Biological Technical Report

Vega SES 2 and 3 Solar Projects

Imperial County, California

Prepared For:

Vega SES 2, LLC and Vega SES 3, LLC
604 Sutter Street
Suite 250
Folsom, California 95630

Submitted by:

ECORP Consulting, Inc.
3838 Camino Del Rio North
Suite 370
San Diego, California 92108
(858) 279-4040

December 2020, revised September 2022

ECORP Consulting, Inc.
ENVIRONMENTAL CONSULTANTS

CONTENTS

LIST OF TABLES

LIST OF FIGURES

LIST OF ATTACHMENTS

LIST OF ACRONYMS AND ABBREVIATIONS

AOU	American Ornithologists' Union
APN	Assessor's Parcel Number
BCC	Bird of Conservation Concern
CDFG	California Department of Fish and Game
CDFW	California Department of Fish and Wildlife
CEQA	California Environmental Quality Act
CFR	Code of Federal Regulations
CNDDB	California Natural Diversity Data Base
CNPS	California Native Plant Society
CNPSEI	CNPS Electronic Inventory
CRPR	California Rare Plant Rank
CWA	Clean Water Act
ESA	Endangered Species Act
Gen-tie	Generator intertie
GIS	Geographic Information System
GPS	Global Positioning System
HCP	Habitat conservation plan
MBTA	Migratory Bird Treaty Act
MW	Megawatt
MWH	Megawatt-hour
NPDES	National Pollutant Discharge Elimination System
NPPA	Native Plant Protection Act
NRCS	Natural Resources Conservation Service
Projects	Vega SES 2 and Vega SES 3 Solar Projects
RWQCB	Regional Water Quality Control Board (Colorado River Basin
SAA	Streambed Alteration Agreement
SSAR	Society for the Study of Amphibians and Reptiles
SSC	Species of Special Concern
sUAS	Small unmanned aircraft system
SWRCB	State Water Resources Control Board
USACE	U.S. Army Corps of Engineers
USEPA	U.S. Environmental Protection Agency
USFWS	U.S. Fish and Wildlife Service

USGS	U.S. Geological Survey

1.0 INTRODUCTION

The Vega SES 2 and Vega SES 3 Solar Projects (Projects) are proposed 100-Megawatt (MW) direct current (dc) and 400 MW-hour (MWH) battery storage utility-scale solar projects located on approximately 1,712 acres of vacant land on three parcels in Imperial County, California. ECORP Consulting, Inc. conducted a literature review, small unmanned aircraft system (sUAS) survey, and biological reconnaissance survey of the Project sites to document the existing biological resources, to assess the habitat for its potential to support sensitive plant and wildlife species, and, as required under the California Environmental Quality Act (CEQA), to determine whether Project-related impacts could occur to sensitive biological resources.

1.1 Purpose of the Report

This report was prepared to describe biological resources on the Project sites and to support Project review under CEQA. Assessment of potential occurrences of special-status plants and animals is based on habitat, geographic and elevational range, and data from field surveys conducted by ECORP in 2020. For the purposes of this report, the term Project Areas refers to the areas proposed to be directly affected by implementation of the Projects and corresponds to the client-supplied Project boundaries. The term Survey Area refers to the Project Areas and a 500-foot buffer around the Project Area boundaries, potentially subject to temporary or indirect impacts.

1.2 Project Location and Description

The proposed Projects are located on approximately 1,712 acres of vacant land on three parcels in Imperial County, California (Assessor Parcel Numbers [APNs] 025-260-011, 025-010-006, and 025-270-023). The Projects are approximately 10 miles east of the Salton Sea and five miles west of the Chocolate Mountains (Figure 1). As depicted on the U.S. Geological Survey (USGS) 7.5-minute Iris, CA topographic quadrangle, the Projects are located within Sections 3, 4, 7, 8, 9, 10, 14, 15, 16, 17, and 18 of Township 11 South, Range 15 East, San Bernardino Base and Meridian.

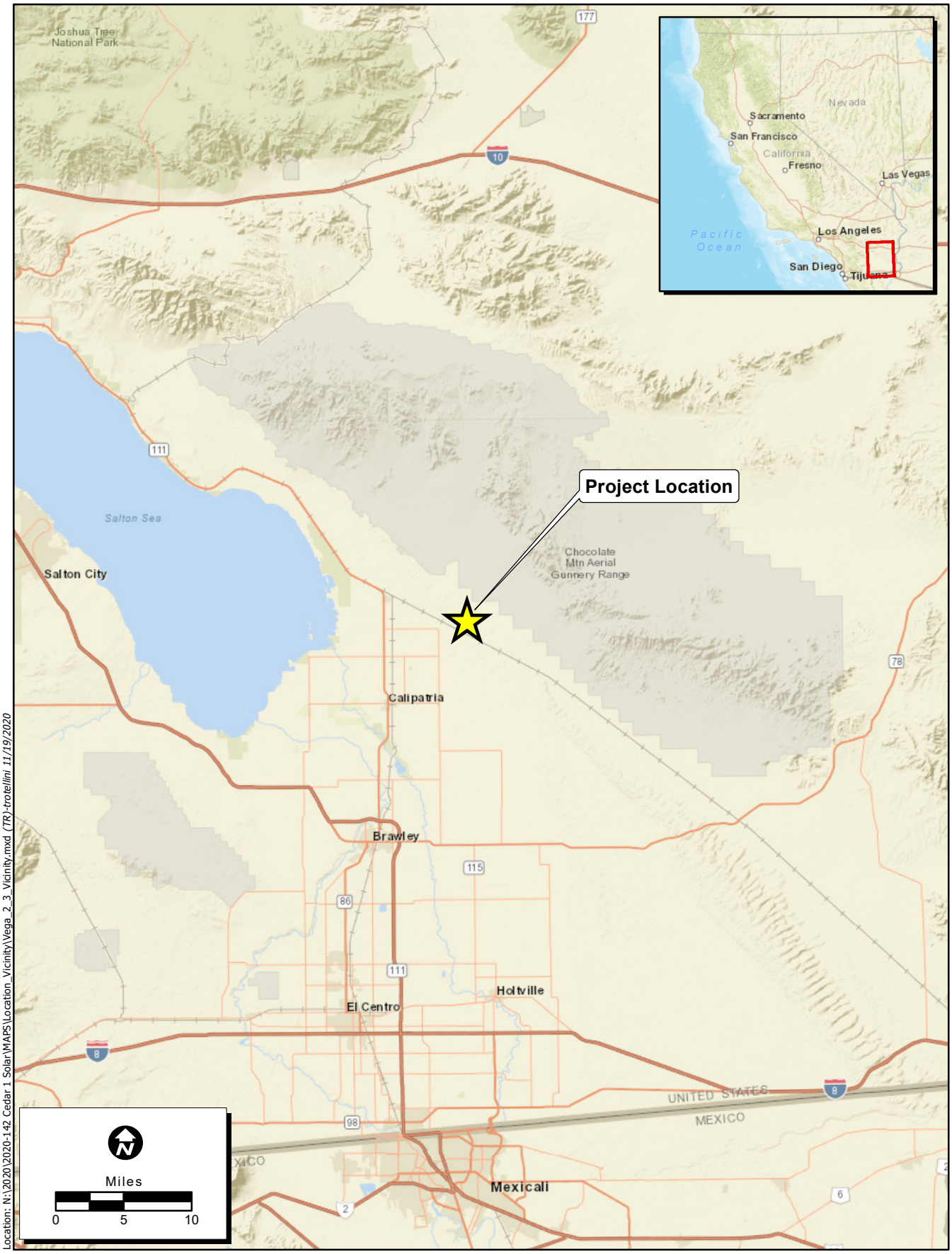
For the purposes of this report, Vega 2 and 3 Projects were divided into 3 Study Areas (Figure 2). The term Study Area includes the 500-foot buffer.

A complete summary of geographic information is provided in Table 1.

Table 1. Geographic Information Summary

Study Area	Project Name	Accessor's Parcel Number (APN)	Sections	Township	Range	7.5-minute Quadrangle	Approximate Center of Study Area (latitude/longitude)
1	SES 2	025-260-011	8, 16, 17	11 South	15 East	Iris, CA[1]	33.212810, -115.432084
2	SES 2 and 3	025-010-006	3, 4, 7, 8, 9, 10, 15, 16, 17, 18	11 South	15 East	Iris, CA[1]	33.224760, -115.414804
3	SES 2	025-270-023	10, 14, 15	11 South	15 East	Iris, CA[1]	33.211691, -115.395183

[1]USGS 1992



Location: N:\2020\2020-142 Cedar 1 Solar\MAPS\Location_Vicinity\Vega_2_3_Vicinity.mxd (TR)-trotellini 11/19/2020

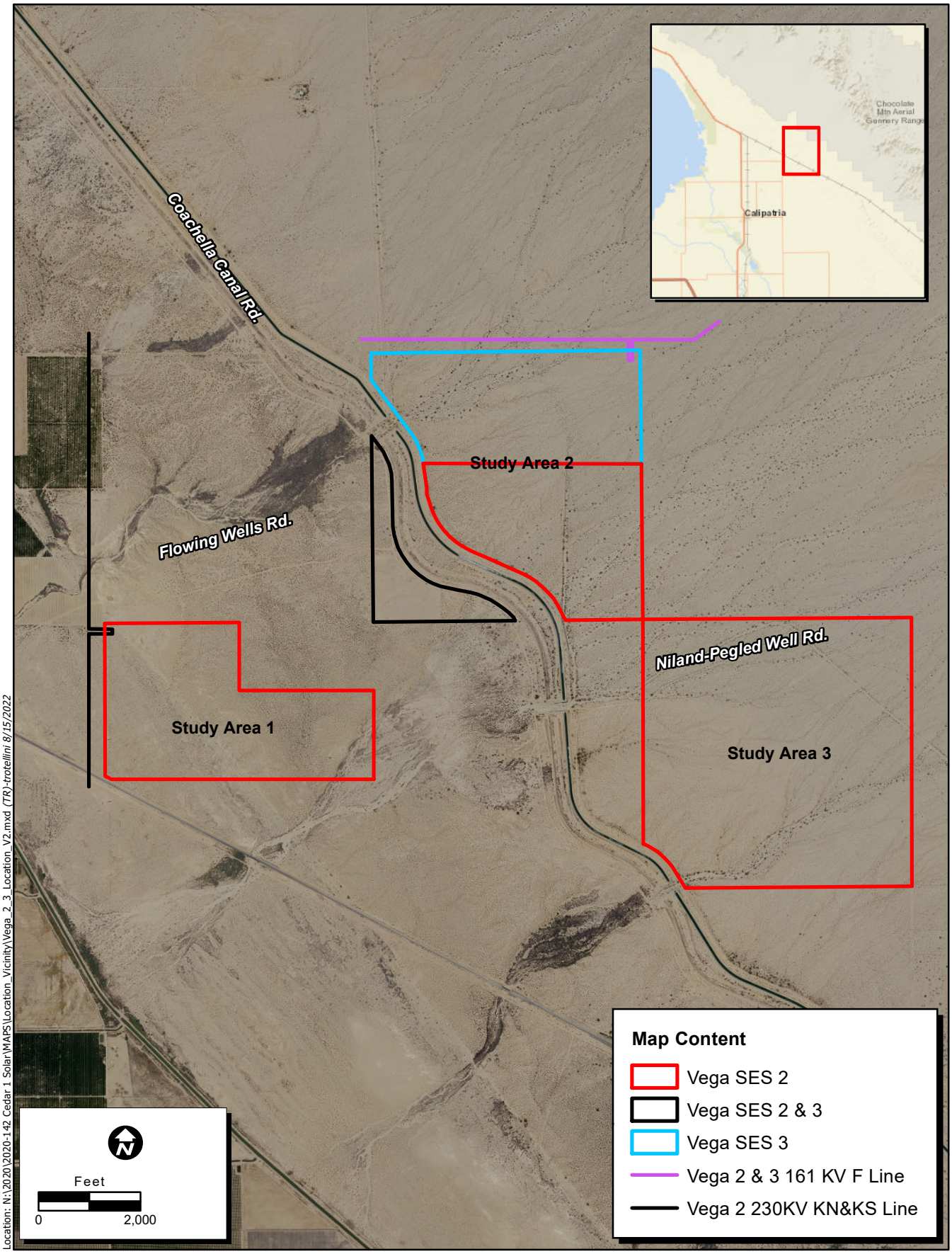
Map Date: 11/18/2020

Sources:

ECORP Consulting, Inc.
ENVIRONMENTAL CONSULTANTS

Figure 1. Project Vicinity

2020-144/2020-199/2020-209 Vega SES 2 and Vega SES 3



Location: N:\2020\2020-142 Cedar 1 Solar\MAPS\Location_Vicinity\Vega_2_3_Location_V2.mxd (TR)-trotellini 8/15/2022

Map Date: 8/15/2022

Service Layer Credits: Sources: Esri, HERE, Garmin, USGS, Intermap, INCREMENT P, NRCan, Esri Japan, METI, Esri China (Hong Kong), Esri Korea, Esri (Thailand), NGCC, (c) OpenStreetMap contributors, and the GIS User Community

ECORP Consulting, Inc.
ENVIRONMENTAL CONSULTANTS

Figure 2. Project Location

2020-144/2020-199/2020-209 Vega SES 2 and Vega SES 3

Study Area 1 includes a battery storage utility-scale solar project located on approximately 448.3 acres of vacant land within one private parcel in Imperial County, California. Study Area 2, also known as the Mesa Grande parcel, includes a battery storage utility-scale solar project located on approximately 640 acres of vacant land within one private parcel in Imperial County. Study Area 3, also known as the Li Tong parcel, includes a battery storage utility-scale solar project located on approximately 624 acres of vacant land within one private parcel in Imperial County. The proposed Projects will connect to previously established Imperial Irrigation District generator intertie lines adjacent to Study Area 1 and 2.

Topography consists of gentle slopes with a gradual increase in elevation from the western extent to the eastern extent. The southwest portion of Study Area 1 (adjacent to the Union Pacific railroad) is slightly below sea level at an elevation of -2 meters (-7 feet) and the eastern extent of Study Area 3 is at an elevation of 55 meters (182 feet) above mean sea level. Adjacent land uses include active agricultural land to the west and Open Space/Bureau of Land Management Land to the north, east, and south. The Coachella Canal travels from northwest to southeast between the project impact areas of Study Area 2. Siphon Six travels through the northwestern portion of Study Area 2 and Siphon Five travels through the southwestern portion of Study Area 3.

2.0 REGULATORY CONSIDERATIONS

The biological reconnaissance survey was conducted to identify potential constraints and to ensure compliance with state and federal regulations regarding listed, protected, and sensitive species could be achieved. The regulations are detailed below.

2.1 Federal Regulations

2.1.1 Endangered Species Act

The Endangered Species Act (ESA) protects plants and animals that are listed as endangered or threatened by the U.S. Fish and Wildlife Service (USFWS) and the National Marine Fisheries Service. Section 9 of the ESA prohibits the taking of endangered wildlife, where taking is defined as "harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, collect, or attempt to engage in such conduct" (50 Code of Federal Regulations [CFR] 17.3). For plants, this statute governs removing, possessing, maliciously damaging, or destroying any endangered plant on federal land and removing, cutting, digging up, damaging, or destroying any endangered plant on non-federal land in knowing violation of state law (16 U.S. Code 1538). Under Section 7 of the ESA, federal agencies are required to consult with the USFWS if their actions, including permit approvals or funding, could adversely affect a listed (or proposed) species (including plants) or its critical habitat. Through consultation and the issuance of a biological opinion, the USFWS may issue an incidental take statement allowing take of the species that is incidental to an otherwise authorized activity provided the activity will not jeopardize the continued existence of the species. Section 10 of the ESA provides for issuance of incidental take permits where no other federal actions are necessary provided a habitat conservation plan (HCP) is developed.

2.1.2 Migratory Bird Treaty Act

The Migratory Bird Treaty Act (MBTA) implements international treaties between the U.S. and other nations devised to protect migratory birds, any of their parts, eggs, and nests from activities such as hunting, pursuing, capturing, killing, selling, and shipping, unless expressly authorized in the regulations or by permit. As authorized by the MBTA, the USFWS issues permits to qualified applicants for the following types of activities: falconry, raptor propagation, scientific collecting, special purposes (rehabilitation, education, migratory game bird propagation, and salvage), take of depredating birds, taxidermy, and waterfowl sale and disposal. The regulations governing migratory bird permits can be found in 50 CFR Part 13 General Permit Procedures and 50 CFR Part 21 Migratory Bird Permits. The State of California has incorporated the protection of birds of prey in Sections 3800, 3513, and 3503.5 of the California Fish and Game Code.

2.1.3 Clean Water Act

The purpose of the Clean Water Act (CWA) is to "restore and maintain the chemical, physical, and biological integrity of the nation's waters." Section 404 of the CWA prohibits the discharge of dredged or fill material into Waters of the U.S. without a permit from the U.S. Army Corps of Engineers (USACE). The definition of Waters of the U.S. includes rivers, streams, estuaries, the territorial seas, ponds, lakes, and wetlands. Wetlands are defined as those areas "that are inundated or saturated by surface or ground water at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions" (33 CFR 328.3 7b). The U.S. Environmental Protection Agency (USEPA) acts as a cooperating agency to set policy, guidance, and criteria for use in evaluation permit applications and also reviews USACE permit applications.

The USACE regulates "fill" or dredging of fill material within its jurisdictional features. "Fill material" means any material used for the primary purpose of replacing an aquatic area with dry land or changing the bottom elevation of a water body. Substantial impacts to wetlands may require an individual permit. Projects that only minimally affect wetlands may meet the conditions of one of the existing Nationwide Permits. A Water Quality Certification or waiver pursuant to Section 401 of the CWA is required for Section 404 permit actions; this certification or waiver is issued by the State Water Resources Control Board (SWRCB), administered by each of nine California Regional Water Quality Control Boards (RWQCBs).

2.2 State and Local Regulations

2.2.1 California Endangered Species Act

The California ESA generally parallels the main provisions of the ESA but, unlike its federal counterpart, the California ESA applies the take prohibitions to species proposed for listing (called "candidates" by the State). Section 2080 of the California Fish and Game Code prohibits the taking, possession, purchase, sale, and import or export of endangered, threatened, or candidate species, unless otherwise authorized by permit or in the regulations. Take is defined in Section 86 of the California Fish and Game Code as "hunt, pursue, catch, capture, or kill, or attempt to hunt, pursue, catch, capture, or kill." The California ESA allows for take incidental to otherwise lawful development projects. State lead agencies are required to consult

with California Department of Fish and Wildlife (CDFW) to ensure that any action they undertake is not likely to jeopardize the continued existence of any endangered or threatened species or result in destruction or adverse modification of essential habitat.

2.2.2 Fully Protected Species

The State of California first began to designate species as "fully protected" prior to the creation of the federal and California ESAs. Lists of fully protected species were initially developed to provide protection to those animals that were rare or faced possible extinction, and included fish, amphibians and reptiles, birds, and mammals. Most fully protected species have since been listed as threatened or endangered under federal and/or California ESAs. The regulations that implement the Fully Protected Species Statute (California Fish and Game Code § 4700) provide that fully protected species may not be taken or possessed at any time. Furthermore, CDFW prohibits any State agency from issuing incidental take permits for fully protected species, except for necessary scientific research.

2.2.3 Native Plant Protection Act

The Native Plant Protection Act (NPPA) of 1977 (California Fish and Game Code §§ 1900-1913) was created with the intent to "preserve, protect and enhance rare and endangered plants in this State." The NPPA is administered by CDFW. The Fish and Wildlife Commission has the authority to designate native plants as "endangered" or "rare" and to protect endangered and rare plants from take. The California ESA of 1984 (California Fish and Game Code § 2050-2116) provided further protection for rare and endangered plant species, but the NPPA remains part of the California Fish and Game Code.

2.2.4 Porter Cologne Water Quality Control Act

The RWQCB implements water quality regulations under the federal CWA and the Porter-Cologne Water Quality Act. These regulations require compliance with the National Pollutant Discharge Elimination System (NPDES), including compliance with the California Storm Water NPDES General Construction Permit for discharges of storm water runoff associated with construction activities. General Construction Permits for projects that disturb one or more acres of land require development and implementation of a Storm Water Pollution Prevention Plan. Under the Porter-Cologne Water Quality Act, the RWQCB regulates actions that would involve "discharging waste, or proposing to discharge waste, with any region that could affect the water of the state" [Water Code 13260(a)].

Waters of the State are defined as "any surface water or groundwater, including saline waters, within the boundaries of the state" (Water Code 13050[e]). The RWQCB regulates all such activities, as well as dredging, filling, or discharging materials into Waters of the State that are not regulated by the USACE due to a lack of connectivity with a navigable water body. The RWQCB may require issuance of Waste Discharge Requirements for these activities.

On April 2, 2019, the SWRCB adopted the *State Wetland Definition and Procedures for Discharges of Dredged or Fill Material to Waters of the State* (referred to as the Procedures) for inclusion in the *Water Quality Control Plan for Inland Surface Waters, Enclosed Bays, and Estuaries of California* (Resolution No. 2019-0015). The new Procedures include:

- definition of wetlands and aquatic resources that are Waters of the State,
- description of application requirements for individual orders (not general orders) for water quality certification, or waste discharge requirements,
- description of information required in compensatory mitigation plans, and
- definition of exemptions to application procedures.

The Office of Administrative Law approved the procedures on August 28, 2019, and the rule went into effect May 28, 2020.

2.2.5 California Fish and Game Code

2.2.5.1 Streambed Alteration Agreement

Section 1602 of the California Fish and Game Code requires that a Notification of Lake or Streambed Alteration be submitted to CDFW for "any activity that may substantially divert or obstruct the natural flow or substantially change the bed, channel, or bank of any river, stream, or lake." The CDFW reviews the proposed actions and, if necessary, submits to the Applicant a proposal for measures to protect affected fish and wildlife resources. The final proposal that is mutually agreed upon by CDFW and the Applicant is the Streambed Alteration Agreement (SAA). Often, projects that require an SAA also require a permit from the USACE under Section 404 of the CWA. In these instances, the conditions of the Section 404 permit and the SAA may overlap.

2.2.5.2 Migratory Birds

The CDFW enforces the protection of nongame native birds in §§ 3503, 3503.5, and 3800 of the California Fish and Game Code. Section 3513 of the California Fish and Game Code prohibits the possession or take of birds listed under the MBTA. These sections mandate the protection of California nongame native birds' nests and also make it unlawful to take these birds. All raptor species are protected from "take" pursuant to California Fish and Game Code § 3503.5 and are also protected at the federal level by the MBTA of 1918 (USFWS 1918).

2.2.6 Conservation and Open Space Element

Imperial County created the Conservation and Open Space Element plan to provide details and measures for management and preservation of biological resources as well as various other resources (i.e., cultural, soils, minerals). This plan focuses on protecting scarce resources and preventing wasteful exploitation, neglect, and destruction of California's natural resources. The plan outlines areas with sensitive habitat and sensitive species, also labelled "Resource Areas". Open space easements and protection of riparian habitat, rock outcrops, California fan palm oases, and wildlife corridors are also discussed in the plan. As it currently stands, the open space element follows CEQA guidelines with special focus on its scarce resources.

2.2.7 CEQA Significance Criteria

Section 15064.7 of the CEQA Guidelines encourages local agencies to develop and publish the thresholds the agency uses in determining the significance of environmental effects caused by projects under its review. However, agencies may also rely upon the guidance provided by the expanded Initial Study checklist contained in Appendix G of the CEQA Guidelines. Appendix G provides examples of impacts that would normally be considered significant. Based on these examples, impacts to biological resources would normally be considered significant if the project would:

- 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 CDFW or USFWS;
- have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by CDFW or USFWS;
- have a substantial adverse effect on State or federally protected wetlands (including, but not limited to, marsh, vernal pool, and coastal) through direct removal, filling, hydrological interruption, or other means;
- 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;
- conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance; and
- conflict with the provisions of an adopted HCP, Natural Community Conservation Plan, or other approved local, regional, or state HCP.

An evaluation of whether an impact on biological resources would be substantial must consider both the resource itself and how that resource fits into a regional or local context. Substantial impacts would be those that would diminish, or result in the loss of, an important biological resource, or those that would obviously conflict with local, state, or federal resource conservation plans, goals, or regulations. Impacts are sometimes locally important but not significant according to CEQA. The reason for this is that although the impacts would result in an adverse alteration of existing conditions, they would not substantially diminish, or result in the permanent loss of an important resource on a population-wide or region-wide basis.

3.0 METHODS

3.1 Literature Review

Prior to conducting the biological reconnaissance survey, ECORP biologists performed a literature review using the CDFW's California Natural Diversity Data Base (CNDDB; CDFW 2020a) and the California Native Plant Society's (CNPS') Electronic Inventory (CNPSEI; CNPS 2020) to determine the special-status plant and

wildlife species that have been documented in the vicinity of the Project. The CNDDB and CNPSEI database searches were conducted on September 24 and November 2, 2020. ECORP searched CNDDB and CNPSEI records within the Project Area boundaries as depicted on USGS 7.5-minute Iris topographic quadrangle, and the surrounding topographic quadrangles: Wister, Iris Wash, Lion Head Mountain, Niland, Tortuga, Westmorland, Wiest, and Amos. The CNDDB and CNPSEI contain records of reported occurrences of federally or state-listed endangered, threatened, proposed endangered or threatened species, California Species of Special Concern (SSC), and other special-status species or habitat that may occur within or in the vicinity of the Project. Additional information was gathered from the following sources and includes, but is not limited to the following:

- U.S. Department of Agriculture, Natural Resources Conservation Service (NRCS) *Web Soil Survey* (NRCS 2020a);
- *Special Animals List* (CDFW 2020b);
- *State and Federally Listed Endangered and Threatened Animals of California* (CDFW 2020c);
- *The Jepson Manual: Vascular Plants of California* (Baldwin et al. 2012);
- *The Manual of California Vegetation*, 2nd Edition (Sawyer et al. 2009); and
- various online websites (e.g., CalFlora 2020).

A desktop review of the National Wetlands Inventory (USFWS 2020a) and the corresponding USGS topographic maps was also conducted to determine if there were any blue line streams or drainages in the Survey Area that might potentially fall under the jurisdiction of either federal or State agencies.

3.2 Field Survey

3.2.1 sUAS Survey and Vegetation Mapping

Due to the size of the area and limited road access, an initial survey utilizing a sUAS was conducted to quickly assess current site conditions and gather high-resolution imagery. Upon arrival at the site, an initial field reconnaissance was conducted by the drone pilot to obtain an understanding of the site topography, access, vegetation densities, and staging areas for controlling the aerial flights. The drone was programmed to do a systematic flight over the property to collect high-resolution aerial photographs of the entire property. The photos collected were then combined into a single orthomosaic image that was incorporated into mapping files in a Geographic Information System (GIS).

The information gathered from the sUAS/drone survey were then used to assist the biologists with accurate mapping of the vegetation communities. A botanist utilized the high-resolution drone imagery to map vegetation communities. Vegetation classifications were in accordance with *A Manual of California Vegetation* (Sawyer et al. 2009). Vegetation communities that did not fit within the Sawyer classification system were described following Holland (1986) or Cowardin (alternative methods). Areas of the site that had already been graded, developed, and/or disturbed were mapped as such. Acreages of each vegetation community were calculated based on GIS data collected during the sUAS survey.

3.2.2 Biological Reconnaissance Survey

The biological reconnaissance survey was conducted by walking the entire Study Area to determine the vegetation communities and wildlife habitats on the Project sites. Private property and inaccessible areas within the buffer were surveyed utilizing 8x42 binoculars. The biologists documented the plant and animal species present in the Survey Area and the conditions within the Survey Area were assessed for their potential to provide habitat for special-status plant and wildlife species, including those from the literature review. Data were recorded on submeter Global Positioning System (GPS) devices, data sheets, and maps. In instances where a special-status species was observed, the date, species, location and habitat, and GPS coordinates were recorded. The locations of special-status species observations were recorded using a handheld submeter GPS in North American Datum (NAD) 83, Universal Transverse Mercator (UTM) coordinates, Zone 11S. Photographs were also taken during the survey to provide visual representation of the various vegetation communities within the Project sites. The Project sites were also examined to assess its potential to facilitate wildlife movement or function as a movement corridor for wildlife throughout the region.

Plant and wildlife species, including any special-status species that were observed during the survey, were recorded. Plant nomenclature follows that of *The Jepson Manual: Vascular Plants of California* (Baldwin et al. 2012). Wildlife nomenclature follows that of *The American Ornithologists' Union (AOU) Checklist of North American Birds* (AOU 2020), the Society for the Study of Amphibians and Reptiles (SSAR 2017), and the *Revised Checklist of North American Mammals North of Mexico* (Bradley et al. 2014).

3.2.3 Aquatic Resources Delineation

An aquatic resources delineation was conducted by ECORP delineation specialists in conjunction with the biological reconnaissance survey, the results of which are presented under separate cover (ECORP 2020).

3.3 Potential for Occurrence Determinations

Using information from the literature review and observations in the field, a list of special-status plant and animal species that have potential to occur within the Survey Area was generated. For the purposes of this assessment, special-status species are defined as plants or animals that:

- have been designated as either rare, threatened, or endangered by CDFW, CNPS, or the USFWS, and/or are protected under either the federal or California ESAs;
- are candidate species being considered or proposed for listing under these same acts;
- are fully protected by the California Fish and Game Code, §§ 3511, 4700, 5050, or 5515; and
- are of expressed concern to resource and regulatory agencies or local jurisdictions.

Special-status species reported for the region in the literature review or for which suitable habitat occurs on the Survey Area were assessed for their potential to occur within the Survey Area based on the following guidelines:

Present: The species was observed on site during a site visit or focused survey.

High: Habitat (including soils and elevation factors) for the species occurs within the Survey Area and a known occurrence has recently been recorded (within the last 20 years) within five miles of the area.

Moderate: Habitat (including soils and elevation factors) for the species occurs within the Survey Area and a documented observation occurs within the database search, but not within five miles of the area; a historic documented observation (more than 20 years old) was recorded within five miles of the Survey Area; or a recently documented observation occurs within five miles of the area and marginal or limited amounts of habitat occurs in the Project site.

Low: Limited or marginal habitat for the species occurs within the Survey Area and a recently documented observation occurs within the database search, but not within five miles of the area; a historic documented observation (more than 20 years old) was recorded within five miles of the Survey Area; or suitable habitat strongly associated with the species occurs on site, but no records or only historic records were found within the database search.

Presumed Absent: Species was not observed during a site visit or focused surveys conducted in accordance with protocol guidelines at an appropriate time for identification; habitat (including soils and elevation factors) does not exist on site; or the known geographic range of the species does not include the Survey Area.

Note: Location information on some special-status species may be of questionable accuracy or unavailable. Therefore, for survey purposes, the environmental factors associated with a species' occurrence requirements may be considered sufficient reason to give a species a positive potential for occurrence. In addition, just because a record of a species does not exist in the databases does not mean it does not occur. In many cases, records may not be present in the databases because an area has not been surveyed for that particular species.

4.0 RESULTS

The results of the literature review and field surveys, including site characteristics, vegetation communities, wildlife, special-status species, and special-status habitats (including any potential wildlife corridors) are summarized below.

4.1 Literature Review

4.1.1 Special-Status Plants and Wildlife

Special-status plants and wildlife species reported for the region in the literature review or for which suitable habitat occurs were evaluated for their potential to occur within the Project Areas or in the buffer areas within the Survey Area where indirect impacts could occur. Of all available records, a total of 18 special-status plant species and 19 special-status wildlife species were identified as having the potential for occurrence in the vicinity of the Project Areas (Attachments B and C).

4.1.2 U.S. Fish and Wildlife Service Designated Critical Habitat

The Project Areas are not located within any USFWS-designated critical habitat. The closest designated critical habitat is for desert tortoise (*Gopherus agassizii*) located approximately seven miles to the northeast and Peirson's milk-vetch (*Astragalus magdalenae* var. *peirsonii*) located approximately six miles to the southeast of the Project Areas.

4.2 Biological Reconnaissance Survey

The biological reconnaissance survey was conducted by ECORP biologists Christina Congedo, Greg Hampton, Caroline Garcia, Christina Torres, and Jennifer Kendrick. Summarized below are the results of the biological reconnaissance survey, including site characteristics, plants and plant communities, wildlife, special-status species, and special-status habitats (including any potential wildlife corridors). Weather conditions during the survey are summarized in Table 2.

Table 2. Weather Conditions During the Survey

Study Area	Date	Time		Temperature (˚F)		Cloud Cover (%)		Wind Speed (mph)	
		Start	End	Start	End	Start	End	Start	End
1	09/29/2020	0630	1400	67	105	0	0	4	3-6
1	9/30/2020	0640	1200	69	105	0	0	4-5	7
2	11/9/2020	0830	1530	57	64	5	0	0	0-3
2	11/10/2020	0745	1605	49	64	0	0	0	0
2 and 3	11/11/2020	0930	1645	63	67	0	0	2-3	2-3
3	11/12/2020	0800	1600	55	72	15	5	0-3	0-3
3	11/13/2020	0750	1430	48	77	0	0	0-3	0-3

4.2.1 Property Characteristics

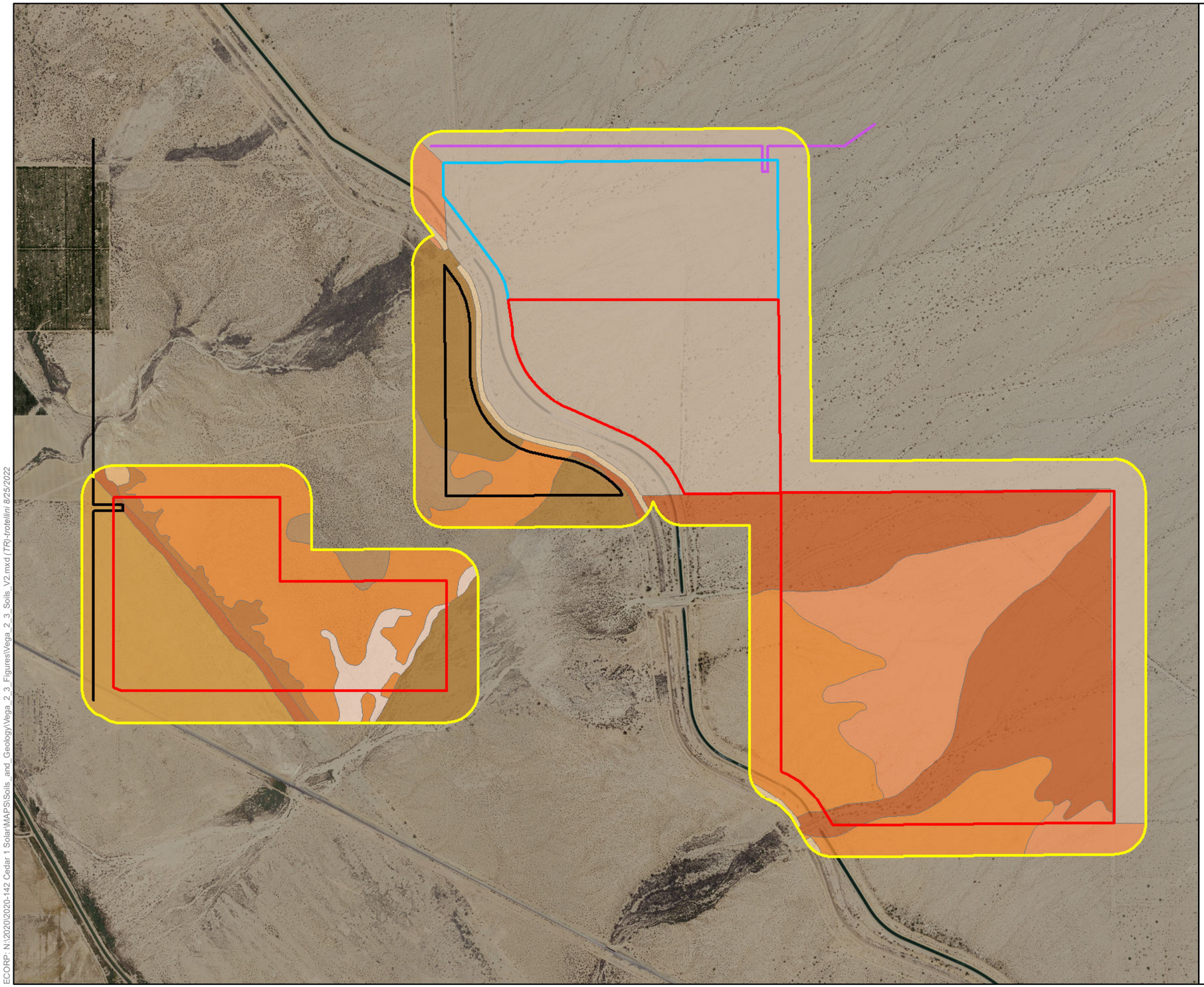
The Study Areas consist of mostly undeveloped land. Disturbances onsite include the railroad, Coachella Canal, a small grove of active agriculture, and roads. An extensive alluvial fan system with associated riparian community traverses the Study Areas. This system begins at the Chocolate Mountains to the northeast and heads southwest across the sites. Study Area 1 is bordered by an active railroad right-of-way to the southwest. Within the southeast buffer of Study Area 1, an intermittent drainage flows southwest under the railroad tracks via a concrete underpass. A ridgeline, which runs northwest-southeast splits Study Area 1, with either side of the ridge descending into lowlands. Portions of the Coachella Canal travel through the western sections of Study Areas 2 and 3. Adjacent land uses include agricultural land to the west and undeveloped land to the north, south, and east. Representative site photographs are included in Attachment A.

Topography for the Study Areas generally consists of gentle slopes with a gradual increase in elevation from the western extent to the eastern extent. The southwest portion of Study Area 1 is slightly below sea

level at an elevation of -2 meters (-7 feet), and the eastern extent of Study Area 3 is at an elevation of 55 meters (182 feet) above mean sea level. A soils analysis search was conducted using the Web Soil Survey data (NRCS 2020a). The eastern portions of Study Areas 2 and 3 fall within the Colorado Desert Area soil survey; therefore, soil survey data was not available for these portions. Eleven soil units, or types, occur within the Project Areas (Figure 3). These include:

- 103 - Carsitas gravelly sand, 0 to 5 percent slopes
- 124 - Niland gravelly sand
- 125 - Niland gravelly sand, wet
- 129 – Pits
- 130 - Rositas sand, 0 to 2 percent slopes
- 132 - Rositas fine sand, 0 to 2 percent slopes
- 133 - Rositas fine sand, 2 to 9 percent slopes
- 135 - Rositas fine sand, wet, 0 to 2 percent slopes
- 139 - Superstition loamy fine sand
- 141- Torriorthents and Orthids, 5 to 30 percent slopes
- 145 - Water

The Niland gravelly sand (124), Niland gravelly sand, wet (125), and Pits (129) map units contain hydric minor components (NRCS 2020b). A summary of characteristics based on official series descriptions for each of the soil series mapped within the Study Areas are provided under separate cover in the aquatic resources delineation report (ECORP 2020).



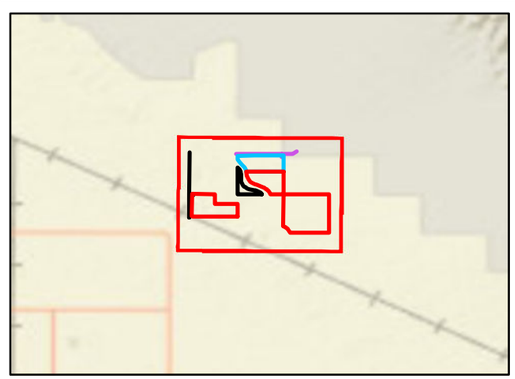
Map Features

- Vega SES 2
- Vega SES 2 & 3
- Vega SES 3
- 500-ft Buffer
- Vega 2 & 3 161 KV F Line
- Vega 2 230KV KN&KS Line

Series Designation - Series Description

- 102 - Badland
- 103 - Carsitas gravelly sand, 0 to 5 percent slopes
- 124 - Niland gravelly sand
- 125 - Niland gravelly sand, wet
- 129 - Pits
- 130 - Rositas sand, 0 to 2 percent slopes
- 132 - Rositas fine sand, 0 to 2 percent slopes
- 133 - Rositas fine sand, 2 to 9 percent slopes
- 135 - Rositas fine sand, wet, 0 to 2 percent slopes
- 139 - Superstition loamy fine sand
- 141 - Torriorthents and Orthids, 5 to 30 percent slopes
- 145 - Water
- NOTCOM - No Digital Data Available

Sources: NAIP (2018)
Other Related Info if Needed



ECORP: N:\2020\2020-142 Cedar 1 Solar\MAPS\Soils_and_Geology\Vega_2_3_Figures\Vega_2_3_Soils_V2.mxd (TR)-trotellini 8/25/2022

Map Date: 8/25/2022

ECORP Consulting, Inc.
ENVIRONMENTAL CONSULTANTS

Scale in Feet
0 500 1,000 1,500

Figure 3. Natural Resources Conservation Service Soil Types
2020-144/2020-199/2020-209 Vega SES 2 and Vega Ses 3

4.2.2 Vegetation Communities/Land Use

The majority of the Study Areas consists of creosote bush scrub and blue palo verde/ironwood woodland. The location of each vegetation community in the Study Areas are described in detail below and presented on Figure 4. Acreage of each habitat and vegetation community in the Project Areas, where direct impacts would occur, are shown in Table 3. Representative photographs of the habitats within the Study Areas are included in Attachment A.

Table 3. Vegetation Communities and Land Covers in Project Areas

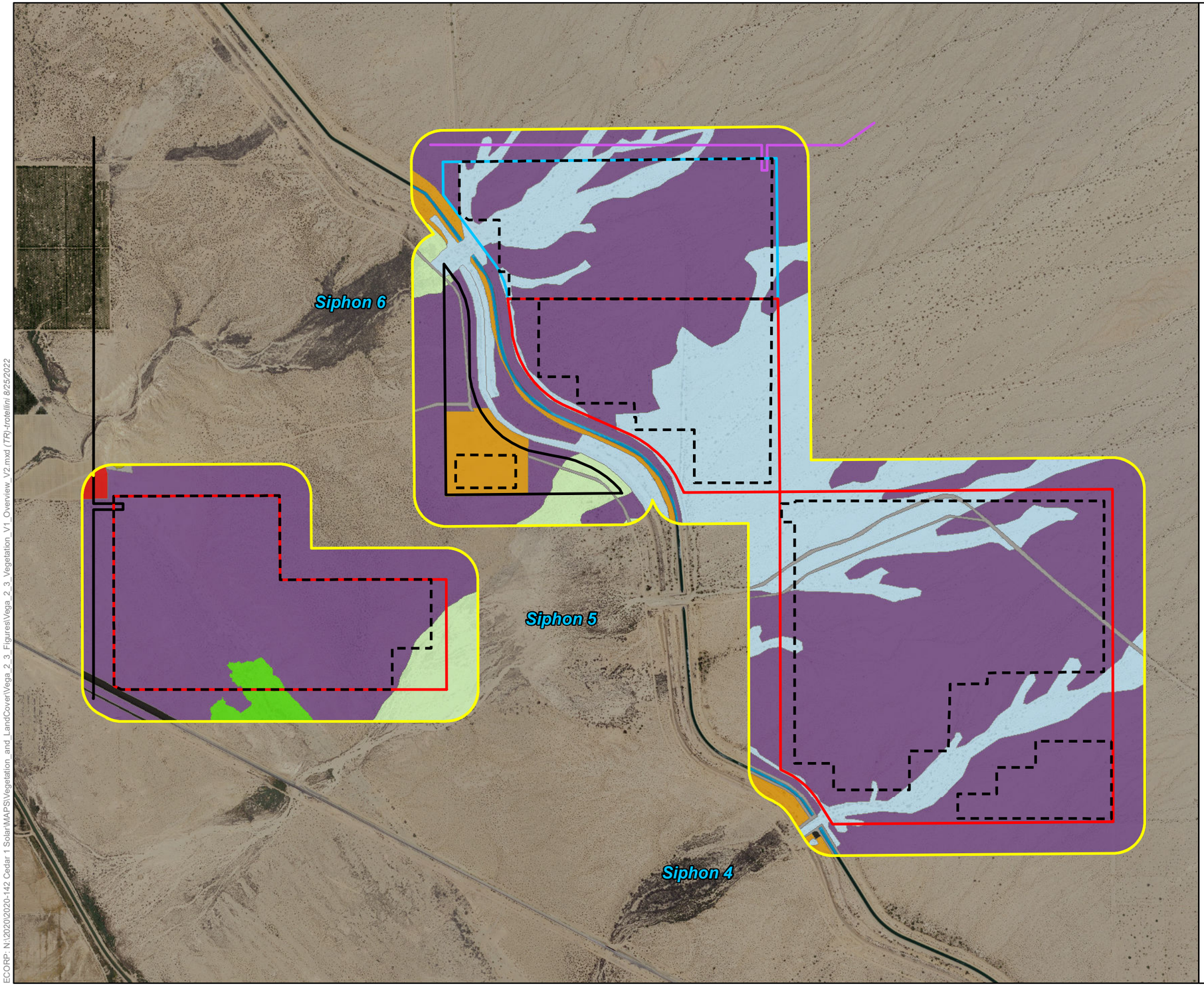
Vegetation Communities and Land Covers	Acres
Bush Seepweed Scrub	7.44
Creosote Bush Scrub	881.97
Disturbed Creosote Bush Scrub	11.30
Blue Palo Verde/Ironwood Woodland	230.73
Tamarisk Thickets	1.57
Urban/Developed - Roads	8.50
Project Area Totals	**1141.51**

4.2.2.1 Bush Seepweed Scrub (*Suaeda* [*moquinii*] *nigra* Shrubland Alliance)

Bush sweepweed scrub is found on flat to gently sloping valley bottoms, bajadas, and toe slopes adjacent to alluvial fans. Bush seepweed scrub is dominated by bush sweepweed, a USFWS Wetland Inventory OBL species (USACE 1996), and can be co-dominant with four-wing saltbush (*Atriplex canescens*) and/or alkali goldenbush (*Isocoma acradenia*). This vegetation community typically has a sparse to intermittent herbaceous layer. This community was only observed in Study Area 1. Bush seepweed dominated the shrub cover with occasional occurrences of four-wing saltbush, arrow weed (*Pluchea sericea*), big saltbush (*Atriplex lentiformis*), alkali goldenbush, and tamarisk.

4.2.2.2 Creosote Bush Scrub (*Larrea tridentata* Shrubland Alliance)

Creosote bush scrub is the most characteristic vegetation of the California desert and is found on alluvial fans, bajadas, upland slopes, and washes. Creosote bush scrub is dominated by a nearly monotypic stand of creosote bush with an open canopy and an herbaceous layer of seasonal annuals and perennials. This community was dominant in all three Study Areas. Other species that were observed within this community included burrobush (*Ambrosia dumosa*), narrow leaved cryptantha (*Cryptantha angustifolia*), and desert plantain (*Plantago ovata*).



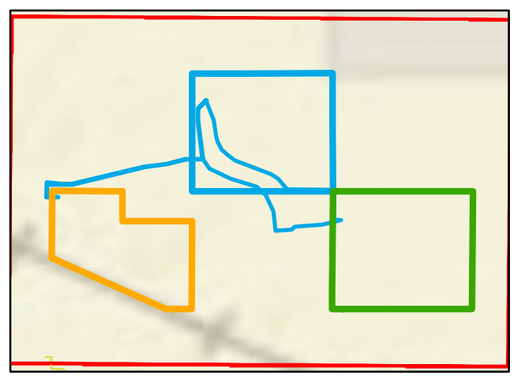
Map Features

- Vega SES 2
- Vega SES 2 & 3
- Vega SES 3
- 500-ft Buffer
- Impact Areas
- Vega 2 & 3 161 KV F Line
- Vega 2 230KV KN&KS Line

Vegetation Communities and Land Cover

- Blue Palo Verde - Ironwood Woodland
- Four-wing Saltbush Scrub
- Bush Seepweed Scrub
- Active Agriculture
- Channel
- Creosote Bush Scrub
- Disturbed Creosote Bush Scrub
- Tamarisk Thickets
- Urban/Developed - Dirt Roads
- Urban/Developed

Sources: NAIP(2018), ECORP UAS Imagery (2020)
Other Related Info if Needed



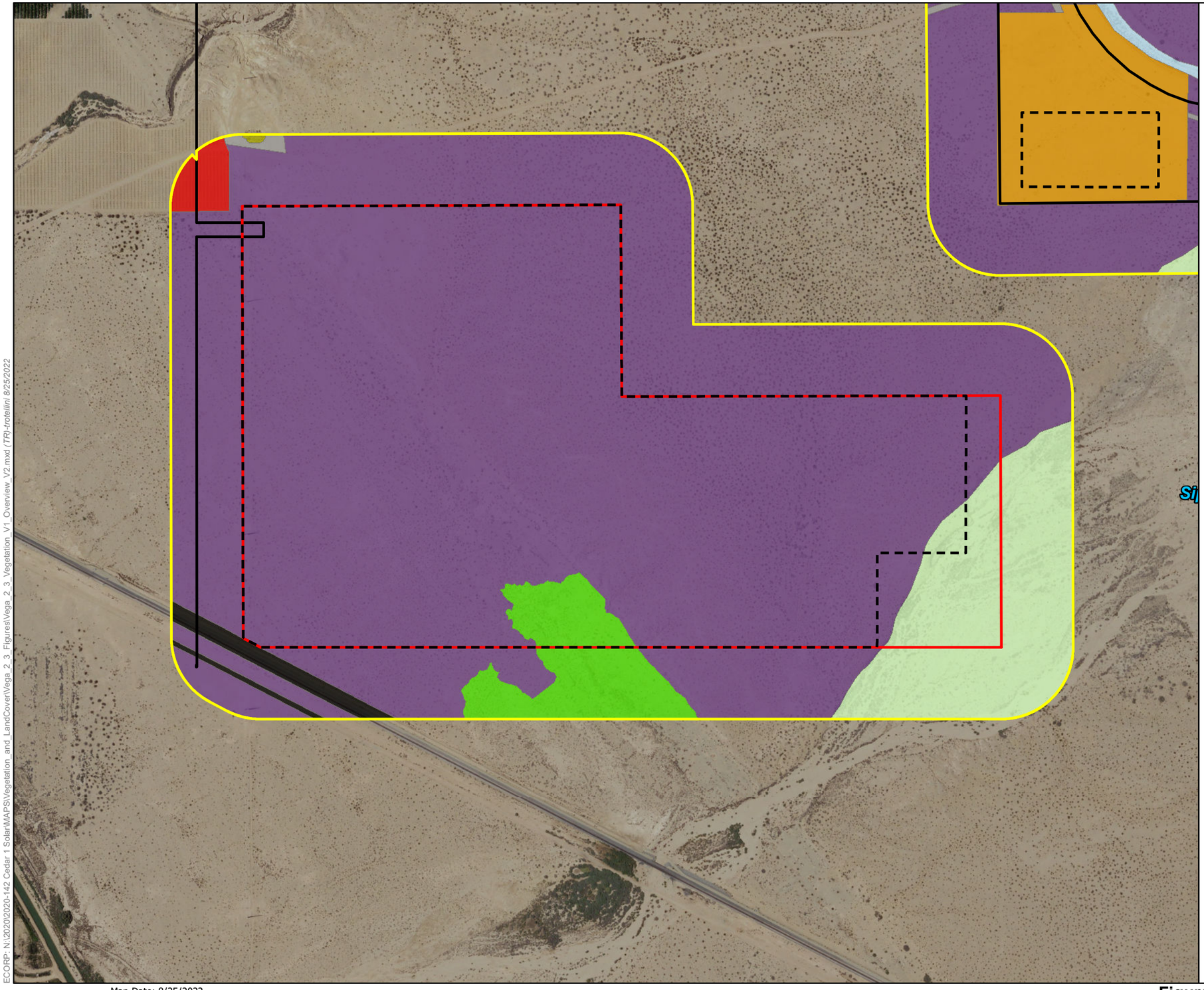
ECORP: N:\2020\2020-142 Cedar 1 Solar\MAPS\Vegetation_and_LandCover\Vega_2_3_Figures\Vega_2_3_Vegetation_V1_Overview_V2.mxd (TR)-trotellini 8/25/2022

Map Date: 8/25/2022

ECORP Consulting, Inc.
ENVIRONMENTAL CONSULTANTS

Scale in Feet
0 500 1,000 1,500

Figure 4. Vegetation Communities and Land Cover Overview
2020-144/2020-199/2020-209 Vega SES 2 and Vega Ses 3



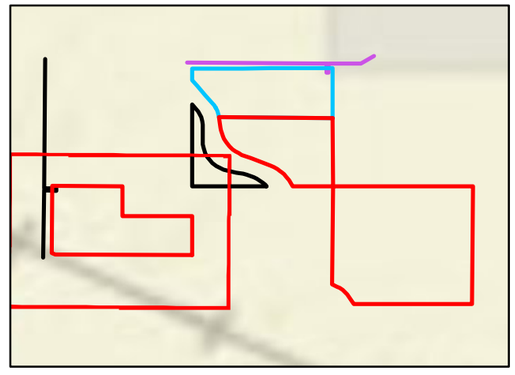
Map Features

- Vega SES 2
- Vega SES 2 & 3
- 500-ft Buffer
- Impact Areas
- Vega 2 230KV KN&KS Line

Vegetation Communities and Land Cover

- Blue Palo Verde - Ironwood Woodland
- Four-wing Saltbush Scrub
- Bush Seepweed Scrub
- Active Agriculture
- Creosote Bush Scrub
- Disturbed Creosote Bush Scrub
- Tamarisk Thickets
- Urban/Developed - Dirt Roads
- Urban/Developed

Sources: NAIP(2018), ECORP UAS Imagery (2020)
Other Related Info if Needed



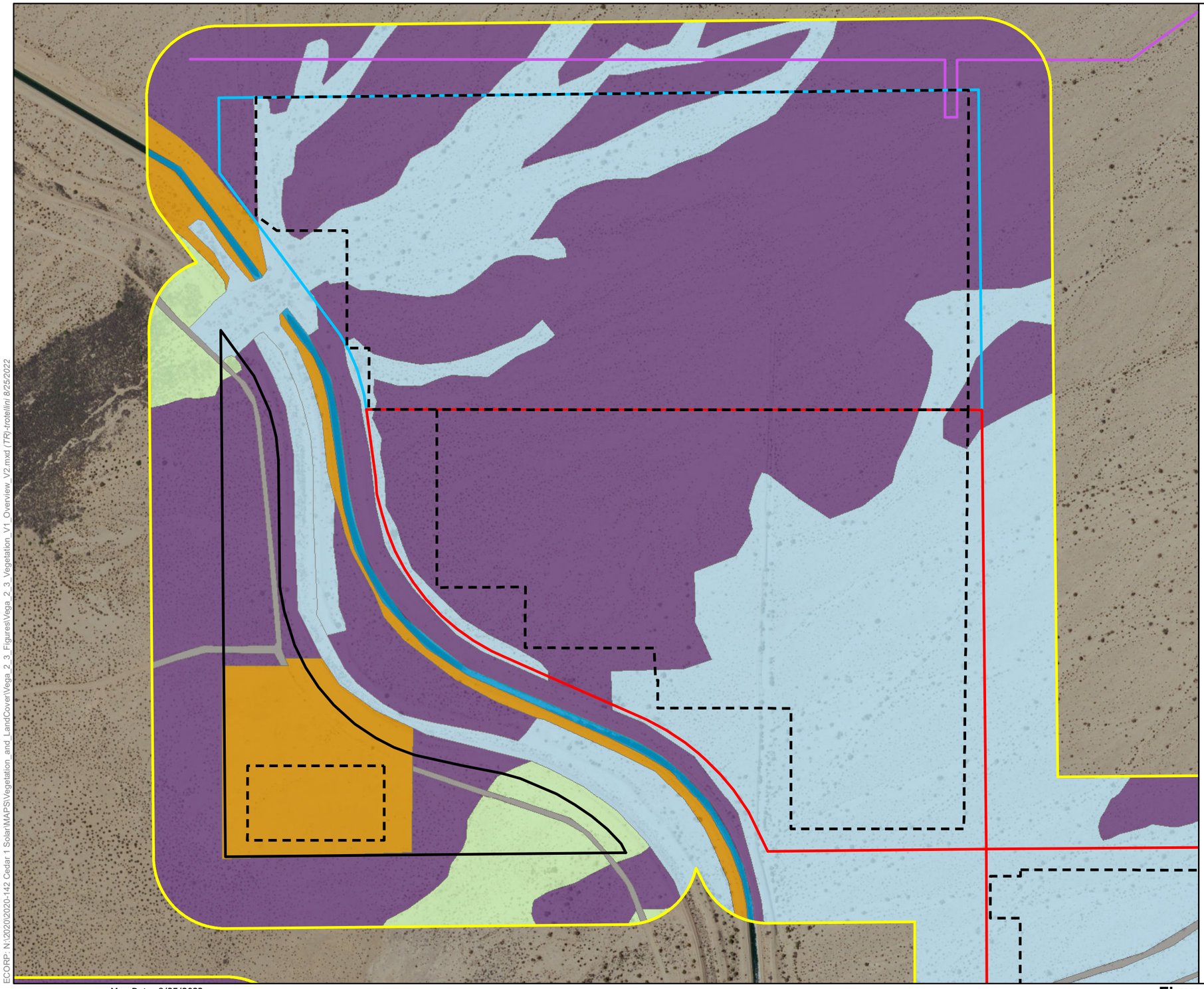
ECORP- N:\2020\2020-142 Cedar 1 Solar\MAPS\Vegetation_and_LandCover\Vega_2_3_Figures\Vega_2_3_Vegetation_V1_Overview_V2.mxd (TR)-trotellini 8/25/2022

Map Date: 8/25/2022

ECORP Consulting, Inc.
ENVIRONMENTAL CONSULTANTS

Scale in Feet
0 350 700

Figure 4. Vegetation Communities and Land Cover
Study Area 1
2020-144/2020-199/2020-209 Vega SES 2 and Vega Ses 3



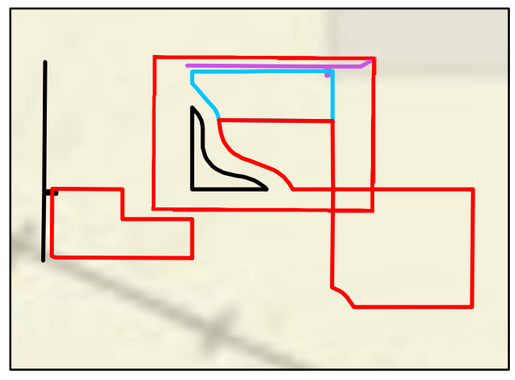
Map Features

- Vega SES 2
- Vega SES 2 & 3
- Vega SES 3
- 500-ft Buffer
- Impact Areas
- Vega 2 & 3 161 KV F Line

Vegetation Communities and Land Cover

- Blue Palo Verde - Ironwood Woodland
- Channel
- Creosote Bush Scrub
- Disturbed Creosote Bush Scrub
- Tamarisk Thickets
- Urban/Developed - Dirt Roads

Sources: NAIP(2018), ECORP UAS Imagery (2020)
Other Related Info if Needed



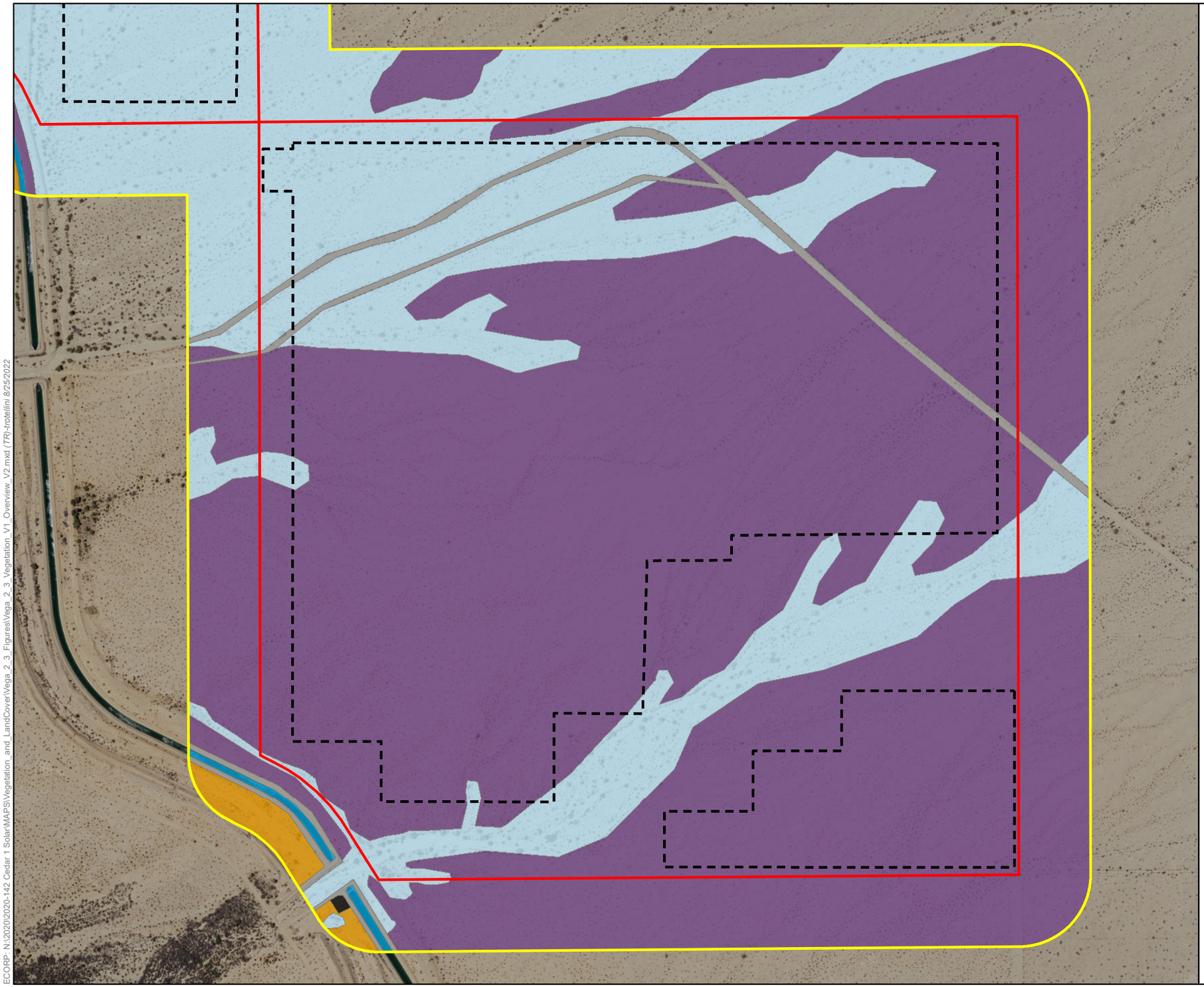
ECORP: N:\2020\2020-142 Cedar 1 Solar\MAPS\Vegetation_and_LandCover\Vega_2_3_Figures\Vega_2_3_Vegetation_V1_Overview_V2.mxd (TR)-trotellini 8/25/2022

Map Date: 8/25/2022

ECORP Consulting, Inc.
ENVIRONMENTAL CONSULTANTS

Scale in Feet
0 350 700

Figure 4. Vegetation Communities and Land Cover
Study Area 2
2020-144/2020-199/2020-209 Vega SES 2 and Vega Ses 3



Map Features

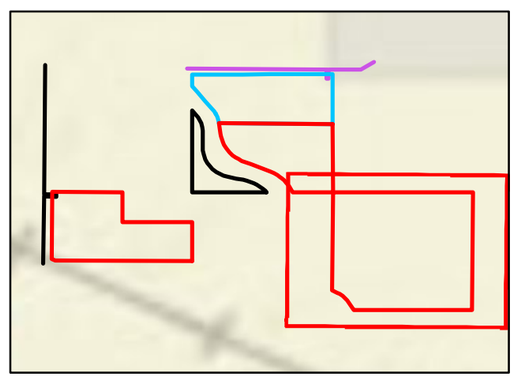
- Vega SES 2
- 500-ft Buffer
- Impact Areas

Vegetation Communities and Land Cover

- Blue Palo Verde - Ironwood Woodland
- Channel
- Creosote Bush Scrub
- Disturbed Creosote Bush Scrub
- Urban/Developed - Dirt Roads
- Urban/Developed

Sources: NAIP(2018), ECORP UAS Imagery (2020)

Other Related Info if Needed



ECORP- N:\2020\2020-142 Cedar 1 Solar\MAPS\Vegetation_and_LandCover\Vega_2_3_Figures\Vega_2_3_Vegetation_V1_Overview_V2.mxd (TR)-trotellini 8/25/2022

Map Date: 8/25/2022

ECORP Consulting, Inc.
ENVIRONMENTAL CONSULTANTS

Scale in Feet
0 350 700

Figure 4. Vegetation Communities and Land Cover
Study Area 3
2020-144/2020-199/2020-209 Vega SES 2 and Vega Ses 3

4.2.2.3 Disturbed Creosote Bush Scrub (Disturbed *Larrea tridentata* Shrubland Alliance)

Disturbed creosote bush is creosote bush scrub that has been previously altered. Within Study Areas 2 and 3, this vegetation cover is characterized as sparser with a high percentage of nonnative plant species including common Mediterranean grass (*Schismus barbatus*) and Saharan mustard (*Brassica tournefortii*).

Other plant species observed within this community include desert plantain and crinkle mat (*Tiquilia plicata*).

4.2.2.4 Blue Palo Verde/Ironwood Woodland (*Parkinsonia florida - Olneya tesota* Woodland Alliance)

Blue palo verde/ironwood woodland is characterized by blue palo verde or ironwood as a dominant or co-dominant plant species in the tree or tall shrub canopy that is open to continuous. The shrub layer is intermittent or open, while the herbaceous layer is sparse with seasonal annuals. It occurs in desert arroyo margins, seasonal watercourses, desert washes, bottomlands, bajadas, alluvial fans, and lower slopes. Blue palo verde/ironwood woodland take up large portions of Study Area 2 and 3. Other plant species observed within this community included creosote bush, cheesebush (*Ambrosia salsola*), and burrobush.

4.2.2.5 Tamarisk Thickets (*Tamarix* spp. Shrubland Semi-Natural Alliance)

Tamarisk thickets are characterized by a weedy monoculture of tamarisk. This habitat is typically in ditches, washes, rivers, arroyo margins, lake margins, and other watercourses. Within all three Study Areas, tamarisk was often the dominant, with arrow weed occasionally as a co-dominant plant species. Other species observed within this community included popcorn flowers (*Cryptantha* spp.), screw bean mesquite (*Prosopis pubescens*), and Mediterranean grass.

4.2.2.6 Other Land Cover Types

Urban/Developed

Urban/Developed areas do not constitute a vegetation classification, but rather a land cover type. Areas mapped as developed have been constructed upon or otherwise physically altered to an extent that natural vegetation communities are no longer supported. In the Study Areas, this land cover consisted primarily of compacted dirt roads and structures. In Study Area 1, an area consisting of bare ground surrounding four-wing saltbush scrub was also classified as "urban/developed – dirt roads" as this area functioned as a vehicle turnaround.

4.2.2.7 Vegetation Communities and Land Covers within Survey Area

One additional vegetation community and one additional land cover was observed within the buffer, but not within the Project Areas. These are described in detail below. No impacts to this vegetation community and land cover are expected as a result of Project-related activities.

Active Agriculture

Active agriculture consists of row crops that include planted, typically monotypic rows of crops of annual and perennial species with open space between rows. Species composition frequently changes by season and year. Row crops often occur in upland areas with high soil quality, or floodplains and are almost always artificially irrigated. This land cover was observed in the northwestern portion of the buffer of Study Area 1.

Fourwing Saltbush Scrub (Atriplex canescens Shrubland Alliance)

Fourwing saltbush scrub is characterized by fourwing saltbush as a dominant within the shrub layer. The shrub canopy is open or intermittent, while the herbaceous layer can be variable, with seasonal herbs and nonnative grasses. It is found within playas, shores, lake deposits, dissected alluvial fans, or channel beds. Fourwing saltbush scrub was only observed in a small section within the buffer of Study Area 2. Other plant species observed areas within this community included creosote bush, Mediterranean grass, and brittlebush (*Encelia* spp.).

4.2.3 Wildlife Observed

Wildlife species observed included western side-blotch lizard (*Uta stansburiana elegans*), western whiptail lizard (*Aspidoscelis tigris*), desert patch-nosed snake (*Salvadora hexalepis hexalepis*), northern harrier *(Circus hudsonius*), loggerhead shrike (*Lanius ludovicianus*), black-tailed gnatcatcher (*Polioptila melanura*), great egret (*Ardea alba*), American kestrel (*Falco sparverius*), Gambel's quail (*Callipepla gambelii*), European starling (*Sturnus vulgaris*), killdeer (*Charadrius vociferus*), rock wren (*Salpinctes obsoletus*), turkey vulture (*Cathartes aura*), common raven (*Corvus corax*), great-tailed grackle (*Quiscalus mexicanus*), phainopepla (*Phainopepla nitens*), red-tailed hawk (*Buteo jamaicensis*), greater roadrunner (*Geococcyx californianus*), ladder-backed woodpecker (*Dryobates scalaris*), black phoebe (*Sayornis nigricans*), Say's phoebe (*Sayornis saya*), house finch (*Haemorhous mexicanus*), black-throated sparrow (*Amphispiza bilineata*), white-crowned sparrow (*Zonotrichia leucophrys*), Anna's hummingbird *(Calypte anna*), bushtit (*Psaltriparus minimus*), peregrine falcon (*Falco peregrinus*), cactus wren (*Campylorhynchus brunneicapillus*), lesser goldfinch (*Spinus psaltria*), black-tailed jackrabbit (*Lepus californicus*), desert cottontail (*Sylvilagus audubonii*), bobcat (*Lynx rufus*), and signs of coyote (*Canis latrans*), desert kit fox (*Vulpes macrotis*), antelope squirrel (*Ammospermophilus leucurus*), kangaroo rat (*Dipodomys* sp.), and raccoon (*Procyon lotor*).

4.3 Special-Status Species Assessment

The literature review resulted in 22 special-status plant and 27 special-status wildlife species that have historically been recorded in the vicinity of the Project Areas or that are highly associated with habitat that occurs on the Project sites. Special-status plants were evaluated for their potential to occur within the Project Areas where impacts could occur. Special-status wildlife were evaluated for their potential to occur within the Survey Areas, a broader area that includes the Project Areas and buffer, where direct or indirect impacts could occur. Special-status wildlife species observed during the reconnaissance survey are depicted on Figure 5.

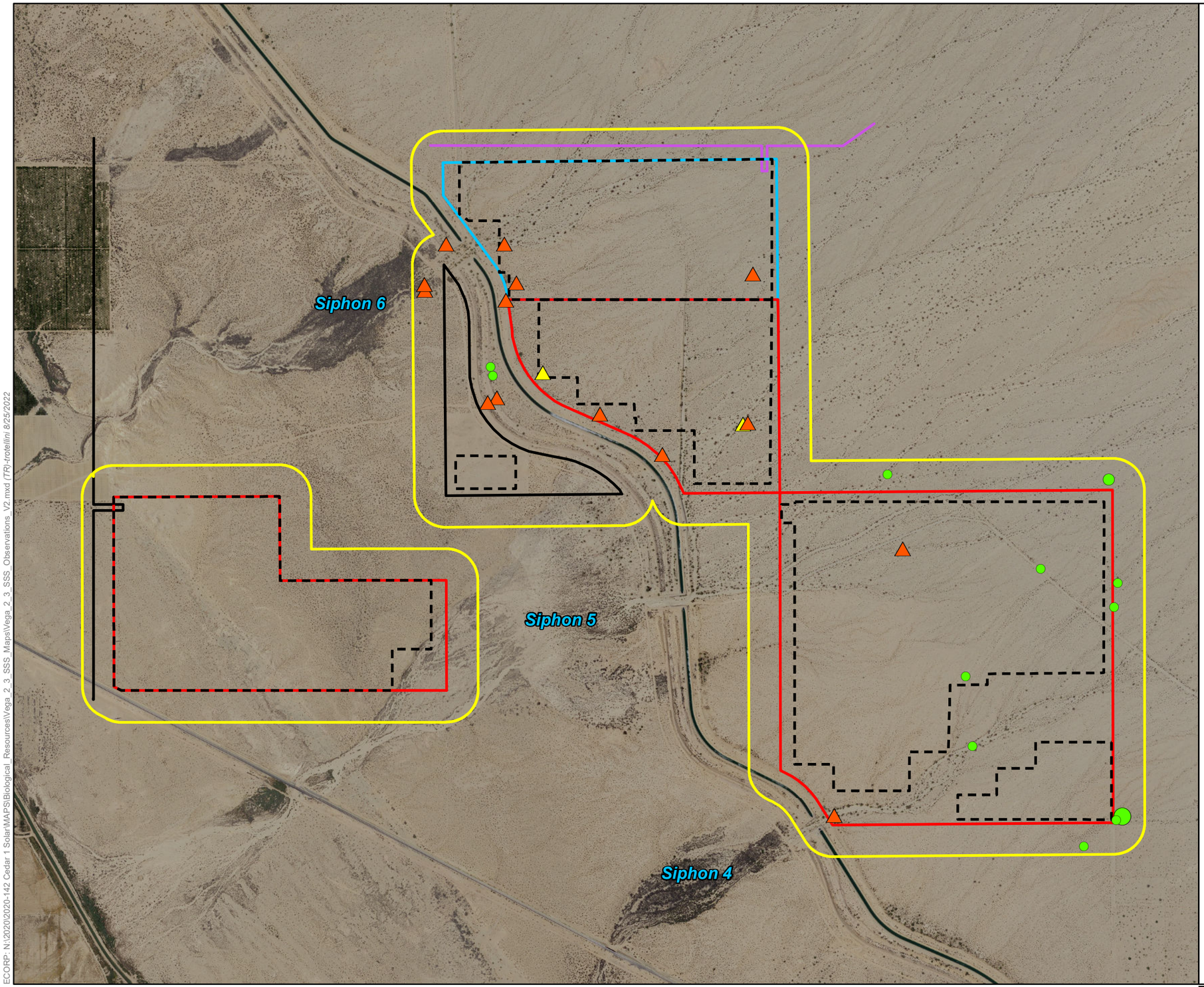
4.3.1 Plants

Numerous special-status plant species have been recorded within five miles of the Project Areas, according to the CNDDB (CDFW 2020a), IPaC (USFWS 2020b), and CNPSEI (CNPS 2020). Of all available records, 18 special-status plant species were identified as those with the potential for occurrence within the vicinity of the Project Areas, while an additional four plant were presumed absent based on their known habitat not occurring within the Project Areas. Descriptions of the CNPS designations are found in Table 4 and a list of the special-status plant species identified in the literature review is presented below (CNPS 2020).

Table 4. CNPS Status Designations

List Designation	Meaning
1A	Plants Presumed Extirpated in California and Either Rare or Extinct Elsewhere
1B	Plants Rare, Threatened, or Endangered in California and Elsewhere
2A	Plants Presumed Extirpated in California, But Common Elsewhere
2B	Plants Rare, Threatened, or Endangered in California, But More Common Elsewhere
3	Plants about which we need more information; a review list
4	Plants of limited distribution; a watch list
List 1B, 2, and 4 extension meanings:	
.1	Seriously threatened in California (over 80 percent of occurrences threatened / high degree and immediacy of threat)
.2	Moderately threatened in California (20-80 percent occurrences threatened / moderate degree and immediacy of threat)
.3	Not very threatened in California (less than 20 percent of occurrences threatened / low degree and immediacy of threat or no current threats known)

Note: According to CNPS (Skinner and Pavlik 1994), plants on Lists 1B and 2 meet definitions for listing as threatened or endangered under Section 1901, Chapter 10 of the California Fish and Game Code (California Department of Fish and Game [CDFG] 1984). This interpretation is inconsistent with other definitions.



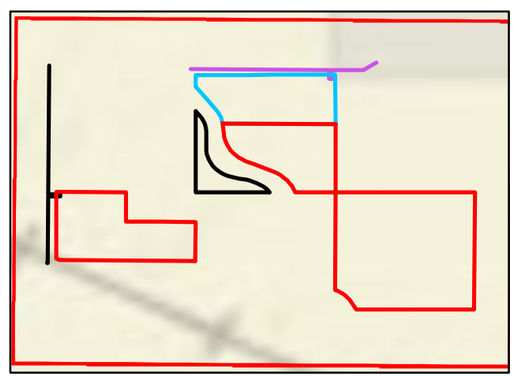
Map Features

- Vega SES 2
- Vega SES 2 & 3
- Vega SES 3
- 500-ft Buffer
- Impact Areas
- Vega 2 & 3 161 KV F Line
- Vega 2 230KV KN&KS Line

Special status Species Observations

- Munz's cholla *(Cylindropuntia munzii)*
- Munz's cholla *(Cylindropuntia munzii)* (2 Count)
- Munz's cholla *(Cylindropuntia munzii)* (3-4 Count)
- Black-tailed Gnatcatcher (*Polioptila melanura*)
- Loggerhead Shrike (*Lanius ludovicianus*)

Sources: NAIP (2018)
Other Related Info if Needed



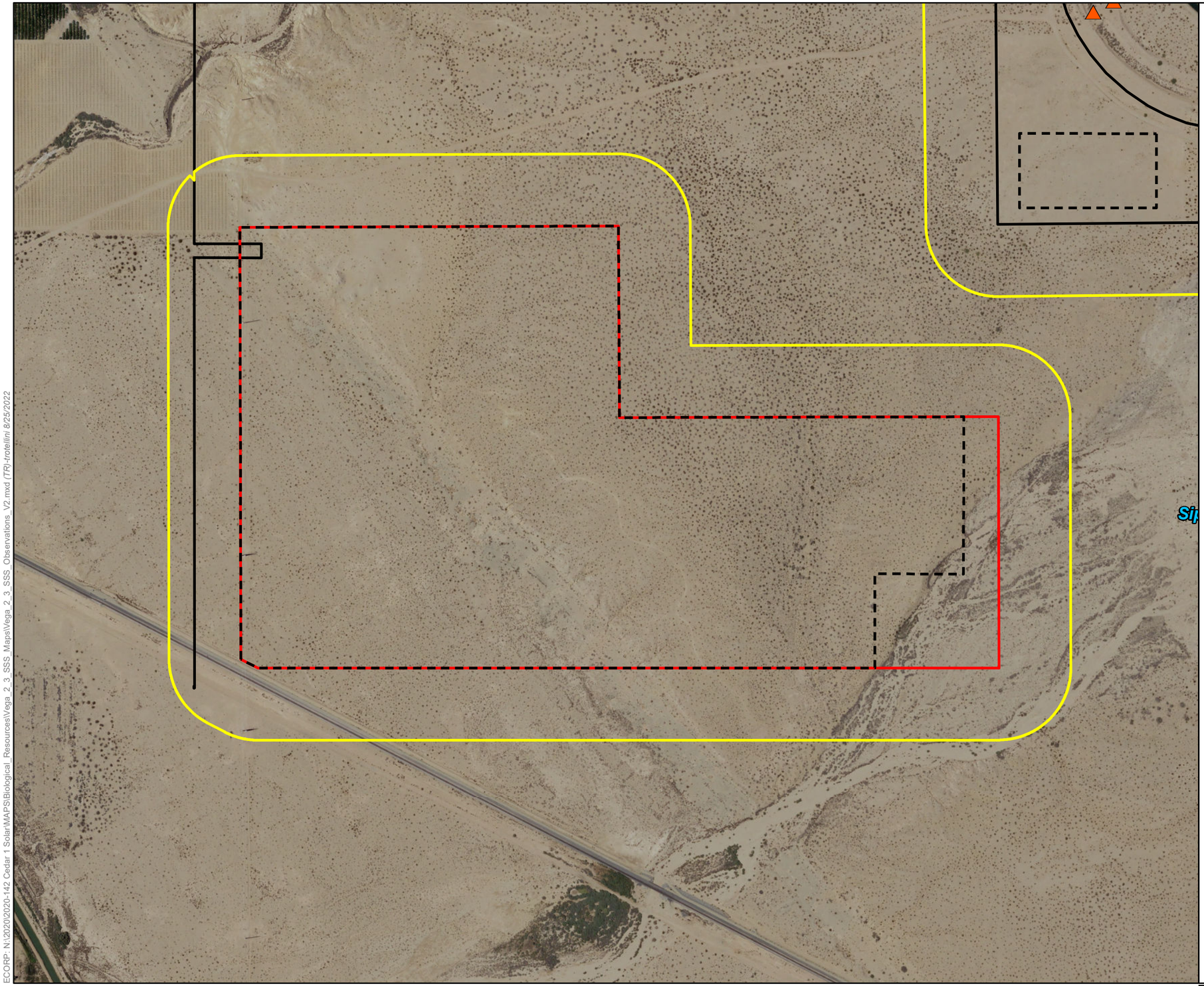
ECORP: N:\2020\2020-142 Cedar 1 Solar\MAPS\Biological_Resources\Vega_2_3_SSS_Maps\Vega_2_3_SSS_Observations_V2.mxd (TR)-trotellini 8/25/2022

Map Date: 8/25/2022

ECORP Consulting, Inc.
ENVIRONMENTAL CONSULTANTS

Scale in Feet
0 500 1,000 1,500

Figure 5. Special-status Species Observations Overview
2020-144/2020-199/2020-209 Vega SES 2 and Vega Ses 3



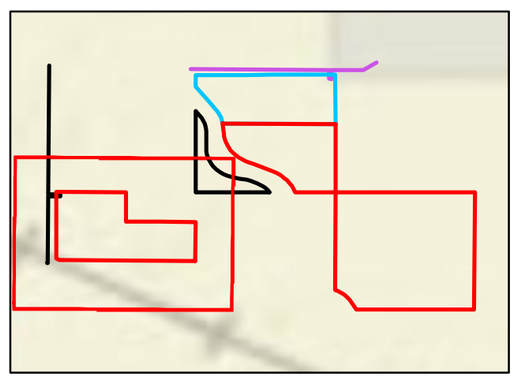
Map Features

- Vega SES 2
- Vega SES 2 & 3
- Vega SES 3
- 500-ft Buffer
- Impact Areas
- Vega 2 & 3 161 KV F Line
- Vega 2 230KV KN&KS Line

Special status Species Observations

- Munz's cholla *(Cylindropuntia munzii)*
- Munz's cholla *(Cylindropuntia munzii)* (2 Count)
- Munz's cholla *(Cylindropuntia munzii)* (3-4 Count)
- Black-tailed Gnatcatcher (*Polioptila melanura*)
- Loggerhead Shrike (*Lanius ludovicianus*)
- Northern Harrier (*Circus hudsonius*)

Sources: NAIP (2018)
Other Related Info if Needed



ECORP- N:\2020\2020-142 Cedar 1 Solar\MAPS\Biological_Resources\Vega_2_3_SSS_Maps\Vega_2_3_SSS_Observations_V2.mxd (TR)-trotellini 8/25/2022

Map Date: 8/25/2022

ECORP Consulting, Inc.
ENVIRONMENTAL CONSULTANTS

Scale in Feet
0 350 700

Figure 5. Special-status Species Observations
Study Area 1
2020-144/2020-199/2020-209 Vega SES 2 and Vega Ses 3

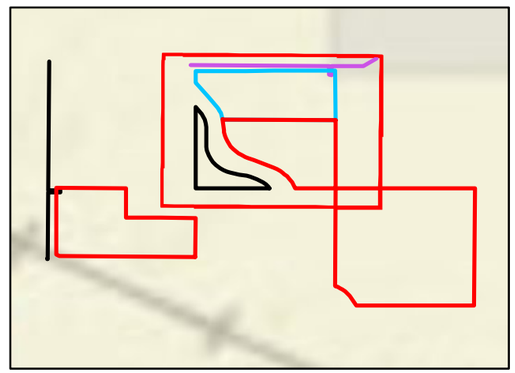
Map Features

- Vega SES 2
- Vega SES 2 & 3
- Vega SES 3
- 500-ft Buffer
- Impact Areas
- Vega 2 & 3 161 KV F Line
- Vega 2 230KV KN&KS Line

Special status Species Observations

- Munz's cholla *(Cylindropuntia munzii)*
- Munz's cholla *(Cylindropuntia munzii)* (2 Count)
- Munz's cholla *(Cylindropuntia munzii)* (3-4 Count)
- Black-tailed Gnatcatcher (*Polioptila melanura*)
- Loggerhead Shrike (*Lanius ludovicianus*)

Sources: NAIP (2018)
Other Related Info if Needed



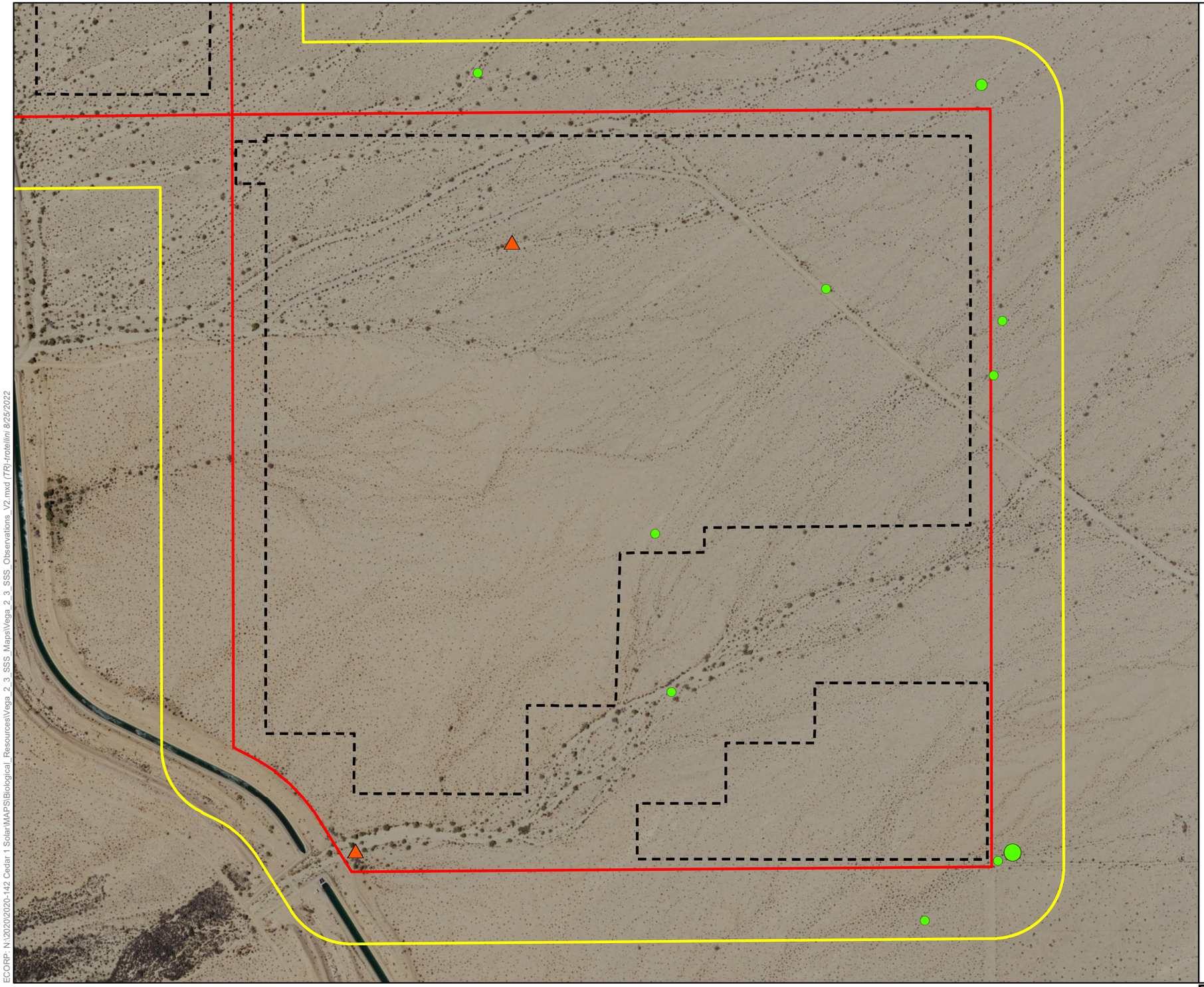
ECORP: N:\20202020-142 Cedar 1 Solar\MAPS\Biological_Resources\Vega_2_3_SSS_Maps\Vega_2_3_SSS_Observations_V2.mxd (TR)-trotellini 8/25/2022

Map Date: 8/25/2022

ECORP Consulting, Inc.
ENVIRONMENTAL CONSULTANTS

Scale in Feet
0 350 700

Figure 5. Special-status Species Observations
Study Area 2
2020-144/2020-199/2020-209 Vega SES 2 and Vega Ses 3



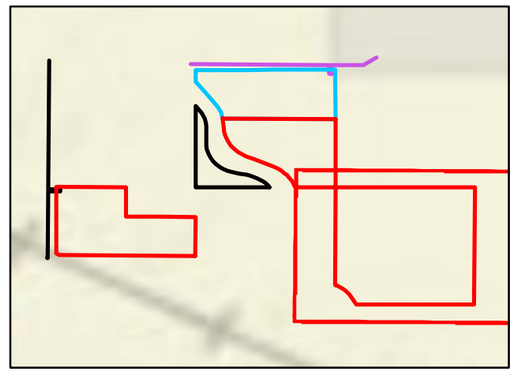
Map Features

- Vega SES 2
- Vega SES 2 & 3
- Vega SES 3
- 500-ft Buffer
- Impact Areas
- Vega 2 & 3 161 KV F Line
- Vega 2 230KV KN&KS Line

Special status Species Observations

- Munz's cholla *(Cylindropuntia munzii)*
- Munz's cholla *(Cylindropuntia munzii)* (2 Count)
- Munz's cholla *(Cylindropuntia munzii)* (3-4 Count)
- Black-tailed Gnatcatcher (*Polioptila melanura*)
- Loggerhead Shrike (*Lanius ludovicianus*)

Sources: NAIP (2018)
Other Related Info if Needed



ECORP: N:\2020\2020-142 Cedar 1 Solar\MAPS\Biological_Resources\Vega_2_3_SSS_Maps\Vega_2_3_SSS_Observations_V2.mxd (TR)-trotellini 8/25/2022

Map Date: 8/25/2022

ECORP Consulting, Inc.
ENVIRONMENTAL CONSULTANTS

Scale in Feet
0 350 700

Figure 5. Special-status Species Observations
Study Area 3
2020-144/2020-199/2020-209 Vega SES 2 and Vega Ses 3

4.3.1.1 Special-Status Plant Species Present

During the reconnaissance survey, the following species was observed within Study Areas 2 and 3:

- Munz's cholla (*Cylindropuntia munzii*) is a CNPS California Rare Plant Rank (CRPR) 1B.3 plant species. This species is known to occur at elevations between 150 and 600 meters (492 and 1,969 feet) and blooms in the month of May. Munz's cholla is known to occur in gravelly or sandy Sonoran desert scrub habitat. A total of two individuals were observed within Study Area 2 and 15 individuals were observed within Study Area 3. Most are located adjacent to the Project Areas. Two individuals are located within the Project Area of Study Area 3 and could be directly impacted. Additionally, there is high potential for this species to occur in Study Area 1 due to presence of creosote bush scrub habitat.

4.3.1.2 Special-Status Plant Species with a Moderate Potential to Occur

Due to the presence of suitable habitat and several known recent occurrences within five miles of the Project Areas, the following species were determined to have a moderate potential to occur:

- Gravel milk-vetch (*Astragalus sabulonum*) is a CRPR 2B.2 plant species. This species is known to occur at elevations between -60 and 930 meters (-197 and 3,051 feet) and blooms between February and June. Gravel milk-vetch is known to occur in Sonoran desert scrub habitat within sandy, sometimes gravelly flats, washes, and roadsides. One historic CNDDB record from 1906 was recorded approximately 3.66 miles northwest of Study Area 1. Potential habitat occurs within the Study Areas for this species in the creosote bush scrub habitat.

- Wiggins' croton (*Croton wigginsii*) is a CRPR 2B.2 plant species. This species is known to occur at elevations between 50 and 100 meters (164 and 328 feet) and blooms between March and May. Wiggins' croton is known to occur in sandy Sonoran desert scrub habitat. One historic CNDDB record from 1986 was recorded approximately 3.8 miles southeast of Study Area 3. Potential habitat occurs within the Study Areas for this species in the sandy, creosote bush scrub habitat.

- Glandular ditaxis (*Ditaxis claryana*) is a CRPR 2B.2 plant species. This species is known to occur at elevations between sea level and 465 meters (sea level and 1,526 feet) and blooms between October and March. Glandular ditaxis (*Ditaxis claryana*) is known to occur in sandy Sonoran desert scrub habitat. One historic CNDDB record from 1978 was recorded within the northern portion of Study Area 3. Potential habitat occurs within the Study Areas for this species in the creosote bush scrub habitat.

- Sand food (*Pholisma sonorae*) is a CRPR 1B.2 plant species. This parasitic species attaches to the roots of host *Eriogonum*, *Tiquilia*, *Ambrosia*, and *Pluchea* species. Sand food is known to occur at elevations between sea level and 200 meters (sea level and 656 feet) and blooms between April and June. It is known to occur in sandy Sonoran desert scrub habitat. One historic CNDDB record from 1980 was recorded approximately 4.42 miles southeast of the Study Areas, and a known occurrence exists within the CNPS quadrant database. Potential habitat occurs within the Study Areas for this species in the sandy, creosote bush scrub habitat.

4.3.1.3 Special-Status Plant Species with Low Potential to Occur

The following species were found to have a low potential to occur on the Project Areas because of limited habitat for the species on the site and a known occurrence has been reported in the database, but not within five miles of the Project Areas, or suitable habitat strongly associated with the species occurs within the Project Areas, but no records were found in the database search:

- Salton milk-vetch (*Astragalus crotalariae*), CNPS 4.3
- Harwood's milk-vetch (*Astragalus insularis* var. *harwoodii*), CNPS 2B.2
- Borrego milk-vetch (*Astragalus lentiginosus* var. *borreganus*), CNPS 4.3
- pink fairy-duster (*Calliandra eriophylla*), CNPS 2B.3
- sand evening-primrose (*Chylismia arenaria*), CNPS 2B.2
- spiny abrojo (*Condalia globosa* var. *pubescens*), CNPS 4.2
- Abrams' spurge (*Euphorbia abramsiana*), CNPS 2B.2
- ribbed cryptantha (*Johnstonella costata*), CNPS 4.3
- slender-spined all thorn (*Koeberlinia spinosa* var. *tenuispina*), CNPS 2B.2
- slender cottonheads (*Nemacaulis denudata* var. *gracilis*), CNPS 2B.2
- roughstalk witch grass (*Panicum hirticaule* var. *hirticaule*), CNPS 2B.1
- Coves' cassia (*Senna covesii*), CNPS 2B.1
- Mecca-aster (*Xylorhiza cognata*), CNPS 1B.2

4.3.1.4 Special-Status Plant Species Presumed Absent

The following species are presumed absent from the Project sites due to the lack of suitable habitat, soil type, and/or elevation range at the Project Areas:

- chaparral sand-verbena (*Abronia villosa* var. *aurita*), CNPS 1B.1
- Peirson's milk-vetch (*Astragalus magdalenae* var. *peirsonii)*, CNPS 1B.2
- Algodones Dunes sunflower (*Helianthus niveus* var. *tephrodes*), CNPS 1B.2
- giant Spanish-needle (*Palafoxia arida* var. *gigantea*), CNPS 1B.3

4.3.2 Wildlife

The literature search documented 27 special-status wildlife species in the vicinity of the Survey Area, seven of which are federally and/or state-listed. Of the 27 special-status wildlife species identified in the literature review, two were present within the Survey Area, one was found to have a high potential to occur, eight were found to have a moderate potential to occur and six were found to have a low potential

to occur; the remaining nine species are presumed absent from the Survey Area. Descriptions of the federal and state wildlife designations are found in Table 5, and a brief natural history and discussion of the special-status wildlife species found onsite that have a high or moderate potential to occur within the Survey Area are provided below.

Table 5. Wildlife Status Designations

List Designation	Meaning
Federal Designation	**Jurisdiction under United States Fish and Wildlife Service (USFWS)**
END	Federally listed as Endangered
THR	Federally listed as Threatened
CAN	Federal Candidate Species
FSC	Federal Species of Concern
FPD	Federal Proposed for Delisting
BBC	Bird of Conservation Concern
State Designation	**Jurisdiction under California Fish and Wildlife Service (CDFW)**
END	State listed as Endangered
THR	State listed as Threatened
SSC	California Species of Special Concern
FP	Fully Protected Species
WL	Watch List

4.3.2.1 Special-Status Wildlife Species Present

The following species were observed within the Survey Area during the reconnaissance survey:

- Loggerhead shrike is a USFWS bird of conservation concern (BCC) and CDFW SSC. This species prefers open country with scattered shrubs and trees. They frequent agricultural fields, abandoned orchards, desert scrublands, and riparian areas. Two individuals were observed perching in palo verde-ironwood woodland, and creosote bush scrub of Study Area 2.
- Black-tailed gnatcatcher is a CDFW WL species. This species remains in pairs all year, defending permanent territories. Black-tailed gnatcatchers prefer dry washes or desert brush with varied growth of mesquite, acacias, and paloverdes, but are also known to inhabit tamarisk scrub. Many pairs of black-tailed gnatcatchers were observed foraging and calling within the palo verde-ironwood woodland, tamarisk thickets, bush seepweed scrubs, and creosote bush scrub within and adjacent to Study Areas 1 and 2.

4.3.2.2 Special-Status Wildlife Species with a High Potential to Occur

One species was found to have a high potential to occur within the Survey Area due to the presence of suitable habitat for the species on the sites and because a known occurrence has been recorded within five miles of the sites:

- Burrowing owl (*Athene cunicularia*) is a USFWS BCC, a CDFW SSC, and Imperial County Species of Conservation Focus. It is typically found in dry open areas with few trees and short grasses; it is also found in vacant lots near human habitation. It uses uninhabited mammal burrows for roosts and nests, often in close proximity to California ground squirrel (*Otospermophilus beecheyi*) colonies. It primarily feeds on large insects and small mammals but will also eat birds and amphibians. A burrowing owl was observed on the Vega SES 5 Project site, which is adjacent to Vega SES 2/Study Area 1. This means burrowing owl is likely to also occur within the Vega 2 and 3 Project Areas and may not have been observed due to wintering movement trends.

4.3.2.3 Special-Status Wildlife Species with a Moderate Potential to Occur

Nine species were found to have moderate potential to occur within the Survey Area because habitat (including soils and elevation factors) for the species occurs on the sites and a known occurrence exists within the database search, but not within five miles of the Survey Area; or a known occurrence exists within five miles of the Survey Area and marginal or limited amounts of habitat occurs within the Survey Area:

- Flat-tailed horned lizard (*Phrynosoma mcallii*) is a CDFW SSC and Imperial County Species of Conservation Focus. This species is most commonly found on sandy flats and valleys within desert scrub habitat with little or no windblown sand. They can also be found on salt flats and gravelly soils. The creosote bush scrub habitat provides suitable habitat for the flat-tailed horned lizard. There are known regional populations to north and south of the sites but occurrences in proximity to the Project Areas themselves is not well-known.

- Desert tortoise is a federally and state-threatened species. This species is found in sandy flats to rocky foothills, including alluvial fans, washes, and canyons where suitable soils for den construction are present. The creosote bush scrub, alluvial fans, and washes provide suitable habitat for the desert tortoise. One burrow with a half-moon shape was found during the reconnaissance survey within Vega 2 in Study Area 1. No desert tortoise sign (scat, tracks, carcasses, scrapes, etc.) was observed however the shape indicates that a desert tortoise could use the burrow. Desert tortoise critical habitat is seven miles northeast of the Project Areas.

- Northern harrier is a CDFW SSC. This species is typically found in open habitats with dense ground cover including grasslands, agricultural fields, and marshes. Northern harriers nest on the ground, preferring wetland habitat for cover. There is some suitable habitat for this species within all three Study Areas. This species was observed outside of the Survey Area during the reconnaissance survey.

- California horned lark (*Eremophila alpestris* ssp. *actia*) is a CDFW WL species. It occurs in bare, open areas dominated by low vegetation or widely scattered shrubs, including prairies, deserts,

and plowed fields. It nests in a hollow on the ground. The sparse creosote scrub habitat onsite and in the buffer zones provides potential habitat.

- Merlin (*Falco columbarius*) is a CDFW WL species. This species prefers open and semi-open areas within woodlands near water bodies including rivers, lakes, and wetlands. There are suitable open areas within the upland habitats adjacent to the tamarisk thickets that provide suitable habitat for the merlin. Therefore, wintering individuals have a moderate potential to occur within the Survey Area. There is a CNDDB record from 2007 located approximately three miles from the Project Areas.
- Crissal thrasher (*Toxostoma crissale*) is a CDFW SSC. It inhabits desert scrub and riparian brush with dense mesquite thickets often near streams or washes. The tamarisk thickets and bush seepweed scrub along the washes provides suitable habitat for this species.
- California black rail (*Laterallus jamaicensis* ssp. *coturniculus*) is a USFWS BBC, state-threatened, and CDFW fully protected species. California black rail are typically found in marsh habitat, including riparian marshes, saltmarshes, and wetlands. This species prefers consistent shallow water within the habitats. There is suitable habitat during the rainy season and shortly after for the California black rail within the riparian habitats in the Study Areas. There is one recent CNNDB record from 2015 approximately 4.8 miles from the Project Areas and four historic CNDDB records, two of which are located within the Project Areas.
- Yuma hispid cotton rat (*Sigmodon hispidus eremicus*) is a CDFW SSC. This species is generally associated with mesic habitats near drainage ditches, streams, and sloughs but also occurs in open fields or on the borders of open fields where there is dense grass habitat or agricultural fields. There is potential for this species to occur near the Coachella Canal, where they can utilize runways through dense herbaceous growth along the canal.
- Palm Springs pocket mouse (*Perognathus longimembris bangsi*) is a CDFW SSC. This species is associated with flat or gently sloping habitats of loose or sandy soils, with relatively sparse vegetation. There is potential for this species in the creosote bush scrub habitats of the Study Areas.

4.3.2.4 Wildlife Species with Low Potential to Occur

Six species were found to have a low potential to occur within the Survey Area because limited habitat for the species occurs on the sites and a known occurrence has been reported in the database, but not within five miles of the Survey Area, or suitable habitat strongly associated with the species occurs within the Survey Area, but no records were found in the database search:

- mountain plover (*Charadrius montanus*), USFWS BCC and CDFW SSC,
- Gila woodpecker (*Melanerpes uropygialis*), USFWS BCC and state endangered,
- Yuma Ridgway's rail (*Rallus obsoletus yumanensis*), USFWS END and state threatened and CDFW fully protected,

- California leaf-nosed bat (*Macrotus californicus*), CDFW SSC,
- pallid bat (*Antrozous pallidus*), CDFW SSC, and
- western yellow bat (*Lasiurus xanthinus*), CDFW SSC.

4.3.2.5 Wildlife Species Presumed Absent

The following nine species are presumed absent from the Survey Area due to the lack of suitable habitat:

- razorback sucker (*Xyrauchen texanus*), federally listed endangered, state listed endangered, and CDFW FP,
- Sonoran desert toad (*Incilius alvarius*), CDFW SSC,
- barefoot gecko (*Coleonyx switaki*), state threatened,
- western mastiff bat (*Eumops perotis* ssp. *californicus*), CDFW SSC,
- pocketed free-tailed bat (*Nyctinomops femorosaccus*), CDFW SSC,
- big free-tailed bat (*Nyctinomops macrotis*), CDFW SSC
- Mexican long-tongued bat (*Choeronycteris mexicana*), CDFW SSC,
- Townsend's big-eared bat (*Corynorhinus townsendii*), CDFW SSC, and
- peninsular bighorn sheep (*Ovis canadensis* ssp. *nelson*), federally listed endangered, state listed endangered, and CDFW FP.

4.4 Wildlife Movement Corridors, Linkages, and Significant Ecological Areas

The concept of habitat corridors addresses the linkage between large blocks of habitat that allow the safe movement of mammals and other wildlife species from one habitat area to another. The definition of a corridor is varied, but corridors may include such areas as greenbelts, refuge systems, underpasses, and biogeographic land bridges, for example. In general, a corridor is described as a linear habitat, embedded in a dissimilar matrix, which connects two or more large blocks of habitat. Wildlife movement corridors are critical for the survivorship of ecological systems for several reasons. Corridors can connect water, food, and cover sources, spatially linking these three resources with wildlife in different areas. In addition, wildlife movement between habitat areas provides for the potential of genetic exchange between wildlife species populations, thereby maintaining genetic variability and adaptability to maximize the success of wildlife responses to changing environmental conditions. This is especially critical for small populations subject to loss of variability from genetic drift and effects of inbreeding. Naturally, the nature of corridor use and wildlife movement patterns varies greatly among species.

The Study Areas were assessed for their ability to function as a wildlife corridor. The Study Areas have an alluvial fan system, which stems from the Chocolate Mountains and spreads across the landscape in the lowland areas. This interconnected drainage system has associated riparian corridors, which occur

throughout all three Study Areas. These areas provide cover for migrating and nesting birds. It also provides foraging habitat for raptors and small and large mammals, including rodents, felids, and canids. The large drainages and canal lined with tamarisk thickets and blue palo verde/ironwood woodlands are likely utilized by wildlife moving through the area. A bobcat was spotted using the tamarisk thickets for movement during the reconnaissance surveys. Therefore, these features and associated riparian habitat would be considered linkages between natural habitat areas.

The western portion of the Study Areas 2 and 3 are restricted by the Coachella Canal, and the southern border of Study Area 1 is restricted by railroad tracks. Due to the nature of this Study Area's location between the canal and railroad, it is already disconnected and acts as more of a buffer between agricultural lands and wildlands to the northeast, but not as a corridor for mammals.

The blue palo verde/ironwood woodland of Study Areas 2 and 3 provides shelter and good-quality foraging habitat. This habitat would function as a corridor for wildlife movement from the Chocolate Mountains. The bush seepweed scrub provides moderate shelter and little to moderate-quality foraging habitat. The creosote bush scrub habitats offer little shelter, but moderate-quality foraging habitat. The eastern portion of the Study Areas 2 and 3, east of Coachella Canal, currently provide wildlife movement opportunities because it consists of open and relatively unimpeded land. This portion of the Projects would be considered a wildlife movement corridor.

5.0 PROJECT IMPACTS

Implementation of the Projects has potential to impact blue palo verde – ironwood woodland, bush seepweed scrub, creosote bush scrub, disturbed creosote bush scrub, and tamarisk thickets. These communities may provide suitable nesting and foraging habitat for passerines, including loggerhead shrike, black-tailed gnatcatcher, burrowing owl, raptor foraging habitat, and habitat for gravel milk-vetch, Wiggins' croton, glandular ditaxis, sand food, and Munz's cholla. The following recommendations would be required to determine if the Projects would result in significant impacts to vegetation communities, special-status plant and wildlife species, jurisdictional waters, and wildlife movement corridors.

5.1.1 Special-Status Species

5.1.1.1 Special-Status Plants

The literature review identified 18 special-status plant species that have the potential to occur within the Project Areas. Of 22 original records, four plant species are presumed absent due to the lack of suitable habitat within the Project Areas. These species are chaparral sand-verbena, Peirson's milk-vetch, Algodones Dunes sunflower, and giant Spanish-needle. A total of 13 plant species have a low potential to occur due to the limited suitable habitat within the Project Areas. These species are Salton milk-vetch, Harwood's milk-vetch, Borrego milk-vetch, pink fairy-duster, sand evening-primrose, spiny abrojo, Abrams' spurge, ribbed cryptantha, slender-spined all thorn, slender cottonheads, roughstalk witch grass, Coves' cassia, and Mecca-aster. A total of four plant species have a moderate potential to occur due to the presence of suitable habitat within the Project Areas. These species are gravel milk-vetch, Wiggins' croton, glandular ditaxis, and sand food.

One rare plant species, Munz's cholla (CRPR 1B.3), was found to be present within Study Areas 2 and 3, and there is high potential for this species to occur within Study Area 1. Suitable habitat for this species is present within the creosote bush scrub habitat. Two individuals are located within the Project Area of Study Area 3 and could be directly impacted. Impacts that may occur to the species includes loss of individuals, habitat, and seedbank. Depending on the size of the population, this impact may be significant. Implementation of **BIO-1**, **BIO-2**, and **BIO-9** is recommended to decrease the chances of a significant impact.

5.1.1.2 Special-Status Wildlife

The literature review identified 27 special-status wildlife species that have the potential to occur within the Survey Area. However, 15 of these species have a low or no potential to occur due to the lack of suitable and/or limited habitat within the Survey Area. Wildlife species that are presumed absent from the Survey Areas include razorback sucker, Sonoran desert toad, barefoot gecko, western mastiff bat, pocketed free-tailed bat, big free-tailed bat, Mexican long-tongued bat, Townsend's big-eared bat, and peninsular bighorn sheep. Wildlife species with a low potential to occur include Gila woodpecker, Yuma Ridgway's rail, California leaf-nosed bat, pallid bat, and western yellow bat.

Ten species have a moderate or high potential to occur within the Survey Area, these species are flat-tailed horned lizard, Mojave desert tortoise, northern harrier, California horned lark, merlin, Crissal thrasher, California black rail, Yuma hispid cotton rat, Palm Springs pocket mouse, and burrowing owl. Additionally, two special-status wildlife species were observed onsite during the habitat assessment; loggerhead shrike and black-tailed gnatcatcher were observed in the tamarisk thickets, bush seepweed scrub, blue palo verde/ironwood woodland, and creosote bush scrub throughout the Study Areas. Direct impacts to these species that could occur include injury, mortality, nest failures, and loss of young. Indirect impacts include loss of nesting and foraging habitat, increase in anthropogenic effects (i.e., noise levels, introduction of invasive and nonnative species, increase in human activity, increase in dust). Impacts to these species could be considered significant; therefore, implementation of **BIO-2**, **BIO-3**, **BIO-4**, **BIO-5**, and **BIO-7** is recommended.

Foraging habitat for a number of raptor species and breeding habitat for numerous passerine species that are protected by the MBTA occurs throughout the Project sites. The sites provide nesting habitat for ground-nesting species as well as species that nest in riparian scrub habitat. The presence of large ironwood and palo verde trees within the Study Areas is suitable nesting habitat for raptor species. Additionally, northern harriers are ground nesters, for which the tamarisk thickets and other dense habitats provide potential nesting habitat for this species. Direct impacts to nesting avian species include injury, mortality, loss of young, and nest failure. Indirect impacts include loss of foraging and nesting habitat for passerine and raptors species, increase in noise and human activities, and potential introduction of invasive or nonnative species. Implementation of **BIO-4**, **BIO-5**, and **BIO-7** are recommended to mitigate for potential impacts.

5.1.2 Sensitive Natural Communities

The approximately 1,712-acre Project sites are comprised of blue palo verde/ironwood woodland, creosote bush scrub, disturbed creosote bush scrub, bush seepweed scrub, tamarisk thickets, and urban/developed land, which would be directly impacted by the Projects. In-kind mitigation, up to 3:1 ratio, may be required by CDFW to offset impacts to bush seepweed scrub, blue palo verde/ironwood woodland, and tamarisk thickets in order to reduce impacts to less than significant. Implementation of **BIO-7** and **BIO-8** is recommended to reduce potential impacts to less than significant threshold.

5.1.3 State- and/or Federally Protected Wetlands and Waters

The results of the Aquatic Resources Delineation and discussion of potential impacts on state- or federally protected wetlands or Waters of the U.S. are discussed in the Aquatic Resources Delineation Report (ECORP 2020), prepared under separate cover. Implementation of **BIO-6** and **BIO-8** is recommended to mitigate for potential significant impacts.

5.1.4 Wildlife Corridors and Nursery Sites

Study Area 1 is located adjacent to areas containing existing disturbances (i.e., railroad, roads, Coachella Canal, and active agricultural land). A majority of this area does not contain suitable vegetation and/or cover to support wildlife movement. Study Areas 2 and 3 does support wildlife movement opportunities connecting the Project Areas to large, undeveloped natural areas to the northeast. The riparian habitats of these areas, in particular, could act as a potential corridor and nursey site for migrating wildlife species. The proposed Project Area of Study Area 3 avoids one of the alluvial fan systems that could function as a corridor, thereby preserving wildlife movement in this area. Implementation of **BIO-2**, **BIO-4**, **BIO-5**, **BIO-6**, and **BIO-7** are recommended to mitigate for potential significant impacts.

5.1.5 Habitat and Conservation Plans and Natural Community Conservation

The Projects will follow the guidelines in Imperial County's Conservation and Open Space Element and meet the requirements outlined in the plan. Consultation with County of Imperial Department of Planning and Development, USFWS, and CDFW would be required should listed plant and/or wildlife species be found to occur.

6.0 RECOMMENDATIONS AND MITIGATION MEASURES

The following recommendations have been developed in accordance with the CEQA impacts analysis for the Projects (see Section 5) but should not be considered mitigation measures at this point in the Project planning process. These actions are recommended prior to Project implementation:

BIO-1 **Rare Plant Surveys:** Rare plant surveys should be conducted within suitable habitat on the Project Areas during the appropriate blooming period for the gravel milk-vetch, Wiggins' croton, glandular ditaxis, sand food, and Munz's cholla. The surveys should be conducted by a botanist or qualified biologist in accordance with the USFWS Guidelines for Conducting and Reporting Botanical Inventories for Federally Listed, Proposed, and Candidate Plants (USFWS 1996); the CDFW Protocols for Surveying and Evaluating Impacts to Special Status

Native Plant Populations and Sensitive Natural Communities (CDFW 2018); and the CNPS Botanical Survey Guidelines (CNPS 2001). If any special-status species are observed during the rare plant surveys, the location of the individual plant or population will be recorded with a submeter GPS device for mapping purposes. If Project-related impacts to rare plants on the Project site are unavoidable, then consultation with CDFW may be required to develop a mitigation plan or additional avoidance and minimization measures. Mitigation measures that may be implemented if the species is observed include establishing a no-disturbance buffer around locations of individuals or a population, salvage or seed collection, and additional monitoring requirements.

BIO-2 **Biological Monitoring:** A qualified biologist should be present to monitor all ground-disturbing and vegetation-clearing activities conducted for the Projects. During each monitoring day, the biological monitor should perform clearance survey "sweeps" at the start of each work day that vegetation clearing takes place to minimize impacts on special-status species with potential to occur (including, but not limited to, special-status and/or nesting bird species and flat-tailed horned lizard). The monitor will be responsible for ensuring that impacts to special-status species, nesting birds, and active nests will be avoided to the greatest extent possible. Biological monitoring should take place until the Project sites have been completely cleared of any vegetation. If an active nest is identified, the biological monitor should establish an appropriate disturbance limit buffer around the nest using flagging or staking. Construction activities should not occur within any disturbance limit buffer zones until the nest is deemed no longer active by the biologist. If special-status wildlife species are detected during biological monitoring activities, then consultation with the USFWS and/or CDFW should be conducted and a mitigation plan should be developed to avoid and offset impacts to these species. Mitigation measures may consist of work restrictions or additional biological monitoring activities after ground-disturbing activities are complete.

BIO-3 **Pre-Construction Surveys for Burrowing Owl:** Pre-construction surveys for burrowing owl should be conducted within the Project Areas and adjacent areas prior to the start of ground-disturbing activities. The surveys should follow the methods described in the CDFW's *Staff Report on Burrowing Owl Mitigation* (CDFG 2012). Two surveys should be conducted, with the first survey being conducted between 30 and 14 days before initial ground disturbance (grading, grubbing, and construction), and the second survey being conducted no more than 24 hours prior to initial ground disturbance. If burrowing owls and/or suitable burrowing owl burrows with sign (e.g., whitewash, pellets, feathers, prey remains) are identified on the Project site during the survey and impacts to those features are unavoidable, consultation with the CDFW should be conducted and the methods described in the CDFW's *Staff Report on Burrowing Owl Mitigation* (CDFG 2012) for avoidance and/or passive relocation should be followed.

BIO-4 **Pre-Construction Nesting Bird Survey:** If construction or other project activities are scheduled to occur during the bird breeding season (Typically February 1 through August 31

for raptors and March 15 through August 31 for the majority of migratory bird species), a pre-construction nesting-bird survey should be conducted by a qualified avian biologist to ensure that active bird nests, including those for the loggerhead shrike, black-tailed gnatcatcher, and burrowing owl, will not be disturbed or destroyed. The survey should be completed no more than three days prior to initial ground disturbance. The nesting-bird survey should include the Project Areas and adjacent areas where Project activities have the potential to affect active nests, either directly or indirectly due to construction activity or noise. If an active nest is identified, the biologist should establish an appropriately sized disturbance limit buffer around the nest using flagging or staking. Construction activities should not occur within any disturbance limit buffer zones until the nest is deemed inactive by the qualified biologist.

BIO-5 **Pre-Construction Survey for Special-Status Species:** A pre-construction survey should be conducted for special-status wildlife species within all areas of potential permanent and temporary disturbance. The pre-construction survey should take place no more than 14 days prior to the start of ground-disturbing activities. The pre-construction surveys should take place regardless of breeding season timing and should focus on identifying the presence of special-status wildlife species present within the Project Areas or that were identified as having a high potential to occur within the Project Areas. These species include, but are not limited to, burrowing owl, loggerhead shrike, and black-tailed gnatcatcher. Should any special-status species be identified during the pre-construction survey, consultation to develop suitable avoidance and minimization measures with the appropriate agency (USFWS, CDFW) may need to be undertaken.

BIO-6 **Aquatic Resources Regulatory Permitting:** If Project-related impacts will occur to areas under the jurisdiction of the USACE, CDFW or RWQCB, a regulatory permit with those agencies is needed prior to the impact occurring. Permitting includes preparation and submittal of a Pre-Construction Notification under Section 404 of the federal Clean Water Act, an Application for Water Quality Certification under Section 401 of the federal Clean Water Act and a Notification of Lake or Streambed Alteration under Section 1600 of the California Fish and Game Code. Other items such as finalized project plans, quantities of fill material, supporting technical studies and so on are also submitted along with the applications. As a part of this process, the project must also identify and approve mitigation through the respective agencies. Mitigation can include onsite or offsite options or could include payment of an in-lieu fee to a conservation organization. Types of mitigation can include restoration, creation, rehabilitation, enhancement or other types of habitat improvement. Typically, the type of mitigation and acreage of mitigation is negotiated with the regulatory agencies during the permitting process.

BIO-7 **Sensitive Habitat Avoidance:** To the greatest extent possible, plans should avoid impacts to blue palo verde-ironwood woodland, bush seepweed scrub, and tamarisk thicket habitats to minimize potential impacts to special-status species. Excluding these habitats from the

Project should also minimize mitigation and permitting requirements to meet the less than significant threshold.

BIO-8 **Minimization of Impacts to Riparian Habitat:** Solar panels, structures, and new access roads should not be placed within 50 feet of riparian habitat boundaries. A construction buffer of 300 feet should be established around the riparian habitat during bird breading season (February 1 – August 31). Prior to construction, fencing should be installed approximately 10 feet from the wetland and riparian habitat boundaries within 50 feet of the Project. Fencing should be easily visible to construction. Plans should clearly delineate access roads and staging areas. The extensive alluvial fan systems should not be used as access roads between Project Areas.

BIO-9 **Rare Plant Relocation:** If Project impacts are unavoidable to Munz's cholla, prior to grading activities, individuals that will be impacted will be salvaged and transplanted to augment an existing nearby population or other approved mitigation site. During revegetation activities, specific methods regarding salvaging, stockpiling and transplantation, will be required to ensure successful survivorship. These methods can include the correct timing and procedure for individual transplants as well as the reporting and documentation of the process to the necessary regulatory agencies.

The following best management practices are not mitigation measures pursuant to CEQA but are recommended to further reduce impacts to special-status species that have potential to occur on the property:

- Confine all work activities to a pre-determined work area. Prior to the initiation of ground disturbing activities, the project footprint, including laydown and staging areas, will be clearly delineated using fencing. All equipment and materials shall use existing roads and parking areas for equipment staging and laydown.

- To prevent inadvertent entrapment of wildlife during the construction phase of the Project, all excavated, steep-walled holes or trenches more than two feet deep should be covered at the close of each working day by plywood or similar materials. If the trenches cannot be closed, one or more escape ramps constructed of earthen fill or wooden planks should be installed. Before such holes or trenches are filled, they should be thoroughly inspected for trapped animals.

- Wildlife are often attracted to burrow- or den-like structures such as pipes, and may enter stored pipes and become trapped or injured. To prevent wildlife use of these structures, all construction pipes, culverts, or similar structures with a diameter of four inches or greater should be capped while stored onsite.

- All food-related trash items such as wrappers, cans, bottles, and food scraps should be disposed of in securely closed containers and removed at least once a week from a construction or Project site.

- Use of rodenticides and herbicides on the Project site should be restricted. This is necessary to prevent primary or secondary poisoning of wildlife, including burrowing owl and the depletion of prey populations on which they depend. All uses of such compounds should observe label and other restrictions mandated by the USEPA, California Department of Food and Agriculture, and other State and federal legislation. If rodent control must be conducted, zinc phosphide should be used because of a proven lower risk to burrowing owl.

7.0 REFERENCES

AOU. 2020. Check-list of North American Birds. Available online: http://www.aou.org.

Baldwin, B. G., D. H. Goldman, D. J. Keil, R. Patterson, T. J. Rosatti, and D. H. Wilken, editors. 2012. The Jepson Manual: Vascular Plants of California, Second Edition. University of California Press, Berkeley, California. 1400 pp.

Bradley, R.D., L.K. Ammerman, R.J. Baker, L.C. Bradley, J.A Cook, R.C. Dowler, C. Jones, D.J Schmidly, F.B. Stangl, Jr., R.A. Van Den Bussche, B. Wursig. 2014. Revised Checklist of North American Mammals North of Mexico. Museum of Texas Tech University.

CalFlora: Information on California plants for education, research and conservation. [Web application]. 2020. Berkeley, California: The CalFlora Database [a non-profit organization]. Available online: http://www.calflora.org.

CDFG. 2012. Staff Report on Burrowing Owl Mitigation. Dated March 7, 2012.

_____. 1984. California Endangered Species Act. California Code of Regulations, Title 14, Chapter 5, Section 460. California Office of Administrative Law. Sacramento, CA.

CDFW. 2020a. California Native Diversity Database. Rarefind 5 [computer program]. Sacramento (CA): State of California, the Resources Agency, Department of Fish and Wildlife. Accessed on September 14, 2020.

_____. 2020b. Special Animals List. Sacramento (CA): State of California, the Resources Agency, Department of Fish and Wildlife.

_____. 2020c. State and Federally Listed Endangered and Threatened Animals of California. Sacramento (CA): State of California, Natural Resources Agency, Department of Fish and Wildlife. Dated September16, 2020.

_____. 2018. Protocols for Surveying and Evaluating Impacts to Special Status Native Plant Populations and Sensitive Natural Communities. Sacramento, California.

CNPS. 2020. Inventory of Rare and Endangered Plants (online edition, v7-08c). Rare Plant Scientific Advisory Committee. California Native Plant Society. Sacramento, CA. Available online: http://www.cnps.org/inventory.

_____. 2001. CNPS Botanical Survey Guidelines. California Native Plant Society. Sacramento, CA. Available online: https://cnps.org/wp-content/uploads/ 2018/03/cnps_survey_guidelines.pdf.

County of Imperial, Planning and Development Services Department. 2006. Imperial County Conservation and Open Space Element, El Centro, CA.

ECORP. 2020. *Aquatic Resources Delineation Report for the Vega SES 2 and 3 Solar Project*. Prepared for Vega SES 2, LLC and Vega SES 3, LLC. San Diego, California. December 2020.

Holland, R. 1986. Preliminary Descriptions of the Terrestrial Natural Communities of California. Department of Fish and Game, Sacramento, CA.

NRCS. 2020a. Online Web Soil Survey. U.S. Department of Agriculture. Available online: http://websoilsurvey.nrcs.usda.gov. Accessed on September 27, 2020.

_____. 2020b. Soil Data Access Hydric Soils List. Available online: https://www.nrcs.usda.gov/wps/portal/nrcs/main/soils/use/hydric/. Accessed September 20, 2020.

Sawyer, J. O., T. Keeler-Wolf, and J. M. Evens. 2009. A Manual of California Vegetation, 2nd ed. California Native Plant Society, Sacramento, CA.

Skinner, M.W., and B.M. Pavlik, eds. 1994. Inventory of rare and endangered vascular plants of California. CNPS Special Publication No. 1 (Fifth Edition). Sacramento. CA. vi + 338 pp.

SSAR. 2017. Scientific and Standard English Names of Amphibians and Reptiles of North American North of Mexico, With Comments Regarding Confidence in our Understanding. Eighth Edition. Committee on Standard English and Scientific Names.

USACE. 1996. 1996 National List of Vascular Plant Species That Occur in Wetlands. Available online: https://mde.maryland.gov/programs/Water/WetlandsandWaterways/DocumentsandInformation/Documents/www.usace.army.mil/CECW/Documents/cecwo/reg/plants/l96_intro.pdf.

USFWS. 2020a. National Wetland Inventory. Available online: https://www.fws.gov/wetlands/data/Mapper.html. Accessed on September 24, 2020.

_____. 2020b. IPAC Trust Resources List. http://ecos.fws.gov/ipac/. Accessed on September 24, 2020.

_____. 1996. USFWS Guidelines for Conducting and Reporting Botanical Inventories for Federally Listed, Proposed, and Candidate Plants.

_____. 1918. Migratory Bird Treaty Act of 1918. Section 16 of the U.S. Code (703-712), as amended 1989.

USGS. 1992. "Iris, California" 7.5-minute Quadrangle. U.S. Department of the Interior.

LIST OF ATTACHMENTS

ATTACHMENT A

Representative Site Photographs

Photo 1. View of bush seepweed within the Project Area, facing southeast.

Photo 2. Potential desert tortoise burrow found within the western portion of Study Area 1. No desert tortoise sign was observed. September 29, 2020.

Photo 3. Section of the Coachella Canal within the northwestern portion of Study Area 2, between project impact areas; photo facing northwest. November 9, 2020.

Photo 4. Munz's cholla (*Cylindropuntia munzii*) found within the western portion of Study Area 2, outside of the project impact area, west of the Coachella Canal. November 9, 2020.

Photo 5. Drainage system and associated blue palo verde - ironwood woodland habitat within the northwestern portion of Study Area 2; photo facing west. November 9, 2020.

Photo 6. Creosote bush scrub within the southwestern portion of Study Area 2; photo facing east. November 10, 2020.

Photo 7. Drainage system (with signs of OHV activity) within the northwestern portion of Study Area 3 and associated blue palo verde- ironwood woodland habitat; photo facing east. November 11, 2020.

Photo 8. Small mammal burrow complex along berm within the southwest section of Study Area 3; photo facing west. November 11, 2020.

ATTACHMENT B

Special-Status Plant Potential for Occurrence

Special-Status Plant Species with Potential to Occur				
Scientific Name **Common Name**	**Status**	**Blooming Period/ Elevation Range (meters)**	**Habitat**	**Potential to Occur in the Project Areas**
Abronia villosa var. *aurita* chaparral sand-verbena	**USFWS**: None **CDFW**: None **CRPR**: 1B.1 **BLM**: Sensitive	Mar-Sep (75 - 1600)	Chaparral Coastal scrub Desert dunes	**Presumed absent:** No habitat occurs within the Project Areas; a known occurrence exists within the CNPS quadrat database.
Astragalus crotalariae Salton milk-vetch	**USFWS**: None **CDFW**: None **CRPR**: 4.3 **BLM**: None	Jan-Apr (-60 - 250)	Sonoran desert scrub	**Low:** Habitat for this species occurs within the Project Areas; a known occurrence exists within the CNPS quadrat database.
Astragalus insularis var. *harwoodii* Harwood's milk-vetch	**USFWS**: None **CDFW**: None **CRPR**: 2B.2 **BLM**: None	Jan-May (0 – 710)	Desert dunes Mojavean desert scrub	**Low:** Limited habitat occurs within the Project Areas. No CNDDB record within 5 miles of Project Areas. A known occurrence exists within the CNPS quadrat database.
Astragalus lentiginosus var. *borreganus* Borrego milk-vetch	**USFWS**: None **CDFW**: None **CRPR**: 4.3 **BLM**: None	Feb-May (30 – 895)	Mojavean desert scrub Sonoran desert scrub	**Low:** Habitat for this species occurs within the Project Areas; a known occurrence exists within the CNPS quadrat database.
Astragalus magdalenae var. *peirsonii* Peirson's milk-vetch	**USFWS**: Threatened **CDFW**: Endangered **CRPR**: 1B.2 **BLM**: Federal Threatened	Dec-Apr (60 - 225)	Desert dunes	**Presumed absent:** No habitat occurs within the Project Areas. No CNDDB record within 5 miles of the Project Areas. A known occurrence exists within the CNPS quadrat database.
Astragalus sabulonum gravel milk-vetch	**USFWS**: None **CDFW**: None **CRPR**: 2B.2 **BLM**: None	Feb-Jun (-60 - 930)	Desert dunes Mojavean desert scrub Sonoran desert scrub	**Moderate:** Habitat for this species occurs within the Project Areas. Historic CNDDB record (1906) approximately 3.66 miles northwest of Project Areas. A known occurrence exists within the CNPS quadrat database.
Calliandra eriophylla pink fairy-duster	**USFWS**: None **CDFW**: None **CRPR**: 2B.3 **BLM**: None	Jan-Mar (120 – 1500)	Sonoran desert scrub	**Low:** Limited habitat occurs within the Project Areas. No CNDDB record within 5 miles of the Project Areas. A known occurrence exists within the CNPS quadrat database.

Special-Status Plant Species with Potential to Occur				
Scientific Name **Common Name**	**Status**	**Blooming Period/ Elevation Range (meters)**	**Habitat**	**Potential to Occur in the Project Areas**
Chylismia arenaria sand evening-primrose	**USFWS**: None **CDFW**: None **CRPR**: 2B.2 **BLM**: None	Nov-May (-70 – 915)	Sonoran desert scrub	**Low:** Habitat occurs within the Project Areas. No CNDDB record within 5 miles of the Project Areas. A known occurrence exists within the CNPS quadrat database.
Condalia globosa var. *pubescens* spiny abrojo	**USFWS**: None **CDFW**: None **CRPR**: 4.2 **BLM**: None	Mar-May (85 – 1000)	Sonoran desert scrub	**Low:** Limited habitat (elevation) occurs within the Project Areas; a known occurrence exists within the CNPS quadrat database.
Croton wigginsii Wiggins' croton	**USFWS**: None **CDFW**: Rare **CRPR**: 2B.2 **BLM**: Sensitive	Mar-May (50 - 100)	Desert dunes Sonoran desert scrub	**Moderate:** Limited habitat for this species occurs within the Project Areas. One historic CNDDB record (1986) approximately 3.8 miles southeast of the Project Areas. A known occurrence exists within the CNPS quadrat database.
Cylindropuntia munzii Munz's cholla	**USFWS**: None **CDFW**: None **CRPR**: 1B.3 **BLM**: Sensitive	May (150 – 600)	Sonoran desert scrub	**Present:** This species was present on Vega 2 and Vega 3 Project Areas (Study Area 2 & 3). There is high potential for this species in Study Area 1, due to presence of creosote bush scrub habitat.
Ditaxis claryana glandular ditaxis	**USFWS**: None **CDFW**: None **CRPR**: 2B.2 **BLM**: None	Oct, Dec, Jan, Feb, Mar (0 – 465)	Mojavean desert scrub Sonoran desert scrub	**Moderate:** Habitat for the species occurs within the Project Areas. A historic CNDDB record (1978) occurs within Project Areas. A known occurrence exists within the CNPS quadrat database.
Euphorbia abramsiana Abrams' spurge	**USFWS**: None **CDFW**: None **CRPR**: 2B.2 **BLM**: None	Sep-Nov (-5 – 1310)	Mojavean desert scrub Sonoran desert scrub	**Low:** Habitat for this species occurs within the Project Areas. No CNDDB record within 5 miles of Project Areas. A known occurrence exists within the CNPS quadrat database.

Special-Status Plant Species with Potential to Occur				
Scientific Name **Common Name**	**Status**	**Blooming Period/ Elevation Range (meters)**	**Habitat**	**Potential to Occur in the Project Areas**
Helianthus niveus var. *tephrodes* Algodones Dunes sunflower	**USFWS**: None **CDFW**: Endangered **CRPR**: 1B.2 **BLM**: None	Sep-May (50 - 100)	Desert dunes	**Presumed absent:** No habitat occurs within the Project Areas. No CNDDB record within 5 miles of Project Areas. A known occurrence exists within the CNPS quadrat database.
Johnstonella costata ribbed cryptantha	**USFWS**: None **CDFW**: None **CRPR**: 4.3 **BLM**: None	Feb-May (-60 - 500)	Desert dunes Mojavean desert scrub Sonoran desert scrub	**Low:** Limited habitat for this species occurs within the Project Areas; a known occurrence exists within the CNPS quadrat database.
Koeberlinia spinosa var. *tenuispina* slender-spined all thorn	**USFWS**: None **CDFW**: None **CRPR**: 2B.2 **BLM**: None	May-Jul (150 - 510)	Riparian woodland Sonoran desert scrub	**Low:** Limited habitat occurs within the Project Areas. No CNDDB record within 5 miles of the Project Areas. A known occurrence exists within the CNPS quadrat database.
Nemacaulis denudata var. *gracilis* slender cottonheads	**USFWS**: None **CDFW**: None **CRPR**: 2B.2 **BLM**: None	Apr-May (-50 - 400)	Coastal dunes Desert dunes Sonoran desert scrub	**Low:** Limited habitat for this species occurs within the Project Areas. No CNDDB record within 5 miles of site. A known occurrence exists within the CNPS quadrat database.
Palafoxia arida var. *gigantea* giant Spanish-needle	**USFWS**: None **CDFW**: None **CRPR**: 1B.3 **BLM**: Sensitive	Jan-May (15 - 100)	Desert dunes	**Presumed absent:** No habitat occurs within the Project Areas. No CNDDB record occurs within 5 miles of the Project Areas.
Panicum hirticaule var. *hirticaule* roughstalk witch grass	**USFWS**: None **CDFW**: None **CRPR**: 2B.1 **BLM**: None	Aug-Dec (45 – 315)	Desert dunes Joshua tree woodland Mojavean desert scrub Sonoran desert scrub	**Low:** Limited habitat occurs within the Project Areas. No CNDDB record within 5 miles of the Project Areas. A known occurrence exists within the CNPS quadrat database.
Pholisma sonorae sand food	**USFWS**: None **CDFW**: None **CRPR**: 1B.2 **BLM**: Sensitive	Apr-Jun (0 - 200)	Desert dunes Sonoran desert scrub	**Moderate:** Habitat for this species occurs within the Project Areas. One historic CNDDB record (1980) occurs approximately 4.42 miles southeast of the Project Areas. A known occurrence exists within the CNPS quadrat database.

Special-Status Plant Species with Potential to Occur				
Scientific Name **Common Name**	**Status**	**Blooming Period/ Elevation Range (meters)**	**Habitat**	**Potential to Occur in the Project Areas**
Senna covesii Coves' cassia	**USFWS**: None **CDFW**: None **CRPR**: 2B.1 **BLM**: None	Aug-Dec (45 – 1315)	Desert dunes Joshua tree woodland Mojavean desert scrub Sonoran desert scrub	**Low:** Limited habitat occurs within the Project Areas. No CNDDB record occurs within 5 miles of Project Areas. A known occurrence exists within the CNPS quadrat database.
Xylorhiza cognata Mecca-aster	**USFWS**: None **CDFW**: None **CRPR**: 1B.2 **BLM**: Sensitive	Jan-Jun (20 – 400)	Sonoran desert scrub	**Low:** Habitat for this species occurs within the Project Areas. No CNDDB record occurs within 5 miles of Project Areas. A known occurrence exists within the CNPS quadrat database.

California Native Plant Society (CNPS) Rare Plant Ranks:
1B: Plants rare, threatened, and endangered in California and elsewhere.
2B: Plants rare, threatened, or endangered in California, but more common elsewhere.
4: Plants of limited distribution; a watch list.

CNPS Threat Ranks:
0.1: Seriously threatened in California (over 80% of occurrences threatened / high degree and immediacy of threat)
0.2: Fairly threatened in California (20-80% of occurrences threatened / moderate degree and immediacy of threat)
0.3-Not very threatened in California (less than 20% of occurrences threatened / low degree and immediacy of threat or no current threats known)

Sources:
California Natural Diversity Data Base (CNDDB) (CDFW 2020)
CNPS Rare and Endangered Plant Inventory (CNPS 2020)
Calflora Information on California Plants (Calflora 2020)
IPaC (USFWS 2020)
Special Status Plants (BLM 2015)

ATTACHMENT C

Special-Status Wildlife Potential for Occurrence

Special-Status Wildlife Species Potential For Occurrence				
Scientific Name Common Name	**Status**		**Habitat Requirements**	**Potential for Occurrence**
VERTEBRATES				
OSTEICHTHYES (BONY FISH)				
CATOSTOMIDAE (suckers)				
Xyrauchen texanus razorback sucker	USFWS: CDFW:	**END** **END,** FP	Rivers and lakes in the southwestern United States	**Presumed absent.** There is suitable habitat within Coachella Canal. One historic record (1974), but no recent CNDDB records occur within 5 miles of the Project Areas.
AMPHIBIANS				
BUFONIDAE (true toads)				
Incilius alvarius Sonoran desert toad	USFWS: CDFW:	none SSC	Creosote bush desert scrub, grasslands up into oak-pine woodlands, thorn scrub and tropical deciduous forest in Mexico.	**Presumed absent.** There is suitable habitat within the Project Areas and within the buffer; however, the population may be extirpated (Jennings and Hayes 1994). One historic (1916), but no recent CNDDB records occur within 5 miles of the Project Areas.
REPTILES				
GEKKONIDAE (geckos)				
Coleonyx switaki barefoot gecko	USFWS: CDFW:	none **THR**	Arid rocky areas on flatlands, canyons, thorn scrub, especially where there are large boulders and rock outcrops, and where vegetation is sparse.	**Presumed absent.** Habitat such as canyons, thorn scrub, large boulders, and rock outcrops is not present within the Project Areas. No CNDDB records occur within 5 miles of the Project Areas.
PHRYNOSOMATIDAE (spiny lizards)				
Phrynosoma mcallii flat-tailed horned lizard	USFWS: CDFW:	none SSC	Desert scrub on sandy flats and valleys with little or no windblown sand, salt flats, and areas with gravelly soils. There are three regional populations of flat-tailed horned lizard in California; two of these (representing the majority of the range in the State) occur in Imperial County. These are on the west side of the Salton Sea/Imperial Valley and on the east side of the Imperial Valley.	**Moderate.** There is suitable habitat within the Project Areas. No CNDDB records occur within 5 miles of the Project Areas.

TESTUDINDAE (land tortoises)				
Gopherus agassizii Mojave desert tortoise	USFWS: CDFW:	**THR** **THR**	Sandy flats to rocky foothills, including alluvial fans, washes and canyons where suitable soils for den construction might be found.	**Moderate.** There is **m**arginally suitable habitat within the Project Areas and buffer. Desert tortoise critical habitat is approximately 7 miles northeast of the Project Areas. No CNDDB records occur within 5 miles of the Project Areas.
BIRDS				
ACCIPITRIDAE (hawks, kites, harriers, and eagles)				
Circus hudsonius northern harrier	USFWS: CDFW:	none SSC	Undisturbed tracts of grasslands and wetlands with low, thick vegetation. Prefers to breed in dry upland habitats, old fields, grazed meadows, drained marshlands, and high-desert shrubsteppe. Also found in pasturelands, croplands, and open floodplains.	**Moderate.** There is some suitable habitat within the Project Areas. One individual was observed outside of the Survey Area in adjacent habitat to the Project Areas. No CNDDB records occur within 5 miles of the Project Areas.
ALAUDIDAE (larks)				
Eremophila alpestris **ssp.** *actia* California horned lark	USFWS: CDFW:	none WL	Bare open areas dominated by low vegetation or widely scattered shrubs, includes prairies, deserts, and plowed fields. Nests in a hollow on the ground.	**Moderate.** The open areas within the Project Areas and in buffer provide suitable habitat. No CNDDB records occur within 5 miles of the Project Areas.
CHARADRIIAE (plovers and lapwings)				
Charadrius montanus mountain plover	USFWS: CDFW:	BCC SSC	Shortgrass prairie, especially where blue grama, buffalo grass, and western wheat grass are dominant; and in grassy semidesert with scattered saltbush, sage, prickly pear, and yucca, at elevations ranging from 2,100 to 10,663 feet. Also found in fallow or recently plowed agricultural fields and in overgrazed landscapes that mimic their natural shortgrass habitat.	**Low.** There is limited suitable habitat within the Project Areas. Three recent CNDDB records occur within 5 miles of the Project Areas with the closest approximately 2.8 miles southwest of the Project Areas (2011).
FALCONIDAE (falcons and caracaras)				
Falco columbarius merlin	USFWS CDFW	none WL	Open and semi open areas in fragmented woodlots, near rivers, lakes, or bogs, and on lake islands.	**Moderate.** There is suitable river and wetland habitat within the Project Areas and buffer. One CNDDB record (2007) occurs approximately 3 miles west of the Project Areas.

LANIIDAE (shrikes)				
Lanius ludovicianus loggerhead shrike (nesting)	USFWS: CDFW:	BCC SSC	Open country with short vegetation and well-spaced shrubs or low trees, particularly those with spines or thorns, agricultural fields, pastures, old orchards, riparian areas, desert scrublands, savannas, prairies, golf courses, and cemeteries.	**Present.** There were 3 sightings of loggerhead shrike on Vega 2 (Study Areas 1 & 2). There is suitable habitat within the Project Areas. One CNDDB record (2007) occurs approximately 0.84 mile south of the Project Areas.
MIMIDAE (mockingbirds and thrashers)				
Toxostoma crissale Crissal thrasher	USFWS: CDFW:	none SSC	Desert scrub and riparian brush with dense mesquite thickets often near streams or washes.	**Moderate.** The bush seepweed scrub habitat provides suitable habitat for this species. No CNDDB records within 5 miles of the Project Areas.
PICIDAE (woodpeckers)				
Melanerpes uropygialis Gila woodpecker	USFWS: CDFW:	BCC **END**	Arid environments, especially deserts and dry forests of the southwestern U.S. and adjacent Mexico, usually below elevations of 3,300 feet. Most common in low swales and arroyos, including riparian corridors with cottonwood, willow, and mesquite. Nests in cacti and other tree species.	**Low.** Unlikely to occur within the Project Areas and buffer due to absence of suitable nesting cavity locations, i.e. large trees and/or large cacti. No recent CNDDB records within 5 miles of the Project Areas.
POLIOPTILIDAE (gnatcatchers)				
Polioptila melanura black-tailed gnatcatcher	USFWS: CDFW:	none WL	Semiarid and desert thorn scrub habitats. This species is well adapted to dry habitats and tend to be most common in areas with less than 8 inches of annual rainfall. They often live far from streams and other bodies of water.	**Present.** There were approximately 20 sightings of black-tailed gnatcatcher on Vega 2 and 3. They were often observed foraging in the tamarisk thickets. Desert scrub habitat within the Project Areas is also suitable for this species. No CNDDB records occur within 5 miles of the Project Areas.
RALLIDAE (rails)				
Laterallus jamaicensis **ssp.** ***coturniculus*** California black rail	USFWS: CDFW:	BCC **THR,** FP	Riparian marshes, coastal prairies, saltmarshes, and impounded wetlands. All of its habitats have stable shallow water, usually just 1.2 inches deep at most.	**Moderate.** The presence of riparian habitat provides suitable habitat. One recent CNDDB record occurs from 2015 approximately 4.8 miles west of the Project Areas. Four historic CNDDB records (1975–1989) occur with two located within the Project Areas.

Rallus obsoletus* ssp. *yumanensis Yuma Ridgway's rail	USFWS: CDFW:	**END** **THR,** FP	Consistently found in freshwater marshes that are composed of cattail and bulrush. This emergent vegetation averages greater than 6 feet tall. Water depth tends to be around 3.5 inches deep. Range extends from Nevada, California, and Arizona to Baja California and Sonora Mexico.	**Low.** The presence of the canal and freshwater forested/shrub wetland habitat within the Project Areas and buffer could be suitable for this species. Overall, there is a lack of stable, shallow water as well as lack of cattails and bulrush within the Survey Area. No CNDDB records occur within 5 miles of the Project Areas.
STRIGIDAE (owls)				
Athene cunicularia burrowing owl	USFWS: CDFW:	BCC SSC	Open grasslands including prairies, plains, and savannah, or vacant lots and airports. Nests in abandoned dirt burrows.	**High.** The creosote bush scrub provides habitat and soils that are suitable for burrowing owl. There was one sighting of burrowing owl within the Vega 5 Project Area which is adjacent to Vega 2/Study Area 1. Twelve CNDDB records occur within 5 miles of the Project Areas with the closest overlapping the project boundary. Twelve owls were found in the area in 2007.
MAMMALS				
MOLOSSIDAE (free-tailed bats)				
Eumops perotis* ssp. *californicus western mastiff bat	USFWS: CDFW:	none SSC	Roosts high above ground in rock and cliff crevices, shallow caves, and rarely in buildings. Occurs in arid and semiarid regions including rocky canyon habitats.	**Presumed absent.** There is no suitable roosting habitat within the Project Areas or in the buffer. No CNDDB records occur within 5 miles of the Project Areas.
Nyctinomops femorosaccus pocketed free-tailed bat	USFWS: CDFW:	none SSC	Roosts in crevices of outcrops and cliffs, shallow caves, and buildings. Found along rugged canyons, high cliffs, and semiarid rock outcroppings.	**Presumed absent.** There is no suitable roosting habitat within the Project Areas or in the buffer. No CNDDB records occur within 5 miles of the Project Areas.
Nyctinomops macrotis big free-tailed bat	USFWS: CDFW:	none SSC	Roosts in cliff crevices, and less often in buildings, caves, and tree cavities. Occurs in rocky areas of rugged and hilly country including woodlands, evergreen forests, river floodplain-arroyo habitats, and desert scrub.	**Presumed absent.** There is no suitable roosting habitat within the Project Areas or in the buffer. No CNDDB records occur within 5 miles of the Project Areas.

PHYLLOSTOMIDAE (leaf-nosed bats)				
Choeronycteris mexicana Mexican long-tongued bat	USFWS: CDFW:	none SSC	Roosts in caves, rock fissures, old mines, and rarely in buildings. Found in desert shrublands, tropical deciduous forests, deep mountain canyons with riparian vegetation, oak-conifer woodlands and forests.	**Presumed absent.** There is no suitable roosting habitat within the Project Areas or in the buffer; however, there is suitable foraging habitat. No CNDDB records occur within 5 miles of the Project Areas.
Macrotus californicus California leaf-nosed bat	USFWS: CDFW:	none SSC	Roosts in caves, abandoned mines, or natural rock fissures in canyons during the day. May roost in buildings, under bridges, or in porches during the night. Found in lowland desert scrub. Foraging usually takes place in dry desert washes.	**Low.** There is no suitable roosting habitat within the Project Areas or in the buffer; however, there is suitable foraging habitat. No CNDDB records occur within 5 miles of the Project Areas.
VESPERTILIONIDAE (evening bats)				
Antrozous pallidus pallid bat	USFWS: CDFW:	none SSC	Roosts in rock crevices, caves, mines, buildings, bridges, and in trees. Generally, in mountainous areas, lowland desert scrub, arid grasslands near water and rocky outcrops, and open woodlands.	**Low.** There is no suitable roosting habitat within the Project Areas or in the buffer; desert scrub provides suitable foraging habitat. No CNDDB records occur within 5 miles of the Project Areas.
Corynorhinus townsendii Townsend's big-eared bat	USFWS: CDFW:	none SSC	Roosts in mines, caves, buildings, or other crevices, sometimes trees. Usually requires large crevices. Most common in moist areas or those with access to water.	**Presumed absent.** There is no suitable roosting habitat within the Project Areas and buffer. No CNDDB records occur within 5 miles of the Project Areas.
Lasiurus xanthinus western yellow bat	USFWS: CDFW:	none SSC	Roosts in trees, particularly palms, in desert wash, desert riparian, valley foothill riparian, and palm oasis habitats.	**Low.** There is limited suitable roosting habitat within the Project Areas and buffer. No CNDDB records occur within 5 miles of the Project Areas.
BOVIDAE (sheep and relatives)				
Ovis canadensis **ssp.** *nelsoni* peninsular bighorn sheep	USFWS: CDFW:	**END** **END,** FP	Dry, rocky, low-elevation desert slopes, canyons, and washes from the San Jacinto and Santa Rosa mountains near Palm Springs, California south into Baja California, Mexico.	**Presumed absent.** There is no suitable habitat such as canyons and mountains within the Project Areas and buffer. No CNDDB records occur within 5 miles of the Project Areas.

CRICETIDAE (New World rats and mice)				
Sigmodon hispidus* ssp. *eremicus Yuma hisbid cotton rat	USFWS: CDFW:	none SSC	Inhabits a variety of habitats, but generally associated with drainage ditches, canals, and seeps vegetated with plants such as arrow weed, saltgrass, common reed, cattails, sedges, tamarisk, heliotrope, and annual grasses. They utilize runways through dense herbaceous growth and nests are built of woven grass. Noted presence in moist agricultural fields.	**Moderate.** There is suitable habitat in and around Coachella Canal adjacent to the Project Areas. No CNDDB records occur within 5 miles of the Project Areas.
HETEROMYIDAE (kangaroo rats, pocket mice and kangaroo mice)				
Perognathus longimembris bangsi Palm Springs pocket mouse	USFWS: CDFW:	none SSC	Occurs in flat or gently sloping habitats of loose or sandy soils, with relatively sparse vegetation.	**Moderate.** There is suitable habitat for this species within the creosote bush scrub. No CNDDB records occur within 5 miles of the Project Areas.

Federal Designations:
(Federal Endangered Species Act, USFWS)

END: Federally-listed, Endangered
THR: Federally-listed, Threatened
CAN: Federal Candidate Species
FSC: Federal Species of Concern
FPD: Federal Proposed for Delisting
BCC: Bird of Conservation Concern

State Designations:
(California Endangered Species Act, CDFW)

END: State-listed, Endangered
THR: State-listed, Threatened
CAN: State Candidate Species
SSC: California Species of Special Concern
FP: Fully Protected Species
WL: Watch List