DRAFT

BIOLOGICAL RESOURCES REPORT
RUGGED SOLAR FARM PROJECT

County of San Diego, California

Environmental Review Number PDS2012-3910-120005

MUP PDS2012-3300-12-007

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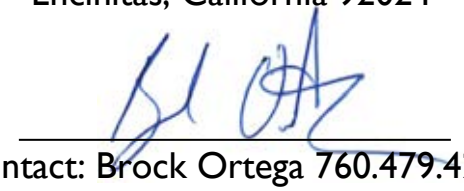

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TABLE OF CONTENTS

Section **Page No.**

TABLE OF CONTENTS (Continued)

Section **Page No.**

TABLE OF CONTENTS (Continued)

Section **Page No.**

TABLE OF CONTENTS (Continued)

Section **Page No.**

APPENDICES

TABLE OF CONTENTS (Continued)

Page No.

FIGURES

TABLES

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GLOSSARY OF TERMS AND ACRONYMS

ACOE	U.S. Army Corps of Engineers
amsl	above mean sea level
APN	Assessor's Parcel Number
BLM	Bureau of Land Management
BMO	Biological Mitigation Ordinance
BMP	Best Management Practice
BRCA	Biological Resource Core Areas
CDFW	California Department of Fish and Wildlife
CEQA	California Environmental Quality Act
CESA	California Endangered Species Act
CNDDB	California Natural Diversity Database
CNPS	California Native Plant Society
County	County of San Diego
CPUC	California Public Utilities Commission
CPV	Concentrating Photovoltaic
CRPR	California Rare Plant Rank
CSS	Coastal Sage Scrub
CWA	Clean Water Act
DEV	Developed Land
DPLU	Department of Planning and Land Use
DPW	Department of Public Works
ECMSCP	East County Multiple Species Conservation Plan
EDA	Estate Development Area
EIR	environmental impact report
EO	Executive Order
EPA	U.S. Environmental Protection Agency
FESA	Federal Endangered Species Act
FMZ	Fuel Modification Zone
GIS	Geographic Information System
GNMX	Granitic Northern Mixed Chaparral
GPS	Global Positioning System
HCP	Habitat Conservation Plan
LBZ	Limited Building Zone
LEDPA	Least Environmentally Damaging Practicable Alternative
MBTA	Migratory Bird Treaty Act
MFP	Management Framework Plan
MOU	Memorandum of Understanding

MSCP	Multiple Species Conservation Program
NABA	North American Butterfly Association
NCCP	Natural Communities Conservation Program
NMFS	National Marine Fisheries Service
NOAA	National Oceanic and Atmospheric Administration
NPDES	National Pollution Discharge Elimination System
O&M	Operations and Maintenance
OHWM	Ordinary High Water Mark
PAMA	Pre-approved Mitigation Area
RPO	Resource Protection Ordinance
RWQCB	Regional Water Quality Control Board
SSC	Species of Special Concern
SWPPP	Stormwater Pollution Prevention Plan
SWRCB	State Water Resources Control Board
TPM	Tentative Parcel Map
USDA	U.S. Department of Agriculture
USFWS	U.S. Fish and Wildlife Service
USGS	U.S. Geological Service
WHMP	Wildlife Habitat Management Plan
WL	Watch List

SUMMARY OF FINDINGS

The 765-acre Rugged Solar Project consists of 11 parcels located within the boundary of Rough Acres Ranch in southeastern San Diego County, near the unicorporated community of Bouelvard. Rough Acres Ranch is located north of Interstate 8 and is bordered by sparsely developed private County lands to the west, south, and north (Rough Acres Ranch also retains ownership of parcels located to the north) that are predominantly used for grazing. Public lands managed by the Bureau of Land Management (BLM) are also located to the north and to the east. The unincorporated community of Boulevard is located approximately 2.5 miles to the south. The Proposed Project (Project Number 60212653) includes development of an 80-megawatt (MW) concentrating photovoltaic (CPV) facility and ancillary structures/facilities including but not limited to an on-site step-up substation, an operations and maintenance (O&M) building, a 138-kilovolt (kV) Tule gen-tie, and access roads. The gen-tie includes a 69 kV undersling line and would transmit energy produced on site to San Diego Gas & Electric's (SDG&E's) rebuilt Boulevard Substation located approximately 3 miles south of the project site. One roadway would be constructed off site from Ribbonwood Road leading to the northwest subarea if Rough Acres Ranch Rd is not constructed per Rough Acres Ranch MUP 3300-09-019. An SDG&E Sunrise Powerlink Project construction tie down area is located in the northeastern portion of the site and this area is currently disturbed, but has been mitigated through the environmental analysis prepared for the Sunrise Powerlink Project.

This report relies on survey data and information obtained from multiple field reconnaissance/site visits of the Proposed Project area conducted by AECOM and Dudek between April 2011 and June 2013. AECOM biologists and subcontractors conducted biological reconnaissance surveys of the project area beween April 2011 to January 2012. Dudek conducted surveys for additional off-site survey areas between October 2012 and June 2013. Surveys consisted of oak woodland surveys, rare plant surveys, and focused Quino checkerspot butterfly surveys (*Euphydryas editha quino*). Dudek performed vegetation mapping and a jurisdictional wetland delineation within the 765-acre project area from March 2012 to April 2012. A total of 24 vegetation communities (including communities identified as disturbed) and land covers were mapped in the project area. The upland vegetation communities recorded in the project area include coast live oak woodland, mixed oak woodland, big sagebrush scrub (including disturbed), montane buckwheat scrub (including disturbed), granitic chamise chaparral, granitic northern mixed chaparral, red shank chaparral, scrub oak chaparral (including disturbed), and semi-desert chaparral (including rocky and disturbed). Riparian and wetland vegetation communities in the project area include alkali meadow (including disturbed), and disturbed mulefat scrub.. The non-native, non-natural, or non-vegetated habitat types/land covers occurring within the project area are non-native grassland, disturbed habitat, urban/developed land, tamarisk scrub, open water, and non-vegetated channel. A majority of the riparian and wetland

communities, in addition to unvegetated stream channels, are under the jurisdiction of the U.S. Army Corps of Engineers (ACOE), California Department of Fish and Wildlife (CDFW), Regional Water Quality Control Board (RWQCB), and/or County of San Diego (County) as jurisdictional waters/wetlands.

During 2011 rare plant surveys, nine special-status plant species were found in the project area. These species are listed in the California Native Plant Society's (CNPS's) *Inventory of Rare and Endangered Plants* (CNPS 2012): Jacumba milkvetch (*Astragalus douglasii* var. *perstrictus*), a California Rare Plant Rank (CRPR) List 1B.2 and County List A species; Payson's jewelflower (*Caulanthus simulans*), a CRPR List 4.2 and County List D species; Tecate tarplant (*Deinandra floribunda*), a CRPR List 1B.2 and County List A species; desert larkspur (*Delphinium parishii* ssp. *subglobosum*), a CRPR List 4 and County List D species; sticky geraea (*Geraea viscida*), a CRPR list 2.3 and County List B species; pride of California (*Lathyrus splendens*), a CRPR List 4.2 and County List D species; desert beauty (*Linanthus bellus*), a CRPR List 2.3 and County List B species; desert monkeyflower (*Mimulus aurantiacus* var. *aridus*), a CRPR List 4.3 and County List D species; and Engelmann oak (*Quercus engelmannii*), a CRPR List 4.2 and County List D species. No additional plants were observed during the 2012-2013 rare plant survey for the off-site access road.

Fifteen special-status wildlife species were documented from the project area during 2011/2012 biological surveys: monarch butterfly (*Danaus plexippus*), a CDFW special animal and a County Group 2 species; Belding's orange-throated whiptail (*Aspidoscelis hyperythrus beldingi*), a CDFW Species of Special Concern (SSC) and a County Group 2 species; coastal western whiptail (*Aspidoscelis tigris stejnegeri*), a CDFW special animal and a County Group 2 species; Blainville's horned lizard (*Phrynosoma blainvillii*), a CDFW SSC and a County Group 2 species; Cooper's hawk (*Accipiter cooperi*), a CDFW Watch List (WL) and a County Group 1 species; Bell's sage sparrow (*Amphispiza belli belli*), a CDFW WL and a County Group 1 species; great blue heron (*Ardea herodias*), a County Group 2 species; Swainson's hawk (*Buteo swainsoni*), a state-listed (threatened) and a County Group 1 species; turkey vulture (*Cathartes aura*), a County Group 1 species; northern harrier (*Circus cyaneus*), a CDFW SSC and County Group 1 species; California horned lark (*Eremophila alpestris actis*), a CDFW WL and a County Group 1 species; prairie falcon (*Falco mexicanus*), a CDFW WL and a County Group 1 species; loggerhead shrike (*Lanius ludovicianus*), a CDFW SSC and a County Group 1 species; San Diego black-tailed jackrabbit (*Lepus californicus bennettii*), a CDFW SSC and a County Group 2 species; and southern mule deer (*Odocoileus hemionus fuliginata*), a County Group 2 species. Forty-six additional special-status wildlife species were determined to have moderate to high potential to occur within the project area.

Impacts from the Proposed Project include significant short-term and long-term direct and indirect impacts to special-status plant and wildlife species; short-term and long-term direct and indirect impacts to 462.0 acres of special-status upland vegetation communities; short-term and long-term direct impacts to oak root protection zone; short-term direct and short-term and long-term indirect impacts to jurisdictional wetlands and waters; long-term direct impacts to 0.01 acre (446 linear feet) of jurisdictional non-wetland waters, 0.10 acre (996 linear feet) of wetlands under the jurisdiction of ACOE, RWQCB, CDFW, and the County, and 3.11 acres (3,462 linear feet) of riparian habitat under the jurisdiction of CDFW-only; long-term direct impacts to areas under the County Resource Protection Ordinance; short-term and long-term direct impacts to potential foraging and breeding habitat; and short-term impacts to migratory birds and active migratory bird nests and/or eggs protected under the Migratory Bird Treaty Act (MBTA).

Mitigation measures needed to reduce these impacts to less than significant include the implementation of best management practices during construction, biological monitoring and reporting, preconstruction nesting bird surveys, and preservation of 449.3 acres of habitat in on-site or off-site open space.

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1.0 INTRODUCTION

1.1 Purpose of the Report

The purpose of this biological resources report is to document the biological resources that are present or have potential to occur in the project area as identified through literature review, formal wetlands delineation, vegetation community mapping, and focused surveys for special-status[1] plant and wildlife species recognized by local, state, or federal resource agencies. This report also analyzes the potential direct and indirect impacts to biological resources resulting from the Proposed Project; it analyzes the biological significance of the site with respect to regional biological resource planning documents and policies, and it discusses mitigation measures that will reduce significant biological impacts to a less-than-significant level consistent with federal, state, and local regulations, including the California Environmental Quality Act (CEQA) the County of San Diego's (County) *Guidelines for Determining Significance and Report Format and Content Requirements: Biological Resources* (County of San Diego 2010a) (County Guidelines), and the Resource Planning Ordinance (RPO; County of San Diego 2007).

1.2 Project Location and Description

The approximate 765-acre solar farm site includes Assessor's Parcel Numbers (APNs) 611-060-04, 611-090-02, 611-090-04, 611-091-03, 611-091-07 (portion), 611-100-07, 612-030-01, 612-030-19, and 611-110-01 (portion). The project is located in the unincorporated community of Boulevard in southeast San Diego County. The project is located north of Interstate 8 (I-8) within private lands in eastern San Diego County, California (Figure 1). The Rugged solar farm includes four distinct subareas of development that are separated by Tule Creek and McCain Valley Road. The project is situated on the eastern side of McCain Valley and the In-Ko-Pah Mountains, north of Interstate 8 (I-8), and north of the unincorporated community of Boulevard. The project lies within the Live Oak Springs U.S. Geological Survey (USGS) 7.5-minute quadrangles, Township 17 South, Range 7 East, Sections 8, 9, 15, 16, 17, 20, and 21 (Figure 2).

The solar farm site is undeveloped, with the exception of the northeast portion which was disturbed and fenced as a staging area for the Sunrise Powerlink Project, and has historically been used for grazing cattle and horses. Portions of the solar farm site are fenced with barbed wire fencing. Existing dirt access roads traverse portions of the site and provide access to most

[1] The term "special-status" is used in this report instead of "sensitive" with the exception of where it occurs in headings required in accordance with the County of San Diego Guidelines for Determining Significance and Report Format and Content Requirements: Biological Resources (County of San Diego 2010a) or text cited from this document. However, herein, these terms are interchangeable and have the same meaning.

of the sites. The entire project is within the future East County Multiple Species Conservation Program (ECMSCP) Plan Area; this area is subject to evaluation of consistency with the ECMSCP Planning Agreement (County 2008) is provided (see Section 7).

The Project includes a Major Use Permit to authorize a Major Impact Services and Utility Pursuant to Sections 1350, 2705, and 2926 of the Zoning Ordinance. The Rugged Solar Energy Project would produce up to 80 megawatts of alternating current (AC) solar generating capacity. The Project would consist of approximately 3,588 concentrating photovoltaic (CPV) electric generation systems utilizing dual-axis tracking CPV trackers on 765 acres in southeastern San Diego County in the unincorporated community of Boulevard, California (Figures 1 and 2). In addition to the CPV trackers and inverter transformer units, the Project includes the following primary components:

- A collection system linking the CPV trackers to the on-site Project substation composed of (i) 1,000-volt (V) direct current (DC) underground conductors leading to (ii) 34.5-kilovolt (kV) underground and overhead AC conductors.
- A 7,500-square-foot (sf) (60 foot by 125 foot) operations and maintenance (O&M) building. The O&M building would be used for storage, employee operations, and maintenance of equipment.
- A 2-acre on-site private collector substation site with a fenced pad area of 6,000 sf (60 feet by 100 feet) with maximum height of 35 feet and includes a 450-sf (15 feet by 30 feet) control house.
- 59 Inverter/Transformer enclosures. The dimensions of each inverter unit are 10 feet by 40 feet (400 sf each) with a total structure height of up to 12 feet.
- Power from the on-site private substation would be delivered to the 69 kV bus at SDG&E's proposed Rebuilt Boulevard Substation via the Tule Wind Energy project (MUP 3300-09-019) gen-tie alignment (Tule gen-tie) as adopted by the Board of Supervisors on August 8, 2012. The 138 kV gen-tie for the Tule Wind Energy project includes a 69 kV undersling line, which will be used to service the Rugged solar farm. The Tule gen-tie will run south along the east side of McCain Valley Road and SDG&E's Sunrise Powerlink and across I-8, after which it will cross McCain Valley Road and run parallel to Old Highway 80 along the north side until it crosses Old Highway 80 at the proposed new SDG&E Boulevard East Substation. Both the Rebuilt Boulevard Substation and Tule gen-tie were subject to prior environmental analysis; construction of these facilities would be completed prior to completion of construction of the Rugged solar farm (Iberdrola Renewables 2013). Rugged Solar LLC and Tule Wind LLC have a joint-use agreement in place for use of the gen-tie line, associated transmission towers, and access road.

- Three permanent on-site water wells for project construction, the O&M building and to facilitate washing of the CPV trackers.
- Two 20,000 gallon water storage tanks to be located at the O&M building and to be dedicated exclusively for fire suppression.
- Three additional on-site 20,000 gallon water storage tanks to support tracker washing. Each of these three 20,000 gallon water storage tanks would include 10,000 gallons of water dedicated solely for fire suppression. The outlet on the tank for tracker washing and any other non-fire uses would be located at the midpoint on the tank making it impossible to draw the water level down below 10,000 gallons in each tank for non-fire suppression use.
- A septic tank system and leach field for the O&M building.
- 6 foot perimeter fencing topped with an additional 1 foot of security barbed wire.
- Primary access to the Rugged site would be from Ribbonwood Road and McCain Valley Road. One roadway (the northern off-site access road) would be constructed off site from McCain Valley Road leading to the central subarea if Rough Acres Ranch Road is not constructed per Rough Acres Ranch MUP 3300-12-021. Access to the northwest subarea would be provided via Ribbonwood Road through construction of the western off-site access road. The central subarea would also include an access road leading south crossing Tule Creek to provide access to the southern building block. The eastern subarea would be accessible via an access road leading from McCain Valley Road crossing beneath the Sunrise Powerlink.

The Proposed Project includes a total installation of 3,588 CPV trackers installed in groups or "building blocks" composed of approximately 59 individual Soitec ConcentrixTM CX-S530 systems (includes dual-axis tracker), with any of the following inverter combinations: two 630-kW inverters, and either two 680-kW inverters or three 680-kW inverters; and either a 1.5- or 2.0-megavolt ampere (MVA) transformer. Trackers would be installed in parallel rows, oriented north–south with an estimated spacing of 21 meters north south and 25 meters east–west, This spacing may change depending upon the ultimate power plant optimization and final electrical engineering.

Individual tracker dimensions are approximately 48 feet across by 25 feet tall. Each tracker would be mounted on a 28-inch-diameter steel post, which would be supported by either: (1) inserting the mast into a hole up to 20 feet deep and encasing it in concrete, (2) vibrating the mast into the ground up to 20 feet deep, or (3) attaching the mast to a concrete foundation sized to adequately support the trackers based on wind loading and soil conditions at the site. . In its most vertical position, the top of each tracker would be no more than 30 feet above grade, and the lower edge would be no less than 1 foot above the ground. In its horizontal "stow" mode (for

high winds), each tracker would have a minimum ground clearance of 13 feet, 6 inches. Solar panels would be mounted on the surface of each tracker.

The Project requires the construction of a 6,000-sf (60 foot X 100 foot) private on-site collector substation that would be located within the central portion of the Project site. The substation site would be located approximately 0.5 mile west of the O&M building on the Project site. The purpose of the substation is to collect the energy received from the overhead and underground collector system and increase the voltage from 34.5 kV to 69 kV. Once the voltage is stepped up to 69 kV, the power would be conveyed through a 35-foot-high dead-end structure that connects the on-site collector substation with the Tule gen-tie.

The major components of the on-site substation are as follows:

- One 52.8/70.4/88-MVA rated step up transformer. The cooling system for the transformer is as follows: Oil Assist, Fan Assist, Fan Assist (OA/FA/FA), respectively.
- One circuit breaker used to protect equipment from an electrical short circuit.
- One disconnect switch.
- Wire, cables, and aluminum bus work used to connect and isolate the major pieces of equipment.
- The substation also includes a 450-sf (15 foot by 30 foot) control house that contains relays used to detect short circuits, equipment controls, communication equipment used to monitor system performance remotely, and the meters used to measure electrical power generated from the Project.
- The tallest structure within the substation boundaries will be the 69-kV dead-end structure that has a maximum height of 35 feet.

In addition to the substation, an O&M building is located at the north-central portion of the Project site approximately 0.5 mile east of the on-site private substation. The O&M building would be used for storage, employee operations, and maintenance of equipment. The O&M facility would consist of a 7,500-sf building. The building would include administrative and operational offices and meeting facilities, material storage and equipment warehouse, and lavatory facilities served by a private on-site septic system and groundwater well. The building would be surrounded by an improved parking area and parking spaces. The building and parking areas would include security lighting designed to minimize light pollution and preserve dark skies, while enhancing safety, security, and functionality.

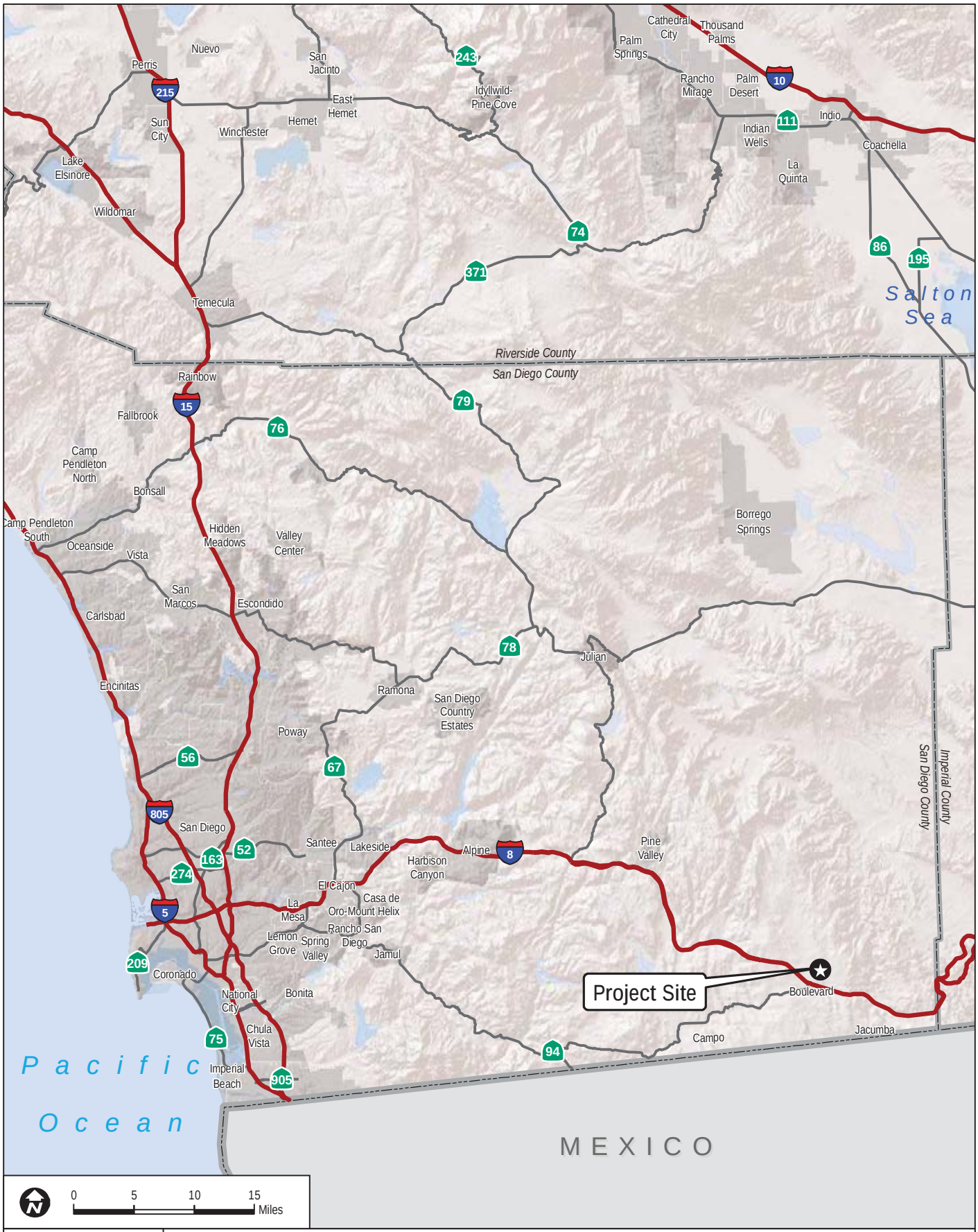

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FIGURE 1

Regional Map

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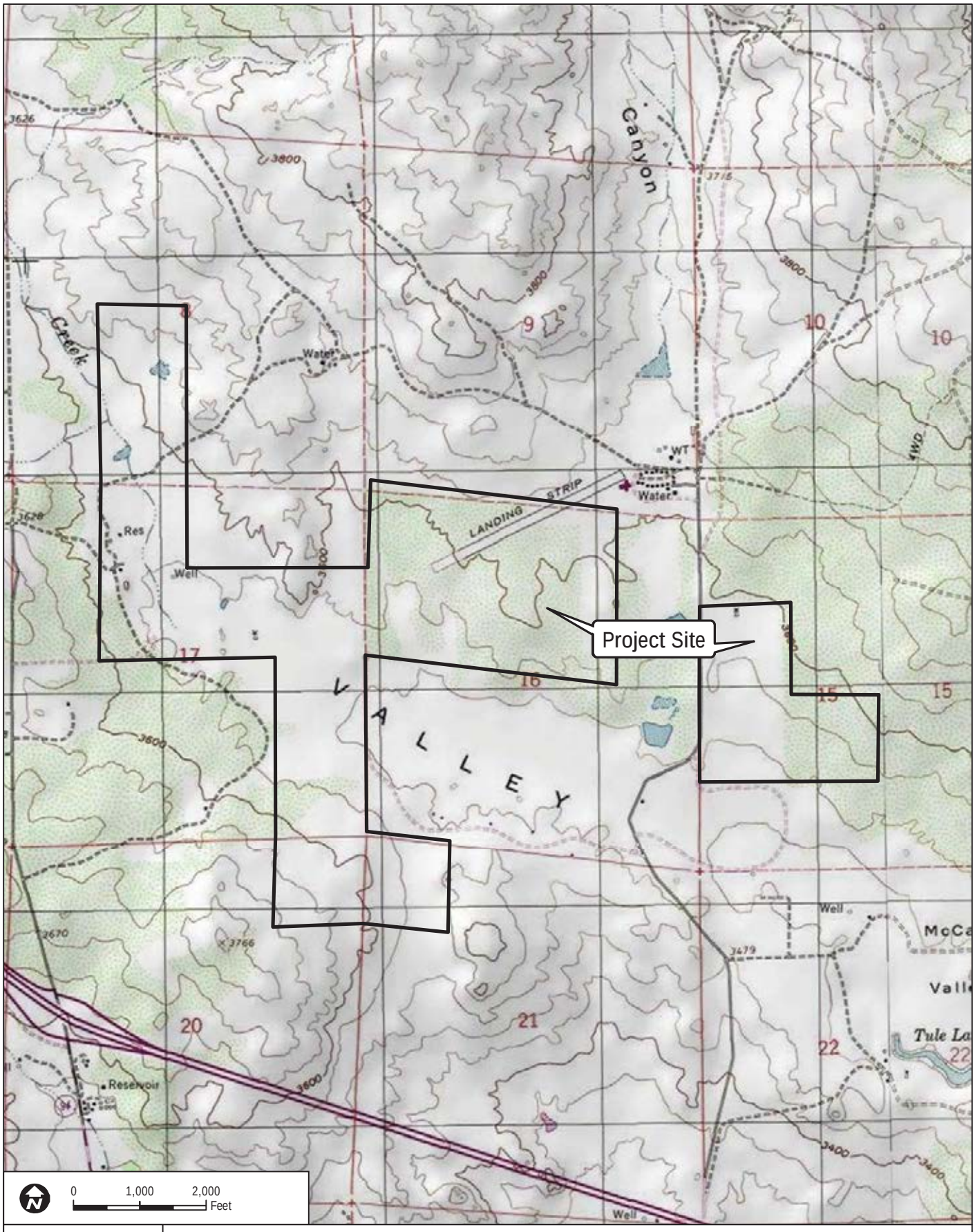

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SOURCE: USGS 7.5-Minute Series Live Oak Springs Quadrangle.

FIGURE 2
Vicinity Map

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Project Construction

Construction of the Proposed Project would involve selective clearing and grubbing of vegetation, some grading, construction of CPV foundations, trenching for the electrical collection system and communication lines within each building block, installation of a small concrete footing at each pair of inverters, construction of the small switch station, and installation of the short 12.5-kV dedicated gen-tie line from the switch station to the Boulevard Substation. Of the 765 acres of the project site, approximately 455 acres would be cleared, grubbed, and graded. Of the 455 disturbed acres approximately seven acres would be disturbed on a given day; 140 acres on a given month. After construction, approximately 455 acres of the project site would be permanently disturbed with project facilities. Preliminary plans show total excavation to be 260,570 cubic yards and total fill to be 235,125 cubic yards, leaving 25,445 cubic yards of export, likely to another nearby project site.

The construction period would be 12 months and add approximately 160 average daily trips (ADT) to the local roadway system. Construction staging and material laydown areas would be distributed across the Project site evenly to allow for efficient distribution of components to different parts of the Project. One staging and material laydown area is typically set up for every 250 acres of a project site.

Selective clearing and grubbing would be required for construction and access, and, as necessary, to comply with fire code. The Project site would be revegetated with a native seed mix, except around Project components and where primary and/or secondary service road access is required.

Trenching for the electrical collection system and communication lines within each building block would entail a trench up to approximately 4 feet deep and up to 2 feet wide. The trenches would be filled with base material above and below the conductors and communications lines to ensure adequate thermal conductivity and electrical insulating characteristics. Any non-road disturbed area would be revegetated upon completion of construction; however, an effort to place trenches beneath secondary access roads, which would not be revegetated, would minimize disturbance. Material from the foundation and trench excavations would be negligible and used for site leveling, foundation pads, inverter and transformer pads, and the switch station pad. Trackers would be assembled on-site. Recycling during construction would be in compliance with the County of San Diego Construction Demolition and Debris Management Plan requirements (in accordance with County Ordinance 68.508-68.518).

Project Operations

Operations of the Project would entail real-time monitoring of the Project through the Supervisory Control and Data Acquisition (SCADA) system using on-site sensors. The SCADA system would enable the tracker control system to maintain orientation toward the sun. At night,

the trackers would be positioned vertically to minimize dust collection. At all times, however, when winds are high, the trackers would be positioned in a horizontal "stow" mode.

On-site operations would include in-place panel washing every 6 to 8 weeks by mobile crews who would also be available for dispatch whenever on-site repairs or other maintenance is required. Panel washing would be undertaken using an IPC Eagle Wash Station which would be towed by a pick-up, ATV or Cushman electric cart. Traffic generation during the operations and maintenance phase of the Project would be 40 ADT.

1.3 Survey Methodologies

Data regarding biological resources present in the project area were obtained through a review of pertinent literature and through current field reconnaissance; both are described in detail as follows.

1.3.1 Literature Review

Special-status biological resources present or potentially present in the project area were identified through a literature search, conducted between 2009 and 2012, in addition to prior reports prepared for the project area. The following sources were used during the literature review process:

- U.S. Fish and Wildlife Service (USFWS) National Wetland Inventory (NWI) Geographic Information System (GIS) Data (USFWS 2012a), accessed March 2012
- USFWS Critical Habitat and Occurrence Data (USFWS 2012b) within 5 miles of the project area
- CDFW's (2012a) Natural Diversity Database was queried to compile a list of potentially occurring flora and fauna in the Live Oak Spring quadrangle and surrounding seven quadrangles
- CNPS Inventory of Rare and Endangered Plants of California, 8th online edition (CNPS 2012), was searched to compose a list of potentially occurring flora in the Live Oak Spring quadrangle and surrounding seven quadrangles
- San Diego Plant Atlas (SDNHM 2012a) was queried to compile a list of potentially occurring special-status plant species in the Live Oak Spring quadrangle
- San Diego Bird Atlas (SDNHM 2012b) was queried to compile a list of potentially occurring special-status bird species in the Live Oak Spring quadrangle and surrounding seven quadrangles
- Draft Biological Technical Report, Tule Wind Project (HDR 2010)
- Draft Biological Technical Memorandum, Tule Wind Project (HDR 2011)

- Environmental Impact Report/Environmental Impact Statement (Biological Resources Section) for the ECO Substation/Tule Wind/ESJ Gen-Tie Project (CPUC and BLM 2011)
- Environmental Impact Report/Environmental Impact Statement (Biological Resources Section) for the SDG&E Sunrise Powerlink Project (CPUC and BLM 2008a, 2008b)
- Comprehensive List of Sensitive Species provided by the County Planning and Development Services (PDS) (aka DPLU, County of San Diego 2011; Appendix A).
- Memorandum for Rugged Solar Project (AECOM 2012a)
- Digital GIS Data for Rugged Solar Project Survey Results (AECOM 2012b)
- 2011 Rugged Energy Solar Project Quino Checkerspot Butterfly 45-Day Summary Report, Boulevard, California (AECOM 2012c)
- 2012 Table Mountain and Carrizo Canyon Golden Eagle Territories in San Diego County, California: A Compilation of Historical and Current Data (WRI 2012)
- 2013 Rugged Energy Solar Project Off-Site Access Roads Quino Checkerspot Butterfly 45-Day Survey Report (Dudek 2013a)

In terms of regional preserve planning efforts, the project is within the draft East County Multiple Species Conservation Plan (ECMSCP) planning area; however, since this plan has yet to be developed and there is no specific timeline for finalization, the project is not analyzed in the context of the draft ECMSCP. This report is prepared in accordance with the County Guidelines (County of San Diego 2010a), and significance determination is also based on the County's Guidelines (County of San Diego 2010a). The County RPO (County of San Diego 2007) was also utilized to assess resource sensitivity and habitat connectivity.

1.3.2 Field Reconnaissance

In 2009, Dudek biologists performed biological surveys for the majority of the project area in June and July (south–central parcels were excluded). Biological surveys and investigations conducted for the project area by Dudek in 2009 included vegetation mapping and a formal jurisdictional delineation (Table 1-1), which are described in more detail in Sections 1.3.3 and 1.3.6.

AECOM biologists and its subcontractor (Table 1-1) performed biological surveys for the project area between March 29, 2011, and January 27, 2012. Biological surveys and investigations conducted for the Proposed Project area by AECOM included vegetation mapping, oak woodland surveys, special-status plant surveys, and focused Quino checkerspot butterfly (*Euphydryas editha quino*) protocol surveys, which are described in more detail in Sections 1.3.3.1, 1.3.4.1, and 1.3.5.1. A small portion of the project area was excluded from the 2011

special-status plant survey; however, special-status plant surveys in this excluded area were conducted by others (HDR 2010 and 2011) (see Section 1.3.4.1 for additional information).

In March and April 2012, Dudek biologists conducted biological reconnaissance surveys in the project area, including vegetation community mapping and a formal jurisdictional delineation, which are described in more detail in Sections 1.3.3 and 1.3.6. In 2012 and 2013, Dudek conducted a rare plant survey for ~~one of~~ the off-site northern access roads. In 2013, Dudek conducted focused Quino checkerspot butterfly protocol surveys for the off-site northern access road.

Table 1-1 includes a list of dates, survey focus, personnel, and numbers of surveys in the project area conducted for the Proposed Project in 2009, 2011, 2012, and 2013.

Table 1-1
Biological Surveys Conducted for the Rugged Solar Site

Date	Personnel
Vegetation Mapping Survey	
06/23/2009	CF, MH, BO, BS
07/15/2009	CF, MH, BO, BS
07/22/2009	CF, MH, BO, BS
07/23/2009	CF, MH, BO, BS
07/29/2009	CF, MH, BO, BS
10/13/2011	BH, EB
10/14/2011	BH, EB
10/18/2011	BH, EB
10/20/2011	BH, EB, LW
10/25/2011	BH
10/26/2011	BH, EB, LW, FS
11/10/2011	BH, EB, MR
03/22/2012	PS, CF
03/28/2012	PS, CF, CO, VJ
4/16/2012	VJ
6/19/2012	CF (Western off-site access road)
Special-Status Plant Survey	
4/19/2011	EB, KH
4/20/2011	FS, EB
4/21/2011	BH, EB, MM
4/22/2011	BH, EB, MM
4/23/2011	FS, MM
4/26/2011	BH, EB, FS, MM
4/27/2011	EB, MM
5/2/2011	BH

Table 1-1
Biological Surveys Conducted for the Rugged Solar Site

Date	Personnel
6/7/2011	BH, LW
6/8/2011	BH, MM, EB, JM
6/14/2011	BH, EB, FS, JM
10/13/2011	BH, EB
10/14/2011	BH, EB
10/18/2011	BH, EB
10/20/2011	BH, EB, LW
10/25/2011	BH
10/26/2011	BH, EB, LW, FS
11/10/2011	BH, EB, MR
10/10/2012	CF, KD (Northern ~~O~~off-site access road only)
3/22/2013	VJ (Northern ~~O~~off-site access road only)
6/13/2013	CF (Northern ~~O~~off-site access road only)
Oak Woodland Survey	
12/13/2011	JZ, EB
12/19/2011	JZ, EB
Jurisdictional Wetlands Delineation	
06/10/2008	MH, JTS
12/8/2011	JZ
12/9/2011	JZ, EB
1/25/2012	JZ, EB
1/26/2012	JZ
1/27/2012	JZ
03/22/2012	PS, CF
03/28/2012	PS, CF, CO, VJ
04/16/2012	VJ
6/25/2012	VJ
11/26/2013	TL
Quino Checkerspot Butterfly Focused Survey	
3/29–4/1/2011 (Week 1)	EB (Permit #820658-4), BC (Permit #820658-4), MC (Permit #782703-8), AF (Permit #820658-4), BH (Permit #820658-4), MM (Permit #233291-0)
4/4–5/2011 (Week 2)	BC (Permit #820658-4), MC (Permit #782703-8), AF (Permit #820658-4), BH (Permit #820658-4), KI (Permit #797999-7.2), MM (Permit #233291-0), SR (Permit #797999-7.2), AB (Permit #797999-7.2)
4/14–15/2011 (Week 3)	EB(Permit #820658-4), AG (Permit #797999-7.2), BH (Permit #820658-4), KI (Permit #797999-7.2), MM (Permit #233291-0), SR (Permit #797999-7.2)
4/18–20/2011 (Week 4)	EB (Permit #820658-4), MC (Permit #782703-8), AG (Permit #797999-7.2), BH (Permit #820658-4), KI (Permit #797999-7.2), MM (Permit #233291-0), KO (Permit #837760-6), SR (Permit #797999-7.2)

Table 1-1
Biological Surveys Conducted for the Rugged Solar Site

Date	Personnel
4/25–5/1/2011 (Week 5)	MC (Permit #782703-8), AG (Permit #797999-7.2), MM (Permit #233291-0), KO (Permit #837760-6)
5/2–5/2011 (Week 6)	EB (Permit #820658-4), BH (Permit #820658-4), MM (Permit #233291-0), KO (Permit #837760-6)
Quino Checkerspot Butterfly Focused Survey (Additional Survey Areas)	
3/22/2013	VJ (Permit #019949-0)
3/29/2013	PL (Permit #051248-4)
4/4/2013	PL (Permit #051248-4)
4/12/2013	PL (Permit #051248-4) and PS
4/24/2013	JP (Permit #840619-2)

Note: Personnel

AB–Adam Behle (AECOM)
AF–Andrew Fisher (AECOM)
AG–Antonette Gutierrez (AECOM)
BC–Barbara Calantas (AECOM)
BH–Bonnie Hendricks (AECOM)
BO-Brock Ortega (Dudek)
BS-Britney Strittmater (Dudek)
CF–Callie Ford (Dudek)
CO–Chris Oesch (Dudek)
EB–Erin Bergman (AECOM)
FS–Fred Sproul (AECOM)
JM–John Messina (AECOM)
JTS-J. Travis Smith (Dudek)
JZ–Joshua Zinn (AECOM)
KD–Kathleen Dayton (Dudek)
LW-Lance Woolley (AECOM)
MR–Kyle Harper (AECOM)
KI–Kyle Ince (AECOM)
JP–Jeff Priest (Dudek)
KO–Ken Osborne (AECOM)
MC–Mike Couffer (AECOM)
MH–Mike Howard (Dudek)
MM–Margie Mulligan (AECOM)
MR–Mark Roll (AECOM)
PS–Patricia Schuyler (Dudek)
SR–Stephen Rink (AECOM)
VJ–Vipul Joshi (Dudek)
PL–Paul Lemons (Dudek)
TL – Thomas Liddicoat (Dudek)

All field surveys were completed according to County Requirements and included directed searches and habitat assessments for the County list of potential sensitive faunal and floral species. The entire project site was surveyed by personnel qualified to perform biological surveys. Sensitive biological resources were mapped and analyzed together with the project plans (PDS2012-3300-12-007).

1.3.3 Vegetation Community Mapping

Vegetation mapping data for the project area were collected over several years, including 2009, 2011, and 2012, by Dudek and AECOM (Table 1-1). Biologists conducted vegetation mapping using the *Draft Vegetation Communities of San Diego County* (Oberbauer et al 2008), which is a local (i.e., San Diego County) refinement of the *Preliminary Descriptions of the Terrestrial Natural Communities of California* (Holland 1986). The *Manual of California Vegetation* (2nd edition) (MCV2; Sawyer et al. 2009) was utilized as an additional reference to help determine characteristics (such as percentage species cover) of various classifications.

The methodology for vegetation community mapping is described by year as follows.

2009 Vegetation Mapping: In June and July 2009, Dudek mapped vegetation communities in the field directly onto a 250-foot-scale (1 inch = 250 feet) aerial photograph (Digital Globe 2008). Surveys covered the entire project area with the exception of three parcels in the south–central portion of the project. Surveys also encompassed other portions of Rough Acres Ranch that are not part of the project area.

2011 Vegetation Mapping: AECOM completed vegetation mapping within the project area in October and November 2011. Sawyer et al. (2009) and CDFG (2010) classifications were used to provide additional detail where appropriate, such as denoting special or sensitive vegetation communities that are either known or believed to be of high priority for inventory in the California Natural Diversity Database (CNDDB) due to their unique nature, limited distribution (i.e., rarity), or importance for special-status wildlife species. Communities were mapped by hand in the field on a 200-foot-scale (1 inch = 200 feet) aerial photograph and later screen-digitized in the office using ArcGIS software (AECOM 2012a).

2012 Vegetation Mapping: Prior to conducting the field visits in 2012 to map vegetation communities, Dudek reviewed the vegetation mapping description provided in the *Biological Technical Report for the Tule Wind Project* (HDR 2010). Dudek also reviewed the mapping completed in previous years, 2009 (Dudek) and 2011 (AECOM), described previously.

In March 2012, biologists mapped vegetation communities in the field directly onto 300-foot-scale (1 inch = 300 feet) aerial photography (Bing Maps 2012). Biologists covered the project area by foot and vehicle, traversing existing dirt roads and traveling along canyons and ridgelines. The 100-foot buffer surrounding the project area was included in the vegetation mapping survey but was not accessed on foot; rather, the buffer was mapped from adjacent parts of the project area using aerial photography. Communities were mapped based on the dominant species present and their associated cover classes, aspect, and canopy height. If the vegetation communities observed in the field did not match those described in Oberbauer et al. (2008) or Holland (1986), Dudek generated additional site-specific vegetation community or land cover classifications (e.g., bare rock). Minimum mapping units established included 2.2 acres (1 hectare) for vegetation communities not considered sensitive and 1 acre for communities that are considered sensitive.

In addition to mapping vegetation communities by visually assessing the percentage cover, transect data were collected to analyze the percentage cover of species in non-native grasslands and alkali meadow to more precisely delineate the boundaries between these two communities. A total of six 25-meter-long (82 feet) point-intercept transects were conducted by Dudek in portions of the non-native grassland and alkali meadow within Tule Creek to determine the

percentage cover of plant species within those vegetation communities. More specifically, a transect tape was run between two points within a stand of vegetation, and a vegetative intercept line was visually projected above and below the tape at every half-meter mark. Each herb, shrub, or tree that intercepted the projected line was recorded by species.

Another site visit was conducted on April 16, 2012, and the vegetation community mapping was refined based on a field reconnaissance survey using a 100-scale, high-resolution, project-specific aerial photograph. A summer survey was conducted on June 25, 2012, to finalize the alkali meadow/non-native grassland mapping. In the spring, both *Hordeum* and *Juncus* species are green; however, in the early summer, *Juncus* remains green while *Hordeum* senesces and turns brown, making it easier to differentiate between the alkali meadow and non-native grassland areas. A 0.1-acre minimum mapping unit was used for final mapping of the alkali meadow vegetation community.

Following completion of the field mapping, vegetation boundaries were digitized and GIS coverage was created. Once major line work and community designations were completed, a geodatabase was created to ensure these data were topologically correct and met final quality control and assurance procedures. These processes included reviewing the original hard-copy field maps in tandem with the digital data, as well as comparing the field data collected (i.e., notes) with the final vegetation community designations.

While oak woodlands are considered a vegetation community, there are specific methods, required by the County, that are used to define the boundaries of oak woodland, which are described in Section 1.3.3.1.

1.3.3.1 Oak Woodland Survey

In accordance with County Guidelines (County of San Diego 2010a), the oak woodlands boundaries were delineated at the edge of the canopy, and all mature oak trees (measuring 6 inches in diameter at breast height (dbh) or greater) identified within 100 feet of established oak woodland were mapped as part of the woodland. However, in some cases, individual oaks more than 100 feet apart from established oak woodlands were included based upon ecological function within the project area.

1.3.4 Flora

All plant species encountered during the field surveys were identified and recorded. Latin and common names for plant species with a California Rare Plant Rank (CRPR) (formerly CNPS List) follow the California Native Plant Society On-Line Inventory of Rare, Threatened, and Endangered Plants of California (CNPS 2012). For plant species without a CRPR, Latin names follow the Jepson Interchange List of Currently Accepted Names of Native and Naturalized Plants

of California (Jepson Flora Project 2012b), and common names follow the U.S. Department of Agriculture (USDA) Natural Resources Conservation Service Plants Database (USDA 2012). A cumulative list of plant species observed on the project area is presented in Appendix B.

1.3.4.1 Special-Status Plant Surveys

Special-status plant surveys were conducted by AECOM to determine the presence or absence of plant species considered endangered, rare, or threatened under CEQA Guideline 15380 (14 CCR 15000 et seq.) in 2011. The majority of the project area was covered during the 2011 survey with the exception of two areas—a small portion of the easternmost parcel and an area that overlaps with the SDG&E Sunrise Powerlink Project. The small portion of the easternmost parcel was surveyed in 2010 as part of the Tule Wind Project (HDR 2010, 2011), and the special-status plant survey data collected on this excluded area, which includes occurrences of Jacumba milkvetch (*Astragalus douglasii* var. *perstrictus*), will be used to analyze Proposed Project impacts. The area overlapping the SDG&E Sunrise Powerlink Project that was excluded from the special-status plant survey area was evaluated in the EIR/EIS for the SDG&E Sunrise Powerlink Project (CPUC and BLM 2008a, 2008b), and was a staging area for the Sunrise Powerlink Project, has been impacted and no longer contains special-status plants or suitable habitat for these plants. The AECOM surveys covered the western off-site access road, and some additional plants were mapped by Dudek during a site visit in 2012. In 2012 and 2013, Dudek conducted rare plant surveys for ~~an additional~~the northern off-site access road.

Prior to field surveys, AECOM and Dudek conducted a query of the California Department of Fish and Wildlife (CDFW) CNDDB to determine which special-status species are known to occur within the project area and vicinity. Additionally, AECOM received a list of potentially occurring special-status species was provided by the County PDS (County of San Diego 2011; Appendix A). Survey emphasis was placed on determining the presence, or potential for occurrence, of species found on state, federal; and California Rare Plant Rank (CRPR) 1B and 2 lists (CNPS 2012); and County lists A–D (County of San Diego 2010a) (AECOM 2012a).

While special-status plant surveys were timed to capture the blooming periods of special-status plant species with the potential to occur on site, as described previously, the surveys were floristic in nature, meaning plant taxon were identified to the taxonomic level necessary to determine rarity and listing status. As shown in Table 1-1, AECOM and Dudek conducted several special-status plant surveys during three phenological time periods to capture the blooming periods of all potential special-status plant species (i.e., early spring, late spring, and fall). Surveys were conducted on foot using meandering transects to cover the entire project area in accordance with the *CNPS Botanical Survey Guidelines* (CNPS 2001), *Protocols for Surveying and Evaluating Impacts to Special Status Native Plant Populations*

and Natural Communities (CDFG 2009), and the USFWS's *General Rare Plant Survey Guidelines* (Cypher 2002).

Observed special-status plants were mapped with a Global Positioning System (GPS) unit with submeter accuracy and incorporated into ArcGIS software. Generally, numbers of individuals were counted in the field and reported as ranges including the following: 1 to 10; 11 to 50; 51 to 100; 101 to 500; 501 to 1,000; 1,001 to 5,000; and greater than 10,000. Some occurrences with 1 to 10 individuals present were counted and reported as a number versus a range. Point data were collected for each occurrence with the exception of Tecate tarplant (*Deinandra floribunda*), which was mapped using both points and polygons.

All plant species observed in the project area were noted, and plants that could not be identified in the field were collected and identified later using a microscope with taxonomic keys. Specimens that were especially difficult to identify were compared to the reference collection at the San Diego Natural History Museum (SDNHM) and their identity was confirmed by Dr. Jon Rebman, curator of Botany (AECOM 2012a).

The methodology used to survey the small portion of the easternmost parcel that was surveyed as part of the Tule Wind Project is described in the Draft Biological Technical Report for the Tule Wind Project (HDR 2012). The survey methodology used is similar to the methods used by AECOM (i.e., surveys were timed to capture the blooming periods of special-status plant species with the potential to occur on site, were floristic in nature, and special-status plants were mapped with a GPS unit with submeter accuracy, etc.), as described previously. However, polygon data were collected for each occurrence (versus point data).

Dudek recorded rare plants as both points and polygons. All plant species observed in the project area were noted, and plants that could not be identified in the field were collected and identified later using a microscope with taxonomic keys. All plant species observed in the project area were noted, and plants that could not be identified in the field were collected and identified later using a microscope with taxonomic keys.

1.3.5 Fauna

Focused wildlife surveys were conducted for Quino checkerspot butterfly. All wildlife species observed or detected during the Quino checkerspot butterfly survey and anecdotally observed during additional field surveys (vegetation mapping, plant surveys, etc.) were recorded. Latin and common names of animals follow Crother (2008) for reptiles and amphibians, American Ornithologists' Union (AOU) (2012) for birds, Wilson and Reeder (2005) for mammals, and North American Butterfly Association (NABA) (2001) or SDNHM (2012c) for butterflies. A cumulative list of wildlife species observed on the project area is presented in Appendix C.

1.3.5.1 Quino Checkerspot Butterfly Surveys

A habitat assessment of the project area was conducted by qualified AECOM biologists on March 29, 2011, prior to the first protocol-level survey. Protocol-level surveys were determined to be necessary due to the presence of suitable Quino checkerspot butterfly habitat throughout the project area. However, approximately 99 acres were excluded from focused Quino checkerspot butterfly surveys because of lack of suitable habitat, overlap with other project sites that had completed surveys, and small modifications made to the project area after completion of protocol surveys (Appendix D). All closed-canopy chaparral, riparian forest, and oak woodland habitats in the Quino checkerspot butterfly survey area were included because these areas were small and contained open patches of habitat with the potential to support the Quino checkerspot butterfly.

Following completion of a formal habitat assessment, nine protocol-level Quino checkerspot butterfly surveys were conducted within the Quino checkerspot butterfly survey area during a 6-week period between March 29 and May 5, 2011. Surveys were conducted by permitted biologists under optimal climatic conditions for detecting species. If weather conditions were out of protocol, biologists waited for the weather conditions to improve before proceeding with surveys. Surveys were conducted by walking meandering transects through all potentially suitable habitat, scanning the ground and surrounding bushes, and searching for nectar sources for Quino. Biologists recorded any potential Quino checkerspot butterfly host plant populations, all species of flowering plants (potential nectar sources), and all species of butterflies observed. Potential Quino checkerspot butterfly host plants were mapped with submeter accuracy using a GPS unit. Detailed survey methodology and results are included in the Quino checkerspot butterfly 45-day report submitted to USFWS (see Appendix D).

In 2013, Dudek biologists conducted protocol-level Quino checkerspot butterfly surveys for two proposed access roads that were not surveyed previously. The methods were the same as those described above. Detailed survey methodology and results are included in the Quino checkerspot butterfly 45-day report submitted to USFWS (see Appendix ~~J~~D).

1.3.6 Jurisdictional Delineation of Waters, Including Wetlands

A jurisdictional delineation of waters, including wetlands, was conducted in 2009, 2011, and 2012 (Table 1-1). Jurisdictional boundaries were mapped in the field directly onto a 300-foot-scale (1 inch = 300 feet) or 100-foot-scale (1 inch = 100 feet) aerial photograph (Bing Maps 2012) or using a Trimble GeoXT GPS with submeter accuracy. The methodology used for each jurisdiction or regulating agency, including the U.S. Army Corps of Engineers (ACOE), CDFW, Regional Water Quality Control Board (RWQCB), and County of San Diego, is described as follows.

The ACOE wetlands delineation was performed in accordance with the 1987 *U.S. Army Corps of Engineers Wetlands Delineation Manual* (Technical Report Y-87-1; ACOE 1987) and the *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region* (ACOE 2008) and guidance provided by the ACOE and U.S. Environmental Protection Agency (EPA) on the geographic extent of jurisdiction based on the U.S. Supreme Court's interpretation of the CWA (ACOE and EPA 2008). ACOE and RWQCB, pursuant to the federal CWA, include all areas supporting all three wetlands criteria described in the ACOE manual: hydric soils, hydrology, and hydrophytic vegetation. A predominance of hydrophytic vegetation, where associated with a stream channel, was used to determine CDFW-regulated wetlands. Waters under the jurisdiction of CDFW were delineated using the Cowardin method of waters classification, which defines waters boundaries by a single parameter (i.e., hydric soils, hydrophytic vegetation, or hydrology). RWQCB may also take jurisdiction over surface waters lacking ACOE regulation pursuant to the state Porter-Cologne Act. These areas generally include areas with at least one of the three wetlands indicators but that are isolated from a tributary to navigable water through lack of evidence of surface water hydrology. However, no surface waters were considered isolated from a tributary of a navigable "waters of the United States."

Jurisdiction of the RWQCB is coincident with ACOE in accordance with the federal CWA except in cases where a resource is determined to be isolated from navigable waters of the United States and the RWQCB may take jurisdiction under the state Porter-Cologne Act.

The County RPO (County of San Diego 2007) identifies environmental resources, including wetlands, present within the County and provides measures to preserve these resources.

The County RPO identifies wetlands as lands that have one or more of the following attributes:

- Lands that periodically support a predominance of hydrophytes (plants whose habit is water or very wet places)
- Lands in which the substratum is predominantly undrained hydric soil
- Lands where an ephemeral or perennial stream is present and whose substratum is predominately non-soil and where such lands contribute substantially to the biological functions or values of wetlands in the drainage system.

Hydrology, vegetation, and soils were assessed at 18 geographically distinct sampling locations throughout the project area to determine the presence or absence of wetland field indicators. The overall area was assessed for evidence of an ordinary high water mark (OHWM), hydrology indicators, wetland vegetation, and nexus to traditional navigable waters of the United States.

Consistent with the vegetation community boundaries, as described in Section 1.3.1, following completion of the field mapping, vegetation boundaries were digitized and GIS coverage was

created. Once major line work and community designations were completed, a geodatabase was created to ensure these data were topologically correct and met final quality control and assurance procedures. These processes included reviewing the original hard-copy field maps in tandem with the digital data, as well as comparing the data station forms and other field notes with the jurisdictional delineation. The vegetation community boundaries were digitized by Dudek GIS staff using ArcMap software.

A more detailed description of the field methods used is described as follows by parameter.

Hydrophytic Vegetation

Seasonal changes in species composition, human land-use practices, wildfires, and other natural disturbances can adversely affect the wetlands vegetation determination. During the delineation, a data station point was considered positive for hydrophytic vegetation if it passed the basic dominance test (Indicator 1), meaning that more than 50% of the dominant species sampled were characterized as either obligate, facultative wetland, and/or facultative per the *National List of Vascular Plant Species that Occur in Wetlands: 1988 National Summary* (Reed 1988). In those cases where the dominance test failed but there were positive indicators of hydric soils and/or hydrology, the vegetation parameter was reevaluated using the prevalence index (Indicator 2), which takes into account all plant species in the community, not just dominants. The standard plot sampling technique was used to sample vegetation within a 10-foot radius for herbaceous vegetation and a 30-foot radius for trees, shrubs, and woody vines (Technical Report Y-87-1; ACOE 1987). All plant species observed during the surveys were identified and recorded. Where plant identification could not be made in the field, a sample was taken and later identified in the laboratory.

Hydric Soils

According to the National Technical Committee for Hydric Soils, hydric soils are "soils that are formed under conditions of saturation, flooding, or ponding long enough during the growing season to develop anaerobic conditions in the upper part" (USDA 1994). Soil from the data station pits, prepared using a "sharp shooter" shovel, was examined for various hydric soil indicators, as described in the 1987 Manual, *Field Indicators of Hydric Soils in the United States v. 5.01* (USDA NRCS 2003), and ACOE's *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region* (Version 2.0) (ACOE 2008). Munsell Soil Color Charts were used to determine soil chroma and value. Where feasible, soil pits were prepared to depths ranging from 10 to 12 inches; however, in many cases, pit depth only reached 6 inches due to the nature of the soil. Dry soils were moistened to obtain the most accurate color. Excavated soils were inspected for such hydric indicators as low chroma values and mottling, vertical streaking, sulfidic odor, and high organic matter

content in the upper horizon. Evidence of previous ponding or flooding, slope shape, existing landform characteristics, soil material/composition, and hydrophytic vegetation were also assessed to determine the presence of hydric soils.

Hydrology

In accordance with the guidelines prescribed in ACOE's *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region* (Version 2.0) (ACOE 2008), wetland hydrology indicators are separated into four major groups: groups A, B, C, and D. Group A indicators are based on direct observations of surface flow, ponding, and soil saturation/groundwater. Group B indicators consist of evidence that the site has been or is currently subjected to ponding, including, but not limited to, water marks, drift deposits, and sediment deposits. Group C indicators include signs of previous and/or current saturation, including oxidized rhizospheres surrounding living roots and the presence of reduced iron or sulfur, both of which are indicative of extended periods of soil saturation. Group D indicators consist of "vegetation and soil features that are indicative of current rather than historic wet conditions and include a shallow aquitard and results of the Facultative (FAC)-Neutral test" (ACOE 2008). Each group is subdivided into primary and secondary categories based on their frequency and reliability to occur in the Arid West region. Signs of hydrology were investigated in the project area by intensive field review. Please see Appendix E for the completed data station forms.

1.3.7 Survey Limitations

The vegetation mapping, jurisdictional delineation, and special-status plant surveys were conducted during the day and during the months of the year when most annuals would have been evident or identifiable. For the botanical surveys described previously, three blooming periods were captured (early spring, summer, and fall) for optimal chances of detection of a full range of floral diversity expected within the project area. Additionally, due to above-average rainfall during the 2010/2011 wet season, plant population growth was not limited by rainfall (NOAA 2011). Given the ample winter precipitation, abundant wildflowers, well-coordinated timing of the surveys relative to blooming periods of special-status plant populations, the survey results are valid on all portions of the project area.

The jurisdictional wetlands delineation was conducted over a number of visits over a number of years. Although the current delineation represents current conditions, Dudek has observed shifts in the extent of hydrophytic vegetation over a period of years. This is likely due to the ephemeral hydrology of Tule Creek; therefore, it can be expected that communities such as alkali meadow may shift location and density over time. The current survey period is representative of typical conditions rather than drought or extreme wet weather conditions based on a review of the

annual rainfall between 2001 and 2011. The annual rainfall recorded at the Campo weather station in 2011 was 14.66 inches, and the average annual rainfall recorded between 2001 and 2011 was 15.94 inches (Western Regional Climate Center 2012).

Surveys specifically aimed at detection of the full range of wildlife species were not conducted. However, notes were taken for incidental wildlife observations made during protocol-level Quino checkerspot butterfly surveys and during vegetation mapping and special-status plant surveys to establish a general baseline of wildlife diversity within the project area. These surveys were conducted during the daytime, which usually results in few observations about mammals, many of which may be active at night. In addition, many species of reptiles and amphibians are nocturnal or cryptic in their habits and are difficult to observe using standard meandering transects.

The current survey effort provides an accurate representation of the potential for special-status species to occur in the project area. The surveys were thorough and comprehensive, and the results of the study contained herein provide a reasonable, accurate assessment of the project area.

1.4 Environmental Setting

The project area features relatively flat to gently sloping hills and is located at an elevation ranging from approximately 3,500 to 3,670 feet amsl. The primary hydrologic feature within the project area is Tule Creek, which is essentially a subsurface (or near surface) riverine feature that daylights during rain events. Tule Creek bisects the entire project area and flows in a northwest to southeast orientation. The project area generally is within the Peninsular Range and has a warm, dry climate consistent with the San Diego, high desert-transition area. Average temperatures range from approximately 34°Fahrenheit (F) to 94°F with an average rainfall of less than 15 inches per year (as measured from the Campo measuring station) (Western Regional Climate Center 2012).

According to the U.S. Department of Agriculture (USDA) (2010), there are nine soil types found in the project area, and descriptions based on those by Bowman (1973) and Web Soil Survey appear below.

Acid igneous rock land soil is found in rough broken terrain. The topography ranges from low hills to steep mountains. Large boulders and rock outcrops of granite, quartz diorite, gabbro, basalt, and other rock types cover greater than 50% of the total area of this soil type. The soil material is very shallow consisting of loam to loamy course sand textures over decomposed granite or basic igneous rock. In some locales, pockets of deep soils may be present between the rocks. Many areas are practically barren and have very rapid runoff. The vegetation for this soil type varies by elevation and climate. In the foothills and mountains, acid igneous rock land supports various chaparral vegetation communities.

The Calpine series consists of very deep, well-drained soils that formed in alluvium derived from granitic rocks. The following Calpine soil inclusions occur within the project area: Calpine coarse sandy loam, 2% to 5% slopes (CaB) and Calpine coarse sandy loam, 5% to 9% slopes (CaC). Calpine soils occur on alluvial fans, fan remnants, and stream terraces on slopes of 0% to 15% and at elevations of 3,000 to 6,000 feet. Calpine soils are well drained with very low or low surface runoff and moderately rapid permeability. Native vegetation expected on this soil type within the project area is mainly big sagebrush (*Artemisia tridentata*).

The Kitchen Creek series is a member of the coarse-loamy, mixed, mesic family of Ultic Argixerolls. Kitchen Creek soils have dark brown, slightly acid, loamy coarse sand and coarse sandy loam A horizons, pale brown, medium acid, coarse-sandy loam B2t horizons grading to weathered granitic rock at a depth of 54 inches. Kitchen Creek soils occur on moderately to strongly sloping to rolling broad ridges that are bounded by short escarpment slopes. They formed in residuum weathered from granitic and other acid igneous rocks. Kitchen Creek soils occur at elevations of 2,500 to 4,500 feet and native vegetation expected on this soil type in the project area include is chamise (*Adenostoma fasciculata*) and a small amount of annual grasses.

The La Posta series has grayish brown and brown, slightly acid and neutral, loamy coarse sand A horizons grading to weathered acid igneous rock at a depth of 29 inches. These soils occur in hilly mountainous areas that are moderately sloping to very steep. The following La Posta soil inclusions occur within the project area: La Posta loamy coarse sand, 5% to 30% slopes, eroded (LaE2) and La Posta rocky loamy coarse sand, 5% to 30% slopes, eroded. The soils formed in residuum weathered from granitic rocks at elevations of 2,000 to 4,500 feet. La Posta soils are somewhat excessively drained with medium or rapid runoff and rapid permeability, and native vegetation expected on this soil type in the project area is mainly annual grasses and forbs, chamise, red shank (*Adenostoma sparsifolia*), manzanita (*Arctostaphylos* spp.), scrub oak (*Quercus* spp.), and a few scattered oak trees (*Quercus agrifolia*) along drainages.

Loamy alluvial land consists of areas of recent alluvium adjacent to stream channels and in meadows. Loamy alluvial land is nearly level to gently sloping, and it is somewhat poorly drained to poorly drained. Permeability and the available water capacity vary. Runoff is very slow.

The Mottsville series consists of very deep, excessively drained soils that formed in alluvium derived from granitic rocks. Mottsville soils occur on gently sloping (0% to 15%) alluvial fans, fan remnants, and fan aprons. Mottsville soil inclusion occurs within the project area: Mottsville loamy coarse sand, 2% to 9% slopes. Mottsville soils occur at elevations of 4,500 to 5,300 feet. Mottsville soils have negligible or very low surface runoff, rapid or very rapid permeability, and high saturated hydraulic conductivity. Native vegetation expected on this soil type within the project area is mainly big sagebrush, other desert transition shrubs, and needlegrasses (*Stipa* spp.).

The Tollhouse series consists of shallow, somewhat excessively or excessively drained soils that formed in material weathered from granite and closely related coarse crystalline rocks. The following Tollhouse soil inclusion occurs within the project area: Tollhouse rocky, coarse sandy loam, 5% to 30% slopes, eroded (ToE2). Tollhouse soils are on strongly sloping to very steep mountain slopes. Rock outcrops are common to many soils of this series. Tollhouse soils occur at elevations of 2,000 to about 8,000 feet. Native vegetation expected on this soil type within the project area is primarily chaparral consisting of a variety of native shrubs and oak trees. Naturalized grasses and forbs may occur in some locations.

Rough Acres Ranch is a privately owned ranch. Existing land uses include agricultural activities and scattered structures, and a laydown area for the Sunrise Powerlink Project. The ranch is primarily utilized for grazing but also contains housing for ranch employees.

1.4.1 Regional Context

The Rugged solar farm is located on the eastern side of McCain Valley and the In-Ko-Pah Mountains and consists of 11 parcels of Rough Acres Ranch, which is located north of Interstate 8 (I-8), along McCain Valley Road, and north of the unincorporated community of Boulevard. Set Free Rough Acres, a drug rehabilitation center that occupies the site that previously served as the Chargers training camp is located immediately north of the project site along McCain Valley Road. The McCain Valley Conservation Camp is located at 2550 McCain Valley Road, immediately south of the Rugged solar farm's central development subarea and immediately east of the southern development subarea.

The project area is located approximately 60 miles east of downtown San Diego. Existing conserved lands in the area include the BLM-managed 38,960-acre McCain Valley National Cooperative Land and Wildlife Management Area (which includes the 9,743-acre In-Ko-Pah Area of Critical Environmental Concern (ACEC) and the 14,735-acre Carrizo Gorge Wilderness) approximately 1 mile north of the site and east, adjacent to the isolated project parcel located east of McCain Valley Road (Figure 3). Additional conserved lands include the Walker Canyon Ecological Reserve, approximately 1.5 miles southeast of the project site, and the Descanso district of the Cleveland National Forest, whose boundary is located approximately 7 miles northwest of the project parcels (CDFG 2012b).

The survey area is within the boundaries of land that will be within the future ECMSCP; more specifically, the project area falls within a preliminarily delineated Focused Conservation Area (FCA) of the ECMSCP planning area, which suggests that the area has regional conservation value. Projects in this area are subject to the Planning Agreement for the ECMSCP (County 2008) which is intended to establish if their approval would have an effect on the preparation and approval of the future ECMSCP.

1.4.2 Habitat Types/Vegetation Communities

The native vegetation communities on site are alkali meadow (including disturbed), big sagebrush scrub (including disturbed), coast live oak woodland, montane buckwheat scrub (including disturbed), granitic chamise chaparral, granitic northern mixed chaparral, mixed oak woodland, disturbed mule fat scrub, red shank chaparral, scrub oak chaparral (including disturbed), and semi-desert chaparral (including disturbed). The non-native, vegetation communities and land cover types (non-vegetated areas) occurring within the project area are non-native grassland, disturbed habitat, urban/developed land, tamarisk scrub, and non-vegetated channel. These vegetation communities and land cover types are described as follows, their acreages are presented in Table 1-2, and their spatial distributions are presented on Figure 4.

In September 2010, the CDFW published the *List of California Vegetation Alliances* and Associations (CDFG 2010), which uses the scientific name of the dominant species in that alliance as the alliance name and includes a global and state rarity rank based on the NatureServe Standard Heritage Program methodology (NatureServe 2012). The conservation status of a vegetation community is designated by a number from 1 to 5, preceded by a letter reflecting the appropriate geographic scale of the assessment (G = global, N = national, and S = subnational). The numbers have the following meaning (NatureServe 2012):

1 = critically imperiled
2 = imperiled
3 = vulnerable to extirpation or extinction
4 = apparently secure
5 = demonstrably widespread, abundant, and secure.

For example, G1 would indicate that a vegetation community is critically imperiled across its entire range (i.e., globally). A rank of S3 would indicate the vegetation community is vulnerable and at moderate risk within a particular state or province, although it may be more secure elsewhere (NatureServe 2012). Because NatureServe ranks vegetation communities at the global level, they have few rankings at the state or province level available. However, the *List of California Vegetation Alliances and Associations* (CDFG 2010) includes state-level rarity rankings (i.e., the subnational (S) rank) for vegetation communities. The *List of California Vegetation Alliances and Associations* (CDFG 2010) is considered the authority for ranking the conservation status of vegetation communities in California.

CDFW's guidelines for determining high priority vegetation types includes considering any communities listed with a ranking of S1–S3 and ascertaining whether the specific stands of the community type within the project area are "considered as high-quality occurrences of a given

community." The consideration of stand quality includes cover of non-native invasive species, human-caused disturbance, reproductive viability, and insect or disease damage (CDFG 2012c).

In addition, the County requires mitigation at varying ratios for many vegetation communities. These vegetation communities follow the *Draft Vegetation Communities of San Diego County* (Oberbauer et al. 2008). Vegetation communities considered special-status are those with an "S" ranking of 1, 2, or 3 (CDFG 2010), as well as communities that require mitigation by the County (Table 5, County of San Diego 2010a). These communities are denoted in Tables 1-2 and 1-3 with an asterisk (*).

Table 1-2
On-Site Vegetation Communities and Land Cover Types

Habitat Types/Vegetation Communities	Code[1]	Existing Acreage
Upland Scrub and Chaparral		
Big Sagebrush Scrub*	35210	82.5
disturbed Big Sagebrush Scrub*	35210	14.8
Montane Buckwheat Scrub*	37K00	83.0
disturbed Montane Buckwheat Scrub*	37K00	9.7
Granitic Chamise Chaparral*	37210	117.8
Granitic Northern Mixed Chaparral*	37131	11.3
Red Shank Chaparral *	37300	42.3
Scrub Oak Chaparral *	37900	66.6
disturbed Scrub Oak Chaparral*	37900	0.5
Semi-Desert Chaparral *	37400	112.6
Semi-Desert Chaparral – Rock*	37400	12.4
disturbed Semi-Desert Chaparral*	37400	1.8
	Subtotal	*555.3*
Upland Woodland and Savannah		
Coast Live Oak Woodland*	71160	7.2
Mixed Oak Woodland*	77000	3.3
	Subtotal	*10.5*
Riparian Herb		
Alkali Meadow*	45300	14.5
Disturbed Alkali Meadow*	45300	4.6
	Subtotal	*19.1*
Riparian Scrub		
Disturbed Mulefat Scrub*	63310	1.2
Tamarisk Scrub*	63810	4.8
	Subtotal	*6.0*
Unvegetated Waters		
Non-Vegetated Channel	64200	1.0
Open Water	64100	0.2
	Subtotal	*1.2*

Table 1-2
On-Site Vegetation Communities and Land Cover Types

Habitat Types/Vegetation Communities	Code[1]	Existing Acreage
Non-Native Communities and Land Covers		
Disturbed Habitat	11300	64.2
Non-Native Grassland*	42200	106.9
Urban/Developed	12000	~~1.0~~0.4
	Subtotal	*17~~1.5~~1.5~~2.1~~*
Total	—	76~~3.5~~3.5~~4.1~~

1 Holland (1986) as modified by Oberbauer et al. (2008)
2 May not total due to rounding
* Considered special-status by the County (2010a).

The County (County of San Diego 2010a) requires a 50-foot oak root protection zone established around the oak woodlands in the project area. There are approximately 35.1 acres of oak root zone mapped in the project area (Figure 4).

The Proposed Project also includes two ~~an additional~~ optional off-site access roads (n~~N~~orthern o~~O~~ff-Site a~~A~~ccess r~~R~~oad and western off-site access road). The northern off-site access road~~,~~ ~~which~~ is proposed to connect the central subarea of the project to McCain Valley Road in the event Rough Acres Ranch Road is not constructed per Rough Acres Ranch Major Use Permit (MUP) 3300-12-021, and the western off-site access road would provide access between Ribbonwood Road and the project site (Figure 4). Table 1-3 lists the vegetation communities and acreages for the ~~off-site portions of the~~ n~~N~~orthern o~~O~~ff-s~~S~~ite ~~Access~~ access ~~Road~~road and western off-site access road.

Table 1-3
Proposed Off-Site Access Roads Vegetation Communities and Land Cover Types

Vegetation Communities	Code	Northern Off-site Access Road	Western Off-site Access Road
Upland Scrub and Chaparral			
Big Sagebrush Scrub*	35210	—	0.1
Montane Buckwheat Scrub	37K00	0.1	0.2
Granitic Chamise Chaparral*	37210	—	1.0
Granitic Northern Mixed Chaparral*	37131	—	0.5
Red Shank Chaparral*	37300	—	0.1
~~Scrub Oak Chaparral*~~	~~37900~~	~~—~~	
~~Semi-Desert Chaparral~~	~~37400~~	~~—~~	
Subtotal	—	*0.1*	*1.9*
Riparian Scrub			
Disturbed Southern Willow Scrub	63320	0.1	—

Table 1-3
Proposed Off-Site Access Roads Vegetation Communities and Land Cover Types

Vegetation Communities	Code	Northern Off-site Access Road	Western Off-site Access Road
~~*Riparian Herb*~~			
~~Alkali Meadow~~	~~45300~~	~~—~~	
Non-Native Communities and Land Covers			
Disturbed Habitat	11300	0.1	1.0
Non-Native Grassland	42200	0.4	—
Urban/Developed	12000	~~0.9~~1.5	—
Subtotal	—	*~~1.4~~2.0*	*1.0*
Total	—	~~1.6~~2.2	2.9

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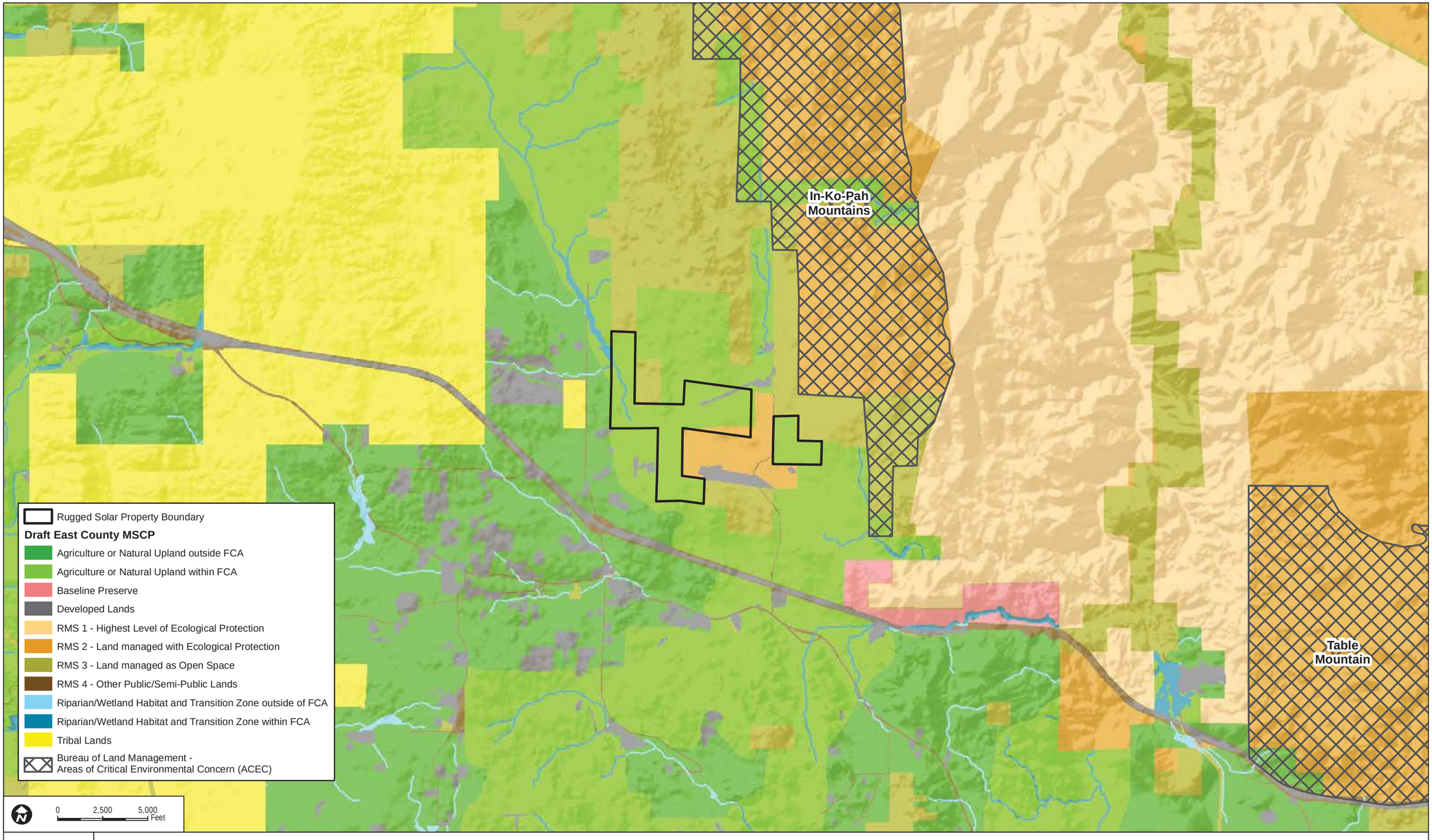

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SOURCE: SanGIS 2012, BLM 2010

FIGURE 3

Regional Context

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Rugged Solar Project Boundary

Oak Root Zone (50-Ft. Buffer)

Upland Vegetation Communities

BSS, Big Sagebrush Scrub

CC, Granitic Chamise Chaparral

CLOW, Coast Live Oak Woodland

DEV, Urban/Developed

DH, Disturbed Habitat

GNMX, Granitic Northern Mixed Chaparral

MBWS, Montane Buckwheat Scrub

MOW, Mixed Oak Woodland

NNG, Non-Native Grassland

OW, Open Water

RSCH, Red Shank Chaparral

SDC, Semi-Desert Chaparral

SDC-rock, Semi-Desert Chaparral - Rock

SOC, Scrub Oak Chaparral

dBSS, disturbed Big Sagebrush Scrub

dMBWS, disturbed Montane Buckwheat Scrub

dSDC, disturbed Semi-Desert Chaparral

dSOC, disturbed Scrub Oak Chaparral

Wetlands Vegetation Communities

AM, Alkali Meadow

NVC, Non-Vegetated Channel

TS, Tamarisk Scrub

dAM, disturbed Alkali Meadow

dMFS, disturbed Mulefat Scrub

dSWS, disturbed Southern Willow Scrub

0 500 1,000 Feet

SOURCE: SanGIS 2012; Bing Maps

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FIGURE 4

Biological Resources - Vegetation Communities

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1.4.2.1 Upland Scrub and Chaparral

1.4.2.1.1 Big Sagebrush Scrub (35210)

Big sagebrush scrub is characterized as being a moderately open shrubland consisting predominantly (greater than 50% absolute cover) of big sagebrush (*Artemisia tridentata* ssp. *tridentata*). It often occurs in or adjacent to the floodplain in the sandy transition to chaparral. This scrub community is relatively common on site, although it occurs in smaller, distinct patches. Some areas mapped as big sagebrush scrub include California buckwheat (*Eriogonum fasciculatum* var. *polifolium*), but at less than 15% absolute cover.

The *Artemisia tridentata* alliance has a rank of G5S5 in CDFG (2010a), meaning it is globally secure and secure in the state. Big sagebrush scrub is considered special-status based on mitigation recommendations of the County (2010a).

1.4.2.1.2 Granitic Chamise Chaparral (37210)

According to Holland (1986), chamise chaparral is strongly dominated by chamise (*Adenostoma fasciculatum)* and is adapted to repeated fire by stump sprouting. The herb layer is usually very sparse (Holland 1986). On site, chamise was observed at approximately 50% to 75% absolute cover, with a sparse herb layer of annual forbs comprising 5% to 15% absolute cover. Other woody shrubs include Zaca Lake manzanita (*Arctostaphylos glandulosa* ssp. *zacaensis*), point-leaf manzanita (*Arctostaphylos pungens*), and cupleaf ceanothus (*Ceanothus perplexans*), which collectively comprise less than 15% absolute cover. Disturbed granitic chamise chaparral was also mapped on the ranch in areas where shrub cover is approximately 30% to 50%, and the remainder of the area is dominated by non-native grasses and forbs.

The *Adenostoma fasciculatum* alliance has a rank of G5S5 in CDFG (2010), meaning it is globally secure and secure in the state. Granitic chamise chaparral is considered special-status based on mitigation recommendations of the County (2010a).

1.4.2.1.3 Granitic Northern Mixed Chaparral (37131)

Granitic northern mixed chaparral consists of broad-leaved sclerophyll shrubs that range from 2 to 4 meters (7 to 13 feet) in height and that form dense stands dominated by chamise, red shank, manzanita, and ceanothus (*Ceanothus* spp.). This community occurs inland of southern mixed chaparral in San Diego County and is indicated by desert ceanothus (*Ceanothus greggii*) and other codominants (chamise, scrub oak (*Quercus berberidifolia*), and other oak hybrids). Granitic northern mixed chaparral is underlain by granitic soils.

In the project area, this community was further classified as closed or open to indicate shrub density. Perennial species common to this community include chamise, sugar bush (*Rhus ovata*), scrub oak, Muller oak (*Quercus cornelius-mulleri*), holly-leaf redberry (*Rhamnus ilicifolia*), mountain mahogany (*Cercocarpus betuloides* var. *betuloides*), and Mojave yucca (*Yucca schidigera*). Herbaceous species include San Diego gilia (*Gilia diegensis*), popcorn flower, sandy-soil suncup (*Camissonia strigulosa*), desert beauty (*Linanthus bellus*), Lemmon's linanthus (*Linanthus lemmonnii*), chia (*Salvia columbariae*), and goldfields. Disturbed granitic northern mixed chaparral was also mapped on the ranch in areas where shrub cover is approximately 30% to 50% and the remainder of the area is dominated by non-native grasses and forbs.

Granitic northern mixed chaparral has a rank of G4S4 in CDFG (2010), meaning it is considered apparently secure globally and in the state. Granitic northern mixed chaparral is not considered special-status by CDFW, but it is considered special-status based on mitigation recommendations of the County (2010a).

1.4.2.1.4 Red Shank Chaparral (37300)

Red shank chaparral is composed of nearly pure stands of red shank (*Adenostoma sparsifolium*) (Holland 1986). It is similar to chamise chaparral but is typically taller and somewhat more open (Holland 1986). On site, red shank chaparral intergrades with chamise chaparral (37200) and scrub oak chaparral (37900). Red shank comprises approximately 50% to 75% absolute cover, with scrub oak occasionally present at less than 15% absolute cover. Like chamise chaparral, the herb layer in red shank chaparral is sparse. This vegetation community was found throughout the site.

The *Adenostoma sparsifolium* alliance has a rank of G4S4 in CDFG (2010), meaning it is considered apparently secure globally and in the state. Red shank chaparral is considered special-status based on mitigation recommendations of the County (2010a).

1.4.2.1.5 Semi-Desert Chaparral (37400)

According to Holland (1986), semi-desert chaparral is very similar to northern mixed chaparral (37110), but is more open and not quite as tall (1.5 to 3 m (4.9 to 10 feet). Dominant taxa include *Juniperus* sp., *Eriogonum* sp., and *Opuntia* sp. But characteristic species include chamise, *Arctostaphylos* sp., *Ceanothus* sp. *Quercus* sp. and a variety of other shrubs and subshrubs. It is most common from 2,000 to 5,000 feet elevation and includes the Peninsular Ranges bordering the Colorado Desert, which are consistent with the elevation range and geographic location of the project area.

On site, areas mapped as semi-desert chaparral are very diverse, but no *Juniperus* species were observed. Dominant species include chamise, point-leaf manzanita, California buckwheat, and

cholla (*Cylindropuntia* spp.) usually at 5% to 15% absolute cover each. Associated species within semi-desert chaparral on site include the following at usually 1% to 5% cover each: cupleaf ceanothus, big sagebrush, our Lord's candle (*Yucca whipplei*), Muller oak (*Quercus cornelius-mulleri*), cholla, birch-leaf mountain mahogany (*Cercocarpus betuloides* var. *betuloides*), interior goldenbush, sugar bush. Bromes and red-stem filaree (*Erodium cicutarium*) also occur in these areas at usually 5% to 15% cover. Bare ground was observed at roughly 5% to 15% absolute cover. Disturbed semi-desert chaparral was also mapped on the ranch in areas where shrub cover is approximately 30% to 50%, and the remainder of the area is dominated by non-native grasses and forbs.

Semi-desert chaparral – rock was mapped in areas that supported a high percentage of large boulders within the vegetation.

Semi-desert chaparral has a rank of G3S3.2 CDFG (2010), meaning it is considered vulnerable to extirpation or extinction globally and in the state. It is also considered special-status based on mitigation recommendations of the County (2010a).

1.4.2.1.6 Scrub Oak Chaparral (37900)

Scrub oak chaparral is a dense, evergreen chaparral up to 20 feet tall (Holland 1986). Holland describes the community as dominated by scrub oak. On site, scrub oak chaparral is dominated by scrub oak at between 50% to 75% absolute cover. Red shank is commonly associated with this vegetation community, but occurs at less than 15% absolute cover. The herb layer is similar to that of chamise and red shank chaparral communities. Disturbed scrub oak chaparral also mapped on the ranch in areas where shrub cover is approximately 30% to 50%, and the remainder of the area is dominated by non-native grasses and forbs.

The *Quercus berberidifolia* alliance has a rank of G4S4 in CDFG (2010), meaning it is considered apparently secure globally and in the state. Scrub oak chaparral is considered special-status based on mitigation recommendations of the County (2010a).

1.4.2.1.7 Montane Buckwheat Scrub (37K00)

Montane buckwheat scrub is not described by Holland but is included in Oberbauer et al (2008). Montane buckwheat scrub is characterized by a nearly monoculture community of flat-topped buckwheat found at higher elevations in San Diego County. On site, areas mapped as montane buckwheat scrub are almost exclusively dominated by California buckwheat, which occurs at approximately 25% to 50% absolute cover, and has a well-developed herb layer, composed of annual brome grasses at approximately 25% to 50% absolute cover. Red-stem filaree was observed at 15% to 25% cover, indicating past disturbance in this area, likely long-term cattle grazing. Associated species occurring at 1% to 5% absolute cover include California matchweed

(*Gutierrezia californica*), deerweed (*Acmispon glaber*), and interior goldenbush. Areas mapped as disturbed montane buckwheat scrub typically had 50% cover of non-native species (*Bromus* spp., *Brassica* sp.).

The *Eriogonum fasciculatum* alliance has a rank of G5S5 in CDFG (2010), meaning it is globally secure and secure in the state. Montane buckwheat scrub is not included in the Habitat Mitigation Ratios in the County Significance Guidelines (Table 5, County of San Diego 2010a); however, it was originally classified together with flat-topped buckwheat scrub, which is considered special-status based on mitigation recommendations of the County (2010a).

In 1993, CDFG and California Resources Agency (CRA) published the Southern California Coastal Sage Scrub Natural Community Conservation Plan (NCCP) Conservation Guidelines (Conservation Guidelines) (CDFG and CRA 1993a) and the Southern California Coastal Sage Scrub NCCP Process Guidelines (Process Guidelines) (CDFG and CRA 1993b). The Conservation Guidelines provide guidance to determine the habitat value of the coastal sage scrub, and the Process Guidelines explain the roles of local, state, and federal agencies and how the NCCP planning process will shift focus from the regional level to the subregional level. The County Significance Guidelines (County of San Diego 2010a) state that mitigation ratios for flat-topped buckwheat[2] are subject to the Process Guidelines based on the habitat value defined in the Conservation Guidelines (Lower, Moderate, or High). However, the Subregional Coastal Sage Scrub NCCP Planning Unit Focus Map (CDFG and CRA 1993a) does not extend as far east as the project area (Figure 1). In addition, the montane buckwheat scrub does not support California sagebrush (*Artemisia californica*), is outside of the range of coastal California gnatcatcher (*Polioptila californica californica*), and does not provide habitat for a particular special-status species in the project area. Therefore, the montane buckwheat scrub is considered to have a Lower Value.

1.4.2.2 Upland Woodland and Savannah

1.4.2.2.1 Coast Live Oak Woodland (71161)

Coast live oak woodland is an evergreen woodland dominated by coast live oak (*Quercus agrifolia* var. *oxyadenia*). The understory is typically made up of grassland, scrub, or chaparral species, and the community often intergrades with coastal sage scrub or mixed chaparral (Holland 1986). On-site, coast live oak woodland is an open woodland, with generally less than

[2] Mitigation ratio requirements for flat-topped buckwheat are used because the County of San Diego does not specify mitigation ratios for impacts to montane-buckwheat scrub (County of San Diego 2010a). It should be noted that montane buckwheat is now classified with chaparral (37000) series of Oberbauer et al. (2008).

40% cover of coast live oak. The understory is dominated by non-native grasses and annual forbs (see non-native grassland).

The *Quercus agrifolia* alliance has a rank of G5S4 in CDFG (2010), meaning it is globally secure and apparently secure in the state. Coast live oak woodland is considered special-status based on mitigation recommendations of the County (2010a).

1.4.2.2.2 Mixed Oak Woodland (77000)

Mixed oak woodland is not described by Holland (1986) but is listed by Oberbauer et al (2008). On site, mixed oak woodland communities may include coast live oak, Palmer's oak (*Quercus palmeri*), Muller oak, and desert scrub oak. Total shrub and tree cover is less than 40% in this open woodland community. The understory is similar to that described for coast live oak woodland.

Mixed oak woodland does not fit into a specific alliance in CDFG (2010), but the oak species that comprise the mixed oak woodland (coast live oak, Palmer's oak, Muller oak, and desert scrub oak) have alliances in CDFW. Palmer's oak alliance has a rank of G3S2, meaning it is considered globally vulnerable to extirpation or extinction and imperiled in the state. Coast live oak, Muller oak, and desert scrub oak are ranked G5S4 or G4S4, meaning that they are considered at least apparently secure globally and in the state. Mixed oak woodland is considered special-status based on mitigation recommendations of the County (2010a).

1.4.2.3 Riparian Herb

1.4.2.3.1 Alkali Meadow (45300)

Alkali meadow is a low-growing, dense or open association of grasses, sedges, and rushes on moist, alkaline soils. This community may intergrade with marsh communities in wetter settings or Great Basin scrub or non-native grassland in drier settings. On site, alkali meadow includes Mexican rush (*Juncus mexicanus*), salt grass (*Distichlis spicata*), Mediterranean barley *(Hordeum marinum* ssp. *gussoneanum),* and seaside heliotrope (*Heliotropium curassavicum*). This community occurs in the floodplain of Tule Creek in the southern portion of the site.

Areas mapped as alkali meadow were dominated by Mexican rush, with a cover typically between 75% and 100%. Areas mapped as disturbed alkali meadow were dominated by both Mexican rush and Mediterranean barley and other non-native grasses (*Bromus* spp.); Mexican rush typically had a percentage cover of 50% to 75% with a similar percentage cover of non-native species. The percentage cover of plant species was determined through a series of point-intercept transects (six total transects, 25 meters (82 feet) in length each) performed within representative samples of areas where Mexican rush was present. Because non-native grasses and forbs have a high percentage cover in the grass/herb-dominated communities, the dominance

test for hydrophytic vegetation from the *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region* (ACOE 2008) was used to map areas as alkali meadow or disturbed alkali meadow. Areas that did not pass the dominance test due to high percentage cover of non-native species and lower percentage cover of native hydrophytic herbs were mapped as non-native grassland. This methodology also conforms to the vegetation classification for Mexican rush and other rush species that are the defining, dominant species in several alliances described in MCV2.

Alkali meadow (including disturbed) includes areas mapped under the jurisdiction of ACOE, RWQCB, CDFW, and the County; and some disturbed alkali meadow polygons are mapped under the jurisdiction of CDFW and County only. The *Juncus mexicanus* alliance has a rank of G5S4 in CDFG (2010), meaning it is considered globally secure and apparently secure within the state. Alkali meadow is considered special-status by the County (2010a) based in its qualification as a Resource Protection Ordinance (RPO) wetland and the County's recommended mitigation ratio for this vegetation community.

1.4.2.4 Riparian Scrub

1.4.2.4.1 Disturbed Mulefat Scrub (63310)

Mulefat scrub is an herbaceous riparian scrub dominated by mule fat (*Baccharis salicifolia*) that occurs along intermittent stream channels with generally coarse substrate and a moderate depth to the water table (Holland 1986). Frequent flooding and/or scouring apparently maintain this community in an early successional state. Disturbed mulefat scrub is mapped on site in the central portion of the site on Tule Creek where other wetland communities occur (i.e., alkali meadow and tamarisk scrub); it is mapped under the jurisdiction of ACOE, RWQCB, CDFW, and the County, and some polygons that are mapped under the jurisdiction of CDFW and the County only.

The *Baccharis salicifolia* alliance has a rank of G5S4 in CDFG (2010), meaning it is globally secure and apparently secure in the state. Disturbed mulefat scrub is considered special-status based on mitigation recommendations of the County (2010a).

1.4.2.4.2 Tamarisk Scrub (63810)

According to Holland (1986), tamarisk scrub is a weedy, monoculture of any of several *Tamarix* species, usually supplanting native vegetation following a disturbance. This habitat is usually found in sandy or gravelly braided washes or intermittent streams. Common species according to Holland (1986) include narrowleaf willow (*Salix exigua*), salt grass (*Distichlis spicata*), and tamarisk (*Tamarix* sp.). Tamarisk often occupies jurisdictional wetlands. On site, tamarisk scrub

is heavily invaded by tumble or Jim Hill mustard (*Sisymbrium altissimum*). Tamarisk scrub includes areas mapped under the jurisdiction of CDFW only.

One polygon/occurrence of tamarisk scrub supports an understory of Mexican rush and is considered a wetland under the jurisdiction of the ACOE/CDFW/RWQCB/County. All of the other occurrences of tamarisk scrub on the project site, are not be considered a wetland under the ACOE/RWQCB/County jurisdiction. The RPO definition of an RPO wetland is based on the presence of one of three criteria: a vegetation community where "at least periodically, the land supports a predominance of hydrophytes (plants whose habitat is water or very wet places), " the presence of "predominately undrained hydric soils", or the presence of a stream in non-soil conditions (e.g., rock) (County 2007). Tamarisk species are considered phreatophytes, which have deep roots to reach the water table and depend on groundwater for their water supply (DiTomaso 1996), rather than hydrophytes, which are plants that grow only in water or very moist soils (Dictionary.com 2012). Because tamarisk species are also able to grow in conditions where no groundwater is accessible, it is classified as a facultative phreatophyte rather than an obligate phreatophyte (Kerpez and Smith 1987, cited in DiTomaso 1996). Tamarisk scrub occurs in areas that do exhibit hydric soil indicators, but these indicators are also present in non-native grasslands and are assumed to be a natural feature of the parent material and not an indicator of wetlands. Tamarisk scrub does not occur within non-soil streams. Tamarisk scrub, therefore, does not qualify as a County RPO wetland.

Based on lack of hydrophytic vegetation and hydric soils, most of the tamarisk scrub onsite is likely to have established in areas that did not previously support wetlands, but rather likely would have supported non-native grassland. Furthermore, the preservation of tamarisk is counter to the goals of the RPO, which strive to protect sensitive lands and prevent their degradation (County 2007). Tamarisk is also known to outcompete other vegetation due to its extensive lateral root system that can draw down the water table, and the allelopathic effect of the salt crystals that the leaves secrete, which can prevent other plants from growing around them (DiTomaso 1996). If preserved and restored, it is uncertain whether these areas would function as wetlands. The species that could most likely be established would include native phreatophytes such as oak and cottonwood *(Populus* sp.), but may not include typical hydrophytes such as willow *(Salix* sp.), mule fat, and rush *(Juncus* sp.).

Tamarix spp. is considered a semi-natural stand in the *List of California Vegetation Alliances and Associations* (CDFG 2010) and is not ranked by NatureServe. However, it is considered special-status based on mitigation recommendations of the County (2010a).

1.4.2.4.3 Disturbed Southern Willow Scrub (63320)

According to Holland (1986), southern willow scrub has been described as a dense, broad-leafed, winter-deciduous riparian thicket dominated by several species of willow. On site,

there is a small patch of willows (*Salix lasiolepis*) growing near the proposed northern access road. It is not associated with any stream channels, and no hydrologic indicators were observed; therefore, it is not considered jurisdictional under federal, state, or local jurisdictions. It is disturbed with tamarisk.

1.4.2.5 Unvegetated Waters

1.4.2.5.1 Open Water (64100)

A small, on-site pond is mapped as open water. No streambeds or channels were mapped flowing into the pond, but there is a pipe outlet that apparently provides hydrology to the depressional area. It is presumed that this area is a historical upland area that artificially functions as a stock pond. It is therefore not considered an RPO wetland nor under jurisdiction of the ACOE, CDFW, or RWQCB.

Open water is not a vegetation community; therefore, it is not included in the *List of California Vegetation Alliances and Associations* (CDFG 2010). The County considers it part of the associated wetland. This land cover type is typically considered an RPO wetland and is considered jurisdictional waters (County of San Diego 2010a). The RPO provides an exemption for areas which have wetland attributes solely due to man-made structures (e.g., culverts, ditches, road crossings, or agricultural ponds), provided that they: (i) have negligible biological function or value as wetlands; (ii) are small and geographically isolated from other wetland systems; (iii) are not being a vernal pool; and, (iv) do not have substantial or locally important populations of wetland dependent sensitive species (County of San Diego 2007). In this case, the open water is non-jurisdictional and non-RPO and therefore is not considered special-status (see RPO findings in Section 1.4.7).

1.4.2.5.2 Non-Vegetated Channel (64200)

Non-vegetated channel refers to ephemeral stream channels that are barren or sparsely vegetated, but do exhibit an OHWM. The lack of vegetation may be due to the scouring effects of floods, or man-caused vegetation removal for flood control, access, sand mining, or other purposes.

Non-vegetated channels are mapped in the northwestern project area under the jurisdiction of ACOE and RWQCB as non-wetland waters, and CDFW as streambed. Non-vegetated channel is not a vegetation community, and therefore, it is not included in the *List of California Vegetation Alliances and Associations* (CDFG 2010). However, it is considered special-status based on mitigation recommendations of the County (2010a).

1.4.2.6 Non-Native Communities and Land Covers

1.4.2.6.1 Non-Native Grassland (42220)

According to Holland (1986), non-native grasslands include a dense to sparse cover of annual grasses that die during the summer months, persisting as seeds. On-site, non-native grasslands include ripgut grass (*Bromus diandrus*), foxtail chess (*Bromus madritensis*), and Mediterranean barley and are heavily disturbed by long-term cattle grazing. Tumble or Jim Hill mustard and red-stem filaree can comprise 25% to 50% absolute cover, collectively, within areas mapped as non-native grasslands, which is found throughout the site.

Mediterranean barley is the dominant grass within the central portion of project area, proximate with Tule Creek, whereas the more upland sites support a mixture of grass species. Areas dominated by Mediterranean barley can also support sparse Mexican rush (typically 1% to 10% cover) and so were evaluated to determine whether these areas should be classified as alkali seep or alkali meadow. Mediterranean barley, however, is not an indicator species for either of these communities. Further, Mediterranean barley is not listed as a hydrophytic species, although there are two species that are synonymous with Mediterranean barley: *Hordeum geniculatum* is listed as "no indicator" and *H. hystrix* is listed as facultative (Reed 1988). Although portions of the non-native grassland, therefore, could be interpreted as supporting 50% or greater cover of a facultative species, these areas area not considered RPO wetland because they do no support wetland functions nor support wetland-dependent special-status species, but rather function as non-native grassland.

Non-native grassland has a rank of G4S4 in CDFG (2010), meaning it is apparently secure globally and in the state. Because non-native grassland can provide habitat for a variety of species, the County requires mitigation for impacts to it; therefore, it is considered special-status by the County (2010a).

1.4.2.6.2 Disturbed Habitat (11300)

Disturbed land refers to areas that have been permanently altered by previous human activity that has eliminated all future biological value of the land for most species. The native or naturalized vegetation is no longer present, and the land lacks habitat value for sensitive wildlife, including potential raptor foraging. Disturbed habitat on site consists of graded pads and unpaved roads on the site. These roads are graded periodically, and no native vegetation remains. Disturbed habitat also includes highly disturbed areas in the central portions of the site that contain tumbleweed/Russian thistle (*Salsola tragus*) or Jim Hill mustard and red-stem filaree, which are exotic, invasive species, at greater than 75% cover. Brome grasses (*Bromus* sp.) occupy less than 25% cover in these areas and therefore are not considered non-native grasslands.

Disturbed habitat is not considered special-status by CDFW or the County (2010a).

1.4.2.6.3 Urban/Developed (12000)

Urban/developed areas on site consist of the buildings on the property, associated outbuildings, the surrounding yard and trees, and all paved roads on the property and adjacent to it. Some areas of ornamental plantings occur in this land cover, but no native vegetation remains.

Urban/developed is not considered special-status by CDFW or the County (2010a).

1.4.3 Flora

A total of 296 plant species have been recorded within the project area, with 254 species (86%) encountered considered native and the remaining 42 species (14%) considered non-native and/or naturalized into the area. Species richness in the project area is relatively high due to the property size, amount of undeveloped land, and the diversity of native upland and wetland habitats. Species richness is generally increased with the presence of more habitat types, soils, ecotones, and microhabitats. Although the species richness in the project area is high, it is consistent with species observed in the region. This is discussed in more detail with the special-status plant species in Section 1.4.5. A cumulative list of plant species observed on site is presented as Appendix B.

1.4.4 Fauna

The project area supports habitat for common upland and riparian species. Scrub, chaparral, and oak woodland habitats within the project area provide foraging and nesting habitat for migratory and resident bird species and other wildlife species. Grassland habitat provides foraging habitat for a variety of raptor species. Rock outcroppings within the project area provide cover and foraging opportunities for wildlife species, including reptiles and mammals. Finally, wetland features within the project area provide habitat to amphibian and invertebrate species.

A list of the wildlife species incidentally observed within and adjacent to the project area during focused Quino checkerspot butterfly surveys, vegetation mapping, and rare plant surveys is provided in Appendix C. There were 132 species observed on the project site. Species richness in the project area is relatively high due to the property size, amount of undeveloped land, and the number of native upland and wetland habitats. Species richness is generally increased with the presence of more habitat types and ecotones. Although species richness is high, the number of species and the wildlife population levels (i.e., number of individuals) is typical for undeveloped areas in this region, particularly those areas that support multiple upland, riparian, and wetland habitat types. Special-status wildlife species are addressed in Section 1.4.6.

1.4.4.1 Reptiles and Amphibians

Four reptile species were observed within and adjacent to the project area during 2011/2012 surveys: Blainville's horned lizard (*Phrynosoma blainvillii*), granite spiny lizard (*Sceloporus orcutti*), Belding's orange-throated whiptail (*Aspidoscelis hyperythrus beldingi*), and coastal

whiptail (*Aspidoscelis tigris stejnegeri*) (AECOM 2012b). No amphibian species were documented within the project area during 2011/2012 surveys. Common species that likely occur in the project area include side-blotched lizard (*Uta stansburiana*), western fence lizard (*Sceloporus occidentalis*), gopher snake (*Pituophis cantifer*), and western rattlesnake (*Crotalus oreganus*).

1.4.4.2 Birds

Fifty-four bird species were detected during the biological surveys. Common species observed within the project area include California quail (*Callipepla californica*), killdeer (*Charadrius vociferus*), mourning dove (*Zenaida macroura*), acorn woodpecker (*Melanerpes formicivorus*), northern flicker (*Colaptes auratus*), Say's phoebe (*Sayornis saya*), western kingbird (*Tyrannus verticalis*), common raven (*Corvus corax*), western scrub-jay (*Aphelocoma californica*), oak titmouse (*Baeolophus inornatus*), cliff swallow (*Petrochelidon pyrrhonota*), northern rough-winged swallow (*Stelgidopteryx serripennis*), bushtit (*Psaltriparus minimus*), Bewick's wren (*Thryomanes bewickii*), blue-gray gnatcatcher (*Polioptila caerulea*), western bluebird (*Sialia mexicana*), wrentit (*Chamaea fasciata*), northern mockingbird (*Mimus polyglottos*), yellow-rumped warbler (*Setophaga coronata*), orange-crowned warbler (*Oreothlypis celata*), California towhee (*Pipilo crissalis*), spotted towhee (*Pipilo maculates*), lark sparrow (*Chondestes grammacus*), white-crowned sparrow (*Zonotrichia leucophrys*), bullock's oriole (*Icterus bullockii*), and house finch (*Carpodacus mexicanus*).

Raptor Foraging and Nesting

Habitat assessment for raptors was conducted during the course of field work; observations of raptors and nests were mapped during field work activities, which included 381 survey hours (Appendix A). Common species observed within the project area include red-tailed hawk (*Buteo jamaicensis*) and turkey vulture (*Cathartes aura*).

1.4.4.3 Mammals

Seven mammal species were detected (directly or indirectly) within and adjacent to the project area during biological surveys, including desert cottontail (*Sylvilagus audubonii*), San Diego black-tailed jackrabbit (*Lepus californica bennettii*), woodrat species (*Neotoma* sp.), coyote (*Canis latrans*), bobcat (*Felis rufus*), mountain lion (*Puma concolor*), and mule deer (*Odocoileus hemionus fuliginata*).

Bats occur throughout most of Southern California and may use any portion of the project area as foraging habitat. In addition, there is potential for some bat species to roost within rock outcroppings or trees within the project area. Because the majority of the surveys were conducted during daylight hours and did not include focused efforts to locate roosting bats, no bats were detected within the project area. However, based on existing conditions of the project

area, the pallid bat (*Antrozous pallidus*), Townsend's big-eared bat (*Corynorhinus townsendii*), greater western mastiff bat (*Eumops perotis californicus*), and western red bat (*Lasiurus blossevillii*) have moderate potential to roost and/or forage within the project area.

Special-status wildlife species are further addressed in Section 1.4.6.

1.4.4.4 Invertebrates

Sixty-seven invertebrates were observed on the project site (Appendix C).The five most abundant butterflies found in the project area during 2011 Quino checkerspot butterfly surveys were, in order of abundance, Behr's metalmark (*Apodemia mormo*), Sara orangetip (*Anthocharis sara*), desert pearly marble (*Euchloe hyantis*), common buckeye (*Junonia coenia*), and Acmon blue (*Icaria acmon*) (AECOM 2012c).

1.4.4.5 Fish

No fish species were documented in the project area during 2011/2012 surveys. While wetland vegetation communities exist within the project area, these features do not support perennial water sources or native fish populations. There is one basin mapped as open water in the project area that does not support fish populations.

1.4.5 Special-Status Plant Species

Endangered, rare, or threatened plant species, as defined in CEQA Guideline 15380(b) (14 CCR 15000 et seq.), are referred to as "special-status plant species" in this report and include (1) endangered or threatened plant species recognized in the context of the California Endangered Species Act (CESA) and the federal Endangered Species Act (ESA); (2) plant species with a CRPR (CDFG 2012d; CNPS 2012) (List 1 through 4); and (3) plant species considered "sensitive" by the County of San Diego (Table 2, County of San Diego 2010a).

Special-status plant surveys were conducted to determine the presence or absence of plant species that are considered endangered, rare, or threatened under CEQA Guideline 15380 (14 CCR 15000 et seq.), as described in Section 1.3.4.1.

Appendices F and G list the special-status plant species reported in the USGS 7.5-minute Live Oak Springs quadrangle, the surrounding seven topographic quadrangles (CNPS and CNDDB occurrences), recorded in the Live Oak Springs quadrangle from the San Diego Plant Atlas (SDNHM 2012a), and those identified in the County Pre-Application Summary Letter (County of San Diego 2011). These appendices also analyze each of these special-status species' occurrence or potential to occur based on known range, habitat associations, preferred soil substrate, life form, elevation, and blooming period. Appendix F includes the special-status plant

species that are either not expected to occur or have a low potential to occur. Appendix G includes the special-status species that were observed on site. There are no special-status plants with a moderate or high potential to occur.

Nine special-status plant species were observed in the project area during the course of the 2012-2013 surveys, 2011 surveys (AECOM 2012a, AECOM 2012b), 2010 (HDR 2010, 2011) (Appendix G). Each of these special-status species is described in Sections 1.4.5.2 (County List A and B Species) and 1.4.5.3 (County List C and D Species).

The special-status plant species observed in the project area are consistent with the results of biological surveys conducted for projects in the surrounding area. For example, HDR conducted rare plant surveys for the Tule Wind Project, which is located north and northeast of the project area. Nearly the same amount of flora were recorded, and four of the same special-status species were observed in that study area (Jacumba milkvetch, Tecate tarplant, desert larkspur [*Delphinium parishii* ssp. *subglobosum*], and sticky geraea [*Geraea viscida*]) (HDR 2011). Rare plant surveys were conducted for the East County Substation Project, which is located south and southeast of the project area. The rare plant surveys also identified some of the same special-status species: Jacumba milkvetch, sticky geraea, and desert beauty (Insignia 2010).

1.4.5.1 Critical Habitat

There is no USFWS-designated critical habitat for plant species within or near the project area (USFWS 2012b).

1.4.5.2 County List A and B Species

Plants categorized as County List A species are plants that are rare, threatened, or endangered in California and elsewhere. Plants categorized as County List B are rare, threatened, or endangered in California but more common elsewhere (County of San Diego 2010a). County List A and B species that have been observed in the study area are described as follows and included in Appendix G.

Jacumba Milk-vetch *(Astragalus douglasii* var. *perstrictus)*

Jacumba milk-vetch is a CRPR List 1B.2 (CNPS 2012) and County List A species (County of San Diego 2010a). This perennial herb in the pea or bean family (Fabaceae) blooms from April through June. It occurs in chaparral, cismontane woodland, pinyon and juniper woodland, riparian scrub, valley and foothill grassland, and rocky communities at elevations of 2,953 to 4,495 feet (CNPS 2012). It has been recorded in San Diego County and Baja California, Mexico (CNPS 2012). The Jepson bioregional range for Jacumba milk-vetch is based on the elevation range restrictions, which shows its potential range along the foothills of the Peninsular Ranges, San Jacinto Mountain, and Santa Ana Mountain (Jepson Flora

Project 2012c). Specimen records include Boulevard, Jacumba, La Posta, Tierra del Sol, Live Oak Springs, Kitchen Creek, and Julian (Jepson Flora Project 2012c). This species is relatively common in upland habitats and roadsides in this region based on the results of plant surveys in the area. As described in Section 1.4.5, Jacumba milk-vetch has been observed commonly during surveys throughout the Boulevard area.

On site there are 236 occurrences of Jacumba milk-vetch mapped with 1 to 10 individuals per occurrence and 6 occurrences with 11 to 50 individuals per occurrence. Therefore, approximately 302 to 2,660 individuals of Jacumba milk-vetch were documented within the project area during 2011 surveys (AECOM 2012b) (Figure 5A). Additionally, there are 3 occurrences of Jacumba milkvetch with 1 to 10 individuals per occurrence that are off site and lie within the impact footprint (see Section 2.3). Populations are scattered throughout the entire project area but on site are restricted to uplands habitat including scrub, chaparral, woodlands and grasslands, and disturbed areas.

During the June 2013 surveys of the proposed northern off-site access road north of the proposed Rough Acres Ranch Road, approximately 20 Jacumba milk-vetch were recorded (Figure 5A). During AECOM's rare plant surveys in 2011 and Dudek's site visit in 2012, approximately 4 Jacumba milk-vetch were recorded within the western off-site access road (Figure 5A). Additional species were observed outside of the access road boundaries~~y~~, particularly in open and disturbed habitats.

The small portion of the easternmost parcel that was surveyed in 2010 as part of the Tule Wind Project (HDR 2010, 2011) also includes occurrences of Jacumba milk-vetch.

Tecate Tarplant (*Deinandra floribunda*)

Tecate tarplant is a CRPR List 1B.2 (CNPS 2012) and a County List A species (County of San Diego 2010a). A member of the sunflower (Asteraceae) family, this species blooms from August through October in chaparral and coastal scrub habitats. Tecate tarplant is an annual herb that occurs at elevations of 230 to 4,003 feet (CNPS 2012). It has been recorded in San Diego County and Baja California, Mexico (CNPS 2012). The Jepson bioregional range for Tecate tarplant is based on the elevation range restrictions, which shows its potential range throughout inland San Diego County, a portion of southern Riverside County, and parts of Orange County (Jepson Flora Project 2012d). Specimen records are primarily from Jamul to the Boulevard area (Jepson Flora Project 2012d). This species is relatively common within dry, ephemeral drainages and washes in upland habitats in this region based on the results of plant surveys in the area.

On site there are 48 occurrences of Tecate tarplant including 14 occurrences with 1 to 10 individuals per occurrence; 12 occurrences with 11 to 50 individuals per occurrence; 1

occurrence with 51 to 100 individuals; 1 occurrence with 501 to 1,000 individuals; 7 occurrences with 1,001 to 5,000 individuals; and 13 occurrences with greater than 10,000 individuals per occurrence. Therefore, approximately 137,717 to 166,852 individuals[3] of Tecate tarplant were documented within the project area during 2011 surveys (AECOM 2012b) (Figure 5A). The majority of the occurrences are in the northwestern portion of the project area (Figure 5A).

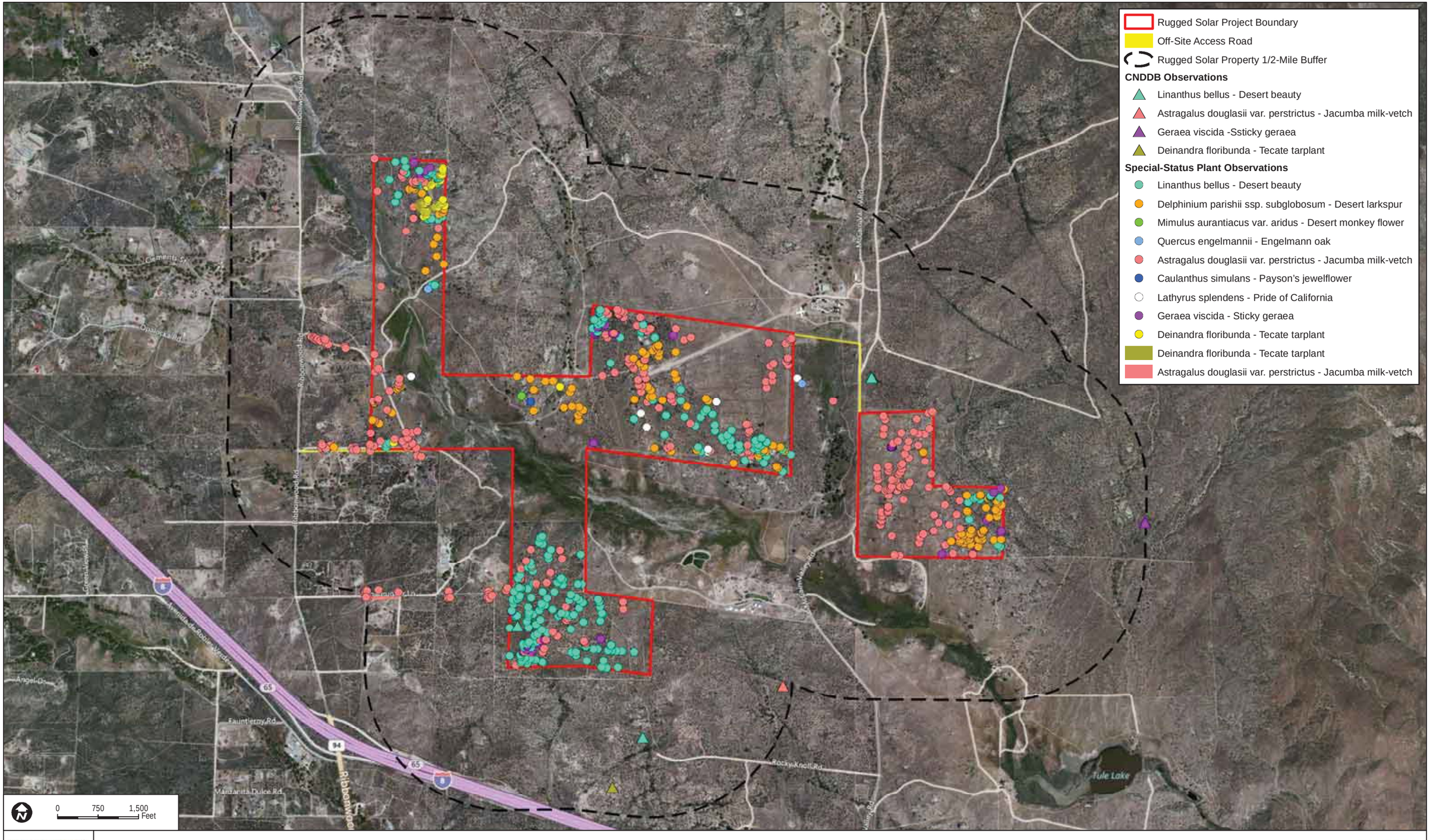
Tecate tarplant was not observed during the 2011 rare plant survey within the western off-site access road, or the March or June 2013 rare plant surveys of the northern off-site access road, even though the survey was conducted during its bloom period. It is not expected to occur within the access roads.

Sticky Geraea (*Geraea viscida*)

Sticky geraea is a CRPR List 2.3 (CNPS 2012) and a County List B species (County of San Diego 2010a). A member of the sunflower (Asteraceae) family, this perennial herb blooms from May through June in chaparral habitats and occurs at elevations between 1,476 to and 5,557 feet (CNPS 2012). It has been recorded in San Diego County, Imperial County, and Baja California, Mexico (CNPS 2012). The Jepson bioregional range for sticky geraea is based on the elevation range restrictions, which shows its potential range throughout inland San Diego County, a portion of southern Riverside County, and parts of Orange County (Jepson Flora Project 2012e). Specimen records are primarily from Campo to the Ocotillo area (Jepson Flora Project 2012e). This species is relatively common within openings in upland habitats in this region based on the results of plant surveys in the area.

On site there are 41 occurrences of sticky geraea including 37 occurrences with 1 to 10 individuals per occurrence; 1 occurrence with 11 to 50 individuals per occurrence; 1 occurrence with 51 to 100 individuals; 2 occurrences with 101 to 500 individuals. Therefore, approximately 301 to 1,520 individuals of sticky geraea were documented within the project area during 2011 surveys (AECOM 2012b) (Figure 5A). All of the occurrences were documented in uplands, including chaparral and scrub habitats, or disturbed areas.

[3] For occurrences that were mapped as greater than 10,000 individuals, the range of individuals on site was calculated assuming that 10,001 individuals was the low end of the range and the high end of the range.



DUDEK

7122

SOURCE: USFWS; SanGIS 2012; Bing Maps

FIGURE 5A

Biological Resources - Special-Status Plant Observations

DRAFT BIOLOGICAL RESOURCES REPORT - RUGGED SOLAR FARM

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This species was not observed during the 2011 rare plant survey within the western off-site access road, or the March or June 2013 surveys of the proposed northern off-site access road, even though the survey was conducted during its bloom period. It is not expected to occur within the access roads.

Desert Beauty (*Linanthus bellus*)

Desert beauty is a CRPR List 2.3 (CNPS 2012) and a County List B species (County of San Diego 2010a). A member of the phlox (*Polemoniaceae*) family, this annual herb blooms from April through May in chaparral habitats. This species typically occurs at elevations of 3,281 to 5,493 feet (CNPS 2012). It has been recorded in San Diego County and Baja California, Mexico (CNPS 2012). The Jepson bioregional range for desert beauty is based on the elevation range restrictions, which shows its potential range along the foothills of the Peninsular Ranges, San Jacinto Mountain, and Santa Ana Mountain (Jepson Flora Project 2012f). Specimen records are primarily from the Boulevard and McCain Valley areas, with a couple of records also north of Warner Springs, Tierra del Sol, and Jacumba (Jepson Flora Project 2012f). This species is relatively common within openings in upland habitats in this region based on the results of plant surveys in the area.

On site there are 235 occurrences of desert beauty including 186 occurrences with 1 to 10 individuals per occurrence; 39 occurrences with 11 to 50 individuals per occurrence; 5 occurrences with 51 to 100 individuals; 4 occurrences of 101 to 500 per occurrence; and 1 occurrence with 501 to 1,000. Therefore, approximately 1,775 to 7,310 individuals of desert beauty were documented within the project area during 2011 surveys (AECOM 2012b) (Figure 5A). All of the occurrences were documented in uplands, including chaparral and scrub habitats and areas of bare rock.

Desert beauty was not observed during the 2011 rare plant survey within the western off-site access road, or the March or June rare plant surveys of the northern off-site access road, even though the survey was conducted during its bloom period. It is not expected to occur within the access roads.

1.4.5.3 County List C and D Species

Plants categorized as County List C species are plants that may be rare, but need more information to determine their true rarity status. Plants categorized as County List D are of limited distribution and are uncommon, but not presently rare or endangered (County of San Diego 2010a). County List C and D species that have been observed in the study area are described as follows and included in Appendix G.

Payson's Jewel Flower (*Caulanthus simulans*)

Payson's jewel flower is a CRPR List 4.2 (CNPS 2012) and County List D species (County of San Diego 2010a). A member of the mustard (*Brassicaceae*) family, this annual herb blooms from February through June and occurs in chaparral and coastal scrub on sandy and granitic substrates at elevations between 295 and 7,218 feet (CNPS 2012). It has been recorded in San Diego County and Riverside County (CNPS 2012). The Jepson bioregional range for Payson's jewel flower is based on the elevation range restrictions, which shows its potential range in the foothills and mountains of portions of San Diego, Riverside, Orange, Los Angeles, and Imperial Counties (Jepson Flora Project 2012g). Specimen records range from southeast San Diego County north to the San Jacinto Mountains, with some scattered locations near Oceanside and Hemet, California (Jepson Flora Project 2012g). This species appears to be found in a variety of locations in San Diego and Riverside Counties.

During 2011 surveys, one occurrence of 1 to 10 individuals of Payson's jewel flower was documented in within the northwestern central portion of the project area and was found within semi-desert chaparral (rock outcrop) (AECOM 2012b) (Figure 5A).

This species was not observed during the 2011 rare plant survey within the western off-site access road, or the March or June 2013 surveys of the proposed northern off-site access road even though the survey was conducted during its bloom period. It is not expected to occur within the access roads.

Desert Larkspur (*Delphinium parishii* ssp. *subglobosum*)

Desert larkspur is a CRPR List 4.3 (CNPS 2012) and a County List D species (County of San Diego 2010a). A member of the buttercup family (*Ranunculaceae*), this perennial herb blooms from March through June in chaparral, cismontane woodland, pinyon and juniper woodland, and Sonoran desert scrub habitats. The species occurs at elevations between 1,969 and 5,906 feet (CNPS 2012). It has been recorded in San Diego, Imperial, and Riverside Counties and Baja California, Mexico (CNPS 2012). The Jepson bioregional range for desert larkspur is based on the elevation range restrictions, which shows its potential range along the foothills of the eastern Peninsular Range in San Diego and Riverside Counties and additional foothills in portions of Riverside and Imperial Counties (Jepson Flora Project 2012h). Specimen records are concentrated from southeast San Diego County north to Warner Springs, with some scattered locations near Palm Springs and Beaumont, California (Jepson Flora Project 2012h). This species appears to be found in a variety of locations in San Diego and Riverside Counties.

On site there are 127 occurrences of desert larkspur including 97 occurrences with 1 to 10 individuals per occurrence; 23 occurrences with 11 to 50 individuals per occurrence; and 7

occurrences with 51 to 100 individuals. Therefore, approximately 707 to 2,820 individuals of desert larkspur were documented within the project area during 2011 surveys (AECOM 2012b) (Figure 5A). All of the occurrences were documented in uplands, including chaparral, scrub and woodlands habitats, or disturbed areas.

This species was not observed during the 2011 rare plant survey within the western off-site access road, or the March or June 2013 surveys of the proposed northern off-site access road, even though the survey was conducted during its bloom period. It is not expected to occur within the access roads.

Pride of California (*Lathyrus splendens*)

Pride of California is a CRPR List 4.3 (CNPS 2012) and a County List D species (County of San Diego 2010a). A member of the *Fabaceae* family, this perennial herb blooms from March to June at elevations between 656 and 5,003 feet (CNPS 2012). It has been recorded in San Diego County and Baja California, Mexico (CNPS 2012). The Jepson bioregional range for pride of California is based on the elevation range restrictions, which shows its potential range in the coastal region and foothills of San Diego, Riverside, Orange, and Los Angeles Counties (Jepson Flora Project 2012i). Specimen records are concentrated in the Boulevard region and In-Ko-Pah Mountains, with some scattered locations near Agua Caliente Springs (Jepson Flora Project 2012i). This species appears to be found in a variety of locations in San Diego and Riverside Counties.

During 2011 surveys, approximately seven occurrences of pride of California with 1 to 10 individuals were documented on site—six occurrences in chaparral and one occurrence in disturbed alkali meadow (AECOM 2012b) (Figure 5A). Additionally, there is one occurrence of pride of California with 1 to 10 individuals that is off site and lies within in the impact footprint (see Section 2.3).

This species was not observed during the 2011 rare plant survey within the western off-site access road, or the March or June 2013 surveys of the proposed northern off-site access road, even though the survey was conducted during its bloom period. It is not expected to occur within the access roads.

Desert Monkeyflower (*Mimulus aurantiacus* var. *aridus*)

Desert monkeyflower is a CRPR List 4.3 (CNPS 2012) and a County List D species (County of San Diego 2010a). Desert monkeyflower is a perennial evergreen shrub that blooms from April through July in rocky chaparral and Sonoran desert scrub at elevations of 2,461 to 3,937 feet (CNPS 2012). It has been recorded in San Diego and Imperial Counties and Baja California, Mexico (CNPS 2012). The Jepson bioregional range for desert monkeyflower is based on the

elevation range restrictions, which shows its potential range in the foothills of San Diego, Riverside, and Orange Counties (Jepson Flora Project 2012j). Specimen records are concentrated from southeast San Diego County north to Warner Springs, with some scattered locations near Palm Springs and Beaumont, California (Jepson Flora Project 2012j). This species appears to be found in a variety of locations in San Diego and Riverside Counties.

During 2011 surveys, one occurrence of 1 to 10 individuals of desert monkeyflower was documented within the project area in the central northwestern portion of the project area (AECOM 2012b) in chaparral, specifically semi-desert chaparral (rocky areas) (Figure 5A).

This species was not observed during the 2011 rare plant survey within the western off-site access road, or the March or June 2013 surveys of the proposed northern off-site access road, even though the survey was conducted during its bloom period. It is not expected to occur within the access roads.

Engelmann oak (*Quercus engelmannii*)

Engelmann oak is a CRPR List 4.2 (CNPS 2012) and a County List D species (County of San Diego 2010a). A member of the oak (*Fagaceae*) family, this perennial deciduous tree flowers from March through June in chaparral, cismontane woodland, riparian woodland, valley grassland, and foothill grassland and occurs at elevations of 164 to 4,265 feet (CNPS 2012). It has been recorded in San Diego, Riverside, Los Angeles, Orange, and Imperial Counties, and Santa Catalina Island and Baja California, Mexico (CNPS 2012). The Jepson bioregional range for Engelmann oak is based on the elevation range restrictions, which shows its potential range in the coastal region and foothills of San Diego, Riverside, Los Angeles, San Bernardino, and Orange Counties (Jepson Flora Project 2012k). Specimen records are found through the coastal and interior regions of Southern California; there are a few records west of Palm Springs area, but they are not recorded in the low elevation deserts (Jepson Flora Project 2012k). This species is found in a variety of locations in Southern California.

During 2011 surveys, one occurrence of 1 to 10 individuals of Engelmann oak was documented in the northwestern portion of the project area (AECOM 2012b) in non-native grasslands (Figure 5A). Additionally, there is one occurrence of Engelmann oak with 1 to 10 individuals that is off site and lies within in the impact footprint (see Section 2.3).

This species was not observed during the 2011 rare plant survey within the western off-site access road, the June 2012 vegetation mapping for the western off-site access road, or the March or June 2013 surveys of the proposed northern off-site access road. Because Engelmann oak is a conspicuous tree, it would have been observed if it was present in the survey area.

1.4.6 Sensitive Wildlife Species

Endangered, rare, or threatened wildlife species, as defined in CEQA Guidelines, Section 15380(b) (14 CCR 15000 et seq.), are referred to as "special-status wildlife species" and, as used in this report, include (1) endangered or threatened wildlife species recognized in the context of the CESA and ESA; (2) California Species of Special Concern (SSC) and Watch List (WL) species, as designated by the CDFG (2011); (3) mammals and birds that are fully protected (FP) species, as described in Fish and Game Code, Sections 4700 and 3511; (4) Birds of Conservation Concern (BCC), as designated by the USFWS (2008); and (5) wildlife species considered "sensitive" by the County of San Diego (Table 3, County of San Diego 2010a).

Twelve sensitive wildlife species were detected within the project area in 2011 (AECOM 2012a–c): monarch butterfly; Belding's orange-throated whiptail; coastal western whiptail; Blainville's horned lizard; Cooper's hawk; Bell's sage sparrow; Swainson's hawk; horned lark; prairie falcon; loggerhead shrike; San Diego black-tailed jackrabbit; and southern mule deer. These species are described as follows in further detail and depicted on Figure 6.

Appendices H and I list occurrences of special-status wildlife species reported in the USGS 7.5-minute Live Oak Springs quadrangle and the surrounding seven topographic quadrangles resulting from a CNDDB search (CDFG 2012a) and records found in the San Diego Bird Atlas (SDNHM 2012b), as well as special-status species identified in the County Pre-Application Summary Letter (County of San Diego 2011). Appendices H and I describe these species' potential to occur in the project area based on the range, presence of suitable habitat, and life history of the wildlife.

1.4.6.1 Critical Habitat

There is no critical habitat within the project area. The USFWS has designated critical habitat for one species within 5 miles of the project area: peninsular bighorn sheep. Designated Critical Habitat Unit 3 is located approximately 1.5 miles from the eastern extent of the project (Figure 5B). Unit 3 of the 2009 revised critical habitat for peninsular bighorn sheep includes the Carrizo Gorge and portions of the In-Ko-Pah Mountains (74 FR 17288–17365). The overall area of Unit 3 contains the physical and biological features that are essential for peninsular bighorn sheep habitat, including a range of vegetation types, foraging and watering areas, and steep to very steep, rocky terrain with appropriate elevations and slope (74 FR 17288–17365). In addition, Unit 3 is currently occupied by peninsular bighorn sheep (74 FR 17288–17365). The project area does not contain constituent elements required for peninsular bighorn sheep and therefore it is considered unoccupied.

Rugged Solar Project Boundary

Off-Site Access Road

Special-Status Wildlife Observations

- Phrynosoma blainvilli - Blainville's horned lizard
- Aspidoscelis tigris - Coastal western whiptail
- Accipiter cooperii - Cooper's hawk
- Sceloporus orcutti - Granite spiny lizard
- Eremophila alpestris actia - Horned lark
- Lanius ludovicianus - Loggerhead shrike
- Aspidoscelis hyperythra beldingi - Orange-throated whiptail
- Falco mexicanus - Prairie falcon
- Buteo jamaicensis - Red-tailed hawk
- Amphispiza belli belli - Sage sparrow
- Lepus californicus bennettii - San Diego black-tailed jackrabbit
- Odocoileus hemionus - Southern mule deer
- Buteo swainsoni - Swainson's hawk
- Neotoma lepida - Desert woodrat
- Woodrat midden

Opaloca Rd

Ribbonwood Rd

Rockhouse Rd

Meadowvale Rd

0 500 1,000 Feet

DUDEK

7122

SOURCE: AECOM; CNDDB; SanGIS 2012; Bing Maps

FIGURE 5B

Biological Resources - Special-Status Wildlife Observations

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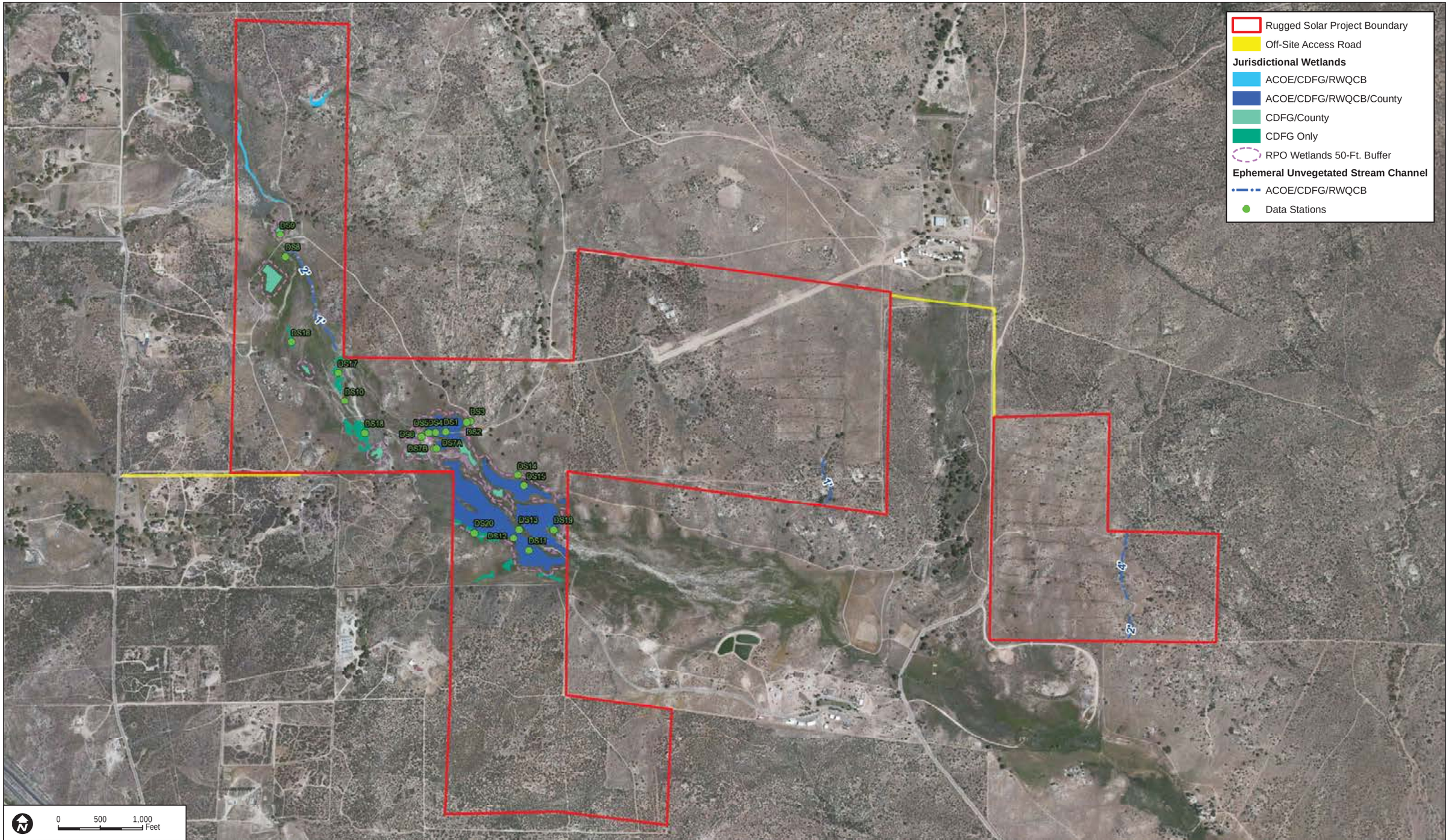

SOURCE: SanGIS 2012; Bing Maps

FIGURE 6

Biological Resources - Jurisdictional Delineation and RPO Lands

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1.4.6.2 County Group 1 Species

County Group 1 species that have been observed in the project area, or have high potential to occur, are described below and included in Appendix H. In addition, all federally or state-listed species identified in the County's Pre-Application Summary Letter (County of San Diego 2011) are discussed as follows.

Reptiles

Two-striped Gartersnake (*Thamnophis hammondii*)

The two-striped gartersnake[4] is a CDFW Species of Special Concern (SSC) and County Group 1 species. It is found in coastal California in the vicinity of the southeast slope of the Diablo Range and the Salinas Valley, and south along the Coastal and Transverse Ranges to Rio Rosario in Baja California, Mexico (NatureServe 2012). Although the two-striped gartersnake was historically common throughout this range and is the most common gartersnake in the Southern California's cismontane region, it is now abundant only in eastern San Diego County (Jennings and Hayes 1994; Schwenkmeyer 2007).

Two-striped gartersnakes are found in a variety of perennial and intermittent freshwater streams within oak woodlands, shrublands, and sparse coniferous forests from sea level to 2,400 meters (7,874 feet) amsl (Stebbins 2003; Zeiner et al. 1988). They are restricted to streams, vernal pools, lakes, and stock and artificial ponds with good adjoining riparian vegetation (Jennings and Hayes 1994; Schwenkmeyer 2007) and are commonly found within wetlands and streams having rocky or sandy beds with willows (*Salix* sp.) or dense vegetation (Zeiner et al. 1988). Two-striped gartersnakes tend to stay near water, entering it often and retreating to it when alarmed (Stebbins 2003). They use dense vegetation, flat rocks, rocky outcrops, and rotting logs as cover (Zeiner et al. 1988). The species tends to avoid open expanses because of increased risk of predation.

Two-striped gartersnake has not been observed in the Proposed Project area, but based on the seasonal ponding of some of the alkali meadow habitat in the project area, this species has high potential to occur. Within the project area, suitable habitat includes mulefat scrub (including disturbed), mulefat scrub/tamarisk scrub, tamarisk scrub, alkali meadow (including disturbed), and open water.

[4] The common name "gartersnake" follows Crother (2008) for this species account. The CDFW Special Animals List (2011) uses the common name "garter snake."

Birds

Cooper's Hawk (*Accipiter cooperi*)

Cooper's hawk is a CDFW WL and a County Group 1 species. It is found throughout California in wooded areas. It inhabits live oak, riparian, deciduous, or other forest habitats near water. Nesting and foraging usually occur near open water or riparian vegetation. Nests are built in dense stands with moderate crown depths, usually in second-growth conifer or deciduous riparian areas. Cooper's hawks use patchy woodlands and edges with snags for perching while they are hunting for prey such as small birds, small mammals, reptiles, and amphibians within broken woodland and habitat edges (Zeiner et al. 1990a).

Three Cooper's hawk observations were made within the project area during 2011 surveys (Figure 5B), and additional points were mapped adjacent to the project area (AECOM 2012b). Two records are mapped in the northern portion of the project area; the other observation was made in the eastern portion of the project area, west of McCain Valley Road. Both observations were made in semi-desert chaparral habitat.

Within the Proposed Project area, there are no permanent water sources. However, the Proposed Project area may support limited nesting opportunities within coast live oak woodland, mixed oak woodland, and scrub oak chaparral (including disturbed). Suitable foraging habitat includes coast live oak woodland, mixed oak woodland, granitic chamise chaparral, granitic northern mixed chaparral, red shank chaparral, scrub oak chaparral (including disturbed), semi-desert chaparral (including disturbed), mulefat scrub (including disturbed), mulefat scrub/tamarisk scrub, and tamarisk scrub.

Tricolored Blackbird (*Agelaius tricolor*)

The tricolored blackbird is a USFWS BCC, CDFW SSC, and County Group 1 species with regard to its nesting colony status. It is found throughout the Central Valley of California and the coastal areas from Sonoma County south to San Diego County (Zeiner et al. 1990a). Locally, it breeds in southern and western San Diego County.

The tricolored blackbird forages and roosts in large flocks and breeds in large colonies. The tricolored blackbird forms the largest colonies of any North American passerine bird (Beedy and Hamilton 1999). These birds prefer to breed in freshwater marshes with dense growths of emergent vegetation dominated by cattails (*Typha* spp.) or bulrushes (*Schoenoplectus* spp.), but have also established colonies in willows (*Salix* spp.), blackberries (*Rubus* spp.), thistles (*Cirsium* and *Centaurea* spp.), and nettles (*Urtica* sp.). More recently, the breeding habitat has included diverse upland and agricultural areas. Breeding individuals forage away from the nest

sites, often well out of sight of the colony. Most individuals forage within 3 miles of colony sites but may travel up to 8 miles one way (Beedy and Hamilton 1999).

A group of tricolored blackbirds was observed flying overhead, south of the project area, during 2011 surveys (AECOM 2012b). This species has high potential to forage in the project area in the alkali meadow (including disturbed), disturbed habitat, non-native grassland, and open water habitats, but it is not expected to nest in the project area due to lack of suitable nesting habitat.

Southern California Rufous-Crowned Sparrow (*Aimophila ruficeps canescens*)

The Southern California rufous-crowned sparrow is a CDFW WL and County Group 1 species. The rufous-crowned sparrow is a resident of the southwest region of the United States. The Southern California rufous-crowned sparrow, also called the ashy rufous-crowned sparrow (Collins 1999a), is one of three Pacific Coast subspecies. The current distribution of the Southern California rufous-crowned sparrow is restricted to a narrow belt of semiarid coastal sage scrub and sparse chaparral from Santa Barbara south to the northwestern corner of Baja California, Mexico. (Todd 1922; Grinnell 1926; Grinnell and Miller 1944; Bent 1968; Zeiner et al. 1990a; Unitt 1984; Collins 1999b). The subspecies has also been found on San Martin Island, Baja California. The Southern California rufous-crowned sparrow is considered a resident throughout its range. No true migratory movements have been recorded, though limited movements to lower elevations in some areas have been reported during especially severe winters (Collins 1999a). The Southern California rufous-crowned sparrow occupies moderate to steep hillsides that are rocky, grassy, or covered by coastal sage scrub or chaparral. It is a secretive species, seeking cover in shrubs, rocks, grass, and forb patches. The species often occurs near the edges of denser scrub and chaparral associations, but usually does not occur within these associations.

No Southern California rufous-crowned sparrows were observed during surveys; however, there is suitable habitat, and it has high potential to occur in the project area. Within the project area, suitable habitat includes big sagebrush scrub (including disturbed), granitic chamise chaparral, redshank chaparral, montane buckwheat scrub (including disturbed), granitic northern mixed chaparral, semi-desert chaparral (including rocky and disturbed), and scrub oak chaparral (including disturbed). There are records of this species in the area (SDNHM 2012b).

Bell's Sage Sparrow (*Amphispiza belli belli*)

The Bell's sage sparrow is a USFWS BCC, CDFW WL species, and County Group 1 species. It occurs as a nonmigratory resident on the western slope of the central Sierra Nevada Range, and in the coastal ranges of California, southward from Marin County and Trinity County, extending into north–central Baja California, Mexico (County of Riverside 2008a). The range of Bell's

sage sparrow overlaps with that of at least one other subspecies of sage sparrow (County of Riverside 2008a).

The sage sparrow occupies semi-open habitats with evenly spaced shrubs that are 3.3 to 6.6 feet high (County of Riverside 2008a). For site selection, specific shrub species may be less important than overall vertical structure, habitat patchiness, and vegetation density (Wiens and Rotenberry 1981). Bell's sage sparrow is uncommon to fairly common in dry chaparral and coastal sage scrub along the coastal lowlands, inland valleys, and lower foothills of the mountains within its range.

The Bell's sage sparrow was observed once in the central portion of the project area within big sagebrush scrub habitat (Figure 5B). There are no CNDDB records within Live Oak Springs quadrangle; however, there are confirmed breeding locations within the vicinity (Unitt 2004). Within the project area, suitable habitat includes big sagebrush scrub (including disturbed), granitic chamise chaparral, montane buckwheat scrub (including disturbed), semi-desert chaparral (including rocky and disturbed), northern mixed chaparral, and scrub oak chaparral (including disturbed).

Golden Eagle (*Aquila chrysaetos*)

The golden eagle is a USFWS BCC, CDFW WL, state FP, and County Group 1 species, and is protected under the federal Bald and Golden Eagle Protection Act. It is a yearlong, diurnally active species that is a permanent resident and migrant throughout California. The species is sparsely distributed throughout California, and it is found in Southern California occupying primarily mountain, foothill, and desert habitats. Golden eagles are more common in northeast California and the Coast Ranges than in Southern California and the deserts. Foraging habitat for this species is very broad and in California includes open habitats with scrub, grasslands, desert communities, and agricultural areas. This species nests on cliffs within canyons and escarpments and in large trees (generally occurring in open habitats) and is primarily restricted to rugged, mountainous country (Garrett and Dunn 1981; Johnsgard 1990). Most nests are located on cliffs or trees near forest edges or in small stands near open fields (Kochert et al. 2002). Nest locations tend to be more closely associated with topographic heterogeneity than with a particular vegetation type (Call 1978).

Nest building can occur almost any time during the year, but breeding typically begins in January with nest building and egg laying occurring in February to March (Brown 1976; WRI 2010 as cited in CPUC and BLM 2011). Pairs may build more than one nest and attend them prior to laying eggs (Kochert et al. 2002). Each pair can have up to 10 nests, but only 2 to 3 are generally used in rotation from one year to the next. Some pairs use the same nest each year, while others use alternate nests year after year, and still others apparently nest only every other year.

Succeeding generations of eagles may even use the same nest (Terres 1980 as cited in CPUC and BLM 2011). The hatching and feeding of the nestlings takes place from April through June. After fledging, the adult eagles continue to feed the young birds until late November (WRI 2010 as cited in CPUC and BLM 2011). As a result of the long breeding cycle, some pairs breed every other year even when food is abundant (WRI 2010 as cited in CPUC and BLM 2011). Other environmental conditions may also affect the breeding of eagles, including drought conditions that may affect prey populations. Currently, this region has been undergoing a prolonged drought, which has resulted in a reduced population size of jackrabbits, a primary prey source for golden eagles in this region (WRI 2010 as cited in CPUC and BLM 2011). As a correlate to the lower prey population size, Wildlife Research Institute (WRI) has confirmed unusually low reproductive levels of golden eagles in other regions of Southern California (WRI 2010 as cited in CPUC and BLM 2011).

There is no suitable nesting habitat within the project area due to the lack of forested areas and cliffs. Within the project area, suitable foraging habitat includes big sagebrush scrub (including disturbed), montane buckwheat scrub (including disturbed), semi-desert chaparral (including rocky and disturbed), non-native grassland, and disturbed habitat. Typically, the denser vegetation communities, such as chaparral habitat, are not suitable for foraging of golden eagle.

WRI prepared a golden eagle report in 2013, which describes the active territories of several golden eagle territories in southeast San Diego County, including the Table Mountain and Carrizo Canyon pairs, as well as flight paths and GPS points of the golden eagles with satellite transmitters. The estimated territories of the Table Mountain and Carrizo Canyon pairs overlap with the northeast portion of Rugged Solar and a 4,000 foot buffer around the project site (WRI 2013). WRI has documented various golden eagle nest locations on two separate cliffs on Table Mountain; the most recent use was on the southwest cliff. Several golden eagle nests are documented in Carrizo Canyon and one nest was active in 2010 and the pair was productive (i.e., produced young) in 2011 and 2012 (WRI 2013).

There are some additional data available from the *Final Environmental Impact Report/Environmental Impact Statement for the SDG&E East County Substation Project, Tule Wind LLC, Tule Wind Project, and Energia Sierra Juarez U.S. Transmission LLC, Energia Sierra Juarez Gen-Tie Project* (CPUC and BLM 2011). This information is provided as follows.

In spring 2010, WRI conducted a golden eagle helicopter survey within a 10-mile radius of the proposed Tule Wind Project, located just north of the project area. The 2010 survey for the Tule

Wind Project found 10 golden eagle territories, 6 of which were active[5], with 1 territory possibly active and the 3 remaining territories considered inactive. All of the 10 territories were documented to be active within the past 2 to 3 years. A total of 37 nests were recorded during the helicopter survey, 31 of which were considered golden eagle nests, many are alternative nesting sites for the same territory used in past years. Because the survey was conducted at the end of March, some of the eagle pairs may have already attempted and failed at nesting for the 2010 breeding season (WRI 2010 as cited in CPUC and BLM 2011). Every mountain range within the survey area, except for the Boundary Peak territory, has had recent nest evidence, but only six or possibly seven territories showed evidence of 2010 activity. This is considered typical for breeding activity of this species, and golden eagles may average as few as 62% of the pairs breeding within any 1 year (Kochert et al. 2002 as cited in CPUC and BLM 2011).

Of the six active territories, three nests had golden eagles incubating eggs. The nests with incubating adults are generally described as the Canebrake, Moreno Butte, and Glenn Cliff/Buckman Springs locations. The Canebrake location is approximately 10 miles north of the project area. The Moreno Butte location is approximately 10 miles southwest of the project. The Glenn Cliff/Buckman Springs location is approximately 9 miles west of the central portion of the project. The other active territories, located at Garnet Mountain, Monument Peak, and Thing Valley, are approximately 8, 7, and 7 miles west or northwest of the project area, respectively.

In 2011, additional eagle observations were collected during bird use county surveys completed for the Tule Wind Project along the valley portion of the project and the four closest territories: Table Mountain, Carrizo Gorge, Thing Valley, and Canebreak. Observations were made weekly during the breeding season. Based on these observations, Table Mountain is considered an occupied territory due to adult eagles flying in the area, but not active since no nesting behavior was observed. The flight paths gathered during these observations demonstrate eagle use of the ridge line area of the project and support limited golden eagle use in the valley.

Also in 2011, five satellite transmitters were attached to golden eagle nestlings to collect data about their movements upon fledging. These data indicate the following regarding golden eagle behavior. The Canebreak fledgling used the north end of the ridge and would overlap the northernmost ridge line turbines (Tule Wind Project). The O'Neil fledgling flew more than 20 miles from its nest, likely crossing the Tule Wind Project ridgeline turbines and the northern end of the valley turbines. The Glen Cliff fledgling flew up to the project area and south of the project, going distances that are long enough to ultimately cross over or through the Tule Wind

[5] Active territories were determined by the presence of active nests, which can be defined by either the presence of a golden eagle (e.g., an incubating female or a young bird), or evidence of new material having been added during the season in which the survey was conducted (WRI 2010).

Project area. Data provided to the agencies regarding the Moreno Butte fledglings indicate that the birds were in the initial fledgling period; therefore, they had not begun the expanding movement phase of fledging, and thus, the data cannot inform us about whether the birds may or may not use the Tule Wind Project area. Regardless, none of these nests or territories occurred within 4,000 feet of the Rugged project area

There are no CNDDB records of this species where the Rugged project area is located. The San Diego County Bird Atlas corroborates the above description, with active breeding locations found southwest and northwest of the project site, as well as nesting locations farther east within the Carrizo Gorge area (Unitt 2004).

Red-Shouldered Hawk (*Buteo lineatus*)

The red-shouldered hawk is a County Group 1 species. In California, it is a yearlong resident along the coast, in the Central Valley woodlands west of the southern deserts, and occasionally in the western Sierra Nevada foothills. It nests in dense riparian areas below 5,000 feet elevation, and hunts in and along the edges of swamps, marshes, and wet meadows.

No red-shouldered hawks were observed during the surveys; however, there is suitable habitat for this species and it has high potential to occur in the project area. Within the Proposed Project area, there are no permanent water sources. However, the Proposed Project area may support limited nesting opportunities within coast live oak woodland, mixed oak woodland, and scrub oak chaparral (including disturbed). Suitable foraging habitat includes coast live oak woodland, mixed oak woodland, granitic chamise chaparral, granitic northern mixed chaparral, red shank chaparral, scrub oak chaparral (including disturbed), semi-desert chaparral (including disturbed), mulefat scrub (including disturbed), mulefat scrub/tamarisk scrub, and tamarisk scrub.

Swainson's Hawk (*Buteo swainsoni*)

The Swainson's hawk is state-listed as threatened and is a County Group 1 species. Swainson's hawk is a small hawk that is known to migrate seasonally over long distances. The annual round trip for this species, from South America (primarily Argentina) up to North America and back, covers up to 12,500 miles and passes through the Southern California and Baja region (England et al. 1997). The species breeds throughout much of the western United States and Canada, and in northern Mexico (Woodbridge 1998). In California, Swainson's hawks are locally common-to-rare breeders. Currently, approximately 94% of breeding pairs in California are found in the Central Valley between Modesto and Sacramento (Bloom 1980; CDFG 2007). According to Bloom (1980), Swainson's hawks historically nested throughout the California lowlands, including plains and coastal valleys, but they no longer occur today. There are some remnant (or recolonizing) populations in Southern California in the western Mojave Desert in the

Antelope Valley and in the eastern Mojave Desert in the Mojave National Preserve. The hawk's breeding range is no longer considered to encompass San Diego County or Eastern Imperial County due to habitat loss and effects of pesticides in its South American range (Unitt 2004). Swainson's hawks inhabit primarily grassland habitats, but are also found in sparse shrubland and small, open woodlands (Bechard et al. 2010). They nest within riparian forests near grassland or agricultural lands (such as fallow fields and alfalfa fields), narrow bands of trees, and isolated trees (Estep 1989; Babcock 1995). Swainson's hawks typically avoid mountainous terrain or steep canyons (Woodbridge 1998). They feed on a variety of mammalian, avian, and insect prey (Woodbridge 1998).

In the Anza-Borrego Desert State Park and Borrego Valley (located approximately 10 miles east of the Project area in the desert region), detailed observation records of these birds have been collected during their peak migration months (February to April) (Hopkins 2013). Since 2004, during the month of March, observers have seen an average of 3,172 Swainson's hawks per year and an average of 4,489 Swainson's hawks per year between 2011 and 2013 (Hopkins 2013). The Borrego Valley is within a migration corridor for these species and is an important staging site in spring (Unitt 2004). While Swainson's hawks are more likely to migrate through the Borrego Valley than the Project site, there is some potential for this species to forage over the Project site based on their migration patterns, ranges, and records in San Diego (Unitt 2004; CDFG 2012). While no project-specific bird count studies were conducted for the Proposed Project, data was collected for two proposed project areas located in close proximity to the Proposed Project: Tule Wind Project and a now defunct project in the McCain Valley.

Between October 2010 and May 2012, Dudek conducted weekly bird utilization counts at 10 different locations (with an additional location surveyed between July 2011 and May 2012) for the McCain Valley site, which was comprised of two disjunct project areas: the northern boundary was located within 0.5 mile of the Rugged boundary, and the second was located within 0.5 mile of the Tierra del Sol boundary. These surveys recorded all bird species observed, along with additional behaviors and data. No Swainson's hawks were observed during these surveys, even during their typical migration months (February to April) (Dudek, unpublished data). While these surveys were not conducted specifically for the Proposed Project, based on the proximity of the study areas to the Proposed Project, the recorded bird use would be similar to all or portions of the Proposed Project.

Between March 2005 and March 2006 and between September 2007 and September 2008, avian surveys were conducted every two weeks for the Tule Wind Project (located northeast of the Project area) using a fixed-point survey methodology and recording incidental observations of species (Tetra Tech EC, Inc. 2008, 2009). No Swainson's hawks were recorded during either survey period. While these surveys were not conducted specifically for the Proposed Project,

several of the fixed-point locations are within a couple of miles of the Rugged Solar project, and the recorded bird use would be similar to all or portions of the Proposed Project.

The Swainson's hawk was detected flying over the Proposed Project area in the northern portion of the project area (Figure 5B). This species no longer nests in the majority of Southern California, including San Diego County. Therefore, this species is expected only as an occasional and temporary visitor of the project area during annual migration from wintering habitat in South America to suitable breeding areas in western North America and suitable habitat is not identified within the project area.

Turkey Vulture (*Cathartes aura*)

The turkey vulture is not considered special status by any state or federal agencies; however, it is considered a Group 1 species by the County (2010a). In California, it is common during the breeding season and is a yearlong resident west of the Sierra Nevada Mountains, especially in coastal areas. Summer and yearlong ranges also include the southeastern United States; portions of Texas, Mexico, Central America, and South America; and some islands in the Caribbean (Kirk and Mossman 1998).

Turkey vultures use a variety of habitats while foraging on both wild and domestic carrion. They prefer open stages of most habitats. In the western United States, they tend to occur regularly in areas of hilly pastured rangeland, nonintensive agriculture, and areas with rock outcrops suitable for nesting, although they are not generally found in high-elevation mountain areas (Kirk and Mossman 1998; Zeiner et al. 1990a). Nest locations tend to be difficult to find and are usually located in a crevice among granite boulders (Unitt 2004). However, the species prefers hilly areas that provide deflective updrafts for flight and generally avoids extensive areas of row-crop farmland (Kirk and Mossman 1998).

Turkey vulture was observed in the project area, but the observations were not mapped. The project area does not support suitable cliffs and large trees for nesting, but there is suitable foraging habitat within the project area. Suitable foraging habitat includes most vegetation communities and undeveloped land cover on site (i.e., coast live oak woodland, mixed oak woodland, big sagebrush scrub (including disturbed), montane buckwheat scrub (including disturbed), granitic chamise chaparral, granitic northern mixed chaparral, red shank chaparral, scrub oak chaparral (including disturbed), semi-desert chaparral (including rock-dominated and disturbed), alkali meadow, mulefat scrub (including disturbed), mulefat scrub/tamarisk scrub, tamarisk scrub, non-native grassland, disturbed habitat, and non-vegetated channel). Turkey vulture breeding surrounding the project area is poorly documented, and no nests have been recorded within the area (Unitt 2004).

Northern Harrier (*Circus cyaneus*)

The northern harrier is a CDFW SSC and County Group 1 species. Also known as the "marsh hawk" because of its affinity for marshes and open grassland and prairie, this species has a wide geographical range throughout much of North America. The northern harrier is common along the West Coast in mountain and desert regions. Northern harriers winter throughout much of Canada, the United States, and the Caribbean islands (Macwhirter and Bildstein 1996).

This species occurs throughout California from sea level to 3,000 meters (10,000 feet) amsl as a widespread winter migrant (Zeiner et al. 1990a). The northern harrier is also a permanent resident in coastal areas, the northeastern plateau, the Central Valley, and the Sierra Nevada, where its elevational range as a breeder reaches 1,700 meters (5,700 feet) (Zeiner et al. 1990a). Breeding populations are also known from around San Francisco Bay and in the Mono Lake area (Gaines 1977; Zeiner et al. 1990a). Most of the breeding population in California occurs in ungrazed parts of the state and in federal wildlife refuges (Zeiner et al. 1990a).

Northern harriers use a wide variety of open habitats in California, including deserts, coastal sand dunes, pasturelands, croplands, dry plains, grasslands, estuaries, flood plains, and marshes (Macwhirter and Bildstein 1996). Nesting areas are associated with marshes, pastures, grasslands, prairies, croplands, desert shrub steppe, and riparian woodland (Macwhirter and Bildstein 1996). Winter habitats similarly include a variety of open habitats dominated by herbaceous cover.

The northern harrier was documented southeast of the project area during 2011 surveys (AECOM 2012a), but its location was not recorded. However, based on the lack of observations during the breeding season, this species is only expected as a winter visitor in grassland habitat and the more open areas of scrub and chaparral communities on site. There are no CNDDB records of this species within the project area, but it has been recorded in the area (SDNHM 2012b). Within the project area, suitable winter and foraging habitat includes big sagebrush scrub (including disturbed), montane buckwheat scrub (including disturbed), semi-desert chaparral – rock, disturbed semi-desert chaparral, disturbed scrub oak chaparral, alkali meadow (including disturbed), non-native grassland, open water, disturbed habitat, and non-vegetated channel.

Prairie Falcon (*Falco mexicanus*)

The prairie falcon is a USFWS BCC, CDFW WL, and County Group 1 species. The prairie falcon is a permanent resident found throughout most of California. It prefers chaparral, desert grasslands, and creosote bush habitats for foraging and nests on cliffs or bluffs near these open habitats.

One prairie falcon observation was made within the project area (Figure 5B).Within the project area, suitable foraging habitat includes all vegetation communities and undeveloped land cover

on site (i.e., coast live oak woodland, mixed oak woodland, big sagebrush scrub (including disturbed), montane buckwheat scrub (including disturbed), granitic chamise chaparral, granitic northern mixed chaparral, red shank chaparral, scrub oak chaparral (including disturbed), semi-desert chaparral (including rocky and disturbed), alkali meadow (including disturbed), mulefat scrub (including disturbed), mulefat scrub/tamarisk scrub, tamarisk scrub, non-native grassland, open water, disturbed habitat, urban/developed land, and non-vegetated channel). Potential nest locations are located within the vicinity in Carrizo Gorge and other rocky mountain and cliff terrain north and east of the project components (Unitt 2004).

Loggerhead Shrike (*Lanius ludovicianus*)

The loggerhead shrike is a USFWS BCC, CDFW SSC, and County Group 1 species. It is found in lowlands and foothills throughout California, and it remains in the southern portion of the state year-round. Preferred habitats for the loggerhead shrike are open areas that include scattered shrubs, trees, posts, fences, utility lines, or other structures that provide hunting perches with views of open ground, as well as nearby spiny vegetation or man-made structures (such as top of chain-link fences or barbed wire) that provide means to skewer prey items. The species occurs most frequently in riparian areas along the woodland edge, grasslands with sufficient perch and butcher sites, scrublands, and open-canopied woodlands, although they can be quite common in agricultural and grazing areas, and can sometimes be found in mowed roadsides, cemeteries, and golf courses, although they occur rarely in heavily urbanized areas (Zeiner et al. 1990a). Loggerhead shrikes build nests in stable shrubs or trees requiring dense foliage for well-concealed nests.

Loggerhead shrikes were documented several times in the same location within the eastern portion of the project area within semi-desert chaparral habitat (Figure 5B). Within the project area, suitable habitat includes mixed oak woodland, big sagebrush scrub (including disturbed), montane buckwheat scrub (including disturbed), granitic chamise chaparral, granitic northern mixed chaparral, scrub oak chaparral (including disturbed), semi-desert chaparral (including rocky and disturbed), mulefat scrub (including disturbed), mulefat scrub/tamarisk scrub, tamarisk scrub, and disturbed habitat.

Invertebrates

Quino Checkerspot Butterfly (*Euphydryas editha quino*)

The Quino checkerspot butterfly is a federally endangered species found only in western Riverside County, southern San Diego County, and northern Baja California, Mexico (USFWS 2003). This species is found on sparsely vegetated hilltops, ridgelines, and occasionally on rocky outcrops in open chaparral and coastal sage scrub habitat (typically less than 3,000 feet in

elevation). This species requires host plants within these vegetation communities for feeding and reproduction. The primary larval host plant is dwarf plantain (*Plantago erecta*); however, several other species have been documented as important larval host plants, including desert plantain, sometimes called woolly plantain (*P. patagonica*); thread-leaved bird's beak (*Cordylanthus rigidus*); white snapdragon (*Antirrhinum coulterianum*); owl's clover (*Castilleja exserta*); and Chinese houses (*Collinsia* spp.) (USFWS 2003). Potential habitat surveyed for Quino checkerspot butterfly consists of all habitat types on site except for open water (cattle ponds), developed areas, and other portions of the project area excluded from the survey. Results of habitat assessments defined all potentially suitable habitats in the survey area (Figure 3, AECOM 2012c). Closed-canopy chaparral, riparian forest, and oak woodland habitats were included in the survey area because these areas were small and adjacent to open patches of habitat with the potential to support Quino checkerspot butterfly.

~~All of the survey areas in the project area contained a variety of potential Quino checkerspot butterfly adult nectar plants and dot-seed plantain, their primary larval food plant.~~ Protocol surveys were conducted in 2011 (AECOM 2012c). The surveys were negative. Based on the lack of records in the project area and the negative survey results, Quino checkerspot butterfly is not expected to occur in the project area.

The nearest USFWS occurrence for Quino checkerspot butterfly is located approximately 2.5 miles southwest of the project area (USFWS 2012b). This species was also observed approximately 6 miles north of the project area during surveys for the Tule Wind Project (HDR 2010).

1.4.6.3 County Group 2 Species

County Group 2 species that have been observed in the project area, or have high potential to occur (Appendix H), are described below.

Amphibians and Reptiles

Western Spadefoot Toad (*Spea hammondii*)

The western spadefoot toad is a CDFW SSC and County Group 2 species. It is endemic to California and northern Baja California, Mexico. The species ranges from the north end of California's Central Valley near Redding, south, west of the Sierras and the deserts, and into northwest Baja California, Mexico (Jennings and Hayes 1994; Stebbins 2003). Although the species primarily occurs in lowlands, it also occupies foothill and mountain habitats. Within its range, the western spadefoot toad occurs from sea level to 4,000 feet amsl, but mostly at elevations below 3,000 feet (Stebbins 2003).

The western spadefoot toad is almost completely terrestrial, entering water only to breed. The species aestivates in upland habitats near potential breeding sites in burrows approximately 1 meter (3 feet) in depth (Stebbins 1972). The species prefers open areas with sandy or gravelly soils in a variety of habitats, including mixed woodlands, grasslands, coastal sage scrub, chaparral, sandy washes, river floodplains, alluvial fans, playas, and alkali flats (Stebbins 2003; Holland and Goodman 1998). However, the species is most common in grasslands with vernal pools or mixed grassland/coastal sage scrub areas (Holland and Goodman 1998).

Western spadefoot was not detected during surveys; however, there is suitable habitat in the project area and spadefoot tadpoles were observed on the nearby Tule Wind Project site (HDR 2010). This species can occur in a variety of habitats within the project area, including coast live oak woodland, mixed oak woodland, big sagebrush scrub (including disturbed), montane buckwheat scrub (including disturbed), alkali meadow (including disturbed), mulefat scrub (including disturbed), mulefat scrub/tamarisk scrub, tamarisk scrub, non-native grassland, disturbed habitat, open water, and non-vegetated channel.

Orange-Throated Whiptail (*Aspidoscelis hyperythra beldingi*)

The orange-throated whiptail is a CDFW SSC and County Group 2 species. Its current range includes southwestern California and Baja California, Mexico, from the southern edges of Orange County (Corona del Mar) and San Bernardino County (near Colton), southward to the Mexican border. This species is located on the coastal slope of the Peninsular Ranges and extends from near sea level to 3,412 feet (northeast of Aguanga, Riverside County) (Jennings and Hayes 1994). It commonly occurs in coastal sage scrub, chaparral, grassland, juniper, and oak woodland.

The project area, at 3,500 to 3,670 feet amsl, is about 100 feet above the reported elevation range for orange-throated whiptail. However, the species was observed in the eastern portion of the project area, west of McCain Valley Road, within semi-desert chaparral habitat (Figure 5B). Within the project area, suitable habitat includes coast live oak woodland, mixed oak woodland, big sagebrush scrub (including disturbed), montane buckwheat scrub (including disturbed), granitic chamise chaparral, granitic northern mixed chaparral, red shank chaparral, scrub oak chaparral (including disturbed), semi-desert chaparral (including rocky and disturbed), non-native grassland, disturbed habitat, non-native grassland, and non-vegetated channel.

Coastal Western Whiptail (*Aspidoscelis tigris stejnegeri*)

The coastal western whiptail is not considered special status by any state or federal agencies; however, it is a County Group 2 species. It is found in coastal Southern California, mostly west of the Peninsular Ranges and south of the Transverse Ranges, north into Ventura County and

south into Baja California, Mexico (Lowe et al. 1970; Stebbins 2003). The project area falls within the range of the coastal western whiptail.

The western whiptail (*A. tigris*) is found in a variety of habitats, primarily in areas where plants are sparse and there are open areas for running. According to Stebbins (2003), the species ranges from deserts to montane pine forests, where it prefers warmer and drier areas. The species also occurs in woodland and streamside growth, and it avoids dense grassland and thick shrub growth.

Within the project area, scattered coastal western whiptail observations were made within montane buckwheat scrub and semi-desert chaparral habitats (Figure 5B).Within the project area, suitable habitat includes coast live oak woodland, mixed oak woodland, big sagebrush scrub (including disturbed), montane buckwheat scrub (including disturbed), granitic chamise chaparral, granitic northern mixed chaparral, red shank chaparral, scrub oak chaparral (including disturbed), semi-desert chaparral (including rock-dominated and disturbed), disturbed habitat, urban/developed land, and non-vegetated channel.

Rosy Boa (*Charina trivirgata*)

The rosy boa is a County Group 2 species. It occurs from Southern California and southwestern Arizona, south throughout Baja California, Mexico, and northwestern mainland Mexico, avoiding the lowest deserts, which are mainly in agricultural production or open dunes (Stebbins 2003; Yingling 1982; Zeiner et al. 1988). The rosy boa in California ranges from Los Angeles, eastern Kern, and southern Inyo Counties, and south through San Bernardino, Riverside, Orange, and San Diego Counties (Spiteri 1988; Stebbins 2003; Zeiner et al. 1988). It occurs at elevations from sea level to 5,000 feet in the Peninsular and Transverse Mountain Ranges. Within its range in Southern California, the rosy boa is absent only from the southeastern corner of California around the Salton Sea and the western and southern portions of Imperial County (Zeiner et al. 1988).

The rosy boa inhabits rocky shrubland and desert habitats, and is attracted to oases and streams, but does not require permanent water (Stebbins 2003). In the desert it occurs on scrub flats with good cover (Zeiner et al. 1988). Holland and Goodman (1998) add that the species is known in a variety of desert and semi-desert habitats, that it may occur in oak woodlands intergrading with scrub or chaparral habitats, but is absent from grasslands.

Rosy boa was not observed during surveys, but there is suitable habitat in the vegetation communities with rocky outcroppings, and it has high potential to occur in the project area. Suitable habitat includes coast live oak woodland, mixed oak woodland, granitic chamise chaparral, montane buckwheat scrub (including disturbed), redshank chaparral, northern mixed

chaparral, semi-desert chaparral (including rocky and disturbed), scrub oak chaparral, and non-vegetated channel. This species was also observed approximately 3 miles north of the project area in similar habitat during surveys for the Tule Wind Project (HDR 2010).

Red-Diamond Rattlesnake (*Crotalus ruber*)

The red-diamond rattlesnake is a CDFW SSC and County Group 2 species. It is found in a variety of habitats from the coast to the deserts, from San Bernardino County into Baja California, Mexico (below 5,000 feet in elevation). It commonly occurs in rocky areas within coastal sage scrub, chaparral, juniper woodlands, and desert habitats, but can also be found in areas devoid of rocks (Lemm 2006).

Red-diamond rattlesnake was not observed during surveys, but there is suitable habitat in the vegetation communities with rocky outcroppings, and it has high potential to occur in the project area. Suitable habitat includes coast live oak woodland, mixed oak woodland, big sagebrush scrub (including disturbed), montane buckwheat scrub (including disturbed), granitic chamise chaparral, granitic northern mixed chaparral, red shank chaparral, scrub oak chaparral (including disturbed), semi-desert chaparral (including rocky and disturbed), disturbed habitat, non-native grassland, and non-vegetated channel.

San Diego Ringneck Snake (*Diadophis punctatus similis*)

The San Diego ringneck snake is a County Group 2 species. A fair amount of information is available for the full species ringneck snake (*Diadophis punctatus*), while less information is available for the subspecies San Diego ringneck snake (*D. p. similis*) Therefore, the habitat associations known for the full species ringneck snake are applied to San Diego ringneck snake subspecies.

The San Diego ringneck snake subspecies is one of 13 currently recognized subspecies occurring from southern Washington and Idaho to northern Baja California, Mexico, and from the Atlantic Coast to the Pacific Coast (Hinojosa 1996; Pinou et al. 1995; Stebbins 2003; Stoltz 1993). It should be noted, however, that the genus *Diadophis* is in need of taxonomic study, and that the six recognized subspecies in California are nearly genetically indistinguishable (NatureServe 2012). San Diego ringneck snake occurs along the Southern California coast from northern San Diego County, south to Baja California. Mexico (Stebbins 2003). The ringneck snake is found in moist habitats, including woodlands, hardwood and conifer forest, grassland, sage scrub, chaparral, croplands/hedgerows, and gardens (NatureServe 2012; Stebbins 2003). In arid regions, the ringneck snake occurs in forests, woodlands, sage scrub, chaparral, and riparian corridors (Stebbins 2003).

San Diego ringneck snake was not observed during surveys; however, there is suitable habitat, and it has high potential to occur in the project area. Suitable habitat includes coast live oak woodland, mixed oak woodland, big sagebrush scrub (including disturbed), montane buckwheat scrub (including disturbed), alkali meadow (including disturbed), mulefat scrub (including disturbed), mulefat scrub/tamarisk scrub, tamarisk scrub, granitic chamise chaparral, granitic northern mixed chaparral, red shank chaparral, scrub oak chaparral (including disturbed), semi-desert chaparral (including rock-dominated and disturbed), disturbed habitat, urban/developed land, non-native grassland, and non-vegetated channel.

Coronado Skink (*Plestiodon skiltonianus interparietalis*)

The Coronado skink is a CDFW SSC and County Group 2 species. The range of the Coronado skink is from inland Southern California, south through the north Pacific coast region of northern Baja California, from sea level to approximately 8,300 feet amsl (Nafis 2012). This reptile typically prefers grassland, woodlands, pine forests, and chaparral, especially in open sunny areas near the edges of creeks, rivers, and clearings. It prefers rocky areas near streams with abundant vegetation, but it is also found in areas away from water (Nafis 2012).

Coronado skink was not observed during surveys; however, there is suitable habitat, and it has high potential to occur in the project area. Suitable habitat includes coast live oak woodland, mixed oak woodland, alkali meadow (including disturbed), mulefat scrub (including disturbed), mulefat scrub/tamarisk scrub, and tamarisk scrub.

Blainville's Horned Lizard (*Phrynosoma blainvillii*)

The Blainville's horned lizard (called coast horned lizard in the CDFW Special Animals List) is a CDFW SSC and a County Group 2 species. It occurs from the Sierra Nevada foothills and central California to coastal Southern California. It is often associated with coastal sage scrub, especially areas of level to gently sloping ground with well-drained loose or sandy soil, but it can also occur in annual grasslands, chaparral, oak woodland, riparian woodland, and coniferous forest between 30 and 7,030 feet amsl (Jennings and Hayes 1994). This reptile typically avoids dense vegetation, preferring 20% to 40% bare ground in its habitat. The Blainville's horned lizard can be locally abundant in areas where it occurs, with densities near 20 adults per acre. Up to 90% of the diet of the Blainville's horned lizard consists of native harvester ants (*Pogonomyrmex* spp.).

Scattered Blainville's horned lizard observations were made within a variety of upland habitats in the project area (Figure 5B), and it is expected to occur throughout suitable habitat on site. Suitable habitat includes sandy soils within coast live oak woodland, mixed oak woodland, big sagebrush scrub (including disturbed), montane buckwheat scrub (including disturbed), granitic chamise

chaparral, granitic northern mixed chaparral, red shank chaparral, scrub oak chaparral (including disturbed), semi-desert chaparral (including rocky and disturbed), disturbed habitat, non-native grassland, and non-vegetated channel.

Coast Patch-Nosed Snake (*Salvadora hexalepis virgultea*)

The coast patch-nosed snake is a CDFW SSC and County Group 2 species. The full species western patch-nosed snake (*S. hexalepis*) ranges from west–central Nevada south to the tip of Baja California, Mexico, and northwestern Sonora, and from coastal Southern California to southwestern Utah and central Arizona. The coast patch-nosed snake subspecies occurs along the foothills and mountains of Southern California from San Luis Obispo County to San Diego County, and south into northern Baja California. The coast patch-nosed snake is found at elevations from near sea level to approximately 6,988 feet amsl (Goldberg 1995).

The western patch-nosed snake is a broad generalist in its habitat requirements, and it seems to make use of whatever cover is available and thrives in most environments (Stebbins 1954). It occupies desert scrub, coastal chaparral, washes, sandy flats, and rocky areas. Bogert (1939) noted a predilection in the subspecies coast patch-nosed snake for brush or chaparral. Coast patch-nosed snakes seem to require at least a low shrub structure of minimum density because they are not found in habitats lacking this structural component. Coast patch-nosed snakes are presumed to take refuge and perhaps overwinter in burrows or woodrat nests, so the presence of one or more burrow- or refuge-creating mammals may be necessary for this snake to be present (Zeiner et al. 1988).

Coast patch-nosed snake was not observed during surveys; however, there is suitable habitat, and it has high potential to occur in the project area. Within the project area, suitable habitat includes big sagebrush scrub (including disturbed), montane buckwheat scrub (including disturbed), granitic chamise chaparral, granitic northern mixed chaparral, red shank chaparral, scrub oak chaparral (including disturbed), and semi-desert chaparral (including rocky and disturbed). There are no CNDDB records within the Project area.

Birds

California Horned Lark (*Eremophila alpestris actia*)

The California horned lark is a CDFW WL and County Group 2 species. The California horned lark is a permanent resident found throughout much of the southern half of California. This species breeds and resides in the coastal region of California from Sonoma County southeast to the U.S.–Mexico border, including most of the San Joaquin Valley, and eastward to the foothills of the Sierra Nevada (Grinnell and Miller 1944; Beason 1995). It occurs in grasslands along the coast and deserts near sea level to alpine dwarf-shrub habitat above the tree line. This species

prefers open habitats, grassland, rangeland, shortgrass prairie, montane meadows, coastal plains, and fallow grain fields, and it nests on the ground in a hollow scrape.

Scattered horned lark observations were made, primarily in the eastern portion of the project area within montane buckwheat scrub habitat (Figure 5B). Within the project area, suitable nesting and foraging habitat includes big sagebrush scrub (including disturbed), montane buckwheat scrub (including disturbed), alkali meadow (including disturbed), and non-native grassland.

Western Bluebird (*Sialia mexicana*)

Western bluebird is a County Group 2 species. It is a common resident species in San Diego County, where it prefers montane coniferous and oak woodlands (Unitt 2004). Because this species is not considered special-status by state or federal agencies, this species is not tracked in CNDDB.

No western bluebirds were observed during surveys; however, there is suitable habitat, and it has high potential to occur in the project area. Suitable habitat includes coast live oak woodland and mixed oak woodland.

Barn Owl (*Tyto alba*)

Barn owl is a County Group 2 species. It is a common resident in San Diego County, except in the eastern deserts where it is only found near developed or agricultural areas. It is widespread along the coastal region of San Diego County where it nests in riparian and oak woodland, palm trees, buildings, man-made structures, and nest boxes (Unitt 2004). Because this species is not considered special-status by state or federal agencies, this species is not tracked in CNDDB.

No barn owls were observed during surveys; however, there is suitable nesting and foraging habitat, and it has high potential to occur in the project area. Suitable nesting habitat includes coast live oak woodland and mixed oak woodland. Suitable foraging habitat includes all vegetation communities and undeveloped land cover on site (i.e., coast live oak woodland, mixed oak woodland, big sagebrush scrub (including disturbed), montane buckwheat scrub (including disturbed), granitic chamise chaparral, granitic northern mixed chaparral, red shank chaparral, scrub oak chaparral (including disturbed), semi-desert chaparral (including rock-dominated and disturbed), alkali meadow, mulefat scrub (including disturbed), mulefat scrub/tamarisk scrub, tamarisk scrub, non-native grassland, open water, disturbed habitat, urban/developed land, and non-vegetated channel).

Mammals

Dulzura Pocket Mouse (*Chaetodipus californicus femoralis*)

The Dulzura pocket mouse is a CDFW SSC and County Group 2 species. It is associated with open habitat in coastal sage scrub, chaparral, oak woodland, and mixed conifer habitats up to 3,000 feet amsl.

The Dulzura pocket mouse was not observed during surveys; however, detection of this species usually requires focused live trapping studies, which were not conducted in the project area. However, there is suitable habitat, and this species has high potential to occur in the project area because it is a relatively common species in suitable habitat. Suitable habitat includes coast live oak woodland, mixed oak woodland, big sagebrush scrub (including disturbed), montane buckwheat scrub (including disturbed), granitic chamise chaparral, granitic northern mixed chaparral, red shank chaparral, scrub oak chaparral (including disturbed), semi-desert chaparral (including rocky and disturbed), disturbed habitat, and non-vegetated channel. There are three CNDDB records of this species within the Mount Laguna, Sombrero Peak, and Live Oak Springs, quadrangles; the closest record is from 1958 approximately 1 mile northwest of the Proposed Project.

Northwestern and Pallid San Diego Pocket Mouse (*Chaetodipus fallax fallax*)

The northwestern San Diego pocket mouse is a CDFW SSC and County Group 2 species. The northwestern San Diego pocket mouse occurs in southwestern California in San Diego County and portions of Riverside and San Bernardino Counties. It has potential to occur in a variety of habitats in the project area, including coastal sagebrush scrub, chaparral, and non-native grassland where there are sandy soils (Zeiner et al. 1990b). The project area is also generally located in the boundary zone between the ranges of the northwestern San Diego pocket mouse and the subspecies *C. f. pallidus* (pallid San Diego pocket mouse), which is also a CDFW SSC and County Group 2 species. The pallid San Diego pocket mouse occurs on the eastern slopes of the Peninsular Range, so this subspecies may also occur in the general project vicinity.

Neither the northwestern nor pallid San Diego pocket mouse subspecies was observed during surveys; however, detection of these subspecies usually requires focused live trapping studies, which were not conducted in the project area. Live-trapping would also be required to determine which subspecies of San Diego pocket mouse occurs on site, if present. Nonetheless, there is suitable habitat and at least one of the San Diego pocket mouse subspecies has high potential to occur in the project area because San Diego pocket mouse is a relatively common species in suitable habitat. Within the project area, suitable habitat includes mixed oak woodland, big sagebrush scrub (including disturbed), montane buckwheat scrub (including disturbed),

granitic chamise chaparral, granitic northern mixed chaparral, red shank chaparral, scrub oak chaparral (including disturbed), semi-desert chaparral (including rocky and disturbed), disturbed habitat, non-native grassland, and non-vegetated channel. There are no CNDDB records for this species in the project area.

San Diego Black-Tailed Jackrabbit (*Lepus californicus bennettii*)

The San Diego black-tailed jackrabbit is a CDFW SSC and County Group 2 species. It is confined to coastal Southern California, with marginal eastern records being Mount Piños, Arroyo Seco, Pasadena, San Felipe Valley, and Jacumba (Hall 1981). It is found in many diverse habitats, but primarily in arid regions supporting short-grass habitats. Jackrabbits typically are not found in high grass or dense brush where it is difficult for them to move quickly, and the openness of open scrub habitat probably is preferred over dense chaparral. Jackrabbits are common in grasslands that are overgrazed by cattle, and they are well adapted to using low-intensity agricultural habitats (Hall 1981).

Numerous observations of this species were recorded within the project area, primarily within scrub and chaparral habitats (Figure 5B). It can occur within a variety of shrub and woodland habitats within the project area, including coast live oak woodland, mixed oak woodland, big sagebrush scrub (including disturbed), montane buckwheat scrub (including disturbed), granitic chamise chaparral, granitic northern mixed chaparral, red shank chaparral, scrub oak chaparral (including disturbed), and semi-desert chaparral (including rock-dominated and disturbed).

San Diego Desert Woodrat (*Neotoma lepida intermedia*)

The San Diego desert woodrat is a CDFW SSC and County Group 2 species. This species is found in coastal Southern California into Baja California, Mexico (Reid 2006). Marginal eastern records for the San Diego desert woodrat in the United States include San Luis Obispo, San Fernando in Los Angeles County, the San Bernardino Mountains and Redlands in San Bernardino County, and Julian in San Diego County (Hall 1981). Desert woodrats are found in a variety of shrub and desert habitats and are primarily associated with rock outcroppings, boulders, cacti, or areas of dense undergrowth.

Sign of the woodrat was observed within the project area in the form of woodrat middens. Given that suitable habitat for San Diego desert woodrat is present in the project area, this species has high potential to occur on site. Within the project area coast live oak woodland, mixed oak woodland, big sagebrush scrub (including disturbed), montane buckwheat scrub (including disturbed), granitic chamise chaparral, granitic northern mixed chaparral, red shank chaparral, scrub oak chaparral (including disturbed), and semi-desert chaparral (including rocky and

disturbed). The species has previously been documented at two locations approximately 2 miles north of the project area (CDFW 2012a).

Mule Deer (*Odocoileus hemionus*)

Mule deer is a County Group 2 species. It is a common species with a widespread distribution throughout the western United States and Canada and south into mainland and Baja California, Mexico (Hall 1981). It occurs throughout most of California, except in deserts and intensively farmed areas without cover (Zeiner et al. 1990b). Throughout its range, mule deer uses coniferous and deciduous forests, riparian habitats, desert shrub, coastal scrub, chaparral, and grasslands with shrubs. It is often associated with successional vegetation, especially near agricultural lands (NatureServe 2012). It uses forested cover for protection from the elements and open areas for feeding (Wilson and Ruff 1999). Mule deer fawn in a variety of habitats that have available water and abundant forage, including moderately dense shrubs and forests, dense herbaceous stands, and higher-elevation riparian and mountain shrub vegetation.

Sign of mule deer (track) was observed in the northeastern portion of the project area, along an access road in montane buckwheat scrub (Figure 5B). Suitable habitat in the project area includes coast live oak woodland, mixed oak woodland, big sagebrush scrub (including disturbed), montane buckwheat scrub (including disturbed), granitic chamise chaparral, granitic northern mixed chaparral, red shank chaparral, scrub oak chaparral (including disturbed), semi-desert chaparral (including rock-dominated and disturbed), mulefat scrub (including disturbed), mulefat scrub/tamarisk scrub, tamarisk scrub, open water, non-native grassland, disturbed habitat, urban/developed land, and non-vegetated channel.

Mountain Lion (*Puma concolor*)

The mountain lion is not considered special status by any state or federal agencies; however, it is a County Group 2 species and is considered a Specially Protected Mammal under California Fish and Game Code Section 4800. Its range throughout California extends from deserts to humid forests in the Coast Ranges and from sea level to 3,050 meters (10,000 feet), but mountain lions do not inhabit xeric regions of the Mojave and Colorado Deserts. They are most abundant in habitats that support their primary prey, mule deer, and their seasonal movements tend to follow migrating deer herds. Mountain lions prefer habitats that provide cover, such as thickets in brush and timber in woodland vegetation (Zeiner et al. 1990b). They also use caves and other natural cavities for cover and breeding. They require extensive areas of riparian vegetation and brushy stages of various habitats, with interspersions of irregular terrain, rocky outcrops, and tree-brush edges.

Mountain lion sign was detected during the 2010/2011 surveys, but the location was not mapped. However, mountain lions are expected to use suitable habitat throughout the project

area when hunting. Within the project area, suitable habitat includes coast live oak woodland, mixed oak woodland, granitic chamise chaparral, granitic northern mixed chaparral, red shank chaparral, scrub oak chaparral (including disturbed), and semi-desert chaparral (including rock-dominated and disturbed).

Special-Status Bats

No special-status bats were observed during surveys; however, no focused surveys (e.g., acoustic, mist-netting, or visuals surveys) were conducted during suitable times to observe bats (e.g., sunset and night). Although there is no suitable roosting habitat in rock crevices and cliffs in the project area for several of the special-status bat species, there is high potential for several of the species to forage in the project area. These species include Mexican long-tongued bat (*Choeronycteris mexicana*), a CDFW SSC and County Group 2 species; Townsend's big-eared bat (*Corynorhinus townsendii*), a CDFW SSC and County Group 2 species; spotted bat (*Euderma maculatum*), a CDFW SSC and County Group 2 species; California leaf-nosed bat (*Macrotus californicus*), CDFW SSC and County Group 2 species; and big free-tailed bat (*Nyctinomops macrotis*), a CDFW SSC and County Group 2 species. Two tree-roosting species may roost in the woodlands on site and forage in the project area: greater western mastiff bat (*Eumops perotis californicus*), a CDFW SSC and County Group 2 species, and western red bat (*Lasiurus blossevillii*), a County Group 2 species.

Suitable foraging habitat for bats generally includes most vegetation communities and undeveloped land cover on site (i.e., coast live oak woodland, mixed oak woodland, big sagebrush scrub (including disturbed), montane buckwheat scrub (including disturbed), granitic chamise chaparral, granitic northern mixed chaparral, red shank chaparral, scrub oak chaparral (including disturbed), semi-desert chaparral (including rock-dominated and disturbed), alkali meadow, mulefat scrub (including disturbed), mulefat scrub/tamarisk scrub, tamarisk scrub, non-native grassland, open water, disturbed habitat, and non-vegetated channel).

Invertebrates

Monarch Butterfly (*Danaus plexippus*)

The monarch butterfly is a CDFW special animal (CDFG 2011) and a County Group 2 species. The monarch butterfly occurs throughout North and South America. The populations in North America are split into populations east of the Rocky Mountains and populations west of the Rocky Mountains (The Xerces Society 2012). The western population overwinters at more than 200 coastal sites along the California coast, from north of San Francisco south to the Mexican border (The Xerces Society 2012). Monarchs are found in a variety of habitats including conifer

forests, grasslands, old fields, dune habitat, scrublands, chaparral, orchards, woodlands, and herbaceous and shrub wetlands.

Within the project area, suitable habitat includes coast live oak woodland, mixed oak woodland, big sagebrush scrub (including disturbed), granitic chamise chaparral, montane buckwheat scrub (including disturbed), redshank chaparral, northern mixed chaparral, semi-desert chaparral (including rocky and disturbed), and scrub oak chaparral (including disturbed). Suitable mass roosting locations (e.g., eucalyptus groves) are not present. Eggs are laid on milkweed plants (genus *Asclepias*). This species was observed in the project area during 2011 focused Quino surveys, east of McCain Valley Road in scrub and chaparral habitats (AECOM 2012c); its location was not recorded.

1.4.7 Jurisdictional Wetlands/Waters

A wetland delineation and water mapping was conducted on the 765-acre project site, which spans 11 parcels on the southern portion of the ranch. Wetland determinations were made at 21 data station sampling points (Appendix E) to determine the status of three wetland criteria (vegetation, soils, and hydrology) within representative potential wetlands on site. In 2009, 8 areas were sampled within the southern portion of Tule Creek on site; in 2012, 8 additional areas were sampled, in 2013 5 additional areas were sampled (Figure 6). The extent of wetland areas was determined by mapping the areas with similar vegetation and topography to sampled locations.

The data station sampling point results are summarized in Table 1-4.

Table 1-4
Summary of Data Station Sampling Points

Data Station	Wetland Determination Field Indicators			Vegetation Community	Jurisdiction
	Vegetation	*Hydric Soils*	*Hydrology*		
1	✓	✓	✓	alkali meadow	ACOE/CDFW/RWQCB/County
2	✓	✓	✓	alkali meadow	ACOE/CDFW/RWQCB/County
3		✓	✓	non-native grassland	None[1]
4	✓	NS	NS	alkali meadow	ACOE/CDFW/RWQCB/County
5		NS	NS	non-native grassland	None[1]
6	✓	✓	✓	Disturbed mulefat scrub	ACOE/CDFW/RWQCB/County
7a	✓	✓	✓	alkali meadow	ACOE/CDFW/RWQCB/County
7b		✓	✓	non-native grassland	None[1]
8		✓	✓	non-native grassland	None[1]
9	✓			alkali meadow	CDFW/County
10				non-native grassland	None
11	✓	✓	✓	tamarisk scrub	ACOE/CDFW/RWQCB/County

Table 1-4
Summary of Data Station Sampling Points

Data Station	Wetland Determination Field Indicators			Vegetation Community	Jurisdiction
	Vegetation	*Hydric Soils*	*Hydrology*		
12	✓	✓	✓	alkali meadow	ACOE/CDFW/RWQCB/County
13	✓			non-native grassland	None
14				non-native grassland	None
15	✓	✓	✓	alkali meadow	ACOE/CDFW/RWQCB/County
16		✓	✓	tamarisk scrub	CDFW[2]
17		✓	✓	tamarisk scrub	CDFW[2]
18		✓		tamarisk scrub	CDFW[2]
19		✓		tamarisk scrub	CDFW[2]
20		✓		tamarisk scrub	CDFW[2]

NS = Not sampled. Some data stations are limited to assessment of vegetation cover. Soils and hydrology conditions are assumed to be consistent with adjacent data stations.

1 Although soils and hydrology, or vegetation only, are present, the area is functionally grassland and not wetland. The area has negligible biological function or value as wetlands and does not support wetland-dependent sensitive species. Therefore the area does not meet CDFW or County wetland criteria.

2 Hydric soil indicators within are not considered a sufficient indicator of RPO wetlands due to the presence of such indicators throughout the Tule Creek floodplain/valley. It is assumed that the parent soil material has low chroma characteristics that alone are not sufficient to establish the presence of wetlands.

In general, areas supporting greater than 50% cover of Mexican rush, mulefat, or tamarisk were mapped as alkali meadow, mulefat scrub, or tamarisk scrub, respectively. The occurrences of these communities in the northern and northwestern portions of the Tule Creek do not support hydric soils or indicators of hydrology and/or are adjacent to the main flow path of the creek and were therefore mapped as CDFW/County jurisdiction (with the exception of tamarisk scrub which is CDFW jurisdiction only). Tamarisk meets CDFW's definition of riparian vegetation but does not meet the County's requirement for a predominance of hydrophytes (tamarisk is a phreatophyte – see discussion in Section 1.4.2.4.2). Further downstream, the cover of Mexican rush, mulefat, and/or tamarisk increases and additional hydrophytic species are found. These areas generally support all three wetland criteria and were therefore mapped as ACOE/CDFW/RWQCB/County jurisdiction. The exception to this are stands of disturbed mulefat scrub and tamarisk scrub. The disturbed mulefat scrub in this area does not support a predominance of hydrophytic vegetation, as required by the ACOE but does meet CDFW/County jurisdictional criteria. The tamarisk scrub in this area, with the exception of one polygon located in an area surrounded by alkali meadow (which is classified as ACOE/CDFW/RWQCB/County jurisdiction), does not support an understory of hydrophytes and is therefore classified as CDFW jurisdiction only.

Most of these communities along Tule Creek occur adjacent to non-native grassland that can sometimes support hydrophytic vegetation, hydric soils, or hydrology indicators. However, these adjacent non-native grassland areas do not support typical wetland plant species, such as rush, mulefat, and tamarisk, and therefore these areas function as grasslands as opposed to wetlands. Despite the presence of some wetland indicators, these areas have negligible biological function or value as wetlands and do not support wetland-dependent sensitive species. Therefore these areas do not meet CDFW or County wetland criteria.

The vegetation mapping described previously includes communities that meet jurisdictional criteria by some or all of the regulatory agencies. These communities include alkali meadow and disturbed alkali meadow, mulefat scrub, disturbed mulefat scrub, mulefat/tamarisk scrub, and tamarisk scrub (Table 1-5). Additionally, several washes were mapped as non-vegetated channels, based on the presence and location of an ordinary high water mark (OHWM), which would be regulated as non-wetland jurisdictional waters. Other narrow, non-vegetated waters of the U.S./state, varying in width from 1 to 3 feet between the ordinary high water marks, have been mapped as an overlay to the vegetation classification.

RPO Wetland Determination

The riparian habitats/wetlands mapped within the project meet the County's RPO wetland definition. These wetlands support hydrophytic vegetation (i.e., juncus) and are associated with stream channels. They form a nexus with other hydrological processes in the region and support important wetland features.

The riparian habitat mapped as alkali meadow supports Mexican rush and other hydrophytic vegetation, and has hydrology indicators; therefore this meadow meets the definition of an RPO wetland.

The riparian habitat mapped as disturbed mulefat scrub supports mulefat and other hydrophytic vegetation, has indicators of hydrology, and occurs near other wetland communities occur (i.e., alkali meadow); therefore, this habitat meets the definition of an RPO wetland.

The vegetation mapped as disturbed southern willow scrub is not associated with any stream channels or lakes, no hydrologic indicators were observed, and it is located in an otherwise upland area; therefore, it does not meet the definition of an RPO wetland.

The RPO determination for tamarisk scrub, as described in Section 1.4.2.4.2, consists of areas dominated by a phreatophyte but lacking a predominance of hydrophytic vegetation or hydric soils and therefore does not meet the definition of an RPO wetland, with the exception of one polygon surrounded by alkali meadow that does have an understory of Mexican rush and is therefore meets the definition of an RPO wetland.

The ephemeral stream channels and non-vegetated channels lack hydrophytic vegetation and hydric soils, and do not support substratum that is "predominately non-soil and such lands contribute substantially to the biological functions or values of wetlands in the drainage system." Therefore, they do not meet the definition of an RPO wetland.

The open water mapped on site does not have any associated streambeds or channels, but there is a pipe outlet that apparently provides hydrology to this depressional area. It is presumed that this area is an historical upland area that has been artificially manipulated to function as a stock pond. The RPO wetland exemption applies if it has the following characteristics:

i. Has negligible biological function or value as wetlands: The pond does not support any hydrophytic vegetation or provide watershed functions because it is manmade and not connected to other wetlands or waters.

ii. Is small and geographically isolated from other wetland systems: The pond is 0.2 acre and does not have any hydrologic connection to wetlands or waters.

iii. Is not a vernal pool: A botanical inventory of the project site has been completed and no vernal pool indicator species, as defined by ACOE (1997) were identified within the open water area, or within other portions of the project.

iv. Does not have substantial or locally important populations of wetland dependent sensitive species: No special-status species have been detected in this area; and based on the lack of vegetation, species such as tricolored blackbird are not expected.

Therefore, this particular location is not an RPO wetland because it meets the exemption for areas which have wetland attributes solely due to man-made structures.

Table 1-5
Jurisdictional Delineation Summary

Vegetation Community/ Waters Type	Jurisdiction				Total Acres
	ACOE, RWQCB, CDFW, County (acres)	*ACOE, RWQCB, CDFW (acres)*	*CDFW, County (acres)*	*CDFW Only (acres)*	
Alkali Meadow	14.49	—	—	—	14.49
Disturbed Alkali Meadow	3.48	—	1.13	—	4.61
Disturbed Mulefat Scrub	—	—	1.18	—	1.18
Tamarisk Scrub	0.79	—	—	3.98	4.77
Wetlands Subtotal	*18.76*	—	*2.31*	*3.98*	—
Ephemeral Stream Channel	—	0.15[1]	—	—	—
Non-Vegetated Channel	—	0.98	—	—	0.98
Jurisdictional Total	18.76	0.98	2.31	3.98	26.02

[1] Ephemeral stream channel is an overlay on the vegetation mapping and is not counted toward the overall acreage.

Figure 6 shows the distribution of jurisdictional wetlands and non-wetland waters in the project area.

1.4.7.1 Hydrologic Context and Connectivity

The project area is located within the southwest portion of the approximately 653-square-mile Carrizo Creek Watershed (Hydrologic Unit Code [HUC]: 18100202). Partially contained within the Carrizo Creek Watershed is the 1,501-square-mile Anza Borrego Hydrologic Unit (HU: 722.00). Within the Anza Borrego Hydrologic Unit is the approximately 135-square-mile Jacumba Hydrologic Area (HA: 722.70). Within the Jacumba Hydrologic Area is the approximately 110-square-mile McCain Hydrologic Subarea (HSA 722.71). All watersheds are located within the approximately 19,865-square-mile RWQCB Colorado River Region (RWQCB Region 7) (Figure 7).

The McCain Hydrologic Subarea (watersheds) drains a relatively underdeveloped region. However, these watersheds are still experiencing significant land development. The degree of imperviousness within this watershed can be used to consider the condition and health of the aquatic resources within them, which are often used as a measure for determining the amount of stress a watershed is experiencing (Shilling et al. 2005). There are no water bodies occurring within the project area that are listed on the CWA 303(d) List (impaired water bodies) (SWQCB 2011). The primary hydrologic feature within the project survey area is Tule Creek. Within the project area, Tule Creek is essentially a subsurface (or near surface) riverine feature that likely daylights only during rain events. Tule Creek bisects the project area and flows in a northwest to southeast orientation, supporting an active floodplain, which in turn promotes wetland hydrology development. Tule Creek's surface proximity and flow regime is a product and result of an alluvium overlaying fractured and decomposed granite (DG), which in turn overlays deep bedrock. The DG layer is pervious and allows groundwater to collect and be retained to the point of subsurface flow while the bedrock layer creates an impervious surface that results in conditions similar to a perched water table.

Tule Creek on site drains to the southeast. Tule Lake is located approximately 1.8 miles downstream to the southeast from the portion of the project area that crosses Tule Creek. Tule Lake was not investigated to determine connectivity with downstream waters. It is presumed that Tule Lake does have downstream connectivity with Carrizo Creek, which is in turn presumed to have connectivity with the Salton Sea. The Salton Sea is considered a traditional navigable waters and ACOE and RWQCB jurisdiction of waters within the study area is based on the presumed connectivity between waters on site and the Salton Sea. The actual extent of physical, chemical, and/or biological connectivity between these waters has not been determined.

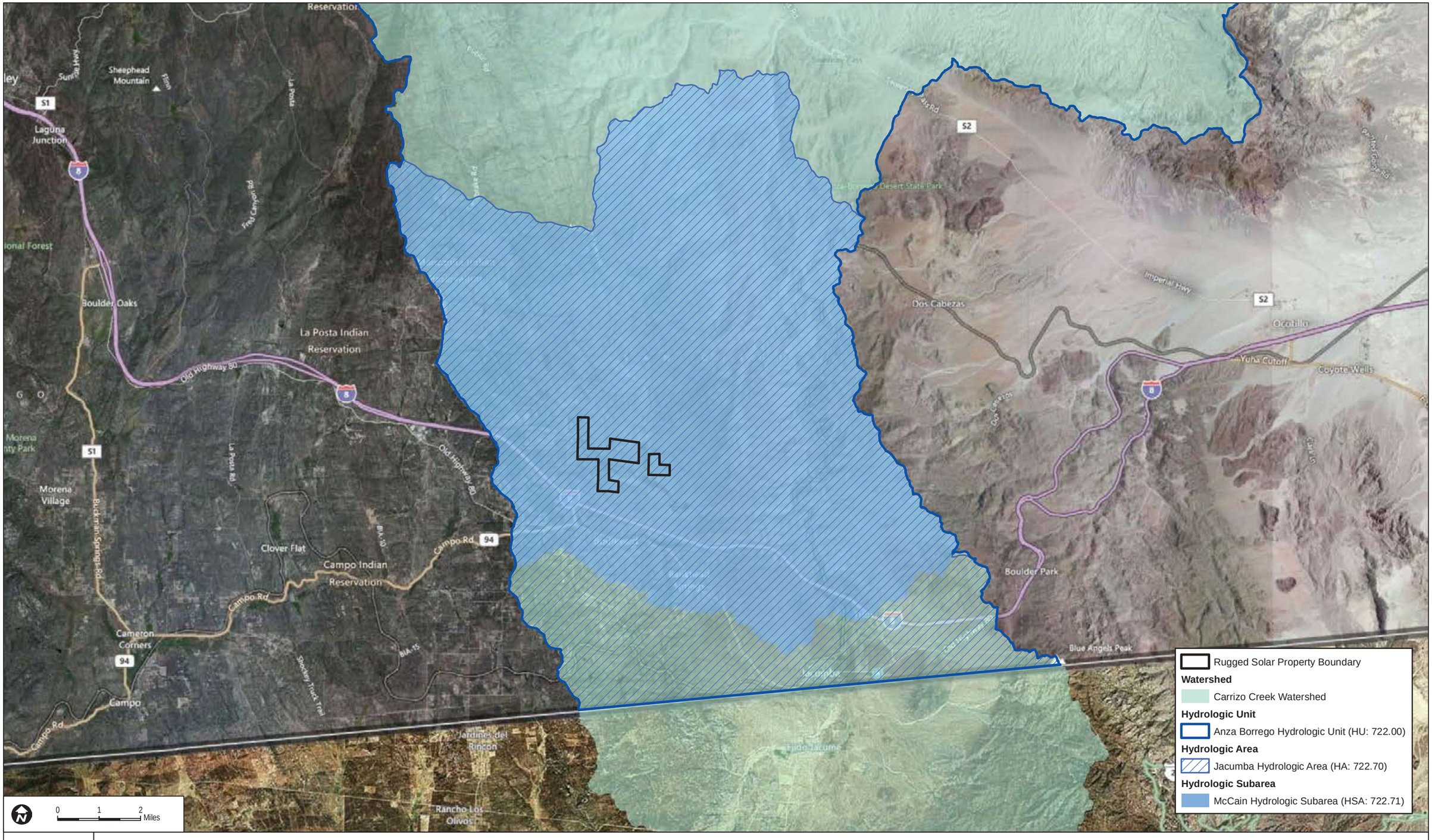
1.4.7.2 Functions and Values

The beneficial uses associated with Tule Creek are listed in the Water Quality Control Plan for the Colorado River Basin (Region 7) (SWRCB 2006). These uses include potential municipal and domestic supply, agriculture supply, ground water recharge, water contact recreation, non-contact water recreation, warm freshwater habitat, and wildlife habitat. Waters and wetlands are an important part of an ecosystem based on the functions and values they can provide. These functions and values of waters and wetlands in the project area are characterized as having a low, moderate, or high ability to provide the following:

- Flood storage and flood flow modification
- Nutrient retention and transformation
- Groundwater recharge
- Sediment trapping
- Toxicant trapping
- Wildlife habitat
- Aquatic habitat
- Public use.

Flood storage and flood flow modification. Tule Creek is a wide floodplain with no regular bed and bank or incised channel and therefore low potential for flood storage and flood flow modification. It is currently used for cattle grazing within the project area and vegetation consists of herbs and grasses, with some irregular patches of mulefat and tamarisk. Water from rainfall likely results in sheet flow and temporary flooding of certain areas before flowing into the groundwater table. Narrow ephemeral channels in the project area have low to moderate flood storage and flood flow modification because they are moderately incised and have natural bottoms, but they do not have surface connection to any main channels.

Nutrient retention and transformation. There are no commercial or residential uses in the project area; however, portions of the watershed proximate to and within the project area are currently used for cattle grazing, resulting in animal waste. Because the Tule Creek floodplain is composed of grasses and herbaceous wetlands (i.e., alkali meadow), it has a higher potential for nutrient retention and transformation. The small ephemeral channels in the project area have low potential for nutrient retention and transformation due to the lack of wetland vegetation and ponding potential within the channels.



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7122-2

SOURCE: U.S. Geological Survery National Hydrography Dataset (USGS 2012)

FIGURE 7

Hydrologic Setting

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Groundwater recharge. Because Tule Creek is a floodplain and not an incised channel, there is high potential for groundwater recharge. In addition, the ephemeral channels do not have a surface connection to other channels in the project area, and flow from storm events likely flows into the floodplain and contributes to groundwater recharge.

Sediment trapping. Due to the lack of an incised channel in Tule Creek, sediment carried in sheet flow in the floodplain would have high potential to settle and filter rather than be carried downstream to Tule Lake.

Toxicant trapping. Potential toxicants in the project area would include waste from the cattle grazing activities on site. The toxicant trapping abilities of the channels in the project area are the same as described previously in nutrient retention and transformation.

Wildlife habitat. There are a variety of wetland communities in the project area, as described in Section 2.2, including mulefat scrub, tamarisk scrub, mulefat/tamarisk scrub, and alkali meadow. The beneficial uses listed for Tule Creek by the State Water Resource Control Board (SWRCB) (2006) include wildlife habitat. Within the project area, Tule Creek is characterized by a wide floodplain composed of non-native grassland, alkali meadow, and scattered mulefat and tamarisk vegetation communities. This area is currently used for cattle grazing, but provides habitat for raptor and songbird foraging, rodents and other small mammals, invertebrates, and reptiles. The other ephemeral waters mapped in the project area generally lack vegetation or cover, but could provide some habitat for these species as well.

Aquatic habitat. The beneficial uses listed for Tule Creek by SWRCB (2006) include warm, freshwater habitat. Within the project area, Tule Creek does not have a consistent bed and bank for confined water flow. It is a floodplain that likely floods during rain events and could provide habitat for some aquatic species, such as certain amphibians and aquatic reptiles (e.g., two-striped gartersnake). None of the ephemeral channels have regular water flow and would not provide habitat for aquatic species.

Public use. Rough Acres Ranch is a private ranch and does not have public access. There is fencing around the property that also excludes most vehicles from entering the property. The beneficial uses listed for Tule Creek by SWRCB (2006) include municipal and domestic supply of water, agricultural supply of water, and contact and non-contact water recreation.

1.4.7.3 RPO Wetland Buffer

County Guidelines for Determining Significance (2010a) provide the following examples for the establishment of appropriate RPO wetland buffers, to be based on the best available science:

- A 50-foot wetland buffer would be appropriate for lower quality RPO wetlands where the wetland has been assessed to have low physical and chemical functions, vegetation is not dominated by hydrophytes, soils are not highly erosive, and slopes do not exceed 25%.

- A wetland buffer of 50 to 100 feet is appropriate for moderate- to high-quality RPO wetlands that support a predominance of hydrophytic vegetation or wetlands within steep slope areas (greater than 25%) with highly erosive soils. Within the 50- to 100-foot range, wider buffers are appropriate where wetlands connect upstream and downstream, where the wetlands serve as a local wildlife corridor, or where the adjacent land use(s) would result in substantial edge effects that count not be mitigated.
- Wetland buffers of 100 to 200 feet are appropriate for RPO wetlands within regional wildlife corridors or wetlands that support significant populations of wetland-associated sensitive species or where stream meander, erosion, or other physical factors indicate a wider buffer is necessary to preserve wildlife habitat.
- Buffering of greater than 200 feet may be necessary when an RPO wetland is within a regional corridor or supports significant populations of wetland-associated sensitive species and lies adjacent to land use(s) that could result in a high degree of edge effects within the buffer. Although the RPO stipulates a maximum of 200 feet for RPO wetland buffers, actions may be subject to other laws and regulations (such as the Endangered Species Act) that require greater wetland buffer widths.

As discussed previously, the RPO wetlands within the project area are located sporadically within the upper portion of Tule Creek on site and occupy more of the valley in the lower portion of Tule Creek. Most wetlands are classified as alkali meadow with other areas characterized by mulefat and tamarisk. These wetlands occur within a broad, flat valley that, overall, is dominated by annual non-native grassland. Tule Creek, within the project area, does not support significant populations of wetland-associated special-status species and does not support important or unique wildlife movement functions for wetland species or wildlife in general (see Section 1.4.8). The RPO wetlands occur in areas where slopes do not exceed 25% and where soils are not highly erosive making the buffer generally a stable environment. These wetlands occur in a broader valley that is dominated by annual (non-hydrophytic) grasslands. The overall function and value of wetlands on site would be moderate due to its broad floodplain with braided channels, beneficial uses for wildlife, and effects from cattle grazing . Finally, edge effects of the proposed conditions would be relatively low intensity and would not require a broader buffer. Given the stable wetland environment and the low intensity edge effects, a 50-foot wetland buffer is considered adequate to protect the RPO wetlands on site (Figure 6).

1.4.8 Habitat Connectivity and Wildlife Corridors

Background and Literature Review for Terrestrial Wildlife Movement

Wildlife corridors are defined as areas that connect suitable wildlife habitat areas in a region otherwise fragmented by rugged terrain, changes in vegetation, or human disturbance. Natural

features, such as canyon drainages, ridgelines, or areas with vegetation cover, often provide corridors for wildlife travel, but corridors may not be limited to such features and use of certain wildlife corridors may be species-specific. Wildlife corridors are important because they provide access to mates, food, and water; allow the dispersal of wildlife from high-density areas; and facilitate the exchange of genetic traits between populations (Beier and Loe 1992). Wildlife corridors are considered sensitive by resource and conservation agencies.

Although a project-level wildlife corridor study has not been conducted specifically for the project area, results from several studies of wildlife movement in areas with varying levels of urban and road development have shown that wildlife can move through areas with various kinds of development and may use a variety of pathways for travel. A selected review of studies, as applicable to wildlife species expected to occur in the project area, is presented here.

Although bobcats are nocturnal, fairly secretive, and seldom seen by humans, they are relatively adaptable to urban development as long as adequate natural habitat is provided. Availability of prey such as rabbits (Leporidae) and squirrels (Sciuridae), and habitat cover (rocky and brushy areas) are likely the limiting factors in bobcat distribution (Larivière and Walton 1997). Bradley and Fagre (1988), for example, found that bobcats in south Texas used fence-lines and roads for hunting more than expected by chance and were relatively undisturbed by human presence. Although buffer habitats may enhance the overall habitat value through increased cover and prey, reduced lighting, noise, and less human activity, there is no evidence that they shy away from development at particular distances from urban development as long as other habitat features and prey are present. Hawes and Smith (2005), for example, suggest that a riparian zone of 330 feet is adequate for bobcat. The main risk to bobcats in urban areas is collisions with vehicles.

Mountain lions are a wide-ranging species, with adult male home ranges exceeding 100 square miles (e.g., Loft 1996). Based on a study in the Santa Ana Mountains of Southern California, Dickson and Beier (2006) suggest that mountain lion preferentially move along canyon bottoms and gently sloping terrain rather than ridgelines and steep terrain and that they prefer riparian vegetation for diurnal use and nocturnal travel. Although large, non-fragmented landscapes are desirable for mountain lions, which tend to avoid urban areas, they will use constricted passages (i.e., low openness factors) in fragmented landscapes when necessary (Beier 1995; CBI 2002, 2003; Foster and Humphrey 1995; Hilty and Merenlender 2004). Similar to the situation with bobcats, vehicle collisions are probably the greatest risk to mountain lions in urbanizing environments.

Ng et al. (2004) studied wildlife movement at 15 potential wildlife passages, including underpasses, drainage culverts, and livestock tunnels in eastern Ventura County adjacent to the Los Angeles metropolitan area. The study area included the Simi Hills and the Santa Monica

Mountains, which support a mix of highly urbanized and relatively natural lands, and the Santa Susana Mountains, which consist of mostly intact natural landscapes with urbanization encroaching along the fringes. The study area also has three major highways. Ng et al. (2004) documented the regular use of underpasses and drainage culverts beneath highways by a variety of wildlife, including rodents and other small mammals; raccoon, skunk, and other midsized mammals; and larger mammals, including coyote, deer, and mountain lion. Riley et al. (2003) also conducted studies on bobcats and coyotes in the central Santa Monica Mountains and Simi Hills areas and found that from 65% to 89% of bobcat and coyote ranges home ranges were comprised of natural areas, with the remaining areas comprised of developed and altered (golf course, park, and rural residential) land uses. Tigas et al. (2002) investigated the effects of habitat fragmentation on daily activity, home range size, location, and movement patterns of bobcats and coyotes in the Simi Hills and Conejo Valley (eastern Ventura County) where much of the area has been urbanized and fragmented. Tigas et al. (2002) found no difference in home range size for either bobcat or coyote in the fragmented and unfragmented areas and bobcat and coyote density was not related to development. Both species were observed frequently using the corridors set aside for wildlife within the region.

George and Crooks (2006) conducted remote camera studies in the Nature Reserve of Orange County, California, a nature reserve located in an urban setting order to assess activity of bobcat, coyote, and mule deer. The Nature Reserve includes two core open space reserves of approximately 19,000 acres and 18,000 acres, respectively, with residential and commercial development encircling and fragmenting the core reserved areas as well as "special linkage areas" such as golf courses, utilities corridors, or other uses connecting the cores compatible with wildlife use. George and Crooks (2006) found that these species continue to inhabit the reserves and appear to move within the landscape of interspersed reserves and development. VerCauteren et al. (2005) also documented the use of human-altered landscapes by deer, with individuals regularly occurring less than 150 feet from human dwellings.

Grinder and Krausman (2001) studied movement by radio-collared coyotes in the Tucson, Arizona, which is representative of many western cities where an abrupt transition occurs between artificial and natural environments. Although their home ranges were highly variable, all of the coyotes' ranges encompassed rural, urban, and natural habitats. Based in the configuration of home ranges, Grinder and Krausman (2001) concluded individual were moving through very urban and residential areas during their daily and yearly cycle.

These studies demonstrate that most large and mobile wildlife species in southern California adapt to some level of urbanization and find ways to move through habitats as long as adequate wildlife corridors and passages are available.

Regional Planning Efforts

Other existing habitat management planning in the region is relevant to the analysis of regional wildlife corridors and habitat connectivity because these features cross broad areas of the landscape, and typically extend beyond the boundaries of a particular project. Habitat management programs are planned for east San Diego County in physically relevant to the project area include an MSCP Framework Management Plan (FMP), the 1978 and 1984 McCain Valley Wildlife Habitat Management Plans (WHMPs), and an Eastern San Diego County Resource Management Plan (RMP). The project area also is located within the study areas for larger scale conservation initiatives, including the Las Californias Binational Conservation Initiative (CBI 2004) and the Parque to Park Binational Corridor.

ECMSCP planning seeks to preserve the unique, native habitats and wildlife within San Diego County. The MSCP is a regional conservation effort that relies on multiple jurisdiction and agencies to ensure that conservation goals and policies are implemented and successful. The MSCP includes three subareas, each containing a separate conservation plan. The three subareas are North County, South County, and East County (ECMSCP). Only the South County MSCP Subarea Plan is approved. The Proposed Project is located within the boundary of the ECMSCP Plan (Figure 3). As described in Section 1.5.3, the ECMSCP Plan is currently in preparation (a Preliminary Draft Map has been completed). The overall intent of the ECMSCP is to create a large, connected preserve that addresses the regional habitat needs for multiple species. It is unknown at this time when the ECMSCP Plan will be approved.

The 1978 McCain Valley WHMP contains specific management objectives for three groups of priority species including (1) Peninsular bighorn sheep, (2) small game species, and (3) small mammals and reptiles of high scientific interest (BLM 1978). Second priority species (small game species) of interest in the McCain Valley identified in the WHMP included Gambel's quail (*Callipepla gambelii*), California quail (*Callipepla californicus*), mountain quail (*Oreortyx pictus*), Audubon cottontail (*Sylvilagus audubonii*), mourning dove (*Zenaida macroura*), and brush rabbit (*Sylvilagus bachmani*). Third priority species of interest as included in the McCain Valley WHMP included the desert horned lizard (*Phrynosoma platyrhinos*), Blainville's horned lizard (*Phrynosoma blainvillii*), deer mouse (*Peromyscus maniculatus*), banded rock lizard (*Petrosaurus mearnsi*), and the Baja California brush lizard (*Urosaurus nigricaudus*). The management objectives of the 1978 WHMP primarily focused on the protection and rehabilitation of priority species habitat within the McCain Valley area (the protection and rehabilitation of Peninsular bighorn sheep habitat is the top priority of the Plan) through deployment of specific actions, including the provision of free water; construction of road barriers on access routes into the bighorn sheep range; signing and posting (and patrol) of closed roads and trails; and restoration of closed roads, barrier sites, ditches, roads put to bed, and roads water-barred to minimized erosion (BLM 1978). In

describing the location of priority species, the plan notes that "most of the unique sensitive species in the McCain subunit are found on the desert slopes area that may eventually be designated as an ACEC"—this area, the In-Ko-Pah area of critical environmental concern (ACEC), is located northeast of the project area (Figure 3).

The 1984 WHMP updated the 1978 WHMP and was determined to be necessary to address more current (to 1984) resource management problems. Similar to the 1978 WHMP, the management objectives of the 1984 WHMP focus on the management and protection of Peninsular bighorn sheep herds and habitat identified within plan boundaries and the improvement of habitat for native game and non-game species through the McCain Valley area. The protection of mule deer was an area of focus of the 1984 WHMP not established in the 1978 WHMP. Planned actions to achieve the management objectives of the Plan include (similar to the 1978 WHMP) water source development, habitat protection and rehabilitation (through continuance or expansion of existing programs and restrictions on burning and informal target shooting within the area), and ACEC designation (the area identified for designation has since been designated as the In-Ko-Pah ACEC). Unique to the 1984 WHMP, a land acquisition program was identified and implemented for the acquisition of lands for wildlife habitat (the plan itself merely identifies lands desired for acquisition and does not establish funds for acquisition). Similar to the 1978 WHMP, provisions for review and modification of the 1984 WHMP are included.

In 2008, BLM established the Eastern San Diego County RMP. The intent of the Eastern San Diego County RMP and Final EIS is to update the 1981 Eastern San Diego County MFP and direct future land uses and land management within the Eastern San Diego Planning Area. The RMP addresses conflicts among various recreational users accessing BLM lands, provides direction for future site-specific development including renewable energy projects, and provides for monitoring to determine the effectiveness of BLM land management strategies. The RMP stresses that future policy decisions and land management strategies shall be compatible with the multiple use mission of the BLM. The multiple use mission promotes recreational use and responsible development within BLM-managed lands while maintaining environmental quality of the land.

The Nature Conservancy's cross-border project, the Las Californias Binational Conservation Initiative (CBI 2004), functions as a binational partnership between the Nature Conservancy and Mexico's Pronatura and is intended to establish an interconnected conservation network and sustaining ecosystem process along the U.S.–Mexico border region. The proposed binational conservation network, which includes lands from downtown San Diego, east to the Laguna Mountains, south to the southern extent of the Sierra Juarez mountain range, and west to Salsipuedes, consists of a vision report containing general objectives and land designations that coincide with one of four specific conservation objectives and functions.

Regional Wildlife Movement and Migration

Most of the terrestrial wildlife movement in the project region is likely be local movement and regional dispersal rather than large-scale, long-distance migration. However, migration by Peninsular bighorn sheep along the Peninsular Mountain Range and south in the mountain ranges of Baja California, Mexico is an important issue in the East County. Although I-8 is a constraint to north–south wildlife movement, Peninsular bighorn sheep occasionally migrate south and cross into Mexico to breed with other populations. Additionally, movement between the United States and Mexico can only occur where gaps in the border fence occur in areas of rugged terrain. The closest Peninsular bighorn sheep population to the project area is the Carrizo Canyon subpopulation (63 FR 13134–13150; USFWS 2000). Also, west of the In-Ko-Pah Gorge and I-8 there are "island" areas that receive transient bighorn sheep use. Other "islands" between the east- and west-bound I-8 lanes on the desert slope are known to be yearly lambing areas. The project area is located well west of these areas, so development on the site would not affect bighorn sheep movement or lambing areas.

Many of the birds in the project area are year-round residents and thus probably move relatively small distances from their natal areas. These include most of the common scrub and chaparral species observed in the project area, such as California quail, western scrub-jay, bushtit, Bewick's wren, California towhee and spotted towhee. However, the project area is also used by several migratory bird species and possibly some bat species. Common migrant birds observed in the project area include yellow-rumped warbler, orange-crowned warbler, white-crowned sparrow, cliff swallow and northern rough-winged swallow. A major north–south migration route for birds that travel between North, Central, and South America is the Pacific Flyway, which is a broad-front route that generally covers much of the landscape in California. The project area is situated between the two main routes of the Pacific Flyway: the Pacific Coast route and the inland route. The Pacific Coast route, which skirts the coast of California, is used mostly by gulls, ducks, and other water birds. An important stopover for many birds that travel along the inland route is the Salton Sea, located approximately 40 miles northeast of the project area (SDG&E 2009). More than 450 bird species and subspecies have been documented in the Salton Sea area, of which more than 300 species use the area during migration and/or for wintering (Patton et al. 2003). A study from 1985 to 1999 focused on shorebird migration and recorded avian use at the Salton Sea and adjacent Imperial Valley. Large numbers of shorebirds, including black-necked stilt (*Himantopus mexicanus*), American avocet (*Recurvirostra americana*), western sandpiper (*Calidris mauri*), and dowitchers (*Limnodromus* spp.) were recorded during migration periods (Shuford et al. 2003). In addition, the study showed that the Salton Sea is not only as an important migratory stopover, but also a wintering area for many species, including the mountain plover (*Charadrius montanus*) (Shuford et al. 2003). In general, bird migration occurs during the months of March through April (northward spring migration)

and August through November (southward fall migration). Migration timing in Southern California along the Pacific Flyway varies from species to species. For many migrant birds the arrival and departure in San Diego has been well documented (e.g., Unitt 2004), but for some species there is little documentation of migratory behavior.

Some migrant birds species were observed on site, but the project area does not support the large abundance and diversity of birds observed in the Salton Sea area. Although the site supports a small (0.2 acre) pond, it lacks large bodies of water, wetlands, and agricultural areas that attract the large numbers of birds to the Salton Sea area. There are some other larger water bodies in the general region, however, that may attract migrating birds, including Tule Lake just southwest of the project area, Lake Domingo about 5 miles south of the project area, and Cuyamaca Lake located approximately 30 miles northwest of the project area, as well as several other smaller reservoirs. Birds using these water bodies may fly over the project area but are less likely to land on the site.

Bat migration is less well understood than bird migration, but there is some information available on their seasonal movement patterns in the southwestern United States. Some bat species that could occur in the project area migrate large distances. Mexican long-tongued bat migrates from Mexico and Central America to maternity roosts in the U.S., although there are winter records from southern California (Noel and Cryan 2005), indicating that some bat populations in southern California migrate shorter distances. Western red bat is highly migratory, traveling between different summer ranges in British Colombia and the western U.S. to winter ranges in Mexico, Central America, and South America (Bolster 2005). Other bat species are not known to migrate long distances, but may move some distance between day roosts and forages and exhibit shorter distance seasonal migrations. Townsend's big-eared bats are known to travel over 93 miles in an evening during foraging and may migrate locally; however, seasonal migration patterns are not well known for this species (Sherwin and Piaggo 2005). Spotted bats may travel between foraging and roosting habitats during the day. Spotted bats at lower elevations may not migrate, but some individuals may migrate from summer ranges at higher elevations to lower elevation wintering areas; generally seasonal migration is not well understood for this species (Luce and Herder 2005). Greater mastiff bats are known to be periodically active in the winter and move relatively short distances, rather than long-distance seasonal migration. In Arizona and California, greater mastiff bats have been detected all year round, but may change roost sites (Pierson and Siders 2005).

Some bats, such as pallid bat, Townsend's big-eared bat, and western mastiff bat, may use the project area year round for foraging habitat, and others, such as western red bat, may pass through the area during seasonal migrations.

Project Area Wildlife Corridors

The project is located within an area that is generally referred to as McCain Valley, located in the In-Ko-Pah Mountains region of southeastern San Diego County. These mountains have few dramatic peaks and are characterized by broad rolling upland areas of granite rock formations. The mountains are oriented generally northwest to southeast and rise gradually above the McCain Valley in the west and drop off into the Carrizo Canyon in the east. The Laguna Mountains are located west and north of the project area and the Anza-Borrego Desert and the eastern slope of the Peninsular Range are located to the east of the project area. The project area is approximately 5 miles north of the U.S.–Mexico border.

The region in general is largely public lands dominated by undeveloped land. In terms of landscape movement patterns of larger mammals (e.g., mountain lion, bobcat, mule deer) in the region, north–south movement is primarily restricted by two landscape features, I-8 and the fence at the U.S.–Mexico Border. The project area is bordered by transportation-oriented development with I-8 to the south and the Sunrise Powerlink. Located north of the project area is State Route (SR)-78; State Highway S-2 is located to the east; and SR-79 (Sunrise Highway) and Kitchen Creek Road are located to the west. The roads vary in the degree to which they are barriers to wildlife, from the busy four-lane highway of I-8 to rural roads with light vehicle traffic, such as on S-2 and Kitchen Creek Road. The amount of barrier varies with the size of the road (four-, two-, or single lane), frequency of travel, the number of available crossings in each portion of the road. The roads and highways within the project region often have bridges and culverts that provide passage for wildlife, although it is likely that substantial at-grade movement occurs on roads in the more remote areas with little traffic and during nighttime. In addition to roads, the upper McCain Valley and surrounding mountains support other uses and physical structures that may affect wildlife movement patterns, including campgrounds, fencing, off-highway vehicle (OHV) uses, grazing uses, other scattered rural residential uses, and the existing Kumeyaay wind farm on the Campo Indian Reservation. The Boulevard area south I-8 to the Mexico border supports low-density rural development that may somewhat affect wildlife movement, but the density of development is low enough to not severely constrain movement. The Laguna Mountains west of the project area have existing camping areas and a segment of the Pacific Crest Trail, and also support small communities such as Pine Valley, Guatay, and Descanso that have pockets of higher residential densities. Otherwise, there is little development in the Laguna Mountains that could constrain regional wildlife movement.

The Carrizo Gorge in the Anza-Borrego Desert located east of the project area provides a transition zone from chaparral to desert. While some of the species that occur in the project area (e.g., mule deer, mountain lion, bobcat) may occur in this transition zone, the majority of desert wildlife species do not typically inhabit the higher elevation chaparral (e.g., Peninsular bighorn sheep) and, likewise, many chaparral wildlife species do not occur in

desert habitats. Generally the bridged canyons in this very rugged transition zone (e.g., along I-8) provide passage routes for wildlife, so north-south movement probably is not substantially constrained in this transition zone. For example, based on the 2009 USFWS Biological Opinion for the Sunrise Powerlink, Peninsular bighorn sheep have been reported using Devil's Canyon (approximately 11 miles east of the project site) to venture south of the highway, an area in which they were thought to be extirpated in the 1980s (USFWS 2009b). It can be assumed that other, smaller species also use this canyon and similar passages for traveling between areas north and south of the I-8 (HDR 2010a).

A nonprofit group, South Coast Wildlands, has also suggested a Jacumba corridor to Mexico, south of the Proposed Project (HDR 2010a; Penrod et al. 2006). Finally, to the north, South Coast Wildlands has proposed creating a linkage corridor between the Peninsular Range and the Anza-Borrego Desert (HDR 2010a; Penrod et al. 2006). This linkage is several miles north of the project area, and wildlife movement through this corridor would not be affected by the project.

Local wildlife movement in immediate the vicinity of the project area is currently constrained by existing transportation infrastructure. Specifically, movement is hindered by I-8 to the south and, to a much lesser degree, by McCain Valley Road through the eastern portion of the project area, and by Ribbonwood Road through the western portion of the project area. As a major transportation corridor, I-8 can be a significant barrier to wildlife movement and source of mortality for large animals (CBI 2003), though mule deer, coyotes, mountain lion, bobcats, and other species may cross under I-8 at McCain Valley Road when traffic allows. The patterns of deer, lion, and coyotes have been shown to occur when traffic volumes would be expected to be reduced (Clevenger 2013). In contrast, the rural two-lane roads, McCain Valley Road and Ribbonwood Road, have low traffic densities and are much less of a risk and barrier to movement than I-8.

In addition, the northeast portion of the project area is temporarily being used by SDG&E as a staging area for the Sunrise Powerlink Project. Indirect and direct effects associated with this staging area, including perimeter chain-link fencing and temporary helicopter activity, may constrain movement in this portion of the project area.

Other land uses and human activities likely affect movement patterns of animals depending on their sensitivity to anthropogenic factors. For example, species such as bobcat and mountain lion usually avoid areas with high levels of human activity, or alter their temporal patterns to avoid certain periods, such as shifting movement to nocturnal periods when there is less human activity and staying in cover during the daytime to avoid direct contact with humans. Coyotes, on the other hand, are relatively tolerant of human activity and will move through fairly fragmented landscapes. Mule deer may also be fairly tolerant of human activity and development, but tend to remain close to cover in which to escape.

Potential water sources for migrating and resident wildlife in and around the project area include Tule Creek, which runs the length of McCain Valley and drains into Tule Lake at the southern end of the valley. Several reservoirs and wells are located in the valley, along with numerous unnamed creeks and springs. Bow Willow Creek intersects McCain Valley at the northern end of the project area near Canebrake Road.

Typical wildlife species expected to move across the project area include mule deer, mountain lion, bobcat, coyote, small mammals, reptiles, and birds. Winged wildlife such as birds and butterflies would be able to move freely over the entire site. In general, the project area does not support clearly definable wildlife corridors for the large mobile species (mule deer, mountain lion, bobcat, coyote), as indicated by prominent landscape features such as canyons or ridgelines or vegetative cover, such as woodland or riparian zones. The landscape in and around the project area is composed of relatively flat or gentle slopes where wildlife can move throughout and among a variety of habitats (approximately 70% scrub and chaparral) without constraint; i.e., wildlife movement is not limited to canyons or ridgelines. For the most part, the area in and around the project area is very similar with regard to vegetation communities and limited human disturbance. While existing movement is likely to be fairly unconstrained, there could be concentrations of movement within on-site drainages and on ridgelines, or wildlife may use some areas relatively more where higher cover is present, especially during the daytime. Some species may use areas with the least resistance (e.g., less expenditure of energy) such as dirt roads and game trails as long as associated risks are low (e.g., vehicle collisions, predation). Figure 8 shows conceptual movement corridors that would follow topographic features (ridgelines, drainages, vegetation cover, and roads).

In conclusion, the entire area currently functions as a block of habitat and is not constrained to only function as a wildlife corridor between two larger blocks. The area is not readily identifiable as an existing wildlife corridor or habitat linkage, per se, to adjacent large habitat blocks because wildlife movement is not constrained or funneled through the project area by adjacent landscape constraints. Therefore, the designation of the project area as a specific habitat linkage is not appropriate. Rather, the site allows for a variety of wildlife movement opportunities and supports habitats and movement corridors that are similar to other sites within the region.

1.5 Applicable Regulations

1.5.1 Federal

Clean Water Act

The Clean Water Act (CWA) is intended to restore and maintain the quality and biological integrity of the nation's waters. Section 402 of the CWA prohibits the discharge of pollutants to

"waters of the United States" from any point source unless the discharge is in compliance with a National Pollutant Discharge Elimination System (NPDES) Permit. The CWA, Section 402, requires a NPDES Permit for the discharge of stormwater from municipal separate storm sewer systems (MS4) serving urban areas with a population greater than 100,000, construction sites that disturb 1 acre or more, and industrial facilities. The RWQCB administers these permits with oversight provided by the SWRCB and EPA Region IX.

Section 404 of the CWA authorizes the Secretary of the Army, acting through the ACOE, 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 (CFR), Title 33, Section 328.3, Subdivision (a)[6] to include navigable waters; perennial and intermittent streams, lakes, rivers, ponds; as well as wetlands, marshes, and wet meadows. Specifically, Section 328.3(a) defines "waters of the United States" as follows:

1. All waters which are currently used, or were used in the past, or may be susceptible to use in interstate or foreign commerce, including all waters which are subject to the ebb and flow of the tide;
2. All interstate waters, including interstate wetlands;
3. All other waters such as intrastate lakes, rivers, streams (including intermittent streams), mudflats, sandflats, wetlands, sloughs, prairie potholes, wet meadows, playa lakes, or natural ponds, the use, degradation, or destruction of which could affect interstate or foreign commerce including any such waters:
    i. Which are or could be used by interstate or foreign travelers for recreational or other purposes;
    ii. From which fish or shellfish are or could be taken and sold in interstate or foreign commerce; or
    iii. Which are or could be used for industrial purpose by industries in interstate commerce;
4. All impoundments of waters otherwise defined as waters of the United States under the definition;

[6] This regulation, 33 CFR 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 ACOE's 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 ACOE's jurisdiction over "waters of the United States," and, therefore, are referenced here for that purpose.

5. Tributaries of waters identified in paragraphs (a)(1) through (4) of this section;
6. The territorial seas; and
7. Wetlands adjacent to waters (other than waters that are themselves wetlands) identified in paragraphs (a)(1) through (6) of this section.

   Waste treatment systems, including treatment ponds or lagoons designed to meet the requirements of CWA (other than cooling ponds as defined in 40 CFR 123.11(m) which also meet the criteria of this definition) are not waters of the United States.
8. Waters of the United States do not include prior converted cropland. Notwithstanding the determination of an area's status as prior converted cropland by any other federal agency, for the purposes of CWA, the final authority regarding CWA jurisdiction remains with the EPA.

The lateral limits of the ACOE's 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 (33 CFR § 328.3I). As such, waters 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 ACOE's 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 (33 CFR § 328.4; see also 51 FR 41217).

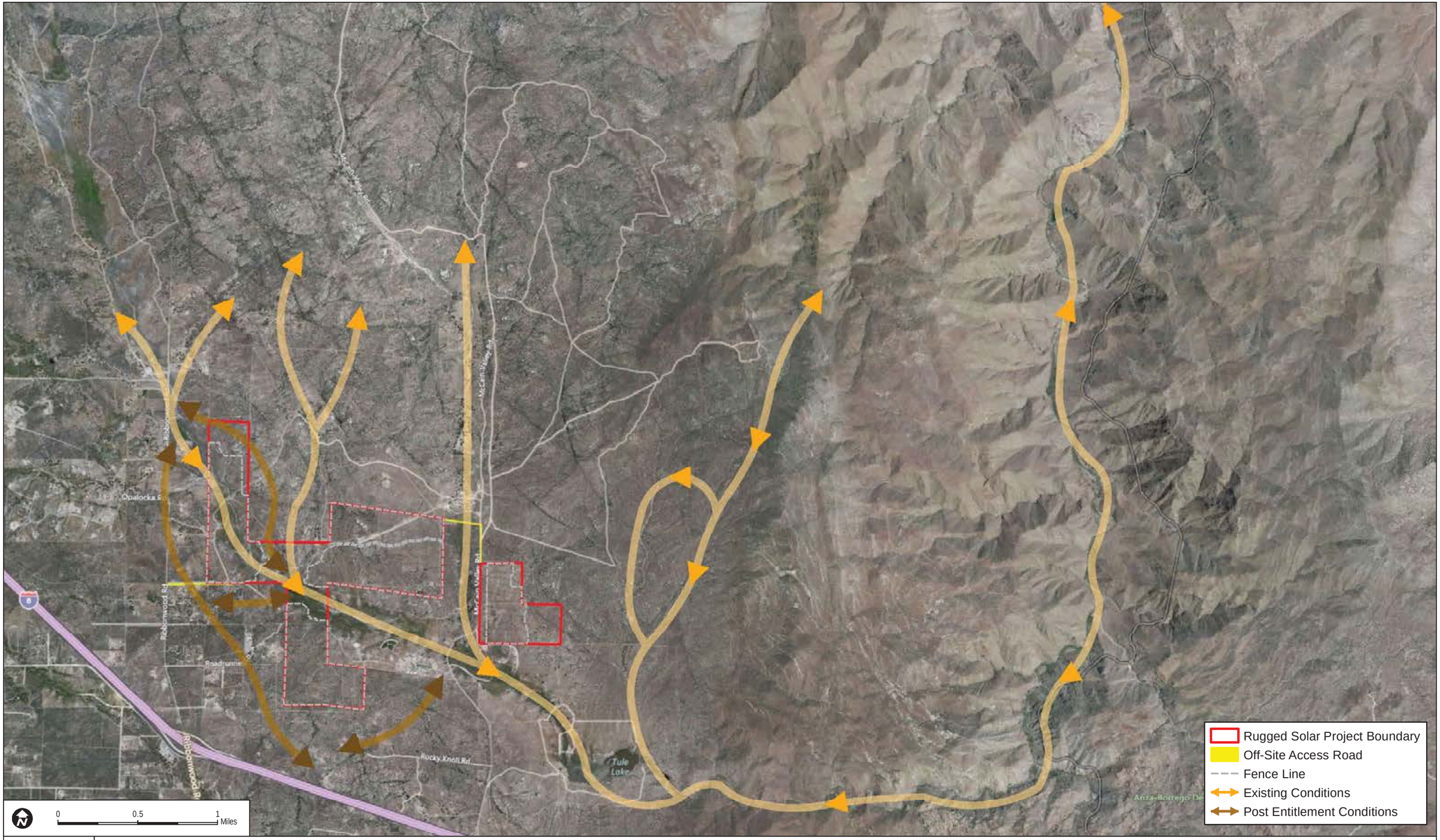
Section 401 of the CWA requires that an applicant for a federal license or permit to discharge into navigable waters must provide the federal agency with a water quality certification, declaring that the discharge will comply with water quality standard requirements of the CWA. The ACOE is prohibited from issuing a CWA permit until the applicant receives a CWA Section 401 water quality certification or waiver from the RWQCB.

Federal Endangered Species Act (FESA)

The FESA designates threatened and endangered animals and plants and provides measures for their protection and recovery. Under FESA, "take" of listed animal and plant species in areas under federal jurisdiction is prohibited without obtaining a federal permit. FESA defines "take" as "to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or attempt to engage in any such conduct" (16 U.S.C. 1531). Harm includes any act that actually kills or injures fish or wildlife, including significant habitat modification or degradation that

significantly impairs essential behavioral patterns of fish or wildlife. Activities that damage (i.e., harm) the habitat of listed wildlife species require approval from USFWS for terrestrial species. If critical habitat has been designated under FESA for listed species, impacts to areas that contain the primary constituent elements identified for the species, whether or not it is currently present, is also prohibited without obtaining a federal permit. FESA Sections 7 and 10 provide two pathways for obtaining permission to take listed species.

Under Section 7 of FESA, a federal agency that authorizes, funds, or carries out a project that "may affect" a listed species or its critical habitat must consult with USFWS. For example, ACOE must issue a permit for projects impacting waters or wetlands under ACOE jurisdiction. In a Section 7 consultation, the lead agency (e.g., ACOE) prepares a Biological Assessment that analyzes whether the project is likely to adversely affect listed wildlife or plant species or their critical habitat, and it proposes suitable avoidance, minimization, or compensatory mitigation measures. If the action would adversely affect the species, USFWS has up to 135 days to complete the consultation process and develop a Biological Opinion determining whether the project is likely to jeopardize the continued existing species or result in adverse modification of critical habitat. If a "no jeopardy" opinion is provided, "the action agency may proceed with the action as proposed, provided no incidental take is anticipated. If incidental take is anticipated, the agency or the applicant must comply with the reasonable and prudent measures and implementing terms and conditions in the Service's incidental take statement to avoid potential liability for any incidental take" (USFWS 1998). If a jeopardy or adverse modification opinion is provided, USFWS may suggest "reasonable and prudent alternatives for eliminating the jeopardy or adverse modification of critical habitat in the opinion" or "choose to take other action if it believes, after a review of the biological opinion and the best available scientific information, such action satisfies section 7(a)(2)" (USFWS 1998).



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SOURCE: Bing Maps

FIGURE 8

Wildlife Corridors and Habitat Linkages Map

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Under Section 10 of FESA, private parties with no federal nexus may obtain an "incidental take permit" to harm listed wildlife species incidental to the lawful operation of a project. To obtain an incidental take permit, the applicant must develop a habitat conservation plan (HCP) that specifies impacts to listed species, provides minimization and mitigation measures and funding, and discusses alternatives considered and the reasons why such alternatives are not being used. If USFWS finds the HCP will not appreciably reduce the likelihood of the survival and recovery of the species, it will issue an incidental take permit. Issuance of incidental take permits requires USFWS to conduct an internal Section 7 consultation, thus triggering coverage of any listed plant species or critical habitat present on site (thus listed plants on private property are protected under FESA if a listed animal is present). Unlike a Section 7 consultation, USFWS is not constrained by a time limit to issue an incidental take permit.

Executive Order 11990 Protection of Wetlands

Executive Order 11990 states that measures should be taken to "avoid to the extent possible the long and short term adverse impacts associated with the destruction or modification of wetlands and to avoid direct or indirect support of new construction in wetlands wherever there is a practicable alternative."

Fish and Wildlife Coordination Act

The Fish and Wildlife Coordination Act (16 U.S.C. 661–666) "authorizes the Secretaries of Agriculture and Commerce to provide assistance to and cooperate with Federal and State agencies to protect, rear, stock, and increase the supply of game and fur-bearing animals, as well as to study the effects of domestic sewage, trade wastes, and other polluting substances on wildlife." The term "wildlife" includes both animals and plants. Wherever any federal project where the waters of any stream or other body of water are impounded, diverted, deepened, or otherwise modified, consultation with the USFWS appropriate state wildlife agency shall be undertaken to prevent the loss of and damage to wildlife resources. These agencies prepare reports and recommendations that document project effects on wildlife and identify measures that may be adopted to prevent loss or damage to wildlife resources. Provisions of the act are implemented through the Section 404 permit process.

Migratory Bird Treaty Act

The Migratory Bird Treaty Act implements international treaties between the United States and other nations that protect migratory birds (including their eggs and nests) from killing, hunting, pursuing, capturing, selling, and shipping unless expressly authorized or permitted. The list of migratory birds is extensive, including American crow (*Corvus brachyrhynchos*), common raven, and northern mockingbird (16 U.S.C. 703–712).

Bald and Golden Eagle Protection Act

The bald eagle (*Haliaeetus leucocephalus*) and golden eagle are federally protected under the Bald and Golden Eagle Protection Act, passed in 1940 to protect the bald eagle and amended in 1962 to include the golden eagle (16 U.S.C. 668a–d). This act (16 U.S.C. 668–668d) prohibits the take, possession, sale, purchase, barter, offering to sell or purchase, export or import, or transport of bald eagles and golden eagles and their parts, eggs, or nests without a permit issued by the USFWS. The definition of "take" includes to pursue, shoot, shoot at, poison, wound, kill, capture, trap, collect, molest, or disturb. The act prohibits any form of possession or taking of both eagle species, and the statute imposes criminal and civil sanctions as well as an enhanced penalty provision for subsequent offenses. Further, the act provides for the forfeiture of anything used to acquire eagles in violation of the statute. The statute exempts from its prohibitions on possession the use of eagles or eagle parts for exhibition, scientific, and Indian religious uses.

However, there is allowance within the act that, after investigation, the Secretary of the Interior may determine that direct and purposeful taking is compatible with the preservation of the bald eagle or the golden eagle. If so, then the Secretary may permit the taking, possession, and transportation of specimens for the scientific or exhibition purposes of public museums, scientific societies, and zoological parks, or for the religious purposes of Indian tribes. The Secretary may also determine that it is necessary to permit the taking of eagles for the protection of wildlife or of agricultural or other interests in any particular locality. This permitting may be for the seasonal protection of domesticated flocks and herds, and may also permit the taking, possession, and transportation of golden eagles for the purposes of falconry if the eagles may cause depredations on livestock or wildlife. Finally, the Secretary of the Interior may permit the taking of golden eagle nests that interfere with resource development or recovery operations, or in an emergency.

In November 2009, the USFWS published the Final Eagle Permit Rule (74 FR 46836–46879) providing a mechanism to permit and allow for incidental (i.e., non-purposeful) take of bald and golden eagles pursuant to the Bald and Golden Eagle Protection Act (16 U.S.C. 668 et seq.). Disturb means "to agitate or bother a bald or golden eagle to a degree that causes, or is likely to cause, based on the best scientific information available, (1) injury to an eagle, (2) a decrease in its productivity, by substantially interfering with normal breeding, feeding, or sheltering behavior, or (3) nest abandonment, by substantially interfering with normal breeding, feeding, or sheltering behavior." These regulations may apply to projects such as wind turbines and transmission lines, and were followed by issuance of guidance documents for inventory and monitoring protocols and for avian protection plans (Pagel et al. 2010). In February 2011, the USFWS released Draft Eagle Conservation Plan Guidance aimed at clarifying expectations for acquiring take permits acquisition by wind power projects consistent with the 2009 rule.

1.5.2 State

California Endangered Species Act

CDFW administers the California Endangered Species Act (CESA) (Fish and Game Code, Section 2050 et seq.; CDFG 1984), which prohibits the take of plant and animal species designated by the Fish and Game Commission as endangered or threatened in the State of California. Under CESA, Section 86, take is defined as "hunt, pursue, catch, capture, or kill, or attempt to hunt, pursue, catch, capture, or kill." CESA Section 2053 stipulates that state agencies may not approve projects that will "jeopardize the continued existence of any endangered species 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 which would prevent jeopardy."

According to Sections 3511 and 4700 of the Fish and Game Code, which regulate birds and mammals, respectively, a "fully protected" species may not be taken or possessed without a permit from the Fish and Game Commission, and "incidental takes" of these species are not authorized.

CESA Sections 2080 through 2085 address the taking of threatened, endangered, or candidate species by stating, "No person shall import into this state, export out of this state, or take, possess, purchase, or sell within this state, any species, or any part or product thereof, that the Commission determines to be an endangered species or a threatened species, or attempt any of those acts, except as otherwise provided in this chapter, the Native Plant Protection Act (Fish and Game Code, Sections 1900–1913), or the California Desert Native Plants Act (Food and Agricultural Code, Section 80001)."

California Environmental Quality Act

CEQA was enacted in 1970 to provide for full disclosure of environmental impacts to the public before issuance of a permit by state and local public agencies. Qualifying projects include zoning ordinances, issuance of conditional use permits, variances, and the approval of tentative subdivision maps. If a project is regulated under CEQA, the developer completes necessary studies and designs for the project and identifies the state lead agency for the project. The lead agency conducts an Initial Study that identifies the environmental impacts of the project and determines whether these impacts are significant. In some cases, the lead agency may skip the preparation of the Initial Study and proceed directly to the preparation of an EIR. The lead agency may prepare a Negative Declaration if it finds no significant impacts, a Mitigated Negative Declaration if it revises the project to avoid or mitigate significant impacts, or an EIR if it finds significant, unmitigated impacts. The EIR is subject to more extensive public comment and provides information on the potentially significant impacts, lists ways to minimize these

impacts, and discusses alternatives to the project. CEQA only provides a public review process, and projects with significant impacts may be approved if the lead agency makes a finding of overriding considerations.

In addition to state-listed or federally listed species, special-status plants and animals receive consideration under CEQA. Special-status species include wildlife Species of Special Concern listed by CDFW and plant species on the CNPS List 1A, 1B, or 2.

California Fish and Game Code

Birds and Mammals

According to Sections 3511 and 4700 of the California Fish and Game Code, which regulate birds and mammals, respectively, a "fully protected" species may not be taken or possessed, and "incidental takes" of these species are not authorized. However, the CDFW may authorize the taking of those species for necessary scientific research, including efforts to recover fully protected, threatened, or endangered species, and may authorize the live capture and relocation of those species pursuant to a permit for the protection of livestock. Fully Protected species include the California condor, Peninsular bighorn sheep, and golden eagle.

Resident and Migratory Birds

The California Fish and Game Code provides protection for wildlife species. It states that no mammals, birds, reptiles, amphibians, or fish species listed as Fully Protected can be "taken or possessed at any time." In addition, CDFW affords protection over the destruction of nests or eggs of native bird species (Section 3503), and it states that no birds in the orders of *Falconiformes* or *Strigiformes* (birds of prey) can be taken, possessed, or destroyed (Section 3503.5). CDFW cannot issue permits or licenses that authorize the take of any Fully Protected species, except under certain circumstances such as scientific research and live capture and relocation of such species pursuant to a permit for the protection of livestock (Section 3511). Separate from federal and state designations of species, CDFW designates certain vertebrate species as Species of Special Concern based on declining population levels, limited ranges, and/or continuing threats that have made them vulnerable to extinction.

California Native Plant Protection Act

The Native Plant Protection Act of 1977 (California Fish and Game Code, Sections 1900–1913) directed the CDFW to carry out the Legislature's intent to "preserve, protect and enhance rare and endangered plants in this State." The Native Plant Protection Act gave the California Fish and Game Commission the power to designate native plants as "endangered" or "rare" and protect endangered and rare plants from take. When the California Endangered Species Act was

passed in 1984, it expanded on the original Native Plant Protection Act, enhanced legal protection for plants, and created the categories of "threatened" and "endangered" species to parallel FESA. The California Endangered Species Act converted all rare animals into the act as threatened species but did not do so for rare plants, which resulted in three listing categories for plants in California: rare, threatened, and endangered. The Native Plant Protection Act remains part of the California Fish and Game Code, and mitigation measures for impacts to rare plants are specified in a formal agreement between CDFW and the project proponent.

California Desert Native Plants Act

California Food and Agriculture Code, Division 23, Chapter 3, Sections 80071–80075, affords protection to desert native plants under the California Desert Native Plants Act passed in 1981. Sections 1925–1926 of the California Fish and Game Code agree to enforce the provisions of the act. The California Desert Native Plants Act prohibits the harvesting, transport, sale, or possession of designated native desert plants except for scientific or educational purposes (under a permit), or if the person has a valid permit, or wood receipt, and the required tags and seals. The provisions are applicable within the boundaries of Imperial, Inyo, Kern, Los Angeles, Mono, Riverside, San Bernardino, and San Diego Counties.

Porter-Cologne Water Quality Control Act (Water Code, § 13000 et seq.)

The intent of the Porter-Cologne Water Quality Control Act is to protect water quality and the beneficial uses of water, and it applies to both surface water and groundwater. Under this law, the SWRCB develops statewide water quality plans, and the RWQCB develops basin plans that identify beneficial uses, water quality objectives, and implementation plans. The RWQCBs have the primary responsibility to implement the provisions of both statewide and basin plans. Waters regulated under the Porter-Cologne Water Quality Control Act include isolated waters that are no longer regulated by the ACOE. Developments with impact to jurisdictional waters must demonstrate compliance with the goals of the act by developing Stormwater Pollution Prevention Plans, Standard Urban Storm Water Mitigation Plans, and other measures in order to obtain a CWA Section 401 certification.

Streambed Alteration Agreement

CDFW must be notified prior to beginning any activity that would obstruct or divert the natural flow of, use material from, or deposit or dispose of material into a river, stream, or lake, whether permanent, intermittent, or ephemeral waterbodies under Section 1602 of the California Fish and Game Code. CDFW has 30 days to review the proposed actions and propose measures to protect affected fish and wildlife resources. The final proposal that is mutually agreed upon by CDFW

and the applicant is the Streambed Alteration Agreement. The conditions of a Streambed Alteration Agreement and a CWA Section 404 permit often overlap.

1.5.3 Local/County of San Diego

County of San Diego Resource Protection Ordinance

The RPO, administered by the County, regulates biological resources within the County. These resources include wetlands, wetland buffers, floodways, floodplain fringe, steep slope lands, sensitive habitat lands, and significant prehistoric or historic sites. Generally, the ordinance stipulates that no impacts may occur to wetlands except for scientific research, removal of diseased or invasive exotic plant species, wetland creation and habitat restoration, revegetation and management projects, and crossings of wetlands for roads, driveways, or trails/pathways when certain conditions are met. The same exemptions apply to impacts to wetland buffer areas, and improvements necessary to protect adjacent wetlands are permitted.

RPO Wetlands

The RPO, Section 86.602(p), defines Wetlands as (County of San Diego 2007):

> *Lands having one or more of the following attributes:*
>
> - *At least periodically, the land supports a predominance of hydrophytes (plants whose habitat is water or very wet places);*
> - *The substratum is predominantly undrained hydric soil; or*
> - *An ephemeral or perennial stream is present, whose substratum is predominately non-soil, and such lands contribute substantially to the biological functions or values of wetlands in the drainage system.*
>
> *Wetlands are not lands which have the attributes specified above solely due to man-made structures (e.g., culverts, ditches, road crossings, or agricultural ponds), provided that the Director of Planning and Land Use determines that they:*
>
> - *Have negligible biological function or value as wetlands even if restored to the extent feasible; and,*
> - *Do not have substantial or locally important populations of wetland dependent sensitive species.*

> *Lands are also not considered wetland if they have been degraded by past legal land disturbance activities, to the point that they meet the following criteria as determined by the Director of Planning and Land Use:*
>
> - *Have negligible biological function or value as wetlands;*
> - *Are small and geographically isolated from other wetland systems;*
> - *Are not vernal pools; and,*
> - *Do not have substantial or locally important populations of wetland dependent sensitive species.*

According to Sec. 86.604, the RPO restricts specific development on wetlands to include aquaculture; scientific research and educational or recreational uses; wetland creation and habitat restoration. In addition, the ordinance requires that a wetland buffer be provided to further protect the wetland resources. Improvements necessary to protect the adjacent wetlands and those uses allowed within the actual wetland are the only allowed uses within the buffer. Sec. 86.604 goes on to specify, "There must be no net loss of wetlands and any impacts to wetlands shall be mitigated at a minimum ratio of 3:1" (County of San Diego 2007).

Within the study area, RPO wetlands are mapped in the Tule Creek region and include alkali meadow (14.49 acres), disturbed alkali meadow (4.50 acres), and disturbed mulefat scrub (1.18 acres). In addition, a 50-foot wetland buffer is provided for these wetlands as shown on Figure 4, which provides an additional 19.21 acres of buffer. These vegetation communities are discussed in more detail in Section 1.4.2.

RPO Sensitive Habitat Lands

The RPO, Section 86.602(p), defines Sensitive Habitat Lands as (County of San Diego 2007):

> *Land which supports unique vegetation communities, or the habitats of rare or endangered species or sub-species of animals or plants as defined by Section 15380 of the State California Environmental Quality Act (CEQA) Guidelines (14 Cal. Admin. Code Section 15000 et seq.), including the area which is necessary to support a viable population of any of the above species in perpetuity, or which is critical to the proper functioning of a balanced natural ecosystem or which serves as a functioning wildlife corridor.*
>
> *"Unique vegetation community" refers to associations of plant species which are rare or substantially depleted. These may contain rare or endangered species, but other species may be included because they are unusual or limited due to a number of factors, for example: (a) they are only found in the San Diego region;*

> *(b) they are a local representative of a species or association of species not generally found in San Diego County; or (c) they are outstanding examples of the community type as identified by the California Department of Fish and Game listing of community associations.*

According to Sec. 86.604, development, grading, grubbing, clearing or any other activity or use damaging to sensitive habitat lands is prohibited. However, development may be allowed when all feasible measures necessary to protect and preserve the sensitive habitat lands are required as a condition of permit approval and where mitigation provides an equal or greater benefit to the affected species (County of San Diego 2007).

To determine whether portions of the project area are considered Sensitive Habitat Lands under the RPO, an analysis of the criteria described in the definition for Sensitive Habitat Lands is provided as follows:

Unique Vegetation Community. To determine whether any of the vegetation communities would be considered a "unique vegetation community," special-status plant species that occur in the project area and are only found in the San Diego region were reviewed; the rarity of the species or association of species found within one or more vegetation communities on site were reviewed; and the vegetation communities were analyzed in the context of their status with CDFW.

a. Based on a review of records in CNPS (2012), CNDDB (CDFG 2012a), and the Jepson Flora Project (2012c–k), the following plants are present in the study area and have only been recorded in San Diego County: Jacumba milk-vetch, Tecate tarplant, sticky geraea, and desert beauty. These plants are found in a variety of habitats in the project area and are discussed in more detail in Section 1.4.5.

b. The vegetation communities mapped in the project area are described in detail in Section 1.4.2. The vegetation on site is common for the Boulevard region and these communities support species that are found commonly throughout San Diego County, particularly the inland areas (e.g., chamise, red shank, big sagebrush, deerweed, California buckwheat, scrub oak, and cholla). None of the vegetation communities mapped on site stand out as unique in the San Diego region.

c. CDFW provides a state ranking for vegetation communities in the *List of California Vegetation Alliances and Associations* that determines the level of rarity and imperilment of vegetation types.

   The vegetation on site is common for the East County region and these communities support species that are found commonly throughout San Diego County, particularly the inland areas (e.g., chamise, red shank, big sagebrush, California buckwheat, scrub oak, and cholla).

Two vegetation communities in the project area have a conservation status of S3[7] which means it is "vulnerable to extirpation or extinction": mixed oak woodland, and semi-desert chaparral. However, in San Diego County, these vegetation types are not necessarily unique.

Based on a review of the SANDAG vegetation mapping completed in 1995 (SANDAG 1995), semi-desert chaparral is mapped primarily in two areas of San Diego County: northeast of Julian and in the McCain Valley, Boulevard, and Jacumba area, and there are scattered locations east of Pine Valley. There are approximately 39,150 acres of semi-desert chaparral mapped in San Diego County (SANDAG 1995) and based on current aerial maps, these areas are largely undeveloped (Bing Maps 2012). Mixed oak woodland is primarily mapped west of Warner Springs and in the Santa Ysabel and Julian area, with some scattered locations to the southeast. There are approximately 13,830 acres of mixed oak woodland mapped in San Diego County (SANAG 1995), and based on current aerial maps, these areas are also largely undeveloped with the exception of some small roads and a few residences (Bing Maps 2013). The vegetation found on site does not provide an example of species or association of species not generally found in San Diego County; or outstanding examples of a particular community type. Based on this information, these habitat types do not qualify as Unique Vegetation Communities. The remainder of the vegetation communities found on the project site has a state ranking of 4 or 5 which means they are secure in their range.

Habitat for Rare and Endangered Species. As described in Section 1.4.5 and 1.4.6, the project area supports a variety of plant and wildlife species considered special-status by federal, state, or local agencies.

No federal or state-listed threatened or endangered species were observed or are expected to occur, except Swainson's hawk, which was observed during surveys and is expected only as an occasional and temporary visitor of the project area during annual migration.

Protocol-level surveys for Quino checkerspot butterfly were determined necessary due to the presence of suitable habitat, known occurrences in the region, and the USFWS recommendation for Quino checkerspot butterfly surveys of the area. Subsequently, a habitat

[7] As described in Section 1.4, mixed oak woodland does not fit into a specific alliance in CDFG (2010), but the oak species that comprise the mixed oak woodland (coast live oak, Palmer's oak, Muller oak, and desert scrub oak) have alliances in CDFW. Palmer's oak alliance has a rank of G3S2, meaning it is considered globally vulnerable to extirpation or extinction and imperiled in the state. Coast live oak, Muller oak, and desert scrub oak are ranked G5S4 or G4S4, meaning that they are considered at least apparently secure globally and in the state.

assessment for the Endangered Quino Checkerspot Butterfly was conducted on March 25, 2011 prior to the first protocol-level survey by permitted biologists (AECOM 2012c). Potential habitat surveyed for Quino checkerspot butterfly consists of all habitat types on site except for open water (cattle ponds), developed areas, and other portions of the Project area excluded from the survey. Following completion of a formal habitat assessment, nine protocol-level Quino checkerspot butterfly surveys were conducted within the Quino checkerspot butterfly survey area during a 6-week period between March 29 and May 5, 2011 (AECOM 2012c). No Quino checkerspot butterflies were detected during the habitat assessment or the focused adult Quino checkerspot butterfly surveys.

Four County List A or B species – Jacumba milk-vetch, Tecate tarplant, sticky geraea, and desert beauty- and five County List C or D species – Payson's jewel flower, desert larkspur, pride of California, desert monkeyflower, and Engelmann oak – were mapped in the project area.

The special-status plant species observed in the project area are relatively common in the Boulevard region and/or San Diego County (e.g., Jacumba milk-vetch and desert beauty).

Due to the lack of presence of Quino checkerspot butterfly, the project site does not meet this definition of Sensitive Habitat Land under the RPO because the area does not support a "rare or endangered species or sub-species of animals" as defined by Section 15380 of the State CEQA Guidelines. The special-status wildlife species observed on site are commonly found in San Diego County, including turkey vulture, coastal whiptail, and Cooper's hawk. Because the special-status species found on site are relatively common elsewhere in Boulevard or throughout San Diego County, the site itself is not "necessary to support a viable population" of any of these species within the Boulevard region.

Ecosystem. The final criterion for Sensitive Habitat Lands is land which is critical to the proper functioning of a balanced natural ecosystem or which serves as a functioning wildlife corridor. The project site is set in a largely undeveloped region and the primary focal point is a prominent drainage, Tule Creek. Tule Creek is considered a SHL, and therefore, the project has been designed to avoid impacts to this feature.

As described in Section 1.4.8, wildlife typically move throughout many habitats and utilize a variety of paths for travel. Due to the largely undeveloped surroundings of the project area and the flat-to-moderately sloping topography, the site allows for a variety of wildlife movement opportunities and supports habitats and movement corridors that are similar to other sites within the region. Wildlife is not constrained to a particular wildlife corridor in the project area; however, Tule Creek does support significant movement functions that would warrant designation of these areas as Sensitive Habitat Lands under RPO. With development of the project, protection of and access to the primary wetland areas would satisfy the requirements of RPO.

TABLE OF CONTENTS

Section **Page No.**

APPENDICES

No table of figures entries found.

LIST OF FIGURES

LIST OF TABLES

2.0 PROJECT EFFECTS

2.1 Definition of Impacts

This section defines the types of impacts considered in this report to analyze the Proposed Project's potential effects on biological resources. These impacts are discussed in more detail as follows.

Direct Impacts refer to 100% permanent loss of a biological resource. For purposes of this report, it refers to the area where the limits of grading are proposed. Direct impacts were quantified by overlaying the limits of grading on geographic information system (GIS)-located biological resources (Figure 9). The proposed project has been designed to avoid permanent impacts to oak woodland and associated oak root zones, and to avoid permanent impacts to the RPO wetlands/buffers to the extent feasible, as well as avoid fuel management activities within the RPO wetlands/buffers.

Indirect impacts are reasonably foreseeable effects caused by project implementation on remaining or adjacent biological resources outside the direct limits of grading. Indirect impacts may affect areas within the defined project area but outside the limits of grading, including non-impacted areas and areas outside the project area, such as downstream effects. Indirect impacts include short-term effects immediately related to construction activities and long-term or chronic effects related to long-term maintenance of the solar panels. In most cases, indirect effects are not quantified, but in some cases quantification might be included, such as using a noise contour to quantify indirect impacts to nesting birds.

Cumulative impacts refer to the combined environmental effects of the Proposed Project and other relevant projects. In some cases, the impact from a single project may not be significant, but when combined with other projects, the cumulative impact may be significant. This report does not include analysis of cumulative impacts; this analysis is being prepared separately for direct inclusion in the CEQA document being prepared for the project.

Following the County Guidelines (County of San Diego 2010a), areas that are not being directly impacted but cannot be counted toward mitigation will be considered "impact neutral"; these areas include Resource Protection Ordinance (RPO) wetlands and wetland buffers, and isolated pockets of undeveloped lands. At this time, all areas that are not impacted by the limits of grading, fuel modification, or access roads are considered impact neutral.

Table 2-1
Impacts – Vegetation Communities

Habitat Types/Vegetation Communities	Existing Acreage (Ac.) [1]	Impacts – Limits of Grading (Ac.)	Fuel Modification Zone (Ac.)	Impact Neutral (Ac.) [2]
Upland Scrub and Chaparral				
Big Sagebrush Scrub*	82.5	59.64	8.35	~~14.6~~13.0

Table 2-1
Impacts – Vegetation Communities

Habitat Types/Vegetation Communities	Existing Acreage (Ac.) [1]	Impacts – Limits of Grading (Ac.)	Fuel Modification Zone (Ac.)	Impact Neutral (Ac.) [2]
Big Sagebrush Scrub (Disturbed~~Distributed~~)*	14.8	4.8~~7~~	2.2~~3~~	7.7~~8~~
Montane Buckwheat Scrub*	83.0	~~84.3~~57.0	~~12.5~~8.2	~~21~~16.5
Montane Buckwheat (Disturbed~~Distributed~~) Scrub*	9.7	5.7	1.5	~~11.3~~2.1
Granitic Chamise Chaparral*	117.8	~~54.8~~84.9	~~10.4~~12.0	20~~17~~.8
Granitic Northern Mixed Chaparral*	11.3	~~—5.5~~	~~—1.8~~	~~2.4~~11.3
Red Shank Chaparral*	42.3	32.8~~4~~	3.2~~5~~	~~6.4~~5.5
Scrub Oak Chaparral*	66.6	52.8~~3~~	5.9~~6.4~~	~~4~~7.9
Scrub Oak Chaparral (Disturbed~~Distributed~~)*	0.5	0.5	—	0
Semi-Desert Chaparral*	112.6	~~46.9~~47.3	10.1~~4~~	55.3
Semi-Desert Chaparral – Rock*	12.4	1.5	—	10.9
Semi-Desert Chaparral (Disturbed)*	1.8	0.2	—	1.3~~6~~
Subtotal	*555.3*	*347.1~~2.5~~*	*51.4~~5.9~~*	*~~156.9~~148.6*
Upland Woodland and Savannah				
Coast Live Oak Woodland*	7.2	—	—	7.2
Mixed Oak Woodland*	3.3	—	—	*3.3*
Subtotal	*10.5*	—	—	*10.5*
Riparian Herb				
Alkali Meadow*	14.5	—	—	14.5
Alkali Meadow (Disturbed)*	4.6	0.1	—	4.5~~4~~
Subtotal	*19.1*	*0.1*	—	*~~18.9~~19.0*
Riparian Scrub				
Mulefat Scrub (Disturbed)*	1.2	—	—	1.2
Tamarisk Scrub*	4.8	2.7~~6~~	0.4~~5~~	1.7
Subtotal	*6.0*	*2.7~~6~~*	*0.4~~5~~*	*2.9*
Unvegetated Waters				
Non-Vegetated Channel	1.0	—	—	0.2
Open Water	0.2	—	—	1
Subtotal	*1.2*	—	—	*1.2*
Non-Native Communities and Land Covers				
Disturbed Habitat	64.2	50.8~~3~~	~~3.1~~2.6	~~10.8~~7.0
Non-Native Grassland*	106.9	~~47.7~~49.2	~~12.6~~11.2	~~46.7~~44.8
Urban/Developed	~~1.0~~0.4	0.2~~7~~	—	0.2~~3~~
Subtotal	*17~~1~~2.5~~2~~*	*~~98.8~~100.2*	*~~15.7~~13.8*	*~~57.7~~52.0*
Oak Root Zone [3]	35.1	—	—	35.1
Total	~~764.1~~763.5	~~444.1~~450.0	~~72.1~~65.7	~~247.~~234.9~~9~~

[1] Totals may not add due to rounding.

[2] Following the County Guidelines (County of San Diego 2010), areas that are not being directly impacted but cannot be counted toward mitigation will be considered "impact neutral"; these areas include Resource Protection Ordinance (RPO) wetlands and wetland buffers, and isolated pockets of open space. At this time, all areas that are not impacted by the limits of ~~grading~~ disturbance (including on-site access roads) and fuel modification zones are considered impact neutral. On-site areas impacted by Rough Acres Ranch Road are also included in the impact neutral category since impacts associated with the development of this road has already been considered per MUP 3300-09-019 and HDR 2010. However, if Rough Acres Ranch Road is not constructed or if construction of the Tule Wind Project is delayed until 2017, site access would be achieved by construction of the proposed Northern Off-Site Access Road and the Western Off-Site Access Road. See Table 2-2.

[3] Oak root zone is overlaid on the biological resources and is not counted toward the overall acreage.

* Considered special-status by the County (2010).

2.2 Vegetation Communities/Land Covers

2.2.1 Direct Impacts to Vegetation Communities/Land Covers

2.2.1.1 Temporary Direct Impacts

Short-term, construction-related, or temporary direct impacts to vegetation communities would primarily result from construction activities. Clearing, trampling, or grading of vegetation outside designated construction zones could occur in the absence of avoidance and mitigation measures. These potential effects could damage vegetation communities and alter their ecosystem, creating gaps in vegetation that allow exotic, non-native plant species to become established, thus increasing soil compaction and leading to soil erosion. Potential temporary direct impacts to all wetlands/jurisdictional waters on site would be significant.

2.2.1.2 Permanent Direct Impacts

Long-term or permanent direct impacts to vegetation communities were quantified by comparing the impact footprint with the boundaries of the vegetation communities mapped in the project area. Direct impacts to vegetation communities would occur as a result of grading activities. Table 2-1 shows the acreage of direct impacts to vegetation communities in the project area as a result of the limits of grading (Figure 9). Table 2-2 shows the impacts associated with the proposed off-site access roads; the impacts include both impacts from the proposed access road and associated fuel modification zone.

The County (2010a) requires a 50-foot oak root protection zone established around the oak woodlands in the project area. The Proposed Project has been designed to avoid all oak woodlands and associated oak root zones.

Table 2-2
Impacts – Proposed Off-Site Access Road

Vegetation Communities	Code	Northern Off-site Access Road	Western Off-site Access Road~~Off-Site Road Fuel Modification Zone~~
Upland Scrub and Chaparral			
Big Sagebrush Scrub*	35210	—	0.1
Granitic Chamise Chaparral*	37210	—	0.9
Granitic Northern Mixed Chaparral*	37131	—	0.5
Montane Buckwheat Scrub*	37K00	0.1	0.2~~—~~
Red Shank Chaparral*	37300	—	0.1
Subtotal	—	*0.1*	*1.8*
Riparian Scrub			
Disturbed Southern Willow Scrub*	63320	0.1	~~—~~
Non-Native Communities and Land Covers			
Disturbed Habitat	11300	0.1	1.0~~—~~
Non-Native Grassland*	42200	0.4	~~—~~
Urban/Developed	12000	~~0.9~~1.5	~~—~~0.1
Subtotal	—	*~~1.4~~2.0*	*1.0~~0.1~~*
Total	~~—~~	~~1.6~~2.2	2.8~~0.1~~

*Considered special-status by the County (2010a).

2.2.2 Indirect Impacts to Vegetation Communities

2.2.2.1 Temporary Indirect Impacts

Potential short-term or temporary indirect impacts to special-status vegetation communities in the project area would primarily result from construction activities and include impacts related to or resulting from the generation of fugitive dust; changes in hydrology resulting from construction, including sedimentation and erosion; and the introduction of chemical pollutants (including herbicides). Potential short-term indirect impacts that could affect all the special-status vegetation communities that occur on the project site are described in detail as follows.

Generation of Fugitive Dust. Excessive dust can decrease the vigor and productivity of vegetation through effects on light, penetration, photosynthesis, respiration, transpiration, increased penetration of phytotoxic gaseous pollutants, and increased incidence of pests and diseases.

Rugged Solar Project Boundary

Impacts

- Fuel Mod Zone
- On-Site Impact Area
- Off-Site Access Road
- Fence Line
- Overhead Collector Cable System
- Open Space
- RPO Wetlands (50-Ft. Buffer)
- ACOE/CDFG/RWQCB
- Oak Root Zone (50-Ft. Buffer)

Upland Vegetation Communities

- BSS, Big Sagebrush Scrub
- CC, Granitic Chamise Chaparral
- CLOW, Coast Live Oak Woodland
- GNMX, Granitic Northern Mixed Chaparral
- MBWS, Montane Buckwheat Scrub
- MOW, Mixed Oak Woodland
- NNG, Non-Native Grassland
- OW, Open Water
- RSCH, Red Shank Chaparral
- SDC, Semi-Desert Chaparral
- SDC-rock, Semi-Desert Chaparral - Rock
- SOC, Scrub Oak Chaparral
- dBSS, disturbed Big Sagebrush Scrub
- dMBWS, disturbed Montane Buckwheat Scrub
- dSDC, disturbed Semi-Desert Chaparral
- dSOC, disturbed Scrub Oak Chaparral

Wetland Vegetation Communities

- AM, Alkali Meadow
- NVC, Non-Vegetated Channel
- TS, Tamarisk Scrub
- dAM, disturbed Alkali Meadow
- dMFS, disturbed Mulefat Scrub

Opaloca Rd

Ribbonwood Rd

0 500 1,000 Feet

SOURCE: AECOM 2012; SanGIS 2012; Bing Maps

DUDEK

7122

FIGURE 9

Impacts - Vegetation Communities and Jurisdictional Delineation

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Changes in Hydrology. Construction could result in hydrologic and water-quality-related impacts adjacent to and downstream of the construction area. Hydrologic alterations include changes in flow rates and patterns in streams and rivers and dewatering, which may affect adjacent and downstream aquatic, wetland, and riparian vegetation communities. Water-quality impacts include chemical-compound pollution (fuel, oil, lubricants, paints, release agents, and other construction materials), erosion, increased turbidity, and excessive sedimentation. Direct impacts, as described previously, can also remove native vegetation and increase runoff from roads and other paved surfaces, resulting in increased erosion and transport of surface matter into vegetation communities. Altered erosion, increased surface flows, and underground seepage can allow for the establishment of non-native plants. Changed hydrologic conditions can also alter seed bank characteristics and modify habitat for ground-dwelling fauna that may disperse seed.

Chemical Pollutants. Erosion and chemical pollution (releases of fuel, oil, lubricants, paints, release agents, and other construction materials) may affect special-status vegetation communities. The use of chemical pollutants can decrease the number of plant pollinators, increase the existence of non-native plants, and cause damage to and destruction of native plants. No herbicides will be used during construction.

All special-status vegetation communities on site could be impacted by potential temporary indirect impacts such as those previously listed.

2.2.2.2 Permanent Indirect Impacts

Long-term (operation-related) or permanent indirect impacts could result from the proximity of the Proposed Project to special-status vegetation communities after construction, including impacts related to operation and maintenance. Operation and maintenance activities will occur within the impact footprint. Permanent indirect impacts that could affect special-status vegetation communities include generation of fugitive dust, habitat fragmentation, chemical pollutants, altered hydrology, non-native invasive species, increased human activity, alteration of the natural fire regime, and shading. Each of these potential indirect impacts is discussed as follows.

Generation of Fugitive Dust. The effects of fugitive dust on special-status vegetation communities are described in Section 2.2.2.1.

Habitat Fragmentation. Habitat fragmentation and isolation of plant populations may cause extinction of local populations as a result of two processes: reduction in total habitat area, which reduces effective population sizes; and insularization of local populations, which affects dispersal rates (Wilcox and Murphy 1985; Wilcove et al. 1986). Although these effects are more readily observable in wildlife, there are potential ecological effects, such as changes in pollinator

populations, that can result in altered plant community composition and thus adversely affect special-status vegetation communities.

Chemical Pollutants. The effects of chemical pollutants on special-status vegetation communities are described in Section 2.2.2.1. During operation and maintenance, herbicides may be used to prevent vegetation from reoccurring around structures. However, weed control treatments shall include all legally permitted chemical, manual, and mechanical methods applied with the authorization of the San Diego County agriculture commissioner. Additionally, the herbicides used during operation and maintenance activities will be contained within the Proposed Project impact footprint.

Altered Hydrology. Water would be used for operational purposes for cleaning the solar modules and for reapplication of the nontoxic permeable soils stabilizers that may alter the on-site hydrologic regime. These hydrologic alterations may affect special-status vegetation communities. Altered hydrology can allow for the establishment of non-native plants and invasion by Argentine ants, which can compete with native ant species that could be seed dispersers or plant pollinators. Potential impacts would be reduced by design features that (i) contain the water and associated runoff used during operation and maintenance activities within the Proposed Project impact footprint, (ii) specify installation of drip-irrigated landscaping for the proposed project, and (iii) ensure that nursery stock has been fumigated against ant infestation prior to transport to the project site.

Non-Native, Invasive Plant and Animal Species. Invasive plant species that thrive in edge habitats are a well-documented problem in Southern California and throughout the United States. Development could also fragment native plant populations, which may increase the likelihood of invasion by exotic plants due to the increased interface between natural habitats and developed areas. Bossard et al. (2000) list several adverse effects of non-native species in natural open areas, including but not limited to the fact that exotic plants compete for light, water, and nutrients and can create a thatch that blocks sunlight from reaching smaller native plants. Exotic plant species may alter habitats and displace native species over time, leading to extirpation of native plant species and unique vegetation communities. The introduction of non-native, invasive animal species could negatively affect native species that may be pollinators of or seed dispersal agents for plants within special-status vegetation communities.

Increased Human Activity. The Proposed Project includes an operation and maintenance building that would provide a base of operations and maintenance for approximately 25 to 30 full-time employees. Increased human activity could result in the potential for trampling of vegetation outside of the impacts footprint, as well as soil compaction, and could affect the viability of plant communities. Trampling can alter the ecosystem, creating gaps in vegetation and allowing exotic, non-native plant species to become established, leading to soil erosion.

Trampling may also affect the rate of rainfall interception and evapotranspiration, soil moisture, water penetration pathways, surface flows, and erosion. An increased human population increases the risk for damage to special-status vegetation communities.

Alteration of the Natural Fire Regime. The Proposed Project could potentially increase the risk of fire, including but not limited to fire associated with electrical shorts or electrical equipment malfunction. Shorter-than-natural fire return intervals can preclude recovery of the native vegetation between fires, weaken the ecological system, allow for invasion of exotic species, and in some cases, result in permanent transition of the vegetation to non-native communities, such as annual grassland and weedy communities (Malanson and O'Leary 1982; Keeley 1987; O'Leary et al. 1992). If the natural fire regime is suppressed, longer-than-natural fire return intervals can result in excessive buildup of fuel loads so that when fires do occur, they are catastrophic. Unnaturally long fire intervals can also result in senescence of plant communities, such as chaparral, that rely on shorter intervals for rejuvenation.

Shading. The Proposed Project includes inverters and transformers mounted on a skid that would include a shade structure. Shading can reduce the amount of sunlight available for photosynthesis, eliminating longer wavelengths of the visible light spectrum, and can reduce transpiration due to reduced photosynthetic rates, increasing soil moisture, and resulting in changes to soil nutrient availability and microbial communities, potentially favoring non-native species and other shade-tolerant plants. However, shading will be contained within the Proposed Project impact footprint, and long-term indirect impacts associated with shading are not expected.

All special-status vegetation communities in the project area could be impacted by potential long-term or permanent indirect impacts such as those previously listed.

2.3 Special-Status Plant Species

2.3.1 Direct Impacts to Special-Status Plant Species

2.3.1.1 Temporary Direct Impacts

Short-term, construction-related, or temporary direct impacts to special-status plants would primarily result from construction activities. Clearing, trampling, or grading of special-status plants outside designated construction zones could occur in the absence of avoidance and mitigation measures. These potential effects could damage individual plants and alter their ecosystem, creating gaps in vegetation that allow exotic, non-native plant species to become established, thus increasing soil compaction and leading to soil erosion. Potential temporary direct impacts to all special-status plant species on site would be significant, absent mitigation. However, these short-term direct impacts will be mitigated to a level below significant through

implementation of mitigation measure MM-2 (biological monitoring) MM-3 (restrictions on construction vehicle speed limits), and MM-4 (preparation of a biological monitoring report).

All special-status plant species on site could be impacted by potential temporary direct impacts such as those previously listed.

2.3.1.2 Permanent Direct Impacts

Long-term or permanent direct impacts to special-status plant species were quantified by comparing the impact footprint with the occurrence data for each special-status plant species. Table 2-3 includes each species' County status, California Rare Plant Rank (CRPR), estimates of the number of individuals on site, and an assessment of permanent direct impacts based on the number of individual plants located within the impact footprint (both on site and off site), and the estimated percentage of occurrences impacted on site.

Table 2-3
Summary of Direct Impacts to Special-Status Plant Species

County List	Species	CRPR	Approximate Number of Individuals within Project Area[1]	Approximate Number of Individuals within Impact Footprint	Estimated Percentage of Occurrences Impacted On Site
Rugged (On-Site)					
A	Jacumba milkvetch	1B.2	106 to 760	66 to 480	62% to 63%
	Tecate tarplant	1B.2	11,602 to 16,350	1 to 10	Less than 1%
B	Sticky geraea	2.3	279 to 1,300	161 to 690	53% to 57%
	Desert beauty	2.3	1,170 to 3,800	414 to 1,820	35% to 48%
C	Payson's jewelflower	4.2	1 to 10	—	0%
D	Desert larkspur	4.3	301 to 1,120	118 to 470	39% to 42%
	Pride of California	4.3	4 to 40	4 to 40	100%
	Desert monkeyflower	4.3	1 to 10	—	0%
	Engelmann oak	4.2	1 to 10	—	0%
Off-Site Access Roads					
A	Jacumba milkvetch	1B.2	24	24	100%

[1] The estimate is based on the range of data collected by AECOM (2012b), which collected point data in the following ranges: 1-10, 10-50, 51-100, 101-500, 501-1000, 1001-5000, and >10,000. Therefore, the ranges are based on the minimum and maximum individuals for each point.

2.3.2 Indirect Impacts to Special-Status Plant Species

2.3.2.1 Temporary Indirect Impacts

Potential short-term or temporary indirect impacts to special-status plant species in the project area would primarily result from construction activities and include impacts related to or resulting from the generation of fugitive dust; changes in hydrology resulting from construction,

including sedimentation and erosion; and the introduction of chemical pollutants (including herbicides). Potential short-term indirect impacts that could affect all the special-status plant species that occur on the project site are described in detail as follows.

Generation of Fugitive Dust. Excessive dust can decrease the vigor and productivity of special-status plants through effects on light, penetration, photosynthesis, respiration, transpiration, increased penetration of phytotoxic gaseous pollutants, and increased incidence of pests and diseases.

Changes in Hydrology. Construction could result in hydrologic and water-quality-related impacts adjacent to and downstream of the construction area. Hydrologic alterations include changes in flow rates and patterns in streams and rivers and dewatering, which may affect adjacent and downstream aquatic, wetland, and riparian vegetation communities. Water-quality impacts include chemical-compound pollution (fuel, oil, lubricants, paints, release agents, and other construction materials), erosion, increased turbidity, and excessive sedimentation. Direct impacts, as described previously, can also remove native vegetation and increase runoff from roads and other paved surfaces, resulting in increased erosion and transport of surface matter into special-status plant occurrences. Altered erosion, increased surface flows, and underground seepage can allow for the establishment of non-native plants. Changed hydrologic conditions can also alter seed bank characteristics and modify habitat for ground-dwelling fauna that may disperse seed.

Chemical Pollutants. Erosion and chemical pollution (releases of fuel, oil, lubricants, paints, release agents, and other construction materials) may affect special-status plant species. The use of chemical pollutants can decrease the number of plant pollinators, increase the existence of non-native plants, and cause damage to and destruction of native plants. No herbicides will be used during construction.

All special-status plant species on site could be impacted by potential temporary indirect impacts such as those previously listed.

2.3.2.2 Permanent Indirect Impacts

Long-term (operation-related) or permanent indirect impacts could result from the proximity of the Proposed Project to special-status plants after construction, including impacts related to operation and maintenance. Operation and maintenance activities will occur within the impact footprint. Permanent indirect impacts that could affect special-status plant species include generation of fugitive dust, habitat fragmentation, chemical pollutants, altered hydrology, non-native invasive species, increased human activity, alteration of the natural fire regime, and shading. Each of these potential indirect impacts is discussed as follows.

Generation of Fugitive Dust. The effects of fugitive dust on special-status plants are described above in Section 2.3.2.1.

Habitat Fragmentation. Habitat fragmentation and isolation of plant populations may cause extinction of local populations as a result of two processes: reduction in total habitat area, which reduces effective population sizes; and insularization of local populations, which affects dispersal rates (Wilcox and Murphy 1985; Wilcove et al. 1986).

Chemical Pollutants. The effects of chemical pollutants on special-status plants are described above in Section 2.3.2.1. During operation and maintenance, herbicides may be used to prevent vegetation from reoccurring around structures. However, weed control treatments shall include all legally permitted chemical, manual, and mechanical methods applied with the authorization of the San Diego County agriculture commissioner. Additionally, the herbicides used during operation and maintenance activities will be contained within the Proposed Project impact footprint.

Altered Hydrology. Water would be used for operational purposes for cleaning the solar modules and for reapplication of the nontoxic permeable soils stabilizers that may alter the on-site hydrologic regime. These hydrologic alterations may affect special-status plant species. Altered hydrology can allow for the establishment of non-native plants and invasion by Argentine ants, which can compete with native ant species that could be seed dispersers or plant pollinators. Project design features that (i) contain operational water use, and associated runoff, within the Proposed Project impact footprint (ii) specify installation of drip-irrigated landscaping for the Proposed Project, and (iii) ensure that landscape stock has been fumigated against ant infestation prior to transport to the Project site would control non-native exotic herbaceous plants from spreading out from the project footprint and possibly out-competing sensitive annual species in the zone around the project footprint. Potential impacts would be reduced to less than significant.

Non-Native, Invasive Plant and Animal Species. Invasive plant species that thrive in edge habitats are a well-documented problem in Southern California and throughout the United States. Development could also fragment native plant populations, which may increase the likelihood of invasion by exotic plants due to the increased interface between natural habitats and developed areas. Bossard et al. (2000) list several adverse effects of non-native species in natural open areas, including but not limited to the fact that exotic plants compete for light, water, and nutrients and can create a thatch that blocks sunlight from reaching smaller native plants. Exotic plant species may alter habitats and displace native species over time and with the introduction of altered hydrology, leading to extirpation of native plant species. The introduction of non-native, invasive animal species could negatively affect native species that may be pollinators of or seed dispersal agents for special-status plant species, as discussed above.

Increased Human Activity. The Proposed Project includes an operation and maintenance building that would provide a base of operations and maintenance for approximately 25 to 30 full-time employees. Increased human activity could result in the potential for trampling of vegetation outside of the impacts footprint, as well as soil compaction, and could affect the viability of plant communities. Trampling can damage individual special-status plants and alter their ecosystem, creating gaps in vegetation and allowing exotic, non-native plant species to become established, leading to soil erosion. Trampling may also affect the rate of rainfall interception and evapotranspiration, soil moisture, water penetration pathways, surface flows, and erosion. An increased human population increases the risk for the collection of and damage to special-status plant species.

Alteration of the Natural Fire Regime. The Proposed Project could potentially increase the risk of fire, including but not limited to fire associated with electrical shorts or electrical equipment malfunction. Shorter-than-natural fire return intervals can preclude recovery of the native vegetation between fires, weaken the ecological system, allow for invasion of exotic species, and result, in some cases, in permanent transition of the vegetation to non-native communities, such as annual grassland and weedy communities (Malanson and O'Leary 1982; Keeley 1987; O'Leary et al. 1992). If the natural fire regime is suppressed, longer-than-natural fire return intervals can result in excessive buildup of fuel loads so that when fires do occur, they are catastrophic. Unnaturally long fire intervals can also result in senescence of plant communities, such as chaparral, that rely on shorter intervals for rejuvenation.

Shading. The Proposed Project includes inverters and transformers mounted on a skid that would include a shade structure. Shading can reduce the amount of sunlight available for photosynthesis, eliminating longer wavelengths of the visible light spectrum, and can reduce transpiration due to reduced photosynthetic rates, increasing soil moisture, and resulting in changes to soil nutrient availability and microbial communities, potentially favoring non-native species and other shade-tolerant plants. However, shading will be contained within the Proposed Project impact footprint and long-term indirect impacts associated with shading are not expected.

All special-status plant species on site could be impacted by potential long-term, or permanent indirect impacts such as those previously listed.

2.4 Sensitive Wildlife Species

2.4.1 Direct Impacts to Special-Status Wildlife Species

2.4.1.1 Temporary Direct Impacts

Short-term, construction-related, or temporary direct impacts to special-status wildlife species would primarily result from construction activities. Clearing, trampling, or grading of vegetation

communities outside designated construction zones could occur in the absence of avoidance and mitigation measures. These potential effects could reduce suitable habitat for wildlife species and alter their ecosystem, thus creating gaps in vegetation that allow exotic, non-native plant species to become established. Potential temporary direct impacts to suitable habitat for special-status wildlife species on site would be significant.

2.4.1.2 Permanent Direct Impacts

Long-term or permanent direct impacts to special-status wildlife species were quantified by comparing the impact footprint with suitable habitat for wildlife species. The direct impacts include both the on-site and off-site project components. The significance determination for these potential impacts is described in Section 3.0.

2.4.1.2.1 County Group 1 Species

The information provided in this section discusses the potential effects for County Group 1 species. More detailed information about observation of the species or its potential to occur within the study area, suitable habitat, and range is provided in Section 1.4.6.2.

Reptiles

Two-striped gartersnake has not been observed in the project area, but based on the seasonal ponding of some of the alkali meadow habitat in the project area, this species has high potential to occur. Within the project area, suitable habitat includes mulefat scrub, tamarisk scrub, alkali meadow, and open water. There are direct impacts to 3.0 acres of suitable habitat as a result of the Proposed Project.

Construction-related impacts could result in the loss of individual two-striped gartersnakes through vegetation clearing activities or equipment (e.g., trucks).

Birds

Cooper's Hawk

Cooper's hawk was observed in the project area and has potential to use the project area for both nesting and foraging. There are direct impacts to approximately 53.2 acres of suitable nesting habitat and 135.5 acres of suitable foraging habitat as a result of the Proposed Project. Construction-related impacts could result in the loss of active nests and/or young during vegetation clearing activities. This would be a significant impact.

Tricolored Blackbird

A group of tricolored blackbirds were observed flying overhead south of the project area. This species has high potential to forage in the project area in the alkali meadow and grassland habitats, but it is not expected to nest in the project area due to lack of suitable nesting habitat. There are direct impacts to approximately 100.2 acres of suitable foraging habitat. This would be a significant impact.

Because tricolored blackbird is not expected to nest in the project area, no loss of individual birds as result of construction-related impacts are anticipated.

Southern California Rufous-Crowned Sparrow

No Southern California rufous-crowned sparrows were observed during surveys; however, there is suitable habitat and the species has high potential to occur in the project area. There are direct impacts to approximately 343.6 acres of suitable habitat. Construction-related impacts could result in the loss of active nests and/or young during vegetation clearing activities. This would be a significant impact.

Bell's Sage Sparrow

The Bell's sage sparrow was observed in the project area. There are direct impacts to approximately 311.2 acres of suitable habitat. Construction-related impacts could result in the loss of active nests and/or young during vegetation clearing activities. This would be a significant impact.

Golden Eagle

There is no suitable nesting habitat within the project area due to the lack of forested areas and cliffs. WRI has documented the Carrizo Canyon pair of golden eagles foraging and flying through the 4,000-foot buffer around the Rugged Solar Farm, and both the Carrizo Canyon and Table Mountain eagles' territories overlap slightly with the project site (WRI 2012). Based on the lack of observations of golden eagle during project-specific surveys, this species may not use the project area regularly. However, there is suitable foraging habitat throughout most of the project area. There are direct impacts to approximately 274.0 acres of suitable foraging habitat. This would be a significant impact.

Because golden eagle is not expected to nest in the project area, no loss of individual birds as a result of construction-related impacts are anticipated.

Red-Shouldered Hawk

No red-shouldered hawks were observed during the surveys; however, there is suitable habitat for this species and it has high potential to occur in the project area. There are direct impacts to approximately 57.5 acres of suitable nesting habitat and 140.2 acres of suitable foraging habitat as a result of the Proposed Project. Construction-related impacts could result in the loss active nests and/or young during vegetation clearing activities. This would be a significant impact.

Swainson's Hawk

The Swainson's hawk was detected in the project area. This species no longer nests in Southern California, including San Diego County, but could use the project area during annual migration from wintering habitat in South America to suitable breeding areas in western North America. Due to the low expected use of the project area by Swainson's hawk, impacts to potential stopover habitat is less than significant.

Turkey Vulture

Turkey vulture was observed in the project area, but the observation locations were not recorded. The project area does not support suitable cliffs and large trees for nesting, but there is suitable foraging habitat within the project area. There are direct impacts to approximately 446.9 acres of suitable foraging habitat as a result of the Proposed Project. This would be a significant impact.

Because turkey vulture is not expected to nest in the project area, no loss of individual birds as a result of construction-related impacts are anticipated.

Northern Harrier

The northern harrier was observed in the project area. However, based on the lack of observations during the breeding season, this species is only expected as a winter visitor in grassland habitat and the more open areas of scrub and chaparral communities on-site. There are direct impacts to approximately 227.9 acres of suitable habitat as a result of the Proposed Project. This would be a significant impact.

Because northern harrier is not expected to nest in the Project area, no loss of individual birds as a result of construction-related impacts are anticipated.

Prairie Falcon

One prairie falcon was observed in the project area. There is no suitable nesting habitat in the project area, but this species could forage in the project area. There are direct impacts to

approximately 449.6 acres of suitable foraging habitat as a result of the Proposed Project. This would be a significant impact.

Because prairie falcon is not expected to nest in the project area, no loss of individual birds as a result of construction-related impacts are anticipated.

Loggerhead Shrike

Loggerhead shrikes were documented several times in the same location within the eastern portion of the project area. There are direct impacts to approximately 364.4 acres of suitable habitat as a result of the Proposed Project. Construction-related impacts could result in the loss of active nests and/or young during vegetation clearing activities. This would be a significant impact.

Invertebrates

Quino Checkerspot Butterfly

Focused surveys for Quino checkerspot butterfly were conducted over the project area. Sixty-six person days were spent conducting these surveys (AECOM 2012c; Appendix D), and no Quino checkerspot butterflies were observed. In addition, Dudek conducted surveys for the Northern/Eastern off-site road area in 2013; no Quino checkerspot butterflies were observed (Dudek 2013a). As described in Section 1.4.6.2, the nearest USFWS occurrence for Quino checkerspot butterfly is located approximately 2.5 miles southwest of the project area (USFWS 2012b). This species was also observed approximately 6 miles north of the project area during surveys for the Tule Wind Project (HDR 2010). Based on the lack of observations of this species during focused surveys, minimal presence of host plants, and the lack of records in the project area, it is not expected to occur in the project area.

2.4.1.2.2 County Group II Species

County Group 2 species that have been observed in the project area, or have high potential to occur (Appendix H), are described as follows.

Special-Status Amphibians and Reptiles

Western spadefoot toad, orange-throated whiptail, coastal western whiptail, rosy boa, northern red-diamond rattlesnake, San Diego ringneck snake, Coronado skink, Blainville's horned lizard, and coast patch-nosed snake have been observed in upland shrubland or grassland areas. Amphibians and reptiles are low-mobility or sedentary species, and direct impacts to these species could occur as a result of the grading activities and activities within the fire buffer. This would be a significant impact.

Special-Status Birds

California horned lark and western bluebird have been observed or have high potential to occur in the project area. There are direct impacts to suitable habitat for these species. Construction-related impacts could result in the loss of active nests and/or young during vegetation clearing activities. This would be a significant impact.

Special-Status Mammals

Dulzura pocket mouse and northwestern San Diego pocket mouse have not been observed in the project area, but they have high potential to occur based on suitable habitat and range. San Diego black-tailed jackrabbit and woodrat middens have been observed in the project area. There are direct impacts to suitable habitat for these species. Direct loss of individuals could occur during construction-related activities. This would be a significant impact.

Signs of mountain lion were observed near the project area, and mule deer tracks were observed in the project area. There are direct impacts to suitable habitat for these species. Construction-related impacts to mountain lion and mule deer are not anticipated because these species are highly mobile and can use a variety of habitats in the project area.

No special-status bats were observed during surveys. However, several special-status bats have high potential to forage in the project area, including Mexican long-tongued bat, Townsend's big-eared bat, spotted bat, greater western mastiff bat, western red bat, California leaf-nosed bat, and big free-tailed bat. This would be a significant impact. There is no suitable roosting habitat in rock crevices and cliffs.

Monarch Butterfly

Within the project area, general suitable habitat includes coast live oak woodland, mixed oak woodland, big sagebrush scrub (including disturbed), granitic chamise chaparral, montane buckwheat scrub (including disturbed), redshank chaparral, northern mixed chaparral, semi-desert chaparral (including rocky and disturbed), and scrub oak chaparral (including disturbed). However, suitable mass roost trees are not present. Eggs are laid on milkweed plants (genus *Asclepias*). This species was observed in the project area during 2011 focused Quino surveys, east of McCain Valley Road in scrub and chaparral habitats (AECOM 2012c); its location was not recorded.

2.4.2 Indirect Impacts to Special-Status Wildlife Species

2.4.2.1 Temporary Indirect Impacts

Short-term, construction-related, or temporary indirect impacts to special-status wildlife species would primarily result from construction activities. Potential temporary indirect impacts could

occur as a result of generation of fugitive dust, noise, chemical pollutants, increased human activity, and non-native animal species during construction.

Generation of Fugitive Dust. Dust and applications for fugitive dust control can impact vegetation surrounding the limits of grading, resulting in changes in the community structure and function. These changes could result in impacts to suitable habitat for special-status wildlife species.

Noise. Construction-related noise could occur from equipment used during vegetation clearing and construction of the solar panels and associated infrastructure. Noise impacts can have a variety of indirect impacts on wildlife species, including increased stress, weakened immune systems, altered foraging behavior, displacement due to startle, degraded communication with conspecifics (e.g., masking), damaged hearing from extremely loud noises, and increased vulnerability to predators (Lovich and Ennen 2011; Brattstrom and Bondello 1983, cited in Lovich and Ennen 2011).

Chemical Pollutants. Accidental spills of hazardous chemicals could contaminate nearby surface waters and groundwater and indirectly impact wildlife species through poisoning or altering suitable habitat.

Increased Human Activity. Construction activities can deter wildlife from using habitat areas near the Proposed Project footprint and increase the potential for vehicle collisions.

Non-Native Animal Species. Trash from construction-related activities could attract invasive predators such as ravens and coyotes that could impact the wildlife species in the project area. Landscaping stock and irrigation could bring in Argentinean ants or other pests that could compete with native wildlife. All special-status wildlife species on site could be impacted by potential temporary indirect impacts such as those previously listed.

2.4.2.2 Permanent Indirect Impacts

Potential long-term or permanent indirect impacts to special-status wildlife species include generation of fugitive dust; off-road vehicle use; non-native, invasive plant and animal species; habitat fragmentation; increased human activity; alteration of the natural fire regime; and altered hydrology.

In addition, potential electrocution of, and/or collisions by, listed or special-status bird or bat species associated with the proposed overhead transmission lines is an indirect impact. Electrocutions can occur under any one of the following three conditions: (1) phase-to-phase contact when a bird that is perched, landing, or taking off from a utility pole cross-arm comes into contact with two conductors completing an electrical circuit; (2) simultaneous contact with energized phase conductors and other equipment; and (3) simultaneous contact with an energized

wire and a grounded wire or other grounded device or neutral wire. Although transmission line systems may be of higher voltage, most electrocutions occur on distribution systems that are at a lower voltage. This is due to the closer spacing of the distribution system wires, which can be 2 to 6 feet apart. With a larger body size and wing span, raptors are able to span that distance. For transmission line systems, the wires are separated by 8 to 30 feet, which is beyond the reach of the larger bird species.

Generation of Fugitive Dust. The effects of fugitive dust on special-status plants are described in Section 2.4.2.1.

Off-Road Vehicle Use. The proposed ~~Northern~~ Off-Site Northern and Western Access Roads that connects the central subarea to McCain Valley Road will be private. Indirect impacts to adjacent suitable habitat for special-status wildlife species could occur from dust, trash, or illegal off-road access.

Non-Native, Invasive Plant and Animal Species. Invasive plant species that thrive in edge habitats are a well-documented problem in Southern California and throughout the United States. Development could also fragment native plant populations, which may increase the likelihood of invasion by exotic plants due to the increased interface between natural habitats and developed areas. Bossard et al. (2000) list several adverse effects of non-native species in natural open areas, including but not limited to the fact that exotic plants compete for light, water, and nutrients and can create a thatch that blocks sunlight from reaching smaller native plants. Exotic plant species may alter habitats and displace native species over time, leading to extirpation of native plant species and subsequently suitable habitat for special-status wildlife species. In addition, trash can attract invasive predators such as ravens and coyotes that could impact the wildlife species in the project area.

Habitat Fragmentation. The Proposed Project will impact approximately 448 acres of vegetation communities and land covers, resulting in potential habitat fragmentation. Habitat fragmentation can reduce diversity of species, spread invasive species, and reduce access to important habitats (Lovich and Ennen 2011). In addition, habitat fragmentation and isolation of wildlife populations may cause extinction of local populations as a result of two processes: reduction in total habitat area, which reduces effective population sizes; and insularization of local populations, which affects dispersal rates (Wilcox and Murphy 1985; Wilcove et al. 1986).

Increased Human Activity. The Proposed Project includes an operation and maintenance building that would provide a base of operations and maintenance for approximately 25 to 30 full-time employees. Increased human activity could result in the potential for trampling of vegetation outside of the impacts footprint, and soil compaction and could affect the viability and function of suitable habitat for wildlife species. Trampling can alter the ecosystem,

creating gaps in native vegetation either leading to soil erosion or allowing exotic, non-native plant species to become established. Trampling may also affect the rate of rainfall interception and evapotranspiration, soil moisture, water penetration pathways, surface flows, and erosion. An increased human population increases the risk for damage to suitable habitat for wildlife species. In addition, increased human activity can deter wildlife from using habitat areas near the Proposed Project footprint. In addition, increased human activity and vehicle trips on the proposed access roads could result in vehicle collisions with wildlife species.

Alteration of the Natural Fire Regime. The Proposed Project could potentially increase the risk of fire, including but not limited to fire associated with electrical shorts or electrical equipment malfunction. Shorter-than-natural fire return intervals can preclude recovery of the native vegetation between fires, weaken the ecological system, allow for invasion of exotic species, and result, in some cases, in permanent transition of the vegetation to non-native communities, such as annual grassland and weedy communities (Malanson and O'Leary 1982; Keeley 1987; O'Leary et al. 1992). If the natural fire regime is suppressed, longer-than-natural fire return intervals can result in excessive buildup of fuel loads so that when fires do occur, they are catastrophic. Unnaturally long fire intervals can also result in senescence of plant communities, such as chaparral, that rely on shorter intervals for rejuvenation. Alterations of plant communities could affect wildlife that relies on those habitat types.

Creation of Collision Hazards. The Proposed Project could potentially increase the risk of collisions due to sky reflection (or pseudo-lake effect) and glare. However, there are factors that indicate that the risk of collision due to sky reflection would be minimal and not significant: (i) the project is not located between areas that would entice wetland birds; (ii) the locale is not considered to be a major contributor to the Pacific Flyway; (iii) the solar units will be spaced 82 feet away from one another (and move independently so that only once a day would they be as close as 34 feet to each other); and (iv) the solar units do not appear black from above due to the technology used. Similarly, glare is expected to cause minor risk for many of the reasons outlined above.

Altered Hydrology. Water would be used for operational purposes for cleaning the solar modules and for reapplication of the nontoxic permeable soils stabilizers that may alter the on-site hydrologic regime. These hydrologic alterations may affect special-status wildlife species. Altered hydrology can allow for the establishment of non-native plants and invasion by Argentine ants, which can compete with native ant species that could be seed dispersers or plant pollinators. Changes in plant composition could affect the native vegetation communities and wildlife habitat. However, the water, and associated runoff, used during operation and maintenance activities will be contained within the Proposed Project impact footprint, which minimizes the long-term indirect impacts associated with altered hydrology. Potential impacts would be reduced by design features that (i) contain the water and associated runoff used during

operation and maintenance activities within the Proposed Project impact footprint, (ii) specify installation of drip-irrigated landscaping for the proposed project, and (iii) ensure that nursery stock has been fumigated against ant infestation prior to transport to the project site.

The special-status wildlife species in the project area could be impacted by potential temporary direct or indirect impacts, or potential permanent direct or indirect impacts, such as those previously listed.

2.5 Wetlands/Jurisdictional Waters

2.5.1 Direct Impacts to Wetlands/Jurisdictional Waters

2.5.1.1 Temporary Direct Impacts

Short-term, construction-related, or temporary direct impacts to wetlands/jurisdictional waters would primarily result from construction activities. Clearing, trampling, or grading of vegetation outside designated construction zones could occur in the absence of avoidance and mitigation measures. These potential effects could damage individual plants and alter their ecosystem, creating gaps in vegetation that allow exotic, non-native plant species to become established, thus increasing soil compaction and leading to soil erosion. Potential temporary direct impacts to all wetlands/jurisdictional waters on site would be significant.

2.5.1.2 Permanent Direct Impacts

Long-term or permanent direct impacts to wetlands/jurisdictional waters were quantified by comparing the impact footprint with the boundaries of the wetlands and jurisdictional waters mapped in the Project area.

There will be direct permanent impacts to unvegetated stream channels under the jurisdiction of ACOE, CDFW, and RWQCB. There are direct impacts to 0.01 acre (446 linear feet) of impacts to ephemeral stream channel under the jurisdiction of U.S. Army Corps of Engineers (ACOE), Regional Water Quality Control Board (RWQCB), and California Department of Fish and Wildlife (CDFW) as a result of the on-site Proposed Project components (Figure 9). There are direct permanent impacts from grading activities to 0.10 acre (996 linear feet) of alkali meadow (including disturbed) (see Table 2-4). Based on the County RPO guidelines, a buffer of 50-feet was selected for this RPO wetland to avoid indirect impacts (see Section 1.4.7.2). There are direct permanent impacts from grading and fuel modification activities to 3.10~~1~~ acres (3,462 linear feet) of tamarisk scrub as a result of the Proposed Project (see Table 2-4).

Table 2-4
Permanent Direct Impacts to Wetlands/Jurisdictional Waters

Vegetation Community/ Waters Type	Impacts			
	Existing (acres)	*On-Site Impacts (acres)*	*Fuel Modification Zone (acres)*	*Total Impact (Acres)*
Wetlands Riparian Habitat				
ACOE/RWQCB/CDFW/County				
Alkali Meadow	14.49	0.02	—	0.02~~7~~
Disturbed Alkali Meadow	3.48	0.08	—	0.08
Tamarisk Scrub	0.79	—	—	—
CDFW/County				
Disturbed Mulefat Scrub	1.18	—	—	—
CDFW-Only				
Disturbed Alkali Meadow	1.13	—	—	—
Tamarisk Scrub	3.98	2.~~59~~65	0.~~52~~45	3.10~~1~~
Wetlands Subtotal[1]	*25.04*	*2.~~69~~65*	*0.~~52~~45*	*3.~~21~~10*
Non-Wetland Waters				
ACOE/RWQCB/CDFW				
Ephemeral Stream Channel	0.15[2]	0.01	—	0.01
Non-Vegetated Channel	0.98	—	—	—
Non-Wetlands Subtotal[1]	*0.98*	—	—	*0.01*
Jurisdictional Total[1]	26.02	2.~~69~~75	0.45~~52~~	3.20~~21~~

[1] May not total due to rounding
[2] Ephemeral stream channel is an overlay on the vegetation mapping and is not counted toward the overall acreage.

2.5.2 Indirect Impacts to Wetlands/Jurisdictional Waters

2.5.2.1 Temporary Indirect Impacts

Potential short-term or temporary indirect impacts to wetlands/jurisdictional waters in the project area would primarily result from construction activities and include impacts related to or resulting from the generation of fugitive dust; changes in hydrology resulting from construction, including sedimentation and erosion; and the introduction of chemical pollutants (including herbicides). Potential short-term indirect impacts that could affect all the wetlands/jurisdictional waters that occur on the project site are described in detail as follows.

Generation of Fugitive Dust. Excessive dust can decrease the vigor and productivity of vegetation through effects on light, penetration, photosynthesis, respiration, transpiration, increased penetration of phytotoxic gaseous pollutants, and increased incidence of pests and diseases.

Changes in Hydrology. Construction could result in hydrologic and water-quality-related impacts adjacent to and downstream of the construction area. Hydrologic alterations include

changes in flow rates and patterns in streams and rivers and dewatering, which may affect adjacent and downstream aquatic, wetland, and riparian vegetation communities. Water-quality impacts include chemical-compound pollution (fuel, oil, lubricants, paints, release agents, and other construction materials), erosion, increased turbidity, and excessive sedimentation. Direct impacts, as described previously, can also remove native vegetation and increase runoff from roads and other paved surfaces, resulting in increased erosion and transport of surface matter into wetlands/jurisdictional waters. Altered erosion, increased surface flows, and underground seepage can allow for the establishment of non-native plants. Changed hydrologic conditions can also alter seed bank characteristics and modify habitat for ground-dwelling fauna that may disperse seed.

Chemical Pollutants. Erosion and chemical pollution (releases of fuel, oil, lubricants, paints, release agents, and other construction materials) may affect wetlands/jurisdictional waters. The use of chemical pollutants can decrease the number of plant pollinators, increase the existence of non-native plants, and cause damage to and destruction of native plants.

All wetlands/jurisdictional waters on site could be impacted by potential temporary indirect impacts such as those previously listed.

2.5.2.2 Permanent Indirect Impacts

Long-term (operation-related) or permanent indirect impacts could result from the proximity of the Proposed Project to wetlands/jurisdictional waters after construction, including impacts related to operation and maintenance. Operation and maintenance activities will occur within the impact footprint. Permanent indirect impacts that could affect wetlands/jurisdictional waters include generation of fugitive dust, habitat fragmentation, chemical pollutants, altered hydrology, non-native invasive species, increased human activity, alteration of the natural fire regime, and shading. Each of these potential indirect impacts is discussed as follows.

Generation of Fugitive Dust. The effects of fugitive dust on wetlands/jurisdictional waters are described above in Section 2.5.2.1.

Habitat Fragmentation. Habitat fragmentation and isolation of plant populations may cause extinction of local populations as a result of two processes: reduction in total habitat area, which reduces effective population sizes; and insularization of local populations, which affects dispersal rates (Wilcox and Murphy 1985; Wilcove et al. 1986). Although these effects are more readily observable in wildlife, there are potential ecological effects, such as changes in pollinator populations, which can result in altered plant community composition and thus adversely affect wetlands/jurisdictional waters.

Chemical Pollutants. The effects of chemical pollutants on wetlands/jurisdictional waters are described in Section 2.5.2.1. Additionally, during operation and maintenance, herbicides may be used in accordance with SDG&E's Herbicides and Application Procedures to prevent vegetation from reoccurring around structures.

Altered Hydrology. Water would be used for operational purposes for cleaning the solar modules and for reapplication of the nontoxic permeable soils stabilizers, which may alter the on-site hydrologic regime. These hydrologic alterations may affect wetland/jurisdictional waters. However, the water, and associated runoff, used during operation and maintenance activities will be contained within the Proposed Project impact footprint, and long-term indirect impacts associated with altered hydrology are not expected. Groundwater draw down and potential impacts to groundwater dependent vegetation is described in Section 4.2.3.

Non-Native, Invasive Plant and Animal Species. Invasive plant species that thrive in edge habitats are a well-documented problem in Southern California and throughout the United States. Development could also fragment native plant populations, which may increase the likelihood of invasion by exotic plants due to the increased interface between natural habitats and developed areas. Bossard et al. (2000) list several adverse effects of non-native species in natural open areas, including but not limited to the fact that exotic plants compete for light, water, and nutrients and can create a thatch that blocks sunlight from reaching smaller native plants. Exotic plant species may alter habitats and displace native species over time, leading to extirpation of native plant species and alteration of wetland plant communities. The introduction of non-native, invasive animal species could negatively affect native species that may be pollinators of or seed dispersal agents for plants within wetlands/jurisdictional waters.

Increased Human Activity. The Proposed Project includes an operation and maintenance building that would provide a base of operations and maintenance for approximately 25 to 30 full-time employees. Increased human activity could result in the potential for trampling of vegetation outside of the impacts footprint, and soil compaction and could affect the viability and function of wetlands/jurisdictional waters. Trampling can alter the ecosystem, creating gaps in vegetation and allowing exotic, non-native plant species to become established, thus leading to soil erosion. Trampling may also affect the rate of rainfall interception and evapotranspiration, soil moisture, water penetration pathways, surface flows, and erosion. An increased human population increases the risk for damage to wetlands/jurisdictional waters.

Shading. The Proposed Project includes inverters and transformers mounted on a skid that would include a shade structure. Shading can reduce the amount of sunlight available for photosynthesis, eliminating longer wavelengths of the visible light spectrum, and can reduce transpiration due to reduced photosynthetic rates, increasing soil moisture, and resulting in changes to soil nutrient availability and microbial communities, potentially favoring non-native species and other shade-

tolerant plants. However, shading will be contained within the Proposed Project impact footprint, and long-term indirect impacts associated with shading are not expected.

All wetlands/jurisdictional waters in the project area could be impacted by potential long-term, or permanent indirect impacts such as those previously listed.

2.6 Habitat Connectivity and Wildlife Corridors

2.6.1 Direct Impacts to Habitat Connectivity and Wildlife Corridors

2.6.1.1 Temporary Direct Impacts

Short-term, construction-related, or temporary direct impacts to habitat connectivity and wildlife corridors would primarily result from construction activities. Construction-related impacts to vegetation communities such as clearing, trampling, or grading of vegetation outside designated construction zones could occur in the absence of avoidance and mitigation measures. These potential effects could impact wildlife movement through these areas by reducing cover and food sources. Potential temporary direct impacts to local wildlife corridors on site would be significant.

2.6.1.2 Permanent Direct Impacts

Implementation of the Proposed Project is not expected to result in long-term or permanent direct impacts to habitat connectivity and wildlife corridors. See Section 1.4.8 for a detailed discussion regarding habitat connectivity and wildlife corridors. Permanent fencing (6-foot chain linked with barbed wire topping) will be placed around each large cluster of solar panels as opposed to the entire project area, and would allow continued movement through the project site, including along the Tule Creek corridor (Figure 8). Since mule deer, the largest mammal that may utilize the site, are not likely to jump over a 6-foot fence, installing barbed wire at the top of the fence is not likely to affect wildlife in the area. The proposed designated open space and proposed access roads will not be fenced and will allow for wildlife movement through the site. The proposed access roads are not anticipated to support high volumes of traffic. This will allow for larger wildlife to still move across the site in a north–south or east–west direction. Some of the central valley will be blocked, but the most biologically important portion of the valley will be accessible. The terrain in the vicinity does not preclude wildlife from moving in any direction to, through, or away from the project area. Small wildlife species (e.g., lizards and small mammals) will be able to access the site and adjacent habitats through openings in the fence, despite the presence of soil binders. Wildlife can use a variety of local corridors as shown on Figure 8.

2.6.2 Indirect Impacts to Habitat Connectivity and Wildlife Corridors

Temporary Indirect Impacts. Short-term indirect impacts to habitat connectivity and wildlife corridors could result from lighting, noise, and increased human activity during construction.

Increased Human Activity. Project construction would likely take place during the daytime and would not affect wildlife species such as mammals that are most active in evenings and nighttime. Wildlife species such as birds, rabbits, and lizards are active in the daytime, but use a variety of habitats and could continue using other areas within and adjacent to the project area for wildlife movement. Increased traffic along adjacent roadways, in particular Ribbonwood and McCain Valley roads, could deter some wildlife movement; however, the improvements are to low volume roads and wildlife would still cross through the area as needed.

Lighting. Some localized security-related lighting, on-site security personnel, and/or remotely monitored alarm system may be required during construction and/or operations. These impacts would be short-term; and the Proposed Project is not expected to result in significant impacts to wildlife movement.

Noise. Project construction will result in the production of noise and ground vibrations through the use of mechanized equipment and increased traffic within the area. Noise would most likely only be a disturbance to those species that are active during the daytime, as the noise levels are less at night. Most wildlife that would utilize the area as a habitat corridor are nocturnal, and therefore, would not be impacted while foraging, moving, etc. Noise pollution is not anticipated to hamper breeding of any special-status species.

Permanent Indirect Impacts. Long-term indirect impacts include fencing of the project site operation and lighting.

Fencing. Six-foot perimeter fencing with 1 foot of security barbed wire will be constructed around the solar panel trackers, which would result in limited movement of certain species. Since mule deer, the largest mammal that may utilize the site, are not likely to jump over a 6-foot fence, installing barbed wire at the top of the fence would not injure wildlife or further prohibit movement.

Lighting. The building and parking areas would include security lighting designed to minimize light pollution and preserve dark skies, while enhancing safety, security, and functionality.

The project area is not considered a core wildlife corridor. Tule Creek will avoided and will remain in open space; the majority of the creek will not be fenced and wildlife can continue to move through this area. The project is not expected to result in significant impacts to wildlife movement.

TABLE OF CONTENTS

Section **Page No.**

APPENDICES

No table of figures entries found.

LIST OF FIGURES

LIST OF TABLES

3.0 SPECIAL-STATUS SPECIES

3.1 Guidelines for the Determination of Significance

The County's *Guidelines for Determining Significance and Report Format and Content Requirements: Biological Resources* (County of San Diego 2010a) are based on the criteria in Appendix G of the CEQA Guidelines (14 CCR 15000 et seq.) and were used to analyze potential direct and indirect impacts to biological resources. The significance criteria include analysis of whether:

Guideline 4.1 The project would have a substantial adverse effect, either directly or through habitat modifications, on a candidate, sensitive, or special-status species listed in local or regional plans, policies, or regulations, or by CDFW or USFWS.

A. The project would impact one or more individuals of a species listed as federally or state endangered or threatened.

B. The project would impact an on-site population of a County List A or B plant species, or a County Group 1 animal species, or a species listed as a state Species of Special Concern (SSC). Impacts to these species are considered significant; however, impacts of less than 5% of the individual plants or of the sensitive species' habitat on a project site may be considered less than significant if a biologically based determination can be made that the project would not have a substantial adverse effect on the local long-term survival of that plant or animal taxon.

C. The project would impact the local long-term survival of a County List C or D plant species or a County Group 2 animal species.

D. The project may impact arroyo toad aestivation, foraging, or breeding habitat. Any alteration of suitable habitat within 1 kilometer (3,280 feet) in any direction of occupied breeding habitat or suitable stream segments (unless very steep slopes or other barriers constrain movement) could only be considered less than significant if a biologically based determination can be made that the project would not impact the aestivation or breeding behavior of arroyo toads.

E. The project would impact golden eagle habitat. Any alteration of habitat within 4,000 feet of an active golden eagle nest could only be considered less than significant if a biologically based determination can be made that the project would not have a substantially adverse effect on the long-term survival of the identified pair of golden eagles.

F. The project would result in the loss of functional foraging habitat for raptors. Impacts to raptor foraging habitat is considered significant; however, impacts of less than 5% of the raptor foraging habitat on a project site may be considered less than significant if a biologically based determination can be made that the project would not have a substantial adverse effect on the local long-term survival of any raptor species.

G. The project would impact the viability of a core wildlife area, defined as a large block of habitat (typically 500 acres or more not limited to project boundaries, although smaller areas with particularly valuable resources may also be considered a core wildlife area) that supports a viable population of a sensitive wildlife species or supports multiple wildlife species. Alteration of any portion of a core habitat could only be considered less than significant if a biologically based determination can be made that the project would not have a substantially adverse effect on the core area and the species it supports.

H. The project would cause indirect impacts, particularly at the edge of proposed development adjacent to proposed or existing open space or other natural habitat areas, to levels that would likely harm sensitive species over the long term. The following issues should be addressed in determining the significance of indirect impacts: increasing human access; increasing predation or competition from domestic animals, pests, or exotic species; altering natural drainage; and increasing noise and/or nighttime lighting to a level above ambient that has been shown to adversely affect sensitive species.

I. The project would impact occupied burrowing owl habitat.

J. The project would impact occupied cactus wren habitat, or formerly occupied coastal cactus wren habitat that has been burned by wildfire.

K. The project would impact occupied Hermes copper habitat.

L. The project would impact nesting success of the following sensitive bird species through grading, clearing, fire-fuel modification, and/or other noise-generating activities such as construction.

Species	Breeding Season
Coastal cactus wren	February 15 to August 15
Least Bell's vireo	March 15 to September 15
Southwestern willow flycatcher	May 1 to September 1
Tree-nesting raptors	January 15 to July 15
Ground-nesting raptors	February 1 to July 15
Golden eagle	January 1 to July 31
Light-footed clapper rail	February 15 to September 30

3.2 Analysis of Project Effects

3.2.1 Project Effects Relevant to Guideline 4.1.A

There are no federally listed or state-listed endangered or threatened species in the project area. Swainson's hawk was observed in the project area, but this species no longer nests in Southern California, including San Diego County, but could use the project area during annual migration from wintering habitat in South America to suitable breeding areas in western North America.

3.2.2 Project Effects Relevant to Guideline 4.1.B

3.2.2.1 Special-Status Plant Species (County List A and B Species)

Short-term, construction-related, or temporary direct impacts to County List A and B plant species would primarily result from construction activities. Clearing, trampling, or grading of special-status plants outside designated construction zones could occur in the absence of avoidance and mitigation measures. Potential temporary direct impacts to County List A and B plant species on site would be significant **(Impact SP-1)**. However, these short-term direct impacts will be mitigated to less than significant through implementation of mitigation measures MM-2 (biological monitoring) MM-3 (restrictions on construction vehicle speed limits), and MM-4 (preparation of a biological monitoring report).

Two County List A plant species would be directly impacted by the Proposed Project—Jacumba milkvetch and Tecate tarplant—and two County List B plant species would be directly impacted by the Proposed Project—sticky geraea and desert beauty. Figure 10a shows the Proposed Project impacts to County List A and B plant species on site.

County List A Species: Approximately 66 to 480 individuals of Jacumba milkvetch, a County List A species with a CRPR List 1B.2, would be directly impacted by the Proposed Project (62 to 63% of the on-site individuals). An additional 20 individuals of Jacumba milkvetch are located within the proposed northern off-site access road footprint, and 4 are located within the western off-site access road footprint. These proposed impacts would be considered significant **(Impact SP-2)**.

Additionally, approximately 1 to 10 individuals of Tecate tarplant, a County List A species with a CRPR List 1B.2, would be directly impacted by the Proposed Project (less than 1% of the on-site individuals). This proposed impact would be not be considered significant because the loss of less than 1% of the total on-site population is negligible and would not have a substantial adverse effect on the local long-term survival of that plant or animal taxon on site or in the region.

Table 3-1 summarizes the proposed direct impacts to County List A Species and the significance of the impacts prior to mitigation.

County List B Species: Approximately 161 to 690 individuals of sticky geraea (*Geraea viscida*) (53 to 57% of the on-site individuals), a County List B species with a CRPR List 2.3, would be directly impacted by the Proposed Project. This proposed impact would be considered significant **(Impact SP-2)**.

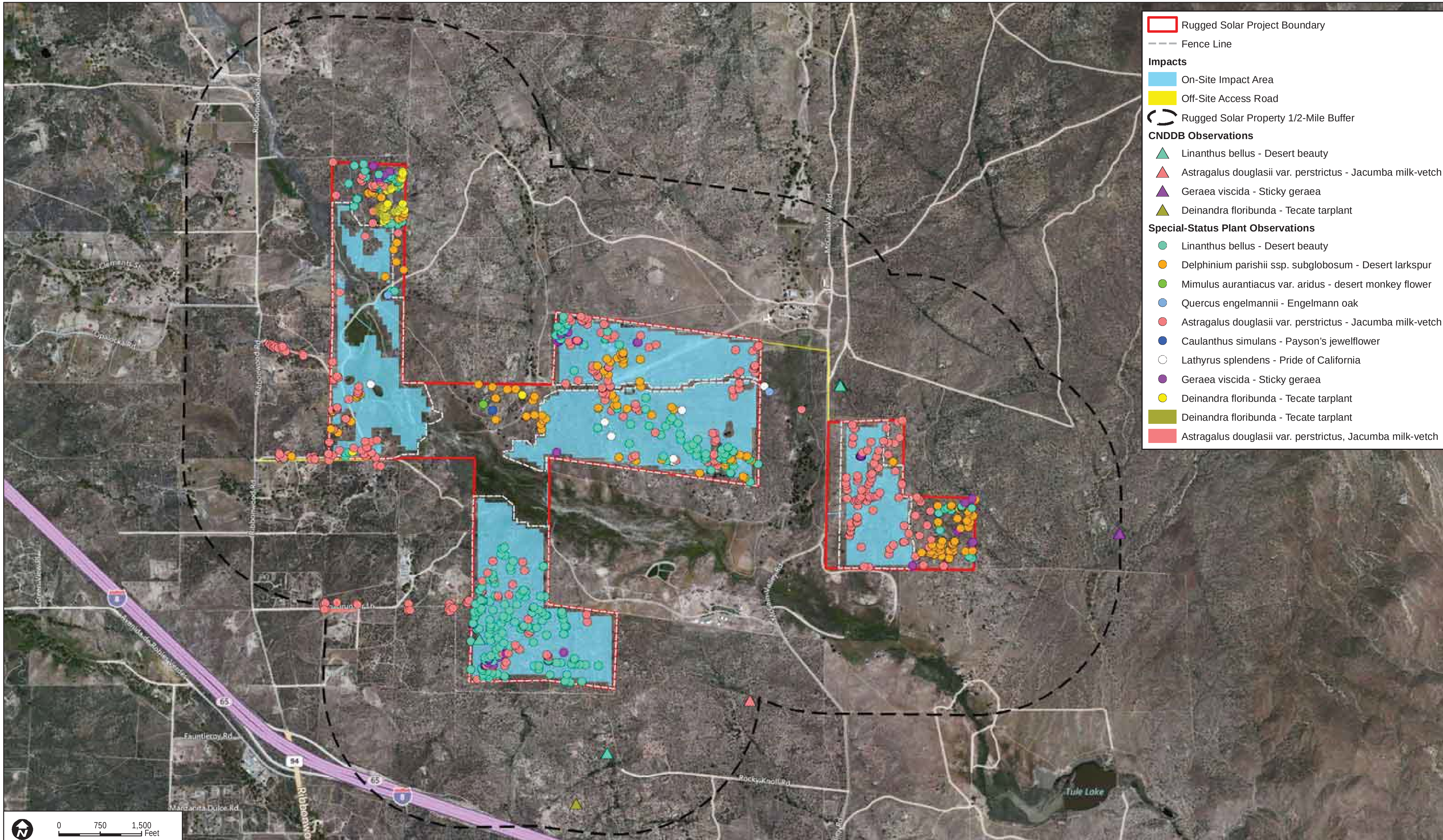
Additionally, approximately 414 to 1,820 individuals of desert beauty (*Linanthus bellus*) (35 to 48% of the on-site individuals), a County List B species with a CRPR List 2.3, would be directly impacted by the proposed project. This proposed impact would be considered significant **(Impact SP-2)**. No special-status plant species occur within the impact area for the off-site access road.

Significant permanent direct impacts to County List A and B plant species will be mitigated through mitigation measure MM-1 (habitat preservation and management).

Table 3-1 summarizes the proposed direct impacts to County List B Species and the significance of the impacts prior to mitigation.

Table 3-1
Summary of Direct Impacts to County List A and B Species and Significance Prior to Mitigation

County List	Species	CRPR	Approximate Number of Individuals within Project Area	Approximate Number of Individuals within Impact Footprint	Estimated Percentage of Occurrences Impacted On Site	Significance Prior to Mitigation
Rugged (On-Site)						
A	Jacumba milkvetch	1B.2	106 to 760	66 to 480	62% to 63%%	Significant
	Tecate tarplant	1B.2	11,602 to 16,350	1 to 10	Less than 1%	Less Than Significant
B	Sticky geraea	2.3	279 to 1,300	161 to 690	53% to 57%	Significant
	Desert beauty	2.3	1,170 to 3,800	414 to 1,820	35% to 48%	Significant
Off-Site Access Roads						
A	Jacumba milkvetch	1B.2	24	24	100%	Significant



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SOURCE: AECOM 2012b; CNDDB 2012d; SanGIS 2012; Bing Maps

FIGURE 10A

Impacts - Special-Status Plant Observations

DRAFT BIOLOGICAL RESOURCES REPORT - RUGGED SOLAR FARM

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3.2.2.2 Special-Status Wildlife Species (County Group 1 or State SSC Species)

Loss of special-status wildlife species (County Group 1 or state SSC animals) including individual amphibian, reptiles, and small mammals from construction-related activities would be considered significant **(Impact W-1)**. This impact will be mitigated through mitigation measures MM-2 (biological monitoring), MM-3 (restrictions on construction vehicle speed limits), MM-4 (preparation of a biological monitoring report), and MM-11 (monitor excavated areas and soil piles). If any active nests or the young of nesting special-status bird species (County Group 1 or state SSC animals) are impacted through direct grading, these impacts would be considered significant **(Impact W-2)**, based on the Migratory Bird Treaty Act (MBTA). This impact will be mitigated through mitigation measure MM-10 (preconstruction surveys for nesting birds and setbacks).

Ten County Group 1 and/or state SSC animal species were detected within the project area during 2011 surveys (AECOM 2012a): Belding's orange-throated whiptail, Blainville's horned lizard, Cooper's hawk, Bell's sage sparrow, Swainson's hawk, turkey vulture, northern harrier, prairie falcon, loggerhead shrike, and San Diego black-tailed jackrabbit (see Section 1.4.6). Figure 10b shows the Proposed Project impacts in relation to the special-status wildlife observations mapped on site.

In addition, 10 County Group 1 and/or state SSC wildlife species have high potential to occur within the project area: western spadefoot, northern red-diamond rattlesnake, Coronado skink, coast patch-nosed snake, two-striped gartersnake, Southern California rufous-crowned sparrow, red-shouldered hawk, Dulzura pocket mouse, northwestern San Diego pocket mouse, and San Diego desert woodrat.

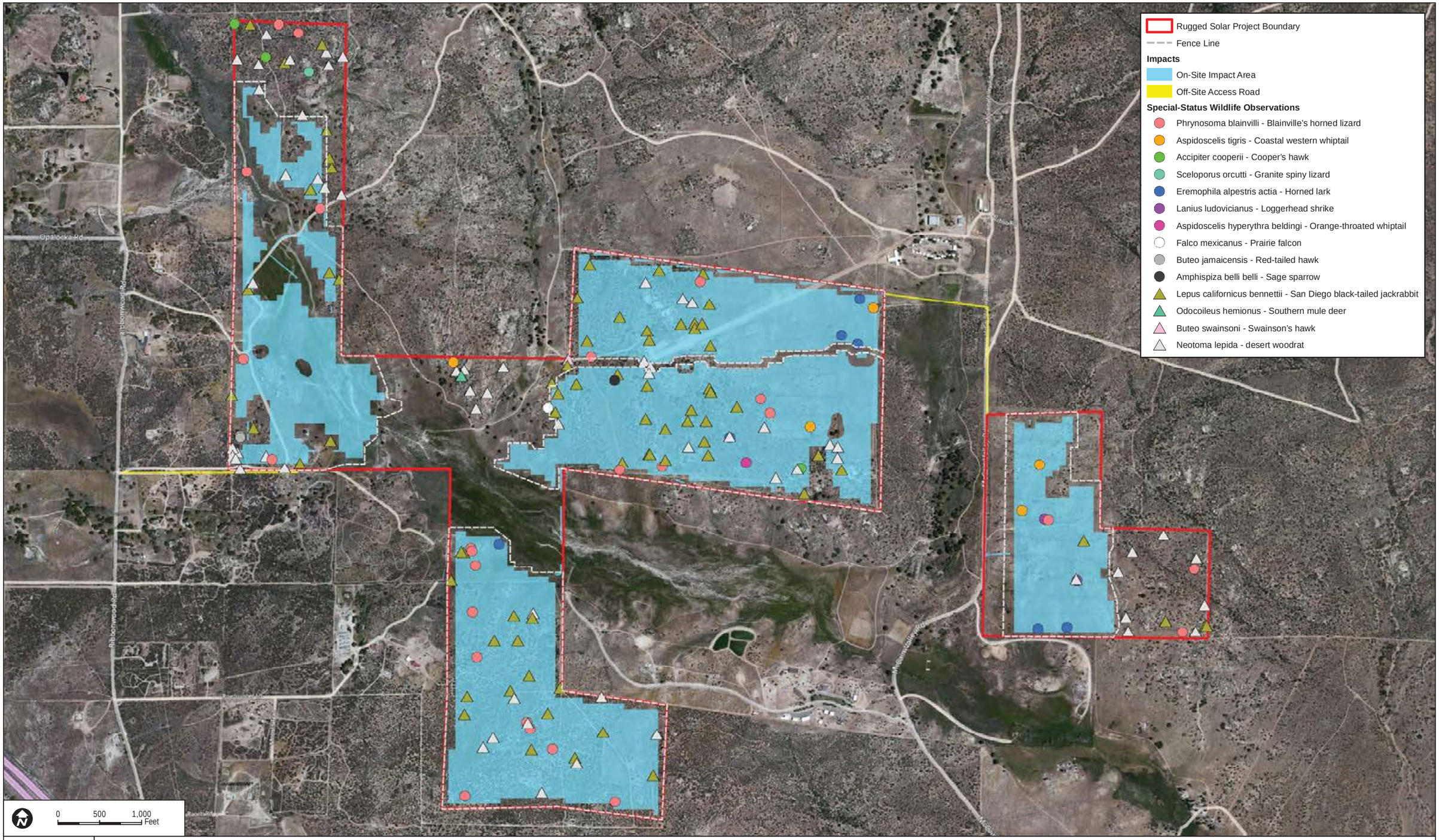
The following nine County Group 1 and/or state SSC wildlife species have high potential to forage in the project area, but not nest/roost: tricolored blackbird, golden eagle, Mexican long-tongued bat, Townsend's big-eared bat, spotted bat, greater western mastiff bat, western red bat, California leaf-nosed bat, and big free-tailed bat. Impacts to wildlife species are discussed in detail in Section 2.4.1.

Potential permanent direct impacts to the wildlife species described previously include removal of suitable nesting and/or foraging habitat, summarized in Table 3-2 below. Loss of suitable nesting/foraging habitat is considered a significant impact **(Impact W-3)**. These impacts will be mitigated through mitigation measure MM-1 (habitat preservation and management). While Swainson's hawk was detected in the project area, this species no longer nests in Southern California, including San Diego County, but could use the project area during annual migration. Due to the low observed and expected use of the project area by Swainson's hawk, direct impacts to Swainson's hawk's on site stopover habitat are not considered significant.

Table 3-2
Impacts to Suitable Habitat for Group 1 and/or SSC Wildlife Species

Species Name	Suitable Habitat	
	Existing Acreage	*Impacts Acreage*[1]
Amphibians and Reptiles		
Belding's orange-throated whiptail	~~738.7~~741.2	~~443.9~~515.8
Blainville's horned lizard	741.2~~738.7~~	515.8~~443.9~~
Coast patch-nosed snake	741.2~~737.6~~	515.8~~443.9~~
Coronado skink	~~763.6~~766.3	~~446.9~~519.0
Northern red-diamond rattlesnake	~~738.5~~741.1	~~443.9~~515.7
Two-striped garter snake	25.3	3.2~~0~~
Western spadefoot	399.6~~8.5~~	266.3~~28.8~~
Birds		
Bell's sage sparrow	514.7~~3.2~~	~~311.2~~364.4
Cooper's hawk—foraging	252.1~~251.6~~	156.4~~135.5~~
Cooper's hawk—nesting	77.7~~77.6~~	59.3~~53.2~~
Golden eagle—foraging	489.6~~488.5~~	322.2~~274.0~~
Loggerhead shrike	576.9~~574.3~~	422.0~~364.4~~
Northern harrier—foraging	397.6~~396.5~~	265.5~~227.9~~
Prairie falcon—foraging	768.5~~765.8~~	520.7~~449.6~~
Red-shouldered hawk—foraging	252.1~~251.8~~	156.4~~140.2~~
Red-shouldered hawk—nesting	77.7~~77.6~~	59.3~~57.5~~
Southern California rufous-crowned sparrow	557.0~~555.5~~	400.4~~343.6~~
Tricolored blackbird—foraging	191.9~~190.8~~	115.4~~100.2~~
Turkey vulture—foraging	766.3~~763.6~~	519.0~~446.9~~
Mammals		
Dulzura pocket mouse	633.9~~631.2~~	455.0~~394.6~~
Northwestern San Diego pocket mouse	736.0~~733.3~~	517.5~~445.2~~
San Diego desert woodrat	567.6~~566.0~~	400.5~~344.0~~
Mexican long-tongued bat—foraging	766.5~~763.8~~	519.0~~446.9~~
Townsend's big-eared bat—foraging	766.5~~763.8~~	519.0~~446.9~~
Spotted bat—foraging	766.5~~763.8~~	519.0~~446.9~~
Greater western mastiff bat—foraging	766.5~~763.8~~	519.0~~446.9~~
Western red bat—foraging	766.5~~763.8~~	519.0~~446.9~~
California leaf-nosed bat—foraging	766.5~~763.8~~	519.0~~446.9~~
Big free-tailed bat—foraging	766.5~~763.8~~	519.0~~446.9~~

[1] This includes impacts associated with proposed on-site impacts and off-site access roads.



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SOURCE: AECOM 2012; SanGIS 2012; Bing Maps

FIGURE 10B

Impacts - Special-Status Wildlife Observations

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3.2.3 Project Effects Relevant to Guideline 4.1.C

3.2.3.1 Special-Status Plant Species (County List C and D Species)

There will be no direct impacts to County List C plant species resulting from implementation of the Proposed Project.

Three County List D plant species would be directly impacted by the Proposed Project, including desert larkspur, and pride of California. The desert monkeyflower and Engelmann oak on site would be 100% avoided. Figure 10a shows the Proposed Project impacts to County List D plant species on site.

More specifically, approximately 118 to 470 individuals of desert larkspur (39 to 42% of the on-site individuals), CRPR List 4.3, would be directly impacted by the Proposed Project. Additionally, approximately 4 to 40 individuals of pride of California (100% of the on-site individuals), CRPR List 4.3, would be directly impacted by the Proposed Project. These proposed impacts to County List D species would be not considered significant.

3.2.3.2 Special-Status Wildlife Species (County Group 2)

Loss of individual special-status snakes (County Group 2[2]), including the San Diego ringneck snake and rosy boa, from construction-related activities would be considered significant **(Impact W-4)**. This impact will be mitigated through mitigation measures MM-2 (biological monitoring), MM-3 (restrictions on construction vehicle speed limits), MM-4 (preparation of a biological monitoring report), and MM-11 (monitor excavated areas and soil piles). Loss of Group 2 special-status wildlife species that are not state SSC animals from construction-related activities is considered less than significant due to their regional widespread presence or the project area's relative importance to the species. These species occur within a variety of habitats and through a wide geographic, topographic, and elevational range of which there is an abundance in the region. Additionally, if any active nests or young of nesting special-status bird species (County Group 2) are impacted through direct grading, these impacts would be considered significant **(Impact W-5)**, based on the MBTA. This impact will be mitigated through mitigation measure MM-10 (preconstruction surveys for nesting birds and setbacks).

As summarized in Section 1.4.6, the following County Group 2 special-status wildlife species were incidentally observed either directly or indirectly (i.e., scat, tracks) within the project area: monarch butterfly, coastal western whiptail, California horned lark, and southern mule deer.

[2] County Group 2 special-status wildlife species that are state SSC are addressed in Section 3.2.2.2, *Special-Status Wildlife (Group 1)*.

Figure 10b shows the Proposed Project impacts in relation to the special-status wildlife observations mapped on site. Three additional Group 2 species were observed but are analyzed in Section 3.2.2.2 because they are state SSC animals: Belding's orange-throated whiptail, Blainville's horned lizard, and San Diego black-tailed jackrabbit.

The following additional County Group 2 wildlife species have high potential to occur within the project area: San Diego ringneck snake, rosy boa, western bluebird, barn owl, and mountain lion. Fifteen additional Group 2 species have high potential to occur but are analyzed in Section 3.2.2.2 because they are state SSC animals: western spadefoot, silvery legless lizard, northern red-diamond rattlesnake, Coronado skink, coast patch-nosed snake, Dulzura pocket mouse, northwestern San Diego pocket mouse, San Diego desert woodrat, Mexican long-tongued bat, Townsend's big-eared bat, spotted bat, greater western mastiff bat, western red bat, California leaf-nosed bat, and big free-tailed bat.

Potential permanent direct impacts to suitable habitat for monarch butterfly, coastal western whiptail, California horned lark, western bluebird, barn owl, mountain lion, and southern mule deer are less than significant due to their widespread presence or the project area's relative importance to the species.

Potential permanent direct impacts to suitable habitat for San Diego ringneck snake and rosy boa could occur as a result of the Proposed Project. This impact would be considered a significant impact **(Impact W-6)**, and will be mitigated through mitigation measure MM-1 (habitat preservation and management).

3.2.4 Project Effects Relevant to Guideline 4.1.D

No arroyo toads (*Anaxyrus californicus*) have been detected in the project area, and they are not expected to occur in the project area. Arroyo toads are not known from this area and have not been documented in the Live Oak Springs quadrangle (CDFG 2012a). The project area lacks suitable habitat for this species. In addition, focused arroyo toad surveys on the nearby Tule project site were negative (HDR 2010). The closest U.S. Fish and Wildlife Service (USFWS) occurrence is approximately 12 miles south of the project area (USFWS 2012b).

3.2.5 Project Effects Relevant to Guideline 4.1.E

No active golden eagles nests are known to occur within 4,000 feet of the Rugged area (see Appendix J). A golden eagle pair referred to as the "Boulevard" pair was known to exist within and around the Rugged solar farm site; however, the nest is not active and the pair is assumed to be extirpated. The Carrizo Canyon and Table Mountain territories, which each support an active breeding pair, are to the east and southeast of the solar farm site; While the core nesting areas for these pairs are outside of the Rugged solar farm site and 4,000-foot buffer, these pairs would be

expected to forage over the project site, as their territories overlap slightly with the project site (WRI 2012). The WRI study of the project determined that the project site includes golden eagle flyways. Therefore, impacts to raptor (specifically, golden eagle) foraging habitat are considered significant **(Impact W-7)**. The results of a golden eagle territory report specific to the Proposed Project are included as Appendix H; see Section 1.4.6.2 for a more detailed discussion regarding status and distribution of golden eagle in the project area.

3.2.6 Project Effects Relevant to Guideline 4.1.F

Foraging habitat for raptors is present throughout portions of the project area. Approximately 492.4 acres of vegetation communities and land covers will be impacted through on-site and off-site impacts. Many of these habitats would be considered suitable foraging habitat for raptors, including golden eagle. Therefore, impacts to raptor foraging habitat are considered significant **(Impact W-7)**.

3.2.7 Project Effects Relevant to Guideline 4.1.G

The project area is considered a core wildlife area based on its total acreage and the presence of surrounding undeveloped areas. Impacts to the area are considered significant (**Impact W-8**), and will be mitigated through mitigation measure MM-1 (habitat preservation and management).

3.2.8 Project Effects Relevant to Guideline 4.1.H

3.2.8.1 Special-Status Plant Species

Short-term indirect impacts to County List A and B plant species as a result of the Proposed Project are described in Section 2.3.2.1 and include short-term, construction-related, or temporary indirect impacts and include generation of fugitive dust, changes in hydrology resulting from construction, and the introduction of chemical pollutants.

Short-term indirect impacts to County List A and B plant species would be considered significant **(Impact SP-3)**. Short-term indirect impacts to County List A and B plant species will be mitigated to less than significant through implementation of mitigation measure MM-2 (biological monitoring), MM-3 (preparation and implementation of a Stormwater Pollution Prevention Plan (SWPPP)), MM-4 (preparation of a biological monitoring report), and MM-5 (implementation of a Fugitive Dust Control Plan).

Potential long-term or permanent indirect impacts to County List A and B plant species as result of the Proposed Project are described in Section 2.3.2.2 and include generation of fugitive dust, habitat fragmentation, chemical pollutants (herbicides), non-native invasive species, increased human activity, and the alteration of the natural fire regime.

Potential long-term indirect impacts to County List A and B plant species would be considered significant **(Impact SP-4)**. Long-term indirect impacts to County List A and B plant species will be mitigated to less than significant through implementation of mitigation measure MM-1 (habitat preservation and management), MM-5 (implementation of a Fugitive Dust Control Plan), MM-6 (biological review of landscape plans), MM-7 (restrictions on operation and maintenance personnel activity), MM-8 (implementation of a Fire Protection Plan) and MM-9 (regulated herbicide application).

3.2.8.2 Special-Status Wildlife Species

Short-term indirect impacts to County Group 1 and 2 special-status wildlife species as a result of the Proposed Project are described in Section 2.4 and include short-term, construction-related, or temporary indirect impacts including generation of fugitive dust, noise, chemical pollutants, increased human activity, and non-native animal species.

Short-term indirect impacts to special-status wildlife species would be considered significant **(Impact W-9)**. Short-term indirect impacts to special-status wildlife species will be mitigated to less than significant through implementation of mitigation measure MM-2 (biological monitoring), MM-3 (restrictions on construction vehicle speed limits, preparation and implementation of an SWPPP, and containment and removal of trash), MM-4 (preparation of a biological monitoring report), MM-5 (implementation of a Fugitive Dust Control Plan), MM-10 (preconstruction surveys for nesting birds and setbacks), (MM-11 (monitor excavated areas and soil piles), and MM-12 (minimize night lighting).

Potential long-term or permanent indirect impacts to special-status wildlife species include generation of fugitive dust; non-native, invasive plant and animal species; habitat fragmentation; increased human activity; and alteration of the natural fire regime. These potential long-term indirect impacts to special-status wildlife species would be considered significant **(Impact W-10)**.

Potential long-term indirect impacts from electrocution of, and/or collisions by, listed or special-status bird or bat species as a result of the proposed overhead transmission line would be considered significant **(Impact W-11)**.

Long-term indirect impacts to special-status wildlife species will be mitigated to less than significant through implementation of mitigation measure MM-1 (habitat preservation and management), MM-5 (implementation of a Fugitive Dust Control Plan), MM-6 (biological review of landscape plans), MM-7 (restrictions on operation and maintenance personnel activity), and MM-8 (implementation of a Fire Protection Plan). Impacts associated with potential electrocution and/or collisions will be mitigation to less than significant through

implementation of MM-13 (implement recommendations by the Avian Power Line Interaction Committee).

3.2.9 Project Effects Relevant to Guideline 4.1.I

No burrowing owls (*Athene cunicularia*) have been detected in the project area; therefore, there are no impacts to occupied burrowing owl habitat.

3.2.10 Project Effects Relevant to Guideline 4.1.J

No cactus wrens (*Campylorhynchus brunneicapillus*) have been detected in the project area; therefore, there are no impacts to occupied cactus wren habitat.

3.2.11 Project Effects Relevant to Guideline 4.1.K

No Hermes copper butterflies have been detected in the project area. The adult butterflies' preferred nectaring plant, California buckwheat, occurs throughout the project area; however, the larval host plant (i.e., true limiting factor), spiny redberry (*Rhamnus crocea*), has not been detected during plant surveys. Based on the lack of suitable habitat for this species, the project area is not considered occupied Hermes copper butterfly habitat. Therefore, there are no impacts related to this guideline.

3.2.12 Project Effects Relevant to Guideline 4.1.L

Indirect impacts associated with construction, such as noise, could affect the nesting success of tree-nesting raptors (Impact W-9). Construction-related impacts to the nesting success of tree-nesting raptors would be considered significant **(Impact W-12)**, and would be mitigated through MM-10 (preconstruction surveys for nesting birds and setbacks).

Impacts to the nesting success of tree-nesting raptors (e.g., great-horned owl and red-tailed hawk) as a result of habitat removal associated with the Proposed Project are anticipated. Long-term direct impacts to nesting habitat for special-status raptors Cooper's hawk and red-shouldered hawk is summarized in Table 3-2, and impacts to general vegetation communities are described in Table 2-1. Impacts to the nesting success of tree-nesting raptors associated with the loss of suitable nesting habitat would be considered significant **(Impact W-13)**. The loss of suitable nesting habitat (Impact W-13) would be mitigated by MM-1 (habitat preservation and management).

Coastal cactus wren, coastal California gnatcatcher (*Polioptila californica californica*), least Bell's vireo (*Vireo bellii pusillus*), southwestern willow flycatcher (*Empidonax traillii extimus*), golden eagle, and light-footed clapper rail (*Rallus longirostris levipes*) do not nest in the project

area; therefore, the Proposed Project would not impact the nesting success of those species. No ground-nesting raptors (e.g., northern harrier (*Circus cyaneus*) and short-eared owl (*Asio flammeus*)) are expected to nest in the project area. Therefore, the Proposed Project would not impact the nesting success of those species.

3.3 Cumulative Impact Analysis

Cumulative impacts are not assessed in this document; they will be discussed thoroughly in the Proposed Project's EIR.

3.4 Mitigation Measures and Design Considerations

The applicant is proposing mitigation at property that includes 2,601.3 acres located south of the Project Area to mitigate for the loss of sensitive vegetation communities and habitat that will be impacted as a result of the proposed project. A description of the mitigation site, including a list of vegetation communities and the potential for sensitive plant and wildlife species to occur, is provided in the Evaluation of Biological Resources for the Soitec Mitigation Site (Dudek 2013b) (Appendix K).

Mitigation measures and design considerations for special-status plant species will be determined following the impacts analysis.

MM-1 Assuming no adopted regional habitat conservation plan, the applicant will preserve native habitats in permanent open space ~~517.9 acres of native habitats~~ generally consistent with the assemblage of vegetation communities impacted by the project in an off-site open space conservation and management area. This will include preservation of ~~459.2~~515.7 acres for on-site impacts and 5.0 acres for off-site impacts of ~~native habitats to mitigate for project impacts to 398.4 acres of special-status upland vegetation communities, as well as an additional 58.7 acres of native habitats~~vegetation communities to mitigate for habitat loss of special-status plant and wildlife species and for wildlife movement (summarized in Section 8.0); thereby preserving compensatory habitat that provides equal or greater benefit to plant and wildlife species. The off-site open space conservation area shall be evaluated to determine if the off-site area provides similar or greater biological function and value when compared with the identified significant impacts. This assessment shall include vegetation community mapping and an assessment of associated flora and fauna to the extent necessary to determine if the off-site conservation area provided commensurate biological function and value for each significantly impacted biological resource. The off-site open space conservation area may be composed of more than one set

of contiguous parcels. Mitigation for the loss of special-status plant species shall be a minimum of 2:1 mitigation to impact ratio for Jacumba milk-vetch individuals and 1:1 mitigation to impact ratio for sticky geraea and desert beauty. The assessment of the number of individuals of these species supported within the impact and mitigation areas shall be conducted in comparable survey years to appropriately account for potential annual variation in the number of individuals.

Preservation of off-site open space shall be provided through one of the following options:

Option 1: If purchasing Mitigation Credit from the mitigation bank, the following evidence of purchase shall include the following information to be provided by the mitigation bank:

a. A copy of the purchase contract referencing the project name and numbers for which the habitat credits were purchased.

b. If not stated explicitly in the purchase contract, a separate letter must be provided identifying the entity responsible for the long-term management and monitoring of the preserved land.

c. To ensure the land will be protected in perpetuity, evidence must be provided that a dedicated conservation easement or similar land constraint has been placed over the mitigation land.

d. An accounting of the status of the mitigation bank. This shall include the total amount of credits available at the bank, the amount required by this project and the amount remaining after utilization by this project.

Option 2: If habitat credit is not purchased in a mitigation bank, then the applicant shall provide for the conservation habitat of the same amount and type of land located in San Diego County as indicated below:

a. Prior to purchasing the land for the proposed mitigation, the location should be pre-approved by County Department of Public Works.

b. A Resource Management Plan (RMP) shall be prepared and approved pursuant to the County of San Diego *Guidelines for Determining Significance and ~~Biological~~ Report Format and Content Requirements: Biological Resources* to the satisfaction of the director of Department of Planning & Development Services (PDS). If the off-site mitigation is proposed to be managed by Department of Parks and Recreation (DPR), the RMP shall also be prepared and approved to the satisfaction of the director of DPR.

c. An open space easement over the land shall be dedicated to the County of San Diego or like agency to the satisfaction of the Director of PDS. The land shall be protected in perpetuity.

d. The purchase and dedication of the land and the selection of the Resource Manager and establishment of an endowment to ensure funding of annual ongoing basic stewardship costs shall be complete prior to approval of the RMP.

e. In lieu of providing a private habitat manager, the applicant may contract with a federal, state, or local government agency with the primary mission of resource management to take fee title and manage the mitigation land). Evidence of satisfaction must include a copy of the contract with the agency, and a written statement from the agency that (1) the land contains the specified acreage and the specified habitat, or like functioning habitat, and (2) the land will be managed by the agency for conservation of natural resources in perpetuity.

Documentation: If the off-site mitigation is proposed to be owned or managed by DPR, the applicant must provide evidence to the PDS that DPR agrees to this proposal. It is recommended that the applicant submit the mitigation proposal to the PDS, for a pre-approval. If an RMP is going to be submitted in-lieu of purchasing credits, then the RMP shall be prepared and an application for the RMP shall be submitted to the PDS. Timing: Prior to approval of any plan or issuance of any permit, and prior to use of the premises in reliance of this permit, the mitigation shall occur.

Monitoring: The PDS shall review the mitigation purchase for compliance with this condition. Upon request from the applicant PDS can pre-approve the location and type of mitigation only. The credits shall be purchased before the requirement can be completed. If the applicant chooses option #2, then the PDS shall accept an application for an RMP, and PDS and DPR shall review the RMP submittal for compliance with this condition and the RMP Guidelines.

MM-2 To prevent inadvertent disturbance to areas outside the limits of grading, all grading located shall be monitored by a biologist. A County-approved biologist "Project Biologist" shall be contracted to perform biological monitoring during all grading, clearing, grubbing, trenching, and construction activities.

The following shall be completed:

The Project Biologist shall perform the monitoring duties before, during, and after construction pursuant to the most current version of the County of San Diego *Guidelines for Determining Significance and ~~Biological~~ Report Format and Content Requirements: Biological Resources ~~Guidelines~~* and this permit. The contract provided to the County shall include an agreement that this will be completed, and a Memorandum of Understanding (MOU) between the biological consulting company and the County of San Diego shall be executed. The contract shall include a cost estimate for the monitoring work and reporting. In addition to performing monitoring duties pursuant to the most current version of the County of San Diego *~~Biological~~ Report Format and Content Requirements, Biological Resources* the Project Biologist also will perform the following duties:

a. Attend the preconstruction meeting with the contractor and other key construction personnel prior to clearing, grubbing, or grading to reduce conflict between the timing and location of construction activities with other mitigation requirements (e.g., seasonal surveys for nesting birds).

b. Conduct meetings with the contractor and other key construction personnel describing the importance of restricting work to designated areas prior to clearing, grubbing, or grading.

c. Discuss procedures for minimizing harm to or harassment of wildlife encountered during construction with the contractor and other key construction personnel prior to clearing, grubbing, or grading.

d. Review and/or designate the construction area in the field with the contractor in accordance with the final grading plan prior to clearing, grubbing, or grading.

e. Conduct a field review of the staking to be set by the surveyor, designating the limits of all construction activity prior to clearing, grubbing, or grading.

f. Be present during initial vegetation clearing, grubbing, and grading.

g. Flush special-status species (i.e., avian or other mobile species) from occupied habitat areas immediately prior to brush-clearing and earth-moving activities. If brush-clearing and earth-moving activities take place within the bird breeding season, flushing shall not occur in an area identified as having an active nest and thus resulting in a potential take of a species (see MM-10).

h. To address hydrology impacts, the Project Biologist shall verify that grading plans include an SWPPP (see MM-3 for required best management practices (BMPs)).

The cost of the monitoring shall be added to the grading bonds that will be posted with the Department of Public Works (DPW), or bond separately with the PDS.

Documentation: The applicant shall provide a copy of the biological monitoring contract, cost estimate, and MOU to the PDS. Additionally, the cost amount of the monitoring work shall be added to the grading bond cost estimate. Timing: Prior to approval of any grading and or improvement plans and issuance of any grading or construction permits. Monitoring: The PDS shall review the contract, MOU, and cost estimate or separate bonds for compliance with this condition. The cost estimate should be forwarded to the project manager, for inclusion in the grading bond cost estimate, and grading bonds. The DPW shall add the cost of the monitoring to the grading bond costs.

MM-3 Prior to the issuance of a grading permit, ~~T~~the SWPPP that shall be prepared in compliance with the Construction General Storm Water Permit, State Water Resources Control Board Order No. 2009-0009-DWQ, as amended by Order No. 2010-0014-DWQ, ~~will~~shall include, at a minimum, the BMPs listed below. The combined implementation of these requirements shall protect adjacent habitats and special-status species during construction to the maximum extent practicable. At a minimum, the following measures and/or restrictions shall be incorporated into the SWPPP and noted on construction plans, where appropriate, to avoid impacts on special-status species, sensitive vegetation communities, and/or jurisdictional waters during construction. The Project Biologist shall verify the implementation of the following design requirements:

1. No planting or seeding of invasive plant species on the most recent version of the California Invasive Plant Council (Cal-IPC) California Invasive Plant Inventory for the project region will be permitted.

~~2. Location and details will be provided for any dust-control or BMP fencing.~~

~~3. Construction activity will not be permitted in jurisdictional waters, including wetlands or riparian areas, except as authorized by applicable law and permit(s), including permits and authorizations approved by the U.S. Army Corps of Engineers (ACOE), California Department of Fish and Wildlife (CDFW), and Regional Water Quality Control Board (RWQCB).~~

~~4.~~ Silt settling basins installed during the construction process will 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.

~~5. Temporary structures and storage of construction materials will not be located in jurisdictional waters, including wetlands and riparian areas.~~

~~6. Staging/storage areas for construction equipment and materials will not be located in jurisdictional waters, including wetlands and riparian areas.~~

~~7. Any equipment or vehicles driven and/or operated within a jurisdictional waters, including wetlands and riparian areas, will be checked and maintained by the operator daily to prevent leaks of oil or other petroleum products that could be deleterious to aquatic life if introduced to the watercourse.~~

~~8. No stationary equipment, such as motors, pumps, generators, and welders, or fuel storage tanks will be located within jurisdictional waters, including wetlands and riparian areas.~~

~~9. No debris, bark, slash sawdust, rubbish, cement, or concrete, or washing thereof, oil, or petroleum products will be stored where it may be washed by rainfall or runoff into jurisdictional waters, including wetlands and riparian areas.~~

~~10.~~ 3. When construction operations are completed, any excess materials or debris will be removed from the work area.

~~11. No equipment maintenance will be performed within or near jurisdictional waters, including wetlands and riparian areas, where petroleum products or other pollutants from the equipment may enter these areas.~~

~~12.~~ 3. Fully covered trash receptacles that are animal-proof and weather-proof will be installed and used by the operator to contain all food, food scraps, food wrappers, beverage containers, and other miscellaneous trash. Prohibit littering and remove trash from construction areas daily. All food-related trash and garbage shall be removed from the construction sites on a daily basis.

~~13.~~4. Pets on or adjacent to construction sites will not be permitted by the operator.

~~14.~~5. Enforce speed limits in and around all construction areas. Vehicles shall not exceed 15 miles per hour on unpaved roads and the right-of-way accessing the construction site or 10 miles per hour during the night.

MM-4 To ensure that the biological monitoring occurred during the grading phase of the project, a final biological monitoring report shall be prepared. The "Project

Biologist" shall prepare a final biological monitoring report. The report shall substantiate the supervision of the grading activities, and state that grading or construction activities did not impact any additional areas or any other sensitive biological resources. The report shall conform to the County of San Diego ~~*Biological*~~ *Guidelines for Determining Significance and Report Format and Content Requirements: Biological Resources*, and include the following items:

a. Photos of the temporary fencing that was installed during the trenching, grading, or clearing activities.

b. Monitoring logs showing the date and time that the monitor was on site.

c. Photos of the site after the grading and clearing activities.

d. Documentation: The Project Biologist shall prepare the final report and submit it to the PDS for review and approval. Timing: Prior to any occupancy, final grading release, or use of the premises in reliance of this permit, the final report shall be approved. Monitoring: The PDS shall review the final report for compliance with this condition and the report format guidelines. Upon approval of the report, PDS shall inform DPW that the requirement is complete and the bond amount can be relinquished. If the monitoring was bonded separately, then PDS shall inform DPW to release the bond back to the applicant.

MM-5 The Applicant shall develop a Fugitive Dust Control Plan in compliance with San Diego County Air Pollution Control Regulations to reduce particulate matter less than 10 microns (PM10) and fine particulate matter less than 2.5 microns (PM2.5) emissions during construction. The Fugitive Dust Control Plan shall include:

a. Name(s), address(es), and phone number(s) of person(s) responsible for the preparation, submission, and implementation of the plan;

b. Description and location of operation(s); and

c. Listing of all fugitive dust emissions sources included in the operation.

d. The following dust control measures shall be implemented:

~~1. The road leading to the operations and maintenance facility shall be paved as early as practical during construction.~~

1. ~~2.~~ All ~~other~~ on-site ~~unpaved~~ fire access roads shall be effectively stabilized using aggregate base material such as disintegrated granite (DG) as early as practical during construction~~soil stabilizers that can be~~

~~determined to be as efficient as or more efficient for fugitive dust control than California Air Resources Board approved soil stabilizers, and that it shall not increase any other environmental impacts including loss of vegetation~~.

2. ~~3.~~ All material excavated or graded will be sufficiently watered to prevent excessive dust. Watering will occur as needed with complete coverage of disturbed areas. The excavated soil piles are watered hourly for the duration of construction or covered with temporary coverings.

3.~~4.~~ Construction activities that occur on unpaved surfaces will be discontinued during windy conditions when winds exceed 25 miles per hour and when those activities cause visible dust plumes. All grading activities shall be suspended when wind speeds are greater than 30 miles per hour.

4.~~5.~~ Track-out shall not extend 25 feet or more from an active operation, and track-out shall be removed at the conclusion of each workday.

5.~~6.~~ All haul trucks hauling soil, sand, and other loose materials shall be covered (e.g., with tarps or other enclosures that would reduce fugitive dust emissions).

6.~~7.~~ Soil loads should be kept below 18 inches of the freeboard of the truck.

7.~~8.~~ Drop heights should be minimized when loaders dump soil into trucks.

8.~~9.~~ Traffic speeds on unpaved roads shall be limited to 25 miles per hour.

9.~~10.~~ Disturbed areas should be minimized.

10. ~~11.~~ Disturbed areas should be ~~revegetated~~ stabilized using soil binders can be determined to be as efficient, or more efficient, for fugitive dust control than California Air Resources Board–approved soil stabilizers, as soon as possible after disturbance and shall not increase any other environmental impacts including loss of vegetation.

MM-6 Prior to installation of any landscaping, plant palettes shall be reviewed by the Project Biologist to minimize the effects that proposed landscape plants could have on biological resources outside of the impact footprint due to potential naturalization of landscape plants in the open space. Landscape plants will not include invasive plant species on the most recent version of the Cal-IPC California Invasive Plant Inventory for the project region. All plant stock shall be fumigated for pests, including Argentine ants, just prior to bringing the plants to

the site for installation. Landscape plans will include a plant palette composed of ~~native or non-native, non-invasive~~ climate-appropriate, drought-tolerant species ~~that do not require high irrigation rates~~.

MM-7 Operation and maintenance personnel will be prohibited from:

a. Harming, harassing, or feeding wildlife and/or collecting special-status plant or wildlife species.

b. Traveling (either on foot or in a vehicle) outside of project footprint in undisturbed portions of the project area.

c. Bringing pets on the project area.

d. Littering on the project area.

~~e. Allowing persons not employed at the facility to remain on site after daylight hours or exceeding normal nighttime operational noise or lighting.~~

MM-8 To minimize the potential exposure of the project area to fire hazards, all features of the Rugged Solar Farm Fire Protection Plan (FireWise 2000 Inc. 2012), which has been prepared in accordance with the most current version of the County of San Diego Guidelines for Determining Significance and Report Format and Content Requirements: Wildland Fire and Fire Protection, shall be implemented in conjunction with development of the Rugged Solar Farm.

MM-9 Weed control treatments shall include all legally permitted chemical, manual, and mechanical methods applied with the authorization of the San Diego County agriculture commissioner. The application of herbicides shall be in compliance with all state and federal laws and regulations under the prescription of a pest control advisor (PCA) and implemented by a licensed applicator for the project owner. Where manual and/or mechanical methods are used, disposal of the plant debris will follow the regulations set by the San Diego County agriculture commissioner. The timing of the weed control treatment shall be determined for each plant species in consultation with the PCA, the San Diego County agriculture commissioner, and Cal-IPC with the goal of controlling populations before they start producing seeds. Weed control shall be implemented at least once per year throughout the life of the project.

MM-10 To avoid impacts to nesting birds the applicant shall:

~~If construction work must occur during the avian breeding season (February 1 to August 31, and as early as January 1 for some raptors), the applicant should~~

~~work with the CDFW and the USFWS to prepare a Nesting Bird Management, Monitoring, and Reporting Plan (NBMMRP) to address avoidance of impacts to nesting birds.~~

1. ~~The applicant(s) will s~~Submit to the ~~agencies~~ California Department of Fish and Wildlife (CDFW) and U.S. Fish and Wildlife Service (USFWS) a Nesting Bird Management, Monitoring, and Reporting Plan ~~the~~ (NBMMRP) ~~(see following for details)~~ for review and approval prior to commencement of the project activities during the breeding season. The NBMMRP should include the following:

   a. Nest survey protocols describing the nest survey methodologies

   b. A management plan describing the methods to be used to avoid nesting birds and their nests, eggs, and chicks

   c. A monitoring and reporting plan detailing the information to be collected for incorporation into a regular Nest Monitoring Log (NML) with sufficient details to enable USFSW and CDFG to monitor the applicant's compliance with Fish and Game Code Sections 3503, 3503.5, 3511, and 3513

   d. A schedule for the submittal (usually weekly) of the nesting monitoring log (NML).

   e. Standard buffer widths deemed adequate to avoid or minimize significant project-related edge effects (disturbance) on nesting birds and their nests, eggs, and chicks

   f. A detailed explanation of how the buffer widths were determined

   g. All measures the applicant will implement to preclude birds from utilizing project-related structures (i.e., construction equipment, facilities, or materials) for nesting.

   and

2. Conduct preconstruction nesting bird surveys within 72 hours of construction-related activities; conduct preconstruction survey sweeps immediately prior to ground-disturbing activities; and implement appropriate avoidance measures for identified nesting birds. Resurvey, if construction activities are halted for ten consecutive days.

3. To determine presence of nesting birds that the project activities may affect, surveys should be conducted beyond the project area—300 feet for

passerine birds and 500 feet for raptors. The survey protocols should include a detailed description of methodologies utilized by CDFG-approved avian biologists to search for nests and describe avian behaviors that indicate active nests. The protocols should include but are not limited to the size of the project area being surveyed, method of search, and behavior that indicates active nests.

4. Each nest identified in the project area should be included in the NML. The NMLs should be updated daily and submitted to the CDFG weekly. Since the purpose of the NMLs is to allow the CDFG to track compliance, the NMLs should include information necessary to allow comparison between nests protected by standard buffer widths recommended for the project (300 feet for passerine birds, 500 feet for raptors) and nests whose standard buffer width was reduced by encroachment of project-related activities. The NMLs should provide a summary of each nest identified, including the species, status of the nest, buffer information, and fledge or failure data. The NMLs will allow for tracking the success and failure of the buffers and will provide data on the adequacy of the buffers for certain species.
5. The applicant(s) will rely on its avian biologists to determine the appropriate standard buffer widths for nests within the project corridor/footprint to employ based on the sensitivity levels of specific species or guilds of avian species. The determination of the standard buffer widths should be site- and species-/guild-specific and data-driven and not based on generalized assumptions regarding all nesting birds. The determination of the buffer widths should consider the following factors:
    a. Nesting chronologies
    b. Geographic location
    c. Existing ambient conditions (human activity within line of sight—cars, bikes, pedestrians, dogs, noise)
    d. Type and extent of disturbance (e.g., noise levels and quality—punctuated, continual, ground vibrations—blasting-related vibrations proximate to tern colonies are known to make the ground-nesting birds flush the nests)
    e. Visibility of disturbance
    f. Duration and timing of disturbance
    g. Influence of other environmental factors

h. Species' site-specific level of habituation to the disturbance.

6. Application of the standard buffer widths should avoid the potential for project-related nest abandonment and failure of fledging, and minimize any disturbance to the nesting behavior. If project activities cause or contribute to a bird being flushed from a nest, the buffer must be widened.

Documentation: The Project Biologist shall prepare the final report and submit it to the PDS for review and approval. Timing: Prior to any occupancy, final grading release, or use of the premises in reliance of this permit, the final report shall be approved. Monitoring: The PDS shall review the final report for compliance with this condition and the report format guidelines. Upon approval of the report, PDS shall inform DPW that the requirement is complete and the bond amount can be relinquished. If the monitoring was bonded separately, then PDS shall inform DPW to release the bond back to the applicant.

MM-11 As a condition on the grading plans, the Project Biologist shall cover and/or provide escape routes for wildlife from excavated areas and monitor these areas daily. All steep trenches, holes, and excavations during construction shall be covered at night with backfill, plywood, metal plates, or other means, and the edges covered with soils and plastic sheeting such that small wildlife cannot access. Soil piles will be covered at night to prevent wildlife from burrowing in. The edges of the sheeting will be weighed down by sandbags. These areas may also be fenced to prevent wildlife from gaining access. Exposed trenches, holes, and excavations shall be inspected twice daily (i.e., morning and prior to sealing the exposed area) by a qualified biologist to monitor for, and release wildlife, if they become entrapped. Excavations shall provide an earthen ramp to allow for a wildlife escape route.

MM-12 As a condition on the grading plans, night construction lighting adjacent to native habitats shall be minimized. Lighting of construction areas at night shall be the minimum necessary for personnel safety and shall be low illumination, selectively placed, and directed/shielded appropriately to minimize lighting in adjacent native habitats.

MM-13 Provide evidence to the Director of PDS that all transmission towers and lines are designed to conform to Avian Power Line Interaction Committee standards. The Proposed Project shall implement recommendations by the Avian Power Line Interaction Committee (2006), which will protect raptors and other birds from electrocution. These measures are sufficient to protect even the largest birds that

may perch or roost on transmission lines or towers from electrocution. Specifically, these measures will include guidance on proper pole and cross member dimensions, phasing, and insulator design and dimensions to preclude wire-to-wire contact with a goal of providing 150 centimeters (59 inches) of separation between energized conductors and energized hardware and ground wire. In addition, bird diverters or other means to make lines more visible to birds will be installed to help avoid collisions.

3.5 Conclusions

3.5.1 Sensitive Plant Species

Impact SP-1 The significant short-term direct impacts to Jacumba milkvetch, sticky geraea, Tecate tarplant, Tecate cypress, and desert beauty will be reduced to less than significant through implementation of mitigation measures MM-2, MM-3, and MM-4, because the mitigation, which requires biological monitoring; review of areas designated for clearing, grubbing, or grading; construction limitations including restrictions on construction vehicle speeds; and preparation of a biological monitoring report; will prevent and document that construction will not cause additional impacts beyond the project footprint. Additional design features that will reduce potential impacts include landscape monitoring and maintenance.

Impact SP-2 The significant long-term direct impacts to Jacumba milkvetch, sticky geraea, and desert beauty will be reduced to less than significant through implementation of mitigation measure MM-1, which provides off-site habitat management and conservation that has been demonstrated to contain these species with mitigation for the individuals (which may be based on the estimated extent of the population) to at least a 2:1 ratio or better depending on the rarity of the species. These impacts have been reduced to less than significant because there would be adequate numbers of individuals and habitat to preserve and manage the species in perpetuity and in accordance with the County of San Diego *Biological Guidelines for Determining Significance*.

Impact SP-3 The significant short-term indirect impacts to Jacumba milkvetch, Tecate tarplant, sticky geraea, and desert beauty will be reduced to less than significant through implementation of mitigation measures MM-2, MM-3, MM-4, and MM-5, which require biological monitoring during construction; review of areas designated for clearing, grubbing, or grading; restrictions on construction vehicle speeds; preparation of a biological monitoring report; and implementation of a Fugitive Dust Control Plan. These impacts have been

reduced to less than significant because these measures will prevent and document that construction will not cause additional impacts beyond the project footprint. Additional design features that will also help reduce potential impacts include landscape monitoring and maintenance.

Impact SP-4 The significant long-term indirect impacts to Jacumba milkvetch, Tecate tarplant, sticky geraea, and desert beauty will be reduced to less than significant through implementation of mitigation measures MM-1, MM-5, MM-6, MM-7, MM-8, and MM-9, which requires off-site compensatory mitigation with habitat conservation and management and includes onsite implementation of a Fugitive Dust Control Plan, biological review of landscape plans, restrictions on operation and maintenance personnel activities, implementation of a Fire Protection Plan, regulation of landscape installation and herbicide application. Potential indirect impacts have been reduced to less than significant because human activity has been restricted to the project footprint, the risk of fire has been reduced, and release of exotic plants and animals has been minimized.

3.5.2 Sensitive Wildlife Species

Impacts W-1/W-2/W-4/W-5 The significant short-term direct impacts to active nests or the young of nesting County Group 1 or Group 2 species will be reduced to less than significant through implementation of mitigation measure MM-10, because the mitigation, which requires preconstruction surveys for nesting birds and setbacks for active nests, will prevent the direct loss of active nests during clearing and grading. Potential significant short-term direct impacts from loss of individual San Diego ringneck and rosy boa will be reduced to less than significant through implementation of mitigation measures MM-2, MM-3, MM-4, and MM-11, which require biological monitoring, restrictions on construction vehicle speeds, preparation of a biological monitoring report, and monitor excavated areas and soil piles to minimize the potential for loss of individuals.

Impacts W-3/W-6/W-7 The significant long-term direct impacts to County Group 1 species (described in Table 3-2); San Diego ringneck snake and rosy boa; and loss of foraging habitat for raptors as a result of removal of suitable habitat will be reduced to less than significant through implementation of mitigation measure MM-1, which provides commensurate off-site habitat conservation and management that has been demonstrated to contain habitat for these species, as well as preservation of an on-site wildlife corridor in open space through project design. These impacts have been reduced to less than significant because the off-site habitat and its management will provide equivalent or better function and

value for these species and be managed and monitored in perpetuity. In addition, on-site long term direct impacts to wildlife will be minimized because human activity has been limited to the project operational footprint and long-term preservation of the onsite wildlife movement corridor will be provided.

Impact W-8 The significant impact to a core wildlife area will be reduced to less than significant through implementation of MM-1 because the mitigation requires off-site habitat conservation and management of equivalent or better function and value.

Impacts W-9/W-12 The significant short-term indirect impacts to special-status wildlife species will be reduced to less than significant through implementation of mitigation measures MM-2, MM-3, MM-4, MM-5, MM-11, and MM-12, because the mitigation, which requires biological monitoring; review of areas designated for clearing, grubbing, or grading; restrictions on construction vehicle speeds; preparation of a biological monitoring report; implementation of a Fugitive Dust Control Plan; monitoring excavated areas and soil piles; and minimizing night lighting; will prevent and document that construction will not cause additional impacts beyond the project footprint.

Impacts W-10/W-11 The significant long-term indirect impacts to special-status wildlife species will be reduced to less than significant through implementation of mitigation measures MM-1, MM-5, MM-6, MM-7, and MM-8, which requires off-site habitat conservation and management of equivalent or better function and value, on-site preservation of significant wildlife movement corridors and movement between core habitats, implementation of a Fugitive Dust Control Plan, biological review of landscape plans, restrictions on operation and maintenance personnel activity, and implementation of a Fire Protection Plan. Potential indirect impacts have been reduced to less than significant because human activity has been limited to the project operational footprint, long-term preservation of onsite wildlife habitat movement corridor will be provided, the risk of fire has been reduced, and release of exotic plants and animals has been minimized.

Impact W-13 The significant impact to the nesting success of tree-nesting raptors will be reduced to less than significant through implementation of MM-1, because the mitigation requires habitat conservation and management of equivalent or better function and value.

TABLE OF CONTENTS

Section **Page No.**

APPENDICES

No table of figures entries found.

LIST OF FIGURES

LIST OF TABLES

4.0 RIPARIAN HABITAT OR SENSITIVE NATURAL COMMUNITY

4.1 Guidelines for the Determination of Significance

The County's *Guidelines for Determining Significance and Report Format and Content Requirements: Biological Resources* (County of San Diego 2010a) are based on the criteria in Appendix G of the CEQA Guidelines (14 CCR 15000 et seq.) and were used to analyze potential direct and indirect impacts to biological resources. The following guidelines for the determination of significance come directly from the County Guidelines (County of San Diego 2010a).

Guideline 4.2 The project would have a substantial adverse effect on riparian habitat or another sensitive natural community identified in local or regional plans, policies, regulations, or by CDFW or USFWS.

A. Project-related grading, clearing, construction, or other activities would temporarily or permanently remove sensitive native or naturalized habitat (as listed in Table 5, excluding those without a mitigation ratio) on or off the project site. This Guideline would not apply to small remnant pockets of habitat that have a demonstrated limited biological value. No *de minimus* standard is specified under which an impact would not be significant; however, minor impacts to native or naturalized habitat that is providing essentially no biological habitat or wildlife value can be evaluated on a case-by-case basis to determine whether the projected impact may be less than significant. For example, an impact to native or naturalized upland habitat under 0.1 acre in an existing urban setting may be considered less than significant (depending on a number of factors). An evaluation of this type should consider factors including, but not limited to, type of habitat, relative presence or potential for sensitive species, relative connectivity with other native habitat, wildlife species and activity in the project vicinity, and current degree of urbanization and edge effects in project vicinity, etc. Just because a particular habitat area is isolated, for example, does not necessarily mean that impacts to the area would not be significant (e.g., vernal pools). An area that is disturbed or partially developed may provide a habitat "island" that would serve as a functional refuge area "stepping stone" or "archipelago" for migratory species.

B. Any of the following will occur to or within jurisdictional wetlands and/or riparian habitats as defined by U.S. Army Corps of Engineers (ACOE), California Department of Fish and Wildlife (CDFW), and the County of San Diego: removal of vegetation; grading; obstruction or diversion of

water flow; adverse change in velocity, siltation, volume of flow, or runoff rate; placement of fill; placement of structures; construction of a road crossing; placement of culverts or other underground piping; any disturbance of the substratum; and/or any activity that may cause an adverse change in native species composition, diversity, and abundance.

C. The project would draw down the groundwater table to the detriment of groundwater-dependent habitat, typically a drop of 3 feet or more from historically low groundwater levels.

D. The project would cause indirect impacts, particularly at the edge of proposed development adjacent to proposed or existing open space or other natural habitat areas, to levels that would likely harm sensitive habitats over the long term. The following issues should be addressed in determining the significance of indirect impacts: increasing human access; increasing predation or competition from domestic animals, pests, or exotic species; altering natural drainage; and increasing noise and/or nighttime lighting to a level above ambient that has been shown by the best available science to adversely affect the functioning of sensitive habitats.

E. The project does not include a wetland buffer adequate to protect the functions and values of existing wetlands. If the project is subject to the Resource Protection Ordinance (RPO), buffers of a minimum of 50 feet and a maximum of 200 feet to protect wetlands are required based on the best available science available to the County at the time of adoption of the ordinance. The following examples provide guidance on determining appropriate buffer widths.

- A 50-foot wetland buffer would be appropriate for lower quality RPO wetlands where the wetland has been assessed to have low physical and chemical functions, vegetation is not dominated by hydrophytes, soils are not highly erosive, and slopes do not exceed 25%.
- A wetland buffer of 50 to 100 feet is appropriate for moderate- to high-quality RPO wetlands that support a predominance of hydrophytic vegetation or wetlands within steep slope areas (greater than 25%) with highly erosive soils. Within the 50- to 100-foot range, wider buffers are appropriate where wetlands connect upstream and downstream, where the wetlands serve as a local wildlife corridor, or where the adjacent land use(s) would result in substantial edge effects that could not be mitigated.

- Wetland buffers of 100 to 200 feet are appropriate for RPO wetlands within regional wildlife corridors or wetlands that support significant populations of wetland-associated sensitive species, or where stream meander, erosion, or other physical factors indicate a wider buffer is necessary to preserve wildlife habitat.
- Buffering of greater than 200 feet may be necessary when an RPO wetland is within a regional corridor or supports significant populations of wetland-associated sensitive species and lies adjacent to land use(s) that could result in a high degree of edge effects within the buffer. Although the RPO stipulates a maximum of 200 feet for RPO wetland buffers, actions may be subject to other laws and regulations (such as the Endangered Species Act) that require greater wetland buffer widths.

4.2 Analysis of Project Effects

The Proposed Project will result in significant impacts that are mitigated under the guidelines above for the following reasons:

4.2.1 Project Effects Relevant to Guideline 4.2.A

Short-term, construction-related, or temporary direct impacts to special-status upland vegetation communities would primarily result from construction activities. Clearing, trampling, or grading of special-status vegetation communities outside designated construction zones could occur in the absence of avoidance and mitigation measures. Potential temporary direct impacts to special-status vegetation communities on site and in the proposed off-site access roads would be significant, **(Impact V-1)**. However, these short-term direct impacts will be mitigated to less than significant through implementation of mitigation measures MM-2 (biological monitoring) MM-3 (restrictions on construction vehicle speed limits), and MM-4 (preparation of a biological monitoring report).

Permanent direct impacts to developed land and disturbed habitat are not considered significant. Permanent direct on-site impacts to 462.1 acres and off-site ~~direct~~ impacts to 2.3 acres ~~398.9 acres~~ of special-status upland vegetation communities would occur as a result of the Proposed Project. Permanent direct impacts to special-status upland vegetation communities on site and in the proposed off-site access roads would be considered a significant impact (**Impact V-2**). This impact will be mitigated through mitigation measure MM-1 (habitat preservation and management), which will conserve off-site habitat of equivalent or better function and value.

Tables 2-1 and 2-2 in Section 2.2 summarize permanent direct impacts to vegetation communities and land covers found in the project area and the proposed off-site access roads. Figure 9 illustrates

the distribution of biological resources on site and the locations where proposed impacts would occur. Table 4-1 summarizes the impacts and required mitigation for special-status vegetation communities in the project area. Table 4-2 summarized the impacts and required mitigation for special-status vegetation communities in the proposed off-site access roads.

Table 4-1
Summary of On-Site Impacts and Mitigation for
Vegetation Communities and Jurisdictional Areas

Habitat Types/Vegetation Communities	Existing Acreage	Total Impacts (Ac.)	Mitigation Ratio	Mitigation Required (Ac.)
Non-Jurisdictional Vegetation Communities				
Upland Scrub and Chaparral				
Big Sagebrush Scrub*	82.5	67.9	2:1	135.8
disturbed Big Sagebrush Scrub*	14.8	7.0	1:1	7.0
Montane Buckwheat Scrub*	83.0	65.2	1:1	65.2
disturbed Montane Buckwheat Scrub*	9.7	7.3	1:1	7.3
Granitic Chamise Chaparral*	117.8	96.9~~8~~	0.5:1	48.4
Granitic Northern Mixed Chaparral*	11.3	—	0.5:1	—
Red Shank Chaparral *	42.3	36.0	1:1	36.0
Scrub Oak Chaparral *	66.6	58.7	1:1	58.7
disturbed Scrub Oak Chaparral*	0.5	0.5	1:1	0.5
Semi-Desert Chaparral *	112.6	57.3	1:1	57.3~~8~~
Semi-Desert Chaparral – Rock*	12.4	1.5	1:1	1.5
disturbed Semi-Desert Chaparral*	1.3	0.3	1:1	0.3
Subtotal	*555.3*	*398.5~~4~~*	—	*417.9~~8.5~~*
Upland Woodland and Savannah				
Coast Live Oak Woodland*	7.2	—	3:1	—
Mixed Oak Woodland*	3.3	—	3:1	—
Subtotal	*10.5*	—	—	—
Non-Native Communities and Land Covers				
Open Water	0.2	—	—	—
Disturbed Habitat	64.2	53.4	N/A	—
Non-Native Grassland*	107.0	60.4	0.5:1	30.2
Urban/Developed	1.0	0.8	N/A	—
Subtotal	*172.2*	*114.5*	—	*30.2*
Total Non-Jurisdictional Vegetation Communities	*737.8*	*513.0*	—	*448.1~~7~~*
Jurisdictional Waters and Wetlands				
ACOE/RWQCB/CDFW				
Ephemeral Stream Channel[2]	0.15	0.01	1:1	0.01
Non-Vegetated Channel	0.98	—	—	—
Subtotal	*1.13*	*0.01*	—	*0.01*
ACOE/RWQCB/CDFW/County				
Alkali Meadow*	14.49	0.02	3:1	0.06

Table 4-1
Summary of On-Site Impacts and Mitigation for Vegetation Communities and Jurisdictional Areas

Habitat Types/Vegetation Communities	Existing Acreage	Total Impacts (Ac.)	Mitigation Ratio	Mitigation Required (Ac.)
Disturbed Alkali Meadow*	3.48	0.08	3:1	0.24
Subtotal	*17.97*	*0.10*	*N/A*	*0.30*
CDFW and County				
Disturbed Alkali Meadow*	1.13	—	3:1	—
Disturbed Mulefat Scrub*	1.18	—	3:1	—
Subtotal	2.31	—	*N/A*	—
CDFW Only				
Tamarisk Scrub*	*4.77*	*3.10*	*3:1*	*9.3*
Other				
Oak Root Zone[1]	34.2	—	3:1	—
RPO Wetland and Buffer[1]	39.6	0.25	1:1	0.25~~6~~
Total Jurisdictional Vegetation Communities	*26.02*	*3.21*	—	*9.9~~3~~*
~~Subtotal of Impacts Requiring Mitigation~~	~~—~~	~~462.3~~	~~—~~	~~*9.6*~~
Total On-Site Impacts**	764.1	515~~6~~.7~~2~~	—	458.0~~6~~

1 Oak root zone and RPO buffers are overlaid on the biological resources and is not counted toward the overall acreage.
2 Ephemeral stream channel is an overlay on the vegetation mapping and is not counted toward the overall acreage.
* Considered special-status by the County (2010a).
** Totals may not add due to rounding.

Table 4-2
Summary of Impacts and Mitigation for Off-Site Vegetation Communities

Vegetation Communities	Mitigation Ratio	Northern Access Road Impacts (~~Ac.~~Mitigation Required)	Western Access Road Impacts (Mitigation Required) ~~Mitigation Ratio~~	Total Required Mitigation (Ac.)
Upland Scrub and Chaparral				
Big Sagebrush Scrub*	2:1	—	0.1 (0.2)	0.2
Granitic Chamise Chaparral*	0.5:1	—	0.9 (0.5)	0.5
Granitic Northern Mixed Chaparral*	0.5:1	—	0.5 (0.3)	0.3
Montane Buckwheat Scrub*	1:1	0.1 (0.1)	0.2 (0.2)~~1:1~~	0.3~~0.1~~
Red Shank Chaparral*	1:1	—	0.1 (0.1)	0.1
Subtotal	—	*0.1 (0.1)*	*1.8(1.3)*~~—~~	*1.4~~0.1~~*
Riparian Scrub				
Disturbed Southern Willow Scrub*	3:1	0.1 (0.3)	~~—~~3:1	*0.3*
Non-Natural Land Covers				
Disturbed Habitat	N/A	0.1 (0)	1.0 (0)~~N/A~~	~~—~~0

Table 4-2
Summary of Impacts and Mitigation for Off-Site Vegetation Communities

Vegetation Communities	Mitigation Ratio	Northern Access Road Impacts (~~Ac.~~Mitigation Required)	Western Access Road Impacts (Mitigation Required) ~~Mitigation Ratio~~	Total Required Mitigation (Ac.)
Non-native Grassland*	0.5:1	0.4 (0.2)	~~—0.5:1~~	0.2
Urban/Developed	N/A	1.5~~0~~ (0)	~~—N/A~~	~~—~~0
Subtotal	—	*~~1.5~~2.0 (0.2)*	*1.0 (0)*~~—~~	*0.2*
Total		~~1.7~~2.2 (0.6)	~~—~~*2.8 (1.3)*	1.9~~0.6~~

1 Oak root zone is overlaid on the biological resources and is not counted toward the overall acreage.
2 Because the oak root zone impacts require a higher mitigation ration, acres of vegetation communities included in the oak root zone category that have less than a 3:1 mitigation ratio are not counted in the vegetation communities and land cover types.
* Considered special-status by the County (2010a).

Mitigation ratios provided in Tables 4-1 and 4-2 conform to County Guidelines (2010a).

The Proposed Project is designed to avoid oak woodland habitats. An oak root protection zone has been established around the extent of coast live oak woodland and mixed oak woodland habitats within the project area (Figure 9). The proposed project has been designed to avoid permanent impacts to the oak root protection zone. Short-term, construction-related, or temporary direct impacts to oak root protection zone would be considered a significant impact **(Impact V-3)**. This impact will be mitigated through mitigation measures MM-2 (biological monitoring), MM-3 (restrictions on construction vehicle speed limits), and MM-4 (preparation of a biological monitoring report).

4.2.2 Project Effects Relevant to Guideline 4.2.B

The Proposed Project has been designed to avoid wetlands to the maximum extent practicable, including a 50-foot buffer surrounding wetland features (Figure 9).

Short-term, construction-related, or temporary direct impacts to jurisdictional wetlands and waters would primarily result from construction activities. Clearing, trampling, or grading of jurisdictional wetlands and waters outside designated construction zones could occur in the absence of avoidance and mitigation measures. Potential temporary direct impacts to jurisdictional wetlands and waters on site would be significant, **(Impact V-4)**. However, these short-term direct impacts will be mitigated to less than significant through implementation of mitigation measures MM-2 (biological monitoring), MM-3 (restrictions on construction vehicle speed limits), and MM-4 (preparation of a biological monitoring report).

There is 0.01 acre (446 linear feet) of impacts to ephemeral stream channel under the jurisdiction of ACOE, Regional Water Quality Control Board (RWQCB), and CDFW. There are direct

impacts to 0.10 acre of wetlands under the jurisdiction of ACOE, RWQCB, CDFW, and County; and impacts to 3.11 acres of tamarisk scrub under CDFW only. Impacts to 0.01 acre (446 linear feet) of ephemeral stream channel, 0.10 acre (996 linear feet) of wetlands, and 3.11 acres (3,462 linear feet) of tamarisk scrub would be considered significant **(Impact V-5)**. A minimum of a 1:1 ratio is proposed to compensate for impacts to the ephemeral stream channel, and a minimum of 3:1 ratio is proposed for the wetland and riparian habitat impacts. Impacts would require permits from the ACOE, CDFW, and RWQCB, which will determine the final mitigation ratio required to compensate for this impact. Impacts to ephemeral stream channel will be mitigated to less than significant through implementation of mitigation measures MM-1 (habitat preservation and management) and MM-14 (federal and state permits).

Short-term, construction-related, or temporary indirect impacts to jurisdictional wetlands and waters would primarily result from construction activities. Indirect impacts could include the generation of fugitive dust; changes in hydrology resulting from construction, including sedimentation and erosion; and the introduction of chemical pollutants (including herbicides). Potential temporary direct impacts to jurisdictional wetlands and waters on site would be significant, **(Impact V-6)**. However, these short-term direct impacts will be mitigated to less than significant through implementation of mitigation measures MM-2 (biological monitoring), MM-3 (preparation and implementation of an SWPPP), MM-4 (preparation of a biological monitoring report), and MM-5 (implementation of a Fugitive Dust Control Plan).

Long-term indirect impacts that could affect jurisdictional wetlands and waters include generation of fugitive dust, habitat fragmentation, chemical pollutants, non-native invasive species, increased human activity, and alteration of the natural fire regime. Potential long-term indirect impacts to jurisdictional wetlands and waters would be considered a significant impact **(Impact V-7)**. Long-term indirect impacts to jurisdictional wetlands and waters will be mitigated to less than significant through implementation of mitigation measure MM-1 (habitat preservation and management), MM-5 (implementation of a Fugitive Dust Control Plan), MM-6 (biological review of landscape plans), MM-7 (restrictions on operation and maintenance personnel activity), MM-8 (implementation of a Fire Protection Plan), and MM-9 (regulated herbicide application).

Section 2.5 summarizes direct impacts to jurisdictional areas found in the project area. Figure 9 illustrates the distribution of biological resources on site and the locations where the proposed impact would occur.

4.2.3 Project Effects Relevant to Guideline 4.2.C

A Groundwater Resources Investigation Report for the Proposed Project was prepared by Dudek (2013c). The projected water demand for construction-related activities associated with the

Rugged solar farm is estimated to be 19.4 million gallons, or 59 acre-feet over a period of 1 year. Operational water demand is expected to require approximately 2.83 million gallons (or 8.7 acre-feet) per year. The Groundwater Resources Investigation Report (Dudek 2013c) describes the existing groundwater level within the alluvial aquifer and analyzes impacts to the groundwater-dependent vegetation communities on site. The Groundwater Resources Investigation Report (Dudek 2013c) describes the ground water-dependent vegetation on site, root depths, and the existing aquifer depth. Based on these data, and the estimated draw-down of the aquifer, the plant species with deep root systems (i.e., coast live oak and tamarisk) would still be able to tap the aquifer; therefore, the potential drawdown of the water table is not expected to impact these species. However, as noted in the report (Dudek 2013c), the historical low groundwater level in the vicinity of the oak woodland and tamarisk scrub is not known over the period corresponding to the lifespan of the vegetation. This lack of historical water level data precludes determination of a water level threshold 3 feet below the historical low, and therefore, impacts to groundwater-dependent vegetation on-site would be considered significant (**Impact V-8**). Impacts to groundwater-dependent vegetation will be mitigated to less than significant through implementation of mitigation measure MM-16 (Groundwater Monitoring and Mitigation Plan).

4.2.4 Project Effects Relevant to Guideline 4.2.D

Short-term indirect impacts to special-status upland vegetation communities as a result of the Proposed Project are described in Section 2.2.2.1 and include short-term, construction-related, or temporary indirect impacts and include generation of fugitive dust, changes in hydrology resulting from construction, and the introduction of chemical pollutants (including herbicides). Short-term indirect impacts to special-status upland vegetation communities would be considered a significant impact **(Impact V-9)**. Short-term indirect impacts to special-status upland vegetation communities will be mitigated to less than significant through implementation of mitigation measure MM-2 (biological monitoring), MM-3 (preparation and implementation of an SWPPP), MM-4 (preparation of a biological monitoring report), and MM-5 (implementation of a Fugitive Dust Control Plan).

Potential long-term or permanent indirect impacts to special-status upland vegetation communities as a result of the Proposed Project are described in Section 2.2.2.2 and include generation of fugitive dust, habitat fragmentation, chemical pollutants (herbicides), non-native invasive species, increased human activity, and alteration of the natural fire regime.

Potential long-term indirect impacts to special-status upland vegetation communities would be considered a significant impact **(Impact V-10)**. Long-term indirect impacts to special-status upland vegetation communities will be mitigated to less than significant through implementation of mitigation measure MM-1 (habitat preservation and management), MM-5 (implementation of a Fugitive Dust Control Plan), MM-6 (biological review of landscape plans), MM-7 (restrictions

on operation and maintenance personnel activity), MM-8 (implementation of a Fire Protection Plan), and MM-9 (regulated herbicide application).

4.2.5 Project Effects Relevant to Guideline 4.2.E

The Proposed Project has been designed to avoid and minimize impacts to wetlands and their surrounding buffers to the maximum extent practicable. Specifically, to the extent practicable, the Proposed Project would maintain a 50-foot buffer around wetland features in the central portion of the project area to protect the functions and values of this existing wetland (Figure 9). There are approximately 39.4 acres of RPO wetlands and wetland buffers in the project area. There are on-site impacts to 0.10 acre of RPO wetland (see Table 2-4) and 0.15 acre of RPO wetland buffer for a total of approximately 0.25 acre as a result of the on-site access road; The limits of impacts will be staked for avoidance to ensure ground-disturbing activities do not encroach into the non-impacted wetlands and their associated buffers (see Section 3.4 for related mitigation measures). All project-related components (i.e., concentrating photovoltaic (CPV) trackers) would be located outside of the 50-foot wetland buffer.

Impacts and significance determination for RPO wetlands and wetland buffers are described in Section 7.2.3.

4.3 Cumulative Impact Analysis

Cumulative impacts are not assessed in this document; they will be discussed thoroughly in the Proposed Project's environmental impact report (EIR).

4.4 Mitigation Measures and Design Considerations

The Proposed Project would avoid impacts to vegetation communities to the maximum extent practicable as previously described, with avoidance of approximately 26% of these habitats within the project area (202 of 764.1 acres).

Mitigation for short-term direct impacts to special-status vegetation communities include MM-2 (biological monitoring), MM-3 (preparation and implementation of an SWPPP), and MM-4 (preparation of a biological monitoring report), which are described in Section 3.4.

In accordance with the County Guidelines (County of San Diego 2010a), impacts to big sagebrush (including disturbed), montane buckwheat scrub (including disturbed), granitic chamise chaparral, red shank chaparral, scrub oak chaparral (including disturbed), semi-desert chaparral (including disturbed), semi-desert chaparral – rock, and non-native grassland will require mitigation. No mitigation will be required for direct impacts to disturbed habitat or developed land. There are permanent direct on-site impacts to 462.1 acres and off-site ~~direct~~ impacts to 2.3

acres ~~approximately 398.9 acres~~ of special-status upland vegetation communities, and ~~459.2~~515.7 acres of habitat with equivalent or better function and value are required to be conserved to offset this significant impact. Mitigation measure MM-1, described in Section 3.4, will mitigate for these impacts to special-status vegetation communities through off-site compensatory mitigation.

Permanent direct impacts to 0.01 acre (446 linear feet) of impacts to ephemeral stream channel under the jurisdiction of ACOE, RWQCB, and CDFW; 0.10 acre (996 linear feet) of wetlands under the jurisdiction of ACOE, RWQCB, CDFW, and County; and impacts to 3.10~~1~~ acres (3,462 linear feet) of tamarisk scrub under CDFW only will be mitigated to less than significant through implementation of mitigation measures MM-1 (habitat preservation and management), described in Section 3.4, MM-14 and MM-15.

MM-14 To comply with the state and federal regulations for impacts to "waters of the United States and state," the following agency permits are required, or verification that they are not required shall be obtained.

1. The following permit and agreement shall be obtained, or provide evidence from the respective resource agency satisfactory to the director of Planning and Land Use that such an agreement or permit is not required:
    a. A Clean Water Act, Section 401/404 permit issued by the California RWQCB and the ACOE for all project-related disturbances of waters of the United States and/or associated wetlands.
    b. A Section 1602 Streambed Alteration Agreement issued by the CDFW for all project-related disturbances of any streambed.
2. Documentation: The applicant shall consult each agency to determine if a permit or agreement is required. Upon completion of the agency review of this project, the applicant shall provide a copy of the permit(s)/agreement(s), or evidence from each agency that such an agreement or permit is not required to ~~the Department of Planning and Land Use (DPLU)~~PDS for compliance.
3. Timing: Prior to approval of any grading and or improvement plans and issuance of any Grading or Construction Permits.
4. Monitoring: ~~The DPLU~~ PDS shall review the permits/agreement for compliance with this condition. Copies of these permits should be transmitted to the Department of Public Works (DPW) for implementation on the grading plans.

MM-15 Option 1: A Revegetation Plan for 0.30 acre of mitigation is required for impacts to alkali meadow and disturbed alkali meadow (ACOE/RWQCB/CDFW/County jurisdictional wetland). ACOE, RWQCB, and/or CDFW staff may require additional mitigation for non-RPO jurisdictional waters/riparian habitat impacted by the project.

The Revegetation Plan shall conform to the most current version of the County of San Diego Report Format and Content Requirements for Revegetation Plans. In order to assure project completion and success of the Revegetation Plan, a surety shall be provided and an agreement shall be executed with the County of San Diego and consist of a letter of credit, bond, or cash for 100 percent of the estimated costs associated with the implementation of the Revegetation Plan and a 10 percent cash deposit of the cost of all improvements (no less than $3,000; no more than $30,000). The surety shall be released upon completion of the Revegetation Plan provided the installed vegetation is in a healthy condition and meets the plan's success criteria. A RMP shall be prepared and approved pursuant to the County of San Diego Biological Report Format and Content Requirements to the satisfaction of the Director of DPDS. If the off-site mitigation is proposed to be owned and/or managed by DPR, the RMP shall also be approved by the Director of DPR.

Option 2: If purchasing Mitigation Credit, the mitigation bank shall be approved by the CDFW. The following evidence of purchase shall include the following information to be provided by the mitigation bank:

1. A copy of the purchase contract referencing the project name and numbers for which the habitat credits were purchased.
2. If not stated explicitly in the purchase contract, a separate letter must be provided identifying the entity responsible for the long-term management and monitoring of the preserved land.
3. To ensure the land will be protected in perpetuity, evidence must be provided that a dedicated conservation easement or similar land constraint has been placed over the mitigation land.
4. An accounting of the status of the mitigation bank. This shall include the total amount of credits available at the bank, the amount required by this project and the amount remaining after utilization by this project.

Documentation: The applicant shall purchase the off-site mitigation credits and provide the evidence to the DPDS for review and approval. If the offsite mitigation

is proposed to be owned or managed by DPR, the applicant must provide evidence to the DPDS that DPR agrees to this proposal. It is recommended that the applicant submit the mitigation proposal to the DPDS, for a pre-approval. If an RMP is going to be submitted in-lieu of purchasing credits, then the RMP shall be prepared and an application for the RMP shall be submitted to the DPDS.

Timing: Prior to the approval of the map and prior to the approval of any plan and issuance of any permit, the mitigation shall be completed.

Monitoring: The DPDS shall review the mitigation purchase for compliance with this condition. Upon request from the applicant DPDS can preapprove the location and type of mitigation only. The credits shall be purchased before the requirement can be completed. If the applicant chooses option #2, then the DPDS shall accept an application for an RMP, and DPDS shall review the RMP submittal for compliance with this condition and the RMP Guidelines.

Impacts to groundwater-dependent vegetation will be mitigated through implementation of groundwater monitoring as described in MM-16.

MM-16 The ~~groundwater~~ Groundwater ~~monitoring~~ Monitoring and Mitigation ~~program~~ Plans (GMMPs) will establish the current status and health of the existing oak woodland and document oak conditions up to a 5 year post-construction timeframe. The goal is to determine if the project's use of groundwater is impacting area oak trees/woodlands. A water level monitoring network has been identified for all groundwater sources which will include the proposed production wells, other on-site wells, and off-site wells. Monitored wells on the Rugged site will include well MW-SPB (southern property boundary), the McCain Conservation Camp Well, well MW-O1 (on-site oak woodland), and well MW-O2 (off-site oak woodland). MW-SPB will be the compliance point for well-interference whereas MW-O1 and MW-O2 will serve as the compliance monitoring wells for groundwater-dependent habitat. JCSD Wells 6 and 4 and PVMWC Wells 5 will serve as the compliance monitoring wells for groundwater-dependent habitat. If water levels in Wells ~~RM~~MW-O1~~, or R~~MW-~~3 ~~O2 and RSD-1 ~~do not drop more than 3 feet below baseline during the 1st year construction period, monitoring will cease at that time because impacts would be expected to be less than significant. Water level monitoring at JCSD and PVMWC would cease when construction imports are no longer required, but oak habitat monitoring will continue in accordance with the GMMP if monitoring reveals evidence that project-related impacts to groundwater-dependent habitat have occurred.

~~The~~ At all sites, baseline habitat monitoring data would be collected over the course of ~~approximately~~ up to 1 year prior to Project-related groundwater extraction. Pressure transducers would be installed in monitoring wells at least 1 month prior to project-related groundwater extraction to establish baseline water levels. Potentially affected native trees within the study area will be evaluated for overall physical condition and attributes. The trees shall be inventoried by an ISA Certified Arborist or Registered Professional Forester with specific experience evaluating native oak species, in particular coast live oaks. The baseline monitoring evaluations will include the following:

- Establishment of 28 pseudo-randomized 0.2 acre plots around oak groupings and scattered individual trees. Sample plots would include the range of existing habitat conditions, including elevation, slope and aspect, proximity to roads and other land uses. If an oak woodland monitoring site is less than 0.1 acre, the entire site will be evaluated.
- Tagging of trees and recording species, tag number, trunk diameter at breast height (dbh) (in.), height (ft.) and dominance (i.e., whether the tree is under the canopy of another tree or forms the uppermost canopy). Slope, aspect, and elevation of each tree location, existing understory species (including proportion of natives to exotics), presence of debris and litter, and soil type, depth, and parent material will be noted for each tree or plot.
- Placement of tensiometers (or similar) to measure soil moisture levels
    - Soil moisture levels will be recorded quarterly at depths up to 48-inches
- Assessment of tree status, including documentation of:
    - Trunk diameter at breast height (dbh), measured at 4.5 feet above ground (according to standard practices)
    - Number of stems
    - Overall tree height (based on ocular estimates)
    - Tree crown spread (measurement in each cardinal direction, based on ocular estimate)
    - Overall tree health condition (Good, Fair, Poor, Dead)
    - Overall tree structural condition (Good, Fair, Poor, Dead)
    - Pest presence (Type, Extent – minimal, moderate, high)

  - Disease presence (Type, Extent – minimal, moderate, high)
  - Other specific comments

- Assessment of acorn production, seedling establishment and sapling tree densities and conditions
- The data collection procedure will include full data collection at each plot so that consistency is maintained among sampling plots.
- Creation of oak tree database using GIS or similar application

Ongoing monitoring will be carried out quarterly during the 1 year Project construction period. If the Certified Arborist or Registered Professional Forester observes an impact to the oak woodland after this period, , or if a drawdown threshold is reached at the groundwater-dependent habitat monitoring wells at any time during the construction phase, monitoring will continue in years 2 through 5 following initiation of Project-related groundwater extraction. Monitoring will include the following components:

- Monitoring inspections will include re-evaluation of the baseline data as well as collection of soil moisture data from pre-placed tensiometers.
- Monitoring will include re-evaluating the trees to determine if changes are occurring that may indicate ground water drawdown is having a deleterious effect on oak woodlands or individual trees. The following information will be recorded during each monitoring visit and the data will be compared to previous monitoring results:
  - Trunk diameter at breast height (dbh), measured at 4.5 feet above ground (according to standard practices)
  - Number of stems
  - Overall tree height (based on ocular estimates)
  - Tree crown spread (measurement in each cardinal direction, based on ocular estimate)
  - Overall tree health condition (Good, Fair, Poor, Dead)
  - Overall tree structural condition (Good, Fair, Poor, Dead)
  - Pest presence (Type, Extent – minimal, moderate, high)
  - Disease presence (Type, Extent – minimal, moderate, high)
  - Other specific comments

In particular, monitoring evaluations will focus on examining crowns for discoloration, loss of vigor, foliage curling, and/or pest presence; and trunks and root crowns for beetle/borer symptoms, bleeding cankers, or seeping areas (indicative of fungal infections). These and similar signs may indicate that a tree or a grouping of trees is experiencing stress, which can be corroborated by tensiometer readings. Trees under stress are more susceptible to disease and insect attacks.

The following mitigation criteria will be established to protect groundwater resources and groundwater-dependent habitat in the Project area:

Rugged Solar Farm

- If the groundwater level at well MW-SPB reaches or drops below 15 feet of the baseline level, groundwater pumping at Wells 6a and 6b will cease until the water level at MW-SPB has increased above the threshold and remained there for at least 30 continuous days. This threshold will prevent water levels at the closest property with a residential groundwater well from dropping below 10 feet of the pre-pumping baseline, as described in section 2.1.1. Additionally, written permission from the County PDS must be obtained before production may be resumed.
- If the groundwater level at the McCain Conservation Camp Well reaches or drops below 10 feet of the baseline pumping water level trend, groundwater pumping at Well 8 will cease until the water level at McCain Conservation Camp Well has increased above the threshold and remained there for at least 30 continuous days. Additionally, written permission from the County PDS must be obtained before production may be resumed.
- If the groundwater level at well MW-O1 drops more than 10 feet below the pre-pumping level and there is evidence of deteriorating oak tree health by the Arborist or Forester, there may be a temporary or permanent cessation of pumping at Well 6a/6b. If the evidence of deterioration persists after the 5 year period, mitigation will consist of off-site wetland/oak woodland credits at a 3:1 ratio.
- If the groundwater level at MW-O2 drops more than 10 feet below the pre-pumping level and there is evidence of deteriorating oak tree health by the Arborist or Forester, there may be a temporary or permanent cessation of pumping at Well 8. If the evidence of deterioration persists after the 5 year period, mitigation will consist of off-site wetland/oak woodland credits at a 3:1 ratio.

- If an impact to the oak woodland habitat is observed by the monitoring ISA Certified Arborist or Registered Professional Forester over the duration of the Project construction period, routine monitoring of the oak woodland will continue for a maximum up to 5 years following initiation of Project-related groundwater extraction. The monitoring Certified Arborist or Registered Professional Forester will base mitigation recommendations on the type and extent of tree issues observed. If groundwater drawdown is determined to be the cause of tree stress, resulting in the presence of secondary pests (insects and/or disease), halting groundwater extraction may be recommended.
- If less than 3 feet of drawdown is observed at monitoring wells MW-O1 and MW-O2 at the end of Project construction or no deleterious health effects are observed in the oak woodland habitat, monitoring can cease at the end of the first year of project operation as long as the wells operate only as intended under the Project's conditions of approval.

- ~~If the groundwater levels at off-site wells located within 0.5 miles of Well B (RM-1, RM-3 or RSD-1) drops 10 feet below the baseline water levels, groundwater pumping at Well B will cease until the water level at the well that experienced the threshold exceedance has increased above the threshold and remained there for at least 30 continuous days. Additionally, written permission from the County Planning & Development Services (PDS) must be obtained before production may be resumed.~~
- ~~If the groundwater levels in the vicinity of the groundwater dependent habitat (RM-1 or RM-3) drops below 10 feet of the pre-pumping static water level and there is evidence of deteriorating oak tree health by the Arborist or Forester, there may be a temporary or permanent cessation of pumping at Well B. If evidence of deterioration persists after the 5 year period, mitigation will consist of offsite wetland/ oak woodland credits at a 3:1 ratio.~~
- ~~If an impact to the oak woodland habitat is observed by the monitoring Certified Arborist or Registered Professional Forester over the duration of the Project construction period, routine monitoring of the oak woodland will continue for a maximum up to 5 years following initiation of Project-related groundwater extraction. The monitoring Certified Arborist or Registered Professional Forester will base mitigation recommendations on the type and extent of tree issues observed. If groundwater drawdown is determined to be the cause of tree stress, resulting in the presence of secondary pests (insects and/or disease), halting groundwater extraction may be recommended.~~

- ~~If less than 3 feet of drawdown is observed at monitoring wells RM-1 and RM-3 at the end of Project construction and no deleterious health effects are observed in the oak woodland habitat, monitoring can cease at the end of the first year of project operation as long as the wells operate only as intended under the Project's conditions of approval.~~

- ~~For the 1 year construction period 18 acre-feet of water is proposed to be pumped form on-site supply Well B. For subsequent years 6 afy will be pumped from Well B for O&M of the Project. The groundwater storage within 0.5-mile radius study area surrounding Well B is estimated at 387 acre-feet. The average annual recharge for the study area within 0.5-mile radius of Well B is estimated at 27 afy. Thus, average annual recharge within the 0.5-mile radius study area is sufficient to meet Project construction and operational water demands.~~

Jacumba Community Services District:

- If the groundwater levels at JCSD Wells 7 or 8 drops 10 feet below the baseline water levels, or if the groundwater level at Well 4 drops 5 feet below the baseline water level, groundwater pumping at Well 6 will cease until the water level at the well that experienced the threshold exceedance has increased above the threshold and remained there for at least 30 continuous days. Additionally, written permission from the County Planning and Development Services (PDS) must be obtained before production may be resumed.

- If groundwater levels at JCSD Well 6 drops more than 20 feet or at Well 4 drops more than 10 feet below baseline water levels, than monitoring of the groundwater dependent habitat would be triggered.

- If the groundwater levels exceed historical low water levels in JCSD Well 4 (lowest recorded static water level in Well 4 is 23 bgs) and there is evidence of deteriorating riparian habitat health by the Arborist or Forester, there may be a temporary or permanent cessation of pumping at Well 6. If evidence of deterioration persists after a 5 year period, mitigation will consist of offsite wetland/oak woodland credits at a 3:1 ratio.

Pine Valley Mutual Water Company :

- During pumping at PVMWC Well No. 5, a maximum drawdown of 10 feet below the water level baseline at Wells No. 3 and 7 will be allowed. If the groundwater levels at Wells No. 3 and 7 drops 10 feet below the baseline water levels, groundwater pumping at Well No. 5 will cease until the water

level at the well that experienced the threshold exceedance has increased above the threshold and remained there for at least 30 continuous days. Additionally, written permission from the County PDS must be obtained before production may be resumed.

- If the groundwater levels exceed historical low water levels in PVMWC Well No. 5 from baseline conditions of pumping (lowest recorded static water level in Well No. 5 was 50 feet below ground surface (bgs) in September 2004) and there is evidence of deteriorating riparian habitat health by the Arborist or Forester, there may be a temporary or permanent cessation of pumping at Well B. If evidence of deterioration persists after the 5 year period, mitigation will consist of offsite wetland/oak woodland credits at a 3:1 ratio.
- If an impact to the riparian habitat is observed by the monitoring Certified Arborist or Registered Professional Forester over the Project period, routine monitoring of the oak woodland will continue for a maximum up to 5 years following initiation of Project-related groundwater extraction. The monitoring Certified Arborist or Registered Professional Forester will base mitigation recommendations on the type and extent of tree issues observed. If groundwater drawdown is determined to be the cause of tree stress, resulting in the presence of secondary pests (insects and/or disease), halting groundwater extraction may be recommended.

Under all GMMPs, ~~A~~a groundwater monitoring report will be completed by a Certified Hydrogeologist registered in the State of California and submitted to the County PDS each month, no later than 28 days following the end of the monitoring month for the on-site production wells, and no later than 28 days following the end of the pumping period for the off-site wells (JCSD and PVMWC).. The report will include the following information:

- Water level hydrographs and tabulated water level data for each monitoring well.
- Tabulated groundwater production volumes from each production well.
- Documentation of groundwater drawdown at off-site monitoring wells ~~RM-1 and RM-3~~.
- Documentation of any threshold-included curtailment of groundwater production.
- Appendix documenting groundwater dependent habitat monitoring as described above.

~~If the baseline water levels at the off-site monitoring wells RM-1, RM-3 and RSD-1 are exceeded by 5 feet, the County PDS will be notified via letter and electronic mail within five working days of the exceedance. Additionally, if water level thresholds at the off-site wells are exceeded by 10 feet, pumping of Well B shall cease and the County PDS notified via letter and electronic mail within five working days.~~

In addition to the monthly groundwater monitoring reports, annual reports annual reports for the on-site production wells will also be submitted to the county PDS summarizing groundwater-dependent habitat monitoring efforts and any mitigation recommendations implemented in the field during the monitoring year. The monitoring year will coincide with the calendar year. The annual reports will document tree health and mortality, tensiometer readings, water level readings, well production and success of mitigation efforts (if any were necessary). Annual reports will be completed prior to the end of January in the next calendar year.

Mitigation for short-term and long-term indirect impacts to special-status vegetation communities and jurisdictional waters include MM-1 (habitat preservation and management), MM-2 (biological monitoring), MM-3 (preparation and implementation of an SWPPP), MM-4 (preparation of a biological monitoring report), MM-5 (implementation of a Fugitive Dust Control Plan), MM-6 (biological review of landscape plans), MM-7 (restrictions on operation and maintenance personnel activity), MM-8 (implementation of a Fire Protection Plan), and MM-9 (regulated herbicide application), which are described in Section 3.4.

4.5 Conclusions

Impacts V-1/V-3/V-4 The significant short-term direct impacts to special-status upland vegetation communities, oak root protection zone, and jurisdictional wetlands and waters will be reduced to a level that is less than significant through implementation of mitigation measures MM-2, MM-3, and MM-4, because the mitigation, which requires biological monitoring; review of areas designated for clearing, grubbing, or grading; restrictions on construction vehicle speeds; and preparation of a biological monitoring report, will require that construction stay within the project footprint, and monitoring will document that construction will not cause additional impacts beyond the project footprint.

Impact V-2 The significant permanent direct on-site impact to 462.1 acres and off-site impact to 2.3 acres ~~398.9 acres~~ of special-status upland vegetation communities will be reduced to less than significant through implementation of mitigation measure MM-1, because the mitigation requires ~~459.2~~515.7 acres for on-site impacts and

5.0 acres for off-site impacts of in-kind habitat/vegetation conservation and management of sensitive vegetation communities, based on the appropriate ratio specific to each type of vegetation community, in conformance with the mitigation ratios required by the County of San Diego Guidelines for Biological Resources (2010a) has been proposed. The required mitigation ratios were determined through consideration of the rarity and sensitivity of each individual vegetation community throughout the county and are appropriate to maintain, preserve, and protect each specific habitat community. Typically, the required mitigation ratios are higher (i.e., 3:1) for vegetation communities that are most sensitive and rare to provide a higher level of preservation and protection. The RMP (MM-1) provides for the long-term funding, management, and monitoring efforts including performance standards to measure the success of mitigation and will ensure that impacts to the habitat communities are truly mitigated. All mitigation land will be located within an open space easement (or owned by a governmental agency for the purpose of conservation) and is part of the ECMSCP Focus Conservation Area which is an area that significantly contributes to important resources in the region and protects resources that are to be impacted by the Proposed Project. For these reasons, implementation of these mitigation measures will reduce significant impacts to vegetation communities to less than significant.

Impact V-5 The significant permanent direct impact to 0.01 acre (446 linear feet) of ephemeral stream channel under the jurisdiction of ACOE, RWQCB, and CDFW; 0.10 acre (996 linear feet) of wetlands under the jurisdiction of ACOE, RWQCB, CDFW, and County; and 3.11 acres (3,462 linear feet) of tamarisk scrub under the jurisdiction of CDFW only, will be reduced to a level that is less than significant through implementation of mitigation measures MM-1, MM-14, and MM-15, because the mitigation requires habitat conservation and management of off-site habitat with equivalent or better function and value**,** compliance with federal and state permits, and a revegetation plan and/or mitigation credits that will ensure the overall functions and values of the waters and wetlands are maintained.

Impacts V-6/V-9 The significant short-term indirect impacts to special-status upland vegetation communities and jurisdictional wetlands and waters will be reduced to a level that is less than significant through implementation of mitigation measures MM-2, MM-3, MM-4, and MM-5, because this mitigation, which requires biological monitoring; review of areas designated for clearing, grubbing, or grading; restrictions on construction vehicle speeds; preparation of a biological monitoring report; and implementation of a Fugitive Dust Control Plan; will

prevent and document that construction will not cause additional impacts beyond the project footprint.

Impacts V-7/V-10 The significant long-term indirect impacts to special-status upland vegetation communities will be reduced to a level that is less than significant through implementation of mitigation measures MM-1, MM-5, MM-6, MM-7, MM-8, and MM-9, because the mitigation, which requires habitat conservation of equivalent or better function and value, implementation of a Fugitive Dust Control Plan, biological review of landscape plans, restrictions on operation and maintenance personnel activity, implementation of a Fire Protection Plan, and regulates herbicide application, will provide long-term management of vegetation communities, prevent invasive plants or pests from being introduced through plantings, reduce potential indirect impacts from human activity, reduce the risk of fire, and reduce indirect impacts from herbicides.

Impact V-8 The significant impact to groundwater-dependent vegetation will be reduced to a level that is less than significant through implementation of mitigation measure MM-16 because the mitigation requires the preparation of a Groundwater Monitoring and Mitigation Plan that will ensure that groundwater pumping does not reduce water levels to below the established baseline.

TABLE OF CONTENTS

Section **Page No.**

APPENDICES

No table of figures entries found.

LIST OF FIGURES

No table of figures entries found.

LIST OF TABLES

5.0 JURISDICTIONAL WETLANDS AND WATERWAYS

5.1 Guidelines for the Determination of Significance

The County's *Guidelines for Determining Significance and Report Format and Content Requirements: Biological Resources* (County 2010a) are based on the criteria in Appendix G of the CEQA Guidelines (14 CCR 15000 et seq.) and were used to analyze potential direct and indirect impacts to biological resources. The following guidelines for the determination of significance come directly from the County Guidelines (County of San Diego 2010a). This Guideline refers only to federally protected wetlands.

Guideline 4.3 The project would have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the CWA (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means.

The significance of impacts shall be determined under the Guidelines 4.2B, C, and E, if federally protected wetlands will be affected.

5.2 Analysis of Project Effects

5.2.1 Project Effects Relevant to Guideline 4.3

Impacts to jurisdictional wetlands and waters are discussed in Sections 4.2.B, 4.2.C, and 4.2.D. There are permanent direct impacts from grading to 0.01 acre (446 linear feet) of ephemeral stream channel under the jurisdiction of ACOE and 0.10 acre (996 linear feet) of wetlands under the jurisdiction of ACOE. Based on the County RPO guidelines, a buffer of 50-feet was selected for this RPO wetland to avoid indirect impacts. There are direct permanent impacts from grading and fuel modification activities to 3.11 acres (3,462 linear feet) of tamarisk scrub.

5.3 Cumulative Impact Analysis

Cumulative impacts are not assessed in this document; they will be discussed thoroughly in the Proposed Project's environmental impact report.

5.4 Mitigation Measures and Design Considerations

Mitigation for potential short-term and long-term direct impacts to jurisdictional wetlands and/or waters are described in Section 4.2.B. Mitigation for potential short-term and long-term indirect impacts are described in Section 4.2.B.

5.5 Conclusions

See Section 4.2.B.

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TABLE OF CONTENTS

Section **Page No.**

APPENDICES

No table of figures entries found. LIST OF FIGURES

No table of figures entries found. LIST OF TABLES

NO TABLE OF FIGURES ENTRIES FOUND.

6.0 WILDLIFE MOVEMENT AND NURSERY SITES

6.1 Guidelines for the Determination of Significance

The County's *Guidelines for Determining Significance and Report Format and Content Requirements: Biological Resources* (County of San Diego 2010a) are based on the criteria in Appendix G of the CEQA Guidelines (14 CCR 15000 et seq.) and were used to analyze potential direct and indirect impacts to biological resources. The following guidelines for the determination of significance come directly from the County Guidelines (County of San Diego 2010a).

Guideline 4.4 The project would interfere substantially with the movement of a 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.

a. The project would impede wildlife access to foraging habitat, breeding habitat, water sources, or other areas necessary for their reproduction.

b. The project would substantially interfere with connectivity between blocks of habitat, or would potentially block or substantially interfere with a local or regional wildlife corridor or linkage. For example, if the project proposes roads that cross corridors, fencing that channels wildlife to underpasses located away from interchanges will be required to provide connectivity. Wildlife underpasses shall have dimensions (length, width, height) suitable for passage by the affected species based on a site-specific analysis of wildlife movement. Another example is increased traffic on an existing road that would result in significant road-kill or interference with an existing wildlife corridor/linkage.

c. The project would create artificial wildlife corridors that do not follow natural movement patterns; for example, constraining a corridor for mule deer or mountain lion to an area that is not well-vegetated or that runs along the face of a steep slope instead of through the valley or along the ridgeline.

d. The project would increase noise and/or nighttime lighting in a wildlife corridor or linkage to levels likely to affect the behavior of the animals identified in a site-specific analysis of wildlife movement.

e. The project does not maintain an adequate width for an existing wildlife corridor or linkage and/or would further constrain an already narrow corridor through activities such as (but not limited to) reduction of corridor width, removal of available vegetative cover, placement of incompatible

uses adjacent to it, and placement of barriers in the movement path. The adequacy of the width shall be based on the biological information for the target species, the quality of the habitat within and adjacent to the corridor, topography, and adjacent land uses. Where there is limited topographic relief, the corridor should be well-vegetated and adequately buffered from adjacent development. Corridors for bobcats, deer, and other large animals should reach rim-to-rim along drainages.

f. The project does not maintain adequate visual continuity (i.e., long lines-of-site) within wildlife corridors or linkage. For example, development (such as homes or structures) sited along the rim of a corridor could present a visual barrier to wildlife movement. For stepping-stone/archipelago corridors, a project does not maintain visual continuity between habitat patches.

6.2 Analysis of Project Effects

6.2.1 Project Effects Relevant to Guideline 4.4.A

Short-term, construction-related, or temporary direct impacts to potential foraging and breeding habitat for species that use the project area (e.g., special-status birds) would primarily result from construction activities. Clearing, trampling, or grading of foraging and breeding habitat outside designated construction zones could occur in the absence of avoidance and mitigation measures. Potential temporary direct impacts to foraging and breeding habitat on site would be significant, **(Impact WM-1)**. However, these short-term direct impacts will be mitigated to less than significant through implementation of mitigation measures MM-2 (biological monitoring), MM-3 (restrictions on construction vehicle speed limits), and MM-4 (preparation of a biological monitoring report).

Permanent on-site and off-site direct impacts to ~~462.6 acres of~~ potential foraging and breeding habitat for species that use the project area (e.g., special-status birds) would occur as a result of the Proposed Project (see Table 3-2 for impacts to species' habitats). ~~There are also on-site and off-site impacts to 53.5 acres of disturbed habitat which can provide some foraging opportunities for species.~~ Permanent direct impacts to foraging and breeding habitat would be considered a significant impact (**Impact WM-2**). This impact will be mitigated through mitigation measure MM-1 (habitat preservation and management), which will conserve a minimum of 1:1 mitigation ~~to impact~~ ratio ~~of~~ through off-site habitat acres of equivalent functions and values. Tables 4-1 and 4-2 summarize the impacts and required mitigation for vegetation communities in the project area.

Short-term and long-term indirect impacts to wildlife access to foraging, breeding, or watering habitat for small and mid-sized animals would occur, as discussed in detail in Section 2.6 . Based on the assessment of groundwater-dependent vegetation mapped near on-site wells (see Appendix 3.1.9-6), potential impacts from well drawdown to groundwater-dependent vegetation may impede wildlife access to foraging habitat, breeding habitat, water sources, or other areas necessary for their reproduction. Although shallow-rooted vegetation, such as Mexican rush that dominates the alkali meadow, may be less impacted from anticipated drawdown of the aquifer, deep-rooted vegetation such as oak woodland and tamarisk scrub may be impacted by well drawdown (**Impact WM-3**) (see Section 4.2.3). There are no impacts to other potential water sources for wildlife, such as the on-site pond.

6.2.2 Project Effects Relevant to Guideline 4.4.B

The project does not increase traffic on existing roads that would result in significant road-kill or interference with existing wildlife corridors/linkages. The Proposed Project does not substantially interfere with the local or regional wildlife corridor known as Tule Creek because the project design allows for local and regional wildlife movement through the majority of Tule Creek by maintaining a minimum 675-foot wide corridor that is suitable for the common types of wildlife using this area (coyote, mule deer, bobcat, and skunk).

Wildlife will continue to move around the project area through the large tracts of undeveloped land, including the variety of local corridors shown on Figure 8. Based on the surrounding land use, which includes rural residential homes, the McCain Valley Conservation Camp located at 2550 McCain Valley Road, and Set Free Rough Acres, a drug rehabilitation center that occupies the site that previously served as the Chargers training camp (located at 2750 McCain Valley Road), the Proposed Project would not substantially interfere with wildlife movement through and between blocks of habitat as wildlife could still move through the project along Tule Creek and around the project through the surrounding habitat.

Future land uses proposed adjacent to the site include Rough Acres Ranch, a conference/retreat and campground facility, and the Tule Wind Energy project. While these uses would increase human activity in the area and add municipal and utility features to the landscape, they would not change the rural, low-density nature of the surrounding landscape.

Smaller wildlife species (e.g., lizards and small mammals) will still be able to access the site through openings in the fence; however, vegetation within the solar farm site would be maintained at a maximum height of 6-inches above ground, thereby removing suitable on-site habitat. Smaller wildlife species would not be able to navigate through the site to access habitat on the far side since the size of the site would be insurmountable for small wildlife. Therefore, the loss of habitat as a result of the Rugged solar farm for small and mid-sized

wildlife that have smaller home ranges (grey fox, ringtail and black-tailed jack rabbit) could be significant (**Impact WM-4**).

6.2.3 Project Effects Relevant to Guideline 4.4.C

As described above, the Proposed Project will allow for movement through the majority of Tule Creek. Currently, wildlife is able to move throughout the project site in a relatively uniform fashion as topography does not differ greatly, there are no significant riparian features, and there are limited constraining features. After the project is developed, wildlife will still be able to move through the vicinity and region within similar habitats, slope, and directions as are currently present. The project maintains connectivity across and through low sloping hills and the valley. Connections across the project area will not be compromised as wildlife will still be able to maintain east/west and north/south connections. The gaps between the various fenced project components (subareas) are large, with the minimum 675-foot gap occurring between the eastern and southern fenced project subareas for an approximate 500-foot long segment. The remaining gaps are over 1,000 feet wide. As such, the Proposed Project would not create any artificial wildlife corridors and impacts from constraining wildlife movement would be less than significant.

6.2.4 Project Effects Relevant to Guideline 4.4.D

Permanent security lighting associated with the Proposed Project includes the building and parking areas. The lighting is designed to minimize light pollution and preserve dark skies, while maintaining safety, security, and functionality. There would be short-term construction-related noise as described in Section 2.6. Long-term noise associated with routine maintenance is not expected to impact wildlife movement because these activities will typically occur within the fenced areas and on an as-needed basis. Night time operational noise due to electrical generation would be minimal and non-intrusive. The project's potential noise and lighting impacts on wildlife movement would be less than significant.

6.2.5 Project Effects Relevant to Guideline 4.4.E

As described previously, the majority of Tule Creek will not be impacted or fenced. It will remain the most logical movement route due to the increasing vegetation cover, due to the change in land use, and due to removal of cattle in this area. As shown on Figure 9, the width of Tule Creek will remain the same, and wildlife can continue using this open area to move through the region. Small wildlife species (e.g., lizards and small mammals) would be able to access the project area through openings in the fence, but the site will not include native habitat that would be conducive to movement for most wildlife. Soil binders and compaction would not be expected to block wildlife use or movement, but the distance to the next block of suitable habitat

would be unsurmountable for most small wildlife. Wildlife can move in a variety of local corridors surrounding the project area, as identified on Figure 8. However, the Proposed Project will reduce existing wildlife corridors and impacts would be significant (**Impact WM-5**).

6.2.6 Project Effects Relevant to Guideline 4.4.F

Visual continuity between areas to the north and south of portions of Tule Creek in the project area would be maintained along the project's designated open space. Visual continuity between the east and west could be impacted from the solar panels and fencing. Although there are potential impacts to visual continuity, the topography is not steep in and around the project's open space and it maintains 675 to 1,200 feet width with appropriate vegetative cover to allow for movement. Furthermore, wildlife has been using a variety of local wildlife corridors to move throughout the region and impacts to movement from visual continuity would be less than significant.

6.3 Cumulative Impact Analysis

Cumulative impacts are not assessed in this document; they will be discussed thoroughly in the Proposed Project's environmental impact report.

6.4 Mitigation Measures and Design Considerations

The Proposed Project would avoid impacts to vegetation communities to the maximum extent practicable, as described previously, including avoidance of approximately ~~26~~31% of these habitats within the project area (~~202~~ 234.9 of 763.5~~4.1~~ acres).

Mitigation for short-term direct impacts to potential foraging and breeding habitat (WM-1) include MM-2 (biological monitoring), MM-3 (preparation and implementation of an SWPPP), and MM-4 (preparation of a biological monitoring report), which are described in Section 3.4.

Mitigation for long-term direct impacts to potential foraging and breeding habitat for wildlife species (WM-2) include mitigation measure MM-1 (habitat preservation), described in Section 3.4.

Mitigation for impacts to groundwater-dependent vegetation (WM-3) include MM-16 (Groundwater Monitoring and Mitigation Plan), described in Section 4.4.

Mitigation for impacts related to the interference with the connectivity of blocks of habitat on the movement of small wildlife (WM-4) include MM-1 (habitat preservation), described in Section 3.4, and the preservation of the Tule Creek corridor as open space as part of the project design.

Mitigation for impacts to habitat that will reduce movement of small wildlife (WM-5) includes MM-1 (habitat preservation), described in Section 3.4, which will preserve off-site habitat at a ratio greater than the loss of habitat on the project site.

6.5 Conclusions

Impact WM-1 The significant short-term direct impacts to potential raptor foraging and breeding habitat will be reduced to a level that is less than significant through implementation of mitigation measures MM-2, MM-3, and MM-4, because this mitigation, which requires biological monitoring; review of areas designated for clearing, grubbing, or grading; restrictions on construction vehicle speeds; and preparation of a biological monitoring report; will prevent and document that construction will not cause additional impacts beyond the project footprint.

Impact WM-2 The significant permanent direct impact to the loss of potential raptor foraging and breeding habitat will be reduced to a level that is less than significant through implementation of mitigation measure MM-1, because this measure requires compensatory mitigation in the form of on and off-site habitat conservation to provide equivalent or better function and value to raptors, including eagles.

Impact WM-3 The significant impacts to groundwater-dependent habitat will be reduced to a level that is less than significant through implementation of mitigation measure MM-16 because the mitigation requires the preparation of a Groundwater Monitoring and Mitigation Plan that will ensure that groundwater pumping does not reduce water levels to below the established baseline.

Impact WM-4 The significant impact to small and mid-sized wildlife movement from loss of habitat would be reduced to a level that is less than significant through implementation of mitigation measure MM-1 because this measure requires off-site habitat preservation and management of equivalent or greater function and value.

Impact WM-5 The significant impact to movement of small wildlife species from loss of wildlife corridors would be reduced to a level that is less than significant through implementation of mitigation measure MM-1 because this measure requires off-site habitat preservation and management of equivalent or greater function and value, and from preservation of the Tule Creek corridor in open

space as part of the project design, which will allow continued movement of small wildlife species through this area.

TABLE OF CONTENTS

Section **Page No.**

APPENDICES

No table of figures entries found.

LIST OF FIGURES

No table of figures entries found.

LIST OF TABLES

No table of figures entries found.

7.0 LOCAL POLICIES, ORDINANCES, AND ADOPTED PLANS

7.1 Guidelines for the Determination of Significance

The County's *Guidelines for Determining Significance and Report Format and Content Requirements for Biological Resources* (County of San Diego 2010a) are based on the criteria in Appendix G of the CEQA Guidelines (14 CCR 15000 et seq.) and were used to analyze potential direct and indirect impacts to biological resources. The following guidelines for the determination of significance come directly from the County Guidelines (County of San Diego 2010a).

Guideline 4.5 The project would conflict with one or more local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance, and/or would conflict with the provisions of an adopted HCP, NCCP, or other approved local, regional, or state HCP.

a. For lands outside of the Multiple Species Conservation Plan (MSCP), the project would impact coastal sage scrub (CSS) vegetation in excess of the County's 5% habitat loss threshold as defined by the Southern California Coastal Sage Scrub Natural Communities Conservation Planning Process (NCCP) Guidelines.

b. The project would preclude or prevent the preparation of the subregional Natural Communities Conservation Planning Process (NCCP). For example, the project proposes development within areas that have been identified by the County or resource agencies as critical to future habitat preserves.

c. The project will impact any amount of wetlands or sensitive habitat lands as outlined in the Resource Protection Ordinance (RPO).

d. The project would not minimize and/or mitigate coastal sage scrub habitat loss in accordance with Section 4.3 of the Natural Communities Conservation Planning Process (NCCP) Guidelines.

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

f. For lands within the Multiple Species Conservation Program (MSCP), the project would not minimize impacts to Biological Resource Core Areas (BRCAs), as defined in the Biological Mitigation Ordinance (BMO).

g. The project would preclude connectivity between areas of high habitat values, as defined by the Southern California Coastal Sage Scrub Natural Communities Conservation Planning Process (NCCP) Guidelines.

h. The project does not maintain existing movement corridors and/or habitat linkages as defined by the Biological Mitigation Ordinance (BMO).

i. The project does not avoid impacts to MSCP narrow endemic species and would impact core populations of narrow endemics.

j. The project would reduce the likelihood of survival and recovery of listed species in the wild.

k. The project would result in the killing of migratory birds or destruction of active migratory bird nests and/or eggs (Migratory Bird Treaty Act).

l. The project would result in the take of eagles, eagle eggs, or any part of an eagle (Bald and Golden Eagle Protection Act).

7.2 Analysis of Project Effects

7.2.1 Project Effects Relevant to Guideline 4.5.A

The project area does not support nor would it impact CSS vegetation.

7.2.2 Project Effects Relevant to Guideline 4.5.B

The Proposed Project would not preclude or prevent the preparation of the subregional NCCP because the project has been planned in accordance with the planning principles of the MSCP and in consideration of preparation of the East County Multiple Species Conservation Plan (ECMSCP) Subarea Plan. The project design has been evaluated according to the Preliminary Conservation Objectives outlined in the Planning Agreement for ECMSCP (County 2008). These objectives are and project applicability/compliance is listed in Table 7-1.

Table 7-1
ECMSCP Planning Agreement Conservation Objectives

Conservation objective	Applicability/compliance
Provide for the protection of species, natural communities, and ecosystems on a landscape level;	Project, with mitigation, will provide for protection and conservation of special-status species and natural communities.
Preserve the diversity of plant and animal communities throughout the Planning Area;	Not applicable
Protect threatened, endangered, or other special status plant and animal species, and minimizes and mitigate the take or loss of proposed Covered Species;	Project, with mitigation, will provide for protection and conservation of special-status species and natural communities.

Table 7-1
ECMSCP Planning Agreement Conservation Objectives

Conservation objective	Applicability/compliance
Identify and designate biologically sensitive habitat areas;	Biological studies have been conducted for the site to determine sensitive habitat areas.
Preserve habitat and contribute to the recovery of Conversed Species;	Project, with mitigation, will provide for protection and conservation of special-status species and natural communities.
Reduce the need to list additional species;	Not applicable
Set forth species-specific goals and objectives; and	Not applicable
Set forth specific habitat-based goals and objectives expressed in terms of amount, quality, and connectivity of habitat	Not applicable

7.2.3 Project Effects Relevant to Guideline 4.5.C

The Proposed Project impacts approximately 0.10 acre of RPO wetland and 0.15 acre of wetland buffer as a result of the proposed on-site access road; impacts to an RPO would be considered significant (**Impact P-1**). These impacts are described in more detail in Section 4.2.5 and Table 2-4. The road impact meets the following criteria described for permitted uses to RPO wetlands (County 2007), including:

a. There is no feasible alternative that avoids the wetland: the road must cross the wetland because the project requires access to both sides of the creek. The impact is sited to minimize impacts to the wetland resources in the area and moving the road could result in greater impacts to RPO wetlands and/or wetland buffers.

b. The crossings are limited to the minimum number feasible: the proposed road crosses the wetland one time which is the minimum number of RPO crossings feasible.

c. The crossings are located and designed in such a way as to cause the least impact to environmental resources, minimize impacts to sensitive species and prevent barriers to wildlife movement (e.g., crossing widths shall be the minimum feasible and wetlands shall be bridged where feasible): the road is sited to minimize impacts to the wetland resources in the area and moving the road could result in greater impacts to RPO wetlands and/or wetland buffers. A bridge would not be feasible because of topography and other site constraints.

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

sensitive resources): the project complies with all of these criteria and they will become conditions of approval as described in MM-2, MM-3, MM-4, and MM-10.

e. The applicant shall prepare an analysis of whether the crossing could feasibly serve adjoining properties and thereby result in minimizing the number of additional crossings required by adjacent development: not applicable at this time as there are no other property owners adjacent to the proposed road.

f. There must be no net loss of wetlands and any impacts to wetlands shall be mitigated at a minimum ratio of 3:1 (this shall include a minimum 1:1 creation component, while restoration/enhancement of existing wetlands may be used to make up the remaining requirements for a total 3:1 ratio): Table 4-1 includes a 3:1 mitigation ratio for impacts to alkali meadow and a 1:1 ratio to the RPO wetland buffer. MM-15 describes the requirement of a revegetation plan or purchase of mitigation credits to mitigate this impact.

Sensitive habitat lands are described in Section 1.5.3, which provides a detailed discussion regarding the resources in the project area with respect to the criteria outlined in the sensitive habitat lands definition. Tule Creek is designated as sensitive habitat lands on the project site since it supports natural ecosystem features and serves as a wildlife corridor.

7.2.4 Project Effects Relevant to Guideline 4.5.D

The Proposed Project does not support nor would it impact coastal sage scrub vegetation.

7.2.5 Project Effects Relevant to Guideline 4.5.E

The Proposed Project conforms to the goals and requirements as outlined in all applicable regional planning efforts.

7.2.6 Project Effects Relevant to Guideline 4.5.F

Since there is no approved ECMSCP and no associated BMO, this guideline does not apply to the Rugged Solar project.

7.2.7 Project Effects Relevant to Guideline 4.5.G

The project is not expected to preclude habitat connectivity as discussed in Section 6.2.B.

7.2.8 Project Effects Relevant to Guideline 4.5.H

Since there is no approved ECMSCP and no associated BMO, this guideline does not apply to the Rugged Solar project.

7.2.9 Project Effects Relevant to Guideline 4.5.I

Narrow endemic species are evaluated under the County Guidelines for Determining Significance for Biological Resources.

7.2.10 Project Effects Relevant to Guideline 4.5.J

No federally or state-listed plant or wildlife species have been observed in the project area except for Swainson's hawk. As discussed in Section 1.4.6.2, Swainson's hawk no longer nests in Southern California, including San Diego County. Therefore, this species is expected only as an occasional and temporary visitor to the project area, and the Proposed Project would not reduce its likelihood of survival or recovery.

7.2.11 Project Effects Relevant to Guideline 4.5.K

Short-term, temporary, or construction-related impacts to migratory birds and active migratory bird nests and/or eggs protected under the Migratory Bird Treaty Act (MBTA) are considered a significant impact (**Impact P-2**). This impact will be mitigated through mitigation measure MM-10 (preconstruction surveys for nesting birds and setbacks).

7.2.12 Project Effects Relevant to Guideline 4.5.L

Impacts to 492.4 acres of raptor foraging habitat, including foraging habitat for golden eagle are considered significant (see Impact W-7). The project does not have site specific impacts on golden eagle nesting (see Appendix J). An extirpated golden eagle territory referred to as "Boulevard" exists within and around the Rugged solar farm site; however, the nest is not active. The Carrizo Canyon and Table Mountain territories, which each support an active breeding pair, are to the east and southeast of the solar farm site; however, the core nesting area is outside of the Rugged solar farm site and 4,000-foot buffer. Both of the territories overlap slightly with the project site (WRI 2013).

7.3 Cumulative Impact Analysis

The ordinances and policies that protect biological resources are applied to each discretionary project in accordance with their associated legally established compliance requirements. Therefore cumulative impacts would not occur.

7.4 Mitigation Measures and Design Considerations

Impacts to the County RPO wetlands and buffer (Impact P-1) will also be mitigated through MM-1 (habitat preservation) and the mitigation requirements in MM-14 (see Section 4.4), which will require a combination of creation, enhancement, and/or restoration for wetland vegetation.

Impacts to migratory birds and migratory bird nests (Impact P-2) will be mitigated through MM-10. Construction will be phased, where appropriate, to avoid work during the bird breeding season (i.e., January through August). If construction activity is to commence during the breeding season, a one-time biological survey for nesting bird species must be conducted within the proposed impact area 72 hours prior to construction, as described in mitigation measure MM-10 in Section 3.4.

No other mitigation is proposed for impacts to local policies, ordinances, and plans because the Proposed Project remains consistent with all approved planning documents/plans.

7.5 Conclusions

Application of the currently established local policies, ordinances, and plans to the proposed project and implementation of appropriate mitigation has not resulted in any conflicts or inconsistencies. Therefore impacts are reduced to less than significant.

Impact P-1 The significant impacts to 0.25 acre of RPO wetland and buffer as a result of the on-site access road will be reduced to less than significant through construction staking to the avoid these impacts to the extent feasible, as well as implementation of MM-1, MM-14, and MM-15 because the mitigation, which requires habitat conservation and management of equivalent or better function and value**,** compliance with federal and state permits, and a revegetation plan and/or mitigation credits, will ensure the overall functions and values of the waters and wetlands are maintained.

Impact P-2 The significant short-term direct impacts to active nests or the young protected by the federal MBTA will be reduced to less than significant through implementation of mitigation measure MM-10, which requires preconstruction surveys for nesting birds and setbacks to avoid impacts for active nests.

TABLE OF CONTENTS

Section **Page No.**

APPENDICES

No table of figures entries found.

LIST OF FIGURES

No table of figures entries found.

LIST OF TABLES

8.0 SUMMARY OF PROJECT IMPACTS AND MITIGATION

Habitat Types/Vegetation Communities

Implementation of the proposed development would result in direct on-site ~~and off-site direct~~ impacts to approximately 51~~7~~5.~~9~~7 acres and off-site impacts to approximately 5.0 acres of vegetation communities and land covers (Tables 4-1 and 4-2). ~~Of these direct impacts, approximately 462.3 acres of vegetation impacts would require mitigation based on the County of San Diego's mitigation requirements (Table 5, County of San Diego 2010a).~~ Required mitigation ratios range from 0.5:1 to 3:1. Mitigation of approximately 520.7 acres (~~459.2~~515.7 acres of on-site impacts and 5.0 acres of off-site impacts) of habitat/vegetation is required, which ~~averages out to a little less than~~ equals a 1:1 mitigation ratio.

Direct impacts to 0.01 acre (446 linear feet) of ephemeral stream channel under the jurisdiction of ACOE, RWQCB, and CDFW; direct impacts to 0.10 acre (996 linear feet) of wetlands under the jurisdiction of ACOE, RWQCB, CDFW, and County; and direct impacts to 3.11 acres (3,462 linear feet) of tamarisk scrub under CDFW/County would occur due to implementation of the Proposed Project. Impacts to jurisdictional wetlands/waterways would require permits from the ACOE, CDFW, and RWQCB, which will also include conditions to mitigate this impact.

Direct impacts to groundwater-dependent vegetation from well drawdown may result from implementation of the Proposed Project. Mitigation would require groundwater monitoring and production would be capped if well drawdown exceeded pre-established thresholds.

There are impacts to 0.25 acre of RPO wetlands and buffers as a result of the on-site access roads; there are potential impacts to migratory birds protected under the MBTA from loss of foraging habitat. No additional impacts to local policies, ordinances, and adopted plans are anticipated to result with the implementation of the Proposed Project.

Sensitive Plant Species

There would be significant impacts to special-status species that have been documented in the project area, including Jacumba milkvetch (*Astragalus douglasii*), sticky geraea (*Geraea viscida*), and desert beauty (*Linanthus bellus*), discussed in Section 3.0. Impacts to Tecate tarplant (*Deinandra floribunda*) would be less than significant. For sensitive species, mitigation must consist of compensatory habitat that provides equal or greater benefit to the species. For the high-level sensitive plants (A- and B-listed species), the mitigation requirement shall be ratio based. Therefore, off-site preservation of native habitat will mitigate for the loss of special-status plant species at a minimum 2:1 mitigation to impact ratio for Jacumba milk-vetch individuals and 1:1 mitigation to impact ratio for sticky geraea and desert beauty. Survey results for the mitigation site have demonstrated that it meets this

basic mitigation requirement. Mitigation measures during construction needed to reduce these impacts to less than significant will include the implementation of best management practices, biological monitoring and reporting, and measures to minimize edge effects.

Sensitive Wildlife Species

There would be potentially significant impacts to special-status species that have been observed or have potential to occur in the project area (see table 8-1). Impacts would occur to suitable habitat and/or individual species, as discussed in Section 3.0. Species-based mitigation shall be provided for Group I animal species. The mitigation site shall directly benefit the species (presence verified) and provide greater benefit to the species than that impacted. The mitigation shall propose measures above normal habitat mitigation and may propose occupation by an equal or greater number of Group I individuals. Adequate mitigation includes preservation and management of the mitigation site, construction limitations during breeding season, and measures to minimize edge effects (including biological monitoring and implementation of the FPP). Species-based mitigation land may also satisfy the habitat/vegetation community mitigation requirements of the same project. Therefore, off-site preservation of 5<u>20.7</u> ~~17.9~~ acres <u>(515.7 acres for on-site impacts and 5.0 acres for off-site impacts)</u> of native habitats will provide mitigation for impacts to special-status species equal to the total acreage of impacts on the project site~~ and greater than the project impacts to 398.4 acres of special-status upland vegetation communities~~.

Wildlife Movement and Nursery Sites

There would be direct impacts to potential foraging and breeding habitat for wildlife species, discussed in Section 6.0. Impacts associated with the MBTA are discussed in both Sections 3.0 and 7.0.

There would be potentially significant impacts to wildlife movement through core habitat, primarily for small and medium sized wildlife. Larger wildlife would be able to use the Tule Creek corridor that has been reserved for their use. Mitigation shall be provided to directly benefit the affected species (presence verified) and provide greater benefit to the species than that impacted. Adequate mitigation includes preservation and management of the mitigation site and measures to minimize edge effects (including biological monitoring and implementation of the FPP). The wildlife movement and nursery sites mitigation land also satisfy the habitat/vegetation community mitigation requirements of the same project. Therefore, off-site preservation of <u>520.7 acres (515.7 acres for on-site impacts and 5.0 acres for off-site impacts)</u> ~~517.9 acres~~ of native habitats will provide compensatory mitigation for impacts to wildlife movement.

A summary of the aforementioned significance criteria, references to their locations within this document, and the significance determination is provided in Table 8-1.

Table 8-1
Summary of Significant Impacts

Section of Report Analysis Is Described	Impact Number	Impacted Resource	Impact Type	Proposed Mitigation	Level of Significance After Mitigation	Guideline Number and Letter
Guideline 4.1 *The project would have a substantial adverse effect, either directly or through habitat modifications, on a candidate, sensitive, or special status species listed in local or regional plans, policies, or regulations, or by CDFW or USFWS.*						
3.2.2.1	Impact SP-1	Special-Status Plants, County List A and B: • Jacumba Milkvetch • Tecate Tarplant • Sticky Geraea • Desert Beauty	Short-term Direct	• MM-2 (biological monitoring) • MM-3 (no planting or seeding of invasive plant species ~~restrictions on construction vehicle speed limits~~) • MM-4 (preparation of a biological monitoring report)	Less than significant	4.1, B
3.2.2.1	Impact SP-2	Special-Status Plants, County List A and B: • Jacumba Milkvetch • Sticky Geraea • Desert Beauty	Long-Term Direct	• MM-1 (habitat preservation ~~and management at County approved mitigation ratios~~)	Less than significant	4.1, B
3.2.2.2	Impact W-1	Special-Status Wildlife, County Group 1	Short-term Direct	• MM-2 (biological monitoring) • MM-3 (restrictions on construction vehicle speed limits) • MM-4 (preparation of a biological monitoring report) • MM-11 (monitor excavated areas and soil piles)	Less than significant	4.1, B
3.2.2.2	Impact W-2	Special-Status Wildlife, County Group 1 or CDFW Species of Special Concern Impacts to active nests or young of nesting County Group 1 or CDFW Species of Special Concern	Short-term Direct	• MM-10 (pre-construction surveys for nesting birds and setbacks)	Less than significant	4.1, B
3.2.2.2	Impact W-3	Special-Status Wildlife, County Group 1 or CDFW Species of Special Concern	Long-term Direct	• MM-1 (habitat preservation ~~and management of compensatory~~	Less than significant	4.1, B

Table 8-1
Summary of Significant Impacts

Section of Report Analysis Is Described	Impact Number	Impacted Resource	Impact Type	Proposed Mitigation	Level of Significance After Mitigation	Guideline Number and Letter
		Removal of suitable habitat of County Group 1 wildlife species (see Table 3-2 for details) including: • Belding's orange-throated whiptail • Blainville's horned lizard • Coast patch-nosed snake • Coronado skink • Northern red-diamond • Two-striped garter snake • Western spadefoot • Bell's sage sparrow • Cooper's hawk • Golden eagle • Loggerhead shrike • Northern harrier • Prairie falcon • Red-shouldered hawking • Red-shouldered hawk • Southern California rufous-crowned sparrow • Tricolored blackbird • Turkey vulture • Dulzura pocket mouse • Northwestern San Diego pocket mouse • San Diego desert woodrat • Mexican long-tongued bat • Townsend's big-eared bat		~~habitats equal to or greater than total project impacts~~)		

Table 8-1
Summary of Significant Impacts

Section of Report Analysis Is Described	Impact Number	Impacted Resource	Impact Type	Proposed Mitigation	Level of Significance After Mitigation	Guideline Number and Letter
		• Spotted bat • Greater western mastiff bat • Western red bat • California leaf-nosed bat • Big free-tailed bat				
3.2.3.2	Impact W-4	Special-Status Wildlife, County Group 2 Snakes • San Diego ringneck snake • rosy boa	Short-term Direct	• MM-2 (biological monitoring) • MM-3 (restrictions on construction vehicle speed limits) • MM-4 (preparation of a biological monitoring report) • MM-11 (monitor excavated areas and soil piles)	Less than significant	4.1, C
3.2.3.2	Impact W-5	Special-Status Wildlife, County Group 2 Impacts to active nests or young of nesting County Group 1 or CDFW Species of Special Concern	Short-term Direct	• MM-10 (pre-construction surveys for nesting birds and setbacks)	Less than significant	4.1, C
3.2.3.2	Impact W-6	Special-Status Wildlife, Group 2 Loss of suitable habitat for Diego ringneck snake and rosy boa	Long-term Direct	• MM-1 (habitat preservation~~ and management~~)	Less than significant	4.1, C
3.2.3.6	Impact W-7	Special-Status Wildlife, Loss of foraging habitat for raptors, including golden eagle	Long-term Direct	• MM-1 (habitat preservation~~ and management~~)	Less than significant	4.1, F
3.2.7	Impact W-8	Core Wildlife Area, Loss of habitat	Long-term Direct	• MM-1 (habitat preservation~~ and management~~)	Less than significant	4.1, G
3.2.8.1	Impact SP-3	Special-Status Plants, County List A and B: • Jacumba Milkvetch • Tecate Tarplant • Sticky Geraea • Desert Beauty	Short-term Indirect	• MM-2 (biological monitoring) • MM-3 (preparation and implementation of a SWPPP) • MM-4 (preparation of a biological monitoring report)	Less than significant	4.1, H

Table 8-1
Summary of Significant Impacts

Section of Report Analysis Is Described	Impact Number	Impacted Resource	Impact Type	Proposed Mitigation	Level of Significance After Mitigation	Guideline Number and Letter
				• MM-5 (implementation of a Fugitive Dust Control Plan)		
3.2.8.1	Impact SP-4	Special-Status Plants, County List A and B: • Jacumba Milkvetch • Tecate Tarplant • Sticky Geraea • Desert Beauty	Long-term Indirect	• MM-1 (habitat preservation ~~and management~~) • MM-5 (implementation of a Fugitive Dust Control Plan • MM-6 (biological review of landscape plans) • MM-7 (restrictions on operation and maintenance personnel activity) • MM-8 (implementation of a Fire Protection Plan) • MM-9 (regulated herbicide application)	Less than significant	4.1, H
3.2.8.2	Impact W-9	Special-Status Wildlife	Short-term Indirect	• MM-2 (biological monitoring) • MM-3 (restrictions on construction vehicle speed limits and preparation and implementation of a SWPPP) • MM-4 (preparation of a biological monitoring report) • MM-5 (implementation of a Fugitive Dust Control Plan) • MM-11 (monitor excavated areas and soil piles) • MM-12 (minimize night lighting)	Less than significant	4.1, H
3.2.8.2	Impact W-10	Special-Status Wildlife	Long-term Indirect	• MM-1 (habitat preservation and management)	Less than significant	4.1, H

Table 8-1
Summary of Significant Impacts

Section of Report Analysis Is Described	Impact Number	Impacted Resource	Impact Type	Proposed Mitigation	Level of Significance After Mitigation	Guideline Number and Letter
				• MM-5 (implementation of a Fugitive Dust Control Plan) • MM-6 (biological review of landscape plans) • MM-7 (restrictions on operation and maintenance personnel activity) • MM-8 (implementation of a Fire Protection Plan)		
3.2.8.2	Impacts W-11	Special-Status Wildlife, Potential Electrocution and/or Collision with Overhead Transmission Lines	Long-term indirect	• MM-13 (implement recommendations by the Avian Power Line Interaction Committee)	Less than significant	4.1, H
3.2.12	Impacts W-12	Special-Status Wildlife, Nesting Success of Tree-Nesting Raptors, Construction-related (e.g., noise)	Short-term Indirect	• MM-10 (pre-construction surveys for nesting birds and setbacks)	Less than significant	4.1, L
3.2.12	Impact W-13	Special-Status Wildlife, Nesting Success of Tree-Nesting Raptors, Loss of Suitable Nesting Habitat	Long-term Direct	• MM-1 (habitat preservation ~~and management~~)	Less than significant	4.1, L
Guideline 4.2 *The project would have a substantial adverse effect on riparian habitat or another sensitive natural community identified in local or regional plans, policies, regulations, or by CDFW or USFWS.*						
4.2.1	Impact V-1	Special-Status Upland Vegetation Communities	Short-term Direct	• MM-2 (biological monitoring) • MM-3 (restrictions on construction vehicle speed limits) • MM-4 (preparation of a biological monitoring report)	Less than significant	4.2, A
4.2.1	Impact V-2	Special-Status Upland Vegetation Communities	Long-term Direct	• MM-1 (habitat preservation ~~and management~~)	Less than significant	4.2, A

Table 8-1
Summary of Significant Impacts

Section of Report Analysis Is Described	Impact Number	Impacted Resource	Impact Type	Proposed Mitigation	Level of Significance After Mitigation	Guideline Number and Letter
4.2.1	Impact V-3	Oak Root Protection Zone (Oak Woodlands)	Short-term Direct	• MM-2 (biological monitoring) • MM-3 (restrictions on construction vehicle speed limits) • MM-4 (preparation of a biological monitoring report)	Less than significant	4.2, A
4.2.2	Impact V-4	Jurisdictional Wetlands and Waters	Short-term Direct	• MM-2 (biological monitoring) • MM-3 (restrictions on construction vehicle speed limits) • MM-4 (preparation of a biological monitoring report)	Less than significant	4.2, B
4.2.2	Impact V-5	Jurisdictional Wetlands and Waters	Long-term Direct	• MM-1 (habitat preservation ~~and management~~) • MM-14 (federal and state permits) • MM-15 (revegetation plan or mitigation credits)	Less than significant	4.2, B
4.2.2	Impact V-6	Jurisdictional Wetlands and Waters	Short-term Indirect	• MM-2 (biological monitoring) • MM-3 (preparation and implementation of a SWPPP) • MM-4 (preparation of a biological monitoring report) • MM-5 (implementation of a Fugitive Dust Control Plan)	Less than significant	4.2, B
4.2.2	Impact V-7	Jurisdictional Wetlands and Waters	Long-term Indirect	• MM-1 (habitat preservation ~~and management~~) ~~• MM-5 (implementation of a Fugitive Dust Control Plan~~ ~~• MM-6 (biological review of landscape plans)~~	Less than significant	4.2, B

Table 8-1
Summary of Significant Impacts

Section of Report Analysis Is Described	Impact Number	Impacted Resource	Impact Type	Proposed Mitigation	Level of Significance After Mitigation	Guideline Number and Letter
				• ~~MM-7 (restrictions on operation and maintenance personnel activity)~~ • ~~MM-8 (implementation of a Fire Protection Plan)~~ • ~~MM-9 (regulated herbicide application)~~ • MM-14 (federal and state permits) • MM-15 (revegetation plan or mitigation credits)		
4.2.3	Impact V-8	Groundwater-Dependent Vegetation	Short-term/ Long-term Indirect	• MM-16 (Groundwater Monitoring and Mitigation Plan)	Less than significant	4.2, C
4.2.4	Impact V-9	Special-Status Upland Vegetation Communities	Short-term Indirect	• MM-2 (biological monitoring) • MM-3 (preparation and implementation of a SWPPP) • MM-4 (preparation of a biological monitoring report) • MM-5 (implementation of a Fugitive Dust Control Plan)	Less than significant	4.2, D
4.2.4	Impact V-10	Special-Status Upland Vegetation Communities	Long-term Indirect	• MM-1 (habitat preservation ~~and management~~) • MM-5 (implementation of a Fugitive Dust Control Plan • MM-6 (biological review of landscape plans) • MM-7 (restrictions on operation and maintenance personnel activity)	Less than significant	4.2, D

Table 8-1
Summary of Significant Impacts

Section of Report Analysis Is Described	Impact Number	Impacted Resource	Impact Type	Proposed Mitigation	Level of Significance After Mitigation	Guideline Number and Letter
				• MM-8 (implementation of a Fire Protection Plan) • MM-9 (regulated herbicide application)		
Guideline 4.3 *The project would have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the CWA (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means.*						
5.2.1	See Section 4.2.2	Jurisdictional Wetlands and Waterways	See Section 4.2.2	See Section 4.2.2	See Section 4.2.2	4.3
Guideline 4.4 *The project would interfere substantially with the movement of a 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.*						
~~6.2.1~~	~~Impact WM-1~~	~~Groundwater-Dependent Vegetation~~	~~Short/Long-term Indirect~~	• ~~MM-16 (Groundwater Monitoring and Mitigation Plan)~~	~~Less than significant~~	~~4.4, A~~
6.2.1	Impact WM-1~~2~~	Foraging and Breeding Habitat	Short-term Direct	• MM-2 (biological monitoring) • MM-3 (preparation and implementation of a SWPPP) • MM-4 (preparation of a biological monitoring report)	Less than significant	4.4, A
6.2.1	Impact WM-2~~3~~	Foraging and Breeding Habitat	Long-term Direct	• MM-1 (habitat preservation~~ and management~~)	Less than significant	4.4, A
6.2.1	Impact WM-3	Groundwater-Dependent Vegetation	Short/Long-term Indirect	• MM-16 (Groundwater Monitoring and Mitigation Plan)	Less than significant	4.4, A
6.2.2	Impact WM-4	Wildlife Movement (small and mid-sized animals)	Long-term Direct	• MM-1 (habitat preservation~~ and management~~)	Less than significant	4.4, B
6.2.5	Impact WM-5	Loss of Wildlife Corridors (small and mid-	Long-term	• MM-1 (habitat preservation~~ and~~	Less than	4.4, E

Table 8-1
Summary of Significant Impacts

Section of Report Analysis Is Described	Impact Number	Impacted Resource	Impact Type	Proposed Mitigation	Level of Significance After Mitigation	Guideline Number and Letter
		sized animals)	Direct	~~management~~)	significant	
Guideline 4.5 *The project would conflict with one or more local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance, and/or would conflict with the provisions of an adopted HCP, NCCP, or other approved local, regional, or state HCP.*						
7.2.3	Impact P-1	RPO Wetland Buffers	Long-term Direct	• MM-1 (habitat preservation~~ and management~~) • MM-14 (federal and state permits)	Less than significant	4.5
7.2.11	Impact P-2	Migratory Bird Treaty Act	Short-term Direct	• MM-10 (pre-construction surveys for nesting birds and setbacks)	Less than significant	4.5

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TABLE OF CONTENTS

Section **Page No.**

APPENDICES

No table of figures entries found.

LIST OF FIGURES

No table of figures entries found.

LIST OF TABLES

9.0 REFERENCES

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