarix ramosissima*), perennial pepperweed (*Lepidium latifolium*), tree of heaven (*Ailanthus altissimus*), pampas grass (*Cortaderia selloana*) and any species listed on the California State Agricultural list or Cal-IPC invasive plant inventory will not be present on the revegetation site as of the date of completion approval.
- Using a Corps-approved assessment methodology, the compensatory mitigation site shall meet or exceed the baseline functional scores of the impact area in Corps-jurisdictional waters.

Mitigation for wetland resource impacts involves both a creation component and a restoration/enhancement component. Specifically, all impacts to jurisdictional wetlands will require a minimum 1:1 creation of new wetlands, plus additional requirements fulfilled through wetlands enhancement/restoration. Restoration mitigation ratios vary depending on: (1) habitat quality; and (2) when the restoration effort is completed in relation to

commencement of Project construction. If the restoration is completed two years or more prior to construction impact, the mitigation ratio must be 1:1, regardless of the vegetation community affected or its habitat quality. However, if the restoration is completed *less* than two years in advance of impact, the mitigation must be implemented at a 1:1 to 2:1 ratio for low reach value communities; a 1:1 to 3:1 ratio for moderate reach value communities; and a 1:1 to 4:1 ratio for high reach value communities.[143] Ratios are generally dependent upon the time it may require for restoration communities to function in a manner as those impacted, so that a predominantly woody vegetation requires more time to become established, therefore requiring a higher ratio to offset the temporary loss of function. Other vegetation communities, such as riverwash, are essentially functioning in the same capacity as that which is impacted immediately upon creation, thereby justifying a 1:1 ratio.

The Applicant will also provide buffers around waters and wetlands to minimize disturbance. A qualified biologist will monitor the construction perimeter to limit the potential for the contractor to disturb vegetation outside the proposed construction footprint. To further reduce the impacts of the Project from accidental clearing or trampling of vegetation, the Applicant will implement MM ES 5.4-67 (marking and inspection of grading perimeters; avoiding inadvertent impacts to riparian resources in the Santa Clara River SMA/SEA).

Conclusion

Based on the foregoing analysis, this Draft EIR section finds that the Project could cause significant direct impacts to waters (including wetlands) regulated by the Corps, jurisdictional streams regulated by CDFW, and waters of the State regulated by the LA Regional Water Board, but that such impacts can be reduced to less than significant with application of the mitigation measures recommended herein.

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[143] *Ratios listed by vegetation types and quality.*

HIGH reach value indicates a portion of the Santa Clara River or main tributary that scored above 0.79 Total Score using the HARC methods described in Section 4.2, Geomorphology and Riparian Resources, of the RMDP/SCP EIS/EIR.

MEDIUM reach value indicates a portion of the Santa Clara River or main tributary that scored between 0.4 and 0.79 Total Score using the HARC methodls described in Section 4.2 of the RMDP/SCP EIS/EIR.

LOW reach value indicates a portion of the Santa Clara River or main tributary that scored below 0.4 Total Score using the HARC methods described in Section 4.2 of the RMDP/SCP EIS/EIR.

(b) Indirect Impacts

Impact BIO-67

Impact BIO-67 relates to the Project's indirect impacts to waters (including wetlands) regulated by the Corps, jurisdictional streams regulated by CDFW, and waters of the State regulated by the LA Regional Water Board. The proposed Project could indirectly impact jurisdictional areas as through altered hydrology and water quality (including pesticide runoff), invasive plant species, altered fire regime (which may directly remove riparian and wetland vegetation), and increased trash and debris. This impact could be significant. These potential impacts would be reduced to less than significant by the following proposed mitigation measures.

Mitigation for Impact BIO-67

In order to reduce short-term and long-term indirect impacts to riparian plant communities resulting from the implementation of the Project, the Applicant will implement a set of mitigation measures designed to reduce or minimize the effects of the Project on these resources.

Mitigation measures have been designed to limit the amount of particulate matter (dust) that leaves the construction area control dust and include actions such as daily watering of disturbed areas and the use of chemical tackifiers. BMPs would also be employed to reduce the off-site transport of sediment or sediment-laden water during storm events. The applicable mitigation measures to reduce impacts from fugitive dust, runoff, erosion, sedimentation, and chemical pollutants include MM ES 5.4-67 (marking and inspection of grading perimeters; avoiding inadvertent impacts to riparian resources in the Santa Clara River SMA/SEA), MM ES 5.4-38 (prevention of mud and pollutants from entering streams and storm flows), MM ES 5.4-40 (pre-construction educational meetings, construction-limit staking, and biological monitoring during vegetation clearing and grading activities), and MM ES 5.4-24 (project design features, construction notes, erosion and dust control, and SWPPP BMPs to ensure protection of vegetation communities and special-status species).

The effects of invasive plants on natural communities are well documented. Invasive plants interfere in ecosystem functions by out-competing and displacing native plants and in some cases by hybridizing with native species.[144] Urbanization can adversely affect native vegetation communities by increasing the potential spread of exotics from

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[144] *Bossard, C.C., J.M. Randall, and M.C. Hoshovsky (eds). 2000. Invasive Plants of California's Wildlands. Berkeley, California: University of California Press.*

landscaping or the release of seed packets into adjoining habitat by homeowners. Mitigation measures to address these impacts include MM ES 5.4-9 and MM ES 5.4-10 (control invasive exotic plant species) and MM ES 5.4-49 (Integrated Pest Management plan).

Short-term impacts resulting from accidental clearing, grading, and trampling would be minimized through the use of clearly identified construction areas and full-time biological monitoring to reduce the potential for equipment to stray into adjacent vegetation. The applicable mitigation measures to reduce impacts from trampling and clearing of vegetation outside of the construction zone include MM ES 5.4-40 (pre-construction educational meetings, construction-limit staking, and biological monitoring during vegetation clearing and grading activities), MM ES 5.4-24 (project design features, construction notes, erosion and dust control, and SWPPP BMPs to ensure protection of vegetation communities and special-status species), and MM ES 5.4-67 (marking and inspection of grading perimeters; avoiding inadvertent impacts to riparian resources in the Santa Clara River SMA/SEA).

Conclusion

Based on the foregoing analysis, this Draft EIR section finds that the Project could cause significant indirect impacts to waters (including wetlands) regulated by the Corps, jurisdictional streams regulated by CDFW, and waters of the State regulated by the LA Regional Water Board, but that such impacts can be reduced to less than significant with application of the mitigation measures recommended herein. This finding is consistent with the significance determination and mitigation findings of the RMDP/SCP EIS/EIR for this impact.

Threshold 5.4-4: Would the project interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?

As discussed further in Section 4.4 of the Biota Report, the RMDP/SCP EIS/EIR identified Magic Mountain Canyon as one of several “tributary corridors” that connect undeveloped uplands with the Santa Clara River, which is a critical regional wildlife corridor and habitat linkage, as illustrated in **Figure 5.4-12**, Special-Status Wildlife On Site and within 0.5 Mile of Entrada South Site, on page 5.4-156. However, the Project Site generally has limited value as a wildlife corridor habitat linkage because of existing development on three sides of the site, including residential and golf course development to the south, the Old Road, Interstate 5 and the City of Santa Clarita to the east, and Six Flags Magic Mountain immediately to the north.

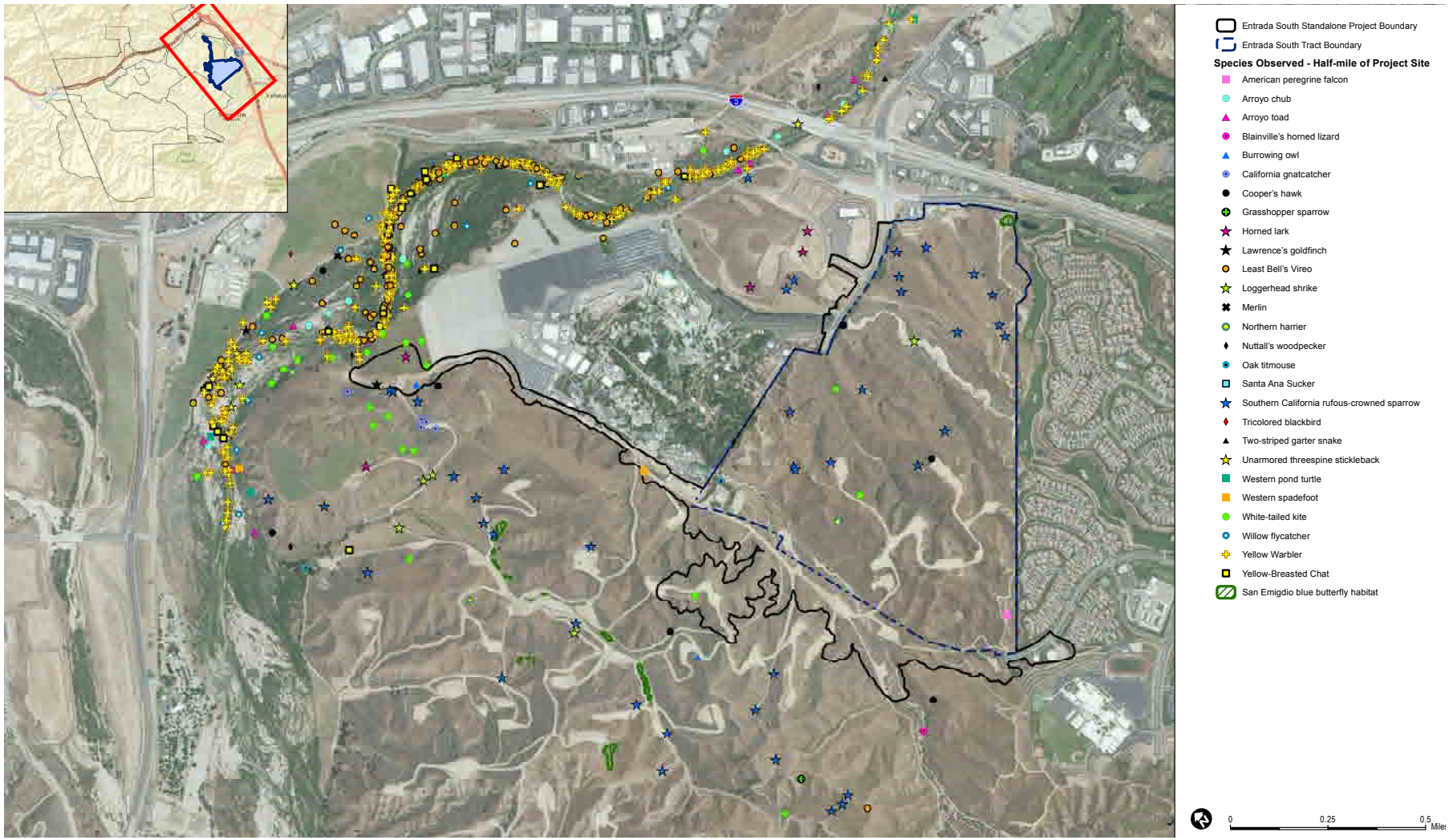

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Figure 5.4-12

Special-status Wildlife On Site and Within 0.5 Miles of Entrada South Site

Source: Dudek, 2014.

Loss of movement through Magic Mountain Canyon, a north–south wildlife corridor between the Santa Susanna Mountains and the Santa Clara River, will not substantially affect regional wildlife movement. The SCMLP did not identify the Project Site and immediate vicinity as important for regional wildlife connectivity.[145] As shown on **Figure 5.4-4**, South Coast Wildlands Open Space Connectivity and Linkage, the nearest conceptual regional linkage to the west encompasses the High Country SMA/SEA and the Salt Creek area within the Newhall Ranch Specific Plan area, which connects to the Santa Clara River.

In addition, while the vast majority of the Project Site would be developed, some connectivity between the site and nearby open space areas would be maintained. Specifically, the approximately 175-foot-wide SCE easement along the southern boundary of the Project Site will provide a habitat connection between the Spineflower Preserve proposed on-site and the planned Legacy Village open space area to the west, which will ultimately connect to the Newhall Ranch open space areas and the Santa Clara River corridor (see **Figure 5.4-10**, Special-Status Plants). Species that are somewhat "urban-tolerant" (e.g., coyote) may continue to use this linkage.

Finally, the Project would not disrupt connectivity between Important Habitat Areas that are depicted in the SCLMP, but which are not included in the regional linkage design (i.e., Important Habitat Areas would not be isolated by the Project). As shown on **Figure 5.4-4**, South Coast Wildlands Open Space Connectivity and Linkage, there is an Important Habitat Area south of the Project Site. However, this Important Habitat Area now supports the existing Westridge residential development and golf course and no longer serves as wildlife habitat.

For these reasons, the impact of the Project wildlife corridors and linkages would not be substantial and therefore would be less than significant.

Threshold 5.4-7: Would the project conflict with the provisions of an adopted state, regional, or local habitat conservation plan?

No local habitat conservation plans have been adopted for the Project area. However, conservation planning is discussed at length in the RMDP/SCP EIS/EIR. Additionally, five regional resource planning efforts are discussed above:

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[145] *Penrod, K., C. Cabanero, P. Beier, C. Luke, W. Spencer, E. Rubin, R. Sauvajot, S. Riley, and D. Kamradt. 2006. "South Coast Missing Linkages Project: A Linkage Design for the Santa Monica–Sierra Madre Connection." Idyllwild, California: South Coast Wildlands, in cooperation with the National Park Service, Santa Monica Mountains Conservancy, California State Parks, and The Nature Conservancy.*

- Newhall Ranch Specific Plan Program EIR, with Revised Additional Analysis
- Natural River Management Plan
- South Coast Missing Linkages Project
- Save Open Space and Agricultural Resources
- Santa Clarita Valley Area Plan: One Valley One Vision 2012.

The most relevant planning efforts or projects are the Newhall Ranch Specific Plan EIR, RMDP/SCP EIS/EIR, and the Area Plan. The Specific Plan EIR and RMDP/SCP EIS/EIR address development projects located on Newhall land immediately west of the Entrada South Project Site. The RMDP/SCP included the Entrada South Project, as well as the VCC Project, in portions of the plan. All three planning efforts—the Specific Plan, the RMDP/SCP, and the Entrada South Project—are interrelated and coordinated. The RMDP/SCP incorporates the Specific Plan area because they largely have the same planning area boundary. The RMDP/SCP also incorporates the Entrada South Project because they share the SCP planning area boundary. The RMDP/SCP included development within the Entrada South planning area as an "indirect effect" (i.e., development within Entrada South would be facilitated by permits issued for the RMDP /SCP) and therefore provided an analysis of the biological effects of the Entrada South Project in the larger context of the RMDP/SCP. The RMDP/SCP also identified mitigation measures that apply to impacts resulting from the Entrada South Project.

For these reasons, the Entrada South Project, as analyzed herein and in the Biota Report, is consistent with the RMDP/SCP and would not affect implementation of the RMDP/SCP. Likewise, the RMDP/SCP was developed and analyzed in the context of and coordination with the Newhall Ranch Specific Plan; therefore, the Entrada South Project is compatible with the Specific Plan and would not affect implementation of the Specific Plan. The Entrada South Project would not conflict with the RMDP/SCP or Specific Plan, and thus impacts with respect to these plans would be less than significant.

According to the Area Plan, the land use designations for the Entrada South Project Site include H2—Residential 2, H5—Residential 5, CM—Major Commercial, OS-PR—Parks and Recreation; and SP—Newhall Ranch Specific Plan. As discussed in **Section 5.11**, Land Use, of this Draft EIR, the proposed residential and commercial uses would be consistent with the Area Plan, and the Project would not conflict with relevant Area Plan goals and policies.

Both the South Coast Missing Linkages Project and SOAR are non-governmental planning initiatives. The South Coast Missing Linkages Project identified conceptual

regional wildlife connections to help focus regional planning efforts. As discussed in Section 5.5 of the Biota Report, the Project would not directly affect any regional corridors identified as part of that plan. SOAR is a nonprofit organization that seeks to maintain agricultural, open space, and rural lands within Ventura County and surrounding regions. Development activities within the SOAR boundaries are limited by county ordinance. Although SOAR provides a regional context that was incorporated into the South Coast Missing Linkages, it would not be affected by the Entrada South Project. Thus, the Entrada South Project would not conflict with South Coast Missing Linkages or SOAR planning efforts, and impacts with respect to these plans would be less than significant.

The NRMP was approved in 1998 and includes the reach of the Santa Clara River south of the Project Site downstream to the confluence with Castaic Creek, where it overlaps with the RMDP. The purpose of the NRMP is to protect resources in the River. No direct impacts to the NRMP would occur as a result of the Project, but potential indirect effects that could occur include hydrological and water quality impacts. As described in Section 5.4.2 of the Biota Report, the River and Tributaries Drainage Analysis concluded that there would be no significant impacts to water flows, velocities, depth, sedimentation, or floodplain and channel conditions downstream of the Project area over the long term as a result of development associated with or facilitated by the RMDP.[146] With regard to water quality, runoff from the site may have adverse effects in the NRMP area.

Impact BIO-68

Impact BIO-68 relates to the Project's direct adverse impacts to water quality in those segments of the Santa Clara River protected under the NRMP. The proposed Project could impair water quality in the Santa Clara River as a result of increased stormwater and urban runoff. This impact could be significant. These potential impacts would be reduced to less than significant by the following proposed mitigation measures.

Mitigation for Impact BIO-68

The proposed Project could result in both short-term and long-term indirect impacts to water quality in the NRMP portion of the Santa Clara River. The Applicant will implement a set of mitigation measures designed to reduce or minimize the potential indirect effects of the Project on the NRMP. During construction, MM ES 5.4-38 (prevention of mud and pollutants from entering streams and storm flows and MM ES 5.4-24 (project design features, construction notes, erosion and dust control, and

[146] *Pacific Advanced Civil Engineering Inc. 2010. "Revised Newhall Ranch Resource Management & Development Plan Floodplain River and Tributaries Analysis—Santa Clara River." Prepared for The Newhall Land and Farming Company. Fountain Valley, California: PACE. June 2010.*

SWPPP BMPs to ensure protection of vegetation communities and special-status species) will be implemented to prevent degradation of water quality in the Santa Clara River. BMPs will be employed to reduce the off-site transport of sediment or sediment-laden water during storm events. In addition MM ES 5.4-40 (pre-construction educational meetings, WEAP requirements, construction-limit staking, and biological monitoring during vegetation clearing and grading activities) and MM ES 5.4-67 (marking and inspection of grading perimeters; avoiding inadvertent impacts to riparian resources in the Santa Clara River SMA/SEA) will reduce the chance of fugitive dust, runoff, erosion, sedimentation, and chemical pollutants entering the River.

Over the long term, MM ES 5.4-49 (Integrated Pest Management plan) will reduce the chance of pesticides entering the River by requiring use and application methods that avoid and minimize adverse environmental effects.

Conclusion

Based on the foregoing analysis, this Draft EIR section finds that the Project could cause significant direct impacts to the NRMP portion of the Santa Clara River, but that such impacts would be reduced to a less-than-significant level with application of the mitigation measures proposed herein. This finding is consistent with the significance determination and mitigation findings of the RMDP/SCP EIS/EIR for this impact.

4. MITIGATION MEASURES

a. Newhall Ranch RMDP/SCP Mitigation Measures

In 2010, CDFG adopted mitigation measures to minimize impacts to biological resources in connection with its adoption of the Newhall Ranch RMDP/SCP EIS/EIR.[147] The County has reviewed these mitigation measures and will separately adopt those that are applicable as County mitigation measures specific to the Entrada South Project. This gives the County the option to implement the applicable mitigation measures in concert with or independently of the RMDP/SCP. Those RMDP/SCP mitigation measures that are not applicable to the Project are listed in **Appendix 2B** of this Draft EIR (as well as in Appendix F to the Biota Report) with an explanation as to why they do not apply. Both the Entrada South (ES) mitigation measure numbering and the RMDP/SCP numbering are provided in the list below; however, for ease of reference, only the Entrada South

[147] *In 2013, the California Department of Fish and Game (CDFG) became the California Department of Fish and Wildlife (CDFW). However, because the RMDP/SCP EIS/EIR mitigation measures were approved prior to the Department's name change, the Department is referred to as CDFG within the RMDP/SCP EIS/EIR mitigation measures listed below. The new Entrada South-specific mitigation measures refer to the Department as CDFW when references are to guidance after January 1, 2013.*

numbering (e.g., MM ES 5.4-1) is used in cross-references in the text of this Biota section. Additionally, where appropriate, cross-references to Project-specific (ES) mitigation measures have been added within the text of the mitigation measures below. The italicized text provided in the parentheticals below summarizes the applicability of each RMDP/SCP mitigation measure to the Project and provides necessary updated information and/or clarifications, as needed.

MM ES 5.4-1/RMDP/SCP BIO-1: Mitigation Measures SP 4.6-1 through SP 4.6-16[148] specify requirements for riparian mitigation conducted in the High Country SMA, Salt Creek area, and Open Area. The RMDP includes requirements for mitigation of both riparian and upland habitats (such as riparian adjacent big sagebrush scrub), and incorporates these Mitigation Measures (SP 4.6-1 through SP 4.6-16). A Comprehensive Mitigation Implementation Plan (CMIP) has been developed by Newhall Land that provides an outline of mitigation to offset impacts described in the RMDP. The CMIP demonstrates the feasibility of creating the required mitigation acreage from RMDP project impacts (see MM ES 5.4-2/RMDP/SCP BIO-2). However, the CMIP does not identify mitigation actions specifically for impacts to waters of the United States. But since these waters are a subset of CDFG jurisdiction, the necessary Corps mitigation requirements would be met or exceeded.[149]

Detailed riparian/wetland mitigation plans, in accordance with the CMIP, shall be submitted to, and are subject to the approval of, the Corps and CDFG as part of the subnotification letters for individual projects. Individual project submittals shall include applicable CMIP elements, complying with the requirements outlined below. The detailed wetlands mitigation plan shall specify, at a minimum, the following: (1) the location of mitigation sites; (2) site preparation, including grading, soils preparation, irrigation installation, (2a) the quantity (seed or nursery stock) and species of plants to be planted (all species to be native to region); (3) detailed procedures for creating additional vegetation communities; (4) methods for the removal of non-native plants; (5) a schedule and action plan to maintain and monitor the enhancement/restoration area; (6) a list of criteria by which to measure success of the mitigation sites (*e.g.*, percent cover and richness of native species, percent survivorship, establishment of self-

[148] *SP 4.6 mitigation measures were previously adopted by the Newhall Ranch Specific Plan Program EIR (1999, 2003) and the EIS/EIR for the RMDP/SCP (2010).*

[149] *For detailed information concerning the Corps compensatory mitigation program for impacts to waters of the United States, please reference Appendix 11.0 of the Section 404(b)1 Alternatives Analysis, included in Appendix F1.0 of the Final EIS/EIR.*

sustaining native of plantings, maximum allowable percent of non-native species); (7) measures to exclude unauthorized entry into the creation/enhancement areas; and (8) contingency measures in the event that mitigation efforts are not successful. The detailed wetlands mitigation plans shall also classify the biological value (as "high," "moderate," or "low") of the vegetation communities to be disturbed as defined in these conditions, or may be based on an agency-approved method (*e.g.*, Hybrid Assessment of Riparian Communities (HARC)). The biological value shall be used to determine mitigation replacement ratios required under MM ES 5.4-2/RMDP/SCP BIO-2 and MM ES 5.4-10/RMDP/SCP BIO-10. The detailed wetlands mitigation plans shall provide for the 3:1 replacement of any southern California black walnut to be removed from the riparian corridor for individual projects. The plan shall be subject to the approval of CDFG and the Corps and approved prior to the impact to riparian resources. MM ES 5.4-4/ RMDP/SCP BIO-4 describes that the functions and values will be assessed for the riparian areas that will be removed, and MM ES 5.4-2/RMDP/SCP BIO-2 and MM ES 5.4-10/RMDP/SCP BIO-10 describe the replacement ratios for the habitats that will be impacted.

(This measure applies to Entrada South without change, with the following exceptions and/or changes: Subnotifications apply only to those portions of Entrada South covered in the RMDP and its associated permits. For those portions of Entrada South that were not covered in the RMDP, the Applicant shall obtain separate jurisdictional impact permits. Once such permits are obtained, the Applicant may use the permits, subnotification letters, or a combination of both to provide compliance with this measure.)

MM ES 5.4-2/RMDP/SCP BIO-2: The permanent removal of existing habitats in Corps and/or CDFG jurisdictional areas in the Santa Clara River and tributaries shall be replaced by creating habitats of similar functions and values/services (see MM ES 5.4-4/RMDP/SCP BIO-4 and MM SW-3 of **Section 4.6** of the Final EIS/EIR) on the Project site, or as allowed under MM ES 5.4-10/RMDP/SCP BIO-10.

a. Permanent impacts to Corps jurisdiction (which is a subset of CDFG jurisdiction) are to be mitigated by initiating mitigation site creation and/or restoration in advance of impacts, to replace the combined loss of acreage, functions, and services at a minimum 1:1 ratio. Initiation of a Corps mitigation site is defined as: (1) completion of site preparation; (2) installation of temporary irrigation; and (3) seeding and/or planting of the mitigation site. For detailed information, please refer to the *Mitigation Plan for Impacts to Waters of the United States* included in the Draft 404(b)(1) Alternatives Analysis in **Appendix F1.0** of the Final EIS/EIR. The Potrero Canyon CAM creation and restoration site and the Mayo Crossing restoration site (*i.e.*, an existing agricultural field) are

considered the initial sites to be implemented prior to Corps jurisdictional impacts by development, thereby establishing upfront mitigation credits. As individual Project components are proposed for construction, consistent with the construction notification, quantities of mitigation acreage required to offset permanent impact acreages shall be calculated and compared to pre-mitigation area credits remaining. A project would not proceed unless adequate mitigation capacity is demonstrated. Temporary impact areas shall be mitigated in place in a manner that restores impacted functions and services as described in the mitigation plan noted above. If upfront compensatory mitigation cannot be achieved, a Corps-approved method would be utilized to determine the additional compensatory mitigation to offset the temporal loss of functions and services not included in the 1:1 mitigation ratio for permanent impacts.

These measures satisfy the Corps mitigation requirements for impacts to Corps jurisdictional areas. However, impacts to jurisdictional areas (which include all areas subject to Corps and/or CDFG jurisdiction) are also subject to all of the mitigation requirements for impacts to CDFG jurisdiction, including MM ES 5.4-2b/RMDP/SCP BIO-2b.

b. For permanent and temporary impacts to CDFG jurisdiction, consistent with the subnotification, quantities of mitigation acreage required shall be calculated in accordance with the criteria below:

- If suitable mitigation sites have met success criteria (MM ES 5.4-6/RMDP/SCP BIO-6) prior to disturbance at the impact site, the mitigation sites shall replace the permanently impacted habitats in kind at a 1:1 ratio.
- If a suitable mitigation site has not met success criteria prior to disturbance of the impact site, habitat shall be replaced in kind (tributary for tributary impacts, river for river impacts) according to the replacement ratios specified in **Table 5.4-9**, CDFG Jurisdictional Permanent Impacts Mitigation Ratios, on page 5.4-164. These ratios provide compensatory mitigation for temporal losses of riparian function by considering the existing functional condition of the resources to be impacted, as well as time required for different vegetation types to become established and mature.
- If a suitable mitigation site has not been initiated within two years following disturbance of the impact site, but is initiated within five years following such disturbance, the permanently impacted habitats shall be replaced in kind at a replacement ratio equal to the ratio required by **Table 5.4-9**, CDFG Jurisdictional Permanent Impacts Mitigation Ratios, plus 0.5:1.

Table 5.4-9
CDFG Jurisdictional Permanent Impacts Mitigation Ratios

Vegetation Community	Veg Code/ID	HIGH Reach Value[a] (Mit. Ratio)	MEDIUM Reach Value[b] (Mit. Ratio)	LOW Reach Value[c] (Mit. Ratio)
Southern Cottonwood–Willow Riparian Forrest	SCWRF	4:1	3:1	2:1
Southern Willow Scrub	SWS	3:1	2.5:1	2:1
Oak Woodland (Coast Live, Valley)	CLOW/VOW	3:1	2.5:1	2:1
Big Sagebrush Scrub	BSS	2.5:1	2:1	1.5:1
Mexican Elderberry Scrub	MES	2.5:1	2:1	1.5:1
Cismontane Alkaline Marsh	CAM	2.5:1	2:1	1.5:1
Coastal and Valley Fresh Water Marsh	CFWM	2:1	1.5:1	1:1
Mulefat Scrub	MFS	2:1	1.5:1	1.25:1
Arrowweed Scrub	AWS	2:1	1.5:1	1:1
California Sagebrush Scrub and CSB-Dominated Habitats	CSB, CSB-A, -BS, -CB, -CHP, and -PS	2:1	1.5:1	1:1
Herbaceous Wetland	HW	1.5:1	1.25:1	1:1
River Wash, Emergent Veg.	RW	1.5:1	1.25:1	1:1
Chaparral, Chamise Chaparral	CHP, CC	1.5:1	1.25:1	1:1
Coyote Brush Scrub	CYS	1.5:1	1.25:1	1:1
Eriodictyon Scrub	EDS	1.5:1	1.25:1	1:1
California Grass Lands	CGL	1:1	1:1	1:1
Agricultural / Disturbed / Developed	AGR/DL/DEV	1:1	1:1	1:1

Ratios listed by vegetation types and quality.

[a] *HIGH reach value indicates a portion of the Santa Clara River or main tributary that scored above 0.79 Total Score using the HARC methods described in* ***Section 4.2****, Geomorphology and Riparian Resources, of this EIS/EIR.*

[b] *MEDIUM reach value indicates a portion of the Santa Clara River or main tributary that scored between 0.4 and 0.79 Total Score using the HARC methods described in* ***Section 4.2.***

[c] *LOW reach value indicates a portion of the Santa Clara River or main tributary that scored below 0.4 Total Score using the HARC methods described in* ***Section 4.2.***

(For example, if mitigation for impacts to high-quality mulefat scrub were initiated three years after disturbance, the required replacement ratio would be 2.5:1.)

- If a suitable mitigation site has not been initiated within five years following disturbance of the impact site, the permanently

impacted habitats shall be replaced in kind at a replacement ratio equal to the ratio required by **Table 5.4-9**, CDFG Jurisdictional Permanent Impacts Mitigation Ratios, plus 1:1. (For example, if mitigation for impacts to high-quality mulefat scrub were initiated six years after disturbance, the required replacement ratio would be 3:1.)

- Where temporary impacts to CDFG-jurisdictional areas are proposed, the mitigation acreage required shall be determined based upon the duration of the proposed construction disturbance and the type of vegetation to be impacted. As individual Project components are proposed for construction, consistent with the subnotification process, the quantities of mitigation acreage required for temporary impacts to CDFG jurisdictional areas shall be calculated according to the following criteria:
  - If suitable mitigation sites have met success criteria prior to temporary disturbance at the impact site, the mitigation sites shall replace the temporarily impacted habitats in kind at a 1:1 ratio regardless of the duration of the temporary disturbance.
  - If the duration of temporary disturbance is less than two years, and no suitable mitigation sites have met success criteria prior to the disturbance, temporarily impacted habitats shall be replaced in kind at a 1:1 ratio, except for southern cottonwood/willow riparian forest and oak woodland habitats, which shall be replaced in kind at a ratio of 1:1 if low quality, 1.5:1 if medium quality, and 2:1 if high quality.
  - If the duration of temporary disturbance is between two and five years, and no suitable mitigation sites have met success criteria prior to the disturbance, temporarily impacted habitats shall be replaced in kind at a 1.5:1 ratio, except for southern cottonwood/willow riparian forest and oak woodland habitats, which shall be replaced in kind at a ratio of 1:1 if low quality, 1.5:1 if medium quality, and 2:1 if high quality.
  - If the duration of temporary disturbance exceeds five years, and no suitable mitigation sites have met success criteria prior to the disturbance, temporarily impacted habitats shall be replaced in kind at a 2:1 ratio, except for southern cottonwood/willow riparian forest and oak woodland habitats, which shall be replaced in kind at a ratio of 1:1 if low quality, 1.5:1 if medium quality, and 2:1 if high quality.

In lieu of the habitat replacement described above and subject to CDFG approval, removal of invasive, exotic plant species from existing CDFG jurisdictional areas, followed by restoration/revegetation, may also be used to offset impacts. If this method is employed, mitigation shall be credited at an acreage equivalent to the percentage of exotic vegetation present at the restoration site. For example, if a 10-acre jurisdictional area is occupied by 10% exotic species, restoration shall be credited for one acre of impact. If appropriate, as authorized by CDFG, reduced percentage credits may be applied for invasive removal with passive restoration (weeding and documentation of natural recruitment only).

(This measure applies to Entrada South without change, with the following exceptions and/or changes: Subnotifications apply only to those portions of Entrada South covered in the RMDP and its associated permits. For those portions of Entrada South that were not covered in the RMDP, the Applicant shall obtain separate jurisdictional impact permits. Once such permits are obtained, the Applicant may use the permits, subnotification letters, or a combination of both to provide compliance with this measure.)

MM ES 5.4-3/RMDP/SCP BIO-3: Creation of new vegetation communities and restoration of impacted vegetation communities shall occur at suitable sites in or adjacent to jurisdictional areas or in areas where bank stabilization would occur. Locations where the excavation of uplands for bank protection/stabilization results in creation of new, unvegetated creek bed or other disturbance shall receive the highest level of priority for vegetation community restoration. Restoration sites may occur at locations outside the riverbed where there are appropriate hydrologic conditions to create a self-sustaining riparian vegetation community and where upland and riparian vegetation community values are absent or very low. All sites shall contain suitable hydrological conditions and surrounding land uses to ensure a self-sustaining functioning riparian vegetation community. Candidate restoration sites shall be described in the annual mitigation status report (see MM ES 5.4-12/RMDP/SCP BIO-12). Sites will be approved when the detailed wetlands mitigation plans are submitted to the Corps and CDFG as part of the subnotification letters submitted for individual projects. Status of the sites will be addressed through agency review of the annual mitigation status report and mitigation accounting form agency review. Each mitigation plan will include acreages, maps and site-specific descriptions of the proposed revegetation site, including analysis of soils, hydrologic suitability, and present and future adjacent land uses.

(This measure applies to Entrada South without change, with the following exceptions and/or changes: Subnotifications apply only to those portions of Entrada South covered in the RMDP and its

associated permits. For those portions of Entrada South that were not covered in the RMDP, the Applicant shall obtain separate jurisdictional impact permits. Once such permits are obtained, the Applicant may use the permits, subnotification letters, or a combination of both to provide compliance with this measure.)

MM ES 5.4-4/RMDP/SCP BIO-4: Replacement vegetation communities shall be designed to replace the functions and values of the vegetation communities being removed. The replacement vegetation communities shall have similar dominant trees and understory shrubs and herbs (excluding exotic species) to those of the affected vegetation communities (see **Table 5.4-10**, Potential Plant Species for Vegetation Community Restoration in the River Corridor SMA and Tributaries, below for example of recommended plant species for the River Corridor SMA and tributaries). In addition, the replacement vegetation communities shall be designed to replicate the density and structure of the affected vegetation communities once the replacement vegetation communities have met the mitigation success criteria.

(This measure applies to Entrada South without change.)

Table 5.4-10
Potential Plant Species for Vegetation Community Restoration in the River Corridor SMA and Tributaries

Trees	
red willow	*Salix laevigata*
arroyo willow	*Salix lasiolepis*
Fremont cottonwood	*Populus fremontii*
black cottonwood	*Populus balsamifera* ssp. *trichocarpa*
western sycamore	*Platanus racemosa*
Shrubs	
mulefat	*Baccharis salicifolia*
sandbar willow	*Salix exigua*
arrow weed	*Pluchea sericea*
Herbs	
mugwort	*Artemisia douglasiana*
western ragweed	*Ambrosia psilostachya*
cattail	*Typha latifolia*
bulrush	*Scirpus americanus*
prairie bulrush	*Scirpus maritimus*

This is a recommended list. Other species may be found suitable based on site conditions and state and federal permits.

MM ES 5.4-5/RMDP/SCP BIO-5: Average plant spacing shall be determined based on an analysis of vegetation communities to be replaced. The applicant shall develop plant spacing specifications for all riparian vegetation communities to be restored. Plant spacing specifications shall be reviewed and approved by the Corps and CDFG when restoration plans are submitted to the agencies as part of the subnotification letters submitted to the Corps and CDFG for individual projects or as part of the annual mitigation status report and mitigation accounting form.

(This mitigation measure applies to Entrada South, with the following exceptions and/or changes: Subnotifications apply only to those portions of Entrada South covered in the RMDP and its associated permits. For those portions of Entrada South that were not covered in the RMDP, the Applicant shall obtain separate jurisdictional impact permits. Once such permits are obtained, the Applicant may use the permits, subnotification letters, or a combination of both to provide compliance with this measure.)

MM ES 5.4-6/RMDP/SCP BIO-6: The revegetation site will be considered "complete" upon meeting all of the following success criteria. In a subnotification letter, the applicant may request modification of success criteria on a project by project basis. Acceptance of such request will be at the discretion of CDFG and the Corps.

1. Regardless of the date of initial planting, any restoration site must have been without active manipulation by irrigation, planting, or seeding for a minimum of three years prior to Agency consideration of successful completion.
2. The percent cover and species richness of native vegetation shall be evaluated based on local reference sites established by CDFG and the Corps for the plant communities in the impacted areas.
3. Native shrubs and trees shall have at least 80% survivorship after two years beyond the beginning of the success evaluation start date. This may include natural recruitment.
4. Non-native species cover will be no more than 5% absolute cover through the term of the restoration.
5. Giant reed (*Arundo donax*), tamarisk (*Tamarix ramosissima*), perennial pepperweed (*Lepidium latifolium*), tree of heaven (*Ailanthus altissimus*), pampas grass (*Cortaderia selloana*) and any species listed on the California State Agricultural list, or Cal-IPC list of noxious weeds will not be present on the revegetation site as of the date of completion approval.
6. Using the HARC assessment methodology, the compensatory mitigation site shall meet or exceed the baseline functional scores

of the impact area in Corps' jurisdictional waters, as described in the Conceptual Mitigation Plan[150] for Waters of the United States.

(This mitigation measure applies to Entrada South, with the following exceptions and/or changes: Subnotifications apply only to those portions of Entrada South covered in the RMDP and its associated permits. For those portions of Entrada South that were not covered in the RMDP, the Applicant shall obtain separate jurisdictional impact permits. Once such permits are obtained, the Applicant may use the permits, subnotification letters, or a combination of both to provide compliance with this measure. In addition, the HARC assessment may be replaced by another Corps-approved method.)

MM ES 5.4-7/RMDP/SCP BIO-7: If at any time prior to Agency approval of the restoration area, the site is subject to an act of God (flood, fires, or drought) the applicant shall be responsible for replanting the damaged area. The site will be subject to the same success criteria provided for in MM ES 5.4-6/RMDP/SCP BIO-6. Should a second act of God occur prior to Agency approval of the restoration area, the applicant shall coordinate with the Agencies and develop an alternative restoration strategy(ies) to meet success requirements. This may include restoration elsewhere in the River Corridor or tributaries.

(This mitigation measure applies to Entrada South without change.)

MM ES 5.4-8/RMDP/SCP BIO-8: Temporary irrigation shall be installed as necessary for plant establishment. Irrigation shall continue as needed until the restoration site becomes self sustaining regarding survivorship and growth. Irrigation shall be terminated in the fall to provide the least stress to plants.

(This mitigation measure applies to Entrada South without change.)

MM ES 5.4-9/RMDP/SCP BIO-9: In areas where invasive exotic plant species control is authorized by CDFG in lieu of other riparian habitat mitigation (MM ES 5.4-2/RMDP/SCP BIO-2), removal areas shall be kept free of exotic plant species for five years after initial treatment. In areas where extensive exotic removal occurs, revegetation with native plants or natural recruitment shall be documented.

(This mitigation measure applies to Entrada South without change.)

MM ES 5.4-10/RMDP/SCP BIO-10: The exotics control program may utilize methods and procedures in accordance with the provisions in the Upper Santa Clara River Watershed Arundo/Tamarisk Removal Plan

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[150] *For detailed information concerning the Corps compensatory mitigation program for impacts to waters of the United States, please reference Appendix 11.0 of the Section 404(b)1 Alternatives Analysis, included in Appendix F1.0 of the Final EIS/EIR.*

Final Environmental Impact Report, dated February 2006, or the applicant may propose alternative methods and procedures for Corps and CDFG review and approval. Exotic plant species control will be credited at an acreage equivalent to the percentage of exotic vegetation at the restoration site. By example: a 10-acre site occupied by 10% exotic species will be credited for one acre of mitigation. The exotic weed control location will be documented on the annual mitigation status report and mitigation accounting form. If "in-lieu fees" are paid, it will be documented on the annual mitigation status report and mitigation accounting form, along with a reporting of the status of exotic vegetation treatment.

(This mitigation measure applies to Entrada South without change.)

MM ES 5.4-11/RMDP/SCP BIO-11: To provide an accurate and reliable accounting system for mitigation, the applicant utilizing the RMDP shall file a mitigation accounting form annually with the Corps and CDFG by April 1. This form shall document the amount of vegetation planted during the past year, any "in-lieu fees" paid for exotic invasive plant species control, the status of all mitigation credits to date, and any credits subtracted by projects implemented during the past year. The applicant, utilizing the RMDP, shall keep detailed records and provide a mitigation accounting form to the Corps and CDFG annually for review for the life of the permit, or until all credits have been used up for individual projects, and success criteria have been met. The Corps and CDFG shall provide concurrence within 60 days, including written verification for all restoration and weed removal sites that meet the specified performance criteria. Adequate proof of delivery of applicable reports would be required as well as subsequent notice to the Agencies requesting surety release.

(This mitigation measure applies to Entrada South without change. The mitigation accounting form only applies to that portion of Entrada South that was included in the Corps' and CDFW's RMDP permits.)

MM ES 5.4-12/RMDP/SCP BIO-12: An annual monitoring report shall be submitted to the Corps and CDFG by April 1 of each year until satisfaction of success criteria identified in MM ES 5.4-6/RMDP/SCP BIO-6, and consistent with the requirements of MM ES 5.4-12/RMDP/SCP BIO-12. This report shall include any required plans for plant spacing, locations of candidate restoration and weed control sites or proposed "in-lieu fees," restoration methods, and vegetation community restoration performance standards. For active vegetation community creation sites, the report shall include the survival, percent cover, and height of planted species; the number by species of plants replaced; an overview of the revegetation effort and its success in meeting performance criteria; the method used to assess these parameters; and photographs. For active exotics control sites, the

report shall include an assessment of weed control; a description of the relative cover of native vegetation, bare areas, and exotic vegetation; an accounting of colonization by native plants; and photographs. The report shall also include the mitigation account form (see MM ES 5.4-11/RMDP/SCP BIO-11), which outlines account information related to species palnted or exotics control and mitigation credit remaining. The annual mitigation and monitoring report shall document the current functional capacity of the compensatory mitigation site using the HARC assessment methodology, as well as documenting the baseline functional scores of the impact site in jurisdictional waters of the United States.

(This mitigation measure applies to Entrada South with the following exceptions and/or changes: The functional capacity of the compensatory mitigation site may use a different method other than the HARC assessment methodology, subject to the approval of CDFW and Los Angeles County. The mitigation accounting form only applies to that portion of Entrada South that was included in the Corps' and CDFW's RMDP permits.)

MM ES 5.4-13/RMDP/SCP BIO-15: All native riparian trees with a three-inch diameter at breast height (dbh) or greater in temporary construction areas shall be replaced using one- or five-gallon container plants, containered trees, or pole cuttings in the temporary construction areas in the winter following the construction disturbance. The mitigation ratios for temporary impacts to vegetation communities are described in MM ES 5.4-2/RMDP/SCP BIO-2. The growth and survival of the replacement trees shall meet the performance standards specified in MM ES 5.4-6/RMDP/SCP BIO-6. In addition, the growth and survival of the planted trees shall be monitored until they meet the self sustaining success criteria in accordance with the methods and reporting procedures specified in MM ES 5.4-6/RMDP/SCP BIO-6, MM ES 5.4-11/RMDP/SCP BIO-11, and MM ES 5.4-12/RMDP/ SCP BIO-12.

(This mitigation measures applies to Entrada South without change.)

MM ES 5.4-14/RMDP/SCP BIO-16: Vegetation communities temporarily impacted by the proposed Project shall be revegetated as described in MM ES 5.4-2/RMDP/SCP BIO-2. Large trunks of removed trees may also remain on site to provide habitat for invertebrates, reptiles, and small mammals or may be anchored on the Project site for erosion control. To facilitate restoration, mulch, or native topsoil (the top six- to 12-inch-deep layer containing organic material), may be salvaged from the work area prior to construction. Following construction, salvaged topsoil shall be returned to the work area and placed in the restoration site. Within one year, the Project biologist will evaluate the progress of restoration activities in the temporary impact areas to determine if

natural recruitment has been sufficient for the site to reach performance goals. In the event that native plant recruitment is determined by the Project biologist to be inadequate for successful habitat establishment, the site shall be revegetated in accordance with the methods designed for permanent impacts (*i.e.*, seeding, container plants, and/or a temporary irrigation system may be recommended). This will help ensure the success of mitigation areas. The Applicant shall restore the temporary construction area per the success criteria and ratios described in MM ES 5.4-1/RMDP/SCP BIO-1, MM ES 5.4-2/RMDP/SCP BIO-2, and MM ES 5.4-6/RMDP/SCP BIO-6. Annual monitoring reports on the status of the recovery or temporarily impacted areas shall be submitted to the Corps and CDFG as part of the annual mitigation status report (MM ES 5.4-11/RMDP/SCP BIO-11 and MM ES 5.4-12/RMDP/SCP BIO-12).

(*This mitigation measure applies to Entrada South without change*.)

MM ES 5.4-15/RMDP/SCP BIO-17: Focused surveys for arroyo toad shall be conducted. Prior to initiating construction for the installation of bridges, storm drain outlets, utility lines, bank protection, trails, and/or other construction activities, all construction sites and access roads within the riverbed as well as all riverbed areas within 1,000 feet of construction sites and access roads shall be surveyed at the appropriate season for arroyo toad. The applicant shall contract with a qualified biologist to conduct focused surveys for arroyo toad. If detected in or adjacent to the Project area, no work will be authorized within 500 feet of occupied habitat until the applicant provides concurrence from the USFWS to CDFG and the Corps. The applicant shall implement measures required by the USFWS Biological Opinion that either supplement or supersede these measures. If arroyo toads are determined to be present, the applicant shall develop and implement a monitoring plan that includes the following measures in consultation with the USFWS and CDFG:

1. The applicant shall retain a qualified biologist with demonstrated expertise with arroyo toads to monitor all construction activities in potential arroyo toad habitat and assist the applicant in the implementation of the monitoring program. This person will be approved by the USFWS prior to the onset of ground-disturbing activities. This biologist will be referred to as the authorized biologist hereafter. The authorized biologist will be present during all activities immediately adjacent to or within habitat that supports populations of arroyo toad.
2. Prior to the onset of construction activities, the applicant shall provide all personnel who will be present on work areas within or adjacent to the Project area the following information:

a. A detailed description of the arroyo toad, including color photographs;

b. The protection the arroyo toad receives under the Endangered Species Act and possible legal action that may be incurred for violation of the Act;

c. The protective measures being implemented to conserve the arroyo toad and other species during construction activities associated with the proposed Project; and

d. A point of contact if arroyo toads are observed.

3. All trash that may attract predators of the arroyo toad will be removed from work sites or completely secured at the end of each work day.

4. Prior to the onset of any construction activities, the applicant shall meet on site with staff from the USFWS and the authorized biologist. The applicant shall provide information on the general location of construction activities within habitat of the arroyo toad and the actions taken to reduce impacts to this species. Because arroyo toads may occur in various locations during different seasons of the year, the applicant, USFWS, and authorized biologists will, at this preliminary meeting, determine the seasons when specific construction activities would have the least adverse effect on arroyo toads. The goal of this effort is to reduce the level of mortality of arroyo toads during construction. The parties realize that, if arroyo toads are present, complete prevention of all mortality is likely not possible because some arroyo toads may occur anywhere within suitable habitat during any given season; the detection of every individual over large areas is impossible because of the small size, fossorial habits, and cryptic coloration of the arroyo toad.

5. Where construction can occur in habitat where arroyo toads are widely distributed, work areas will be fenced in a manner that prevents equipment and vehicles from straying from the designated work area into adjacent habitat. The authorized biologist will assist in determining the boundaries of the area to be fenced in consultation with the USFWS/CDFG. All workers will be advised that equipment and vehicles must remain within the fenced work areas.

6. The authorized biologist will direct the installation of the fence and conduct a minimum of three nocturnal surveys to move any arroyo toads from within the fenced area to suitable habitat outside of the fence. If arroyo toads are observed on the final survey or during subsequent checks, the authorized biologist will conduct additional

nocturnal surveys if he or she determines that they are necessary in concurrence with the USFWS/CDFG.

7. Fencing to exclude arroyo toads will be at least 24 inches in height.
8. The type of fencing must be approved by the authorized biologist and the USFWS/CDFG.
9. Construction activities that may occur immediately adjacent to breeding pools or other areas where large numbers of arroyo toads may congregate will be conducted during times of the year (fall/winter) when individuals have dispersed from these areas. The authorized biologist will assist the applicant in scheduling its work activities accordingly.
10. If arroyo toads are found within an area that has been fenced to exclude arroyo toads, activities will cease until the authorized biologist moves the arroyo toads.
11. If arroyo toads are found in a construction area where fencing was deemed unnecessary, work will cease until the authorized biologist moves the arroyo toads. The authorized biologist in consultation with USFWS/CDFG will then determine whether additional surveys or fencing are needed. Work may resume while this determination is being made, if deemed appropriate by the authorized biologist and USFWS.
12. Any arroyo toads found during clearance surveys or otherwise removed from work areas will be placed in nearby suitable, undisturbed habitat. The authorized biologist will determine the best location for their release, based on the condition of the vegetation, soil, and other habitat features and the proximity to human activities. Clearance surveys shall occur on a daily basis in the work area.
13. The authorized biologist will have the authority to stop all activities until appropriate corrective measures have been completed.
14. Staging areas for all construction activities will be located on previously disturbed upland areas designated for this purpose. All staging areas will be fenced within potential toad habitat.
15. To ensure that diseases are not conveyed between work sites by the authorized biologist or his or her assistants, the fieldwork code of practice developed by the Declining Amphibian Populations Task Force (DAPTF 2009) will be followed at all times.
16. Drift fence/pitfall trap surveys will be implemented in toad sensitive areas prior to construction in an effort to reduce potential mortality to this species. Prior to any construction activities in the Project area, silt fence shall be installed completely around the proposed

work area and a qualified biologist should conduct a preconstruction/clearance survey of the work area for arroyo toads. Any toads found in the work area should be relocated to suitable habitat. The silt fence shall be maintained for the duration of the work activity.

17. The applicant shall restrict work to daylight hours, except during an emergency, in order to avoid nighttime activities when arroyo toads may be present on the access road. Traffic speed should be maintained at 15 mph or less in the work area.

(This entire mitigation measure, including its subparts, applies to Entrada South, with the following exceptions and/or changes: The USFWS Biological Opinion for the RMDP applies only to a portion of Entrada South.)

MM ES 5.4-16/RMDP/SCP BIO-20: Approximately 1,900 acres of coastal scrub shall be preserved on The Project Site. The preservation of this vegetation type shall occur on site within the High Country SMA, the Salt Creek area, and the River Corridor SMA within the Specific Plan site. Irrevocable offers of dedication will be provided to CDFG for identified impact offsets in accordance with the Plan (MM ES 5.4-1/ RMDP/SCP BIO-1) using a "rough step" land dedication approach. Some of this habitat is recovering from wildfire and the expectation is that it will recover without active intervention. The functional values of any burned dedicated land areas shall be evaluated annually until such time that conditions are commensurate with the quality of the impacted habitat being mitigated. In the event that the functional value of this burned habitat has not recovered within five years of the dedication due to invasive species, to fire ecology, erosion, drought, or unforeseen events, then adaptive management pursuant to RMDP/SCP BIO-21 will be implemented for coastal scrub restoration.

(This mitigation measure applies to Entrada South, with the following exceptions and/or changes: The Project Site refers to the Newhall Ranch Specific Plan area. Approximately 310.6 acres of coastal scrub shall be preserved on lands identified in the CMIP to offset impacts associated with Entrada South; these 310.6 acres initially may be preserved in a stand-alone dedication or as part of the greater 1,900-acre dedication. This measure ensures that preserved areas will be part of a greater managed preserve system of numerous natural vegetation communities meant to support both common and special-status wildlife species. These areas support the same types of habitat that would be lost through construction and would be further enhanced through management and monitoring activities. This mitigation measure requiring dedication of 1,900 acres is to be implemented one time only by the first Newhall Ranch RMDP/SCP-related project (which

may include Entrada South) for which grading permits are issued. See the CMIP provided in Appendix A of the Biota Report.)

MM ES 5.4-17/RMDP/SCP BIO-22:

a. Newhall Land shall prepare an Oak Resource Management Plan, to be submitted for approval to CDFG and County of Los Angeles, and implemented upon approval. The Plan shall identify areas suitable for oak woodland enhancement and creation. The Plan shall distinguish between oaks to be planted in compliance with CLAOTO (MM ES 5.4-17b/RMDP/SCP BIO-22b) and the additional measures required by this EIS/EIR (MM ES 5.4-2/RMDP/SCP BIO-2 for woodlands in jurisdictional streambeds and MM ES 5.4-17c/RMDP/SCP BIO-22c and MM ES 5.4-17d/RMDP/SCP BIO-22d for upland areas).

   The Oak Resource Management Plan shall include measures to create or enhance woodlands as follows: (1) locations and acreages of mitigation sites where woodland creation or enhancement will occur; (2) a description of proposed cover and number of native trees, shrubs, and grasses per acre to be established. This description shall be based on comparable intact woodlands in the area of impact or elsewhere within the RMDP planning area, consistent with conditions of the proposed mitigation site; (3) site preparation measures to include (as appropriate) topsoil treatment, soil decompaction, erosion control, weed grow/kill cycle, or as otherwise approved by the agencies; (4) methods for the removal of non-native plants (e.g., mowing, weeding, raking, herbicide application, or burning); (5) a plant palette listing all species, including sizes, planting densities, or seeding rates, to be based on target vegetation; (6) the source of all plant propagules (e.g., seed, potted nursery stock) and the quantity and species of seed or potted stock of all plants to be introduced or planted into the mitigation areas; (7) temporary irrigation, protection from herbivores, fertilizer, weeding, etc.; (8) a schedule and action plan to maintain and monitor the enhancement/restoration areas to include, at minimum, qualitative annual monitoring for revegetation success and site degradation due to erosion, trespass, or animal damage for a period no less than five years total and no less than two years after removal of irrigation (if any); (9) where sites are near trails or other access points, measures such as fencing, signage, or security patrols to exclude unauthorized entry into the mitigation areas shall be implemented as needed; (10) tree protection standards to be implemented for individual trees or woodlands adjacent to development activity; (11) success criteria as stated in MM ES 5.4-17b/RMDP/SCP BIO-22b and MM ES 5.4-17d/RMDP/SCP BIO-22d; and (12) contingency measures, such as replanting, erosion control, irrigation system repair, or

understory re-seeding, to be implemented if habitat improvement/ restoration efforts do not meet the success criteria stated in the plan.

b. To meet the minimum mitigation criteria set forth in CLAOTO, Newhall Land will replace impacted oaks (measuring eight inches in diameter, or greater, or with a combined diameter of 12 inches for multi-stem oaks) at a ratio of 2:1. Additionally, oaks meeting the criteria for classification as a Heritage Tree (defined by CLAOTO as "any oak tree measuring 36 inches or more in diameter") will be replaced at a ratio of 10:1.

   Whether they are planted in dedicated open space areas or developed areas, replacement oak trees planted in conformance with CLAOTO shall adhere to the following standards:

   1. Replacement oak trees shall be exclusively indigenous species, shall be at least a 15-gallon size specimen, and measure at least one inch in diameter one foot above the base, unless otherwise approved by the County Forester.
   2. Replacement trees shall be properly cared for and maintained for a period of two years and replaced by Newhall Land if mortality occurs within that period.
   3. Replacement planting shall be conducted in phases as impacts occur. Alternatively, Newhall Land may choose to plant replacement trees in open space areas prior to realization of Project-related impacts (pre-mitigation). Any pre-mitigation shall adhere to the standards outlined herein.
   4. Following completion of the two-year maintenance period, the County Forester shall provide final authorization that CLAOTO standards have been met.

c. In addition to the CLAOTO requirements (MM ES 5.4-17b/RMDP/ SCP BIO-22b, above), this EIS/EIR requires replacement of oak trees at the ratios in the table below for trees lost or impacted in uplands. These trees are in addition to the CLAOTO requirement described above. These additional trees may also be incorporated into woodland habitat enhancement or creation, as described above.

   Additional replacement ratios are provided in **Table 5.4-11**, Additional MM ES 5.4-17c/RMDP/SCP BIO-22c Oak Tree Replacement Ratios, on page 5.4-178.

d. Newhall will mitigate lost oak woodlands occurring on upland sites (i.e., outside CDFG/Corps jurisdictional stream channels) by creating or enhancing oak woodlands in the Salt Creek area and High Country SMA. At minimum, Newhall Land will mitigate

Table 5.4-11
Additional MM ES 5.4-17c/RMDP/SCP BIO-22c Oak Tree Replacement Ratios

Trunk Diameter*	Mitigation Ratio
8–35	0.5:1
36 +	2.5:1

**Trunk diameter measured at 4.5 feet above mean natural grade. Mitigation required for single-stem oaks with a minimum 8-inch diameter and multi-stem oaks with a combined diameter of 12 inches.*

woodland habitat at a 1:1 ratio through creation of new oak woodlands. As an alternative, Newhall Land may choose to enhance, improve, and manage existing degraded woodland areas at a minimum 2:1 ratio for lost woodland acreage.

For woodland enhancement or replacement, dominant species (coast live oak or valley oak) and planting densities will be based on mitigation site suitability. All plant propagules, including acorns or tree cuttings and all seed or potted nursery stock of oaks or other species, shall be collected within a five-mile radius and within 1,000 feet elevation of the restoration site.

The woodland creation or enhancement sites shall be monitored for oak tree survival and vigor and other habitat values, including species diversity and wildlife use. The replacement or enhancement sites will be considered “complete” upon meeting all of the following success criteria, or as otherwise approved by CDFG. Any replacement oak trees planted in woodlands for conformance with CLAOTO will also be subject to CLAOTO performance criteria (MM ES 5.4-17b/RMDP/SCP BIO-22b).

General performance standards for woodland creation or enhancement sites include the following:

1. Regardless of the date of initial woodland creation or enhancement, each site must have been without active manipulation by irrigation, planting, or re-seeding for a minimum of three years prior to evaluation for successful completion.
2. The percent cover and species richness of restored or enhanced native vegetation shall be evaluated based on target vegetation described in the woodland creation or enhancement plan.
3. Densities (numbers/acre) of surviving, healthy oak trees shall be within 5% of the plan target density. Cover and species

richness of other native shrubs shall reach 50% of the cover and species richness described for the "target" woodland. Optimal woodland densities and acorn planting quantities, by oak woodland type, are presented in **Table 5.4-12**, Optimal Woodland Densities and Acorn Planting Quantities, by Oak Woodland Type, below.

Table 5.4-12
Optimal Woodland Densities and Acorn Planting Quantities, by Oak Woodland Type

Woodland Type	Average Existing Woodland Density (trees per acre)	Target Density for Newhall Land (trees per acre)
Coast live oak woodland	22	50
Mixed oak woodland	19	40
Valley oak woodland	16	25

4. Non-native grass cover shall not exceed the "target" woodland non-native grass cover, and other non-native species shall not exceed 10% cover at any time. Any species listed on the California State Agricultural list (CDFA 2009) or Cal-IPC list of noxious weeds (Cal-IPC 2006, 2007) will not be present on the revegetation site at the time that project success is determined.

(This mitigation measure applies to Entrada South, with the following exceptions and/or changes: The Oak Resource Management Plan includes measures to create, enhance, and/or restore 4.5 acres of valley oak/grass within lands owned by the Applicant, consistent with this measure. The plan is subject to the requirements of CLAOTO and addresses impacts to oak resources including oak trees of the sizes regulated under the County Oak Tree Ordinance, Southern California black walnut trees, and mainland cherry trees/shrubs. Species listed in the most recent versions of the California State Agricultural List and Cal-IPC list shall not be present on the revegetation site at the time that mitigation success is determined. References to the EIS/EIR above refer to the Newhall Ranch RMDP/SCP EIS/EIR.)

MM ES 5.4-18/RMDP/SCP BIO-23: A final Spineflower Conservation Plan (SCP) shall be adopted and implemented after approval by CDFG, including the permanent dedication of preserves (see draft in Appendix 1.0). The proposed spineflower preserve areas shall be offered to CDFG as a permanent conservation easement within one year after issuance of the requested 2081 Permit to ensure long-term protection. The conservation easement shall be to CDFG and contain appropriate funding and restrictions to help ensure that the spineflower preserve lands are protected in perpetuity.

(This mitigation measure applies to Entrada South and shall be implemented on-site. The appendix cited above refers to Appendix 1.0 of the RMDP/SCP EIS/EIR, which included a Draft SCP.)

MM ES 5.4-19/RMDP/SCP BIO-24: The spineflower preserves shall be managed by Newhall Land and their preserve manager(s) and/or natural lands management organization(s) (NLMO). Newhall Land shall submit a statement of qualifications for their proposed preserve manager(s)/ NLMO(s) for approval by CDFG. Newhall Land will fund in full all implementation of spineflower preserve management as described in the SCP and all mitigation measures listed in this document.

(This mitigation measure applies to Entrada South without change.)

MM ES 5.4-20/RMDP/SCP BIO-25: Disturbed portions (*i.e.*, agricultural lands, disturbed lands, and developed lands) of the spineflower preserves, including buffers, will be restored through revegetation with native plant communities. In summary, areas that have greater than 30% relative cover by weeds will be restored to have relative cover comparable to that of existing occupied spineflower habitat. Habitat restoration and enhancement plans (including restoration plans) for areas within the preserves shall be prepared at the direction of the preserve manager by a qualified biologist and submitted to the County and CDFG for approval prior to implementation. In addition, Cal-IPC List A and B plants that are present within the spineflower preserve will be controlled. Restoration and enhancement efforts within the spineflower preserve areas shall be in conformance with the Spineflower Conservtion Plan.

(This mitigation measure applies to the spineflower preserve located on the Entrada South site and shall be implemented accordingly.)

MM ES 5.4-21/RMDP/SCP BIO-26: In the event that a spineflower preserve, or buffer, or a portion of a spineflower preserve, or buffer burns in a wildfire or suffers from mass movements (*e.g.*, landslides, slope sloughing, or other geologic events), the spineflower preserve manager and Newhall Land shall promptly review the site and determine what action, if any, should be taken. The primary anticipated post-fire spineflower preserve management activity involves monitoring the site and controlling annual weeds that may invade burned areas following a fire event, especially when such weeds (that were not previously present or not present in similar densities) exceed the 30% maximum threshold (see MM ES 5.4-20/ RMDP/SCP BIO-25). If fire-control lines or other forms of bulldozer damage occur in the spineflower preserves, these areas will be repaired and revegetated to pre-burn conditions or better. An emergency fire response plan will be prepared (in accordance with MM ES 5.4-64 (MM SP 4.6-72)) prior to the establishment of the spineflower preserves and approved by CDFG and Los Angeles

County Fire Department. The preserve manager will contact the LACFD at least once every five years to review the plan and consult with them on implementation of the plan.

The same methods will be applied to mass-movement, landslide, or slope-sloughing types of events. This measure shall be implemented in conformance with the Spineflower Conservation Plan.

(This measure applies to Entrada South without change.)

MM ES 5.4-22/RMDP/SCP BIO-27: Spineflower preserve temporary fencing shall be shown on construction plans and installed prior to initiating construction clearing and grubbing activities within 500 feet of spineflower preserves, including the buffers. The spineflower preserve manager or a qualified biologist shall monitor fence installation. Clearing for fence installation shall be minimized to what is necessary to install the fence and, where possible, shall leave the roots of native plants in place to allow regrowth. As necessary, native vegetation will be restored and weed management will be performed following fence installation to ensure temporarily cleared native plant areas do not become weed dominated after installation. General Project clearing and grubbing within 500 feet of the fence may commence upon verification by the spineflower preserve manager or the qualified biologist that protective fencing is in place and is adequate. Appropriate BMPs shall be installed at the edge of development manufactured slopes when the spineflower preserve is within 500 feet and down-slope of proposed development.

(This measure applies to Entrada South without change.)

MM ES 5.4-23/RMDP/SCP BIO-28: Construction documents shall indicate that the grading contractor is responsible for protecting spineflower preserves during construction work. The construction documents shall indicate that the contractor is responsible for informing all employees and subcontractors of the environmentally sensitive areas and the proper conduct of work when working near (*e.g.*, within 500 feet) of these areas. The construction documents shall require a pre-construction meeting to perform an “environmental education session” with the grading contractor/contractor’s employees, subcontractors, and equipment operators prior to commencing construction work within 500 feet of the spineflower preserves. The environmental education session shall be conducted by the spineflower preserve manager or a qualified biologist and focus on informing workers of the location and sensitivity of the spineflower and the requirements for protecting it. The construction documents shall indicate that the grading contractor shall be responsible for mitigating any impacts to spineflower preserves due to the negligence of the grading contractor/contractor’s employees, subcontractors, or equipment operators. If accidental trespass into a spineflower preserve occurs during construction, the

violation shall be documented by the preserve manager and immediately reported to CDFG. Follow-up action will be taken in accordance with the Section 2081 of the Fish and Game Code, Incidental Take Permit issued by CDFG.

(This measure applies to Entrada South without change.)

MM ES 5.4-24/RMDP/SCP BIO-29: Construction plans shall include necessary design features and construction notes to demonstrate consistency of development in the vicinity of spineflower preserves with the Spineflower Conservation Plan (SCP). In addition to applicable erosion control plans and performance under SCAQMD Rule 403d dust control (SCAQMD 2005), the Project stormwater pollution prevention plan (SWPPP) shall include minimum BMPs. Together, the implementation of these requirements shall ensure that spineflower preserve populations are protected during construction. At a minimum, the following measures/restrictions shall be incorporated into the SWPPP and noted on construction plans, where appropriate, to avoid impacting spineflower preserves during construction:

- Avoid planting or seeding invasive species in development areas during construction phases;
- Do not use erosion control devices that may contain weeds, such as hay bales, etc., within 200 feet of spineflower preserves or anywhere upstream of spineflower preserves;
- Do not windrow or stockpile soil within 200 feet of spineflower preserve boundaries or anywhere upstream of spineflower preserves;
- Do not locate staging areas, maintenance, or concrete washout areas within 500 feet (unless otherwise authorized by CDFG, and no closer than 200 feet in any instance), where adjacent to or anywhere upstream of spineflower preserves;
- Do not store toxic compounds, including fuel, oil, lubricants, paints, release agents, or any other construction materials that could damage spineflower habitat if spilled near spineflower preserve areas, or anywhere upstream of spineflower preserves, or along spineflower preserve boundaries;
- Provide location and details for any fencing for temporary and permanent access control along preserve boundaries (per MM ES 5.4-26/RMDP/SCP BIO-31 for temporary fencing and MM ES 5.4-31/RMDP/SCP BIO-36 for permanent fencing);
- Provide location and details for any dust control fencing along preserve boundaries (per MM ES 5.4-27/RMDP/SCP BIO-32); and

- Provide location and details for any stormwater run-on controls/ BMPs coming from development area to spineflower preserve (per MM ES 5.4-33/RMDP/SCP BIO-38 and MM ES 5.4-34/RMDP/ SCP BIO-39).

(This measure applies to Entrada South without change.)

MM ES 5.4-25/RMDP/SCP BIO-30: The spineflower preserve manager or qualified biologist shall review construction plans and specifications, SWPPP, and, where appropriate, erosion control plans and implementation of SCAQMD Rule 403d dust control measures (SCAQMD 2005) prior to construction within 500 feet of spineflower preserves for compliance with the Spineflower Conservation Plan and associated permits and Project-related environmental documents. A copy of the SWPPP and associated monitoring reports will be provided to CDFG.

(This measure applies to Entrada South without change.)

MM ES 5.4-26/RMDP/SCP BIO-31: Spineflower preserves shall be protected prior to clearing and during construction with temporary construction fencing as described in MM ES 5.4-22/RMDP/SCP BIO-27. Openings shall be included in the fence when located within wildlife corridors and vegetation community connectivity areas to allow for the safe passage of wildlife. The spineflower preserve manager or a qualified biologist shall indicate the location and width of each of these openings. The fencing shall be three-strand non-barbed wire fence or bright orange U.V. stabilized polyethylene construction “snow” fencing, attached to metal T-posts that extend at least four feet above grade or equivalent. Protective fencing shall be maintained in good condition until completion of Project construction. Where construction activities occur within 500 feet of a spineflower preserve, the spineflower preserve manager or qualified biologist shall review fencing weekly during construction monitoring visits and note any fencing that is in need of repair. Repairs shall be completed within three working days of notification by the spineflower preserve manager or qualified biologist.

(This measure applies to Entrada South without change.)

MM ES 5.4-27/RMDP/SCP BIO-32: Development areas shall have dust control measures implemented and maintained to prevent dust from impacting vegetation within the spineflower preserve areas. Dust control shall be implemented during construction in compliance with SCAQMD Rule 403d (SCAQMD 2005). Where construction activities occur within 100 feet of a spineflower location, chemical dust suppression shall not be utilized. Where determined necessary by the spineflower preserve manager or qualified biologist, a screening fence (*i.e.*, a six-foot-high chain link fence with green fabric up to a height of five feet) shall be installed to protect spineflower locations.

(This measure applies to Entrada South without change.)

MM ES 5.4-28/RMDP/SCP BIO-33: The spineflower preserve manager or qualified biologist shall perform weekly construction monitoring for all construction activities within 500 feet of spineflower preserve areas. The spineflower preserve manager's or qualified biologist's construction monitoring tasks shall include reviewing and approving protective fencing, dust control measures, and erosion control devices before construction work begins; conducting a contractor education session at the preconstruction meeting; reviewing the site weekly (minimum) during construction to ensure the fencing, dust control, and BMP measures are in place and functioning correctly and that work is not directly or indirectly impacting spineflower plants; and quarterly monitoring shall be initiated for Argentine ants along the construction–open space interface at sentinel locations where invasions could occur (*e.g.*, where moist microhabitats that attract Argentine ants may be created). A qualified biologist shall determine the monitoring locations. Ant pitfall traps will be placed in these sentinel locations and operated on a quarterly basis to detect invasion by Argentine ants. If Argentine ants are detected during monitoring, direct control measures will be implemented immediately to help prevent the invasion from worsening. These direct controls may include but are not limited to nest/mound insecticide treatment, or available natural control methods being developed. A general reconnaissance of the infested area would also be conducted to identify and correct the possible source of the invasion, such as uncontrolled urban runoff, leaking pipes, or collected water. Each site visit shall be followed up with a summary monitoring report sent electronically to Newhall Land indicating the status of the site. Monthly monitoring reports, as needed, shall be submitted to CDFG and the County of Los Angeles. Monitoring reports shall include remedial recommendations and issue resolution discussions when necessary.

(This measure applies to Entrada South without change.)

MM ES 5.4-29/RMDP/SCP BIO-34: Plant palettes proposed for use on landscaped slopes, street medians, park sites, and other public landscaped and FMZ areas within 200 feet of a spineflower preserve shall be reviewed and approved within 30 days by the spineflower preserve manager or qualified biologist and CDFG to ensure that the proposed landscape plants will not naturalize and require maintenance or cause vegetation community degradation in the spineflower preserve and buffer areas. Container plants to be installed within public areas within 200 feet of the spineflower preserves shall be inspected by the spineflower preserve manager or qualified biologist for the presence of disease, weeds, and pests, including Argentine ants. Plants with pests, weeds, or diseases shall be rejected. In addition, for public areas within 200 feet of spineflower preserves, landscape plants shall not be on the Cal-IPC California Invasive Plant Inventory (most recent version) or on

the list of Invasive Ornamental Plants listed in Appendix B of the SCP. The current Cal-IPC list can be obtained from the Cal-IPC web site (www.cal-ipc.org/ip/inventory/index.php).

(This measure applies to Entrada South without change, except that the current Cal-IPC website is www.cal-ipc.org/ip/inventory/.)

MM ES 5.4-30/RMDP/SCP BIO-35: All portions of the spineflower preserves shall be closed, with the exception of pre-identified existing dirt roads and utility easements. The pre-identified existing dirt roads and utility easement access roads shall function as access routes for the spineflower preserve manager, spineflower preserve maintenance personnel, utility personnel, and emergency services vehicles only (*e.g.*, police, fire, and medical). No other vehicle or foot traffic, including nature or recreational trails, will be permitted in the preserve, including the buffer. The dirt roads shall be gated and locked at the outside edges of the buffer zone. Signs discouraging unauthorized access shall be posted. The only persons or entities issued gate keys shall be the spineflower preserve managers and their employees, easement holding utility companies, emergency services, Newhall Land, and CDFG.

(This measure applies to Entrada South without change.)

MM ES 5.4-31/RMDP/SCP BIO-36: Fencing shall be installed along the outside edge of the spineflower preserve and buffer areas adjacent to proposed developments, parks, golf courses, or other "active land uses" to prevent unauthorized access. Specific areas that are adequately protected by steep terrain (1.5:1 or steeper) and/or dense vegetation may not require fencing but would require signage. The determination of the need for fencing in these areas shall be subject to the approval of the spineflower preserve manager or qualified biologist. If monitoring determines that slope and/or vegetation is not effective at deterring unauthorized access, additional fencing may be required by the spineflower preserve manager or qualified biologist. Fencing is not required in areas bordered by large parcels of conserved natural open space areas or the Santa Clara River riparian corridor, as installing fencing in these areas would be unnecessary and damaging to existing vegetation and wildlife corridors.

Fencing must extend a minimum of four feet above grade and include wood-doweled split rail fencing, exterior grade heavy-duty vinyl three-railed fencing, three-strand non-barbed wire, or similar. Fencing installed adjacent to native vegetation communities and natural open space areas will allow for the passage of animals.

(This measure applies to Entrada South without change.)

MM ES 5.4-32/RMDP/SCP BIO-37: Outdoor all-weather signs measuring approximately 12 by 16 inches shall be posted on all spineflower

preserve access gates and along spineflower preserve fencing at approximately 800 feet on center, except adjacent to road crossings, where signs will be posted. The placement will take topography into account, emphasizing placement on ridgelines where signs will be visible to emergency fire personnel and others. Signs shall state in English and Spanish that the area is a biological preserve that hosts a state-listed endangered and federal candidate plant species and that trespassing is prohibited (in accordance with MM ES 5.4-63 (MM SP 4.6-68)). Signs shall indicate that fuel modification and management work is not allowed within the spineflower preserve (including buffer areas). The signage shall state that people who do not abide by these rules or who damage the protected species will be subject to prosecution, including fines and/or imprisonment. All signage shall include emergency contact information and shall be reviewed and approved by the spineflower preserve manager or qualified biologist.

(This measure applies to Entrada South without change.)

MM ES 5.4-33/RMDP/SCP BIO-38: Storm drain outfalls from proposed development areas shall only be installed uphill from spineflower preserve areas where necessary to retain pre-construction hydrological conditions within the spineflower preserves, sustain existing riparian and wetland vegetation communities, and/or allow for the restoration of currently disturbed areas to native riparian/alluvial vegetation communities. When located in a spineflower preserve area, storm drains must meet the following criteria:

- Storm drains must not impact spineflower either directly or indirectly, and
- Under no circumstances shall storm drains daylight onto steeply sloped areas or other areas that would cause erosion.

(This measure applies to Entrada South without change.)

MM ES 5.4-34/RMDP/SCP BIO-39: Any surface water entering a spineflower preserve area from development areas during construction is required to pass through BMP measures, which will be described in the SWPPP. Storm drain outlets must contain hydrologic controls (*e.g.*, adequate energy dissipaters) to prevent downstream erosion and stream channel down-cutting. Additionally, storm drain outlets must be designed based on pre- and post-construction hydrological studies (in accordance with MM ES 5.4-68 (MM SP 4.6-69)). Storm drains and permanent structural BMPs shall be designed by a licensed civil engineer. Requirements of MM ES 5.4-24/RMDP/SCP BIO-29 and MM ES 5.4-33/RMDP/SCP BIO-38, where applicable, shall be incorporated into the facility design and shall be subject to approval by the spineflower manager or qualified biologist. Long-term

maintenance of storm drain BMPs will be the responsibility of the designated maintenance entity.

(This measure applies to Entrada South without change.)

MM ES 5.4-35/RMDP/SCP BIO-40: The Draft RMDP Slender Mariposa Lily Mitigation and Monitoring Plan (Dudek 2007c) shall be revised and submitted to CDFG for review and approval prior to ground disturbance to occupied habitat. Upon approval, the plan will be implemented by the applicant or its designee. The revised plan will demonstrate the feasibility of enhancing or restoring slender mariposa lily habitat in selected areas to be managed as natural open space (*i.e.*, the Salt Creek area or High Country SMA, spineflower preserves, or River Corridor SMA) without conflicting with other resource management objectives. Habitat replacement/enhancement will be at a 1:1 ratio (acres restored/enhanced to acres impacted).

The revised plan will describe habitat improvement/restoration measures to be completed prior to introducing slender mariposa lily. Habitat improvement/restoration will be based on native occupied slender mariposa lily habitat. The revised plan will specify: (1) the location of mitigation sites (may be selected from among 559 acres of suitable mitigation land in the High Country SMA and Salt Creek area identified in the Draft Newhall Ranch Mitigation Feasibility Study (Dudek 2007a); (2) a description of "target" vegetation (native shrubland or grassland) to include estimated cover and abundance of native shrubs and grasses in occupied slender mariposa lily habitat on Newhall Ranch land (either at sites to be destroyed by construction or at sites to be preserved); (3) site preparation measures to include topsoil treatment, soil decompaction, erosion control, temporary irrigation systems, or other measures as appropriate; (4) methods for the removal of non-native plants (*e.g.*, mowing, weeding, raking, herbicide application, or burning); (5) the source of all plant propagules (seed, potted nursery stock, *etc.*), the quantity and species of seed or potted stock of all plants to be introduced or planted into the restoration/enhancement areas; (6) a schedule and action plan to maintain and monitor the enhancement/restoration areas, to include at minimum, qualitative annual monitoring for revegetation success and site degradation due to erosion, trespass, or animal damage for a period no less than two years; (7) as needed where sites are near trails or other access points, measures such as fencing, signage, or security patrols to exclude unauthorized entry into the restoration/enhancement areas; and (8) contingency measures such as replanting, weed control, or erosion control to be implemented if habitat improvement/restoration efforts are not successful.

Habitat restoration/enhancement will be judged successful when: (1) percent cover and species richness of native species reach 50% of

their cover and species richness at undisturbed occupied slender mariposa lily habitat at reference sites; and (2) the replacement vegetation has persisted at least one summer without irrigation. At that point slender mariposa lily propagules (seed or bulbs) will be introduced onto the site.

The revised plan will specify methods to collect propagules and introduce slender mariposa lily into these mitigation sites. Introductions will use source material (seeds or bulbs) from no more than 1.0 mile distant, similar slope exposures, and no more than 500 feet elevational difference from the mitigation site, unless otherwise approved by CDFG. Bulbs may be salvaged and transplanted from slender mariposa lily occurrences to be lost; alternately, seed may be collected from protected occurrences, following CDFG-approved seed collection guidelines (*i.e.*, MOU for rare plant seed collection). No bulbs will be translocated into areas within 300 feet of proposed or existing development. Newhall Land or its designee will monitor the reintroduction sites for no fewer than five additional years to estimate slender mariposa lily survivorship (for bulbs) or seedling establishment (for seeded sites).

Annual monitoring reports will be prepared and submitted to CDFG and will be made available to the public to guide future mitigation planning for slender mariposa lily. Monitoring reports will describe all restoration/enhancement measures taken in the preceding year; describe success and completion of those efforts and other pertinent site conditions (erosion, trespass, animal damage) in qualitative terms; and describe mariposa lily survival or establishment in quantitative terms.

A minimum of 133 acres of slender mariposa lily cumulative occupied area will be conserved and managed in the RMDP and SCP Project boundaries. Of these 133 acres, approximately 103 acres of slender mariposa lily cumulative occupied area will be conserved and managed in the RMDP and SCP Project boundary in the High Country SMA and Salt Creek area, and two acres occur within the River Corridor SMA and/or proposed spineflower preserves. Additional cumulative occupied area will be conserved and managed in the San Martinez Grande Canyon area at a 1:1 ratio (acres conserved and managed to acres impacted) based on impacts to cumulative occupied area, as a means to ensure regional biodiversity of the species.

(This measure applies to Entrada South, with the following exceptions and/or changes: To mitigate Entrada South impacts to slender mariposa lily, up to 28 acres of slender mariposa lily cumulative occupied area will be conserved and managed in the San Martinez Grande Canyon area, and an additional two (2) acres of slender

mariposa lily cumulative occupied area will be conserved and managed within the Entrada South Project Site boundaries.)

MM ES 5.4-36/RMDP/SCP BIO-41: Thirty days prior to construction activities in grassland, scrub, chaparral, oak woodland, riverbank, and agriculture habitats, or other suitable habitat a qualified biologist shall conduct a survey within the proposed construction disturbance zone and within 200 feet of the disturbance zone for American badger.

If American badgers are present, occupied habitat shall be flagged and ground-disturbing activities avoided within 50 feet of the occupied den. Maternity dens shall be avoided during the pup-rearing season (February 15 through July 1) and a minimum 200 foot buffer established. This buffer may be reduced based on the location of the den upon consultation with CDFG. Maternity dens shall be flagged for avoidance, identified on construction maps, and a qualified biologist shall be present during construction. If avoidance of a non-maternity den is not feasible, badgers shall be relocated either by trapping or by slowly excavating the burrow (either by hand or mechanized equipment under the direct supervision of the biologist, removing no more that four inches at a time) before or after the rearing season (February 15 through July 1). Any relocation of badgers shall occur only after consultation with CDFG. A written report documenting the badger removal shall be provided to CDFG within 30 days of relocation.

Collection and relocation of animals shall only occur with the proper scientific collection and handling permits.

(This measure applies to Entrada South without change.)

MM ES 5.4-37/RMDP/SCP BIO-42: All oaks that will not be removed that are regulated under CLAOTO with driplines within 50 feet of land clearing (including brush clearing) or areas to be graded shall be enclosed in a temporary fenced zone for the duration of the clearing or grading activities. Fencing shall extend to the root protection zone (*i.e.*, the area at least 15 feet from the trunk or five feet beyond the drip line, whichever distance is greater). No parking or storage of equipment, solvents, or chemicals that could adversely affect the trees shall be allowed within 25 feet of the trunk at any time. Removal of the fence shall occur only after the Project arborist or qualified biologist confirms the health of preserved trees.

(This measure applies to Entrada South without change.)

MM ES 5.4-38/RMDP/SCP BIO-49: Water containing mud, silt, or other pollutants from construction activities shall not be allowed to enter a flowing stream or be placed in locations that may be subject to normal storm flows during periods when storm flows can reasonably be expected to occur.

(This measure applies to Entrada South without change.)

MM ES 5.4-39/RMDP/SCP BIO-50: Prior to initiating construction for the installation of bridges, storm drain outlets, utility lines, bank protection, trails, and/or other construction activities, all construction sites and access roads within the riverbed as well as all riverbed areas within 500 feet of construction sites and access roads shall be surveyed at the appropriate season for southwestern pond turtle. Focused surveys shall consist of a minimum of four daytime surveys, to be completed between April 1 and June 1. The survey schedule may be adjusted in consultation with CDFG to reflect the existing weather or stream conditions. The applicant shall develop a Plan to address the relocation of southwestern pond turtle. The Plan shall include but not be limited to the timing and location of the surveys that would be conducted for this species; identify the locations where more intensive efforts should be conducted; identify the habitat and conditions in the proposed relocation site(s); the methods that would be utilized for trapping and relocating individuals; and provide for the documentation/ recordation of the numbers of animals relocated. The Plan shall be submitted to CDFG for approval 60 days prior to any ground-disturbing activities within potentially occupied habitat.

If southwestern pond turtles are detected in or adjacent to the Project, nesting surveys shall be conducted. Focused surveys for evidence of southwestern pond turtle nesting shall be conducted in, or adjacent to, the Project when suitable nesting habitat exists within 1,300 feet of occupied habitat in an area where Project-related ground disturbance will occur (*e.g.*, development, ground disturbance). If both of those conditions are met, a qualified biologist shall conduct focused, systematic surveys for southwestern pond turtle nesting sites. The survey area shall include all suitable nesting habitat within 1,300 feet of occupied habitat in which Project-related ground disturbance will occur. This area may be adjusted based on the existing topographical features on a case-by-case basis with the approval of CDFG. Surveys will entail searching for evidence of pond turtle nesting, including remnant eggshell fragments, which may be found on the ground following nest depredation.

If a southwestern pond turtle nesting area would be adversely impacted by construction activities, the applicant shall avoid the nesting area. If avoidance of the nesting area is determined to be infeasible, the authorized biologist shall coordinate with CDFG to identify if it is possible to relocate the pond turtles. Eggs or hatchlings shall not be moved without written authorization from CDFG.

The qualified biologist shall be present during all activities immediately adjacent to or within habitat that supports populations of southwestern pond turtle. Clearance surveys for pond turtles shall be conducted

within 500 feet of potential habitat by the authorized biologist prior to the initiation of construction each day. The resume of the proposed biologist will be provided to CDFG for approval prior to conducting the surveys.

(This measure applies to Entrada South without change.)

MM ES 5.4-40/RMDP/SCP BIO-52: Prior to grading and construction activities, a qualified biologist shall be retained to conduct a Worker Environmental Awareness Program (WEAP) for all construction/contractor personnel. A list of construction personnel who have completed training prior to the start of construction shall be maintained on site and this list shall be updated as required when new personnel start work. No construction worker may work in the field for more than five days without participating in the WEAP. Night work and use of lights on equipment shall not be allowed unless CDFG approves of the night work and use of lights. Lighting shall not be used where threatened or endangered species occur. Lights shall be directed from natural areas and remain 200 feet away from natural areas unless otherwise approved by CDFG. The qualified biologist shall provide ongoing guidance to construction personnel and contractors to ensure compliance with environmental/permit regulations and mitigation measures. The qualified biologist shall perform the following:

- Provide training materials and briefings to all personnel working on site. The material shall include but not be limited to the identification and status of plant and wildlife species, significant natural plant community habitats (*e.g.*, riparian), fire protection measures, and review of mitigation requirements.
- A discussion of the federal and state Endangered Species Acts, Bald and Golden Eagle Protection Act, Migratory Bird Treaty Act, other state or federal permit requirements and the legal consequences of non-compliance with these acts;
- Attend the pre-construction meeting to ensure that timing/location of construction activities do not conflict with other mitigation requirements (*e.g.*, seasonal surveys for nesting birds, pre-construction surveys, or relocation efforts);
- Conduct meetings with the contractor and other key construction personnel describing the importance of restricting work to designated areas. Maps showing the location of special-status wildlife or populations of rare plants, exclusion areas, or other construction limitations (*e.g.*, limitations on nighttime work) will be provided to the environmental monitors and construction crews prior to ground disturbance. This applies to preconstruction activities, such as site surveying and staking, natural resources

surveying or reconnaissance, establishment of water quality BMPs, and geotechnical or hydrological investigations;

- Discuss procedures for minimizing harm to or harassment of wildlife encountered during construction and provide a contact person in the event of the discovery of dead or injured wildlife;
- Review/designate the construction area in the field with the contractor in accordance with the final grading plan;
- Ensure that haul roads, access roads, and on-site staging and storage areas are sited within grading areas to minimize degradation of vegetation communities adjacent to these areas (if activities outside these limits are necessary, they shall be evaluated by the biologist to ensure that no special-status species habitats will be affected);
- Conduct a field review of the staking (to be set by the surveyor) designating the limits of all construction activity;
- Flag or temporarily fence any construction activity areas immediately adjacent to riparian areas;
- Ensure and document that required pre-construction surveys and/or relocation efforts have been implemented;
- To reduce the potential for the spread of exotic invasive invertebrates (e.g. New Zealand mud snails) and weeds (including weed seeds) during Project clearing and construction, all heavy equipment proposed for use on the Project site shall be verified cleaned (including wheels, tracks, undercarriages, and bumpers, as applicable) before delivery to the Project site. Equipment must be documented as exotic invasive invertebrate (e.g. mud snail) and weed free upon delivery to the Project site initial staging area, including: (1) vegetation clearing equipment (skid steer loaders, loaders, dozers, backhoes, excavators, chippers, grinders, and any hauling equipment, such as off-road haul trucks, flat bed, or other vehicles); (2) earth-moving equipment (scrapers, dozers, excavators, loaders, motor-graders, compactors, backhoes, off-road water trucks, and off-road haul trucks); and (3) all Project-associated vehicles (including personal vehicles) that, upon inspection by the monitoring biologist, are deemed to present a risk for spreading exotic invasive invertebrates (e.g. mud snails) or weeds. Equipment shall be cleaned at existing construction yards or at a wash station. The biological monitor shall document that all construction equipment (as described above) has been cleaned prior to working within the Project work site. Any equipment/ vehicles determined to not be free of exotic invasive invertebrates (e.g. mud snails) and weeds shall immediately be sent back to the

originating construction yard for washing, or wash station where rinse water is collected and disposed of in either a sanitary sewer or other legal point of disposal. Equipment/vehicles moved from the site must be inspected, and re-washed as necessary, prior to re-engaging in construction activities in the Project work area. A written daily log shall be kept for all vehicle/equipment washing that states the date, time, location, type of equipment washed, methods used, and location of work;

- Be present during initial vegetation clearing and grading; and
- Submit to CDFG an immediate report (within 72 hours) of any conflicts or errors resulting in impacts to special-status biological resources.

(This measure applies to Entrada South without change.)

MM ES 5.4-41/RMDP/SCP BIO-53: Prior to the issuance of a grading permit for ground disturbance, construction, or site preparation activities, the applicant shall retain the services of a qualified biologist to conduct pre-construction surveys for western spadefoot toad within all portions of the Project site containing suitable breeding habitat. Surveys shall be conducted during a time of year when the species could be detected (*e.g.*, the presence of rain pools). If western spadefoot toad is identified on the Project site, the following measures will be implemented.

(1) Under the direct supervision of the qualified biologist, western spadefoot toad habitat shall be created within suitable natural sites on the Specific Plan site outside the proposed development envelope. The amount of occupied breeding habitat to be impacted by the Project shall be replaced at a 2:1 ratio. The actual relocation site design and location shall be approved by CDFG. The location shall be in suitable habitat as far away as feasible from any of the homes and roads to be built. The relocation ponds shall be designed such that they only support standing water for several weeks following seasonal rains in order that aquatic predators (*e.g.*, fish, bullfrogs, and crayfish) cannot become established. Terrestrial habitat surrounding the proposed relocation site shall be as similar in type, aspect, and density to the location of the existing ponds as feasible. No site preparation or construction activities shall be permitted in the vicinity of the currently occupied ponds until the design and construction of the pool habitat in preserved areas of the site has been completed and all western spadefoot toad adults, tadpoles, and egg masses detected are moved to the created pool habitat.

(2) Based on appropriate rainfall and temperatures, generally between the months of February and April, the biologist shall

conduct pre-construction surveys in all appropriate vegetation communities within the development envelope. Surveys will include evaluation of all previously documented occupied areas and a reconnaissance-level survey of the remaining natural areas of the site. All western spadefoot adults, tadpoles, and egg masses encountered shall be collected and released in the identified/created relocation ponds described above.

(3) The qualified biologist shall monitor the relocation site for five years, involving annual monitoring during and immediately following peak breeding season such that surveys can be conducted for adults as well as for egg masses and larval and post-larval toads. Further, survey data will be provided to CDFG by the monitoring biologist following each monitoring period and a written report summarizing the monitoring results will be provided to CDFG at the end of the monitoring effort. Success criteria for the monitoring program shall include verifiable evidence of toad reproduction at the relocation site.

(This measure applies to Entrada South without change.)

MM ES 5.4-42/RMDP/SCP BIO-54: Prior to construction the applicant shall develop a relocation plan for coast horned lizard, silvery legless lizard, coastal western whiptail, rosy boa, San Bernardino ringneck snake, and coast patch-nosed snake. The Plan shall include but not be limited to the timing and location of the surveys that would be conducted for each species; identify the locations where more intensive efforts should be conducted; identify the habitat and conditions in the proposed relocation site(s); the methods that would be utilized for trapping and relocating the individual species; and provide for the documentation/recordation of the species and number of the animals relocated. The Plan shall be submitted to CDFG for approval 60 days prior to any ground disturbing activities within potentially occupied habitat.

The Plan shall include the specific survey and relocation efforts that would occur for construction activities that occur both during the activity period of the special status species (generally March to November) and for periods when the species may be present in the work area but difficult to detect due to weather conditions (generally December through February). Thirty days prior to construction activities in coastal scrub, chaparral, oak woodland, riparian habitats, or other areas supporting these species qualified biologists shall conduct surveys to capture and relocate individual coast horned lizard, silvery legless lizard, coastal western whiptail, rosy boa, San Bernardino ringneck snake, and coast patch-nosed snake in order to avoid or minimize take of these special-status species. The plan shall require a minimum of three (3) surveys conducted during the time of

year/day when each species is most likely to be observed. Individuals shall be relocated to nearby undisturbed areas with suitable habitat. If construction is scheduled to occur during the low activity period (generally December through February) the surveys shall be conducted prior to this period if possible and exclusion fencing shall be placed to limit the potential for re-colonization of the site prior to construction. The qualified biologist will be present during ground-disturbing activities immediately adjacent to or within habitat that supports populations of these species. Clearance surveys for special-status reptiles shall be conducted by a qualified biologist prior to the initiation of construction each day.

Results of the surveys and relocation efforts shall be provided to CDFG in the annual mitigation status report. Collection and relocation of animals shall only occur with the proper scientific collection and handling permits.

(This measure applies to Entrada South without change.)

MM ES 5.4-43/RMDP/SCP BIO-56: Within 30 days of ground-disturbing activities associated with construction or grading that would occur during the nesting/breeding season of native bird species potentially nesting on the site (typically March through August in the Project region, or as determined by a qualified biologist), the applicant shall have weekly surveys conducted by a qualified biologist to determine if active nests of bird species protected by the Migratory Bird Treaty Act and/or the California Fish and Game Code are present in the disturbance zone or within 300 feet (500 feet for raptors) of the disturbance zone. Pre-construction surveys shall include nighttime surveys to identify active rookery sites. The surveys shall continue on a weekly basis, with the last survey being conducted no more than seven days prior to initiation of disturbance work. If ground-disturbing activities are delayed, then additional pre-disturbance surveys shall be conducted such that no more than seven days will have elapsed between the survey and ground-disturbing activities.

If active nests are found, clearing and construction within 300 feet of the nest (500 feet for raptors) shall be postponed or halted, at the discretion of the biologist in consultation with CDFG, until the nest is vacated and juveniles have fledged, as determined by the biologist, and there is no evidence of a second attempt at nesting. In the event that golden eagles establish an active nest in the River Corridor SMA, the buffers will be established in consultation with CDFG. Potential golden eagle nesting will be reported to CDFG within 24 hours. Limits of construction to avoid an active nest shall be established in the field with flagging, fencing, or other appropriate barriers and construction personnel shall be instructed on the sensitivity of nest areas. The biologist shall serve as a construction monitor during those periods

when construction activities will occur near active nest areas to ensure that no inadvertent impacts to these nests occur. Results of the surveys shall be provided to CDFG in the annual mitigation status report.

For listed riparian songbirds (least Bell's vireo, southwestern willow flycatcher, yellow-billed cuckoo) USFWS protocol surveys shall be conducted. If active nests are found, clearing and construction within 300 feet of the nest shall be postponed or halted, at the discretion of the biologist in consultation with CDFG and USFWS, until the nest is vacated and juveniles have fledged, as determined by the biologist, and there is no evidence of a second attempt at nesting. If no active nests are observed, construction may proceed. If active nests are found, work may proceed provided that construction activity is located at least 300 feet from active nests (or as authorized through the context of the Biological Opinion and 2081b Incidental Take Permit). This buffer may be adjusted provided noise levels do not exceed 60 dBA hourly L_{eq} at the edge of the nest site as determined by a qualified biologist in coordination with a qualified acoustician.

If the noise meets or exceeds the 60 dBA L_{eq} threshold, or if the biologist determines that the construction activities are disturbing nesting activities, the biologist shall have the authority to halt the construction and shall devise methods to reduce the noise and/or disturbance in the vicinity. This may include methods such as, but not limited to, turning off vehicle engines and other equipment whenever possible to reduce noise, installing a protective noise barrier between the nest site and the construction activities, and working in other areas until the young have fledged. If noise levels still exceed 60 dBA L_{eq} hourly at the edge of nesting territories and/or a no-construction buffer cannot be maintained, construction shall be deferred in that area until the nestlings have fledged. All active nests shall be monitored on a weekly basis until the nestlings fledge. The qualified biologist shall be responsible for documenting the results of the surveys and the ongoing monitoring and for reporting these results to CDFG and USFWS.

For coastal California gnatcatcher, the applicant shall conduct USFWS protocol surveys in suitable habitat within the Project area and all areas within 500 feet of access or construction-related disturbance areas. Suitable habitats, according to the protocol, include "coastal sage scrub, alluvial fan, chaparral, or intermixed or adjacent areas of grassland and riparian habitats." A permitted biologist shall perform these surveys according to the USFWS' (1997a) Coastal California Gnatcatcher Presence/Absence Survey Guidelines. If a territory or nest is confirmed, the USFWS and CDFG shall be notified immediately. If present, a 500-foot disturbance-free buffer shall be established and demarcated by fencing or flagging. No Project activities may occur in these areas unless otherwise authorized by

USFWS and CDFG. Construction activities in suitable gnatcatcher habitat will be monitored by a full-time qualified biologist. The monitoring shall be of a sufficient intensity to ensure that the biologist could detect the presence of a bird in the construction area.

(This measure applies to Entrada South, with the following exceptions and/or changes: Entrada South does not provide habitat for birds that build or sustain rookeries; therefore, nighttime surveys for active rookeries are not required.)

MM ES 5.4-44/RMDP/SCP BIO-57: Thirty days prior to construction activities, a qualified biologist shall conduct CDFG protocol surveys to determine whether the western burrowing owl is present at the site. The surveys shall consist of three site visits and shall be conducted in areas dominated by field crops, disturbed habitat, grasslands, and along levee locations, or if such habitats occur within 500 feet of a construction zone. If located, occupied burrows shall not be disturbed during the nesting season (February 1 through August 31) unless a qualified biologist approved by CDFG verifies through non-invasive methods that either the birds have not begun egg-laying and incubation or that juveniles from the occupied burrows are foraging independently and are capable of independent survival. If the burrowing owl is detected but nesting is not occurring, construction work can proceed after any owls have been evacuated from the site using CDFG-approved burrow closure procedures and after alternative nest sites have been provided in accordance with the CDFG Staff Report on Burrowing Owl Mitigation (10-17-95).

Unless otherwise authorized by CDFG, a 500-foot buffer, within which no activity will be permissible, will be maintained between Project activities and nesting burrowing owls during the nesting season. This protected area will remain in effect until August 31 or at CDFG's discretion and based upon monitoring evidence, until the young owls are foraging independently.

Results of the surveys and relocation efforts shall be provided to CDFG in the annual mitigation status report.

(This measure applies to Entrada South without change.)

MM ES 5.4-45/RMDP/SCP BIO-58: Thirty days prior to construction activities in grassland, scrub, chaparral, oak woodland, riverbank, and agriculture habitats, or other suitable habitat a qualified biologist shall conduct a survey within the proposed construction disturbance zone and within 200 feet of the disturbance zone for San Diego black-tailed jackrabbit and San Diego desert woodrat.

If San Diego black-tailed jackrabbits are present, non-breeding rabbits shall be flushed from areas to be disturbed. Dens, depressions, nests, or burrows occupied by pups shall be flagged and ground-disturbing

activities avoided within a minimum of 200 feet during the pup-rearing season (February 15 through July 1). This buffer may be reduced based on the location of the den upon consultation with CDFG. Occupied maternity dens, depressions, nests, or burrows shall be flagged for avoidance, and a biological monitor shall be present during construction. If unattended young are discovered, they shall be relocated to suitable habitat by a qualified biologist. The applicant shall document all San Diego black-tailed jackrabbit identified, avoided, or moved and provide a written report to CDFG within 72 hours. Collection and relocation of animals shall only occur with the proper scientific collection and handling permits.

If active San Diego desert woodrat nests (stick houses) are identified within the disturbance zone or within 100 feet of the disturbance zone, a fence shall be erected around the nest site adequate to provide the woodrat sufficient foraging habitat at the discretion of the qualified biologist in consultation with CDFG. Clearing and construction within the fenced area will be postponed or halted until young have left the nest. The biologist shall serve as a construction monitor during those periods when disturbance activities will occur near active nest areas to ensure that no inadvertent impacts to these nests will occur. If avoidance is not possible, the applicant will take the following sequential steps: (1) all understory vegetation will be cleared in the area immediately surrounding active nests followed by a period of one night without further disturbance to allow woodrats to vacate the nest, (2) each occupied nest will then be disturbed by a qualified wildlife biologist until all woodrats leave the nest and seek refuge off site, and (3) the nest sticks shall be removed from the Project site and piled at the base of a nearby hardwood tree (preferably a coast live oak or California walnut). Relocated nests shall not be spaced closer than 100 feet apart, unless a qualified wildlife biologist has determined that a specific habitat can support a higher density of nests. The applicant shall document all woodrat nests moved and provide a written report to CDFG.

All woodrat relocation shall be conducted by a qualified biologist in possession of a scientific collecting permit.

(*This measure applies to Entrada South without change.*)

MM ES 5.4-46/RMDP/SCP BIO-60: Thirty days prior to construction activities, a qualified biologist shall conduct a pre-construction survey for mountain lion natal dens. The survey area shall include the construction footprint and the area within 2,000 feet of the Project disturbance boundaries. Should an active natal den be located, the applicant shall cease work within 2,000 feet and inform CDFG within 24 hours. No construction activities shall occur in the 2,000-foot buffer until a qualified biologist in consultation with CDFG establishes an

appropriate setback from the den that would not adversely affect the successful rearing of the cubs. No construction activities or human intrusion shall occur within the established setback until the cubs have been successfully reared or the cats have left the area.

(This measure applies to Entrada South without change.)

MM ES 5.4-47/RMDP/SCP BIO-61: No earlier than 30 days prior to the commencement of construction activities, a pre-construction survey shall be conducted by a qualified biologist to determine if active roosts of bats are present on or within 300 feet of the Project disturbance boundaries. Should an active maternity roost be identified (in California, the breeding season of native bat species is generally from April 1 through August 31), the roost shall not be disturbed and construction within 300 feet shall be postponed or halted, until the roost is vacated and juveniles have fledged. Surveys shall include rocky outcrops, caves, structures, and large trees (particularly trees 12 inches in diameter or greater at 4.5 feet above grade with loose bark or other cavities). Trees and rocky outcrops shall be surveyed by a qualified bat biologist (*i.e.*, a biologist holding a CDFG collection permit and a Memorandum of Understanding with CDFG allowing the biologist to handle bats). If active maternity roosts or hibernacula are found, the rock outcrop or tree occupied by the roost shall be avoided (*i.e.*, not removed) by the Project. If avoidance of the maternity roost must occur, the bat biologist shall survey (through the use of radio telemetry or other CDFG approved methods) for nearby alternative maternity colony sites. If the bat biologist determines in consultation with and with the approval of CDFG that there are alternative roost sites used by the maternity colony and young are not present then no further action is required.

If a maternity roost will be impacted by the Project, and no alternative maternity roosts are in use near the site, substitute roosting habitat for the maternity colony shall be provided on, or in close proximity to, the Project site no less than three months prior to the eviction of the colony. Large concrete walls (*e.g.*, on bridges) on south or southwestern slopes that are retrofitted with slots and cavities are an example of structures that may provide alternative potential roosting habitat appropriate for maternity colonies. Alternative roost sites must be of comparable size and proximal in location to the impacted colony. CDFG shall also be notified of any hibernacula or active nurseries within the construction zone.

If non-breeding bat hibernacula are found in trees scheduled to be removed or in crevices in rock outcrops within the grading footprint, the individuals shall be safely evicted, under the direction of a qualified bat biologist, by opening the roosting area to allow airflow through the cavity or other means determined appropriate by the bat biologist (*e.g.*,

installation of one-way doors). In situations requiring one-way doors, a minimum of one week shall pass after doors are installed and temperatures should be sufficiently warm for bats to exit the roost because bats do not typically leave their roost daily during winter months in southern coastal California. This action should allow all bats to leave during the course of one week. Roosts that need to be removed in situations where the use of one-way doors is not necessary in the judgment of the qualified bat biologist in consultation with CDFG shall first be disturbed by various means at the direction of the bat biologist at dusk to allow bats to escape during the darker hours, and the roost tree shall be removed or the grading shall occur the next day (*i.e.,* there shall be no less or more than one night between initial disturbance and the grading or tree removal). These actions should allow bats to leave during nighttime hours, thus increasing their chance of finding new roosts with a minimum of potential predation during daylight.

If an active maternity roost is located on the Project site, and alternative roosting habitat is available, the demolition of the roost site must commence before maternity colonies form (*i.e.*, prior to March 1) or after young are flying (*i.e.*, after July 31) using the exclusion techniques described above.

(This measure applies to Entrada South without change.)

MM ES 5.4-48/RMDP/SCP BIO-63: Each tract map Home Owners' Association shall supply educational information to future residents regarding pets, wildlife, and open space areas. The material shall discuss the presence of native animals (*e.g.*, coyote, bobcat, and mountain lion), indicate that those native animals could prey on pets, indicate that no actions shall be taken against native animals should they prey on pets allowed outdoors, and indicate that pets must be leashed while using the designated trail system and/or in any areas within or adjacent to open space. Control of stray and feral cats and dogs will be conducted in open space areas on an as-needed basis by the NLMO(s) or the Newhall Ranch *joint powers authority* (JPA) managing the River Corridor SMA, High Country SMA, or Salt Creek area or by the HOAs managing the Open Areas. Feral cats and dogs may be trapped and deposited with the local Society for the Prevention of Cruelty to Animals or the Los Angeles County Department of Animal Control.

(*This measure applies to Entrada South without change.*)

MM ES 5.4-49/RMDP/SCP BIO-64: An integrated pest management (IPM) plan that addresses the use of pesticides (including rodenticides and insecticides) on site will be prepared prior to the issuance of building permits for the initial tract map. The IPM will implement appropriate Best Management Practices to avoid and minimize adverse effects on the natural environment, including vegetation communities, special-

status species, species without special status, and associated habitats, including prey and food resources (*e.g.*, insects, small mammals, seeds). Potential management practices include cultural (*e.g.*, planting pest-free stock plants), mechanical (*e.g.*, weeding, trapping), and biological controls (*e.g.*, natural predators or competitors of pest species, insect growth regulators, natural pheromones, or biopesticides), and the judicious use of chemical controls, as appropriate (*e.g.*, targeted spraying versus broadcast applications). The IPM will establish management thresholds (*i.e.*, not all incidences of a pest require management); prescribe monitoring to determine when management thresholds have been exceeded; and identify the most appropriate and efficient control method that avoids and minimizes risks to natural resources. Preparation of the CC&Rs for each tract map shall include language that prohibits the use of anticoagulant rodenticides in the Project site.

(This measure applies to Entrada South without change.)

MM ES 5.4-50/RMDP/SCP BIO-67: Prior to any construction activities occurring within 200 feet of any occupied San Emigdio blue butterfly habitat in Potrero Canyon or other areas, the boundaries of preserved areas of the habitat shall be clearly marked with flagging. The flagging would serve to identify the boundaries of the habitat to construction personnel and to prevent the inadvertent construction-related loss of quail brush or other host plants associated with the habitat. Construction personnel working in the area shall be informed that the removal of or damage to any flagged quail brush or other host plants located outside the disturbance footprint is prohibited.

(This measure applies to Entrada South without change)

MM ES 5.4-51/RMDP/SCP BIO-68: Any common or special-status species bat day roost sites found by a qualified biologist during pre-construction surveys conducted per MM ES 5.4-47/RMDP/SCP BIO-61, to be directly (within project disturbance footprint) or indirectly (within 300 feet of project disturbance footprint) impacted are to be mitigated with creation of artificial roost sites. The Project applicant shall establish (an) alternative roost site(s) within suitable preserved open space located at an adequate distance from sources of human disturbance.

(This measure applies to Entrada South without change.)

MM ES 5.4-52/RMDP/SCP BIO-70: Construction plans shall include necessary design features and construction notes to ensure protection of vegetation communities and special-status plant and aquatic wildlife species adjacent to construction. In addition to applicable erosion control plans and performance under SCAQMD Rule 403d dust control (SCAQMD 2005), the Project stormwater pollution prevention plan

(SWPPP) shall include the following minimum BMPs. Together, the implementation of these requirements shall ensure protection of adjacent habitats and wildlife species during construction. At a minimum, the following measures/restrictions shall be incorporated into the SWPPP, and noted on construction plans where appropriate, to avoid impacting special-status species during construction:

- Avoid planting or seeding invasive species in development areas within 200 feet of native vegetation communities.
- Provide location and details for any dust control fencing along Project boundaries (MM ES 5.4-53/RMDP/SCP BIO-71).
- Vehicles shall not be driven or equipment operated in areas of ponded or flowing water, or where wetland vegetation, riparian vegetation, or aquatic organisms may be destroyed, except as otherwise provided for in the 404 Permit or 1603 Agreement.
- Silt settling basins installed during the construction process shall be located away from areas of ponded or flowing water to prevent discolored, silt-bearing water from reaching areas of ponded or flowing water during normal flow regimes.
- If a stream channel has been altered during the construction and/or maintenance operations, its low flow channel shall be returned as nearly as practical to pre-Project topographic conditions without creating a possible future bank erosion problem or a flat, wide channel or sluice-like area. The gradient of the streambed shall be returned to pre-Project grade, to the extent practical, unless it represents a wetland restoration area.
- Temporary structures and associated materials not designed to withstand high seasonal flows shall be removed to areas above the high water mark before such flows occur.
- Staging/storage areas for construction equipment and materials shall be located outside of the ordinary high water mark.
- Any equipment or vehicles driven and/or operated within or adjacent to the stream shall be checked and maintained daily, to prevent leaks of materials that could be deleterious to aquatic life if introduced to water.
- Stationary equipment such as motors, pumps, generators, and welders which may be located within the riverbed construction zone shall be positioned over drip pans. No fuel storage tanks shall be allowed in the riverbed.
- No debris, bark, slash sawdust, rubbish, cement or concrete or washing thereof, oil, petroleum products, or other organic material from any construction, or associated activity of whatever nature,

shall be allowed to enter into, or be placed where it may be washed by rainfall or runoff into, watercourses included in the permit. When construction operations are completed, any excess materials or debris shall be removed from the work area.

- No equipment maintenance shall be done within or near any stream where petroleum products or other pollutants from the equipment may enter these areas with stream flow.
- The operator shall install and use fully covered trash receptacles to contain all food, food scraps, food wrappers, beverage containers, and other miscellaneous trash.
- The operator shall not permit pets on or adjacent to the construction site.
- No guns or other weapons are allowed on the construction site during construction, with the exception of the security personnel and only for security functions. No hunting shall be authorized/ permitted during construction.

(This measure applies to Entrada South without change.)

MM ES 5.4-53/RMDP/SCP BIO-71: Development areas shall have dust control measures implemented and maintained to prevent dust from impacting vegetation communities and special-status plant and aquatic wildlife species. Dust control shall comply with SCAQMD Rule 403d (SCAQMD 2005). Where construction activities occur within 100 feet of known special-status plant species locations, chemical dust suppression shall not be utilized. Where determined necessary by a qualified biologist, a screening fence (*i.e.*, a six-foot-high chain link fence with green fabric up to a height of five feet) shall be installed to protect special-status species locations. See MM ES 5.4-27/RMDP/SCP BIO-32 for dust control requirements related to spineflower preserves.

(This measure applies to Entrada South without change.)

MM ES 5.4-54/RMDP/SCP BIO-72: Plant palettes proposed for use on landscaped slopes, street medians, park sites, and other public landscaped and FMZ areas within 200 feet of native vegetation communities shall be reviewed by a qualified restoration specialist to ensure that the proposed landscape plants will not naturalize and require maintenance or cause vegetation community degradation in the open space areas (River Corridor SMA, High Country SMA, Salt Creek area, and natural portions of the Open Area). Container plants to be installed within public areas within 200 feet of the open space areas shall be inspected by a qualified restoration specialist for the presence of disease, weeds, and pests, including Argentine ants. Plants with pests, weeds, or diseases shall be rejected. In addition, landscape plants within 200 feet of native vegetation communities shall not be on the Cal-IPC

California Invasive Plant Inventory (most recent version) or on the list of Invasive Ornamental Plants listed in Appendix B of the SCP. The current Cal-IPC list can be obtained from the Cal-IPC web site (www.cal-ipc.org/ip/inventory/index.php). Landscape plans will include a plant palette composed of native or non-native, non-invasive species that do not require high irrigation rates. Except as required for fuel modification, irrigation of perimeter landscaping shall be limited to temporary irrigation (*i.e.*, until plants become established).

(This measure applies to Entrada South without change, except that the current Cal-IPC website is www.cal-ipc.org/ip/inventory/.)

MM ES 5.4-55/RMDP/SCP BIO-78: A cowbird trapping program shall be implemented once vegetation clearing begins and maintained throughout the construction, maintenance, and monitoring period of the riparian restoration sites. A minimum of five traps shall be utilized, with at least one trap adjacent to the project site and one or two traps located at feeding areas or other CDFG-approved location. The trapping contractor may consult with CDFG to request modification of the trap location(s). CDFG must approve any relocation of the traps. Traps will be maintained beginning each year on April 1 and concluding on/or about November 1 (may conclude earlier, depending upon weather conditions and results of capture). The trapping contractor may also consult CDFG on a modified, CDFG-approved trapping schedule modification. The applicant shall follow CDFG and USFWS protocol. In the event that trapping is terminated after the first few years, subsequent phases of the RMDP development will require initiation of trapping surveys to determine whether re-establishment of the trapping program is necessary.

(This measure applies to Entrada South, with the following exceptions and/or changes: one trap will be utilized within or adjacent to the Entrada South Project Site, at a location approved by CDFW.)

MM ES 5.4-56/RMDP/SCP BIO-80: The Project applicant will retain a qualified biologist to develop an Exotic Wildlife Species Control Plan and implement a control program for bullfrog, African clawed frog, and crayfish. The program will require the control of these species during construction within the River corridor and modified tributaries (bridges, diversions, bank stabilization, drop structures). The Plan shall include a description of the species targeted for eradication, the methods of harvest that will be employed, the disposal methods, and the measures that would be employed to avoid impacts to sensitive wildlife (*e.g.*, stickleback, arroyo toad, nesting birds) during removal activities (*i.e.*, timing, avoidance of specific areas). Annual monitoring shall occur for the first five years after construction of Project facilities. After five years, bi-annual monitoring shall occur in perpetuity to determine if additional control is necessary. The Project applicant will fund an

endowment, approved by CDFG, for monitoring in perpetuity. Monitoring will be conducted within sentinel locations along the River Corridor SMA and where the Project provides potential habitat for these species (*e.g.*, future ponds and water features). Control shall be conducted within Project facilities where monitoring results indicate that exotic species have colonized an area.

(This measure applies to Entrada South without change.)

MM ES 5.4-57/RMDP/SCP BIO-85: To preclude the invasion of Argentine ants into the spineflower preserves and their associated buffers, controls will be implemented using an integrated pest management (IPM) approach in accordance with the approved SCP. The controls include the following.

(1) Providing "dry zones" between urban development and spineflower populations, where typical soil moistures are maintained at levels below about 10% soil saturation, which will deter the establishment of nesting colonies of ants; and providing dry zone buffers of sufficient width to reduce the potential for Argentine ant activity within core habitat areas.

(2) Where feasible, and/or appropriate, dry areas such as parking lots and roadways shall be built next to preserve boundaries. These will be designed to slope away from the preserve to avoid runoff entering the preserve.

(3) Pedestrian pathways placed next to preserves shall consist of decomposed granite or other gravel to minimize the holding of moisture, thereby preventing establishment of suitable habitat for Argentine ant colonies.

(4) Ensuring that landscape container plants installed within 200 feet of spineflower preserves are ant free prior to installation, to reduce the chance of colonies establishing in areas close to the preserves.

(5) Maintaining natural hydrological conditions in the spineflower preserves, including the buffers, through project design features for roadways, French drains, irrigation systems, underground utilities, drainage pipes and fencing, storm drains, and any other BMP measures that apply to surface water entering the preserve areas.

(6) Using drought-resistant plants in FMZs and minimizing irrigation to the extent feasible.

(This measure applies to Entrada South without change.)

MM ES 5.4-58/RMDP/SCP BIO-87: Upon initiating landscaping within a development area, quarterly monitoring shall be initiated for Argentine ants along the urban–open space interface at sentinel locations where

invasions could occur (*e.g.*, where moist microhabitats that attract Argentine ants may be created). A qualified biologist shall determine the monitoring locations. Ant pitfall traps will be placed in these sentinel locations and operated on a quarterly basis to detect invasion by Argentine ants. If Argentine ants are detected during monitoring, direct control measures will be implemented immediately to help prevent the invasion from worsening. These direct controls may include but are not limited to nest/mound insecticide treatment, or available natural control methods being developed. A general reconnaissance of the infested area would also be conducted to identify and correct the possible source of the invasion, such as uncontrolled urban runoff, leaking pipes, or collected water. Monitoring and control of Argentine ants would occur in perpetuity. The Project applicant will fund an endowment, approved by CDFG, for monitoring in perpetuity.

(This measure applies to Entrada South without change.)

MM ES 5.4-59/RMDP/SCP BIO-88: Any southern California black walnut and mainland cherry trees or shrubs outside riparian areas greater than one inch dbh shall be replaced in the ratio of at least 2:1. Multi-trunk trees/shrub dbh shall be calculated based on combined trunk dbh. Mitigation shall be deemed complete when each replacement tree attains at least one inch in diameter one foot above the base.

(This measure applies to Entrada South, with the following exceptions and/or changes: The mitigation measure will be implemented on Entrada South for mainland cherry trees or shrubs outside riparian areas greater than one inch dbh. However, because there are no southern California black walnuts on the Entrada South Project Site, that portion of the measure shall not apply.)

b. Entrada South Project-Level Mitigation Measures

In addition to the mitigation measures listed above, the following Project-specific mitigation measures are proposed to address identified impacts to biological resources.

MM ES 5.4-60: All lighting along the perimeter of natural areas shall be downcast luminaries with light patterns directed away from natural areas.

MM ES 5.4-61: Approximately 25.2 acres of undifferentiated chaparral shall be preserved in one or more areas identified in the CMIP to offset impacts associated with Entrada South. This measure ensures that preserved areas will be part of a greater managed preserved system of numerous natural vegetation communities meant to support both common and special-status wildlife species. These areas support the same types of habitat that would be lost through construction and would be further

enhanced through management and monitoring activities. See the CMIP provided in Appendix A of the Biota Report.

MM ES 5.4-62: Approximately 67.7 acres of California annual grassland, agriculture, and/or disturbed land shall be preserved on-site, and within the High Country SMA/SEA and other open space within lands owned by the Applicant to offset impacts associated with Entrada South. This measure ensures that preserved areas will be part of a greater managed preserved system of numerous natural vegetation communities meant to support both common and special-status wildlife species. These areas support the same types of habitat that would be lost through construction and would be further enhanced through management and monitoring activities. See the CMIP provided in Appendix A of the Biota Report.

MM ES 5.4-63: Following the final phase of construction adjacent to the Entrada South spineflower preserve, the Project Applicant, or its designee, shall install and maintain permanent fencing along the subdivision tract bordering the preserve(s), consistent with the SCP. Permanent signage shall be installed on the fencing along the preservation boundary to indicate that the fenced area is a biological preserve, which contains protected species and habitat, that access is restricted, and that trespassing and fuel modification are prohibited within the area. The permanent fencing shall be designed to allow wildlife movement.

The plans and specifications for the permanent fencing and signage shall be approved by the County in consultation with CDFW prior to construction adjacent to the Entrada South spineflower preserve.

MM ES 5.4-64: A Fire Management Plan shall be developed to avoid and minimize direct and indirect impacts to the spineflower, and to protect and manage the Entrada South spineflower preserve and buffers, consistent with the SCP.

The Fire Management Plan shall be completed by the Project Applicant, or its designee, in conjunction with approval of any subdivisiona final tract map adjacent to athe spineflower preserve. The final Fire Management Plan shall be approved by the County of Los Angeles Fire Department through the processing of a subdivision map or subdivision maps.

MM ES 5.4-65: During subdivision map processing, the Project Applicant, or its designee, shall design and implement Project-specific design measures to minimize changes in surface water flows to the Entrada South spineflower preserve(s), and avoid and minimize indirect impacts to the spineflower, consistent with the SCP. Prior to issuance of a grading permit for a subdivision map, the Project Applicant, or its designee, shall submit for approval to the County plans and

specifications that ensure implementation of the following design measures:

1. During construction activities, drainage ditches, piping or other approaches will be put in place to convey excess stormwater and other surface water flows due to changes from natural drainage, away from the Entrada South spineflower preserve and associated natural open space;
2. Final grading and drainage design will be developed that does not change the current surface and subsurface hydrological conditions within the preserve(s);
3. French drains will be installed along the edge of any roadways and fill slopes that drain toward the preserve(s);
4. Roadways will be constructed with slopes that convey water flows within the roadway easements and away from the preserve(s);
5. Where manufactured slopes drain toward the preserve(s), a temporary irrigation system would be installed to the satisfaction of the County in order to establish the vegetation on the slope area(s). This system shall continue only until the slope vegetation is established and self-sustaining;
6. Underground utilities will not be located within or through the preserve(s). Drainage pipes installed within the preserve(s) away from spineflower populations to convey surface or subsurface water away from the populations will be aligned to avoid the preserve(s) to the maximum extent practicable, and fencing or other structural type barriers that will be installed to reduce intrusion of people or domestic animals into the preserve(s) shall incorporate footing designs that minimize moisture collection.

MM ES 5.4-66: A preserve manager (or Project biologist) knowledgeable, experienced botanist/biologist, subject to approval by the County in consultation with CDFW, shall be required to monitor the grading and fence/utility installation activities that involve earth movement adjacent to the spineflower preserve(s) to avoid the incidental take through direct impacts of conserved plant species, and to avoid disturbance of the preserve(s), consistent with the requirements of the SCP. The biological monitor will conduct biweekly inspections of the Project Site during such grading activities to ensure that these mitigation measures are implemented and adhered to.

Monthly monitoring reports, as needed, shall be submitted to the County verifying compliance with these mitigation measures. The biological monitor will have authority to immediately stop any such grading activity that is not in compliance with these mitigation measures, and to take reasonable steps to avoid the take of, and

minimize the disturbance to, spineflower populations within the preserve(s).

MM ES 5.4-67: The following guidelines shall be followed during any grading activities that take place adjacent to the Santa Clara River SMA/SEA:

- Grading perimeters shall be clearly marked and inspected by the Project biologist prior to grading occurring immediately adjacent to the Santa Clara River SMA/SEA.
- The Project biologist shall work with the grading contractor to avoid inadvertent impacts to riparian and wetland resources in the River Corridor.

MM ES 5.4-68: Indirect impacts resulting from changes to hydrology (i.e., increased water runoff from surrounding development) at the interface between Entrada South spineflower preserve and planned development within the Project Site shall be avoided or mitigated to below a level of significance, consistent with the SCP.

Achievement of this standard will be met through the documented demonstration by the Project Applicant, or its designee, that the storm drain system achieves pre-development hydrological conditions for the Entrada South spineflower preserve(s). To document such a condition, the Project Applicant, or its designee, shall prepare a study of the pre- and post-development hydrology, in conjunction with subdivision maps adjacent to spineflower preserve(s). The study shall be used in the design and engineering of a storm drain system that achieves pre-development hydrological conditions. The study must conclude that proposed grade changes in development areas beyond the buffers will maintain pre-development hydrologic conditions within the preserve(s). The study shall be approved by the Director of the County Department of Public Works, and the resulting conditions confirmed in consultation with the CDFW.

The storm drain system for subdivision maps adjacent to any spineflower preserves must be approved by the County prior to the initiation of any grading activities.

MM ES 5.4-69: In order to reduce impacts to biological resources from grading and construction activities, all related activities will be conducted to facilitate the escape of animals to natural areas. Construction and grading activities shall avoid stranding animals in isolated patches of vegetation or in trenches by providing escape routes and/or trench covering. Such escape routes shall be confirmed as adequate by a qualified biologist prior to grading or other such construction activities.

MM ES 5.4-70: The wildfire fuel modification plan shall depict a fuel modification zone the size of which shall be consistent with the County fuel modification ordinance requirements. Within the zone, tree

pruning, removal of dead plant material and weed and grass cutting shall take place as required by the fuel modification ordinance.

MM ES 5.4-71: The wildfire fuel modification plan shall include the following construction period requirements: (a) a fire watch during welding operations; (b) spark arresters on all equipment or vehicles operating in a high fire hazard area; (c) designated smoking and non-smoking areas; and (d) water availability pursuant to the County Fire Department requirements.

MM ES 5.4-72: Waste and recycling receptacles that discourage foraging by wildlife species adapted to urban environments shall be installed in common areas and parks throughout the Entrada South site.

5. LEVEL OF SIGNIFICANCE AFTER MITIGATION

As described in Subsection 3.d, Project Impacts, following implementation of all proposed mitigation (listed in Subsection 4, Mitigation Measures), Project-specific impacts in regard to biological resources would be less than significant.

6. CUMULATIVE IMPACTS

a. Summary

Habitat Availability and Quality: Development of Newhall Land projects within the study area would reduce available habitat area; however, the remaining habitat area would generally be located in sizable contiguous parcels. Some vegetation would be disproportionately impacted as discussed below, but the health of remaining suitable vegetation in undeveloped areas would not be substantially impacted. Concentrating development and allowing for large undeveloped open space habitat areas would minimize edge effects on habitat quality.

Watershed Availability and Quality: Development would not be expected to substantially alter flow quantities within watershed tributaries, as standard LID measures would ensure that infiltration remains adequate to minimize runoff from impermeable surfaces. Proposed development in the study area would also not substantially alter flows through diversions from the Santa Clara River or its tributaries. By minimizing changes in runoff quantities and increases in contaminant levels, Newhall Land development would also make a less than substantial contribution to cumulative effects on water quality and temperature. Other development in the study area that could affect water availability and quality would be subject to similar requirements for construction BMPs and LID design measures.

Special-Status Species: Several special-status species that have been recorded in the study area are restricted to the east of Newhall Land property in the Coastal/Mojave Transition area and higher elevations of the San Gabriel Mountains. Watershed functions for these up-watershed species would not be affected by Newhall Land development. Permanent loss of suitable habitat will be mitigated by measures requiring preservation, enhancement and restoration, and management in the Santa Clara River SMA/SEA, the High Country SMA/SEA, and the Salt Creek area. This will result in a large, permanent open space system that will provide suitable habitat to support these species, and would minimize cumulative impacts to special-status species.

Habitat Connectivity: The two main corridors and linkages identified by the SCMLP (i.e,. the east–west Santa Clara River corridor and the north–south Santa Monica–Sierra Madre connection) would not be disrupted in the context of their relationship to Newhall Land property and the study area.[151] The Santa Clara River corridor will be preserved within Newhall Land property, including upland transition zones between the river and development, and will be managed to preserve its function as a regionally significant wildlife corridor and habitat linkage. The north–south linkages that were identified by the SCMLP for mountain lion, mule deer, and American badger are generally west of Newhall Land property and will not be substantially affected (directly or indirectly) by Newhall Land development, which is located well to the east. In addition, open space protected within the High Country SMA/SEA located in the Specific Plan area and the Salt Creek area in Ventura County will substantially contribute to completion of the north–south linkage. Maintaining these major habitat linkages would allow for continued wildlife movement even with the cumulative effects of development within the study area.

b. Analysis of Newhall's Cumulative Impacts on Biological Resources

The Upper Santa Clara River Watershed (USCRW) Study (provided in Appendix G of the Biota Report) provides a detailed assessment of the cumulative impacts to biological resources from Newhall Land development. The USCRW Study examines the biological resources and ecological functions and processes within the USGS hydrologic unit code (HUC) 10, watersheds Numbers 2 through 5 (hereafter referred to as "watersheds" or "study area").[152,153] These four watersheds, as well as five others that are not part of the

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[151] *Penrod, K., C. Cabanero, P. Beier, C. Luke, W. Spencer, E. Rubin, R. Sauvajot, S. Riley, and D. Kamradt. 2006. "South Coast Missing Linkages Project: A Linkage Design for the Santa Monica–Sierra Madre Connection." Idyllwild, California: South Coast Wildlands, in cooperation with the National Park Service, Santa Monica Mountains Conservancy, California State Parks, and The Nature Conservancy.*

[152] *Hydrologic unit codes (HUC) are a way to classify divisions of watersheds—the largest and most inclusive category, HUC 2, covers large areas of the United States like the Great Basin or the Pacific Northwest. The most exclusive HUC classification is HUC 12, the subwatershed. The HUCs investigated in this study are all HUC 10 watersheds.*

study area,[154] comprise the 1,037,092-acre HUC 8 Santa Clara Sub-Basin, shown on **Figure 5.4-13**, Regional Watershed Map, on page 5.4-213. The four watersheds that are analyzed in this study consist of 425,507 acres—roughly 41 percent of the HUC 8 Santa Clara Sub-Basin, as shown on **Figure 5.4-14**, Watersheds within Santa Clara Sub-Basin, on page 5.4-214. While the vast majority of the USCRW study area is composed of natural lands, some parts of the Santa Clara River Valley and adjacent foothills have been converted to agriculture and residential, commercial, and industrial urban uses; substantial future development is planned for the study area as well.

[153] *Watershed 2 is known as "Headwaters Santa Clara River." Watershed 3 is known as "Bouquet Canyon." Watershed 4 is known as "Castaic Creek." Watershed 5 is known as "Upper Santa Clara River."*

[154] *HUC 10 watersheds within the Santa Clara Sub-Basin that are not part of the study area are Upper Piru Creek (6), Sespe Creek (18), Lower Piru Creek (19), Middle Santa Clara River (20), and Lower Santa Clara River (21).*

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Figure 5.4-13
EIR Regional Watershed Map

Source: Dudek, 2014.

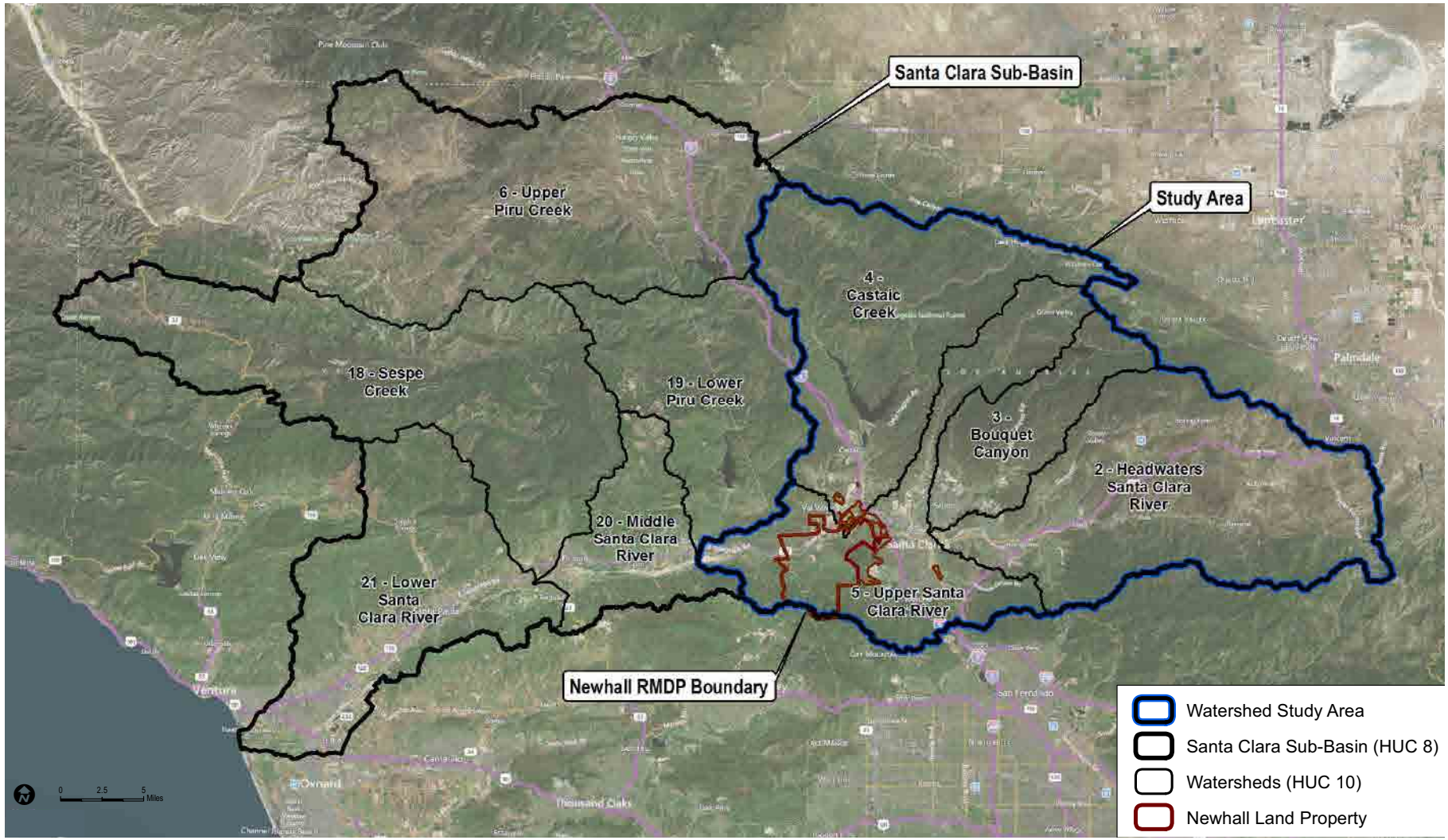

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Figure 5.4-14
Watershed within Santa Clara Watershed Sub-Basin

Source: Dudek, 2014.

(1) Scientific and Regulatory Justification for Watershed Study Area

Each of the four HUC 10 watersheds in the study area is well-defined and supports a variety of plants, animals, and natural communities and other man-made land covers (e.g., agriculture, development). They do, however, drain to a common point, the Santa Clara River. These four watersheds were selected because, when compared to the downstream watersheds, they are more likely to be developed and sustain effects from the Newhall Land projects. As explained further in Subsection 6.b.(1)(b) on page 5.4-217, project-specific and cumulative impacts to downstream watersheds are expected to be minimal due to: (1) the higher flows in the mainstem Santa Clara River in these locations; and (2) the large amount of land designated for non-developed uses in downstream watersheds. The USCRW study area is also consistent with the conservation area delineated in the Santa Clara River Upper Watershed Conservation Plan produced by The Nature Conservancy (TNC), except that the USCRW Study excludes HUC 10 Watershed 19 (Lower Piru Creek), which was included in the TNC study.[155] The HUC 10 Watershed 19 is excluded from the USCRW Study because it is downstream of Newhall Land property, as shown on **Figure 5.4-14**, Watersheds within Santa Clara Sub-Basin.

(a) Use of a Watershed-Scale Study Area

The use of a watershed-scale study area to identify project-specific and cumulative effects on biological resources is endorsed by federal agencies such as the Bureau of Land Management, the U.S. Forest Service, the USFWS, and the U.S. Environmental Protection Agency.[156,157,158,159]

Watershed-Scale Studies Assist Water Quality Analyses. Resource management agencies consider watersheds an appropriate spatial unit for assessing human-generated impacts on the quality and quantity of water at specific points in particular water bodies, such as the Santa Clara River. Because they integrate the surface and subsurface flow of

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[155] *TNC. 2006. Santa Clara River Upper Watershed Conservation Plan. Funded in part by Santa Clara River Trustee Council ARCO Oil Spill Settlement. Fall 2006.*

[156] *BLM (Bureau of Land Management). 2001. H-4180-1: Rangeland Health Standards. U.S. Department of the Interior, BLM. January 19, 2001.*

[157] *Reid, L.M. 1993. "Research and Cumulative Watershed Effects." General Technical Report PSW-GTR-141. Albany, California: Pacific Southwest Research Station, Forest Service, U.S. Department of Agriculture. March 1993.*

[158] *USFWS. 2008. Strategic Habitat Conservation Handbook: A Guide to Implementing the Technical Elements of Strategic Habitat Conservation (Version 1.0). Report from the National Technical Assistance Team. February 11, 2008.*

[159] *EPA. 2014. "Principles of Water Management." Watershed Academy, www.epa.gov/watertrain.*

water upgradient from the point at which measurements are made, watershed studies allow one to make drainage basin-specific accountings of point and nonpoint source pollutants, whose transport is associated with the movement of water. Where watersheds are relevant and can be defined, they have long been recognized as a convenient and appropriate boundary for studying the relationship between water quality and natural and anthropogenic (caused by or related to human use) phenomena, as well as for providing a spatial unit for reference areas within ecoregions at all scales.[160,161,162]

Resource management agencies also recognize the utility of restricting the cumulative effects study area to watersheds or subwatersheds that are relevant to project effects. Per the California Manual for Watershed Assessment: "if you wish to study the effect of local land-use changes, you may wish to assess several small watersheds where these changes will have a more noticeable impact on the local stream (simply because they occupy a greater proportion of the watershed area)."[163]

Watershed-Scale Studies Are Consistent with Regional Planning Efforts. Examining cumulative impacts at a watershed or comparable scale (e.g., a set of HUC 10 watersheds as in the USCRW Study) is consistent with large regional planning efforts that have included the study area, including Newhall Land projects. For example, One Valley One Vision (OVOV) is a joint effort between the County of Los Angeles ("County"), the City of Santa Clarita ("City"), and Santa Clara River Valley ("Valley") residents and businesses to create a single vision for the future growth of the Valley and the preservation of natural resources.[164] The planning area for OVOV, all of which is within the USCRW study area is on a watershed scale and includes the City and its four communities: Canyon Country, Newhall, Saugus, and Valencia, as well as the County communities of Stevenson Ranch, Castaic, Val Verde, Agua Dulce, and the future Newhall Ranch. The OVOV effort has resulted in a revised General Plan for the City and a new Santa Clarita Valley Area Plan incorporated by the County as a component of the County General Plan.

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[160] *Van Dyne, G.M. 1969. The Ecosystem Concept in Natural Resource Management.*

[161] *O'Sullivan, P.E. 1979. "The Ecosystem-Watershed Concept in the Environmental Sciences: A Review." International Journal of Environmental Studies 13(4): 273–281.*

[162] *Shilling, F., S. Sommarstrom, R. Kattelmann, B. Washburn, J. Florsheim, and R. Henly. 2005. California Watershed Assessment Manual: Volume I. Prepared for the California Resources Agency and the California Bay-Delta Authority. May 2005. Website http://cwam.ucdavis.edu.*

[163] *Shilling, F., S. Sommarstrom, R. Kattelmann, B. Washburn, J. Florsheim, and R. Henly. 2005. California Watershed Assessment Manual: Volume I. Prepared for the California Resources Agency and the California Bay-Delta Authority. May 2005. Website http://cwam.ucdavis.edu.*

[164] *Website http://planning.lacounty.gov/ovov.*

The Santa Clarita Valley Area Plan is another example of a planning effort conducted on a watershed scale. It accounts for several existing specific plans in the area, including Newhall Ranch, Northlake (3,623 residential units on 1,330 acres near Castaic), Canyon Park (4,763 multiple-family units and 637 single-family units on 308 acres), Porta Bella (1,244 single-family units, 1,667 multiple-family units, and 96 acres of commercial/office on 989 acres of the Whittaker Bermite site), Downtown Newhall, and Valencia.

Watershed-Scale Studies Are Appropriate for Assessing Cumulative Biological Resource Impacts. Resource agencies often develop conservation plans or effects analyses for biological resources at the watershed scale. Many mobile wildlife species and birds move across large areas within a watershed or sub-basin. At the watershed scale, individual species are typically grouped into "guilds" based on their habitat needs or life history. The species within a guild are subject to similar effects from water quality, habitat loss or degradation, loss of habitat connectivity, and other watershed-scale impacts. In short, watershed-scale analyses allow the biologist, the land planner, the agency decision-maker, and the public to see how certain impacts affect the larger network of ecological functions in a given area. It provides a macro perspective that one cannot typically achieve through a micro- or project-specific analysis.

(b) Selection of the Study Area Watersheds

Planned development on Newhall Land property would not directly affect the majority of the HUC 10 Santa Clara Sub-Basin. There are nine watersheds within the Santa Clara Sub-Basin, of which five would not contain proposed Newhall Land development: Upper Piru Creek, Sespe Creek, Middle Santa Clara River, Lower Santa Clara River, and Lower Piru Creek, as shown on **Figure 5.4-14**, Watersheds within Santa Clara Sub-Basin. These five watersheds have a combined total of 612,396 acres, which is 59 percent of the Santa Clara Sub-Basin.

The Middle Santa Clara River and Lower Santa Clara River watersheds are directly downgradient from the four HUC 10 watersheds in the USCRW study area directly affected by Newhall Land development; see **Figure 5.4-14**, Watersheds within Santa Clara Sub-Basin. The remaining three watersheds outside the study area (Upper Piru Creek (6), Sespe Creek (18), and Lower Piru Creek (19)) drain to the Middle Santa Clara River and Lower Santa Clara River watersheds, shown on **Figure 5.4-14**, Watersheds within Santa Clara Sub-Basin. Although the two downgradient watersheds (Middle Santa Clara River and Lower Santa Clara River) may sustain localized temporary increases in turbidity or long-term incremental increases in runoff from impermeable surfaces located in the upstream watersheds, the impacts would be minimal given the high water volumes carried by the downgradient watersheds. For example, Castaic Creek, which drains 37 square miles within Watershed 4, (Castaic Creek), has an average winter flow of 3.5 cubic feet per

second, while typical winter flows in the lower mainstem Santa Clara River are approximately 3,500 cubic feet per second.[165,166] In addition, a "Dry Gap" exists downstream of the Los Angeles County/Ventura County that is an ephemeral reach of the Santa Clara River where surface flows in the river are lost to the Piru groundwater basin during dry periods. Surface runoff breaches the Dry Gap during major storm events and provides temporary surface water connections that periodically allow flows to directly reach downstream areas.

The study area excludes all but a fraction of an acre of the Ventura County portion of the Santa Clara Sub-Basin. Development in rural and agricultural areas of Ventura County is essentially under a moratorium as a result of several "Save Open Space and Agricultural Resources" (SOAR) ordinances and initiatives. The Ventura County SOAR ordinance, extended through 2020, requires County-wide voter approval of any change to the County General Plan involving the "Agricultural," "Open Space," or "Rural" land use map designations, or any change to a General Plan goal or policy related to those land use designations. The City of Ventura has two measures: (1) its original SOAR measure, which requires voter approval of any change to the General Plan involving the "Agriculture" designation and has been extended through 2030; and (2) the Hillside Voter Participation Act, which requires voter approval of any urban development within the Hillside Voter Participation Act line. SOAR ordinances have also been adopted for the cities of Camarillo, Fillmore, Moorpark, Oxnard, Santa Paula, Simi Valley, and Thousand Oaks.

Ultimately, watersheds 2 through 5 of HUC 10 were selected as the study area for the USCRW Study based on the following factors:

- The location of significant ecological areas
- Reasonably accurate information for the location and extent of proposed development activities
- The existence and nature of sensitive downstream water-related natural features, uses, conditions or hazards

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[165] *County of Los Angeles. 2010. "Los Angeles County Watershed Model Configuration and Calibration—Part I: Hydrology." Prepared by Tetra Tech for the County of Los Angeles Department of Public Works. August 6, 2010.*

[166] *Stillwater Sciences. 2011. "Geomorphic Assessment of the Santa Clara River Watershed: Synthesis of the Lower and Upper Watershed Studies, Ventura and Los Angeles Counties, California." Prepared by Stillwater Sciences, Berkeley, California, for Ventura County Watershed Protection District, Los Angeles County Department of Public Works, and the U.S. Army Corps of Engineers—L.A. District.*

- Ranges of special-status and other key species using the watershed, linkages between populations, and wildlife movement patterns
- Available watershed plans specifying watersheds for study.

(c) Key Landscape-Level Ecological Functions of the USCRW

At the watershed level, several ecological functions are susceptible to disruption. These include the following:

- Habitat availability—determined by presence of appropriate vegetation, appropriate geological type and/or soil type, elevation of habitat, and the slopes
- Habitat quality—determined by size of the habitat area, quantity and health of suitable vegetation, quantity and quality of water, and proximity to development
- Habitat connectivity—determined by the presence and appropriate size of movement corridors between habitat areas
- Water availability and quality—determined by flow quantities and durations, maintenance of hydrological connectivity, erosion and sediment loads, and contaminant levels.

c. Ecological Functions of the USCRW

(1) Existing Habitat Types

Existing habitat types within the USCRW are generally described by the dominant vegetation (refer to Table 1 in the Biota Report, provided in **Appendix 5.4A** of this Draft EIR, for detailed acreages for each vegetation type). The vegetation groupings used below differ from those used in the Project-level analysis (see Subsection 2.b.(2), above) due to differences in the source data available for the cumulative study area:

- Riparian—California Central Valley riparian woodland and shrubland, Mediterranean California foothill and lower montane riparian woodland, North American warm desert riparian woodland and shrubland. Includes sensitive cottonwood–willow riparian forest.
  - Important to riparian-dependent bird species (e.g., least Bell's vireo, southwestern willow flycatcher), semi-aquatic reptiles (e.g., western pond turtle, two-striped gartersnake), and amphibians (e.g., arroyo toad).
- Grasslands—California Central Valley and southern coastal grassland, California mesic serpentine grassland.

  - Important to range of wildflowers, special-status plants (e.g., California Orcutt grass (*Orcuttia californica*), spreading navarretia (*Navarretia fossalis*)), and grassland-dependent bird species (e.g., California horned lark, grasshopper sparrow, and several foraging raptors).

- Scrub—Various desert scrubs, inter-mountain basins big sagebrush shrubland, southern California coastal scrub, Mediterranean California southern coastal dune.

  - Important to special-status plants (e.g., San Fernando Valley spineflower, slender-horned spineflower (*Dodecahema leptoceras*)), scrub-dependent bird species (e.g., southern California rufous-crowned sparrow, coastal California gnatcatcher), and scrub-dependent reptiles (Blainville's horned lizard and coastal whiptail).

- Woodlands—Various oak woodlands and savannah, California lower montane blue oak–foothill pine woodland savannah, Central and southern California mixed evergreen woodland, Mediterranean California mixed evergreen forest, Great Basin pinyon–juniper woodland.

  - Important to woodland-dependent bird species (e.g., Cooper's hawk and oak titmouse).

- Coniferous Forest—California montane Jeffrey pine–(Ponderosa pine) woodland, Mediterranean California dry-mesic mixed conifer forest and woodland, California coastal redwood forest.

  - Important to forest-dependent bird species (nesting California condor and California spotted owl (*Strix occidentalis occidentalis*)).

- Chaparrals—California mesic chaparral, Mediterranean California mesic serpentine woodland and chaparral, Southern California dry-mesic chaparral, Sonora–Mojave semi-desert chaparral, California montane woodland and chaparral.

  - Important to chaparral plants (e.g., island mountain-mahogany, Ross' pitcher sage (*Lepechinia rossii*)), chaparral-dependent bird species (Bell's sage sparrow), and chaparral-dependent reptiles (e.g., rosy boa).

- Wetland and Aquatic—Temperate Pacific freshwater emergent marsh, temperate Pacific freshwater mudflat, open water (fresh).

  - Important to aquatic-dependent species (unarmored threespine stickleback, Santa Ana sucker, arroyo chub, western pond turtle, two-striped gartersnake, and arroyo toad).

(2) Existing Habitat Quality

Habitat quality for each of the above communities was assessed in the Santa Clara River Upper Watershed Conservation Plan prepared by TNC.[167,168] TNC identified key ecological attributes relative to habitat quality, which are consistent with those identified for this study: (1) size of the habitat; (2) condition of the habitat (e.g., the vegetation composition, structure, and biotic interactions within the habitat); and (3) landscape context (e.g., availability of ecological processes that allow the community to function, availability of movement corridors). **Table 5.4-13**, Existing Habitat Quality in the USCRW, on page 5.4-222, summarizes the habitat quality TNC identified for each habitat type. While individual attributes for the habitats ranged from "very good" to "poor," the overall current condition of all habitats is "fair."

The preparers of the Upper Santa Clara Watershed Conservation Plan weighted the rankings shown in **Table 5.4-13**, Existing Habitat Quality in the USCRW, according to the sensitivity of each habitat type. As a result, some of the attribute rankings assigned by TNC are counterintuitive at first inspection. For example, 93 percent of chaparral is in open space but is assigned a landscape context of "poor," while 54 percent of grassland is in open space but is assigned a landscape context of "fair." To arrive at this conclusion, the preparers assumed that ecological processes necessary for proper function of grassland habitat types were much less sensitive to disruption than those depended on by chaparral, and were particularly concerned with the potential for major wildland fire effects (which is a product of "landscape context") on chaparral communities.

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[167] *TNC. 2006. Santa Clara River Upper Watershed Conservation Plan. Funded in part by Santa Clara River Trustee Council ARCO Oil Spill Settlement. Fall 2006.*

[168] *The TNC 2006 plan included the Lower Piru Creek watershed, which was excluded from the USCRW Study.*

Table 5.4-13
Existing Habitat Quality in the USCRW

Habitat Type	Ecological Attribute			Overall Quality
	Size	Condition	Landscape Context	
Riparian	Fair	Good	Fair	Fair
Grasslands	Poor	Fair	Fair	Fair
Scrubs	Fair	Good	Poor	Fair
Woodlands	Fair	Fair	Good	Fair
Coniferous Forest	Very Good	Good	Poor	Fair
Chaparrals	Very Good	Good	Poor	Fair
Aquatic Communities	Fair	Good	Fair	Fair

Very Good = the habitat is naturally functioning and requires little human intervention.

Good = the habitat is functioning within its range of acceptable variation; it may require some human intervention.

Fair = the habitat lies outside its range of acceptable variation and requires human intervention. If unchecked, the habitat will be vulnerable to serious degradation.

Poor = allowing the habitat to remain in this condition for an extended period will make restoration or preventing species extirpation practically impossible.[169]

Source: The Nature Conservancy (TNC), 2006. "Santa Clara River Upper Watershed Conservation Plan." Funded in part by Santa Clara River Trustee Council ARCO Oil Spill Settlement. Fall 2006.

(3) Existing Habitat Connectivity

Habitat connectivity is of critical importance to the persistence of wide-ranging terrestrial vertebrates of the study area, including mountain lion, mule deer, and American badger (*Taxidea taxus*). The Santa Clara River corridor within the study area, as well as the river corridor downstream of the study area, is identified as an important regional habitat linkage and wildlife corridor in *Missing Linkages: Restoring Connectivity to the California Landscape* (Penrod 2000) and the South Coast Missing Linkages Project (SCMLP).[170,171]

[169] *Low, 2003, as cited in TNC, 2006.*

[170] *The SCMLP is produced by South Coast Wildlands, a non-profit organization that brings together various agencies, scientists, and consultants to address conservation issues in the South Coast Ecoregion.*

[171] *Penrod, K., C. Cabanero, P. Beier, C. Luke, W. Spencer, E. Rubin, R. Sauvajot, S. Riley, and D. Kamradt. 2006. "South Coast Missing Linkages Project: A Linkage Design for the Santa Monica–Sierra Madre*
(Footnote continued on next page)

Within the study area as a whole, the SCMLP identifies 15 priority linkages in the South Coast Ecoregion.[172] Two of these linkages compose the north–south Santa Monica–Sierra Madre connection, of which the eastern linkage crosses a portion of Newhall Land property at its western boundary on the Ventura/Los Angeles County line. The eastern linkage also intersects the western portion of the Upper Santa Clara River watershed west of the Newhall Land Resource Management and Development Plan (RMDP) boundary. The SCMLP identified preferred travel routes for mountain lion, mule deer, and American badger (referred to as Least Cost Corridors [LCCs]), as well as a route that best met the habitat linkage needs of all three species (referred to as the Least Cost Union [LCU]).

Figures 10 through 13 in **Appendix 5.4A** of this Draft EIR overlay the results of the SCMLP on the study area. The easternmost branch of the LCU area for mule deer, mountain lion, and American badger is located along the Ventura County–Los Angeles County boundary and overlaps with the High Country SMA/SEA and Salt Creek area south of SR-126 within the Upper Santa Clara River watershed. North of SR-126, the LCU is located almost entirely in Ventura County in proximity to Newhall Land property and extends into Hoiser Canyon, upper San Martinez Grande Canyon, and the Piru Creek watershed outside the study area.

Another linkage identified by the SCMLP and added to the modeled LCU is between the San Gabriel Mountains and the Santa Susana Mountains to the west. Compared to the modeled SCMLP linkages, the San Gabriel-Santa Susana linkage remains relatively intact; however, major barriers to exchange in the San Fernando Pass include I-5 and SR 14, both of which are large multi-lane freeways with no engineered wildlife crossings. SCMLP did not conduct a permeability analysis for this linkage, but land has been protected in the Gateway Ranch, Gates/King, and Elsmore Ranch properties to aid in connecting the Santa Clarita Woodlands on the west to the Angeles National Forest on the east.

(4) Existing Water Quality and Availability

While portions of the upper Santa Clara River have perennial flows, most are dry in the absence of storms.[173] Perennial flows in the Santa Clara River occur west of the Bouquet Creek confluence, largely due to discharges from the Valencia and Saugus wastewater reclamation plants. The dry segment near the confluence of Bouquet Canyon

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Connection." Idyllwild, California: South Coast Wildlands, in cooperation with the National Park Service, Santa Monica Mountains Conservancy, California State Parks, and The Nature Conservancy.

[172] *Ibid., Figure 2.*

[173] *TNC. 2006. Santa Clara River Upper Watershed Conservation Plan. Funded in part by Santa Clara River Trustee Council ARCO Oil Spill Settlement. Fall 2006.*

is essential to the genetic isolation of the unarmored threespine stickleback in the upper watershed, keeping it from interbreeding with its related subspecies, the partially armored threespine stickleback, found downstream. Tributaries within the study area generally flow only in winter and during storms.

Although water quality in the Santa Clara River is generally regarded as good, issues with chloride have been noted in the upper watershed.[174] Elevated chloride concentrations that have been detected coming from Valencia and Saugus wastewater reclamation plants are due to domestic use of water softeners. Concentrations of total suspended solids in the Santa Clara River are sometimes very high due to the highly erodible, easily transportable, sandy alluvial soils and sediments, and average concentrations are much higher for larger storms than for smaller storms.[175] During wet weather sampling of water from the Santa Clara River, some samples exhibited copper and zinc concentrations in excess of the California Toxics Rule (CTR) acute criteria, but the *average* concentrations for copper and zinc were below the CTR acute criteria. Lead concentrations were consistently below acute criteria. Fecal coliform and total coliform levels in the Santa Clara River consistently measure at high levels; the River is impaired for bacteria in wet weather flows at the Project location.[176]

(5) Special-Status Species and Sensitive Vegetation Types in the Study Area

Special-status species that have been documented in the study area based on CNDDB records are presented in **Table 5.4-14**, CNDDB Element Occurrences for Special-Status Species in the Study Area, on page 5.4-225. This study uses the CNDDB because site-specific surveys—such as those conducted on Newhall Land properties—have not been performed throughout the entire study area. The CNDDB, while coarse, nevertheless allows one to draw general conclusions regarding cumulative, watershed-wide impacts to special-status species and sensitive vegetation types.

Given the size of the study area, plants with similar habitat requirements and wildlife species with similar life histories and behaviors are assigned to one of 18 species guilds. Species that fall within each guild are expected to be similarly affected by direct and

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[174] *CBI (Conservation Biology Institute). 2005. Ecological Impact Assessment of Urban Development in the Santa Clara River Watershed, California. August 2005.*

[175] *Corps and CDFG. 2010. Newhall Ranch Resource Management and Development Plan and Spineflower Conservation Plan Joint Environmental Impact Statement and Environmental Impact Report. Final. SCH No. 2000011025. Los Angeles, California: Corps and CDFG. June 2010.*

[176] *Geosyntec 2014, see **Appendix 5.10** of this Draft EIR.*

Table 5.4-14
CNDDB Element Occurrences for Special-Status Species in the Study Area

Species	Status	Number of Element Occurrences in Each Watershed	Habitat Association	Assigned Guild
Plants				
San Fernando Valley spineflower *Chorizanthe parryi* var. *fernandina*	SE/FC/1B.1/LA County	Castaic Creek = 18 Upper Santa Clara River = 119	Coastal scrub, sandy soils	Plant—Chaparral/ Scrub
Slender-horned spineflower *Dodecahema leptoceras*	FE/SE/1B.1/LA County	Headwaters Santa Clara River = 48 Upper Santa Clara River = 376	Alluvial scrub on sandy substrate	Plant—Alluvial Scrub
Parry's spineflower *Chorizanthe parryi* var. *parryi*	1B.1	Bouquet Canyon = 4	Chaparral, cismontane woodland, coastal scrub, valley and foothill grassland/sandy or rocky, openings	Plant—Chaparral/ Scrub
Slender mariposa-lily *Calochortus clavatus* var. *gracilis*	1B.2/LA County	Headwaters Santa Clara River = 37 Bouquet Canyon = 38 Castaic Creek = 103 Upper Santa Clara River = 460	Chaparral and coastal scrub	Plant—Chaparral/ Scrub
Late-flowered mariposa-lily *Calochortus fimbriatus*	1B.3	Upper Santa Clara River = 5	Chaparral, cismontane and riparian woodland	Plant —Generalist
Plummer's mariposa-lily *Calochortus plummerae*	4.2/LA County	Headwaters Santa Clara River = 23 Upper Santa Clara River = 15	Chaparral, coastal scrub, cismontane woodland, grasslands on rocky granitic substrate	Plant—Chaparral/ Scrub
Newhall sunflower *Helianthus inexpectatus*	1B.1	Upper Santa Clara River = 2	Marshes and swamps, riparian woodland/ freshwater, seep	Plant—Wetland
Davidson's bush-mallow *Malacothamnus davidsonii*	1B.2/LA County	Upper Santa Clara River = 2	Chaparral, coastal scrub, riparian woodland/ deciduous scrub/	Plant—Chaparral/ Scrub
California Orcutt grass *Orcuttia californica*	FE/SE/1B.1	Headwaters Santa Clara River = 39 Bouquet Canyon = 15 Upper Santa Clara River = 376	Vernal pools	Plant—Vernal Pool
Chaparral ragwort *Senecio aphanactis*	2B.2/LA County	Headwaters Santa Clara River = 2 Bouquet Canyon = 1 Upper Santa Clara River = 14	Chaparral, coastal scrub, cismontane woodland on alkaline substrate	Plant—Chaparral/ Scrub

Table 5.4-14 (Continued)
CNDDB Element Occurrences for Special-Status Species in the Study Area

Species	Status	Number of Element Occurrences in Each Watershed	Habitat Association	Assigned Guild
Greata's aster *Symphyotrichum greatae*	1B.3	Headwaters Santa Clara River = 3 Castaic Creek = 8	Broadleafed upland forest, chaparral, cismontane woodland, lower montane and coniferous forest, riparian woodland/mesic	Plant—Forest and Woodland
Island mountain-mahogany *Cercocarpus betuloides* var. *blancheae*	4.3/LA County	Observed within the Homestead South, Mission Village, and Entrada South Project areas in 2012.	Chaparral, closed-cone coniferous forest	Plant—Chaparral/ Scrub
Mason's neststraw *Stylocline masonii*	1B.1	Headwaters Santa Clara River = 1	Dry, open sandy places, within shadscale/ chenopod scrub and pinyon–juniper woodland communities; 100–400 meters AMSL	Plant—Chaparral/ Scrub
Mt. Gleason paintbrush *Castilleja gleasoni*	1B.2	Headwaters Santa Clara River = 7 Castaic Creek = 2	Coniferous forest above 5,000 feet AMSL, granitic soils	Plant—Forest and Woodland
Nevin's barberry *Berberis nevinii*	FE/SE/1B.1/LA County	Upper Santa Clara River = 21	Chaparral, coastal scrub, riparian scrub, cismontane woodland on sandy or gravelly substrate	Plant—Chaparral/ Scrub
Ojai navarretia *Navarretia ojaiensis*	1B.1	Upper Santa Clara River = 5	Chaparral (openings), coastal scrub (openings), valley and foothill grassland	Plant - Grassland
Piute Mountains navarretia *Navarretia setiloba*	1B.1	Headwaters Santa Clara River = 3 Bouquet Canyon = 4	Cismontane woodland, pinyon and juniper woodland, valley and foothill grassland/ clay or gravelly loam	Plant—Woodland/ Grassland
Southern California black walnut *Juglans californica*	4.2/LA County	Incidentally observed in RMDP/ SCP area in 2002–2005, and mapped in 2012–2013	Chaparral, cismontane woodland, coastal scrub, alluvial scrub	Plant—Chaparral/ Scrub
Spreading navarretia *Navarretia fossalis*	FT/1B.1	Bouquet Canyon = 8	Chenopod scrub, marshes and swamps (assorted shallow freshwater), playas, vernal pools	Plant—Wetland

Table 5.4-14 (Continued)
CNDDB Element Occurrences for Special-Status Species in the Study Area

Species	Status	Number of Element Occurrences in Each Watershed	Habitat Association	Assigned Guild
Peirson's morning-glory *Calystegia peirsonii*	4.2/LA County	Headwaters Santa Clara River = 2 Bouquet Canyon = 13 Castaic Creek = 44 Upper Santa Clara River = 16	Chaparral, coastal scrub, cismontane woodland, grassland	Plant—Generalist
Ross' pitcher sage *Lepechinia rossii*	1B.2	Castaic Creek = 2 Upper Santa Clara River = 1	Chaparral/ perennial shrub	Plant—Chaparral/ Scrub
Round-leaved filaree *California macrophylla*	1B.1/LA County	Castaic Creek = 10	Cismontane woodland and grasslands on clay substrate	Plant—Woodland/ Grassland
San Gabriel bedstraw *Galium grande*	1B.2	Castaic Creek = 3	Broad-leafed upland forest, chaparral, cismontane woodland, lower montane coniferous forest	Plant—Forest and Woodland
San Gabriel linanthus *Linanthus concinnus*	1B.2	Headwaters Santa Clara River = 1	Lower montane coniferous forest, upper montane coniferous forest, rocky soils.	Plant—Forest and Woodland
San Gabriel manzanita *Arctostaphylos gabrielensis*	1B.2	Headwaters Santa Clara River = 13	Shrubland/chaparral, rocky outcrops	Plant—Chaparral/ Scrub
Short-joint beavertail *Opuntia basilaris* var. *brachyclada*	1B.2/LA County	Headwaters Santa Clara River = 42 Bouquet Canyon = 7 Castaic Creek = 2 Upper Santa Clara River = 5	Chaparral, Joshua tree woodland, Mojavean desert scrub	Plant—Chaparral/ Scrub
Fish				
Unarmored threespine stickleback *Gasterosteus aculeatus williamsoni*	FE/SE,FP/LA County	Headwaters Santa Clara River = 54 Bouquet Canyon = 8 Castaic Creek = 5 Upper Santa Clara River = 175	Slow-moving and backwater areas	Fish
Santa Ana sucker *Catostomus santaanae*	FT (only for its natural historical range which excludes the Santa Clara River)/CSC/LA County	Headwaters Santa Clara River = 63 Castaic Creek = 9 Upper Santa Clara River = 125	Small, shallow, cool, clear streams; substrates are generally coarse gravel, rubble and boulder	Fish

Table 5.4-14 (Continued)
CNDDB Element Occurrences for Special-Status Species in the Study Area

Species	Status	Number of Element Occurrences in Each Watershed	Habitat Association	Assigned Guild
Arroyo chub *Gila orcuttii*	None/CSC/LA County	Headwaters Santa Clara River = 7 Castaic Creek = 2 Upper Santa Clara River = 114	Warm, fluctuating streams with slow-moving, or backwater sections of warm to cool streams; substrates of sand or mud	Fish
Reptiles				
Rosy boa *Charina trivirgata*	SA/LA County	Headwaters Santa Clara River = 2 Upper Santa Clara River = 3	Desert and chaparral habitats with rocky soils in coastal canyons and hillsides, desert canyons, washes and mountains	Reptile—Low Mobility
Coastal whiptail *Aspidoscelis tigris stejnegeri*	SA/LA County	Headwaters Santa Clara River = 2 Bouquet Canyon = 9 Castaic Creek = 23 Upper Santa Clara River = 16	Open areas in semiarid grasslands, scrublands, and woodlands	Reptile—Low Mobility
Silvery legless lizard *Anniella pulchra pulchra*	CSC/LA County	Headwaters Santa Clara River = 2 Bouquet Canyon = 4	Stabilized dunes, beaches, dry washes, chaparral, scrubs, pine, oak, and riparian woodlands; associated with sparse vegetation and sandy or loose, loamy soils	Reptile—Low Mobility
Western pond turtle *Actinemys marmorata*	CSC	Headwaters Santa Clara River = 2 Castaic Creek = 7 Upper Santa Clara River = 90	Slow-moving permanent or intermittent streams, ponds, small lakes, reservoirs with emergent basking sites; adjacent uplands used during winter	Reptile and Amphibian—Semi-Aquatic
Two-striped gartersnake *Thamnophis hammondii*	CSC/LA County	Headwaters Santa Clara River = 5 Bouquet Canyon = 1 Castaic Creek = 10 Upper Santa Clara River = 31	Streams, creeks, pools, streams with rocky beds, ponds, lakes, vernal pools	Reptile and Amphibian—Semi-Aquatic
Blainville's horned lizard *Phrynosoma blainvillii*	CSC/LA County	Headwaters Santa Clara River = 50 Bouquet Canyon = 1 Castaic Creek = 10 Upper Santa Clara River = 36	Exposed gravelly-sandy soils with minimal shrubs, riparian woodland clearings, dry chamise chaparral, and annual grasslands with scattered seepweed or saltbush	Reptile—Low Mobility

Table 5.4-14 (Continued)
CNDDB Element Occurrences for Special-Status Species in the Study Area

Species	Status	Number of Element Occurrences in Each Watershed	Habitat Association	Assigned Guild
Amphibians				
Western spadefoot *Spea hammondii*	CSC/LA County	Headwaters Santa Clara River = 13 Bouquet Canyon = 5 Castaic Creek = 5 Upper Santa Clara River = 12	Open areas in lowland grasslands, chaparral and pine–oak woodlands; requires temporary rain pools that last approximately 3 weeks	Reptile and Amphibian—Semi-Aquatic
Arroyo toad *Anaxyrus californicus*	FE/CSC/LA County	Headwaters Santa Clara River = 10 Castaic Creek = 10 Upper Santa Clara River = 14	Stream channels for breeding (typically 3rd order); adjacent stream terraces and uplands for foraging and wintering	Reptile and Amphibian—Semi-Aquatic
California red-legged frog *Rana draytonii*	FT/CSC/LA County	Headwaters Santa Clara River = 8 Upper Santa Clara River = 19	Lowland streams, wetlands, riparian woodlands, livestock ponds; dense, shrubby or emergent vegetation associated with deep, still or slow-moving water; uses adjacent uplands	Reptile and Amphibian—Semi-Aquatic
Birds				
Bald eagle *Haliaeetus leucocephalus*	BCC, BAGEPA, FD/SE, FP/LA County (nesting and wintering)	Castaic Creek = 1	Seacoasts, rivers, swamps, large lakes; winters at large bodies of water in lowlands and mountains	Bird—Nesting/ Foraging Raptor
Burrowing owl *Athene cunicularia*	BCC/CSC/LA County (burrow sites and some wintering sites)	Headwaters Santa Clara River = 1 Bouquet Canyon = 0 Castaic Creek = 13 Upper Santa Clara River = 2	Grasslands, open scrub, and agriculture, particularly with ground squirrel burrows	Bird—Nesting/ Foraging Raptor
Cooper's hawk *Accipiter cooperii*	WL/LA County (nesting)	Upper Santa Clara River = 46	Dense stands of live oak, riparian woodlands, or other woodland habitats near water	Bird—Nesting/ Foraging Raptor
Golden eagle *Aquila chrysaetos*	BCC/BAGEPA/ FP/WL/LA County (nesting and wintering)	Headwaters Santa Clara River = 4	Open country, especially hilly and mountainous regions; grassland, coastal sage scrub, chaparral, oak savannas, open coniferous forest	Bird—Nesting/ Foraging Raptor

Table 5.4-14 (Continued)
CNDDB Element Occurrences for Special-Status Species in the Study Area

Species	Status	Number of Element Occurrences in Each Watershed	Habitat Association	Assigned Guild
Loggerhead shrike *Lanius ludovicianus*	BCC/CSC/LA County (nesting)	Bouquet Canyon = 2 Castaic Creek = 10 Upper Santa Clara River = 3	Grasslands, open shrublands with scattered shrubs, trees, fences, or other perches, riparian, and woodlands	Bird—Nesting/ Foraging Raptor
Prairie falcon *Falco mexicanus*	BCC/WL/LA County (nesting)	Headwaters Santa Clara River = 195 Castaic Creek = 112	Grassland, savannas, rangeland, agriculture, desert scrub, alpine meadows; nest on cliffs or bluffs	Bird—Nesting/ Foraging Raptor
Swainson's hawk *Buteo swainsoni*	BCC/ST/LA County (nesting)	Upper Santa Clara River = 5	Open grassland, shrublands, croplands	Bird—Nesting/ Foraging Raptor
White-tailed kite *Elanus leucurus*	FP/LA County (nesting)	Upper Santa Clara River = 4	Herbaceous and open stages of most habitats, common in cismontane; nests near top of dense oak, willow, or other tree stand; nests near open foraging area	Bird—Nesting/ Foraging Raptor
California condor *Gymnogyps californianus*	FE/SE, FP/LA County	Castaic Creek = 24	Forages over wide areas of open rangelands, roosts on cliffs and in large trees and snags	Bird—Foraging Raptor
Least Bell's vireo *Vireo bellii pusillus*	FE/CE/LA County (nesting)	Bouquet Canyon = 2 Castaic Creek = 11 Upper Santa Clara River = 142	Riparian vegetation with extensive willows below 2,000 feet AMSL	Bird—Riparian
Southwestern willow flycatcher *Empidonax traillii extimus*	FE/SE/LA County (nesting)	Headwaters Santa Clara River = 7	Riparian woodlands along streams and rivers with mature, dense stands of willows or alders; may nest in thickets dominated by tamarisk	Bird—Riparian
Western yellow-billed cuckoo *Coccyzus americanus occidentalis*	FC (western DPS), BCC/SE/ LA County (nesting)	Upper Santa Clara River = 43	Dense, wide riparian woodlands and forest with well-developed understories	Bird—Riparian
Yellow-breasted chat *Icteria virens*	CSC/LA County	Upper Santa Clara River = 43	Dense, relatively wide riparian woodlands and thickets of willows, vine tangles and dense brush	Bird—Riparian
Yellow warbler *Setophaga (Dendroica) petechia brewsteri*	BCC/CSC/LA County	Upper Santa Clara River = 43	Riparian thickets and woodlands	Bird—Riparian

Table 5.4-14 (Continued)
CNDDB Element Occurrences for Special-Status Species in the Study Area

Species	Status	Number of Element Occurrences in Each Watershed	Habitat Association	Assigned Guild
Bell's sage sparrow *Artemisiospiza (Amphispiza) belli belli*	BCC/WL/LA County	Headwaters Santa Clara River = 21 Bouquet Canyon = 6 Castaic Creek = 22 Upper Santa Clara River = 5	Coastal scrub and chaparral	Bird –Scrub and Chaparral
Coastal California gnatcatcher *Polioptila californica californica*	FT/CSC/LA County	Headwaters Santa Clara River = 9 Bouquet Canyon = 1 Upper Santa Clara River = 2	Various sage scrub communities, often dominated by California sage and buckwheat; generally avoids nesting in areas with a slope of greater than 40%, and typically less than 820 feet AMSL	Bird –Scrub and Chaparral
Southern California rufous-crowned sparrow *Aimophila ruficeps canescens*	WL/LA County	Headwaters Santa Clara River = 22 Bouquet Canyon = 2	Coastal scrub and chaparral	Bird—Scrub and Chaparral
California horned lark *Eremophila alpestris actia*	WL/LA County	Castaic Creek = 22 Upper Santa Clara River = 5	Grasslands, disturbed areas, agriculture fields, and beach areas	Bird—Upland Grassland/ Agriculture
Grasshopper sparrow *Ammodramus savannarum*	CSC (nesting)	Castaic Creek = 6	Dense, dry or well-drained annual and native grasslands with mix of grasses and forbs; may occur in fallow agricultural fields, especially those periodically planted in oats and barley	Bird—Upland Grassland/ Agriculture
Mammals				
American badger *Taxidea taxus*	CSC	Castaic Creek = 1	Grasslands, agriculture, drier open stages of shrub, forest, and herbaceous habitats with friable soils	Mammal—Moderate Mobility
San Diego black-tailed jackrabbit *Lepus californicus bennettii*	CSC/LA County	Castaic Creek = 2	Arid habitats with open ground; grasslands, coastal scrub, agriculture, disturbed areas, rangelands	Mammal—Moderate Mobility
San Diego desert woodrat *Neotoma lepida intermedia*	CSC/LA County	Upper Santa Clara River = 1	Open chaparral, coastal scrub, cactus patches and the understory of tree thickets	Mammal—Low Mobility

Table 5.4-14 (Continued)
CNDDB Element Occurrences for Special-Status Species in the Study Area

Species	Status	Number of Element Occurrences in Each Watershed	Habitat Association	Assigned Guild
Pallid bat *Antrozous pallidus*	CSC/LA County	Headwaters Santa Clara River = 14 Castaic Creek = 5	Arid habitats, including grasslands, shrublands, woodlands and forests; for roosting, prefers rocky outcrops, cliffs and crevices with access to open habitats for foraging	Mammal—Bat
Spotted bat *Euderma maculata*	CSC/LA County	Castaic Creek = 18 Upper Santa Clara River = 1	Foothills, mountains, desert regions of southern California, including arid deserts, grasslands, and mixed conifer forests; roosts in rock crevices and cliffs; feeds over water and along washes	Mammal—Bat
Townsend's big-eared bat *Corynorhinus townsendii*	CESA Candidate Threatened, CSC/LA County	Headwaters Santa Clara River = 31 Castaic Creek = 3	Mesic habitats characterized by coniferous and deciduous forests and riparian habitat, but also xeric areas; roosts in limestone caves and lava tubes, also man-made structures and tunnels	Mammal—Bat
Western mastiff bat *Eumops perotis californicus*	CSC/LA County	Upper Santa Clara River = 12	Chaparral, coastal and desert scrub, coniferous and deciduous forest and woodland; roosts in crevices in rocky canyons and cliffs where the canyon or cliff is vertical or nearly vertical, trees and tunnels	Mammal—Bat

Source: *California Department of Fish and Wildlife (CDFW), 2014. "RareFind." California Natural Diversity Database, available at www.dfg.ca.gov/bdb/html/cnddb.html, accessed September 2014.*

indirect impacts in the study area, as they rely on the same type of habitat (e.g., riparian) or rely on the same ecosystem function (e.g., water quality, movement corridors).

(6) Sensitive Vegetation Communities

In addition to the special-status species in the CNDDB listed in **Table 5.4-14**, CNDDB Element Occurrences for Special-Status Species in the Study Area, the California Department of Fish and Wildlife designates sensitive vegetation communities. The following sensitive vegetation communities occur within the study area:

- California Walnut Woodland—37 recorded occurrences, all in Headwaters Santa Clara River watershed
- Mainland Cherry Forest—5 recorded occurrences, all in Castaic Creek watershed
- Riversidean Alluvial Fan Sage Scrub—2 recorded occurrences in Bouquet Canyon watershed, 5 in Castaic Creek watershed, 17 in Headwaters Santa Clara River watershed
- Southern California Threespine Stickleback Stream—2 recorded occurrences in Castaic Creek watershed, 50 in Headwaters Santa Clara River watershed, 147 in Upper Santa Clara River watershed
- Southern Coast Live Oak Riparian Forest—28 recorded occurrences in Bouquet Canyon watershed, 15 in Castaic Creek watershed, 15 in Headwaters Santa Clara River watershed, 24 in Upper Santa Clara River watershed
- Southern Cottonwood Willow Riparian Forest—5 recorded occurrences in Bouquet Canyon watershed, 63 in Castaic Creek watershed, 56 in Headwaters Santa Clara River watershed, 84 in Upper Santa Clara River watershed
- Southern Mixed Riparian Forest—3 recorded occurrences in Castaic Creek watershed
- Southern Riparian Forest—1 recorded occurrence in Castaic Creek watershed
- Southern Riparian Scrub—24 recorded occurrences in Bouquet Canyon watershed, 3 in Castaic Creek watershed, 88 in Headwaters Santa Clara River watershed, 9 in Upper Santa Clara watershed
- Southern Sycamore Alder Riparian Woodland—7 recorded occurrences in Bouquet Canyon watershed, 33 in Castaic Creek watershed, 38 in Headwaters Santa Clara River watershed, 26 in Upper Santa Clara watershed
- Southern Willow Scrub—4 recorded occurrences in Bouquet Canyon watershed, 9 in Castaic Creek watershed, 6 in Headwaters Santa Clara River watershed, 17 in Upper Santa Clara watershed

- Valley Oak Woodland—15 recorded occurrences all in Upper Santa Clara River watershed.

d. Cumulative Impacts on Ecological Functions of the USCRW

Impact CBIO-1: Conversion of Vegetation Communities

Development of Newhall Land property and other planned and approved projects in the study area would affect habitat availability by directly converting existing vegetation communities to development.

Development of Newhall Land property and other planned and approved projects in the study area would affect habitat availability by directly converting existing vegetation communities to development. The specific vegetation communities with the greatest area of conversion on Newhall Land property would be as follows:

- Central Valley and southern coastal grassland communities, with 2,117 of 3,919 acres developed (54 percent).
- Southern California coastal scrub, with 1,456 of 3,914 acres developed (37 percent).
- Southern California dry-mesic chaparral, with 679 of 2,584 acres developed (26 percent).

Overall, Newhall Land's contribution to loss of habitat from planned and approved projects within the study area would be as follows:

- Chaparral—711 acres of Newhall Land property impacted, out of 6,034 acres impacted by planned and approved projects in study area
- Scrubs—1,463 acres of Newhall Land property impacted, out of 9,971 acres impacted by planned and approved projects in study area
- Riparian—35 acres of Newhall Land property impacted, out of 440 acres impacted by planned and approved projects in study area
- Wetland and Aquatic—40 acres of Newhall Land property impacted, out of 651 acres impacted by planned and approved projects in study area
- Woodland—593 acres Newhall Land property impacted, out of 5,876 acres impacted by planned and approved projects in study area

- Coniferous Forest—0.09 acre of Newhall Land property impacted, out of 19 acres impacted by planned and approved projects in study area
- Grasslands—2,117 acres of Newhall Land property impacted, out of 8,708 acres impacted by planned and approved projects in study area
- Other Natural Land Covers—0.01 acre of Newhall Land property impacted, out of 137 acres impacted by planned and approved projects in study area.

Although some vegetation communities proportionally would be more heavily impacted than others (e.g., coastal scrubs and grasslands), the majority of the general vegetation types in the study area would be preserved. Exceptions are generally limited to more narrowly distributed desert scrubs such as Sonora–Mojave mixed salt desert scrub, for which about 90 percent of the 442 acres mapped for this community is classified for development in the study area. Mojave mid-elevation mixed desert scrub is another community that would be substantially impacted out of proportion with other vegetation communities in the watersheds; 53 percent of this community would be impacted in the study area under current classifications. Part of the difficulty with the desert scrubs is that they tend to occur at lower elevations and on gentler slopes where more development is planned. However, the desert scrubs generally also provide habitat for a number of special-status wildlife and plant species. As a result, development affecting this vegetation type will require additional avoidance, minimization, and mitigation.

About 50 percent of grasslands, which also tend to occur on level, developable lands, would be impacted under current classifications. Chaparrals, which tend to occur in more rugged and/or higher-elevation terrain, would experience relatively few impacts overall, at 8.8 percent of the general community, as shown in **Table 5.4-15**, CNDDB Element Occurrences for Special-Status Species on Newhall Land Property, on page 5.4-236. However, some chaparral types, such as Sonora–Mojave semi-desert chaparral, that cover smaller areas (779 mapped within the study area) could be impacted to a greater extent, with about 29 percent classified for development. Riparian and wetland impacts would occur to about 53 percent of the mapped area but, as resources subject to state and federal “no net loss” policies, this level of impact would be reduced through required mitigation. Similar to chaparrals, woodlands and forests would have relatively few impacts, at 22 percent overall and ranging from a less than one percent impact to Mediterranean California dry-mesic mixed conifer and woodland to a 43 percent impact to southern California oak woodland and savanna. However, oak woodlands are protected under CLAOTO and will require additional avoidance, minimization, and mitigation.

With the implementation of required avoidance and minimization measures for affected vegetation communities, cumulative impacts to habitat availability from Newhall Land development would not be cumulatively considerable.

Table 5.4-15
CNDDB Element Occurrences for Special-Status Species on Newhall Land Property

Species	Total Element Occurrences
Plants—Chaparral/Scrub	
San Fernando Valley spineflower	64
Slender mariposa-lily	275
Plummer's mariposa-lily	4
Davidson's bush-mallow	1
Plants—Generalist	
Late-flowered mariposa-lily	1
Plants—Grassland	
Ojai navarretia	2
Plants—Wetland	
Newhall sunflower	1
Fish	
Santa Ana sucker	1
Arroyo chub	1
Reptiles—Low Mobility	
Coastal whiptail	1
Reptile and Amphibian—Semi-Aquatic	
Western pond turtle	1
Bird—Riparian	
Least Bell's vireo	5
Bird—Nesting/Foraging Raptor	
Burrowing owl	1

Source: California Department of Fish and Wildlife (CDFW), 2014. "RareFind." California Natural Diversity Database. Website www.dfg.ca.gov/bdb/html/cnddb.html, accessed 2014.

Impact CBIO-2: Habitat Quality

Development of Newhall Land projects within the study area would reduce available habitat area; however, the remaining habitat area would generally be located in sizable contiguous parcels. Some vegetation would be disproportionately impacted, as discussed above, but the health of remaining suitable vegetation in undeveloped

areas would not be substantially impacted.[177] Large preserves designated within Newhall Land property such as Santa Clara River SMA/SEA, High Country SMA/SEA, Salt Creek area, and others will ensure that high-quality habitat remains intact and protected from the effects of development and human encroachment. Development would not be expected to substantially alter flow quantities and patterns (e.g., peak flows) within watershed tributaries, as standard LID measures would ensure that infiltration remains adequate to minimize runoff from impermeable surfaces. By concentrating development and allowing for large undeveloped open space habitat areas, potential edge effects on habitat quality would be reduced compared to more scattered development.

Newhall Land property occurs at lower elevations along the southern edge of the study area adjacent to the Santa Clara River, and development is planned for areas contiguous with existing urban development at these lower elevations. Strictly from a hydrologic and geomorphic perspective, siting development at lower elevations and on gentler slopes in the watersheds and protecting headwaters is preferred because natural drainage and sediment transport patterns are more likely to be retained when the headwaters and upper portions of the watersheds in more rugged terrain are protected. Issues in the lower portions of the watersheds are more related to maintaining riparian ecosystem integrity, including riparian corridors and their buffers, floodplain connections, and habitats of riparian/wetland species. However, many of the special-status species known from the study area occur in more typically developed areas (i.e., at lower elevations and on gentler slopes), which is why their habitats have been so severely impacted in southern California.

With the implementation of required avoidance and minimization measures for affected vegetation communities and proposed establishment of large preserves, impacts to habitat quality from Newhall Land development would not be cumulatively considerable.

Impact CBIO-3: Habitat Connectivity

Development of Newhall Land property and other planned and approved projects in the study area would not significantly affect habitat connectivity within the study area.

The RMDP/SCP EIS/EIR addressed preservation along the Santa Clara River corridor.[178] Within and beyond the Newhall Land boundary, the river corridor is a regionally

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[177] *Corps and CDFG. 2010. Newhall Ranch Resource Management and Development Plan and Spineflower Conservation Plan Joint Environmental Impact Statement and Environmental Impact Report. Final. SCH No. 2000011025. Los Angeles, California: Corps and CDFG. June 2010.*

[178] *Ibid.*

significant riparian and wetland resource, in part because it functions as a wildlife corridor and habitat linkage, as well as "live-in" and breeding habitat for a number of federally and/or state-listed species, such as least Bell's vireo, southwestern willow flycatcher, arroyo toad, and unarmored threespine stickleback. From its origin in the San Gabriel Mountains, the river corridor extends approximately 80 miles to the west, where it empties into the Pacific Ocean. It is an important migration corridor and, possibly, a genetic dispersion corridor for wildlife and plant species, including species restricted to aquatic and riparian habitats as well as larger, more mobile terrestrial species. The river corridor also constitutes a portion of the Santa Clara River SMA/SEA, which is wide enough to accommodate flood events while retaining nearly all of the existing riparian vegetation along the river corridor. To control human activities that could adversely affect the River's ability to function as a wildlife corridor and habitat linkage, the RMDP/SCP also provides for "transition" areas between the Santa Clara River SMA/SEA and development, restricts recreational uses of the river, and provides for long-term management of the Santa Clara River SMA/SEA.

Based on the South Coast Missing Linkages Project (SCMLP) results, Newhall Land development will not directly impact the least-cost union (LCU) area for habitat connectivity.[179,180] South of the Santa Clara River, the closest planned development on Newhall Land property in relation to the LCU area is about 3,500 feet to the east. This distance will provide the LCU with an adequate buffer from indirect development effects. North of the Santa Clara River, the distance between the development edge and the eastern boundary of the LCU is about 800 feet. However, the width of the LCU itself in this area is about 10,000 feet (1.9 miles), so indirect impacts in this portion of the LCU would be minor and would not significantly affect the function of the corridor in this area. The LCU is wide enough to absorb some indirect effects north of the Santa Clara River without compromising the function of the corridor.

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[179] *A "Landscape Permeability Analysis" modeling effort was conducted by Penrod et al. (2006) to estimate the relative cost for species to move between large core habitat areas based on how the species is affected by habitat characteristics such as slope, elevation, vegetation, and road density. Based on the model results, the least-cost corridor (LCC) was identified as the area modeled to include the top 1 percent of the LCC function for each of the three species. The LCC output was combined to generate the least-cost union (LCU), which is defined by the SCMLP as "the zone within which all three modeled species would encounter the least energy expenditure (i.e., preferred travel route) and most favorable habitat as they move between targeted protected areas" (Penrod et al. 2006, p. 12).*

[180] *Penrod, K., C. Cabanero, P. Beier, C. Luke, W. Spencer, E. Rubin, R. Sauvajot, S. Riley, and D. Kamradt. 2006. "South Coast Missing Linkages Project: A Linkage Design for the Santa Monica–Sierra Madre Connection." Idyllwild, California: South Coast Wildlands, in cooperation with the National Park Service, Santa Monica Mountains Conservancy, California State Parks, and The Nature Conservancy.*

The least-cost corridor (LCC) for the mountain lion is confined to the eastern branch of the LCU, and the highest-permeability area (i.e., lowest cost, or green zone of map) is in Ventura County west of the Newhall Land RMDP boundary. The portion of the LCC within the RMDP boundary is rated as less permeable.

The LCC for the mule deer comprises the western and eastern branches of the LCU. The western branch has the highest permeability, and the eastern branch, which includes the High Country SMA/SEA and Salt Creek area, has lower permeability.

The American badger's main linkage branch is located generally to the west and does not overlap with Newhall Land property; it intersects only the far western portion of the Upper Santa Clara River watershed.

Overall, approved and planned development on Newhall Land property will have a relatively minor effect on the regional wildlife movement corridors identified by the SCMLP that intersect the study area because development would occur well east of the most important corridors.

In addition, the Project will not disrupt connectivity between Important Habitat Areas that are depicted in the SCLMP, but which are not included in the regional linkage design (i.e., Important Habitat Areas would not be isolated by the Project). As shown on **Figure 5.4-4**, South Coast Wildlands Open Space Connectivity and Linkage, there is an Important Habitat Area south of the Project Site. However, this Important Habitat Area now supports the existing Westridge residential development and golf course and no longer serves as wildlife habitat.

For these reasons, impacts to habitat connectivity from Newhall Land development would not be cumulatively considerable.

Impact CBIO-4: Ecological Functions of Watershed

Development of Newhall Land property and other planned and approved projects in the study area would not significantly affect the ecological function of study area watersheds through degradation of water availability or quality.

As is the case with approved and planned development in the study area, development of Newhall Land property could indirectly impact water quality and availability by: (1) changing flow rates and patterns in streams and rivers; and/or (2) discharging pollutants into streams and rivers. These changes could affect habitat suitability of adjacent and downstream aquatic, wetland, and riparian vegetation communities. These

impacts of Newhall Land projects would be reduced through the implementation of construction BMPs and LID design measures.

In 2009, PACE prepared a River and Tributaries Drainage Analysis that analyzed the effects of Newhall Land projects on the hydrology of the Santa Clara River and its tributaries.[181] The PACE study found that there would be no long-term substantial effects on water flows, velocities, depth, sedimentation, or floodplain and channel conditions downstream of the study area. The PACE study determined that the river would still retain sufficient width to allow natural fluvial processes to continue. For this reason, any altered hydrology resulting from the Newhall Land projects is expected to be minor.

With respect to pollutant impacts on water quality, a study conducted by Geosyntec examined the potential for chemical contamination to affect the mainstem Santa Clara River and the aquatic species that live there, including the federally listed southern California steelhead (*Oncorhynchus mykiss)*. There is no steelhead habitat, and therefore no steelhead, in the reach of the River adjacent to the Project Site, and the Dry Gap located downstream of the Project Site functions as a natural barrier to fish migration. The Dry Gap also prevents Project-related stormwater from reaching steelhead habitat. During large storm events, however, the River may breach the Dry Gap and establish temporary surface connectivity with the downstream reaches, which include steelhead habitat. Although this is a fairly rare occurrence, the potential for pollution-related impacts exists and therefore requires evaluation.

The constituent of greatest concern is dissolved copper, because some studies have shown that salmonids (which include steelhead) can sustain sublethal effects, such as loss of olfactory acuity, when exposed to dissolved copper at fairly low concentrations.[182] A number of important environmental variables, however, affect the extent to which the dissolved copper in the water is actually bioavailable to the fish. These include: (1) the amount of free, or uncombined, copper in the water body; (2) the amount of dissolved organic carbon (DOC) in the water body; and (3) the hardness of the water.

For CEQA purposes, the Project's potential effects on southern steelhead located downstream of the Dry Gap can be assessed in three different but related ways. The first

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[181] *PACE. 2010. "Newhall Ranch Resource Management & Development Plan River & Tributaries Drainage Analysis—Santa Clara River." Prepared for The Newhall Land and Farming Company. Fountain Valley, California: PACE. June 2010.*

[182] *Specifically, see Hecht, S.A., D.H. Baldwin, C.A. Mehane, T. Hawkes, S.J. Gross, and N.L. Scholz, 2007. "An Overview of Sensory Effects on Juvenile Salmonids Exposed to Dissolved Copper: Applying a Benchmark Concentration Approach to Evaluate Sublethal Neurobehavioral Toxicity." U.S. Department of Commerce, NOAA Technical Memorandum. NMFS-NWFSC-83, 39 p. October 2007.*

involves a "Project-to-existing conditions" analysis, where the dissolved copper concentration in the stormwater leaving the Project Site in its *future developed condition* is compared to the dissolved copper concentration in the stormwater leaving the site in its *current, undeveloped condition*. If the former is less than the latter, there is, by definition, no significant impact. The second involves a "Project-to-receiving water" analysis, where the Project's dissolved copper concentration is compared to that in the existing receiving water (i.e., the Santa Clara River). Again, if the former number is lower than the latter number, there is no significant impact. The third method of assessment compares the Project's dissolved copper concentration against biological thresholds that correspond to adverse effects in fish. For example, under the California Toxics Rule (CTR), which the Environmental Protection Agency promulgated for the express purpose of protecting aquatic life in California's rivers, streams, and lakes, dissolved copper concentrations in excess of 25 micrograms per liter (µg/L) are considered acutely toxic. Note, however, that Project-related dissolved copper concentrations that exceed biological thresholds are not considered significant if they are: (1) below the dissolved copper concentration in the existing stormwater runoff; or (2) below the dissolved copper concentration in existing receiving water.

(1) Project Stormwater v. Existing Site Stormwater (Dissolved Copper Concentration)

According to water quality analyses performed by Geosyntec (see **Section 5.10**, Hydrology and Water Quality—Water Quality, and the associated Water Quality Report provided in **Appendix 5.10** of this Draft EIR), the Project is predicted to discharge stormwater containing dissolved copper at a concentration of 7.1 µg/L on average (see **Table 5.10-18**, Predicted Average Annual Dissolved Copper Concentration and Load, in **Section 5.10**, Hydrology and Water Quality—Water Quality). Geosyntec also predicted that stormwater leaving the site in its current, undeveloped condition contains dissolved copper at a concentration of 6.2 µg/L on average, as also shown in **Table 5.10-18**, Predicted Average Annual Dissolved Copper Concentration and Load. Based on these analysis results, the Project may increase the dissolved copper concentration leaving the Project Site and, therefore, has the potential to affect steelhead downstream. This holds true, however, only if the Project's dissolved copper concentration exceeds that in the receiving water.

(2) Project Stormwater v. Existing Receiving Water (Dissolved Copper Concentration)

The water quality data compiled by Geosyntec and set forth in **Section 5.10**, Hydrology and Water Quality—Water Quality, and the associated Water Quality Report provided in **Appendix 5.10** of this Draft EIR indicates that during wet weather conditions (i.e., those conditions that might cause the Santa Clara River to breach the Dry Gap and

establish connectivity between the upper and lower reaches of the River) the dissolved copper concentration in Santa Clara River Reach 5, which is the receiving water for the Project's storm runoff, averages 8.6 µg/L (see **Table 5.10-24**, Comparison of Predicted Trace Metal Contrations with Water Quality Criteria and Observed Concentrations in Santa Clara River Reach 5, in **Section 5.10**, Hydrology and Water Quality—Water Quality). In other words, by the time the River passes by the Project Site, it contains dissolved copper at a concentration of 8.6 µg/L (wet weather average).

As stated above, the Project's stormwater is expected to contain dissolved copper at a concentration of 7.1 µg/L on average, or about 17 percent less than the receiving water (see **Table 5.10-24**, Comparison of Predicted Trace Metal Contrations with Water Quality Criteria and Observed Concentrations in Santa Clara River Reach 5). Because the concentration of dissolved copper leaving the Project Site will be lower than the concentration of dissolved copper in the receiving water (i.e., the Santa Clara River), the Project will reduce, albeit slightly, the overall dissolved copper concentration in the River. This reduction, however, will be virtually non-detectable because the Project's stormwater comprises such a small fraction of the volume of water in the River. Based on these data, the Project would not increase the ambient dissolved copper concentration in the receiving water. Thus, the Project would not have a significant impact on steelhead downstream.

(3) Project Stormwater v. Biological Thresholds (Dissolved Copper Concentration

Based on the "Project-to-receiving water" analysis, the Project's stormwater will not increase dissolved copper concentrations in the Santa Clara River during those conditions when the Dry Gap is breached. Therefore, from a CEQA perspective, there is no need to carry the impact analysis further. To provide additional context, however, it is helpful to evaluate the Project's dissolved copper concentrations against biological thresholds for steelhead and/or similar fish. The only formally established biological thresholds that address water quality impacts on fish are those found in the CTR. As mentioned above, the CTR sets the "acute" impact threshold for dissolved copper at 25 µg/L, as shown in **Table 5.10-24**, Comparison of Predicted Trace Metal Contrations with Water Quality Criteria and Observed Concentrations in Santa Clara River Reach 5, in **Section 5.10**, Hydrology and Water Quality—Water Quality. The Project's average dissolved copper concentration, at 7.1 µg/L, falls well below this threshold.

Some studies, however, have shown that salmonids show degraded olfactory sensibility and other sublethal impacts when exposed to dissolved copper concentrations

as low as 5.1 µg/L. Specifically, a NOAA Technical Memorandum[183] (NOAA Memo) published in 2007 states that salmonid behavior, specifically predator avoidance, can be disrupted at concentrations of dissolved copper that are at or slightly above ambient background concentrations (i.e., those levels existing prior to Project development).[184] The NOAA Memo's findings, however, were based on experiments that did not use river water or reflect conditions typically found in river water. For this and other reasons discussed below, the NOAA Memo's findings cannot be applied to this Project or its potential impacts on southern steelhead.

(a) The NOAA Memo (2007)

In the NOAA Memo, a benchmark concentration approach was used to estimate the thresholds for dissolved copper's sublethal effects on juvenile salmon. The benchmark concentrations were derived from experiments using dechlorinated, soft municipal water, which is very low in DOC; DOC reduces the bioavailability of dissolved copper in surface waters and, hence, blocks its toxic effects on smolts. Significantly, the NOAA Memo stresses the importance of evaluating site-specific water quality parameters such as DOC levels and water hardness to determine their potential to impede olfactory toxicity. In that regard, sampling has shown that, unlike the water used in the laboratory experiments relied on in the NOAA Memo, the Santa Clara River has a DOC concentration that is sufficient to either limit or completely protect the olfactory response of juvenile steelhead from the effect of dissolved copper at the concentration predicted in the Project's discharges.

(b) Limits of NOAA Memo

The benchmark concentrations in the NOAA Memo were derived from experiments using a single freshwater source (dechlorinated, soft municipal water) unlikely to contain any alternative ligands to complex with the added copper, resulting in effectively 100 percent bioavailability of the copper species present. The NOAA Memo acknowledged, however, that hardness, alkalinity, and DOC are known to alter the bioavailability of dissolved copper in surface waters.

A more recent study conducted with juvenile Chinook salmon (*Oncorhynchus tshawytscha*) showed that increasing DOC linearly decreased copper-induced olfactory

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[183] *Hecht, S.A., D.H. Baldwin, C.A. Mehane, T. Hawkes, S.J. Gross, and N.L. Scholz, 2007. "An Overview of Sensory Effects on Juvenile Salmonids Exposed to Dissolved Copper: Applying a Benchmark Concentration Approach to Evaluate Sublethal Neurobehavioral Toxicity." U.S. Department of Commerce, NOAA Technical Memorandum. NMFS-NWFSC-83, 39 p. October 2007.*

[184] *Southern steelhead is taxonomically a salmonid.*

inhibition.[185] In this study, at DOC concentrations of 5 mg/L, median concentrations of total copper found to inhibit olfactory function by half (the IC_{50}) were determined to be 30 µg/L for acute (four-day) exposures and 21.5 µg/L for sub-chronic (14-day) exposures.[186]

A study conducted by McIntyre et al. (2008), which is referenced in the NOAA Memo, similarly found that olfactory capacity with exposure to dissolved copper concentrations of 20 µg/L was completely protected at DOC levels equal to or greater than 6.0 mg/L.

(c) The Biotic Ligand Model as Applied to the Project

Since publication of the NOAA Memo, scientists have developed an olfactory effect based model, termed the olfactory Biotic Ligand Model, which considers the influence of DOC, hardness, and receiving water cations and anions on the bioavailability of metals and other toxins. DeForest et al. (2011) applied a salmon olfactory based Biotic Ligand Model to the ranges of DOC, harness, and cations/anions in 133 streams in the western United States, including California. In that study, DOC concentrations ranged between 0.6 and 12.2 mg/L for the 31 streams they examined in California, with a hardness range for these same streams of 20 mg/L to 523 mg/L as $CaCO_3$.[187] For the California streams evaluated, the combination of DOC with hardness was found to protect salmon from adverse olfactory effects at dissolved copper concentrations ranging from 7 µg/L to 211 µg/L. [188]

Geosyntec applied a similar Biotic Ligand Model to water collected from the Santa Clara River at Reaches 3 and 5 to determine what effects, if any, the Project's dissolved copper may have on southern steelhead.

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[185] *Data directly comparing Chinook to steelhead salmon sensitivity to copper are limited, though at least one study showed comparable LC_{50} values for these species during the smolt stage (Chapman, G.A., 1978. "Toxicities of Cadmium, Copper, and Zinc to Four Juvenile Stages of Chinook Salmon and Steelhead. Transactions of the American Fisheries Society 107(6):841–847.).*

[186] *Kennedy CJ, Stecko P, Truelson B, Petkovich D, 2012. "Dissolved Organic Carbon Modulates the Effects of Copper on Olfactory-Mediated Behaviors of Chinook Salmon." Environmental Toxicology and Chemistry 31(10):2281–2288.*

[187] *DeForest, D.K., J. Meyer, B. Adams, B. Dwyer, B. Gensemer, J. Gorsuch, and E. Van Genderen. 2011c. Importance of water chemistry in evaluating the olfactory effects of copper in salmonids. SETAC Globe, Volume 12, Issue 9, 15 September 2011.*

[188] *One other fact bears mentioning: In January 2012, NOAA and NMFS adopted a Recovery Plan for the Southern California Distinct Population Segment of the southern steelhead, which covers the steelhead in the Santa Clara River and watershed. Although the Recovery Plan includes a special "threats analysis" and cites more than 900 technical studies and scientific articles, it does not rely on or reference the 2007 NOAA Memo. In December 2013, NOAA and NMFS also adopted a Recovery Plan for the South-Central Distinct Population Segment of the southern steelhead. This Recovery Plan also did not rely on or reference the 2007 NOAA Memo.*

Although sampling data for DOC in the Santa Clara River are limited, two samples collected in Santa Clara River Reach 5 in February 2014 had DOC concentrations of 29 mg/L and 24 mg/L. In addition, there are 10 years of sampling data for Total Organic Carbon (TOC) in the Santa Clara River at two locations: (1) the Los Angeles County Santa Clara River mass emission station (S29) located upstream of the Project Site along The Old Road; and (2) the Ventura County Santa Clara River mass emission station (ME-SCR) located at the United Water Conservation District's Freeman Diversion Dam east of Saticoy, downstream from the Project Site. The U.S. Environmental Protection Agency estimates the DOC:TOC ratio to be 89.87:100 for streams in California.[189] Using this estimate, DOC levels in Santa Clara River Reach 5 (at mass emission station S29) ranged from 1.7 to 30.3 mg/L between 2003 and 2013 (average 9.7 mg/L), as shown in **Table 5.4-16**, Estimated DOC in Santa Clara River Reach 5 in Wet Weather (2003–2014), on page 5.4-246; and ranged between 1.5 and 87 mg/L (average 10.5 mg/L) in Santa Clara River Reach 3 (at mass emission station ME-SCR) between 2004 and 2013, as shown in **Table 5.4-17**, Estimated DOC in Santa Clara River Reach 3 in Wet Weather (2003–2013), on page 5.4-246.

With the estimated and observed DOC concentrations in the Santa Clara River ranging significantly higher than those evaluated in the DeForest et al. (2011) study (up to 87 mg/L), coupled with the naturally high levels of observed hardness in Santa Clara River Reach 5 (the average hardness observed in Santa Clara Reach 5 during wet weather is 194 mg/L as $CaCO_3$), the level of dissolved copper necessary to adversely affect salmon olfaction would likely be 10 to 100 times greater than the 7.1 µg/L predicted to be discharged in stormwater to the Santa Clara River from the Project. As such, Project stormwater discharges of dissolved copper are very unlikely to adversely affect juvenile steelhead in the Santa Clara River. To confirm this conclusion, these DOC data were used to run the Biotic Ligand Model, the results of which are shown in **Table 5.4-18**, Copper Concentrations That Would Inhibit the Olfaction of 50 Percent of the Exposed Steelhead Smolt Population (IC50) Santa Clara River Reach 5, on page 5.4-247, and **Table 5.4-19**, Range of Copper Concentrations That Would Inhibit the Olfaction of 50 Percent of the Exposed Steelhead Smolt Population (IC50) for the Santa Clara River Reach 3, on page 5.4-247.[190]

Based on the DOC and other water character data for the Santa Clara River, the olfactory Biotic Ligand Model predicted that the concentrations required to impair

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[189] *U.S. Environmental Protection Agency. 2007b. "Aquatic Life Ambient Freshwater Quality Criteria—Copper." U.S. Environmental Protection Agency, Office of Water.*

[190] *IC_{50} stands for "half maximal inhibitory concentration." It is a standard metric for measuring the effectiveness of a substance in inhibiting a specific biological or biochemical function.*

Table 5.4-16
Estimated DOC in Santa Clara River Reach 5 in Wet Weather (2003–2014)

Statistic	DOC
Average	9.7 mg/L
Median	6.9 mg/L
Maximum	30.3 mg/L
Minimum	1.7 mg/L
Standard Deviation	7.0 mg/L
Coefficient of Variation	72%

Table 5.4-17
Estimated DOC in Santa Clara River Reach 3 in Wet Weather (2003–2013)

Statistic	DOC
Average	10.5 mg/L
Median	5.6 mg/L
Maximum	87.0 mg/L
Minimum	1.5 mg/L
Standard Deviation	16.2 mg/L
Coefficient of Variation	154%

salmon/steelhead olfaction would be 40 to 80 times greater than that expected to be discharged from the Project. This information is provided in **Table 5.4-18**, Copper Concentrations That Would Inhibit the Olfaction of 50 Percent of the Exposed Steelhead Smolt Population (IC50) Santa Clara River Reach 5, and **Table 5.4-19**, Range of Copper Concentrations That Would Inhibit the Olfaction of 50 Percent of the Exposed Steelhead Smolt Population (IC50) for the Santa Clara River Reach 3. Thus, Project discharges of dissolved copper are very unlikely to adversely affect juvenile steelhead in the Santa Clara River.

As previously shown, the average annual dissolved copper concentration in stormwater runoff from the Project after treatment in the LID BMPs is predicted to be well below the copper water quality criteria for aquatic life protection in the CTR. Also, as previously shown, the predicted average annual dissolved copper concentration in stormwater runoff from the Project is less than the observed average concentration in the Santa Clara River (see **Table 5.10-24**, Comparison of Predicted Trace Metal Concentrations with Water Quality Criteria and Observed Concentrations in Santa Clara River Reach 5, in **Section 5.10**, Hydrology and Water Quality—Water Quality, of this Draft EIR); therefore, Project runoff is not expected to increase the concentration of dissolved

Table 5.4-18
Copper Concentrations That Would Inhibit the Olfaction of 50 Percent of the Exposed Steelhead Smolt Population (IC_{50}) Santa Clara River Reach 5

Statistic	IC_{50} (µg/L)
Average	237.0
Median	167.6
Maximum	740.9
Minimum	45.0
Standard Deviation	169.3
Coefficient of Variation	71%

*Source: Geosyntec 2014, Water Quality Report, see **Appendix 5.10** of this Draft EIR.*

Table 5.4-19
Range of Copper Concentrations That Would Inhibit the Olfaction of 50 Percent of the Exposed Steelhead Smolt Population (IC_{50}) for the Santa Clara River Reach 3

Statistic	IC_{50} (µg/L)
Average	488.7
Median	279.2
Maximum	3,758.1
Minimum	104.4
Standard Deviation	693.1
Coefficient of Variation	140%

*Source: Geosyntec 2014, Water Quality Report, see **Appendix 5.10** of this Draft EIR.*

copper in the Santa Clara River. For additional detailed information regarding southern steelhead and dissolved copper, see Section 7.2.7 of the Water Quality Report provided in **Appendix 5.10** of the Draft EIR.

In summary, with the implementation of required avoidance and minimization measures to control pollutant discharges and water runoff, including low impact development design measures, the Project would not make a cumulatively considerable contribution to cumulative impacts on steelhead. The impact is not significant.

Impact CBIO-5: Special-Status Species

Development of Newhall Land property and other planned and approved projects in the study area would directly impact special-status species through habitat conversion, changes in habitat suitability, or disturbance of individuals or populations.

The CNDDB has records for 64 special-status species in the study area (refer to Subsection 6.c.(5) on page 5.4-224). However, only 13 of those 64 species in the CNDDB records have been documented on Newhall Land property, as shown in **Table 5.4-15**, CNDDB Element Occurrences for Special-Status Species on Newhall Land Property. Several special-status species that have been recorded in the study area are restricted to areas east (i.e., up-watershed) of Newhall Land property in the Coastal/Mojave Transition area and higher elevations of the San Gabriel Mountains. As result, Newhall Land projects will not affect them or their watershed functions.

The Santa Clara River SMA/SEA includes habitat for the endangered unarmored threespine stickleback (see **Table 5.4-15**, CNDDB Element Occurrences for Special-Status Species on Newhall Land Property).[191] Many of the other CNDDB element occurrences (locations where a special-status species has been recorded in the CNDDB) would be protected on Newhall Land property within designated preserves (e.g., Spineflower Preserve, SMA/SEAs) and other open space areas proposed and designed on Newhall Land property.[192,193]

Altered hydrology and water quality primarily could affect species guilds associated with riparian/wetland habitats in the Santa Clara River, including the following: Plant—Wetland; Fish; Reptile and Amphibian—Semi-Aquatic; Bird—Riparian; Bird—Riparian/ Upland Woodland; and Bat guilds. Indirect impacts include changes in flow rates and patterns in streams and rivers that could affect habitat suitability. For the bats, altered hydrology and water quality could affect the prey base. However, the River and Tributaries Drainage Analysis prepared by PACE found that there would be no long-term significant impacts to water flows, velocities, depth, sedimentation, or floodplain and channel conditions downstream as a result of Newhall Land development associated with the

[191] *CDFW. 2014. "RareFind." California Natural Diversity Database, www.dfg.ca.gov/bdb/html/cnddb.html, accessed 2014.*

[192] *Ibid.*

[193] *Dudek. 2010. "Spineflower Conservation Plan." Revised Draft. Prepared for the Newhall Land and Farming Company. Valencia, California: Dudek.*

RMDP.[194] These hydrologic effects were also found to be insufficient to alter the amount, location, and nature of aquatic and riparian habitats within the study area and downstream into Ventura County. The PACE study determined that the River would retain sufficient width to allow natural fluvial processes to continue. For this reason, any altered hydrology resulting from development of Newhall Land property is expected to be minor.

The specific effects of Newhall Land development on suitable fish habitat in the Santa Clara River and surrounding watershed were also analyzed by ENTRIX for the RMDP/SCP EIS/EIR.[195] ENTRIX evaluated key habitat variables such as potential changes in floodplain width, backwater refuge habitat area (flood condition aquatic refugia), and water velocity during various theoretical flood frequency events, using the unarmored threespine stickleback as an indicator species because of its susceptibility to higher-velocity conditions.

Newhall Land development within the river channel (i.e., placement of buried bank stabilization, installation of bridge footings) may alter natural stream hydrology and the quantity of stickleback (and other fish) habitat available. Based on an evaluation of velocity tolerance studies of stickleback fishes, ENTRIX inferred that unarmored threespine stickleback in the Santa Clara River require flood refugia velocities of two feet per second or less in natural river floodplain in order to avoid being washed downstream during flood events.[196] Arroyo chub may be more tolerant of higher flow velocity conditions; however, this analysis used the more conservative assumptions applied to unarmored threespine stickleback. Therefore, consistent with this approach, any areas maintaining velocities less than or equal to two feet per second would provide refuge for these species during storm events. While the placement of bridge footings would result in some loss of river channel, the large width and hydrology of the river would maintain the formation of natural channels that would maintain lower velocities to support special-status fish species. Therefore, even after development of Newhall Land, sufficient refugia (as defined as water with velocities of less than or equal to two feet per second) would exist for use by arroyo chub and unarmored threespine stickleback.

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[194] *PACE. 2010. "Newhall Ranch Resource Management & Development Plan River & Tributaries Drainage Analysis—Santa Clara River." Prepared for The Newhall Land and Farming Company. Fountain Valley, California: PACE. June 2010.*

[195] *ENTRIX (ENTRIX Inc.). 2009. "Focused Special-Status Fish Species Habitat Assessment—Santa Clara River and Tributary Drainages, Newhall Ranch, Los Angeles County, California." Prepared for Newhall Land. Ventura, California: ENTRIX.*

[196] *Ibid.*

Cumulative water quality-related impacts on southern steelhead are discussed under **Impact CBIO-4**.

Low mobility guilds (Reptile—Low Mobility; Mammal—Low Mobility) would be affected by loss of habitat related to vegetation clearing, grading, and development. Permanent loss of suitable habitat will be mitigated by measures requiring preservation, enhancement and restoration, and management in the Santa Clara River SMA/SEA, the High Country SMA/SEA, and the Salt Creek area. This will result in a large, permanent open space system that will provide suitable habitat to support these species. Western pond turtles and western spadefoots (Reptile and Amphibian—Semi-Aquatic guild) on Newhall Land property could be directly affected during all phases of their life histories. For example, impacts to riparian and wetland areas could adversely affect these species during the reproductive season, and impacts to upland areas could adversely affect species dispersal, aestivation, and nesting (western pond turtle). In addition to loss of habitat, these species are highly vulnerable to mortality or injury during vegetation and grading activities because they tend to be cryptic (difficult to detect, well hidden), slow-moving, and belowground during aestivation periods following the breeding phase of their life cycles. Permanent loss of general suitable habitat and designated critical habitat for Reptile and Amphibian—Semi-Aquatic guild species will be mitigated by measures requiring preservation, enhancement, and restoration, and management that will result in a large, permanent open space system that will include suitable aquatic habitat and suitable upland habitat to support these species.

Birds in the Upland Grassland/Agriculture, Scrub and Chaparral, Nesting/Foraging Raptor, and Foraging Raptor guilds would experience disturbance of foraging activity and potentially nesting activity within the study area from Newhall development. Species in the Nesting/Foraging Raptor and Foraging Raptor guilds could forage virtually anywhere within the study area where prey are available, although species such as Swainson's hawk and prairie falcon tend to forage in more open habitats such as grasslands and agricultural areas. Development will likely cause these highly mobile species to avoid sites due to both human activities and a lack of prey once areas are cleared of vegetation and graded. Permanent loss of suitable habitat for the Nesting/Foraging Raptor and Foraging Raptor species will be mitigated by measures requiring preservation, enhancement and restoration, and management that will result in a large, permanent open space system that will provide suitable nesting and foraging habitat to support these species.

Species in the Mammal—Bat guild may forage in virtually all of the non-developed land covers on Newhall Land property where insect prey is present. As a group, all of the natural habitats, agriculture, and disturbed lands on Newhall Land property provide potential foraging habitat for these species. However, the potential for maternity roosts of any of these bat species is low because they tend to establish maternity roosts in caves,

cliffs, crevices, and buildings, of which there are very few on Newhall Land property. Permanent loss of suitable habitat for the Mammal—Bat guild will be mitigated by measures requiring preservation, enhancement and restoration, and management that will result in a large, permanent open space system that will provide suitable roosting and foraging habitat to support these species.

San Diego black-tailed jackrabbits and American badgers (Mammal—Moderate Mobility guild) are mobile and can generally relocate from a disturbed or converted habitat area to an intact one. Permanent loss of suitable habitat for the Mammal—Moderate Mobility guild species will be mitigated by measures requiring preservation, enhancement and restoration, and management that will result in a large, permanent open space system that will provide suitable habitat to support these species.

In addition to these special status species, several vegetation types that occur on Newhall Land property are considered sensitive according to the CNDDB:

- Southern cottonwood–willow riparian forest—Newhall Land plans protect a total of 891 acres of this community, mostly within the Santa Clara River SMA/SEA. This represents 17 percent of the total area of this community in the study area. This is approximately seven times the 113 acres of Southern cottonwood–willow riparian forest that would be impacted by Newhall Land development.

- Southern riparian scrub—Approximately 59 acres of southern riparian scrub would be impacted by Newhall development, which represents 1.2 percent of the 4,776 acres of this community within the study area.

- Southern willow scrub—Newhall Land plans to protect 122 acres of this community, or 6.9 percent of the 1,769 acres of this community within the study area. No southern willow scrub would be impacted by Newhall development.

- Valley oak woodland—Newhall Land plans to protect 68 acres of this community, or 3.8 percent of the 1,793 acres of this community within the study area. A total of 4.6 acres would be impacted by Newhall Land development.[197]

Prior to the implementation of proposed mitigation measures for affected species, Newhall Land projects would have a cumulatively considerable contribution to impacts to special status species. With implementation of proposed mitigation measures, these Newhall Lands projects' contribution to these impacts would not be cumulatively considerable.

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[197] *Sawyer, J.O., T. Keeler-Wolf, and J.M. Evens. 2009. A Manual of California Vegetation. Second ed. Sacramento, California: California Native Plant Society.*