APPENDIX K

BIOLOGICAL RESOURCES REPORT
RESULTS OF BURROWING OWL SURVEY

Biological Resources Report for the Drew Solar Project Imperial County, California

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TABLE OF CONTENTS

Section **Page No.**

TABLE OF CONTENTS (CONTINUED)

Section **Page No.**

APPENDICES

FIGURES

TABLE OF CONTENTS (CONTINUED)

Page No.

TABLES

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SUMMARY

The proposed Drew Solar Project (Project) involves the development of a solar photovoltaic (PV) energy-generating facility including energy storage and gen-tie's transmission facilities. The proposed Project Area encompasses a total of approximately 855 gross acres in Imperial County, California located approximately 2.5 miles north of the Mexico border, immediately north of Interstate 98 (I-98).

Dudek conducted a general biological reconnaissance survey, including vegetation mapping and a jurisdictional delineation within the proposed Project site. In addition, focused burrowing owl (*Athene cunicularia*) surveys were conducted on-site within suitable habitat during this species' breeding season and early migration period.

A total of four vegetation communities and five land cover types were identified within the Project site: American bulrush marsh, arrow weed thickets, cattail marshes, tamarisk thickets, open water, unvegetated channel, disturbed habitat, urban developed, and agricultural lands. No special-status plant species were observed during the 2017 biological survey.

Based on the jurisdictional delineation, there are approximately 10.2 acres of waters, wetlands and riparian habitat regulated by the U.S. Army Corps of Engineers (ACOE), Regional Water Quality Control Board (RWQCB), and California Department of Fish and Wildlife (CDFW) and approximately 5.4 acres under the exclusive jurisdiction of CDFW within the Project Area.

There are significant impacts as a result of potential direct and indirect effects to special-status wildlife species, special-status vegetation communities, and jurisdictional resources. In addition, there are significant impacts as a result of potential effects to resources protected under the federal Endangered Species Act, Migratory Bird Treaty Act and similar state laws. Mitigation measures for each of these impacts are included and reduce the significant impacts to a level of less than significant.

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1 INTRODUCTION

This biological resources technical report (BTR) provides the following items: (1) describes the existing conditions of biological resources within the Project site in terms of vegetation, jurisdictional resources, flora, wildlife, and wildlife habitats; (2) discusses potential impacts to biological resources that would result from implementation of the proposed Project and describe those impacts in terms of biological significance in view of federal, state, and local laws, regulations, and policies; and (3) recommends mitigation measures for potential impacts to special- status biological resources, as necessary.

1.1 Project Location

The Proposed Project is located in Imperial County, California (Figure 1), approximately 6.5 miles southwest of the city of El Centro, California (Figure 1), and 7.5 miles directly west of Calexico, California. The Project site is generally located south of Kubler Road, east of Westside Main Canal, north of State Route 98, and west of Pulliam Road. The geographic center of the Project roughly corresponds with 32° 41' 13" North and 115° 40' 8" West, at an elevation of 19 feet below sea level.

1.2 Project Description

The Project will use solar photovoltaic (PV) technology to convert sunlight directly into direct current (DC) electricity. The Project would be located on the following APN's: 052-170-039, 052- 170-067, 052-170-031, 052-170-032, 052-170-037 and 052-170-056 ("Project Area") (Figure 2).

The Project may include only one PV technology or a combination of various PV technologies, including but not limited to crystalline silicon-based systems, thin-film systems, and perovskites. The Project may construct a utility scale energy storage system, which would allow it to store energy from the grid and/or energy generated by the Project. The Project would also construct generation interconnection (gen-tie's) transmission lines which are proposed from the south end of the Project site running south across Drew Road and State Route 98 into the existing Drew Switchyard located on APN 052-190-039.

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2 METHODS

Data regarding biological and jurisdictional resources present within the Project Area were obtained through a review of pertinent literature and field reconnaissance; both are described in detail below.

2.1 Literature Review

Special-status biological resources present or potentially present on site were identified through an extensive literature search using the following sources: U.S. Fish and Wildlife Service Critical Habitat and Occurrence Data (USFWS 2017a), California Department of Fish and Wildlife (CDFW) California Natural Diversity Database (CNDDB) (CDFW 2017 c), California Native Plant Society's (CNPS) *Online Inventory of Rare and Endangered Vascular Plants* (CNPS 2017).

For the jurisdictional delineation, Dudek reviewed aerial maps from Bing (2017); the USFWS National Wetlands Inventory (NWI) (USFWS 2017b); the USGS National Hydrography Dataset (NHD) (USGS 2017); the State List of Hydric Soils (USDA 2017b); and historical aerials and topographic maps (Google Earth 2017; Historic Aerials Online 2017). The NHD contains water features such as lakes, ponds, streams, rivers, canals, dams, and stream gages (USGS 2017b). The USFWS created the NWI to "provide biologists and others with information on the distribution and type of wetlands to aid in conservation efforts" (USFWS 2017b). Potential wetlands and waters are mapped by the USFWS based on aerial images and that data is provided to the public. This compilation of data was reviewed to gain a better understanding of the hydrologic setting of the study area.

2.2 Field Reconnaissance

2.2.1 General Biological Survey

A general biological survey of the approximate 855-acre Project Area (Figure 2) was conducted by Dudek Biologist Marshall Paymard and Callie Amoaku on December 5, 2017 and by Shana Carey on April 12, 2018 (Table 1). The biological survey included the mapping of vegetation communities and land covers present within the Project Area, an evaluation of jurisdictional wetlands or waters, and an evaluation of the potential for special-status species to occur on the Project Area.

Table 1
General Biological Survey Conditions

Date	Time	Personnel	Survey Conditions
12/05/2017	1200–1645	Marshall Paymard Callie Amoaku	69–58 Degrees Fahrenheit (°F) , 10%-40% cloud cover (cc), 0–1 miles per hour (mph) wind
4/12/2018	1115–1333	Shana Carey	76–81°F; 0% cc, 8–11 mph wind

Legend: °F = degrees Fahrenheit; cc = cloud cover; mph = miles per hour

2.2.2 Focused Burrowing Owl Surveys

Biological surveys for burrowing owl included a habitat assessment, followed by focused surveys in suitable habitat (e.g., grasslands, disturbed lands, and other open habitats where suitable burrow resources exist, and are relatively flat or have low slopes) within the Project Area and a 200-foot buffer surrounding the Project Area (see Figure 2). Biologists conducted surveys pursuant to the survey guidelines outlined in Appendix D of the Staff Report on Burrowing Mitigation (California Department of Fish and Game [CDFG] 2012).

Dudek wildlife biologists Ben Delancey, Abby Bergsma, and Shane Valiere conducted a four-pass survey for burrowing owl between April 12, 2017 and September 28, 2017, which captured the majority of the breeding season as well as the beginning of the migration period (Table 2). The survey consisted of the Project Area excluding paved roads and other developed areas and a 200-foot buffer (Figure 2). The survey consisted of walking the entire survey area where suitable open habitat occurred, while searching for burrowing owls, sign (i.e., owl pellets, molted feathers, abundant insect remains, white wash, etc.), and potential burrow sites. The survey was conducted such that 100% coverage of the entire Project Area, plus a 200-foot buffer where legal access was granted, was covered (i.e., approximate 50-foot transects were walked across the entire site). Climatic conditions at the time of the survey were within protocol guidelines (CDFG 2012) where suitable burrow resources are present.

Table 2
Schedule of Burrowing Owl Surveys

Date	Personnel	Survey Pass	Time	Conditions (temperature, cloud cover, and wind)
4/12/2017	BD	1	8:00 AM–10:45 AM	70–80°F; 10% cc; 3 mph wind
4/13/2017	BD, AB	1	7:00 AM–10:45 AM	70–80°F; 10% cc; 3 mph wind
4/14/2017	BD, AB	1	6:15 AM–10:55 AM	56–73°F; 0–10% cc; 0–3 mph wind
6/02/2017	SV	2	6:41 AM–11:45 AM	75–87°F; 0% cc; 0–1 mph wind
6/22/2017	SV	3	6:48 AM–10:40 AM	84–99°F; 0% cc; 0–4 mph wind
9/28/2017	SV	4	7:20 AM–11:05 AM	67–87°F; 0% cc; 0–2 mph wind

Notes: BD = Ben Delancey; AB = Abby Bergsma; SV = Shane Valiere; °F = degrees Fahrenheit; cc = cloud cover; mph = miles per hour.

2.2.3 Vegetation Mapping

The survey was conducted on foot to visually cover 100% of the Project Area. A 300-scale (i.e., 300 feet = 1 inch) aerial photograph map (Bing 2017) with an overlay of the Project Area was utilized to map the vegetation communities and record any special-status biological resources directly in the field.

Plant community classifications follow the List of Vegetation Alliances and Associations with modifications to accommodate the lack of conformity of the observed communities to those of California Department of Fish and Game (CDFG) (CDFG 2010). Vegetation community and land cover mapping was conducted for the Project Area. Observable biological resources including perennial plants and conspicuous wildlife (i.e., birds and some reptiles) commonly accepted as regionally sensitive by CDFW and USFWS were recorded on the field map, where applicable. Following completion of the field work, Dudek Geographic Information System (GIS) specialist Andrew Greis digitized the mapped results using ArcGIS and calculated coverage acreages using ArcCAD. The structure of dominant layer, associated species and estimated absolute cover, total vegetative cover of each strata, approximate stand size, disturbance information, other observations, and photographs were used.

2.2.4 Jurisdictional Delineation

Dudek conducted a formal (routine) jurisdictional delineation within the Project Area.

The Project Area was surveyed on foot for areas under the jurisdiction of the Army Corps of Engineers (ACOE) pursuant to Section 404 of the Clean Water Act, Regional Water Quality Control Board (RWQCB) pursuant to Section 401 of the federal Clean Water Act and the Porter- Cologne Water Quality Control Act, and the CDFW pursuant to Section 1600 of the California Fish and Game Code.

CDFW asserts jurisdiction over rivers, streams, and lakes, and riparian vegetation associated with these features. Waters of the state were delineated based on watercourse characteristics present in the field, which include surface flow, sediment transportation and sorting, physical indicators of channel forms, channel morphology, and drainage swales. These characteristics are based on the CDFW guidance document, *A Review of Stream Processes and Forms in Dryland Watersheds* (Vyverberg 2010).

RWQCB typically asserts jurisdiction over the same areas as ACOE. Non-wetland waters subject to ACOE and RWQCB jurisdiction were delineated based on the presence of an ordinary high water mark (OHWM), as determined by ACOE guidance (ACOE 1987). Wetland waters subject to ACOE and RWQCB jurisdiction were mapped based on methods described in the 1987 *Corps of Engineers Wetlands Delineation Manual* (ACOE 1987) and the *Regional Supplement to the Corps*

of Engineers Wetland Delineation Manual: Arid West Region (ACOE 2008b). *A Field Guide to the Identification of the Ordinary High Water Mark (OHWM) in the Arid West Region of the Western United States* (ACOE 2008a) and the *Updated Datasheet for the Identification of the Ordinary High Water Mark (OHWM) in the Arid West Region of the Western United States* (ACOE 2010). Pursuant to the federal Clean Water Act, ACOE and RWQCB jurisdictional areas include those supporting all three wetlands criteria described in the ACOE manual: hydric soils, hydrology, and hydrophytic vegetation. To assist in the determination of jurisdictional areas, data was collected at three data stations (Appendix A). Hydrology, vegetation, and soils were assessed, and data were collected on approved ACOE forms. The site was evaluated for evidence of an OHWM, surface water, saturation, and wetland vegetation. The extent of any identified jurisdictional areas was determined by mapping the areas with similar vegetation and topography to the sampled locations. The location of data stations and the limits of wetlands were collected in the field using a 300-scale (1 inch = 300 feet) aerial photograph, topographic base, and Trimble GeoXT GPS unit with sub-meter accuracy. The jurisdictional extents were digitized in GIS based on the 1-foot contours (Revolution Labs 2017), GPS data and data collected directly onto field maps into a Project-specific GIS using ArcGIS software. A more detailed description of the methods is described below.

Hydrophytic Vegetation

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 *Arid West 2016 Regional Wetland Plant List* (Lichvar et al. 2016), or if it passed 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 (ACOE 1987). All plant species observed during the surveys were identified and recorded (see Appendix B).

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 2017b). Soil pits were prepared using a "sharp shooter" shovel to determine if hydric soils were present. The presence of hydric soils was determined through consultations with the *ACOE 1987 Wetlands Delineation Manual* (ACOE 1987) as well as Field Indicators of Hydric Soils in the United States (USDA and NRCS 2017) and *ACOE's Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region* (Version 2.0) (ACOE 2008b). Munsell Soil Color Charts were used to determine soil chroma and value. Where feasible, soil

pits were prepared to depths ranging from 16 to 18 inches. Dry soils were moistened to obtain the most accurate color. In general, soils from test pits were determined to be hydric if found to be of a chroma one or chroma two with mottles. Excavated soils were examined for evidence of hydric conditions, including low chroma values and mottling, vertical streaking, sulfidic odor, and high organic matter content in the upper horizon. Evidence of previous ponding or flooding was assessed, along with the slope, slope shape, existing landform characteristics, soil material/composition, and hydrophytic vegetation to determine if hydric soils were present.

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 2008b), wetland hydrology indicators are separated into four major groups: Group 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 FAC-Neutral test." Each group is subdivided into primary and secondary categories based on their frequency and reliability to occur in the Arid West region. See Appendix A for the completed data station forms.

2.2.5 Flora

All plant species encountered during the field survey were identified and recorded directly into a field notebook. Those species that could not be identified immediately were brought into the laboratory for further investigation and identification. A compiled list of plant species observed in the Project site is presented in Appendix B.

Latin and common names for plant species with a California Rare Plant Rank (CRPR) (formerly CNPS List) follow the *CNPS On-Line Inventory of Rare, Threatened, and Endangered Plants of California* (CNPS 2017). 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 2017) and common names follow the *List of Vegetation Alliances and Associations* (CDFG 2010) or the United States Department of Agriculture Natural Resources Conservation Service's Plants Database (USDA 2017a).

2.2.6 Fauna

Surveys for burrowing owl were conducted pursuant to the CDFG (2012) survey guidelines. Biologists recorded burrowing owl observations, potential burrowing sites, and owl sign found within the Project Area. Other wildlife species observed or detected the general and focused biological survey by sight, calls, tracks, scat, or other signs were recorded. Binoculars (10 mm × 40 mm) were used to aid in the identification of observed wildlife. In addition to species actually observed, expected wildlife usage of the site was determined according to known habitat preferences of regional wildlife species and knowledge of their relative distributions in the area. Latin and common names of animals follow Crother (2012) for reptiles and amphibians, American Ornithologists' Union (AOU) (2016) for birds, Wilson and Reeder (2005) for mammals, North American Butterfly Association (NABA) (2001) or San Diego Natural History Museum (SDNHM) (2002) for butterflies, and Moyle (2002) for fish. All wildlife species observed during the surveys were identified and recorded (see Appendix C).

3 RESULTS

The results of the biological survey, focused burrowing owl surveys and jurisdictional delineation are discussed in detail in the sections below.

3.1 Vegetation Communities and Land Covers

A total of four vegetation communities and five land cover types were identified within the Project Area: American bulrush marsh, arrow weed thickets, cattail marshes, tamarisk thickets, open water, unvegetated channel, disturbed habitat, urban developed, and agricultural lands. The vegetation communities and land cover types on site are described in detail below. Their acreages are presented in Table 3, and their spatial distributions are presented in the Biological Resources Map (Figure 3).

Table 3
Vegetation Communities and Land Covers

Vegetation Community/Land Cover	Gross Acres
American Bulrush Marsh Alliance	0.08
Arrow Weed Thickets Alliance	4.88
Cattail Marshes Alliance	3.36
Tamarisk Thickets Semi-natural Alliance	1.28
Open Water	2.98
Unvegetated Channel	2.96
Agriculture	760.25
Disturbed Habitat	64.25
Urban Developed	4.16
Total*	**844.20**

* Total acreages may not sum due to rounding.

3.1.1 American Bulrush Marsh Alliance

The American bulrush marsh alliance (*Schoenoplectus americanus* herbaceous alliance) includes American bulrush as the dominant or co-dominant in the herbaceous layer. For a stand of vegetation to be classified as American bulrush marsh, American bulrush must be greater than 50% relative cover in the herbaceous layer. Cover is intermittent to continuous and primarily occurs along streams, around ponds, lakes, in sloughs, swamps, fresh and brackish marshes, and roadside ditches. Soils have a high organic content and are poorly aerated (Sawyer et al. 2009).

Status

The American bulrush marsh is ranked as a G5S3.2 alliance; therefore, it is considered a sensitive biological resource under CEQA (CDFG 2010).

3.1.2 Arrow Weed Thickets Alliance

The arrow weed thickets alliance (*Pluchea sericea* alliance) includes arrow weed as the dominant or codominant shrub in the canopy. Arrow weed thickets have an intermittent to continuous shrub canopy less than 16 feet in height and a sparse ground layer with seasonal annuals. For a stand of vegetation to be classified as arrow weed thickets, arrow weed must be greater than or equal to 2% absolute cover[1] in the shrub canopy. This alliance occurs in wetlands that are seasonally flooded and saturated with fresh water located around seeps, canyon bottoms, irrigation ditches, stream sides, and washes (Sawyer et al. 2009).

Status

The arrow weed thickets alliance is ranked as a G3S3 alliance; therefore, it is considered a sensitive biological resource under CEQA (CDFG 2010).

3.1.3 Cattail Marshes Alliance

The cattail marshes alliance (*Typha* [*angustifolia, domingensis, latifolia*] alliance) includes cattails as the dominant or co-dominant herb in the herbaceous layer. Cattail marshes alliance has a continuous to intermittent canopy less than 4.9 feet in height (Sawyer et al. 2009). For a stand of vegetation to be classified as cattail marshes, cattails (*Typha* ssp.) must be greater than 50% relative cover[2] in the herbaceous layer. The cattail marshes alliance occurs throughout California at elevations ranging from sea level to 1,148 feet amsl. The cattail marshes alliance occurs on clay or silty soils in semi-permanently flooded freshwater or brackish marshes (Sawyer et al. 2009).

[1] Absolute cover refers to the actual percentage of the ground that is covered by a species. For example, arrow weed covers between 5% and 15% percent of the stand. Absolute cover of all species if added in a stand or plot may total greater or less than 100% because it is not a proportional number (CNPS and CDFG 2007).

[2] Relative cover refers to the amount of the stand sampled that is covered by one species as compared to (relative to) the amount of the stand covered by all species (in that group). Thus, 50% relative cover means that half of the total cover of all species is composed of the single species. Relative cover values are proportional numbers and, if added, total 100% for each stand (CNPS and CDFG 2007).

Status

The cattail marshes alliance has a rank of G5S5; therefore, it is not considered a sensitive biological resource under CEQA (CDFG 2010). However, it is a wetland community, which is typically afforded protection under CEQA and the Clean Water Act.

3.1.4 Tamarisk Thickets Semi-Natural Alliance

The tamarisk thickets or *Tamarix* spp. semi-natural alliance includes the non-native invasive tamarisk as the dominant shrub in the canopy. Tamarisk thickets have a continuous to open shrub canopy less than 26 feet in height with possible emergent trees and a sparse ground layer (Sawyer et al. 2009). For a stand of vegetation to be classified as tamarisk thickets, tamarisk must be greater than 3% absolute cover and 60% relative cover in the shrub canopy. This semi- natural stand occurs in and along ditches, rivers, washes, lake margins, and watercourses (Sawyer et al. 2009).

Status

The tamarisk thickets semi-natural alliance is not considered a sensitive biological resource under CEQA (CDFG 2010).

3.1.5 Open Water

The open water mapping unit is not recognized by the Natural Communities List (CDFG 2010) but is described by Oberbauer et al. (2008). Open water consists of standing water and contain less than 10% vegetation.

Status

Open water does not support any vegetation; therefore, open water is not considered a sensitive biological resource under CEQA (CDFG 2010).

3.1.6 Unvegetated Channel

Unvegetated channel is not described in Sawyer et al. (2009); however Oberbauer et al. (2008) describes this land cover type as, the sandy, gravelly, or rocky fringe of waterways or flood channels that are unvegetated on a relatively permanent basis. Variable water lines inhibit the growth of vegetation, although some weedy species of grasses may grow along the outer edges of the wash. Vegetation may exist here but is usually less than 10% total cover. Unvegetated channel land cover found in the Project site is primarily composed of a mix of concrete lined irrigation canals or earthen irrigation canals that have little to no vegetation.

Status

Unvegetated channel land cover does not support any vegetation; therefore, unvegetated channels are not considered a sensitive biological resource under CEQA (CDFG 2010).

3.1.7 Agriculture (AGR)

Agricultural land includes the following agricultural types: agriculture (general), nurseries, orchard agriculture, pastures and crop agriculture, tilled earth, and vineyard–shrub agriculture. Agricultural land is the dominant land cover type in the Project site.

Status

General agriculture is not considered a sensitive biological resource under CEQA (CDFG 2010).

3.1.8 Disturbed Habitat (DH)

Disturbed habitat refers to areas that are not developed yet lack vegetation, and generally are the result of severe or repeated mechanical perturbation.

Status

Disturbed habitat typically does not support any vegetation; therefore, disturbed habitats are not considered a sensitive biological resource under CEQA (CDFG 2010).

3.1.9 Urban/Developed

Urban/developed areas include areas that have been constructed upon or otherwise physically altered to an extent that native vegetation is no longer supported. Urban/developed land is characterized by permanent or semi-permanent structures, pavement or hardscape, and landscaped areas that often require irrigation (Oberbauer et al. 2008).

Status

Urban/developed land typically does not support any vegetation or is a landscaped area; therefore, urban/developed lands are not considered a sensitive biological resource under CEQA (CDFG 2010).

3.2 Jurisdictional Delineation and Determinations

Dudek performed a formal jurisdictional delineation within the Project Area on December 5, 2017, with methods described in detail in Section 2.2.2. One set of data stations was collected in the Project Area (Appendix A). The results of the delineations are shown on the Figure 3.

3.2.1 Federal Jurisdiction

The Project Area is located within an agricultural area with several irrigation ditches or canals. Based on aerial review, the irrigation ditches/canals receive water from the All American Canal. All of the water from the drainages/canals eventually outlet into Greeson Wash, which flows into the New River, which terminates at the Salton Sea, a traditional navigable water. The irrigation ditches/canals were created in uplands, however, could be considered jurisdictional waters regulated by the ACOE. A preliminary jurisdictional delineation (PJD) report will be submitted to the ACOE for review in the event project improvements require impacts to potential ACOE waters.

On site, there are both earthen-lined and concrete-lined irrigation ditches/canals; water and vegetation was present in some of the canals and the smaller ditches were dry and void of vegetation. Wetland hydrology indicators were present (i.e., hydrophytic vegetation, hydric soils, or surface water) within some of the canal bottoms or fringes. The Project Area contains approximately 10.2 acres of resources under the jurisdiction of the ACOE and RWQCB, including 6 acres of non-wetland waters and 4.2 acres of wetlands.

3.2.2 State Jurisdiction

Water resources are also subject to state laws administered by CDFW. Resources subject to the jurisdiction of the CDFW pursuant to Section 1602 of the California Fish and Game Code include ephemeral, intermittent, and perennial stream channels. CDFW asserts jurisdiction over riparian habitat associated with a streambed.

Based on the jurisdictional delineation, there are approximately 15.5 acres of resources under the jurisdiction of CDFW, including 6 areas of streambed and 9.6 acres of wetlands. Riparian habitat located on the canal slopes that did not meet the three parameters for a federal wetland are mapped as CDFW-only riparian habitat. Jurisdictional resources are summarized in Table 4 and shown on the Figure 3.

Table 4
Jurisdictional Wetlands and Non-Wetland Waters in the Proposed Project Area (acres)

Vegetation Community	ACOE/RWQCB/CDFW	CDFW-Only
Wetland Waters/Riparian Habitat		
American Bulrush	0.08	--
Arrow Weed Thickets	--	4.88
Cattail Marshes	3.36	--
Tamarisk Thickets	0.78	0.50
Wetland Waters Subtotal	*4.22*	*5.38*

Table 4
Jurisdictional Wetlands and Non-Wetland Waters in the Proposed Project Area (acres)

Vegetation Community	ACOE/RWQCB/CDFW	CDFW-Only
Non-Wetland Waters/Streambed		
Open Water	2.98	--
Unvegetated Channel	2.96	--
Non-Wetland Waters Subtotal	*5.95*	--
Grand Total	**10.17**	**5.38**

3.3 Plant Resources

A total of 10 species of native or naturalized vascular plants, 5 native (50%) and 5 non-native (50%), were recorded within the proposed Project site (see Appendix B). Special-status plant species that have a potential to occur and other plant species that occur in the region, however are not expected to occur in the proposed Project site, are shown below in Table 5.

No special-status plant species were observed during the 2017 biological survey. There is low potential for special-status plant species to occur on site. In general, due to the sparse nature of suitable habitat, the generally disturbed nature of the site, and proximity of surrounding active agriculture, it is unlikely that any special-species plant species would be present.

Table 5
Special-Status Plants with Potential to Occur in the Proposed Project Site

Scientific Name	Common Name	Status (Federal/State/ CRPR)	Primary Habitat Associations/ Life Form/ Blooming Period/ Elevation Range (feet)	Potential to Occur
Abronia villosa var. *aurita*	chaparral sand-verbena	None/None/1B.1	Chaparral, Coastal scrub, Desert dunes; sandy/annual herb/(Jan)Mar–Sep/245–5250	Not expected to occur. The site is outside of the species' known elevation range and there is no suitable habitat present.
Amaranthus watsonii	Watson's amaranth	None/None/4.3	Mojavean desert scrub, Sonoran desert scrub/annual herb/Apr–Sep/65–5575	Not expected to occur. No suitable habitat present.
Astragalus crotalariae	Salton milk-vetch	None/None/4.3	Sonoran desert scrub (sandy or gravelly)/perennial herb/Jan–Apr/-195–820	Not expected to occur. The site is outside of the species' known elevation range and there is no suitable habitat present.
Astragalus sabulonum	gravel milk-vetch	None/None/2B.2	Desert dunes, Mojavean desert scrub, Sonoran desert scrub; Usually sandy, sometimes gravelly. Flats, washes, and	Not expected to occur. The site is outside of the species' known elevation

Table 5
Special-Status Plants with Potential to Occur in the Proposed Project Site

Scientific Name	Common Name	Status (Federal/State/ CRPR)	Primary Habitat Associations/ Life Form/ Blooming Period/ Elevation Range (feet)	Potential to Occur
			roadsides/annual / perennial herb/Feb–June/-195–3050	range and there is no suitable habitat present.
Calliandra eriophylla	pink fairy- duster	None/None/2B.3	Sonoran desert scrub (sandy or rocky)/perennial deciduous shrub/Jan–Mar/390–4920	Not expected to occur. Not expected to occur. The site is outside of the species' known elevation range and there is no suitable habitat present.
Castela emoryi	Emory's crucifixion- thorn	None/None/2B.2	Mojavean desert scrub, Playas, Sonoran desert scrub; gravelly/perennial deciduous shrub/(Apr)June–July(Sep– Oct)/295–2380	Not expected to occur. The site is outside of the species' known elevation range and there is no suitable habitat present.
Croton wigginsii	Wiggins' croton	None/SR/2B.2	Desert dunes, Sonoran desert scrub (sandy)/perennial shrub/Mar–May/160–330	Not expected to occur. The site is outside of the species' known elevation range and there is no suitable habitat present.
Cylindropuntia wolfii	Wolf's cholla	None/None/4.3	Sonoran desert scrub/perennial stem succulent/Mar–May/325–3935	Not expected to occur. The site is outside of the species' known elevation range and there is no suitable habitat present.
Eucnide rupestris	annual rock-nettle	None/None/2B.2	Sonoran desert scrub/annual herb/Dec–Apr/1640–1970	Not expected to occur. The site is outside of the species' known elevation range and there is no suitable habitat present.
Euphorbia abramsiana	Abrams' spurge	None/None/2B.2	Mojavean desert scrub, Sonoran desert scrub; sandy/annual herb/(Aug)Sep–Nov/-15–4300	Not expected to occur. No suitable habitat present.
Funastrum utahense	Utah vine milkweed	None/None/4.2	Mojavean desert scrub, Sonoran desert scrub; sandy or gravelly/perennial herb/(Mar)Apr–June(Sep–Oct)/325– 4710	Not expected to occur. The site is outside of the species' known elevation range and there is no suitable habitat present.
Imperata brevifolia	California satintail	None/None/2B.1	Chaparral, Coastal scrub, Mojavean desert scrub, Meadows and seeps (often alkali), Riparian scrub; mesic/perennial rhizomatous herb/Sep– May/0–3985	Low potential to occur. Suitable habitat is sparse and isolated.
Ipomopsis effusa	Baja California ipomopsis	None/None/2B.1	Chaparral, Sonoran desert scrub (alluvial fan); sandy/annual herb/Apr– June/0–330	Not expected to occur. No suitable habitat present.

Table 5
Special-Status Plants with Potential to Occur in the Proposed Project Site

Scientific Name	Common Name	Status (Federal/State/ CRPR)	Primary Habitat Associations/ Life Form/ Blooming Period/ Elevation Range (feet)	Potential to Occur
Johnstonella costata	ribbed cryptantha	None/None/4.3	Desert dunes, Mojavean desert scrub, Sonoran desert scrub; sandy/annual herb/Feb–May/-195–1640	Not expected to occur. The site is outside of the species' known elevation range and there is no suitable habitat present.
Johnstonella holoptera	winged cryptantha	None/None/4.3	Mojavean desert scrub, Sonoran desert scrub/annual herb/Mar–Apr/325–5545	Not expected to occur. The site is outside of the species' known elevation range and there is no suitable vegetation present.
Lycium parishii	Parish's desert-thorn	None/None/2B.3	Coastal scrub, Sonoran desert scrub/perennial shrub/Mar–Apr/440– 3280	Not expected to occur. The site is outside of the species' known elevation range and there is no suitable habitat present.
Malperia tenuis	brown turbans	None/None/2B.3	Sonoran desert scrub (sandy, gravelly)/annual herb/(Feb)Mar–Apr/45–1100	Not expected to occur. No suitable habitat present.
Mentzelia hirsutissima	hairy stickleaf	None/None/2B.3	Sonoran desert scrub (rocky)/annual herb/Mar–May/0–2295	Not expected to occur. No suitable habitat present.
Nama stenocarpa	mud nama	None/None/2B.2	Marshes and swamps (lake margins, riverbanks)/annual / perennial herb/Jan–July/15–1640	Low potential to occur. Suitable habitat is sparse and isolated.
Pilostyles thurberi	Thurber's pilostyles	None/None/4.3	Sonoran desert scrub/perennial herb (parasitic)/Dec–Apr/0–1200	Not expected to occur. No suitable habitat present.

Status Legend:
State:
SR: State Rare
CRPR: California Rare Plant Rank
CRPR 1B: Plants Rare, Threatened, or Endangered in California and Elsewhere
CRPR 2B: Plants Rare, Threatened, or Endangered in California, But More Common Elsewhere CRPR 4: Plants of Limited Distribution - A Watch List

3.4 Wildlife Resources

A total of 21 wildlife species were recorded within the proposed Project Area (see Appendix C). Bird species observed include common raven (*Corvus corax*), black phoebe (*Sayornis nigricans*), American kestrel (*Falco sparverius*), western meadowlark (*Sturnella neglecta*), mourning dove (*Zenaida macroura*), greater yellowlegs (*Tringa melanoleuca*), cattle egret (*Bubulcus ibis*), great egret (*Ardea alba*), turkey vulture (*Cathartes aura*), and burrowing

owl (*Athene cunicularia*; CDFW SSC). Two mammal species or their sign were observed including coyote (*Canis latrans*) and raccoon (*Procyon lotor*).

Results of focused burrowing owl surveys are discussed in this section 3.4. No additional special-status wildlife species were detected incidentally during the 2017 biological surveys. Special-status wildlife species that have the potential to occur in the proposed Project site are listed in Table 6 and discussed in terms of their life history in this section 3.4. Those that occur in the region but that are not expected to occur in the proposed Project site, due for example, to a lack of suitable habitat, are also included in Table 6. The wildlife species that have a low to no likelihood of occurring are not discussed further in this report because no significant direct, indirect, or cumulative impacts are expected to result from the proposed Project. Because focused surveys were not conducted for wildlife species other than burrowing owl, the potential for the species to occur is based on a literature review and the data collected during the general biological survey for the proposed Project.

Table 6
Special-Status Wildlife Species Potential to Occur in the Proposed Project Area

Scientific Name	Common Name	Status (Federal/State/ Other)	Primary Habitat Associations	Potential to Occur
Amphibians				
Lithobates pipiens (native populations only)	northern leopard frog	None/SSC	Adjacent to permanent and semi- permanent water in a range of habitats	Low potential to occur. Last known observation in Project vicinity in 1929.
Lithobates yavapaiensis	lowland (=Yavapai, San Sebastian and San Felipe) leopard frog	None/SSC	Streams, river side channels, springs, and artificial and natural ponds in desert scrub, grassland, woodland, and pinyon–juniper woodland	Low potential to occur. Habitat is sparse and isolated by surrounding agricultural practices.
Reptiles				
Phrynosoma mcallii	flat-tailed horned lizard	None/SSC	Desert washes and flats with sparse low-diversity vegetation cover and sandy soils	Not expected to occur. No suitable habitat present.
Birds				
Athene cunicularia (burrow sites and some wintering sites)	burrowing owl	BCC/SSC	Nests and forages in grassland, open scrub, and agriculture, particularly with ground squirrel burrows	Observed. This species and active burrow sites were observed on-site during surveys conducted between April 12, 2017 and September 28, 2017. None were observed during the general site visit on April 12, 2018, which focused on the western portions of the site.

Table 6
Special-Status Wildlife Species Potential to Occur in the Proposed Project Area

Scientific Name	Common Name	Status (Federal/State/ Other)	Primary Habitat Associations	Potential to Occur
Charadrius montanus (wintering)	mountain plover	BCC/SSC	Winters in shortgrass prairies, plowed fields, open sagebrush, and sandy deserts	Not expected to winter on site. No suitable wintering or nesting habitat present. There is low potential for this species could forage on site during migration.
Laterallus jamaicensis coturniculus	California black rail	None/ST, FP	Tidal marshes, shallow freshwater margins, wet meadows, and flooded grassy vegetation; suitable habitats are often supplied by canal leakage in Sierra Nevada foothill populations	Moderate potential to occur. Suitable habitat present within the canals on site; however, they are narrow and poorly vegetated – therefore, do not provide as high quality habitat compared to larger canals in the area.
Pyrocephalus rubinus (nesting)	vermilion flycatcher	None/SSC	Nests in riparian woodlands, riparian scrub, and freshwater marshes; typical desert riparian with cottonwood, willow, mesquite adjacent to irrigated fields, ditches, or pastures	Low potential to nest on site. Site has been heavily disturbed by agricultural practices. Potential nesting habitat exists within some irrigation canals, however it is sparse and non-contiguous. May forage on site.
Rallus obsoletus yumanensis	Yuma Ridgway's rail	FE/ST, FP	Freshwater marsh dominated by *Typha* spp., *Scirpus* spp., *Schoenoplectus* spp., and *Bolboschoenus* spp.; mix of riparian tree and shrub species along the marsh edge; many occupied areas are now man-made, such as managed ponds or effluent-supported marshes	Moderate potential to occur. Suitable habitat present within the canals on site; however, they are narrow and poorly vegetated - therefore, do not provide as high quality habitat compared to larger canals in the area.
Setophaga petechia (nesting)	yellow warbler	BCC/SSC	Nests and forages in riparian and oak woodlands, montane chaparral, open ponderosa pine, and mixed-conifer habitats	Low potential to nest. No suitable habitat present in Project site.
			Mammals	
Eumops perotis californicus	western mastiff bat	None/SSC	Chaparral, coastal and desert scrub, coniferous and deciduous forest and woodland; roosts in crevices in rocky canyons and cliffs where the canyon or cliff is vertical or nearly vertical, trees, and tunnels	Low potential to occur. No suitable roosting habitat present. May use the site to forage.
Lasiurus xanthinus	western yellow bat	None/SSC	Valley–foothill riparian, desert riparian, desert wash, and palm oasis habitats; below 2,000 feet above mean sea level; roosts in riparian and palms	Low potential to occur. No suitable roosting habitat present. May use the site to forage.

Table 6
Special-Status Wildlife Species Potential to Occur in the Proposed Project Area

Scientific Name	Common Name	Status (Federal/State/ Other)	Primary Habitat Associations	Potential to Occur
Neotoma albigula venusta	Colorado Valley woodrat	None/None	Desert areas; closely associated with patches of beavertail cactus and mesquite	Low potential to occur. Site has been heavily disturbed by agricultural practices. Potential habitat exist within some irrigation canals, however it is sparse and non-contiguous.
Nyctinomops femorosaccus	pocketed free-tailed bat	None/SSC	Pinyon–juniper woodlands, desert scrub, desert succulent shrub, desert riparian, desert wash, alkali desert scrub, Joshua tree, and palm oases; roosts in high cliffs or rock outcrops with drop-offs, caverns, and buildings	Low potential to occur. No suitable roosting habitat present. May use the site to forage.
Nyctinomops macrotis	big free-tailed bat	None/SSC	Rocky areas; roosts in caves, holes in trees, buildings, and crevices on cliffs and rocky outcrops; forages over water	Low potential to occur. No suitable roosting habitat. May use the site to forage.
Sigmodon hispidus eremicus	Yuma hispid cotton rat	None/SSC	Backwater sloughs, marshy areas adjacent to Colorado River	Low potential to occur. Site has been heavily disturbed by agricultural practices. Potential habitat exist within some irrigation canals, however it is sparse and non-contiguous.
Taxidea taxus	American badger	None/SSC	Dry, open, treeless areas; grasslands, coastal scrub, agriculture, and pastures, especially with friable soils	Not expected to occur. No suitable habitat. Site has been heavily disturbed by agricultural practices.

Federal:
FE: Federally Endangered
BCC = USFWS bird of conservation concern
State:
SSC: California Species of Special Concern ST: State Threatened
FP: California Fully Protected Species

Burrowing Owl

The burrowing owl (*Athene cunicularia*) is a SSC and Bird of Conservation Concern (BCC) that inhabits much of California. Burrowing owls prefer open, dry, annual or perennial grasslands, deserts, and scrublands characterized by low-growing vegetation. They usually nest in the old burrow of a ground squirrel, badger, or other small mammal, although they may dig their own burrow in soft soil. Within disturbed or developed areas, burrowing owls may also nest in burrow

surrogates (e.g., rock cavities, pipes, culverts, debris piles). Their prey consists mostly of insects, small mammals, reptiles, birds, and carrion.

Due to the high potential for burrowing owl to occur (i.e., flat topography, open vegetation, suitable burrow structures) within the Project Area, Dudek conducted focused surveys for burrowing owl between April 12, 2017 and September 28, 2017. The Project Area is dominated by heavily disturbed, fallow fields developed for cropland and agricultural fields. Thus, the survey was conducted such that 100% coverage of the entire Project Area was covered.

Biologists observed burrows during all four survey passes and burrowing owls during the first three survey passes. A total of 17 active burrow locations were recorded (Figure 3). Single and complexes of burrows of appropriate size detected on site that supported burrowing owls included ground burrows, gaps in concrete culverts, pipes, and burrows from water erosion cavities. Burrowing owl sign was observed and recorded at burrow entrances in order to assess burrowing owl activity. A total of 5 burrowing owls were observed within the Project Area, including one pair (Figure 3).

California Black Rail

The California black rail (*Laterallus jamaicensis coturniculus*) is designated as State threatened and a fully-protected species in California and primarily occurs in California, Arizona, Baja California, and the Colorado River delta in Sonora. Suitable California black rail habitat generally includes salt marshes, freshwater marshes, and wet meadows. The species is typically identified in conjunction with common threesquare (*Schoenoplectus pungens*), arrowweed (*Pluchea sericea*), Fremont cottonwood (*Populus fremontii*), and seepwillow (*Baccharis salicifolia*). The California black rail typically prey on small (<1 centimeter [0.39 inch]) invertebrates, chiefly insects, gleaned from marsh vegetation and mudflats; they also eat small seeds (Eddleman et al. 1994). No California black rail were detected in the proposed Project site during the 2017 general biological survey. There are no CNDDB occurrences found within the Project Area and no focused surveys were performed. The closest records are located approximately 8.5 miles north of the Project Area near the New River and are dated 2001. Suitable habitat is present within irrigation ditches located in the Project Area (Figure 3).

Yuma Ridgeway's Rail

The Yuma Ridgeway's rail (*Rallus obsoletus yumanensis*) is designated as threatened and a fully- protected species in California and is federally listed as endangered. The Yuma Ridgeway's rail is primarily known to breed in freshwater, but winter in brackish water (Anderson and Ohmart 1985). The preferred habitat consists of cattails (*Typha* spp.) and bulrush (*Scirpus* ssp.). The Yuma Ridgeway's rail primarily feeds on introduced species of

crayfish, small fish, insects, amphibian larvae, clams, and other aquatic invertebrates. No Yuma Ridgeway's rail were detected in the proposed Project site during the 2017 general biological survey. There are no CNDDB or USFWS occurrences found within the Project Area and no focused surveys were performed. The closest records are from 2007 and 2014, located in a marsh approximately 5 miles north of the Project Area (USFWS 2017a; CDFW 2017c). Suitable habitat is present within irrigation ditches located in the Project Area (Figure 3).

Critical Habitat

There is no USFWS-designated critical habitat for within 5 miles of the Project area (USFWS 2014).

3.5 Wildlife Movement

Wildlife corridors are linear features that connect large patches of natural open space and provide avenues for the migration of animals. Habitat linkages are small patches that join larger blocks of habitat and help reduce the adverse effects of habitat fragmentation; they may be continuous habitat or discrete habitat islands that function as stepping stones for wildlife dispersal.

Because the proposed Project site is primarily surrounded by, and includes extensive historical and present day agricultural practices along with operating solar facilities (see Figure 3), the site has limited value as a potential wildlife corridor or habitat linkage for most wildlife species. The irrigation canals are not large enough to support large populations of birds, amphibians and other wildlife species associated with water and riparian vegetation; however, it could provide stopover habitat for migratory species. The agriculture fields provide habitat for migratory birds that forage in open fields. As such, the Project site likely does not serve as an important wildlife corridor or habitat linkage for larger mammals and species that are limited to native habitats, but does provide foraging or stopover habitat for migratory birds.

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4 IMPACTS AND MITIGATION

The purpose of Section 4 is to describe impacts of the proposed Project on sensitive and special-status biological resources that could potentially occur during construction, operations and decommissioning. The significance determinations for potential impacts are described in Section 5.

4.1 Ground-Disturbing Activities Impacts

All ground-disturbing impacts will occur within the Project Area. The approximate acreage of impacts is provided in Tables 7 and 8 based on the preliminary impact footprint that has been determined at this time. Figure 3 shows the areas where impacts are anticipated to occur and is subject to change based on final engineering design.

Table 7
Potential Ground-Disturbing Impacts to Vegetation and land Covers (acres)

Vegetation Communities	Permanent Impact Acres	CUP 1	CUP 2	CUP 3	CUP 4	CUPs 5&6
Arrow Weed Thickets	0.02	0.00	0.00	0.02	0.00	0.00
Cattail Marshes Alliance	<0.01	0.00	0.00	0.01	0.00	0.00
Tamarisk Thickets	0.01	0.00	0.00	0.01	0.00	0.00
Land Covers	**Permanent Impact Acres**	**CUP 1**	**CUP 2**	**CUP 3**	**CUP 4**	**CUPs 5&6**
Open Water	<0.01	0.00	0.01	0.00	0.00	0.00
Agriculture	749.86	152.12	160.9	152.41	156.26	128.20
Disturbed Habitat	23.05	7.34	2.16	5.50	8.01	0.00
Total Acreage*	**772.95**	**159.46**	**163.07**	**157.56**	**164.27**	**128.20**

* Total acreages may not sum due to rounding.

Table 8
Potential Ground-Disturbing Impacts to Jurisdictional Resources from Proposed Project (acres)

Vegetation Community	ACOE/ RWQCB/ CDFW	CDFW-Only	CUP 1 ACOE/ RWQCB/ CDFW	CUP 1 CDFW-Only	CUP 2 ACOE/ RWQCB/ CDFW	CUP 2 CDFW-Only	CUP 3 ACOE/ RWQCB/ CDFW	CUP 3 CDFW-Only	CUP 4 ACOE/ RWQCB/ CDFW	CUP 4 CDFW-Only	CUPs 5 & 6 ACOE/ RWQCB/ CDFW	CUPs 5 & 6 CDFW-Only
Wetland Waters/Riparian Habitat												
Arrow Weed Thickets	--	0.02	--	--	--	--	--	0.02	--	--	--	--
Cattail Marshes	<0.1	--	--	--	--	--	--	--	--	--	--	--
Tamarisk Thickets	<0.1	<0.1	--	--	--	--	0.01	0.01	--	--	--	--
Wetland Waters/Riparian Habitat Subtotal	*0.01*	*0.03*	*0*	*0*	*0*	*0*	*0.01*	*0.03*	*0*	*0*	*0*	*0*
Non-Wetland Waters/Streambed												
Open Water	<0.01	--	--	--	0.01	--	--	--	--	--	--	--
Non-Wetland Waters/Streambed Subtotal	*<0.01*	--	--	--	--	--	*0.01*	--	--	--	--	--
Grand Total	**0.01**	**0.03**	**0**	**0**	**0.01**	**0**	**0.01**	**0**	**0**	**0**	**0**	**0**

* Total acreages may not sum due to rounding.

4.2 Thresholds of Significance

The following are the significance thresholds for biological resources provided in the CEQA Appendix G Environmental Checklist, which states that a Project could potentially have a significant effect if it:

1. Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by the CDFW or USFWS (**Threshold Bio-1**).
2. Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations, or by the CDFW or USFWS (**Threshold Bio-2**).
3. Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means (**Threshold Bio- 3**).
4. Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites (**Threshold Bio-4**).
5. Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance (**Threshold Bio-5**).
6. Conflict with the provisions of an adopted HCP, Natural Community Conservation Plan, or other approved local, regional, or state HCP (**Threshold Bio-6**).

4.2.1 Definition of Impacts

This section defines the types of impacts considered in this report to analyze the potential effects of the proposed project on biological resources. The proposed project is shown on Figure 3. These impacts are discussed in more detail as follows.

Direct Impacts refer to 100% loss of a biological resource. For purposes of this report, direct permanent impacts refer to the areas where the development, roads, and other features are proposed. Direct temporary impacts refer to the areas where grading and temporary construction areas are proposed within the open space; these areas will be restored and thus are considered temporary. Direct impacts were quantified by overlaying the proposed impacts on GIS-located biological resources.

Indirect impacts are reasonably foreseeable effects caused by project implementation on remaining or adjacent biological resources outside the proposed development, roads, and other features. Indirect impacts may affect areas within the defined project area but outside the limits of grading, 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 development of the project site. 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.

4.3 Threshold Bio-1

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

4.3.1 Special-Status Plants

As described in Section 3.3, there is low potential for special-status plant species to occur on site. In general, due to the predominately active agriculture nature of the site and close proximity of surrounding active agriculture, it is unlikely that any special-species plant species would be present in the Project site. Special-status plants are not anticipated to be impacted by the proposed Project and will not be further discussed herein.

4.3.2 Special-Status Wildlife

As described in Table 6 and Section 3.4, burrowing owl is the only special-status species that was observed in the Project site during biological surveys conducted in 2017. Two other special-status wildlife species have at least a moderate potential to occur in the proposed Project site, California black rail and Yuma Ridgeway's rail. Potential impacts to each are discussed below under construction impacts and operation impacts. No other special-status wildlife species have high or moderate potential to occur.

4.3.2.1 Construction and Decommissioning Impacts

Two types of construction-related direct impacts can potentially occur to special-status wildlife species: impacts to habitat and impacts to the species from injury or mortality of individuals of the species. Absent the proposed mitigation measures, impacts causing injury or mortality of individuals could include, for example, crushing of low-mobility species during grading, entombment of burrowing species during grading, collisions with construction equipment, and destruction of bird nests during vegetation removal or grading. Construction-related indirect impacts include noise, human activity, and dust.

Similar to construction, decommissioning will consist of various activities with potential for impacts absent proposed mitigation measures.

Direct impacts to habitat (conversion of potential habitat to durable Project features) would be significant absent mitigation.

Birds

Burrowing Owl

Burrowing owls and active burrow sites were recorded within the Project site during focused surveys conducted in 2017. Absent the recommended mitigation measures, potential construction-related direct impacts to burrowing owl could result from unintentional clearing, trampling, or grading outside of the construction zone. Additionally, ground disturbances could potentially result in destruction of burrowing owl dens, destruction of nests, eggs, and young, and entombment of adults. Burrowing owls could be affected by construction-related noise and increased human presence. Burrowing owl is an SSC that has experienced declines in California and loss of individuals, destruction of occupied nests, and indirect impacts that result in either of these impacts are prohibited by federal and state law and considered a significant impact.

Construction mitigation measure MM-BIO-3 (burrowing owl pre-construction surveys and avoidance/relocation plan) would result in identification of any burrowing owls present at the time of construction within areas potentially impacted by the Project, establishment of appropriate buffers, and avoidance/minimization of impacts to burrowing owl. MM-BIO-1 (general construction-related avoidance and minimization measures) would limit vehicles and construction equipment to identified non-impact areas and would limit ingress and egress to established roads. MM-BIO-2 (WEAP training, biological monitoring, and compliance) would further ensure no take of, and avoidance of impacts to, burrowing owls.

Construction-related direct impacts to burrowing owl would be less than significant with incorporation of MM-BIO-1, MM-BIO-2, and MM-BIO-3.

California Black Rail and Yuma Ridgeway's Rail

California black rail and Yuma Ridgeway's rail were not recorded during the 2017 surveys; however, suitable habitat occurs in small quantities within the irrigation canals in the proposed Project site. Focused surveys were not conducted within the proposed Project site; therefore, impacts are conservatively based upon the presence of a small amount of suitable habitat within the canals. The closest record for Yuma ridgeway's rail is located approximately 5 miles north and for California black rail, approximately 8.5 miles north (CDFW 2017c; USFWS 2017a). Absent the recommended mitigation measures, which are designed to avoid take, potential construction-

related direct impacts to California black rail and Yuma Ridgeway's rail could result from unintentional clearing, trampling, or grading outside of the construction zone. There are very small potential impact areas within the IID drains (see Figure 3), which are required to install drainage connections. Direct impacts to habitat to suitable habitat total approximately 0.03 acre and spread out amount various drainage connections; therefore, loss of such a small amount of potential habitat is less than significant. Ground disturbances could potentially result in destruction of nests, eggs, and/or young if one of both of these species nests on site. Rails could be affected by construction-related noise and increased human presence. Loss of individuals or destruction of nests, or indirect impacts that cause loss of individuals, are considered a significant impact.

Construction mitigation measure MM-BIO-4 (nesting bird pre-construction surveys and avoidance plan) would result in identification of any California black rails and Yuma Ridgeway's rails within areas potentially impacted by construction of the Project, establishment of appropriate buffers, and avoidance of impacts to California black rail and Yuma Ridgeway's rail. MM-BIO-1 (general construction-related avoidance and minimization measures) would limit vehicles and construction equipment to identified non-impact areas and would limit ingress and egress to established roads. MM-BIO-2 (WEAP training, biological monitoring, and compliance) would further ensure avoidance of impacts to California black rails and Yuma Ridgeway's rails.

These species are fully protected and construction-related direct impacts to California black rail and Yuma Ridgeway's rail would be avoided with incorporation of MM-BIO-1, MM-BIO-2, and MM-BIO-4.

4.3.2.2 Operations Impacts

Potential impacts during Project operations could result from lighting, noise, dust, increased human activity, collision hazards, electromagnetic affects, and altered hydrology generated from the solar and energy storage facilities.

All permanent lighting would be low-profile fixtures that point inward toward the solar energy facility with directional hoods or shades to reduce light from shining into the adjacent habitat and disturbing birds or exposing them to increased visibility by predators. In addition, any lighting not required daily for security purposes will have motion sensor or temporary use capabilities. As such, no significant impact under CEQA due to lighting is anticipated to occur to migratory birds because the vast majority of the light will be directed onto the facility, not onto adjacent habitat and because the lights will not be on continuously. Thus, the lighting will not interfere substantially with the movement of migratory bird species or have a substantial effect on habitat.

The Project Area is actively farmed and there are solar facilities operating to the east and south of the Project Area. No equipment or components are anticipated to produce noise that would exceed ambient noise in the vicinity. No significant impact under CEQA due to noise would occur to migratory birds because their movement and habitat will not be substantially affected.

Dust from vehicles could affect suitable habitat for special-status species. Increased human activity can deter wildlife from using habitat areas near the Proposed Project as well as increase the potential for vehicle collisions.

The Proposed Project could potentially increase the risk of collisions due to sky reflection (or "pseudo-lake effect"). Although avian collisions with towers and structures have been well documented, there are few published papers that study the possibility that large areas of solar PV panels in the desert environment may mimic water bodies and inadvertently attract migrating or dispersing wetland bird species. Polarized reflections from solar PV arrays have been observed to attract insects (Horvath et al. 2010), which could in turn attract other sensitive wildlife, such as bats, but the magnitude of this effect is unknown, since no comprehensive scientific studies have been conducted for this potential phenomenon. Anecdotal studies are beginning to show that some gleaning bat species may actually benefit from solar facilities and use those facilities for foraging purposes more than adjacent areas. There is currently insufficient research to assess the magnitude or likely risk associated with collisions with solar fields. The solar PV modules would be coated to be non-reflective and are designed to be highly absorptive of all light that strikes their glass surfaces. Based on the evidence available—non-reflective design of the solar panels, distance from large water bodies, distance from agricultural areas, typical migration patterns, comparatively few documented deaths—glare and pseudo-lake effect are not expected to result in significant impacts to migrating or local avian species. Bats are not expected to be affected by collision with the static facilities as they would "view" or "see" these facilities (through echolocation) as any other stable physical obstacle in their environment (like boulders, trees, and buildings). The overhead gen-tie transmission lines, however, increase the potential for avian collisions, which is considered a significant impact.

It is known that migrating birds use electromagnetic directional senses and that artificial electromagnetic pulses can cause a response in some migration behaviors in some species (Holland and Helm 2013). However, there is very little scientific information available, and a discussion of the potential Project impacts would be speculative.

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. Water, and associated runoff,

used during operation and maintenance activities will be contained within the Proposed Project Area, thereby reducing those impacts to below significant.

Potential indirect impacts associated with dust, increased human activities and collisions are considered a significant impact. MM-BIO-1 minimizes long-term effects from dust by imposing speed limits on site and limits allowed activities to reduce effects from increased human activity; MM-BIO-2 provides worker training operational staff to minimize impacts associated with increased human activity; and MM-BIO-5 requires all transmission towers and lines to implement measures that protect raptors and other birds from electrocution.

4.3.3 Mitigation Measures

MM-BIO-1 General Avoidance and Minimization Measures

Debris/Non-native Vegetation/Pollution

- Fully covered trash receptacles that are animal-proof will be installed and used on site to contain all food, food scraps, food wrappers, beverage containers, and other miscellaneous trash.
- No litter or debris will be discharged into state-jurisdictional waters.
- Work areas shall be kept clean of debris, such as trash, and construction materials.

Vehicle and Equipment Restrictions and Maintenance

- Night-time construction should be minimized to the extent possible. However, if night-time activity (e.g., equipment maintenance) is necessary, then the speed limit shall be 10 mph.
- Vehicle operation within jurisdictional resources when surface water is present will be prohibited except as necessary to perform work in IID facilities pursuant to ACOE, RWQCB, and/or CDFW permits and/or authorizations. Any equipment or vehicles driven and/or operated within or adjacent to a state-jurisdictional channel 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.
- Vehicles and equipment access will be limited to the identified impact areas and speed limit of 15 mph will be enforced. The work areas and sensitive areas will be flagged prior to construction in order to ensure construction activities remain within the approved work limits. During operations and

maintenance, vehicles and equipment will be restricted from entering sensitive habitat, and limited to maintenance access roads, where feasible, and the minimal area necessary to perform the work.

- Staging and storage areas for spoils, equipment, materials, fuels, lubricants, and solvents will be located outside the state-jurisdictional channels and within the designated impact area. Stationary equipment, such as motors, pumps, generators, compressors, and welders, located adjacent to state-jurisdictional waters shall be positioned over drip-pans or other containment. Prior to refueling and lubrication, vehicles and other equipment shall be moved away from the jurisdictional waters.

Other Restrictions on Activities and Personnel

- No pets, such as cats or dogs, permitted on the Project site during construction or operations and maintenance.
- Any contractor, employee, or agency personnel who kills, injures, or traps a wildlife species shall immediately report the incident to the Project biologist during construction and the operations manager during operations and maintenance.
- All pipes, culverts, or similar structures with a diameter of 4 inches or more that are stored at a construction site for one or more overnight periods shall be thoroughly inspected for special-status wildlife and nesting birds before the pipe is subsequently buried, capped, or otherwise used or moved in any way, and subsequently covered to prevent entry to nesting birds and other wildlife. If an animal is discovered inside a pipe, that section of pipe shall not be moved until the Project biologist has been consulted and the animal has either moved from the structure on its own accord or until the animal has been captured and relocated by a qualified biologist.

MM-BIO-2 Environmental Awareness Training, Biological Monitoring, and Compliance

Worker Environmental Awareness Program and Ongoing Training

Prior to the initiation of any on-site grading, all construction/contractor personnel working on site must complete training through a Worker Environmental Awareness Program (WEAP). New construction workers engaged in construction activities (e.g., grading, utility installation, etc.) shall complete WEAP training within the first week of deployment on the site. Additionally, operational staff shall complete WEAP training prior to deployment on the site.

Biological Monitoring and Compliance Documentation

The Project biologist shall perform the biological monitoring and compliance documentation for the Project during construction, including the following:

- Prior to the initiation of any on-site grading, the Project biologist will document that required pre-construction surveys and/or relocation efforts have been implemented.
- The Project biologist will periodically monitor activities during initial grading.
- The Project biologist will note any evidence of trash and, if present, communicate the presence and requirement to remove the trash to the construction manager.
- The Project Biologist shall have the following minimum qualifications: (1) Have a bachelor's degree in biological sciences, zoology, botany, ecology or a closely related field; (2) Have at least 2 years of experience in biological compliance for construction projects; and (3) Have at least 1 year of field experience with biological resources found in the geographic region of the Project.

MM-BIO-3 Burrowing Owl Surveys and Avoidance/Relocation.

No more than 14 days prior to ground-disturbing activities (vegetation clearance, grading), a qualified wildlife biologist (i.e., a wildlife biologist with previous burrowing owl survey experience) shall conduct pre-construction take avoidance surveys on and within 656 feet of the construction zone (where safe and legally accessible) to identify occupied breeding or wintering burrowing owl burrows. The two-pass take avoidance burrowing owl surveys shall be conducted in accordance with the Staff Report on Burrowing Owl Mitigation (2012 Staff Report; CDFG 2012) and shall consist of walking parallel transects 22 feet to 65 feet apart, adjusting for vegetation height and density as needed, and noting any suitably sized burrows with fresh burrowing owl sign or presence of burrowing owls. As each burrow is investigated, biologists shall also look for signs of American badger and desert kit fox. Copies of the burrowing owl survey results will be submitted to the CDFW.

If burrowing owls are detected on site, no ground-disturbing activities will be permitted within 656 feet of an occupied burrow during the breeding season (February 1 to August 31), unless otherwise authorized by CDFW. During the nonbreeding season (September 1 to January 31), ground-disturbing work can

proceed near active burrows as long as the work occurs no closer than 165 feet from the burrow. Depending on the level of disturbance, a smaller buffer may be established in consultation with CDFW.

If avoidance of active burrows is infeasible during the nonbreeding season, then, before breeding behavior is exhibited and after the burrow is confirmed empty by site surveillance and/or scoping, a qualified biologist shall implement a passive relocation program in accordance with Appendix E (i.e., Example Components for Burrowing Owl Artificial Burrow and Exclusion Plans) of the 2012 Staff Report. Passive relocation consists of excluding burrowing owls from occupied burrows by closing or collapsing the burrows and providing suitable artificial burrows nearby for the excluded burrowing owls.

Where required buffering will not be feasible, passive relocation is an option in consultation with CDFW, but it is preferred to install appropriate artificial burrows (in accordance with the negotiated Plan) and then let the owls decide whether they would like to abandon the existing burrow. Only burrows that are in danger by construction should be collapsed if at all possible.

A Burrowing Owl Relocation Plan will be prepared and approved by CDFW prior to commencement of burrowing owl exclusion activities if this method of mitigation is required. The plan will detail the procedures of the passive relocation effort, the location of constructed replacement burrows, design of replacement burrows, and post relocation monitoring requirements.

MM-BIO-4 Nesting Bird Pre-construction Surveys and Avoidance Plan.

The Project biologist shall conduct pre-construction surveys no earlier than 7 days prior to any on-site grading and construction activities that occurs during the nesting season defined as February 1 – September 15 or as determined by the Project biologist. Pre- construction surveys shall be conducted within the designated construction area and a 500-foot buffer (where safe and legally accessible). Burrowing owl measures are addressed in MM-BIO-3.

The purpose of the pre-construction surveys will be to determine whether occupied nests are present in the construction zone or within 500 feet of the construction zone boundary on lands that are legally accessible.

If occupied nests are found, then limits of construction to avoid occupied nests shall be established by the Project biologist in the field with flagging, fencing, or other appropriate barriers (e.g., 250 feet around active passerine nests to 500

feet around active raptor nests), and construction personnel shall be instructed on the sensitivity of nest areas. The Project biologist may adjust the 250-foot or 500-foot setback at his or her discretion depending on the species and the location of the nest (e.g., if the nest is well protected in an area buffered by dense vegetation the setback may be reduced). Once a Project biologist has determined that the birds have fledged and are no longer reliant upon the nest or parental care for survival, construction may proceed.

MM-BIO-5 All transmission towers and lines are designed to conform to Avian Power Line Interaction Committee (APLIC) standards. APLIC standards identify the necessary physical separation between energized and/or grounded structures, conductors, hardware, or equipment to avoid the potential for that to be bridged by birds, thus avoiding the potential for electrocution. The Proposed Project shall implement recommendations by the APLIC (2006, 2012) to protect raptors and other birds.

4.4 Threshold Bio-2

Would the Project have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations, or by the CDFW or USFWS?

Sensitive Vegetation Communities

Special-status or sensitive vegetation communities found within the Project Area includes arrow weed thickets alliance. Although not considered a sensitive vegetation community according to the Natural Communities List (CDFG 2010), an additional wetland/riparian vegetation community is found within the Project site: cattail marshes alliance. Sensitive vegetation communities are located within IID drainage facilities that are not anticipated for improvements beyond minor drain improvements and 34.5 kV collection crossings.

4.4.1 Construction Impacts

The proposed Project will potentially permanently impact three sensitive vegetation communities/regulated resources: arrow weed thickets alliance, tamarisk thickets and of cattail marshes alliance (Table 7; Figure 3). Impacts to sensitive/regulated resources are minimal, however these impacts would be significant absent mitigation.

Direct impacts to sensitive vegetation communities/regulated will be mitigated through MM-BIO-6 which requires compliance with federal and state agency permits that may include compensatory

mitigation or habitat restoration. As a result, permanent direct impacts to sensitive vegetation communities/regulated would be less than significant with incorporation of MM-BIO-6.

4.4.2 Operations Impacts

No long-term operations-related direct impacts to sensitive vegetation communities are expected to occur because MM-BIO-1 (general avoidance and minimization measures) would limit vehicles and equipment to identified non-impact areas and would limit ingress and egress to established roads. MM-BIO-2 (WEAP training, biological monitoring, and compliance) would further ensure avoidance of impacts to sensitive areas during operations.

4.4.3 Mitigation Measures

MM-BIO-6 Federal and State Agency Permits

To comply with the state and federal regulations for impacts to jurisdictional resources regulated by the United States/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 County that such an agreement or permit is not required if development activities are proposed within jurisdictional waters:
    - A Clean Water Act Section 404 permit issued by the ACOE for all Project- related disturbances of jurisdictional non-wetland waters and/or wetlands.
    - A Clean Water Act Section 401 permit issued by the RWQCB for all Project- related disturbances of jurisdictional non-wetland waters and/or wetlands.
    - A Section 1602 Streambed Alteration Agreement issued by the CDFW for all Project-related disturbances of any streambed and associated riparian habitat.

4.5 Threshold Bio-3

Would the Project have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?

4.5.1 Construction Impacts

Potential impacts to ACOE waters could occur pending final project design (i.e., ACOE waters on site that cannot be avoided) (Table 8).

Permanent impacts to jurisdictional waters will be mitigated through MM-BIO-6, which requires the applicant to obtain the necessary permits from ACOE for impacts to jurisdictional resources and provide compensatory mitigation.

As a result, permanent direct impacts to jurisdictional wetlands would be less than significant with incorporation of MM-BIO-6.

4.5.2 Operations Impacts

No long-term operations-related direct impacts to jurisdictional waters are expected to occur because MM-BIO-1 (general avoidance and minimization measures) would limit vehicles and equipment to identified non-impact areas and would limit ingress and egress to established roads. MM-BIO-2 (WEAP training, biological monitoring, and compliance) would further ensure avoidance of impacts to sensitive areas during operations.

4.5.3 Mitigation Measures

See MM-BIO-6, Federal and State Agency Permits, described in Section 4.3.3.

4.6 Threshold Bio-4

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

The proposed Project site is not likely to have direct or indirect impacts on movement ***of*** any native resident or migratory fish or wildlife for species because the proposed Project site is primarily surrounded by, and includes extensive historical and present day agricultural practices (see Figure 2). As such, the site has limited value as a potential wildlife corridor or habitat linkage for fish and wildlife species and likely does not serve as an important wildlife corridor. Impacts to wildlife movement would be less than significant and will not be discussed further.

4.7 Threshold Bio-5

Would the Project conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?

The Imperial County General Plan Conservation and Open Space Element establishes goals and objectives, together with implementation programs and policies related to the protection of threatened or endangered plant and wildlife species and cooperation with federal, state, and local agencies (Imperial County General Plan 2016). The Project is consistent with the Imperial County General Plan biological resource policies (see Tables 9 and 10). Therefore, the Project would not conflict with local policies or ordinances protecting biological resources.

Table 9
Imperial County General Plan Goals and Objectives

Conservation of Biological Resources Goals and Objectives
Objective 2.1: Designate critical habitats for Federally and State-listed species.
Objective 2.2: Develop management programs, including preservation of habitat for flat tailed horned lizard, desert pupfish, and burrowing owl.
Objective 2.3: Support investigation of long-term climate change effects on biological resources.
Objective 2.4: Use the CEQA and NEPA process to identify, conserve and restore sensitive vegetation and wildlife resources.
Objective 2.5: Give conservation of sensitive species and habitat a high priority in County park acquisition and development programs.
Objective 2.6: Attempt to identify, reduce, and eliminate all forms of pollution; including air, noise, soil, and water.

Table 10
Imperial County General Plan Consistency Analysis

General Plan Policies and Implementation Measures	Consistency	Analysis
Implementing Programs and Policies		
Policy 1. Provide a framework for the conservation and enhancement of natural and created open space which provides habitat values.	Yes, with mitigation	MM-BIO-1 through MM-BIO-6 will reduce impacts to special-status species, sensitive vegetation communities, and jurisdictional resources to a less-than-significant level. The proposed project would be in compliance with federal and state laws.
1a. Identify Resource Areas to conserve and enhance native vegetation and wildlife. These areas include agency designated sensitive habitats with USFWS, BLM Areas of Critical Environmental Concern (ACECs), and CDFW. These designated lands are	Yes, with mitigation	There are no significant impacts to native vegetation; however, MM-BIO-6 does require the project to obtain permits from ACOE, RWQCB, and CDFW prior to minor impacts to wetland and non-wetland resources.

Table 10
Imperial County General Plan Consistency Analysis

General Plan Policies and Implementation Measures	Consistency	Analysis
designed for the protection and perpetuation of rare, endangered, and threatened species and areas important for scientific study.		
1b. Projects within or in the vicinity of a Resource Area should be designed to minimize adverse impacts on the biological resources it was created to protect.	Yes, with mitigation.	MM-BIO-1 through MM-BIO-6 will reduce impacts to special-status species, sensitive vegetation communities, and jurisdictional resources to a less-than-significant level. The proposed project would be in compliance with federal and state laws.
1c. Accept donations of land which have high wildlife value. Where appropriate, Imperial County shall attempt to exchange donated lands of high wildlife value with other State, Federal, or other resource agencies equipped to protect and manage such lands for other lands more appropriate to County needs.	N/A	No land will be exchanged or donated as part of the proposed project.
1d. Develop an environmental mitigation program that protects, and restores Salton Sea wildlife habitats as offsets to biological disturbances identified through the CEQA review process for development projects. The program would allow the County and/or Salton Sea JPA to restore habitat through financing mechanisms including land banks and/or direct financial contributions from the developers to mitigate their impacts	N/A	Wetland mitigation will be determined through MM-BIO-6.
1e. Conserve the native habitat of sensitive plants and animals through the dedication of open space easements, or other means that will ensure their long-term protection and survival. Such easements may preclude the erecting of any structures (temporary or permanent), vegetation removal, or any other activities. These dedicated open space easements would also serve to reduce potential indirect impacts to sensitive biological resources that may result from human activities associated with future developments	N/A	Impacts to native habitat are very minor and not significant.
1f. Areas designated for biological open space conservation shall include	N/A	Impacts to native habitat are very minor and not significant.

Table 10
Imperial County General Plan Consistency Analysis

General Plan Policies and Implementation Measures	Consistency	Analysis
buffers, which provide important breeding and foraging habitats for native and migratory birds and animals. Such buffers shall serve to separate future development from adjacent native habitat areas to ensure the perpetual regeneration of these habitats		
1g. Protect riparian habitat and other types of wetlands from loss or modification by dedicating open space easements with adequate buffer zones, and by other means to avoid impacts from adjacent land uses. Road crossings or other disturbances of riparian habitat should be minimized and only allowed when alternatives have been considered and determined infeasible.	Yes, with mitigation	MM-BIO-6 will reduce impacts to waters of the U.S. and state subject to regulation by ACOE, CDFW and/or RWQCB.
1h. Rock outcrops which serve as significant boulder habitat for sensitive biological resources should be considered within open space easements.	N/A	There are no rock outcrops within the proposed project.
1i. Preserve existing California fan palms in natural settings and other individual specimen trees which contribute to the community character and provide wildlife habitat.	N/A	There are no California fan palms within the proposed project.
1j. Preserve and encourage the open space designation of wildlife corridors which are essential to the long-term viability of wildlife populations.	N/A	The majority of the native vegetation communities will not be impacted; therefore, habitat for birds and animals will be maintained.
1k. Integrate open space dedications in private developments with surrounding uses to maximize a functional open space/recreation and wildlife management system.	N/A	There are no private developments as part of the proposed project.

4.8 Threshold Bio-6

Would the Project conflict with the provisions of an adopted HCP, NCCP, or other approved local, regional, or state HCP?

Desert Renewable Energy Conservation Plan

BLM has adopted the Desert Renewable Energy Conservation Plan (DRECP), which provides protection and conservation of desert ecosystems while allowing for appropriate development of renewable energy Projects. The Draft DRECP was originally developed as an HCP/Natural Community Conservation Plan (NCCP) and a BLM Land Use Plan Amendment covering both public and private lands across seven counties, including Imperial County. In October 2015, the DRECP BLM Land Use Plan Amendment and Final EIS, which addresses renewable energy, land use, and conservation on BLM lands only, was released (USBLM 2015). Although the DRECP plan area includes the Project area, the DRECP currently only applies to renewable energy Projects on BLM-managed lands and therefore would not be applicable to the proposed Project. The DRECP does not preclude or otherwise prevent or restrict development of renewable energy projects outside of BLM-managed land. Therefore, the proposed Project would not conflict with the goals and policies of the DRECP.

The proposed Project is not located within any other local, regional, or state conservation planning areas. Impacts of the Project on an adopted HCP, NCCP, or other approved local, regional, or state habitat conservation plan would be less-than-significant.

5 LEVEL OF SIGNIFICANCE AFTER MITIGATION

All direct and indirect impacts to sensitive and special-status biological resources that would result from implementation of the proposed Project would be either less than significant or less than significant after mitigation.

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Figure 1 Project Location

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Figure 2 Project Area

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Figure 3 Biological and Jurisdictional Resources

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APPENDIX A

Data Station Forms

APPENDIX B

Compendium of Plan Species Observed

APPENDIX B
Compendium of Plant Species Observed

VASCULAR SPECIES

MONOCOTS

ARECACEAE – PALM FAMILY

* *Phoenix canariensis* – Canary Island date palm

CYPERACEAE – SEDGE FAMILY

Schoenoplectus americanus – American bulrush

POACEAE – GRASS FAMILY

Distichlis spicata – salt grass
Arundo donax – giant reed
Cynodon dactylon – Bermudagrass

TYPHACEAE – CATTAIL FAMILY

Typha domingensis – southern cattail

EUDICOTS

ASTERACEAE – SUNFLOWER FAMILY

Pluchea sericea – arrow weed
Baccharis salicifolia – mulefat

FABACEAE – LEGUME FAMILY

* *Medicago sativa* – alfalfa

TAMARICACEAE – TAMARISK FAMILY

Tamarix chinensis – five-stamen tamarisk

* signifies introduced (non-native) species

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APPENDIX C

Compendium of Wildlife Species Observed

APPENDIX C
Compendium of Widllife Species Observed

BIRD

BLACKBIRDS, ORIOLES AND ALLIES

ICTERIDAE – BLACKBIRDS

Agelaius phoeniceus – red-winged blackbird
Sturnella neglecta – western meadowlark

FALCONS

FALCONIDAE – CARACARAS AND FALCONS

Falco sparverius – American kestrel

HAWKS

ACCIPITRIDAE – HAWKS, KITES, EAGLES, AND ALLIES

Circus hudsonius – northern harrier

FLYCATCHERS

TYRANNIDAE – TYRANT FLYCATCHERS

Sayornis nigricans – black phoebe
Tyrannus verticalis – western kingbird

HERONS AND BITTERNS

ARDEIDAE – HERONS, BITTERNS, AND ALLIES

Ardea alba – great egret
Bubulcus ibis – cattle egret
Egretta thula – snowy egret

JAYS, MAGPIES AND CROWS

CORVIDAE – CROWS AND JAYS

Corvus corax – common raven

LARKS

ALAUDIDAE – LARKS

Eremophila alpestris – horned lark

NEW WORLD VULTURES

CATHARTIDAE – CARDINALS AND ALLIES

Cathartes aura – turkey vulture

OWLS

STRIGIDAE – TYPICAL OWLS

Athene cunicularia – burrowing owl

PIGEONS AND DOVES

COLUMBIDAE – PIGEONS AND DOVES

Zenaida macroura – mourning dove

SHOREBIRDS

SCOLOPACIDAE – SANDPIPERS, PHALAROPES, AND ALLIES

Numenius americanus – long-billed curlew

Tringa melanoleuca – greater yellowlegs

Tringa semipalmata – willet

SWALLOWS

HIRUNDINIDAE – SWALLOWS

Stelgidopteryx serripennis – northern rough-winged swallow

WATERFOWL

ANATIDAE – DUCKS, GEESE, AND SWANS

Anas platyrhynchos – mallard

MAMMAL

CANIDS

CANIDAE – WOLVES AND FOXES

Canis latrans – coyote

RACCOONS

PROCYONIDAE – RACCOONS AND RELATIVES

Procyon lotor – raccoon

DUDEK

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May 30, 2018 10756

Mr. Robert Ferrara
Drew Solar, LLC
PO Box 317
El Centro, California 92244

Subject: ***Results of Burrowing Owl Survey Conducted for the Drew Solar Project, Imperial County, California***

Dear Mr. Robert Ferrara:

This letter reports on a four-pass protocol survey for burrowing owls (*Athene cunicularia*) in support of the Drew Solar Project (Project). The project site is situated near a developed portion of Imperial County (see Figures 1 and 2). Dudek was requested to conduct surveys pursuant to the survey guidelines outlined in Appendix D of the Staff Report on Burrowing Mitigation (CDFG 2012).

PROJECT LOCATION AND DESCRIPTION

The Project is located north of State Route 98 and east of Mandrapa Road, within the Colorado Desert, City of Calexico, Imperial County (Figure 1). The Assessor's Parcel Numbers are 052-170-037, 052-170-056, 052-170-039, 052-170-032, 052-170-031, and 052-170-067. The site is located in Sections 7 and 8 of Township 17 South, Range 13 East of Mount Signal USGS Topographical map quadrangle (Figure 1). The project site is bounded by State Route 98 to the south and cropland and agricultural fields to the northand west and solar facilities to the east.

ENVIRONMENTAL SETTING

The study area has a relatively flat topography with a few small folds where drainages are present. The majority of the Study Area is currently being utilized for active farming production and human disturbance occurs throughout much of the site. It appears that past disturbance (e.g., discing, and/or farming) has substantially altered the natural vegetation, but not topography, across most of the study area. Elevation ranges between about 0 and 30 feet below sea level. Soils on site include: Holtville silty clay, wet; Imperial-Glenbar silty clay loams, wet, 0 to 2 percent slopes; Imperial silty clay, wet; Meloland very fine sandy loam, wet; and Rositas fine sand, wet, 0 to 2

percent slopes. Several drainages are present within the portions of the study area surrounding the project site.

The majority of the project site is dominated by a mix of ruderal native and nonnative plants. Together this mix is not reflective of a natural stage of any natural community but is typical of heavily disturbed, fallow fields developed for cropland and agricultural fields. These fields provide suitable nesting and foraging habitat for burrowing owls.

METHODS

Burrowing owl is a CDFW species of special concern (SSC) and federal BBC. Qualified biologists conducted a habitat assessment, followed by focused surveys in suitable habitat (e.g., grasslands, disturbed lands, and other open habitats where suitable burrow resources exist, and are relatively flat or have low slopes) within the project area and a 200-foot buffer where legal access was granted. Biologists conducted surveys pursuant to the survey guidelines outlined in Appendix D of the Staff Report on Burrowing Mitigation (CDFG 2012). On average, the biologists walked 15-meter transects and documented the presence of suitable burrows and/or burrow surrogates (e.g., rock cavities, pipes, culverts, debris piles) >11cm or greater in diameter and >150 cm in depth required for habitat to be considered suitable. All potential burrows were examined for sign and recorded using a GPS unit. Climatic conditions at the time of the survey were within protocol guidelines and surveys were conducted under good weather conditions that would permit clear detection of individuals should they occur on site (Table 1).

Dudek wildlife biologists Ben Delancey, Abby Bergsma, and Shane Valiere conducted a four-pass pre-construction survey for burrowing owl between April 12, 2017 and September 28, 2017, which captured the majority of the breeding season as well as the beginning of the migration period (Table 1). The study area consisted of the project site excluding paved roads and other developed areas as shown in Figure 2. The survey consisted of walking the entire study area where suitable open (e.g., grasslands, disturbed, and ruderal fields) habitat occurred, while searching for burrowing owls, sign, and potential burrow sites. The survey was conducted such that 100% coverage of the entire project and 200-foot buffer area was covered (i.e., approximate 15-meter transects were walked across the entire site). While walking the study area, the biologist searched for owls, owl sign, and potential burrow sites. Climatic conditions at the time of the survey were within protocol guidelines (CDFG 2012) where suitable burrow resources are present.

Table 1

Schedule of Burrowing Owl Surveys

Date	Personnel	Survey Pass	Time	Conditions (temperature, cloud cover, and wind)
4/12/2017	BD	1	8:00 AM–10:45 AM	70–80°F; 10% cc; 3 mph wind
4/13/2017	BD, AB	1	7:00 AM–10:45 AM	70–80°F; 10% cc; 3 mph wind
4/14/2017	BD, AB	1	6:15 AM–10:55 AM	56–73°F; 0–10% cc; 0–3 mph wind
6/02/2017	SV	2	6:41 AM–11:45 AM	75–87°F; 0% cc; 0–1 mph wind
6/22/2017	SV	3	6:48 AM–10:40 AM	84–99°F; 0% cc; 0–4 mph wind
9/28/2017	SV	4	7:20 AM–11:05 AM	67–87°F; 0% cc; 0–2 mph wind

Notes: BD = Ben Delancey; AB = Abby Bergsma; SV = Shane Valiere; °F = degrees Fahrenheit; cc = cloud cover; mph = miles per hour.

RESULTS

Biologists observed burrows during all four survey passes and burrowing owls during the first three survey passes. A total of 17 active burrow locations were recorded (Figure 3). An active burrow is defined as a burrow showing signs of owl activity (e.g., burrowing owl present, whitewash or pellets). A total of 5 burrowing owls were observed within the study area, including one pair (see Figure 3).

Please contact me at 760.479.4254 or bortega@dudek.com with questions regarding the contents of this report.

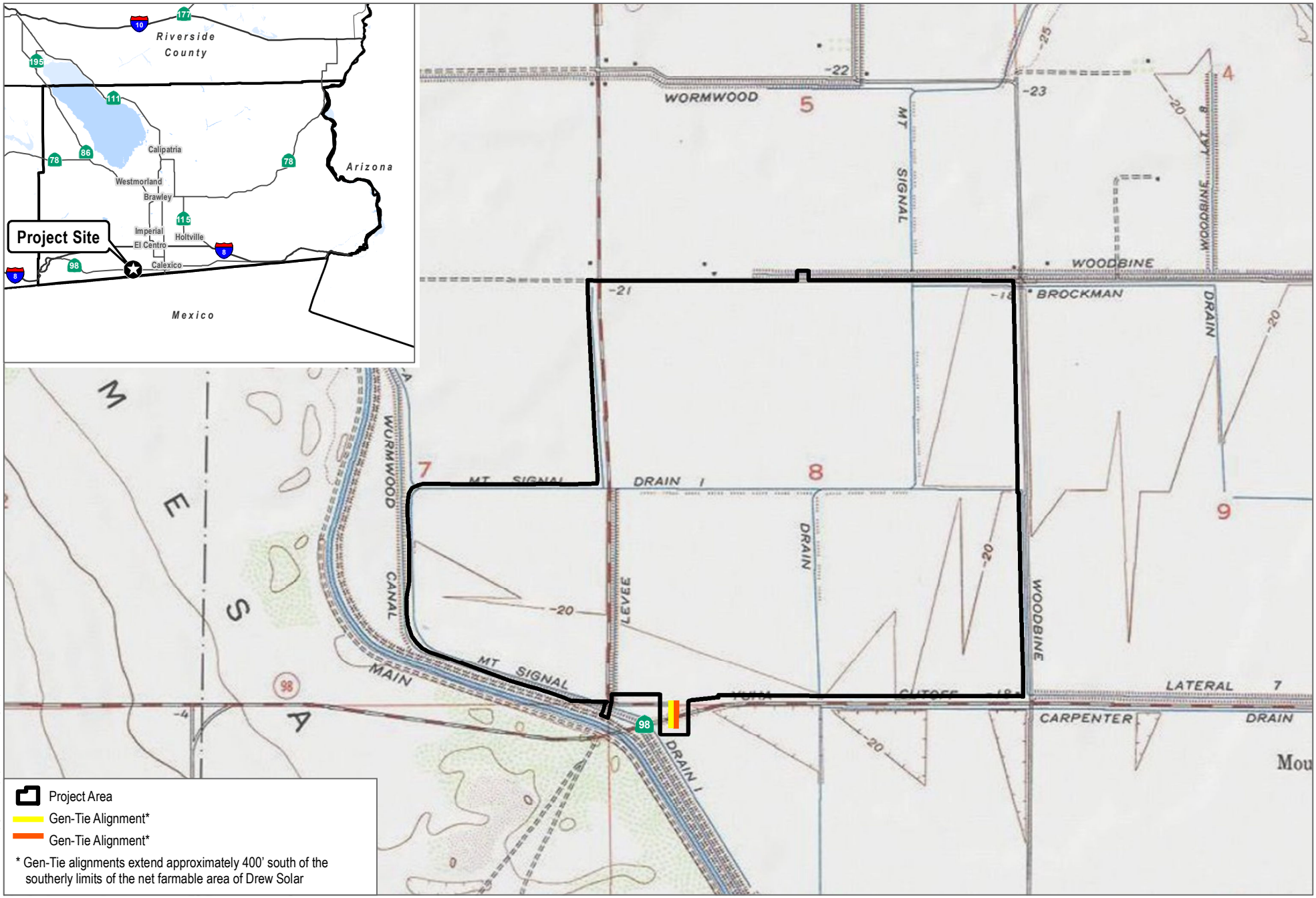
Sincerely,

Brock Ortega
Principal

Att: Figure 1, Project Location
Figure 2, Project Area
Figure 3, Biological Resources

REFERENCES CITED

CDFG (California Department of Fish and Game). 2012. *Staff Report on Burrowing Owl Mitigation*. March 7, 2012. Accessed 2015. http://www.dfg.ca.gov/wildlife/nongame/docs/BUOWStaffReport.pdf.



SOURCE: USGS 7.5-Minute Series Mount Signal Quadrangle

DUDEK

0 1,000 2,000 Feet

FIGURE 1

Project Location

Burrowing Owl Survey Report for the Drew Solar Project

SOURCE: NAIP 2016

DUDEK

0 500 1,000 Feet

FIGURE 2

Project Area

Burrowing Owl Survey Report for the Drew Solar Project

Project Area
Gen-Tie Alignment*
Gen-Tie Alignment*
Potential within the IID Drains
Vegetation Communities
AGR - General Agriculture
DEV - Urban/Developed
DH - Disturbed Habitat
OW - Open Water
Pluser - Arrow weed
Schame - American bulrush
TAM - Tamarisk thickets
Typdom - Southern cattail
UVC - Unvegetated channel
Jurisdictional Resources
Non-wetland Waters (ACOE/RWQCB/CDFW)
Wetland or Riparian Area (ACOE/RWQCB/CDFW)
Wetland or Riparian Habitat (CDFW Only)
Data Stations
Burrowing Owl Survey Results
Burrowing Owl observation
burrow
* Gen-Tie alignments extend approximately 400' south of the southerly limits of the net farmable area of Drew Solar

SOURCE: NAIP 2016

DUDEK

0 500 1,000 Feet

FIGURE 3

Biological and Jurisdictional Resources

Burrowing Owl Survey Report for the Drew Solar Project