BIOLOGICAL CONSTRAINTS ANALYSIS
FAVORITO AVENUE SOLAR ARRAY PROJECT
KERN COUNTY, CALIFORNIA

Prepared for:

H.N.F. International, Inc.
22 Colleton River Drive
Henderson, Nevada 89052

Prepared by:

Padre Associates, Inc.
1861 Knoll Drive
Ventura, California 93003
805/644-2220, 805/644-2050 (fax)

June 2017

Project No. 1402-2411

TABLE OF CONTENTS

TABLE OF CONTENTS (CONTINUED)

TABLES

FIGURES

1.0 INTRODUCTION

1.1 STUDY PURPOSE

Padre Associates Inc. (Padre) has completed this Biological Constraints Analysis (BCA) in support of land use permitting for the proposed photo-voltaic solar panel array along Favorito Avenue in the Willow Springs area of Kern County.

The purpose of this BCA is to provide preliminary baseline information to facilitate decision-making regarding further investment to pursue approval of the solar project. This BCA provides information regarding the general biological conditions of the property (solar array site); plants and wildlife observed and anticipated onsite; photo-documentation of existing site conditions; identification and location of any threatened, endangered, or otherwise special-status species; and recommendations to facilitate future analysis of project impacts to biological resources.

1.2 PROJECT LOCATION AND CURRENT LAND USE

The subject property is located in rural Kern County, within the Willow Springs Planning Area, approximately 3.6 miles northwest of the community of Rosamond (see Figures 1 and 2). The 180.28 acre property consists of four parcels:

- APN 315-011-33: 60.0 acres; northern portion is zoned Estate (5 acre parcel minimum) with Residential Suburban combining, Floodplain secondary combining. Southern portion (rocky butte) zoned as Agriculture.
- APN 315-011-32: 100.0 acres; zoned Estate (5 acre parcel minimum) with Residential Suburban combining, Floodplain secondary combining.
- APN 315-030-10: 10.14 acres; zoned Estate (5 acre parcel minimum) with Residential Suburban combining, Floodplain secondary combining.
- APN 315-030-11: 10.14 acres; zoned Estate (5 acre parcel minimum) with Residential Suburban combining, Floodplain secondary combining.

The property is bounded by Dawn Road to the north, 71st Street West to the east, and is bisected in an east-west direction by Favorito Avenue. The topography of the property may be characterized as a gently sloping plain, with a small rocky butte in the southern portion of the property. The elevation varies from approximately 2,610 feet at the northern base of the butte, to approximately 2,925 feet at the summit of the butte. Three drainage features traverse the property from north to south. Photographs of the property are provided as Attachment A.

The property is entirely vacant, with no evidence of past development. Several trails traverse the property, apparently used by motorcycles and all-terrain vehicles. Low density residential development is located approximately 2,600 feet to the east, composed of 10 acre lots. A photo-voltaic solar energy facility is located approximately 50 feet east of the property.

1.3 FEDERALLY-LISTED SPECIES

Based on both a literature review of database queries and field investigations, the following Federally-listed wildlife have a potential to occur in the vicinity of the property:

- California Condor (*Gymnogyps californianus*) – Federal Endangered (FE).
- Desert tortoise (*Gopherus agassizii*) – Federal Threatened (FT).

1.4 STATE-LISTED SPECIES

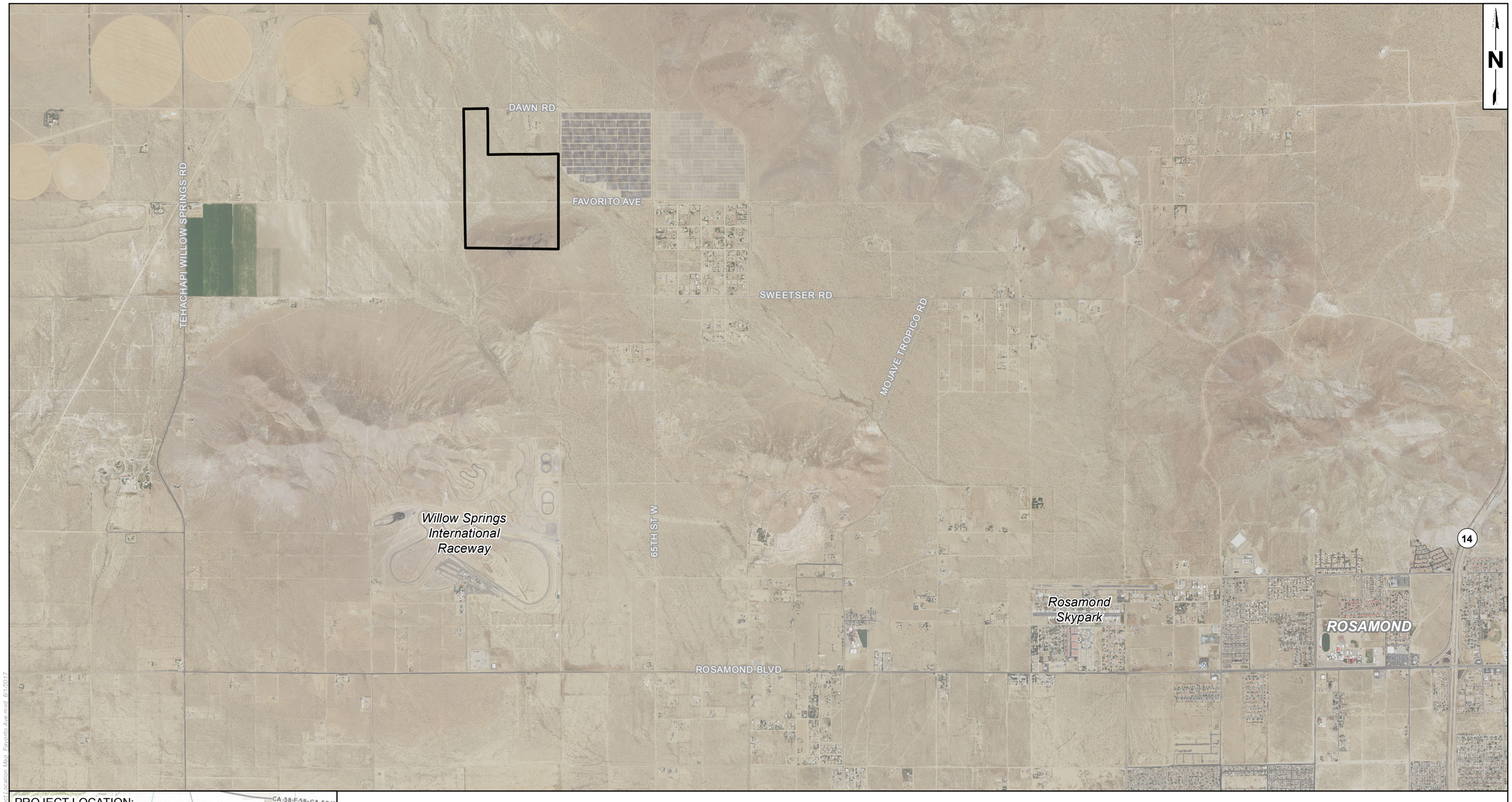
Additional species that are State-listed have the potential to occur in the vicinity of the property:

- California Condor (*Gymnogyps californianus*) – State Endangered (SE).
- Desert tortoise (*Gopherus agassizii*) – State Threatened (ST).
- Swainson's hawk (*Buteo swainsoni*) – ST.
- Mohave ground squirrel (*Xerospermophilus mohavensis)* – ST.

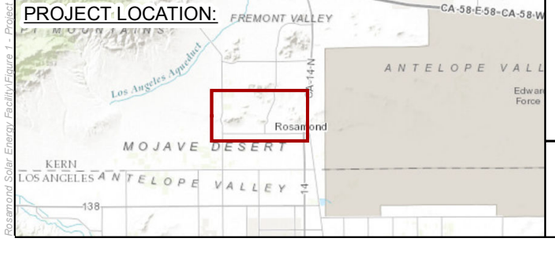
1.5 FULLY PROTECTED SPECIES

In addition to Federal and State listed species, other species are provided protection by the California Department of Fish and Wildlife (CDFW) under the California Fish and Game Code and considered as fully protected. A fully protected species may not be taken or possessed at any time and no licenses or permits may be issued for their take (Fish and Game Code Sections 3511, 4700, 5050, and 5515). Fully protected species that have the potential to occur in the vicinity of the property include:

- California condor (*Gymnogyps californianus*).
- Golden eagle (*Aquila chrysaetos*).
- Peregrine falcon (*Falco peregrinus*).
- White-tailed kite (*Elanus leucurus*).



PROJECT LOCATION:



LEGEND:

Project Boundary

0 0.25 0.5
MILE

Source: NAIP Imagery 2016, Esri Online Topo Baesmap, County of Kern
Coordinate System: NAD 1983 StatePlane California V FIPS 0405 Feet
Notes: VTTM = Vesting Tentative Tract Map
This map was created for informational and display purposes only.

padre associates, inc.
ENGINEERS, GEOLOGISTS & ENVIRONMENTAL SCIENTISTS

PROJECT NAME: FAVORITO AVENUE SOLAR ARRAY PROJECT
KERN COUNTY, CA

PROJECT NUMBER: 1402-2411

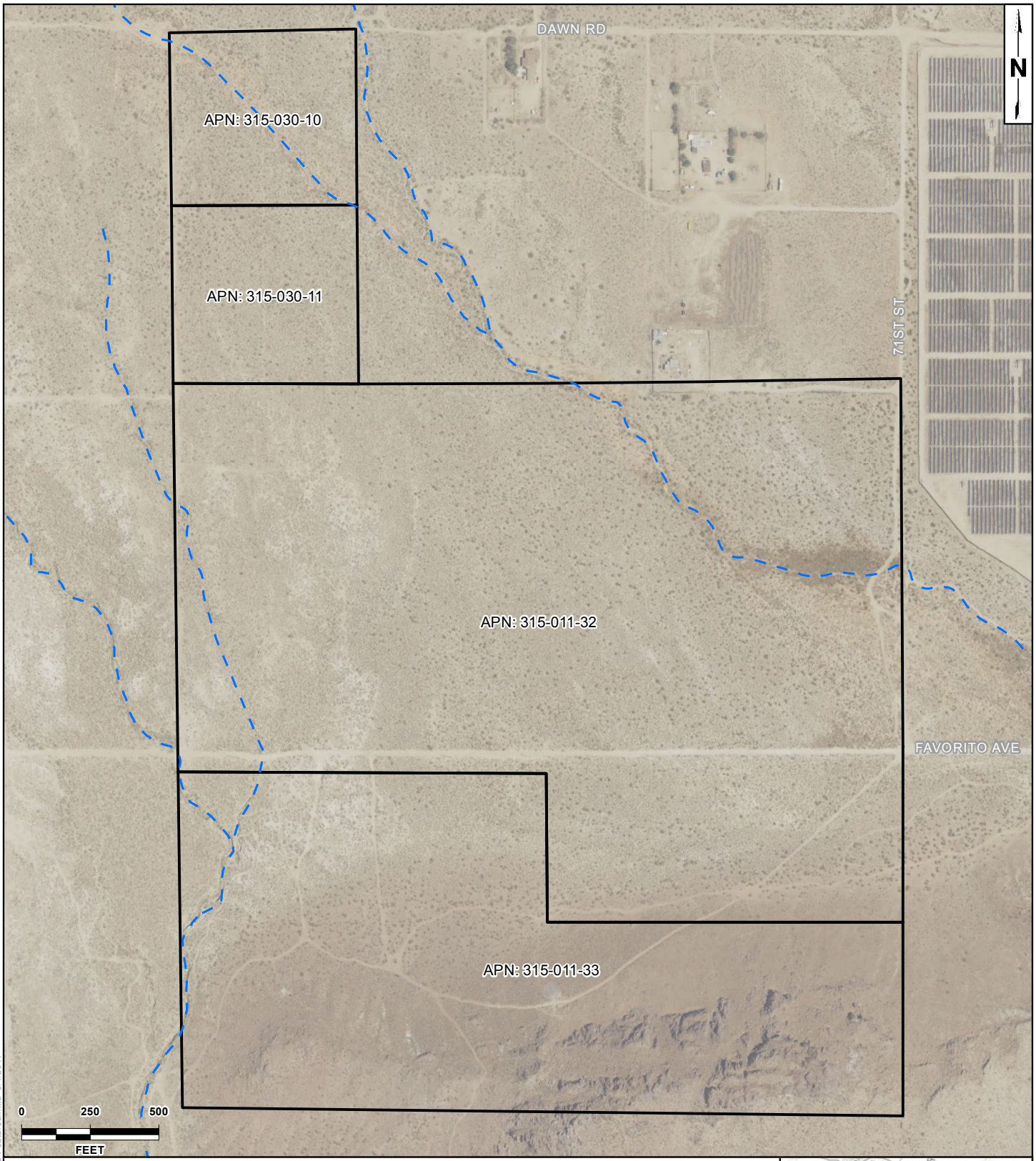
DATE: June 2017

PROJECT LOCATION MAP

FIGURE 1

Rosamond Solar Energy Facility\Figure 1 - Project Location Map_Favorito Ave.mxd 6/1/2017

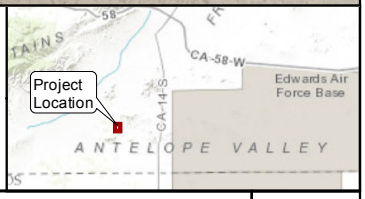
Back of Figure 1



LEGEND:

Parcel Boundary

MAP EXTENT:



Source: NAIP Imagery 2016, Esri Online Topo Basemap, County of Kern
Coordinate System: NAD 1983 StatePlane California V FIPS 0405 Feet
Notes: APN = Assessor Parcel Number
This map was created for informational and display purposes only.

padre associates, inc.
ENGINEERS, GEOLOGISTS & ENVIRONMENTAL SCIENTISTS

PROJECT NAME:
FAVORITO AVENUE SOLAR ARRAY PROJECT
KERN COUNTY, CA

PROJECT NUMBER: 1402-2411

DATE: June 2017

DRAINAGE FEATURES

FIGURE 2

Rosamond Solar Energy Facility\Figure 2 - Drainage Features.mxd 6/1/2017

Back of Figure 2

2.0 STUDY METHODS

2.1 LITERATURE REVIEW

Prior to the start of biological surveys conducted at the property, a literature review was conducted to identify any state/federally threatened, endangered, and otherwise special-status plant and animal species that may be present within or surrounding the property. The literature review included a query of CDFW's California Natural Diversity Data Base (CNDDB), California Native Plant Society (CNPS) Rare Plant Inventory, U.S. Fish and Wildlife Service's (USFWS) Information for Planning and Conservation (iPaC) planning tool, and USFWS Critical Habitat Report was conducted for the Willow Springs quad and eight surrounding USGS 7.5 minute quadrangles (Tehachapi South, Monolith, Mojave, Tylerhorse Canyon, Soledad Mountain, Fairmont Butte, Little Buttes, and Rosamond). In addition, the following biological studies prepared for nearby projects were reviewed:

- Revised Biological Constraints Analysis of the SEK3 and SEK4 Study Areas: Eastern Kern Regional Landfill Siting Study (Fugro West, 1996).
- Biological Resources Technical Report for the Willow Springs Solar Array (Ironwood Consulting, 2011a).
- Biological Resources Technical Report for the Rosamond Solar Array (Ironwood Consulting, 2011b).
- General Habitat Assessment and Focused Desert Tortoise, Swainson's Hawk and Burrowing Owl Protocol Presence/Absence Surveys and Rare Plant Surveys for Proposed SEPV Mojave West Solar Array (Phoenix Biological Consulting, 2014).
- Biological Resources Assessment for the RE Garland LLC Solar Project (Rincon Consultants, 2014).
- Biological Resources Technical Report for the Valentine Solar Project (SWCA, 2015).
- Biological Resources Assessment for the RE Gaskell West Solar Project (Rincon Consultants, 2016).

2.2 FIELD METHODS

Reconnaissance-level biological surveys of the property were conducted by Padre biologists on April 12 and 13, and May 26, 2017 to determine the potential for special-status species to occur on the property. Biological field surveys consisted of walking transects of opportunity throughout the property. Wildlife and plants observations were recorded during these surveys, as well as signs of their presence (e.g., nests, burrows, scat, tracks, prey remains, etc.).

3.0 EXISTING BIOLOGICAL RESOURCES

3.1 VEGETATION

The property and surrounding areas are considered to be "Moderately Degraded and Highly Converted Areas" for the Desert Renewable Energy Conservation Plan (CEC et al., 2016). The vegetation of the property may be characterized as Creosote Bush Scrub – *Larrea tridentata* Shrubland Alliance based on the classification system provided in the Manual of California Vegetation (Sawyer et al., 2009). Common shrubs in this plant community include creosote bush (*Larrea tridentata*), white bur-sage (*Ambrosia dumosa)*, burro-brush (*Ambrosia salsola*), mormon tea (*Ephedra californica, E. nevadensis*), rayless goldenhead (*Acamptopappus sphaerocephalus*) and Joshua tree (*Yucca brevifolia*). The herb layer of this community is dominated by red brome (*Bromus rubens ssp. madritensis*), red-stemmed filaree (*Erodium cicutarium*), Mediterranean grass (*Schismus* ssp.), phacelia (*Phacelia tanacetifolia*) and California goldfields (*Lasthenia californica*).

3.2 BOTANICAL INVENTORY

Botanical surveys were conducted by Padre Associate's biologists at the property on April 12 and 13, and May 26, 2017 to develop a botanical inventory and identify special-status plant species that may be present. The botanical survey encompassed the flowering period for most special-status plant species known from the area. A total of 65 vascular plant species, including 57 native species (88 percent) were observed. Seven plant species listed as invasive by the California Invasive Plant Council occur on the property, including three species rated as highly invasive. A list of plants observed during the botanical surveys is provided as Attachment B.

3.3 SPECIAL-STATUS PLANT SPECIES

Special-status plant species are either listed as endangered or threatened under the Federal or California Endangered Species Acts, or rare under the California Native Plant Protection Act, or considered to be rare (but not formally listed) by resource agencies, professional organizations (CNPS) and the scientific community. For the purposes of this project, special-status plant species are defined in Table 1**.**

Table 1. Definitions of Special-Status Plant Species

- Plants listed or proposed for listing as threatened or endangered under the Federal Endangered Species Act (50 CFR 17.12 for listed plants and various notices in the Federal Register for proposed species).
- Plants that are candidates for possible future listing as threatened or endangered under the Federal Endangered Species Act (Federal Register, December 2, 2016).
- Plants that meet the definitions of rare or endangered species under the CEQA (*State CEQA Guidelines,* Section 15380).
- Plants considered by the CNPS to be "rare, threatened, or endangered" in California (Lists 1B and 2).
- Plants listed by CNPS as plants about which we need more information and plants of limited distribution (Lists 3 and 4).
- Plants listed or proposed for listing by the State of California as threatened or endangered under the California Endangered Species Act (14 California Code of Regulations [CCR] 670.5).
- Plants listed under the California Native Plant Protection Act (California Fish and Game Code 1900 *et seq*.).
- Plants considered sensitive by other Federal agencies (i.e. Bureau of Land Management, U.S. Forest Service), state and local agencies or jurisdictions.
- Plants on the Special Vascular Plants, Bryophytes, and Lichens List (California Department of Fish and Wildlife, Natural Diversity Database, April 2017).

Based on the results of the literature review as well as field surveys conducted for this BCA, fifteen special-status plant species have the potential to occur in the vicinity of the property. Table 2 lists these species, current regulatory status, typical habitat, blooming period and nearest known location relative to the property. Based on the findings of the botanical surveys conducted for this BCA, special-status plant species are considered absent from the property.

Table 2. Special-Status Plant Species with the Potential to Occur on the Property

Species	Status	Habitat	Blooming Period	Discussion
Astragalus hornii var. *hornii* Horn's milkvetch	CNPS 1B.1	Alkali playa, meadow and seep, wetland, lake margins, alkaline sites; 200-3000 feet elevation.	May-Oct	Historical record (1931) from Willow Springs area (CNNDB, 2017). Habitat absent, not observed during botanical surveys.
Calochortus striatus Alkali mariposa lily	CNPS 1B.2	Chaparral, chenopod scrub, Mojavean desert scrub, and meadows and seeps within alkaline or mesic soils; 230-5200 feet elevation.	April-June	Reported from 250 feet to the west (CNDDB, 2017). Habitat present, focused survey on May 26, 2017 did not find this species.
Camissonia kernensis ssp. *kernensis* Kern County evening-primrose	CNPS 4.3	Chaparral, Joshua tree woodland, and pinyon and juniper woodland within sandy or gravelly, granitic substrate; 2600-7000 feet elevation.	March-May	Known from the Tehachapi Mountains, 13 miles to the northwest. Habitat absent, not observed during botanical surveys.

Table 2. Special-Status Plant Species with the Potential to Occur on the Property

Species	Status	Habitat	Blooming Period	Discussion
Canbya candida White pygmy-poppy	CNPS 4.2	Gravelly, sandy, granitic soils in Joshua tree woodland, Mojavean desert scrub, pinyon and juniper woodland; 2000-4400 feet elevation.	March-June	Reported from the Rosamond quadrangle (CNPS, 2017). Habitat present, not observed during botanical surveys.
Chorizanthe spinosa Mojave spineflower	CNPS 4.2	Sometimes alkaline, chenopod scrub, Joshua tree woodland, Mojavean desert scrub; 2000-4300 feet elevation.	March-July	Reported from the Rosamond quadrangle (CNPS, 2017). Habitat present, not observed during botanical surveys.
Delphinium recurvatum Recurved larkspur	CNPS 1B.2	Chenopod scrub, valley and foothill grassland, cismontane woodland, poorly drained, fine, alkaline soils in grassland, *Atriplex* scrub; 100-2000 feet elevation.	March-June	Reported from 6.1 miles to the northeast (CNDDB, 2017). Habitat present, but property elevation too high, not observed during botanical surveys.
Eriastrum rosamondense Rosamond eriastrum	CNPS 1B.1	Alkaline hummocks, often sandy within chenopod openings and vernal pool edges; 2300 feet elevation.	April-July	Reported from 7.5 miles to the southeast (CNDDB, 2017). Habitat absent, property elevation too high, not observed during botanical surveys.
Goodmania luteola Golden goodmania	CNPS 4.	Mojavean desert scrub, meadow and seep, playa, and valley and foothill grassland; 65-7200 feet elevation.	April-Aug	Reported from the Rosamond quadrangle (CNPS, 2017). Habitat present, not observed during botanical surveys.
Layia heterotricha Pale-yellow layia	CNPS 1B.1	Cismontane woodland, coastal scrub, pinyon and juniper woodlands, valley and foothill grassland, alkaline or clay; 650-5900 feet elevation.	March-June	Reported from 12.9 miles to the north (CNDDB, 2017). Habitat absent, not observed during botanical surveys.
Loeflingia squarrosa var. *artemisiarum* Sagebrush loeflingia	CNPS 2B.2	Sandy, desert dunes, Great Basin scrub, and Sonoran desert scrub; 2300-5300 feet elevation.	April-May	Reported from 8.6 miles to the northeast (CNDDB, 2017). Habitat present, not observed during botanical surveys.
Monardella linoides ssp. *oblonga* Tehachapi monardella	CNPS 1B.3	Lower montane coniferous forest, pinyon and juniper woodland, and upper montane coniferous forest; 3000-8100 feet elevation.	June-Aug	Reported from 12.1 miles to the northwest (CNDDB, 2017). Habitat absent, elevation at property too low, not observed during botanical surveys.
Perideridia pringlei Adobe yampah	CNPS 4.3	Chaparral, cismontane woodland, coastal scrub, and pinyon and juniper woodland within serpentine or clay soils; 1000-5900 feet elevation.	April-July	Reported from the Willow Springs quadrangle (CNPS, 2017). Habitat absent, not observed during botanical surveys.
Saltugilia latimeri Latimer's woodland-gilia	CNPS 1B.2	Rocky or sandy, often granitic, sometimes washes within chaparral, Mojavean desert scrub, and pinyon and juniper woodland; 1300-6200 feet elevation.	March-June	Reported from the 8.9 miles to the northwest (CNDDB, 2017). Habitat present, not observed during botanical surveys.

Table 2. Special-Status Plant Species with the Potential to Occur on the Property

Species	Status	Habitat	Blooming Period	Discussion
Syntrichopappus lemmonii Lemmon's syntrichopappus	CNPS 4.3	Chaparral, Joshua tree woodland, pinyon and juniper woodland; 1600-6000 feet elevation.	April-May(June)	Reported from the Willow Springs quadrangle (CNPS, 2017). Habitat absent, not observed during botanical surveys.
Viola purpurea ssp. *aurea* Golden violet	CNPS 2B.2	Great Basin scrub and pinyon and juniper woodland; 3300-8200 feet elevation.	April-June	Reported from the Mojave Springs quadrangle (CNPS, 2017). Habitat absent, elevation at property too low, not observed during botanical surveys.

Listing Codes:
CNPS = California Rare Plant Society lists:
1B = Plants Rare or Endangered in California or Elsewhere
2B = Plants Rare, Threatened, or Endangered in California, but More Common Elsewhere
3 = Plants About Which We Need More Information – A Review List
4 = Plants of Limited Distribution (watch list)
0.1 = Seriously Threatened in California (over 80% of occurrences threatened / high degree and immediacy of threat)
0.2 = Fairly Threatened in California (20-80% occurrences threatened / moderate degree and immediacy of threat)
0.3 = Not very threatened in California (<20% of occurrences threatened/ low degree and immediacy of threat or no current threats known)

3.4 WILDLIFE

The wildlife habitat value of the property is considered moderate, because it is contiguous with open space and associated wildlife habitat to the north, south and west. Factors that reduce the habitat value of the property include relatively low habitat diversity, likely associated with historic grazing and nearby human developments.

3.4.1 Wildlife of the Property

Accurate assessment of wildlife populations would require extended periods of site research, trapping, and census taking. It is particularly difficult to detect nocturnal, rare or reclusive species to obtain accurate estimates of population size and geographical distribution. Other complications in the quantitative assessment of vertebrate (and invertebrate) populations include:

- Many species may occur in the area only for short periods during migrations;
- Many species of amphibians and reptiles become inactive during one or more seasons; and
- Seasonal or annual fluctuations in climate or weather patterns may confound observations.

Generalized wildlife surveys of the property was conducted on April 12 and 13, 2017. An inventory of wildlife detected at the project site is provided as Attachment C, and summarized in Table 3. Observed vertebrate species include those seen or detected by track, scat, burrows or voice during field surveys conducted for this project. Vertebrate taxa expected for the area are based on sight records from other environmental documents and range maps.

Table 3. Summary of Wildlife Survey Results

Taxonomic Group	Number of Species Detected
Fish	0
Amphibians	0
Reptiles	2
Birds	14
Mammals	5

Reptiles or amphibians observed during the field surveys were limited to side-blotched lizard and Great Basin whiptail. Other reptiles reported from within 10 miles of the property include zebra-tailed lizard, desert collared lizard, desert spiny lizard, long-nosed leopard lizard, desert horned lizard, Great Basin gopher snake, sidewinder and Mojave rattlesnake (Fugro West 1996, Rincon Consultants 2014, Ironwood Consulting 2011a & 2011b).

Birds observed at the property included common raven, ash-throated flycatcher, European starling, Mohave horned lark, loggerhead shrike, northern mockingbird, Le Conte's thrasher, phainopepla, rock wren, Say's phoebe, western meadowlark, lark sparrow, white-crowned sparrow and Bell's sage sparrow.

Mammals observed during the field surveys included coyote, white-tailed antelope squirrel, desert woodrat, desert black-tailed jackrabbit and kangaroo rat (dust bath, likely Panamint or Merriam's). Other mammals reported from within 10 miles of the property include Botta's pocket gopher, California ground squirrel, desert cottontail, long-tailed pocket mouse, desert kit fox and bobcat (Fugro West 1996, Rincon Consultants 2014, Ironwood Consulting 2011a & 2011b, Padre Associates 2017).

3.4.2 Wildlife Corridors

Wildlife migration corridors are generally defined as connections between habitat patches that allow for physical and genetic exchange between otherwise isolated animal populations. Migration corridors may be local such as between foraging and nesting or denning areas, or they may be regional in nature. Migration corridors are not unidirectional access routes; however, reference is usually made to source and receiver areas in discussions of wildlife movement networks. "Habitat linkages" are migration corridors that contain contiguous strips of native vegetation between source and receiver areas. Habitat linkages provide cover and forage sufficient for temporary inhabitation by a variety of ground-dwelling animal species. Wildlife migration corridors are essential to the regional ecology of an area as they provide avenues of genetic exchange and allow animals to access alternative territories as fluctuating dispersal pressures dictate.

The property is located within the western Mojave Desert region and contains relatively undisturbed wildlife habitat. The property is mostly surrounded by open space areas where local wildlife movement likely occurs between the undeveloped open expanses that contain natural habitat. However, given the extent of open space in the surrounding area, the property does not appear to concentrate wildlife movement through a narrow corridor that links large areas of undeveloped open space on a local or regional basis. The property does not occur within a wildlife connectivity area as identified by the California Essential Habitat Connectivity Project (Spencer et al., 2010). The California Essential Habitat Connectivity Project identifies connectivity areas in the vicinity of these sites within the Tehachapi Mountains and areas identified as natural landscape blocks near the Barstow area east of the property. Although the property contains natural blocks of habitat, it does not occur in areas where wildlife corridors have been identified.

3.4.3 Critical Habitat

A review of the USFWS Critical Habitat Report determined that no critical habitat exists within the property. The nearest USFWS Critical Habitat occurs 15 miles to the west (California condor) and 23 miles to the east-southeast (desert tortoise).

3.5 SPECIAL-STATUS WILDLIFE SPECIES

A variety of special-status species have potential to occur within or near the property. The definitions of special-status wildlife species used in this BCA are listed in Table 4. The potential for these species to occur in the vicinity of the property was determined by literature review, on-site habitat assessment and range maps. Table 5 lists special-status wildlife species that have been reported within about 10 miles of the property, focusing on those with the potential to occur on the property for at least a portion of their life cycle.

Table 4. Definitions of Special-Status Wildlife Species

- Animals listed or proposed for listing as threatened or endangered under the Federal Endangered Species Act (50 CFR 17.11 for listed animals and various notices in the Federal Register for proposed species).
- Animals that are candidates for possible future listing as threatened or endangered under the Federal Endangered Species Act (Federal Register December 2, 2016).
- Animals that meet the definitions of rare or endangered species under the CEQA Guidelines (Section 15380).
- Animals listed or proposed for listing by the State of California as threatened and endangered under the California Endangered Species Act (14 CCR 670.5).
- Animal species of special concern to the CDFG.
- Animal species that are fully protected in California (California Fish and Game Code, Section 3511 [birds], 4700 [mammals], and 5050 [reptiles and amphibians]).

Table 5. Special-Status Wildlife Species with the Potential to Occur at the Property

Species	Status	Habitat	Discussion
Anniella pulchra pulchra Silvery legless lizard	CSC	Chaparral, coastal dunes, coastal scrub, pinon-juniper woodland. Soil moisture is essential. They prefer soils with a high moisture content. Sandy or loose loamy soils under sparse vegetation.	Reported from 7.6 miles to the northwest (Phoenix Biological Consulting, 2014). Habitat absent, low potential to occur.
Gopherus agassizii Desert tortoise	FE, SE	Joshua tree woodland, Mojavean desert scrub, and Sonoran desert scrub; most common in desert scrub, desert wash, and Joshua tree habitats; occurs in almost every desert habitat. Require friable soil for burrow and nest construction. Creosote bush habitat with large annual wildflower blooms preferred.	Reported crossing Tehachapi-Willow Springs Road in 2006, 3.0 miles to the northwest (CNDDB, 2017). Habitat present, burrows or other sign not observed during field surveys. Not reported in the area during protocol surveys for other nearby projects. Low potential to occur.
Agelaius tricolor Tricolored blackbird	CSC, CSE, MBTA	Highly colonial species, most numerous in Central Valley and vicinity. Requires open water, protected nesting substrate and foraging area with insect prey within a few km of the colony. Forages in agricultural fields and grassland habitat.	Reported nesting 5.9 miles to the southeast (CNDDB, 2017). Nesting habitat absent, not expected to occur.
Aquila chrysaetos Golden eagle	FP, WL, MBTA	Broadleaved upland forest, cismontane woodland, coastal prairie, Great Basin grassland, Lower Montane coniferous forest, Pinon and juniper woodlands, and valley and foothill grassland. Rolling foothills, mountain areas, sage-juniper flats, and desert. Nests in large trees in open areas or canyons.	Nest site reported 6.5 miles to the northeast, reported wintering 0.9 miles to the west (CNDDB, 2017). Could forage on the property, but nesting habitat is absent. Low potential to occur.

Table 5. Special-Status Wildlife Species with the Potential to Occur at the Property

Species	Status	Habitat	Discussion
Asio flammeus Short-eared owl	CSC, MBTA	Great Basin grassland, marsh and swamp, meadow and seep, valley and foothill grassland, and wetland. Found in swamp lands, both fresh and salt; lowland meadows; irrigated alfalfa fields; tule patches/tall grass needed for nesting/daytime seclusion; valley and foothill grassland, wetland.	Reported 9 miles to the northwest (Fugro West, 1996). Nesting habitat absent, not expected to occur.
Asio otus Long-eared owl	CSC, MBTA	Cismontane woodland, Great Basin scrub, riparian forest, riparian woodland, and upper montane coniferous forest. Riparian bottomlands grown to tall willows and cottonwoods; also, belts of live oak paralleling stream courses. Require adjacent open land productive of mice and the presence of old nests of crows, hawks, or magpies for breeding.	Reported from the Apollo Community Regional Park, 11.0. miles to the south-southeast. Nesting habitat absent, not expected to occur.
Athene cunicularia Burrowing owl	CSC, MBTA	Coastal scrub, Great Basin grassland, Great Basin scrub, Mojavean desert scrub, Sonoran desert shrub, and valley and foothill grassland. Open dry annual or perennial grasslands, deserts and scrublands characterized by low-growing vegetation in areas where fossorial mammals are already present. Subterranean nester, dependent upon burrowing mammals, most notably, the California ground squirrel.	Reported from near the Willow Springs Raceway, 1.4 miles to the south (CNDDB, 2017). Burrows not observed during field surveys, but the species is common in the area and may occur at the property.
Buteo regalis Ferruginous hawk	WL, MBTA	Great Basin grassland, Great Basin scrub, pinon and juniper woodland, valley and foothill grassland. Generally, found in open grasslands, sagebrush flats, desert scrub, low foothills and fringes of pinyon and juniper habitats.	Reported wintering 0.9 miles to the west (CNDDB, 2017). Not observed during field surveys, but could forage on the property.
Buteo swainsoni Swainson's hawk	ST, BCC, MBTA	Great Basin grassland, riparian forest, riparian woodland, valley and foothill grassland. Breeds in grasslands with scattered trees, juniper-sage flats, riparian areas, savannahs, and agricultural or ranch lands with groves or lines of trees. Requires adjacent suitable foraging areas such as grasslands, or alfalfa or grain fields supporting rodent populations.	Reported nesting 3.8 miles to the northwest (CNDDB, 2017). Suitable trees for nesting are absent, but the species could forage at the property.
Accipiter cooperii Cooper's hawk	WL	Woodlands, typically associated with drainages	Reported from 4.1 miles to the southwest (Ironwood Consulting, 2011a). Suitable habitat is absent, not expected to occur at the property.
Charadrius alexandrinus nivosus Western snowy plover (interior population)*	CSC, MBTA	Great Basin standing waters, sand shore, and wetland. Sandy beaches, salt pond levees and shores of large alkali lakes. Needs sandy, gravelly or friable soils for nesting.	Reported possible nesting at Rosamond Lake, 9 miles to the southeast (CNDDB, 2017). Suitable habitat is absent, not expected to occur at the property.
Charadrius montanus Mountain plover	CSC, MBTA	Chenopod scrub and valley and foothill grassland. Short grasslands, freshly plowed fields, newly sprouting grain fields, and sometimes sod farms. Short vegetation, bare ground and flat topography. Prefers grazed areas and areas with burrowing rodents.	Reported wintering 5.0 miles to the southwest (CNDDB, 2017). Suitable habitat is absent, not expected to occur at the property.

Table 5. Special-Status Wildlife Species with the Potential to Occur at the Property

Species	Status	Habitat	Discussion
Elanus leucurus White-tailed kite	FP, MBTA	Open savanna, open woodlands, marshes, desert grassland, cultivated fields, and grazed fields.	Reported from Piute ponds 10.3 miles to the southeast. Suitable habitat is absent, not expected to occur at the property.
Falco columbarius Merlin	WL, MBTA	Estuary, Great Basin grassland, valley and foothill grassland; generally within seacoast, tidal estuaries, open woodlands, savannahs, edges of grasslands and deserts, farms and ranches; occurs within clumps of trees or windbreaks required for roosting in open country.	Reported wintering 6.6 miles to the northwest (CNDDB, 2017). Suitable roosting habitat is absent, not expected to occur at the property.
Falco mexicanus Prairie falcon	WL, MBTA	Great Basin grassland, Great Basin scrub, Mojavean desert scrub, Sonoran desert scrub, and valley and foothill grassland. Inhabits dry, open terrain, whether level or hilly. Breeding sites located on cliffs, forages far afield, even to marshlands and ocean shores.	Reported 8.6 miles to the northwest (Phoenix Biological Consulting, 2014). Suitable nesting habitat is absent, but could forage at the property.
Gymnogyps californianus California condor	FE, SE, FP, MBTA	Requires large areas of remote country for foraging, roosting, and nesting. Roosts on large trees or snags, or on isolated rocky outcrops and cliffs. Forages in open grasslands and oak savanna foothills.	Known to forage in the Tehachapi Mountains, 20 miles to the northwest. Unlikely, but could forage at the property.
Lanius ludovicianus Loggerhead shrike	CSC, MBTA	Broken woodlands, savannah, pinyon-juniper, Joshua tree, riparian woodlands, desert oases, scrub and washes; prefers open country for hunting, with perches for scanning, and fairly dense shrubs and brush for nesting.	Observed during field surveys, may nest on the property.
Plegadis chihi White-faced ibis	WL, MBTA	Shallow freshwater marsh. Dense tule thickets for nesting interspersed with areas of shallow water for foraging.	Reported from Piute ponds 10.7 miles to the southeast (CNDDB, 2017). Suitable habitat is absent, not expected to occur at the property.
Toxostoma lecontei Le Conte's thrasher	CSC, MBTA	Desert resident; primarily of open desert wash, desert scrub, alkali desert scrub, and desert succulent scrub habitats. Commonly nests in dense, spiny shrub or densely branched cactus in desert wash habitat, usually two to eight feet above the ground.	Observed during field surveys, may nest on the property.
Corynorhinus townsendii Townsend's big-eared bat	CSC, WBWG-H	Throughout California in a wide variety of habitats and Valley and foothill grassland, most common in mesic sites. Roosts in caves, mines and buildings, hanging from walls and ceilings. Roosting sites limiting, extremely sensitive to human disturbance.	Reported from Soledad Mountain 6.4 miles to the northeast (CNDDB, 2017). The rocky butte on the property does not provide roosting habitat, unlikely to occur at the property.
Onychomys torridus tularensis Tulare grasshopper mouse	CSC	Hot, arid valleys and scrub deserts in the southern San Joaquin Valley, into the Tehachapi Mountains and the western margin of the Tulare Basin. Typical habitat is chenopod scrub.	Reported from 7.3 miles to the west-northwest (CNDDB 2017). The property is located outside the known distribution (Tehachapi Mountains, San Joaquin Valley), not expected to occur.

Table 5. Special-Status Wildlife Species with the Potential to Occur at the Property

Species	Status	Habitat	Discussion
Perognathus alticolus inexpectatus Tehachapi pocket mouse	CSC	Chaparral, Joshua tree woodland, and valley and foothill grassland; generally, within arid annual grassland and desert shrub communities, but also taken in fallow grain field and in Russian thistle. Burrows for cover and nesting. Aestivates and hibernates during extreme weather. Forages on open ground and under shrubs.	Reported from 5.7 miles to the northwest (CNDDB 2017). The property is located outside the known distribution (Tehachapi Mountains, Mount Pinos), not expected to occur.
Taxidea taxus American badger	CSC	Found in numerous habitats. Generally, within dry, open stages of most shrub, forest, and herbaceous habitats with friable soils.	Historic (1930) record from the Willow Springs area (CNDDB 2017). Habitat present, but burrows or other sign was not observed during field surveys, unlikely to occur at the property.
Xerospermophilus mohavensis Mohave ground squirrel	ST	Chenopod scrub, Joshua tree woodland, Mojavean desert scrub; open desert scrub, alkali scrub, Joshua tree woodland and annual grasslands. Restricted to the Mojave Desert; prefers sandy to gravelly soils, avoids rocky areas. Uses burrows at base of shrubs for cover. Nests are in burrows.	Historic (1973) record from Rosamond, 5.9 miles to the southeast (CNDDB 2017). Nearest recent record is 17 miles to the north-northeast (Leitner, 2008). Very unlikely to occur at the property.

Listing Codes:
CSC= California Species of Special Concern (CDFW)
CSE = Candidate State Endangered (CDFW)
FD = Federally Delisted (USFWS)
FE = Federally listed Endangered (USFWS)
FP = Fully protected under Fish and Game Code (CDFW)
FT = Federally listed Threatened (USFWS)
MBTA = Migratory Bird Treaty Act (USFWS)
SE = State listed Endangered (CDFW)
ST = State listed Threatened (CDFW)
WL = State Watch List (CDFW)
WBWG-H = Western Bat Working Group; highest priority
*western snowy plover's federal listing applies only to the Pacific coastal population; CSC designation refers to both the coastal and interior populations

3.6 DRAINAGES

The property includes portions of three interconnecting drainage features (see Figure 2). The two western drainage features join on the property and extend to the south, then east of Willow Springs Butte, terminating just south of Irone Avenue, a total of about 2.0 stream miles south of the property. At this point, the channel becomes indistinct and local topography indicates surface water percolates and dissipates prior to reaching Rosamond Boulevard. The eastern drainage feature extends southeast through the property, crosses under Mojave-Tropic Road and terminates near the Irone Avenue/45th Street West intersection, a total of about 3.2 stream miles from the property. At this point, the channel becomes indistinct and local topography indicates surface water percolates and dissipates prior to crossing Irone Avenue.

The Flood Insurance Rate Map (no. 06029C3650E) indicates that most of the property (north of the butte) is located in a Special Flood Hazard Area and subject to inundation by a 1% annual chance flood event.

3.6.1 California Department of Fish and Wildlife

CDFW has jurisdiction over lakes and streambeds under Section 1602 of the California Fish and Game Code, which regulates activities that would divert or obstruct the natural flow or substantially change the bed, channel, or bank of any river, stream, or lake. CDFW jurisdiction under Section 1602 within streams includes the area within the stream banks and riparian vegetation associated with the stream. The drainage features mostly exhibit a defined bed and bank and have been mapped as a stream on the Willow Springs 7.5' quadrangle map produced by the U.S. Geologic Survey. Therefore, CDFW is expected to take jurisdiction over the drainage features on the property, and a streambed alteration agreement would be required to fill or otherwise disturb these drainage features as required to install photo-voltaic solar panels and access roads.

3.6.2 Corps of Engineers

The U.S. Army Corps of Engineers (Corps) is responsible for the issuance of permits for the placement of dredged or fill material into waters of the United States (waters) pursuant to Section 404 of the Clean Water Act (33 USC 1344). Section 404 of the Federal Clean Water Act of 1972 requires a permit for dredge/fill activities within waters of the U.S. As defined in the Code of Federal Regulations (33 CFR 328.3(a)(3)), "waters of the United States" are those that 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; tributaries and impoundments to such waters; all interstate waters including interstate wetlands; and territorial seas.

Recent Supreme Court decisions (*Rapanos* and *Carabell*) have modified the requirements and process to establish jurisdiction under the Clean Water Act. Based on these court decisions, a water body must meet at least one of the following two standards; 1) the water body must be "relatively permanent" (flows at least 3 months per year); and 2) must have a "significant nexus" with traditional navigable waters (TNW). Significant nexus means the effect of the water body on the chemical, physical and biological integrity of the TNW must be significant (not speculative or insubstantial).

The drainage features on the property are not relatively permanent as they flows very briefly during extreme storm events, and have no connection to a TNW. Surface water in these drainage features percolates soon after leaving the property and does not connect to any waterbody. Historically, extreme flood events may have generated flow into Rosamond Lake, which is a closed basin. Therefore, this these drainage features are not considered waters of the U.S. and not subject to regulation by the Corps.

4.0 POTENTIAL IMPACTS

4.1 HABITAT DISTURBANCE

Development of the property as a solar array would involve grading of most of the property to provide building pads, internal roadways and electrical lines. This ground disturbance would result in the loss or fragmentation of habitat that supports or has the potential to support special-status wildlife species.

4.2 SPECIAL-STATUS PLANT SPECIES

Special-status plant species were not observed during spring botanical surveys conducted for this BCA. We feel these surveys are adequate to demonstrate absence of special-status plant species from the property. However, additional botanical surveys may be required, especially if environmental impact analysis associated with approval of the solar project is not initiated in the next two years.

4.3 SPECIAL-STATUS WILDLIFE SPECIES

Impacts to wildlife species may include direct mortality from construction-related heavy equipment and motor vehicle activity, harassment due to increased levels of disturbance during construction, potential mortality from long-term increases in vehicle traffic on the property and area roads, and permanent loss of habitat.

4.3.1 Desert Tortoise

No evidence of this species (live animals, skeletal remains, burrows, tracks, scat) was observed during field surveys conducted at the property. However, the survey intensity did not meet the 10 meter transect spacing of the USFWS survey protocol. Desert tortoise was not found during protocol surveys conducted for other solar projects in the area, including;

- Valentine Solar Project, 7.3 miles to the west (SWCA, 2015).
- SEPV Mojave Solar Project, 7.5 miles to the northwest (Phoenix Biological Consulting, 2014).
- Willow Springs Solar Array: 4.2 miles to the southwest (Ironwood Consulting, 2011a).
- Rosamond Solar Array: 5.1 miles to the southwest (Ironwood Consulting, 2011b).
- RE Garland LLC Solar Project: 14.2 miles to the west-southwest (Rincon Consultants, 2014).

It is anticipated that desert tortoise surveys will be required as part of environmental review of the Favorito Avenue Solar Array Project, to verify take of this endangered species would not occur. Desert tortoise survey protocols should be based on the procedures and recommendations presented in the USFWS' Desert Tortoise (Mojave Population) Field Manual (USFWS, 2009).

4.3.2 Burrowing Owl

No evidence of this species (live animals, burrows, scat) was observed during field surveys conducted at the property. However, focused surveys were not conducted. Burrowing owl has been reported from several sites in the vicinity of the property, and may occur here. It is recommended burrowing owl surveys be completed according to CDFW and/or California Burrowing Owl Consortium guidelines to avoid potential development restrictions. If present, mitigation may include avoidance during construction, passive re-location of owls and contribution to off-site habitat conservation efforts.

4.3.3 Swainson's Hawk

Trees suitable for nesting are absent from the property, as on-site Joshua trees are poorly developed (less than 10 feet tall, with little branching). Landscaping trees located at nearby residential developments are likely poor quality nesting habitat due to adjacent human and pet activity. However, Swanson's hawk surveys may be required to identify nest sites, which includes surveying a five mile buffer surrounding the property as per CEC and CDFW (2010).

4.3.4 California Condor

No California condors were observed during the biological surveys. The nearest known occurrence has been reported approximately 19 miles northwest in the Tehachapi Mountains (CNDDB 2017). Although the property could potentially be used for foraging habitat by California condors, it is not known to provide nesting or roosting habitat for this species. Due to the low potential for California condor to be present, proposed development would not adversely affect this species.

4.3.5 Loggerhead Shrike and Le Conte's Thrasher

These species was observed at the property during the field surveys. We recommend additional surveys be conducted to determine if loggerhead shrike and/or Le Conte's thrasher nests at the property, to fully identify any development restrictions.

4.3.6 Mohave Ground Squirrel

This species was not observed during field surveys of the property, which is located outside the historic distribution of the Mohave ground squirrel. Based on a review of the results of 1,140 trapping sessions from 1998 to 2007, the nearest location is 17 miles to the northeast (Leitner, 2008). In addition, Mohave ground squirrel was not found during protocol trapping efforts conducted for other solar projects in the area, including;

- SEPV Mojave Solar Project, 7.5 miles to the northwest (Phoenix Biological Consulting, 2014).
- Willow Springs Solar Array: 4.2 miles to the southwest (Ironwood Consulting, 2011a).
- Rosamond Solar Array: 5.1 miles to the southwest (Ironwood Consulting, 2011b).

Therefore, Mohave ground squirrel is considered absent from the property.

5.0 POTENTIAL MITIGATION MEASURES TO BE REQUIRED BY KERN COUNTY

The following is a list of mitigation measures likely to be required by Kern County based on the Draft EIR dated March 2016 for the Valentine Solar Project located approximately 7.3 miles west of the property.

Biological Monitoring. Prior to the issuance of grading or building permits, the project proponent shall retain a Lead Biologist who meets the qualifications of an Authorized Biologist as defined by U.S. Fish and Wildlife Service (USFWS) to oversee compliance with protection measures for all listed and other special-status species. The Lead Biologist shall be on the project site during construction of perimeter fencing and grading activities throughout the construction phase. The Lead Biologist shall have the right to halt all activities that are in violation of the special-status species protection measures. Work shall proceed only after hazards to special-status species are removed and the species is no longer at risk. The Lead Biologist shall have in her/his possession a copy of all the compliance measures while work is being conducted on the project site.

Construction Worker Environmental Awareness Training and Education Program. Prior to the issuance of grading or building permits and for the duration of construction activities, within one week of employment all new construction workers at the project site, laydown area and/or transmission routes shall attend an Environmental Awareness Training and Education Program, developed and presented by the Lead Biologist. Any employee responsible for the operations and maintenance or decommissioning of the project facilities shall also attend the Environmental Awareness Training and Education Program.

Avoidance and Protection of Biological Resources. During construction, the project proponent shall implement the following general avoidance and protective measures:

a) All proposed impact areas, including staging areas, access routes, and disposal or temporary placement of spoils, shall be delineated with stakes and/or flagging prior to construction to avoid natural resources where possible. Construction-related activities outside of the impact zone shall be avoided.

b) The project proponent shall limit the areas of disturbance to the extent feasible. Parking areas, new roads, staging, storage, excavation, and disposal site locations shall be confined to the smallest areas possible. These areas shall be flagged and disturbance activities, vehicles, and equipment shall be confined to these flagged areas.

c) Spoils shall be stockpiled in disturbed areas that lack native vegetation. Best Management Practices shall be employed to prevent erosion in accordance with the project's approved Stormwater Pollution Prevention Plan (SWPPP). All detected erosion shall be remedied within two days of discovery or as described in the SWPPP.

d) To prevent inadvertent entrapment of desert kit foxes, American badgers, or other wildlife during construction, all excavated, steep-walled holes or trenches more than two feet deep shall be covered with plywood or similar materials at the close of each working day, or provided with one or more escape ramps constructed of earth fill or wooden planks. All holes and trenches, whether covered or not, shall be inspected for trapped wildlife at the start and end of each workday. Before such holes or trenches are filled, they shall be thoroughly inspected by the Lead Biologist or approved biological monitor for trapped wildlife. If trapped animals are observed, escape ramps or structures shall be installed immediately to allow escape. If a listed species is found trapped, all work shall cease immediately. If the animal is apparently uninjured, then the Lead Biologist shall directly supervise the provision of escape structures and/or trench modification to allow the trapped animal to escape safely. Work shall not resume in the vicinity of the animal, and it shall be allowed to leave the work area and project site on its own. If the listed animal is injured, then the Lead Biologist or approved biological monitor shall immediately contact the U.S. Fish and Wildlife Service and/or California Department of Fish and Wildlife to identify an individual with the appropriate permit or authorization to handle listed species, who shall bring the animal to a pre-identified wildlife rehabilitation or veterinary facility for care.

e) All towers shall be of the monopole variety and all hollow vertical structures, such as solar mount poles, or fencing poles, shall be capped immediately after installation to prevent bird entrapment. All construction pipes, culverts, or similar structures with a diameter of four inches or more that are stored at a construction site for one or more overnight periods shall be thoroughly inspected for special-status wildlife or nesting birds before the pipe is subsequently buried, capped, or otherwise used or moved in any way. If an animal is discovered inside a pipe, that section of pipe shall not be moved until the Lead Biologist has been consulted and the animal has either moved from the structure on its own accord (for listed species) or until the animal has been captured and relocated (for non-listed species) by the Lead Biologist. If the animal is a listed species, then work shall immediately halt in the vicinity, and the animal shall be allowed to move from the structure and the work area of its own accord. The Lead Biologist will direct work stoppages near the animal to allow it to freely move out of the pipe and away from the work area. Listed species shall not be handled or captured by anyone without the appropriate permit or authorization.

f) No vehicle or equipment parked on the project site shall be moved prior to inspecting the ground beneath the vehicle or equipment for the presence of wildlife. If present, the animal shall be left to move on its own.

g) Vehicular traffic to and from the project site shall use existing routes of travel. Cross country vehicle and equipment use outside designated work areas shall be prohibited.

h) A speed limit of 15 miles per hour shall be enforced within the limits of the proposed project.

i) A long-term trash abatement program shall be established for construction, operations and maintenance, and decommissioning. Trash and food items shall be contained in closed containers and removed daily to reduce the attractiveness to opportunistic predators such as common ravens, coyotes, and feral dogs.

j) Workers shall be prohibited from bringing pets and firearms to the project area and from feeding wildlife.

k) Intentional killing or collection of any plant or wildlife species shall be prohibited.

l) To enable kit foxes and other wildlife (e.g., American badger) to pass through the project site after construction, the security fence, and any permanent interior fencing shall be a wildlife friendly design that meets the goals of allowing wildlife to move freely through the project site during operation, leaving 4-to 7-inch openings or portals in the fence or the fence shall be raised 7 inches above the ground leaving a gap between the fence mesh and the ground. In the latter case the bottom of the fence fabric shall be knuckled (wrapped back to form a smooth edge) to protect wildlife that passes under the fence.

Preconstruction Clearance Surveys. The Lead Biologist or approved biological monitor shall monitor all initial ground-disturbance activities and remain on-call throughout construction in the event a special-status species wanders into the project site.

Preconstruction surveys for special-status species shall be conducted within the project boundaries by the Lead Biologist or approved biological monitor within 14 days of the start of any vegetation clearing or grading activities. Methodology for preconstruction surveys shall be appropriate for each potentially occurring species-status species and shall follow U.S. Fish and Wildlife Service and/or California Department of Fish and Wildlife preconstruction survey guidelines where appropriate. Surveys need not be conducted for all areas of suitable habitat at one time; they may be phased so that surveys occur within 14 days of the portion of the project site being disturbed. The Lead Biologist may use a variety of approaches (including but not limited to monitoring, track plates, and direct observation) and evidence (including burrow characteristics and presence of sign such as scat and tracks) to determine burrow activity. If any evidence of occupation of the project site special-status species is observed, a buffer shall be established by a qualified biologist that results in sufficient avoidance, as described below.

If desert tortoise are found on-site during subsequent surveys or biological monitoring activities, construction activities shall cease to avoid the potential for take and consultation with U.S. Fish and Wildlife Service and California Department of Fish and Wildlife shall be initiated to obtain the necessary incidental take permit authorizations or provide evidence such a permit is not required.

Preconstruction surveys shall be conducted by a qualified biologist for the presence of American badger or desert kit fox dens within 14 days prior to commencement of construction activities. The surveys shall be conducted in areas of suitable habitat for American badger and desert kit fox, which includes desert scrub habitats. Surveys need not be conducted for all areas of suitable habitat at one time; they may be phased so that surveys occur within 14 days prior to that portion of the project site disturbed. If potential dens are observed and avoidance is feasible, the following buffer distances shall be established prior to construction activities:

- Desert kit fox or American badger potential den: 50 feet.
- Desert kit fox or American badger active den: 100 feet.
- Desert kit fox or American badger natal den: 500 feet.

If avoidance of the potential dens is not possible, the following measures are required to avoid potential adverse effects to the American badger and desert kit fox: If the qualified biologist determines that potential dens are inactive, the biologist shall excavate these dens by hand with a shovel to prevent American badgers or desert kit foxes from re-using them during construction. If the qualified biologist determines that potential dens may be active, an on-site passive relocation program shall be implemented. This program shall consist of excluding American badgers or desert kit foxes from occupied burrows by installation of one-way doors at burrow entrances, monitoring of the burrow for seven days to confirm usage has been discontinued, and excavation and collapse of the burrow to prevent reoccupation. After the qualified biologist determines that American badgers or desert kit foxes have stopped using the dens within the project boundary, the dens shall be hand-excavated with a shovel to prevent re-use during construction.

During fencing and grading activities daily monitoring reports shall be prepared by the monitoring biologists. The Lead Biologist shall prepare a summary monitoring report documenting the effectiveness and practicality of the protection measures that are in place and making recommendations for modifying the measures to enhance species protection, as needed. The report shall also provide information on the overall activities conducted related to biological resources, including the Environmental Awareness Training and Education Program, clearance/pre-activity surveys, monitoring activities, and any observed special-status species, including injuries and fatalities. These monitoring reports shall be submitted to the Kern County Planning and Community Development Department and relevant resource agencies, as applicable, on a monthly basis along with copies of all survey reports.

Preconstruction Desert Tortoise Surveys. Within 14 days prior to the commencement of any ground-disturbing activities the project proponent shall conduct preconstruction surveys for desert tortoise within the project area. The surveys shall be conducted in accordance with the U.S. Fish and Wildlife Service protocol (2010). If no burrows or tortoises are discovered during preconstruction surveys, no further mitigation is necessary. The desert tortoise is a federally and state threatened species and consequently, impacts that would cause "take" of the species would require the issuance of Incidental Take Permits from both the U.S. Fish and Wildlife Service and California Department of Fish and Wildlife to comply with the Federal Endangered Species Act and California Endangered Species Act. If burrows or tortoises are identified on the project site during preconstruction surveys, the project proponent shall be required to consult with U.S. Fish and Wildlife Service and California Department of Fish and Wildlife regarding take coverage, and adhere to the following minimum conditions:

a) Develop a plan for desert tortoise translocation and monitoring prior to project construction. Mitigation for permanent loss of occupied desert tortoise habitat shall be mitigated at a 1:1 ratio to reduce potential effects to less-than-significant levels. Mitigation can be achieved through purchase of credit from an existing mitigation bank, such as the Desert Tortoise Natural Area, private purchase of mitigation lands, or on-site preservation, as approved by the resource agencies.

b). A Raven Management Plan shall be developed for the project site.

Preconstruction Burrowing Owl Surveys. A qualified wildlife biologist (i.e., a wildlife biologist with previous burrowing owl survey experience) shall conduct preconstruction surveys of the permanent and temporary impact areas to locate active breeding or wintering burrowing owl burrows no fewer than 14 days prior to ground-disturbing activities (i.e., vegetation clearance, grading, tilling). The survey methodology shall be consistent with the methods outlined in the 2012 California Department of Fish and Wildlife Staff Report on Burrowing Owl Mitigation and shall consist of walking parallel transects 7 to 20 meters apart, adjusting for vegetation height and density as needed, and noting any potential burrows with fresh burrowing owl sign or presence of burrowing owls. Surveys may be conducted concurrently with desert tortoise preconstruction surveys. As each burrow is investigated, surveying biologists shall also look for signs of American badger and desert kit fox. Copies of the survey results shall be submitted to California Department of Fish and Wildlife and the Kern County Planning and Community Development Department.

If burrowing owls are detected on-site, no ground-disturbing activities shall be permitted within a buffer of no fewer than 100 meters (330 feet) from an active burrow during the breeding season (i.e., February 1 to August 31), unless otherwise authorized by California Department of Fish and Wildlife. During the non-breeding (winter) season (i.e., September 1 to January 31), ground-disturbing work can proceed as long as the work occurs no closer than 50 meters (165 feet) from the burrow. Depending on the level of disturbance, a smaller buffer may be established in consultation with California Department of Fish and Wildlife.

If burrow avoidance is infeasible during the non-breeding season or during the breeding season (February 1 through August 31) where resident owls have not yet begun egg laying or incubation, or where the juveniles are foraging independently and capable of independent survival, a qualified biologist shall implement a passive relocation program in accordance with Appendix E1 (i.e., Example Components for Burrowing Owl Artificial Burrow and Exclusion Plans) of the 2012 California Department of Fish and Wildlife Staff Report on Burrowing Owl Mitigation.

If passive relocation is required, a qualified biologist shall prepare a Burrowing Owl Exclusion and Mitigation Plan and a Mitigation Land Management Plan in, accordance with the 2012 California Department of Fish and Wildlife Staff Report on Burrowing Owl Mitigation, for review by California Department of Fish and Wildlife prior to passive relocation activities. The Mitigation Land Management Plan shall include a requirement for the permanent conservation of offsite Burrowing Owl Passive Relocation Compensatory Mitigation.

Nesting Birds and Raptors. If construction is scheduled to commence during the non-nesting season (i.e., September 1 to January 31), no preconstruction surveys or additional measures are required. To avoid impacts to nesting birds in the project area, a qualified wildlife biologist shall conduct preconstruction surveys of all potential nesting habitat within the project site for construction activities that are initiated during the breeding season (i.e., February 1 to August 31). The raptor survey shall focus on potential nest sites (e.g. cliffs, large trees, windrows) within a 0.5-mile buffer around the project site. Surveys shall be conducted no more than 14 days prior to construction activities. Surveys need not be conducted for the entire project site at one time; they may be phased so that surveys occur shortly before a portion of the project site is disturbed. The surveying biologist must be qualified to determine the status and stage of nesting by migratory birds and all locally breeding raptor species without causing intrusive disturbance. If active nests are found, a suitable buffer (e.g. 200-300 feet for common raptors; 0.5 mile for Swainson's hawk; 30-50 feet for passerine species) shall be established around active nests and no construction within the buffer allowed until a qualified biologist has determined that the nest is no longer active (e.g. the nestlings have fledged and are no longer reliant on the nest). For non-listed species, encroachment into the avoidance buffer may occur at the discretion of a qualified biologist; however, for State-listed species, consultation with CDFW shall occur prior to encroachment into the aforementioned buffers.

6.0 REFERENCES

Baldwin, B.G., D. Goldman, D. Keil, R. Patterson, T. Rosatti and D. Wilken (eds.) 2012. *The Jepson Manual: Vascular Plants of California, Second Edition*. University of California Press; Berkeley, CA.

Brylski, P., P. Collins, E. Pierson, W. Rainey and T. Kucera 1998. *Draft Terrestrial Mammal Species of Special Concern in California*. Prepared for the California Department of Fish and Game.

CalFlora. 2015. Calflora: Information on Wild California Plants for Conservation, Education, and Appreciation. Accessed online at: http://www.calflora.org

California Department of Fish and Wildlife (CDFW). 2017. Life history accounts for species in the California Wildlife Habitat Relationships (CWHR) System. Accessed online at: http://www.dfg.ca.gov/biogeodata/cwhr/cawildlife.aspx.

CDFW. 2010. *Mohave Ground Squirrel Survey Guidelines*.

California Energy Commission (CEC) and CDFW. 2010. *Swainson's Hawk Survey Protocols, Impact Avoidance, and Minimization Measures for Renewable Energy Projects in the Antelope Valley of Los Angeles and Kern Counties, California*.

CEC, CDFW, US Bureau of Land Management, and US Fish and Wildlife Service. 2016. *California Desert Biological Conservation Framework*.

California Native Plant Society (CNPS). 2017. Inventory of Rare, Threatened, and Endangered Plants of California. Accessed online at: http://www.rareplants.cnps.org.

California Natural Diversity Data Base (CNDDB). 2017. RAREFIND5 output for the Willow Springs, Rosamond, Tehachapi South, Monolith, Mojave, Tylerhorse Canyon, Soledad Mountain, Fairmont Butte, and Little Buttes 7.5-minute quadrangles. California Department of Fish and Wildlife. Sacramento, CA.

Endangered Species Recovery Program (ESRP). 2015. Species Profiles. Accessed online at: http://esrp.csustan.edu/speciesprofiles/

Fugro West, Inc. 1996. *Revised Biological Constraints Analysis of the SEK3 and SEK4 Study Areas: Eastern Kern Regional Landfill Siting Study*.

Holland, R.F. 1986. *Preliminary Descriptions of the Terrestrial Natural Communities of California. Sacramento, CA*.

Ironwood Consulting. 2011a. *Biological Resources Technical Report for the Willow Springs Solar Array*.

Ironwood Consulting. 2011b. *Biological Resources Technical Report for the Rosamond Solar Array*.

Kern County Planning and Community Development Department. 2016. *Draft Environmental Impact Report Valentine Solar Project, Valentine Solar, LLC*.

Leitner, P. 2008. *Current Status of the Mohave Ground Squirrel*. Transactions of the Western Section of the Wildlife Society 44:11-29.

Padre Associates, Inc. 2017. *Biological Constraints Analysis Willow Springs Vesting Tentative Tract Map no. 7128 (APN 252-400-04) Kern County, California*.

Phoenix Biological Consulting. 2014. *General Habitat Assessment and Focused Desert Tortoise, Swainson's Hawk and Burrowing Owl Protocol Presence/Absence Surveys and Rare Plant Surveys for Proposed SEPV Mojave West Solar Array*.

Rincon Consultants. 2014. *Biological Resources Assessment for the RE Garland LLC Solar Project*.

Rincon Consultants. 2016. *Biological Resources Assessment for the RE Gaskell West Solar Project*.

Sawyer, J. O., T. Keeler-Wolf & J. M. Evens. 2009. *A Manual of California Vegetation*, second edition.

Spencer, W.D., P. Beier, K. Penrod, K. Winters, C. Paulman, H. Rustigian-Romsos, J. Strittholt, M. Parisi, and A. Pettler. 2010. *California Essential Habitat Connectivity Project: A Strategy for Conserving a Connected California*. Prepared for California Department of Transportation, California Department of Fish and Game, and Federal Highways Administration.

SWCA Environmental Consultants. 2015. *Biological Resources Technical Report for the Valentine Solar Project*.

U.S. Department of Agriculture (USDA) Natural Resources Conservation Service. 2012. Custom Resource Report for Kern County, California. Accessed online at: http://websoilsurvey.nrcs.usda.gov/app/WebSoilSurvey.aspx

U. S. Fish and Wildlife Service (USFWS). 2014. *Swainson's hawk species profile*. Accessed online at: http://ecos.fws.gov/speciesProfile/profile/speciesProfile.action?spcode=B070

USFWS. 2009. *Desert Tortoise (Mojave Population) Field Manual: (*Gopherus agassizii*)*. Region 8, Sacramento, California.

Zeiner, D., W. Laudenslayer, Jr. and K. Mayer. 1988. *California's Wildlife, Volume I, Amphibians and Reptiles*. California Department of Fish and Game. Sacramento, CA.

Zeiner, D., W. Laudenslayer, Jr., K. Mayer, and M. White. 1990a. *California's Wildlife, Volume II, Birds*. California Department of Fish and Game. Sacramento, CA.

Zeiner, D., W. Laudenslayer, Jr., K. Mayer, and M. White. 1990b. *California's Wildlife, Volume III, Mammals*. California Department of Fish and Game. Sacramento, CA.

ATTACHMENT A

Site Photographs

Attachment A: Site Photographs
Favorito Avenue Solar Array Project Site
April 12-13, 2017

Photo 1: View facing south towards the butte along the southern site boundary.

Photo 2: View facing west of utility poles occurring along Favorito Avenue within southern half of the property.

Photo 3: View of Creosote Bush Scrub occurring at the property, facing southeast.

Photo 4: View of Creosote Bush Scrub with scattered Joshua trees.

Photo 5: Ephemeral drainage feature observed in the western portion of the property.

Photo 6: View of the southern portion of the property and butte near the southern boundary.

	
Photo 7: View facing west from 71st Street towards rural housing observed adjacent to the property.	**Photo 8:** Ephemeral drainage feature observed in the eastern portion of the property.
	
Photo 9: View of the property, facing north from the butte along the southern boundary.	**Photo 10:** Whitewash (bird scat) observed on the butte along the southern property boundary.

ATTACHMENT B

Vascular Plant Flora Observed within the Favorito Avenue Solar Array Project Site Kern County, California

Attachment B

Vascular Plant Flora Observed within the Favorito Avenue Solar Array Project Site
Kern County, California

Scientific Name	Common Name	Habit	Family	Invasiveness Rating
Acamptopappus sphaerocephalus var. *hirtellus*	rayless goldenhead	S	Asteraceae	
Ambrosia dumosa	white bur-sage	S	Asteraceae	
Amsinckia tessellata var. *tessellata*	desert fiddleneck	AH	Boraginaceae	
Astragalus didymocarpus var. dispermus	two-seeded milkvetch	AH	Fabaceae	
Astragalus lentiginosus var. *variablilis*	no name	PH	Fabaceae	
Artemisia spinescens	budsage	S	Asteraceae	
Atriplex polycarpa	allscale saltbush	S	Chenopodiaceae	
*Brassica nigra**	black mustard	AH	Brassicaceae	Moderate
*Brassica tournefortii**	Saharan mustard	AH	Brassicaceae	High
Bromus madritensis ssp. *rubens**	red brome	AG	Poaceae	High
*Bromus tectorum**	cheat grass	AG	Poaceae	High
Calycoseris parryi	yellow tack-stem	AH	Asteraceae	
Camissonia campestris	sun cup	AH	Onagraceae	
Caulanthus inflatus	desert candle	AH	Brassicaceae	
Caulanthus lasiophyllus	California mustard	AH	Brassicaceae	
Chaenactis fremontii	Fremont pincushion	AH	Asteraceae	
Delphinium parishii ssp. pallidum	desert larkspur	PH	Ranunculaceae	
Dichelostemma capitatum	blue dicks	PH	Themidaceae	
Ephedra californica	desert tea	S	Ephedraceae	
Ephedra nevadensis	Nevada ephedra	S	Ephedraceae	
Eremalche exilis	white mallow	AH	Malvaceae	
Eriastrum sapphirinum ssp. sapphririnum	Eriastrum	AH	Polemoniaceae	
Ericameria cooperi var. *cooperi*	Cooper's goldenbush	S	Asteraceae	
Ericameria linearifolia	interior goldenbush	S	Asteraceae	
Ericameria nauseosa var. *mohavensis*	Mojave rabbitbrush	S	Asteraceae	
Eremothera boothii ssp. desertorum	Booth's evening primrose	AH	Onagraceae	
Eriogonum fasciculatum	California buckwheat	S	Polygonaceae	
Eriogonum inflatum	desert trumpet	PH	Polygonaceae	
*Erodium cicutarium**	redstem filaree	AH	Geraniaceae	Limited
Eschscholzia minutiflora ssp. minutiflora	pygmy poppy	AH	Papaveraceae	
Eucrypta micrantha	no name	AH	Boraginaceae	
Euphorbia albomarginata	rattlesnake sandmat	PH	Euphorbiaceae	
Festuca microstachys	small fescue	AG	Poaceae	
Glyptopleura marginata	no name	AH	Asteraceae	
Grayia spinosa	spiny hopsage	S	Chenopodiaceae	
Gutierrezia microcephala	sticky snakeweed	S	Asteraceae	

Attachment B

Vascular Plant Flora Observed within the Favorito Avenue Solar Array Project Site
Kern County, California

Scientific Name	Common Name	Habit	Family	Invasiveness Rating
Krascheninnikovia lanata	winter fat	S	Chenopodiaceae	
Larrea tridentata	creosote bush	S	Zygophyllaceae	
Lasthenia californica	California goldfields	AH	Asteraceae	
Lepidium fremontii	dessert pepperweed	PH	Brassicaceae	
Linanthus parryae	Sandblossoms	AH	Polemoniaceae	
Lycium andersonii	redberry desert thorn	S	Solanaceae	
Malacothrix coulteri	snake's head	AH	Asteraceae	
Malacothrix glabrata	desert dandelion	AH	Asteraceae	
Marah fabacea	California man-root	PV	Cucurbitaceae	
Mucronea perfoliata	perfoliate spineflower	AH	Polygonaceae	
Nama demissa var. *demissa*	Nama	AH	Boraginaceae	
Phacelia tanacetifolia	lacy phacelia	AH	Boraginaceae	
Phacelia vallis-mortae	Phacelia	AH	Boraginaceae	
Pholistoma membranaceum	white fiesta flower	AH	Boraginaceae	
Poa secunda ssp. *secunda*	one-sided blue grass	PG	Poaceae	
Platystemon californicus	cream cups	AH	Papaveraceae	
Prenanthella exigua	brightwhite	AH	Asteraceae	
Rafinesquia neomexicana	desert chicory	AH	Asteraceae	
*Schismus arabicus**	Arabian schismus	AG	Poaceae	Limited
*Schismus barbatus**	Mediterranean grass	AG	Poaceae	Limited
*Sisymbrium orientale**	Indian hedge mustard	PH	Brassicaceae	
Stanleya pinnata var. *pinnata*	prince's plume	PH	Brassicaceae	
Stephanomeria sp.	wire-lettuce	PH	Asteraceae	
Syntrichopappus fremontii	Freemont's-gold	AH	Asteraceae	
Tetradymia axillaris var. longispina	cotton thorn	S	Asteraceae	
Tetrapteron palmeri	sun cup	AH	Onagraceae	
Uropappus lindleyi	silver puffs	AH	Asteraceae	
Xylorhiza tortifolia var. *tortifolia*	Mojave-aster	PH, S	Asteraceae	
Yucca brevifolia	Joshua tree	S, SU	Agavaceae	

Notes:
Scientific nomenclature follows The Jepson Manual Second Edition (Baldwin et al., 2012).
An "*" indicates non-native species which have become naturalized or persist without cultivation.

Attachment B

Vascular Plant Flora Observed within the Favorito Avenue Solar Array Project Site
Kern County, California

Scientific Name	Common Name	Habit	Family	Invasiveness Rating
Habit Definitions:	Invasiveness Rating from California Invasive Plant on-line inventory			
AG = annual grass.				
AH = annual herb.				
BH = biennial herb.				
PG = perennial grass.				
PH = perennial herb.				
PH = perennial herb.				
S = shrub.				
SU = succulent				
T = tree				
V = vine				

ATTACHMENT C

Vertebrate Animal Species Observed within the Favorito Avenue Solar Array Project Site Kern County, California

Attachment C

Vertebrate Animal Species Observed within the Favorito Avenue Solar Array Project Site, Kern County, California

ANIMAL GROUP Common Name	Scientific Name	Native(1)	Status(2)
AMPHIBIANS AND REPTILES			
Side-blotched lizard	*Uta stansburiana elegans*	Y	--
Great Basin whiptail	*Aspidoscelis tigris tigris*	Y	--
BIRDS			
Common raven	*Corvus corax*	Y	--
Ash-throated flycatcher	*Myiarchus cinerascens*	Y	--
European starling	*Sturnus vulgaris*	N	--
Mohave horned lark	*Eremophila alpestris ammophila*	Y	--
Loggerhead shrike	*Lanius ludovicianus nevadensis*	Y	CSC
Northern mockingbird	*Mimus polyglottos*	Y	--
Le Conte's thrasher	*Toxostoma lecontei*	Y	CSC
Phainopepla	*Phainopepla nitens*	Y	--
Rock wren	*Salpinctes obsoletus*	Y	--
Say's phoebe	*Sayornis saya*	Y	--
Western meadowlark	*Sturnella neglecta*	Y	--
Lark sparrow	*Chondestes grammacus*	Y	--
White-crowned sparrow	*Zonotrichia leucophyrs*	Y	--
Bell's sage sparrow	*Amphispiza belli canescens*	Y	--
MAMMALS			
Coyote	*Canis latrans*	Y	--
Desert woodrat	*Neotoma lepida gilva*	Y	--
Kangaroo rat (likely Panamint or Merriam's)	*Dipodomys* sp.	Y	--
White-tailed antelope squirrel	*Ammospermophilus leucurus*	Y	--
Desert black-tailed jackrabbit	*Lepus californicus deserticola*	Y	--

(1) Native
Y= Yes
N= No

(2) Status
CSC= CDFW Species of Special Concern