Appendix D

Biological Resources Report

Kimley»Horn

BIOLOGICAL RESOURCES REPORT FOR THE VIDAL ENERGY PROJECT SAN BERNARDINO COUNTY, CALIFORNIA

Prepared for:

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December 2020

CERTIFICATION

Chambers Group, Inc.
9620 Chesapeake Drive, Suite 202
San Diego, California 92123

I hereby certify that the statements furnished herein, and in the included attachments present data and information required for this report to the best of my ability, and the facts, statements, and information presented are true and correct to the best of my knowledge and belief. This report was prepared in accordance with professional requirements and standards. Fieldwork conducted for this assessment was performed by my staff and me.

Sincerely,

CHAMBERS GROUP, INC.

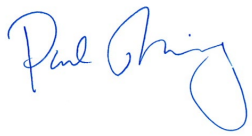

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TABLE OF CONTENTS

Page

ATTACHMENTS:

LIST OF TABLES

LIST OF FIGURES

SECTION 1.0 – SUMMARY

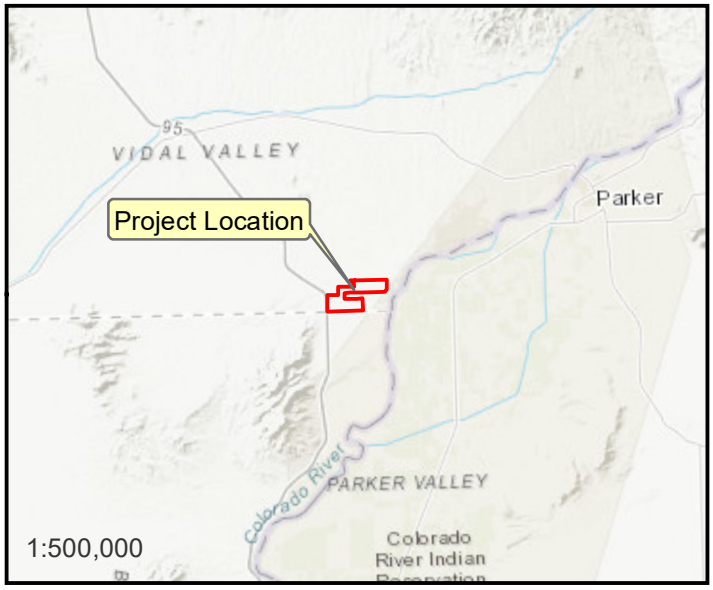
This Biological Resources Report has been completed by Chambers Group, Inc. (Chambers Group) to determine the potential for impacts to biological resources associated with construction of the proposed Vidal Energy Project (Project). The proposed Project consists of an approximately 1,090-acre solar photovoltaic (PV) component and 7.1-acre battery energy component and is located approximately 2.5 miles southeast of Vidal in San Bernardino County, California (Figure 1). The Project location as depicted in Figure 1 is referred to throughout this report as the Project Area. The survey area for the reconnaissance-level survey, vegetation mapping, and focused plant survey is the same as the Project Area. The Survey Area for the desert tortoise and burrowing owl surveys includes the Project Area plus a 500-foot buffer as depicted in Figure 10. Construction is anticipated to commence as soon as all required permits and entitlements are received, expected to be 2023.

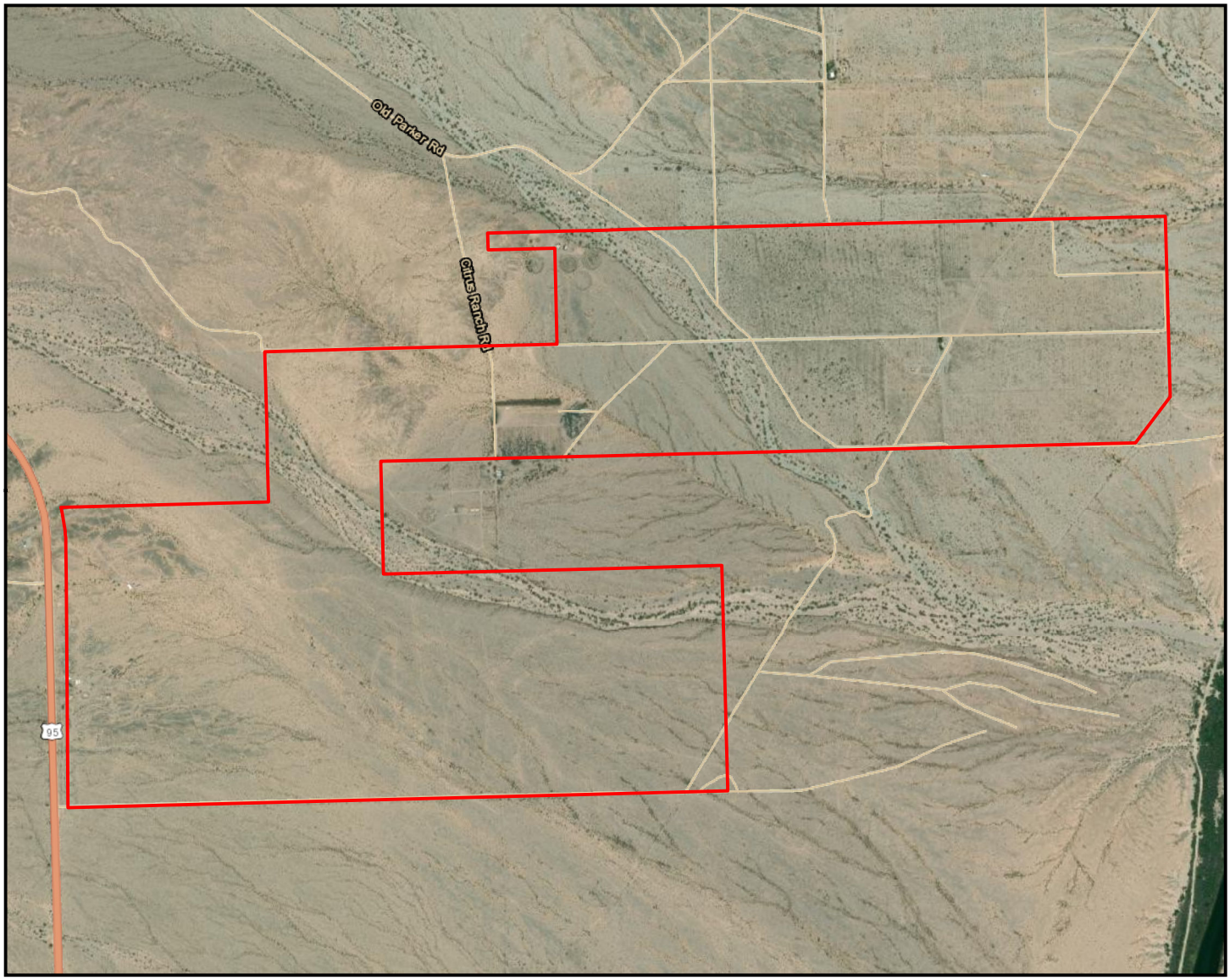
Chambers Group biologists Paul Morrissey, Heather Clayton, Laurie Gorman, Clark Austin, and Heather Madera conducted a reconnaissance-level survey within the Project Area to identify the potential for occurrence of sensitive species, vegetation communities, and habitats that could support sensitive wildlife species. Figure 1 depicts the Survey Area covered during the reconnaissance-level survey. The survey was conducted on foot throughout the Project Area between 0630 and 1620 hours on April 23, 2020. All plant and wildlife species and vegetation communities observed within the Project Area were recorded.

A focused plant survey was conducted on the Project Area by Chambers Group biologists Clark Austin, Brian Cropper, Colin Durkin, Jessica Calvillo, and Andrew Pigniolo to identify and record occurrences of any of the seven rare plants identified as having potential to occur on or within 5 miles of the Project over a five-day period from May 4 through May 8. The seven rare plant species identified as having potential to occur on or within the Project vicinity include chaparral sand-verbena (*Abronia villosa* var. *aurita*), Alverson's foxtail cactus (*Coryphantha alversonii*), glandular ditaxis (*Ditaxis claryana*), Abrams' spurge (*Euphorbia abramsiana*), winged cryptantha (*Johnstonella holoptera*), Torrey's box-thorn (*Lycium torreyi*), and Hall's tetracoccus (*Tetracoccus hallii*). The survey was conducted within the blooming period for four of the sensitive plant species including chaparral sand-verbena , Alverson's foxtail cactus, Torrey's box-thorn, and Hall's tetracoccus. The survey was conducted outside the blooming period for three of the seven species, glandular ditaxis (a perennial herb that blooms approximately October through March), Abrams' spurge (an annual herb that typically blooms September through November), and winged cryptantha (an annual herb that typically blooms from March through April); for these species, surveyors focused on identifying vegetative characteristics and any floral remains. Although winged cryptantha blooms from March through April, this species, even if not in bloom, would have been conspicuous in early May. Furthermore, no *Johnstonella* or unidentified *Cryptantha* species were observed during the focused plant survey, and therefore, this species is considered unlikely to occur in the Project Area and no focused survey for this species will be conducted. One additional species, Utah vine milkweed (*Funastrum utahense*; CRPR 4.2) was observed within the original Project Area during the focused plant survey. The original Project Area was reduced in size along the northern and western boundaries of the site. The location of Utah vine milkweed is now located outside (west) of the proposed Project area.

Chambers Group biologists Mauricio Gomez, Erik Olmos, Corey Jacobs, Colin Durkin, Kendal Blackmon, Matt Martin, Ronald Rizo, Mary Baker, and Josh Kuczora conducted a desert tortoise (*Gopherus agassizii*) survey and a burrowing owl (*Athene cunicularia*) survey over a five-day period from May 11 through 15, 2020. The Survey Area included a 500-foot buffer (where feasible) around the Project site. These surveys were conducted to determine if desert tortoises and burrowing owls are present within the Project Area and, if present, estimate the amount of incidental take of these species.

Combined results from all surveys documented bare ground, developed areas, six vegetation communities, four special status wildlife species, and one special status plant species within the Survey Area (currently outside the proposed Project). In addition to the special status wildlife species observed, three burrowing owl burrows with burrowing owl sign, including cough pellets and splash, were observed within the Project Area; and one potential burrowing owl burrow and cough pellet were observed within the Survey Area 500-foot buffer. Five active desert kit fox (*Vulpes macrotis*) burrow/burrow complexes were also identified during the survey efforts. One potential desert tortoise burrow was observed in the survey buffer near the southwest corner of the Project; however, the burrow was filled with spider webs and appeared to have been in disuse for some time. Several active avian nests were also found within the Survey Area. Jurisdictional water features were observed throughout the Project Area. The boundaries of each hydrological feature were mapped and distinguished by the respective Agencies' jurisdiction, based on current Agency guidance documents.





Project Location

N

0 750 1,500 3,000

Feet

Figure 1

Project Location & Vicinity

Name: 21232 BIO Fig 1 Project Location & Vicinity.Mxd
Print Date: 11/19/2020, Author: pcarlos

CHAMBERS GROUP

SECTION 2.0 – APPLICABLE REGULATIONS

2.1 FEDERAL

The following are federal policies that apply to the Project.

2.1.1 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 fill material into waters of the United States without a permit from the U.S. Army Corps of Engineers (USACE). The definition of waters of the United States 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 groundwater 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 Code of Federal Regulations [CFR] § 328.3(b)). The goals and standards of the CWA are enforced through permit provisions. The U.S. Environmental Protection Agency (USEPA) also has authority over wetlands and may override a USACE permit.

When a project may create impacts for wetlands, the project requires a permit or a waiver. 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 from the Regional Water Quality Control Board (RWQCB) for Section 404 permit actions.

Navigable Waters Protection Rule

The Clean Water Rule: Definition of Waters of the United States—published in the Federal Register (FR) on June 29, 2015, and effective August 28, 2015—was enacted to ensure that waters protected under the CWA are more precisely defined and predictably determined. On October 22, 2019, the USEPA and USACE published a rule to repeal the 2015 Clean Water Rule: Definition of "Waters of the United States" ("2015 Rule") and to restore the regulatory text that existed prior to the 2015 Rule; the final rule became effective on December 23, 2019. On April 21, 2020, the USEPA and USACE published the Navigable Waters Protection Rule in the Federal Register to finalize a revised definition of "Waters of the United States" under the CWA. The rule streamlines the definition of Waters of the United States so that it includes four categories of jurisdictional waters, provides clear exclusions for many water features, and defines terms in the regulatory text that have never been defined before. The Rule regulates the nation's navigable waters and the core tributary systems that provide perennial or intermittent flow into them. This final rule became effective on June 22, 2020.

The term ''waters of the United States'' means:

(1) the territorial seas, and waters which are currently used, or were used in the past, or may be susceptible to use in interstate or foreign commerce, including waters which are subject to the ebb and flow of the tide

(2) tributaries, defined as a river, stream, or similar naturally occurring surface water channel that contributes surface water flow to a water identified in paragraph (a)(1) of this section in a typical year and is perennial or intermittent in a typical year

(3) lakes and ponds, and impoundments of jurisdictional waters

(4) adjacent wetlands

The final rule specifically clarifies that waters of the United States do not include the following:

- groundwater, including groundwater drained through subsurface drainage systems
- ephemeral features that flow only in direct response to precipitation, including ephemeral streams, swales, gullies, rills, and pools
- diffuse stormwater runoff and directional sheet flow over upland
- ditches that are not traditional navigable waters, tributaries, or that are not constructed in adjacent wetlands, subject to certain limitations
- prior converted cropland
- artificially irrigated areas that would revert to upland if artificial irrigation ceases
- artificial lakes and ponds that are not jurisdictional impoundments and that are constructed or excavated in upland or non-jurisdictional waters
- water-filled depressions constructed or excavated in upland or in non-jurisdictional waters incidental to mining or construction activity, and pits excavated in upland or in non-jurisdictional waters for the purpose of obtaining fill, sand, or gravel
- stormwater control features constructed or excavated in upland or in non-jurisdictional waters to convey, treat, infiltrate, or store stormwater runoff
- groundwater recharge, water reuse, and wastewater recycling structures constructed or excavated in upland or in non-jurisdictional waters
- waste treatment systems

2.1.2 Federal Endangered Species Act of 1973

When a private project that has no federal funding and for which no federal action is required may affect a listed species, the private applicant may receive authorization for incidental take of species listed under the Federal Endangered Species Act (FESA). In these situations, Section 10 of the FESA provides for issuance of incidental take permits (ITPs) to private entities with the development of a Habitat Conservation Plan (HCP). An ITP allows take of the species that is incidental to another authorized activity.

2.1.3 Bald and Golden Eagle Protection Act

The Bald and Golden Eagle Protection Act (16 United States Code [USC] 668-668c) was enacted in 1940 and amended several times since, prohibits anyone without a permit issued by the Secretary of the Interior from "taking" bald (*Haliaeetus leucocephalus*) or golden eagles (*Aquila chrysaetos*), including their parts (i.e., feathers, skeletal remains, etc.) nests or eggs. The Act defines "take" as "pursue, shoot, shoot at, poison, wound, kill, capture, trap, collect, molest or disturb".

2.1.4 Migratory Bird Treaty Act, as Amended

The Migratory Bird Treaty Act (MBTA) of 1918, as amended (16 United States Code [USC] 703-711), provides legal protection for almost all bird species occurring in, migrating through, or spending a portion of their life cycle in North America by restricting the killing, taking, collecting, and selling or purchasing of native bird species or their parts, nests, or eggs. The United States Fish and Wildlife Service (USFWS) determined it was illegal under the MBTA to directly kill or destroy an active nest (nest with eggs or nestlings) of nearly any bird species (with the exception of non-native species) through the MBTA Reform Act of 2004. Certain game bird species are allowed to be hunted for specific periods determined by federal and state governments. The intent of the MBTA is to eliminate any commercial market for migratory birds, feathers, or bird parts, especially for eagles and other birds of prey. 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, such as 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 Title 50, Part 13 (General Permit Procedures) and Part 21 (Migratory Bird Permits) of the CFR.

2.1.5 Desert Renewable Energy Conservation Plan

The Desert Renewable Energy Conservation Plan (DRECP) is a multi-agency plan formed by the Renewable Energy Action Team composed of the California Energy Commission, CDFW, USFWS, and the Bureau of Land Management with the goal of facilitating the development and minimizing the environmental impact of the development of renewable energy resources within the desert regions of California. The plan consists of multiple components targeting varying aspects of development, including but not limited to the following: General Conservation Plan (GCP) and a NCCP. The overall goal is to conserve biological, physical, cultural, social, and scenic resources within the plan area. As this applies to biological resources, the plan intends to achieve six primary objectives: (1) Locate renewable energy development to disturbed lands or those with low biological conflict; (2) Identify plan-wide biological goals and objectives; (3) identify a DRECP Plan-Wide Reserve Design Envelope for each alternative; (4) contribute to the long-term conservation and management of covered species and natural communities; (5) preserve, restore, and enhance natural communities and ecosystems; and (6) identify and incorporate climate change adaption research and management objectives and/or policies (Renewable Energy Action Team 2016).

2.2 STATE

The following sections detail specific California State regulations that are applicable to the Project.

2.2.1 California Endangered Species Act

The California Endangered Species Act (CESA; California Fish and Wildlife Code Sections 2050-2116) parallels the FESA. As a responsible agency, the California Department of Fish and Wildlife (CDFW) has regulatory authority over species state listed as endangered and threatened. The State Legislature encourages cooperative and simultaneous findings between state and federal agencies. Consultation with CDFW is required for projects with the potential to affect listed or candidate species. CDFW would determine whether a reasonable alternative would be required for the conservation of the species. CESA prohibits the "take" of these species unless an ITP is granted. Under California Fish and Wildlife Code Section 2081 (ITP), CDFW can authorize the "take" of a listed species (with exception to fully protected species) if the "take" of the listed species is incidental to carrying out an otherwise lawful project that has been approved under the California Environmental Quality Act (CEQA). Section 2080.1 allows for "take" once an applicant obtains a federal ITP which can be approved (Consistency Determination letter) within 30 days by the CDFW Director. If the federal Incidental Take Statement is determined not to be consistent with CESA, then application for a State ITP (2081) is required.

The California Fish and Wildlife Code outlines protection for fully protected species of mammals, birds, reptiles, amphibians, and fish. Species that are "fully protected" may not be taken or possessed at any time. CDFW has designated certain species native to California as Species of Special Concern to "focus attention on wildlife at conservation risk by the Department, other State, Local and Federal governmental entities, regulators, land managers, planners, consulting biologists, and others; stimulate research on poorly known species; achieve conservation and recovery of wildlife before they meet CESA criteria for listing as threatened or endangered."

2.2.2 State Fully Protected Species

The State of California designated species as Fully Protected (FP) prior to the creation of CESA and FESA. Lists of FP species were initially developed to provide protection to species that were rare or faced possible extinction/extirpation. Most FP species have since been State listed as threatened or endangered species. Under California Fish and Wildlife Code Section 4700, FP species may not be taken or possessed at any time.

In September 2011, the California Legislature sent the Governor legislation authorizing CDFW to permit the incidental take of 36 FP species pursuant to a Natural Community Conservation Plan (NCCP) approved by CDFW (Senate Bill 618 [Wolk]). The legislation gives FP species the same level of protection as provided under the NCCP Act for endangered and threatened species (California Fish and Wildlife Code Section 2835). The NCCP Act, enacted in the 1990s, authorizes the incidental take of species "whose conservation and management" is provided for in a conservation plan approved by CDFW.

2.2.3 Sections 1600-1602 of the California Fish and Wildlife Code

Pursuant to Division 2, Chapter 6, Sections 1600-1602 of the California Fish and Wildlife Code, CDFW regulates all diversions, obstructions, or changes to the natural flow or bed, channel, or bank of any river, stream, or lake, which supports fish or wildlife. CDFW defines a "stream" (including creeks and rivers) as "a body of water that flows at least periodically or intermittently through a bed or channel having banks and supports fish or other aquatic life. This includes watercourses having surface or subsurface flow that supports or has supported riparian vegetation." CDFW's definition of "lake" includes "natural lakes or man-made reservoirs." CDFW limits of jurisdiction include the maximum extent of the uppermost bank-to-bank distance or riparian vegetation dripline.

2.2.4 California State Fish and Game Code Sections 3503, 3503.5, 3505, 3511, 3513, 3800, and 4154

2.2.5 California Fish and Game Code Section 3503 states that it is unlawful to take, possess, or needlessly destroy the nest or eggs of any bird. California Fish and Game Code Section 3800 affords protection to all nongame birds, which are all birds occurring naturally in California that are not resident game birds, migratory game birds, or fully protected birds. California Fish and Game Code Section 3505 protects birds in the Falconiformes order (birds of prey), 3511 protects fully protected bird species, and 3513 upholds the MBTA by prohibiting any take or possession of birds that are designated by the MBTA as migratory nongame birds except as allowed by federal rules and regulations promulgated pursuant to the MBTA. California Fish and Game Code Section 4154 protects all fully protected mammals and nongame mammals. California Environmental Quality Act

The California Environmental Quality Act (CEQA; Public Resources Code, Sections 21000-21177) requires that state and local agencies consider environmental consequences and project alternatives before a decision is made to implement a project requiring state or local government approval, financing, or participation by the State of California. In addition, CEQA requires the identification of ways to avoid or reduce environmental degradation or prevent environmental damage by requiring implementation of feasible alternatives or mitigation measures.

2.2.6 California Native Plant Protection Act

The Native Plant Protection Act (NPPA) of 1977 (California Fish and Game Code Sections 1900-1913) was created with the intent to "preserve, protect, and enhance rare and endangered plants in this State." The NPPA is administered by the CDFW. The California Fish and Game Commission has the authority to designate native plants as "endangered" or "rare" and to protect them from take. Rare plants protected by CDFW generally include species with California Rare Plant Ranking (CRPR) 1A, 1B, 2A, and 2B of the California Native Plant Society's Electronic Inventory of Rare and Endangered Vascular Plants of California. In addition, sometimes CRPR 3 and 4 plants are considered rare if the population has local significance in the area and is impacted by a project.

When the CESA was passed in 1984, it expanded on the original NPPA, enhanced legal protection for plants, and created the categories of "threatened" and "endangered" species to parallel the FESA. The CESA converted all rare wildlife to threatened species under the NPPA but did not do so for rare plants, which resulted in three listing categories for plants in California: rare, threatened, and endangered. The NPPA remains part of the California Fish and Game Code, and mitigation measures for impacts to rare plants are specified in a formal agreement between the CDFW and a project proponent.

2.2.7 Clean Water Act Section 401

Under CWA Section 401, the local RWQCB must certify that actions receiving authorization under CWA Section 404 also meet state water quality standards. The RWQCB requires projects to avoid impacts to wetlands if feasible and requires that projects do not result in a net loss of wetland acreage or a net loss of wetland function and values. Compensatory mitigation for impacts to wetlands and/or waters of the State is required.

2.2.8 Porter-Cologne Water Quality Control Act

The Porter-Cologne Water Quality Control Act of 1966 (Porter-Cologne; California Water Code Sections 13000-13999.10) mandates that activities that may affect waters of the State shall be regulated to attain the highest quality. The State Water Resources Control Board (SWRCB) and the local RWQCB are the relevant permitting agencies. RWQCB provides regulations for a "non-degradation policy" that are especially protective of areas with high water quality. Porter-Cologne reserves the right for the State of California to regulate activities that could affect the quantity and/or quality of surface and/or ground waters, including isolated wetlands, within the state. Waters of the State include isolated waters that are no longer regulated by USACE. If the project is proposed to discharge into waters of the State, a Waste Discharge Report (WDR), or a waiver to WDRs, must be filed before beginning discharge.

2.3 LOCAL REGULATIONS

2.3.1 San Bernardino County Countywide Plan - Water Quality

The San Bernardino County Countywide Plan describes the following policies regarding water quality:

Policy NR-2.1 Coordination on water quality. We collaborate with the state, regional water quality control boards, watermasters, water purveyors, and government agencies at all levels to ensure a safe supply of drinking water and a healthy environment.

Policy NR-2.2 Water management plans. We support the development, update, and implementation of ground and surface water quality management plans emphasizing the protection of water quality from point and non-point source pollution.

Policy NR-2.4 Wastewater discharge. We apply federal and state water quality standards for wastewater discharge requirements in the review of development proposals that relate to type, location, and size of the proposed project in order to safeguard public health and shared water resources.

Policy NR-2.5 Stormwater discharge. We ensure compliance with the County's Municipal Stormwater NPDES (National Pollutant Discharge Elimination System) Permit by requiring new development and significant redevelopment to protect the quality of water and drainage systems through site design, source controls, stormwater treatment, runoff reduction measures, best management practices, low impact development strategies, and technological advances. For existing development, we monitor businesses and coordinate with municipalities.

Policy NR-2.6 Agricultural waste and biosolids. We coordinate with regional water quality control boards and other responsible agencies to regulate and control animal waste and biosolids in order to protect groundwater and the natural environment.

2.3.2 San Bernardino County Countywide Plan - Biological Resources

The San Bernardino County Countywide Plan describes the following policies regarding biological resources:

Policy NR-5.1 Coordinated habitat planning. We participate in landscape-scale habitat conservation planning and coordinate with existing or proposed habitat conservation and natural resource management plans for private and public lands to increase certainty for both the conservation of species, habitats, wildlife corridors, and other important biological resources and functions and for land development and infrastructure permitting.

Policy NR-5.2 Capacity for resource protection and management. We coordinate with public and nongovernmental agencies to seek funding and other resources to protect, restore, and maintain open space, habitat, and wildlife corridors for threatened, endangered, and other sensitive species.

Policy NR-5.3 Multiple-resource benefits. We prioritize conservation actions that demonstrate multiple resource preservation benefits, such as biology, climate change adaptation and resiliency, hydrology, cultural, scenic, and community character.

Policy NR-5.6 Mitigation banking. We support the proactive assemblage of lands to protect biological resources and facilitate development through private or public mitigation banking. We require public and private conservation lands or mitigation banks to ensure that easement and fee title agreements provide funding methods sufficient to manage the land in perpetuity.

Policy NR-5.7 Development review, entitlement, and mitigation. We comply with state and federal regulations regarding protected species of animals and vegetation through the development review, entitlement, and environmental clearance processes.

Policy NR-5.8 Invasive species. We require the use of non-invasive plant species with new development and encourage the management of existing invasive plant species that degrade ecological function.

2.3.3 San Bernardino County Development Code

Desert Native Plant Protection (88.01.060). This Section provides regulations for the removal or harvesting of specified desert native plants in order to preserve and protect the plants and to provide for the conservation and wise use of desert resources. The provisions are intended to augment and coordinate with the Desert Native Plants Act (Food and Agricultural Code Section 80001 et seq.) and the efforts of the State Department of Food and Agriculture to implement and enforce the Act.

The following desert native plants or any part of them, except the fruit, shall not be removed except under a Tree or Plant Removal Permit in compliance with Section 88.01.050 (Tree or Plant Removal Permits). In all cases the botanical names shall govern the interpretation of this Section. (1) The following desert native plants with stems 2 inches or greater in diameter or 6 feet or greater in height: *Dalea spinosa* (smoke tree), all species of the genus *Prosopis* (mesquites). (2) All species of the family Agavaceae (century plants, nolinas, yuccas). (3) Creosote Rings, 10 feet or greater in diameter. (4) All Joshua trees. (5) Any part of any of the following species, whether living or dead: *Olneya tesota* (desert ironwood), all species of the genus *Prosopis* (mesquites), all species of the genus *Cercidium* (synonym: *Parkinsonia*, palo verde).

2.3.4 County of San Bernardino General Plan – Renewable Energy and Conservation

The County of San Bernardino General Plan Renewable Energy Conservation Element describes the following policies regarding Environmental Compatibility:

RE Policy 4.7: RE project site selection and site design shall be guided by the following priorities relative to habitat conservation and mitigation:

- avoid sensitive habitat, including wildlife corridors, during site selection and project design.
- where necessary and feasible, conduct mitigation on-site.
- when on-site habitat mitigation is not possible or adequate, establish mitigation off-site in an area designated for habitat conservation.

SECTION 3.0 – INTRODUCTION, PROJECT DESCRIPTION, LOCATION, SETTING

3.1 INTRODUCTION

Chambers Group was retained by CDH Vidal LLC (CORE) to conduct a literature review; reconnaissance-level survey; jurisdictional waters delineation; and desert tortoise, burrowing owl, and focused plant surveys for the Vidal Energy Project (Project). The proposed Project is composed of a solar photovoltaic component and battery energy storage facility component located approximately 2.5 miles southeast of Vidal, California. This report presents the results and professional recommendations regarding the treatment of sensitive biological resources in the Project Area. Information contained in this document is in accordance with accepted scientific and technical standards that are consistent with the requirements of USFWS and CDFW.

3.2 PROJECT DESCRIPTION

CORE plans to construct and operate an approximately 1,090-acre photovoltaic (PV) and battery energy storage system (BESS) facility to generate renewable energy in Vidal, San Bernardino County, California. The Project will provide 160 megawatts of alternating current (MW-AC) of renewable energy and would be supported by the existing, adjacent Western Area Power Administration (WAPA) 161-kV overhead transmission corridor. The facility would include the construction of one on-site substation facility which would collect and convert the power generated on site for transmission in an overhead or underground line to the WAPA transmission system and interconnection location. The Project's permanent facilities would include PV panels, BESS, fencing, service roads, a power collection system, communication cables, overhead and underground transmission lines, electrical switchyards, a Project substation, and operations and maintenance facilities.

3.3 PROJECT LOCATION AND SETTING

The Project site is located approximately 2.5 miles southeast of Vidal, an unincorporated area of San Bernardino County (County) that is located just east of U.S. Route 95, just north of the Riverside County line, and just west of the Colorado River (Figure 1). The Project site encompasses approximately 1,090 acres within 25 privately owned parcels (in their entirety and portions of) that are in the process of lease acquisition by CORE. The owned parcels are located on the western side of the Project site, and the sub-lease area is located adjacent to the Colorado River Indian Reservation on the eastern side of the Project site.

SECTION 4.0 – BIOLOGICAL RESOURCES EVALUATION

4.1 METHODS

Chambers Group conducted a literature review; reconnaissance-level survey; jurisdictional waters delineation; and desert tortoise, burrowing owl, and focused plant surveys for the Project. The methods used by Chambers Group are outlined below. The following geographies were evaluated:

- Literature search for special status species occurrences: 5-mile buffer around the Project Area as shown on Figure 2
- Reconnaissance-level survey: Project location as shown on Figure 1
- Vegetation mapping: Project location as shown on Figure 9
- Focused plant survey: Project location as shown on Figure 9
- Desert tortoise and burrowing owl survey: Project location plus a 500-foot buffer around the Project location for burrowing owl (Survey Area) as shown on Figure 10

4.1.1 Literature Review

Prior to performing the reconnaissance-level survey; jurisdictional waters delineation; and desert tortoise, burrowing owl, and rare plant focused surveys, existing documentation relevant to the Project Area was reviewed. The most recent records of the California Natural Diversity Database (CNDDB) managed by the CDFW (CDFW 2020), the USFWS database – Carlsbad office (USFWS 2020b), the National Wetlands Inventory (NWI; USFWS 2020a), the U.S. Department of Agriculture (USDA) Natural Resources Conservation Service (NRCS) Web Soil Survey (USDA 2020), and the California Native Plant Society's Electronic Inventory (CNPSEI) of Rare and Endangered Vascular Plants of California (CNPS 2020) were reviewed for the following quadrangles containing and surrounding the Project Area: *Vidal Junction*, *Parker NW*, *Vidal*, and *Parker SW* California United States Geological Survey (USGS) 7.5-minute quadrangles. These databases contain records of reported occurrences of federally and State listed endangered or threatened species, proposed endangered or threatened species, California Species of Special Concern (SSC), or otherwise sensitive species or habitats that may occur within or in the immediate vicinity of the Project. A map of sensitive species occurrences within 5 miles is included as Figure 2.

4.1.2 Soils

Before conducting the survey, soil maps for San Bernardino County were referenced online (https://websoilsurvey.sc.egov.usda.gov/App/WebSoilSurvey.aspx) to determine the soil types found within the Survey Area. Soils are typically determined in accordance with categories set forth by the USDA Soil Conservation Service and by referencing the NRCS Web Soil Survey; however, no digital soils data was available for the Survey Area at the time of the search.

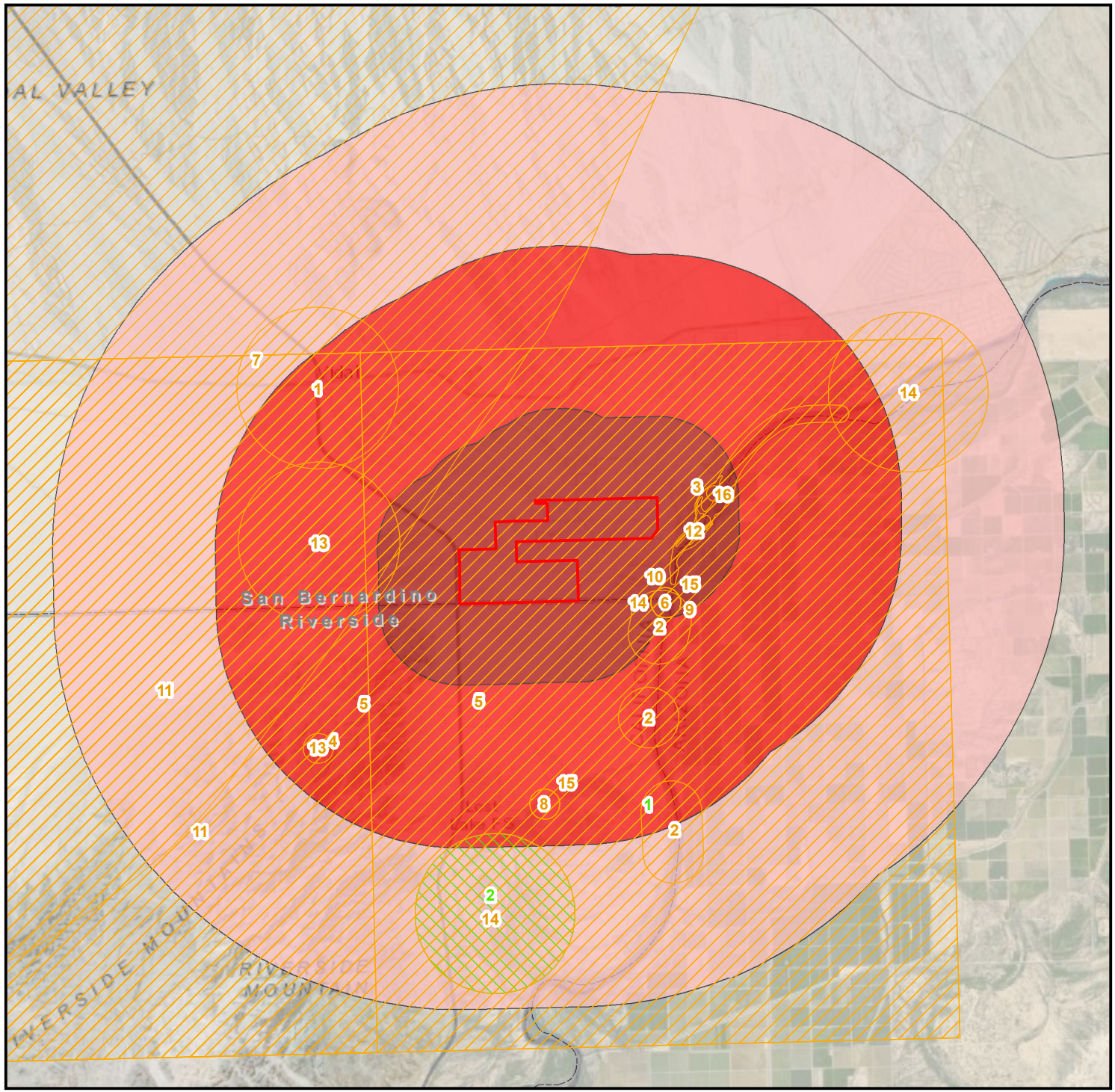


Figure 2
Vidal Energy
CNDDB Occurrences

Project Location

Distance

1 mi
3 mi
5 mi

CNDDB Occurrences

Animals

1- American badger
2 - Arizona bell's vireo
3 - California black rail
4 - California leaf-nosed bat
5 - cave myotis
6 - Crissal thrasher
7 - desert tortoise
8 - elf owl
9 - Gila woodpecker
10 - northern cardinal
11 - prairie falcon
12 - razorback sucker
13 - Townsend's big-eared bat
14 - western yellow-billed cuckoo
15 - yellow-breasted chat
16 - Yuma Ridgway's rail

Plants

1 - Abrams' spurge
2 - Alverson's foxtail cactus

Name: 21232 BIO Fig 2 CNDDB Occurrences.Mxd
Print Date: 7/13/2020, Author: pcarlos

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4.1.3 Jurisdictional Waters

An assessment of jurisdictional waters regulated by the USACE, RWQCB, and CDFW was conducted to determine the potential of jurisdictional waters to be found within the Project Area. A small, unmanned aircraft system (UAS) was deployed within the Project Area for aerial imagery and analysis. Chambers Group analyzed the aerial imagery recorded from the UAS in collaboration with the field data for a comprehensive map of all existing drainage features.

Climate and flow frequency were considered when observing watermarks and drift lines. For the purpose of determining hydrologic connectivity to a Traditional Navigable Water (TNW), aerial photos, NWI maps, and USGS quadrangle maps were reviewed; and all features were inspected in the field on and off site for true connectivity. Potential USACE / RWQCB / CDFW jurisdictional areas identified during the literature search and aerial image analysis were field-checked for the presence of definable channels, soils, wetland vegetation, riparian habitat, and hydrology. Transects were walked across the width of the Project Area perpendicular to the flow of the existing streams to obtain sufficient quantity of data points to facilitate Global Information System (GIS) digitization of jurisdictional features. Data was recorded for the presence or absence of fluvial activity, boundaries of geomorphic units, changes in plant species composition between different geomorphic units, soil types and textures, and mapping the watercourse and watercourse boundaries. Each of these drainages were examined in the field, and the channel banks were examined for signs of flow, terraces, drift deposits and other indicators that would determine the location of the Ordinary High Water Mark (OHWM). Average channel width and depth, substrate types, and vegetation along the banks were recorded. Data were collected using a combination of records entered into ESRI ArcGIS Collector© and hand-written field notes. Jurisdictional waters and riparian communities were mapped at a minimum scale of 1:6000, often down to 1:3000.

Potential wetland habitats were evaluated using the methodology set forth in the *1987 Corps of Engineers Wetlands Delineation Manual* (1987 Wetland Manual; USACE 1987) and the *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region (version 2.0)* (2008 Arid West Supplement; USACE 2008). The methods set forth in the 1987 Wetland Manual and the 2008 Arid West Supplement involve the delineation of wetlands based on the presence of three wetland parameters: a predominance of hydrophytic vegetation, wetland hydrology, and hydric soils. These wetland parameters are discussed in greater detail below.

Hydrophytic Vegetation

Hydrophytic vegetation is defined as “the sum total of macrophytic plant life growing in water or on a substrate that is at least periodically deficient in oxygen as a result of excessive water content” (USACE 1987). The potential wetland areas within the survey area were surveyed by walking through the Project site and making observations of those areas exhibiting characteristics of jurisdictional wetlands.

Areas supporting plant life potentially indicative of wetlands were evaluated in the field according to current USACE wetland delineation procedures described in the 1987 Wetland Manual (USACE 1987) and the 2008 Arid West Supplement (USACE 2008). The dominant and subdominant plant species present in the sample pits of these potential wetland areas were identified and their wetland indicator status noted based on the current National Wetland Plant List--Arid West Region (Lichvar et al. 2016).

Hydric Soils

A hydric soil is a soil that is saturated, flooded, or ponded long enough during the growing season to develop anaerobic conditions that favor the growth and regeneration of hydrophytic vegetation (USACE 1987). Hydric soil indicators are formed predominantly by the accumulation or loss of iron, manganese, sulfur, or carbon compounds (USACE 2008) due to periods of anaerobic conditions in the soil. The hydric soil criterion is considered satisfied at a location if soils in the area can be inferred to have a high groundwater table, evidence of prolonged soil saturation, or any indicators suggesting a long-term reducing environment in the upper 18 inches of the soil profile are present.

Potential hydric soils were investigated within the survey area. Sample soil pit locations were selected, and a hole was dug to a typical depth of 18 inches (unless prevented by some occluding material) or occasionally deeper to determine soil color, evidence of soil saturation, depth to shallow groundwater, and indicators of a reducing soil environment (e.g., redox concentrations or pore linings, gleyed soils, hydrogen sulfide odor). Soil matrix colors were classified using the Munsell Soil-Color Charts (Munsell Color 2009).

Wetland Hydrology

The presence of wetland hydrology indicators confirm that inundation or saturation has occurred on a site but may not provide information about the timing, duration, or frequency of the event. Hydrology features are generally the most ephemeral of the three wetland parameters (USACE 2008).

Hydrologic information for the site was obtained by reviewing USGS topographic maps and by directly observing hydrology indicators in the field. The wetland hydrology criterion is considered satisfied at a location if, based upon the conclusions inferred from the field observations, an area has a high probability of being periodically inundated or has soils saturated to the surface at some time during the growing season to develop anaerobic conditions in the surface soil environment, especially the root zone (USACE 1987). If at least one primary indicator or at least two secondary indicators are found at a sample pit, the wetland hydrology criterion is considered satisfied.

4.1.4 Biological Reconnaissance-Level Survey

Chambers Group Biologists Paul Morrissey, Heather Clayton, Laurie Gorman, Clark Austin, and Heather Madera conducted a reconnaissance-level survey within the Project Area to identify the potential for occurrence of sensitive species, vegetation communities, and habitats that could support sensitive wildlife species. The Survey Area for the reconnaissance-level survey is the same as the Project Area. The survey was conducted on foot throughout the Project Area between 0630 and 1620 hours on April 23, 2020. All plant and wildlife species and vegetation communities observed within the Project Area were recorded.

Weather conditions during the survey included temperatures ranging from 80 to 101 degrees Fahrenheit, with no cloud cover and no precipitation. Wind speeds ranged between 0 and 10 miles per hour (mph) Photographs of the Project Area were recorded to document existing conditions (Attachment A).

Vegetation Mapping

All plant species and vegetation communities observed within the Project Area during the reconnaissance-level survey were recorded. Vegetation communities within the Project Area were then identified,

qualitatively described, and mapped onto an aerial photograph. The vegetation communities are described following *A Manual of California Vegetation, 2nd edition* (Sawyer et al. 2009). Plant nomenclature follows that of *The Jepson Manual, Second Edition* (Baldwin et al. 2012).

Wildlife

All wildlife and wildlife signs observed and/or detected, including tracks, scat, carcasses, burrows, excavations, and vocalizations, during both surveys were recorded. Additional survey time was spent in those habitats most likely to be utilized by wildlife (trees were surveyed with binoculars for bird nests or avian activity) or in habitats with the potential to support federally and/or State listed or otherwise sensitive species. Notes were made on the general habitat types, species observed, and the conditions of the Project Area.

4.1.5 Focused Plant Survey

A focused plant survey was conducted within the Project Area by Chambers Group Biologists Clark Austin, Brian Cropper, Colin Durkin, Jessica Calvillo, and Andrew Pigniolo to identify and record occurrences of any of the seven rare plants identified in literature searches as having potential to occur on or within 5 miles of the Project, in advance of Project construction. The Survey Area for the focused plant survey is the same as the Project Area. The survey was conducted in accordance with the *Guidelines for Assessing the Effects of Proposed Projects on Rare, Threatened and Endangered Plants and Natural Communities* (CDFW 2000) over a five-day period from May 4 through May 8, 2020, and within the blooming period for four of the seven sensitive plant species identified as having potential to occur on or within the Project vicinity including chaparral sand-verbena, Alverson's foxtail cactus, glandular ditaxis, Abrams' spurge, winged cryptantha, Torrey's box-thorn, and Hall's tetracoccus. The survey was conducted outside the bloom period for three of the seven species, glandular ditaxis (typically blooms October through March), Abrams' spurge (typically blooms September through November), and winged cryptantha (typically blooms from March through April); for these species, surveyors focused on identifying vegetative characteristics and any floral remains. Although winged cryptantha blooms from March through April, this species, even if not in bloom, would have been conspicuous in early May. Furthermore, no *Johnstonella* or unidentified *Cryptantha* species were observed during the focused plant survey, and therefore this species is considered unlikely to occur Project Area.

Weather conditions during the five-day survey included temperatures ranging from 62 to 107 degrees Fahrenheit, wind speeds ranging from 0 to 3 mph, 0 to 60 percent cloud cover, and no precipitation.

4.1.6 Desert Tortoise and Burrowing Owl Survey

Chambers Group Biologists Mauricio Gomez, Erik Olmos, Corey Jacobs, Colin Durkin, Kendal Blackmon, Matt Martin, Ronald Rizo, Mary Baker, and Josh Kuczora conducted a desert tortoise survey and a burrowing owl survey over a five-day period from May 11 through 15, 2020, in accordance with the USFWS Mojave Desert Tortoise Pre-project Survey Protocol (USFWS 2018), the CDFW Staff Report on Burrowing Owl Mitigation (CDFW 2012). The desert tortoise survey and one round of burrowing owl surveys were conducted concurrently within the approximately 1,090-acre Project Area. The Survey Area for the desert tortoise and burrowing owl surveys included the Project Area plus a 500-foot buffer (where feasible), in accordance with CDFW protocol. Buffer areas not accessible for surveys on foot included a private land owner (APN: 064709108) along the northern boundary of the Project, and Colorado River Indian Reservation Lands (APN: 064706107) located at the eastern boundary of the Project.

These surveys were required to determine if desert tortoises and burrowing owls are present within the Project Area and, if present, estimate the amount of incidental take of these species. Based on the minimum survey effort recommended in each Recovery Unit, the Project falls within the Colorado Desert and required a full coverage survey: 10-meter-wide belt transects for full coverage. The surveys were conducted when desert tortoises are most active: April through May and/or September through October when temperatures are below 95 degrees Fahrenheit.

Details were recorded on habitat conditions, number of each species identified, and abundance (if present); estimated number of tortoises (greater than or equal to 180-millimeter midline carapace length) within the action area (USFWS protocol takes into account the fact that not all tortoises within the action area are observed by the surveyors). All sign of desert tortoise (including live tortoises, shell, bones, scutes, limbs, scat, burrows, pallets, tracks, eggshell fragments, courtship rings, drinking sites, and mineral licks) and burrowing owl (including live burrowing owls, burrows, whitewash, prey remains, pellets, scratch marks, and feathers) were recorded on data sheets and with GPS units.

Weather conditions during the five-day survey included temperatures ranging from 66 to 102 degrees Fahrenheit, wind speeds ranging from 0 to 10 mph, 0 to 20 percent cloud cover, and no precipitation.

SECTION 5.0 – RESULTS

5.1 ENVIRONMENTAL CONDITIONS

Rainfall in the general Project vicinity was well above normal for the 2019/2020 rain season. According to the Western Regional Climate Center (WRCC), the annual historic precipitation average for the general area is approximately 3.68 inches (WRCC 2020). The rainfall season total between May 2019 and April 2020 was approximately 6.23 inches, approximately 40 percent higher than the normal annual rainfall for the area (KCAPARKE4 weather station; Weather Underground 2020). Based on data provided by the WRCC, the average annual low temperature for the general area is 55 degrees Fahrenheit and the average annual high temperature for the general area is 88.3 degrees Fahrenheit (WRCC 2020). The average annual low temperature for the year preceding the surveys (May 2019 to April 2020) was approximately 60.5 degrees Fahrenheit, and the average annual high temperature for the same period was approximately 93.3 degrees Fahrenheit; approximately 5 degrees warmer than the annual historic average (KCAPARKE4 weather station; Weather Underground 2020). Slight differences in the locations of the weather stations referenced may account for some temperature and rainfall variation.

Disturbed areas of the Project show evidence of previous agricultural use on site. These areas are mainly concentrated along the western edge of the Project Area along Highway 95 and in central portions of the site immediately west and east of Citrus Ranch Road (Figure 9). Several small, developed areas are also present throughout the Project Area that include man-made structures, basins (grow crop circles for wind avoidance), abandoned structures and barbed-wire fences, cattle watering holes (concrete), or paved areas (Figure 9). Evidence of continual site disturbance, such as off-highway vehicle (OHV) activity and illegal dumping is also present throughout the Project Area. Extensive OHV tracks traversing the site can be seen on aerial imagery and were observed on the ground during the survey efforts.

5.2 SOILS

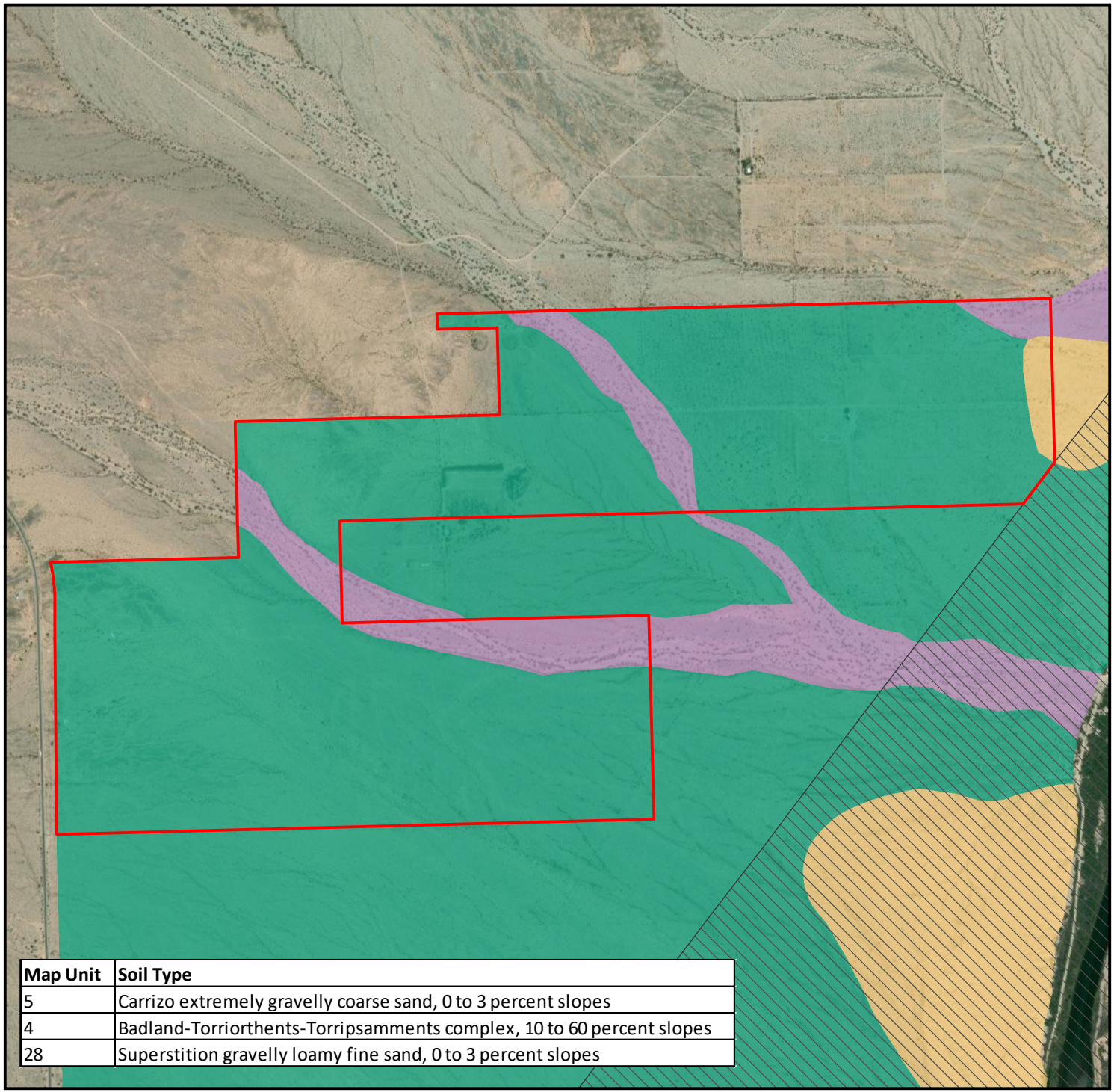
After review of USDA Soil Conservation Service and by referencing the USDA NRCS Web Soil Survey (USDA 2020), it was determined that the Survey Area is located within the Colorado Desert Area (CA803) and the Colorado River Indian Reservation; Parts of La Paz County, Arizona; and Riverside and San Bernardino Counties Area (AZ656). Based on the results of the database search, no digital soil data exists for this area; however, soil data exists just east of the Project Area that visually appears to be contiguous with the soils found within the Project Area. Assuming the soils are the same or similar to adjacent soils the following three soils types may be present in the Project Area:

- Badland-Torriorthents-Torripsamments complex, 10 to 60 percent slopes is a soil complex composed of 35 percent Badland, 30 percent Torriorthents and similar soils, 20 percent Torripsamments and similar soils, and 15 percent of other minor components. Torriorthents are hillslopes formed from unconsolidated alluvium derived from claystone and/or unconsolidated sediment alluvium derived from sandstone and siltstone with 20 to 45 percent slopes. A typical soil profile consists of very gravelly sandy loam to a depth of 10 inches and extremely gravelly sandy loam below 10 inches. Torriorthents are characterized by high runoff and low water storage profile. Torripsamments are hillslopes formed from the same parent material as Torriorthents with 10 to 30 percent slopes. A typical soil profile consists of fine sand to a depth of 60 inches. Torripsamments are also characterized by high runoff and low water storage profile.

- Carrizo extremely gravelly coarse sand, 0 to 3 percent slopes is a soil found on floodplains and is derived from stratified mixed igneous alluvium. A typical soil profile consists of extremely gravelly coarse sand to a depth of 5 inches, followed by very gravelly coarse sand to a depth of 60 inches. This excessively drained soil type is characterized by low runoff and a very low water storage profile. Carrizo Series soils are used for rangeland and recreation and provide wildlife habitat. Vegetation typical of this soil series includes creosote (*Larrea tridentata*), bur-sage and burrobrush species (*Ambrosia* spp.), and range rhatany (*Krameria erecta*).

- Superstition gravelly loamy fine sand, 0 to 3 percent slopes comprises somewhat excessively drained soils found on terraces and is derived from alluvium and sandy eolian deposits. A typical soil profile consists of gravelly loamy fine sand to a depth of 1 inch followed by loamy fine sand to a depth of 60 inches. This soil type is characterized by very low runoff and a low water storage profile. Superstition Series soils are important for livestock grazing and irrigated cropland. Vegetation typical of this soil series includes creosote and bur-sage.

Figure 3 shows a map of soils potentially found in the Project Area based on adjacent data. This map may not accurately reflect the soils actually present within the Project Area.



Map Unit	Soil Type
5	Carrizo extremely gravelly coarse sand, 0 to 3 percent slopes
4	Badland-Torriorthents-Torripsamments complex, 10 to 60 percent slopes
28	Superstition gravelly loamy fine sand, 0 to 3 percent slopes

Figure 3
Vidal Energy
Soils

Project Location

Soils

Map Unit

4

5

28

Avalible Soil Data

Areas beyond this boundary have been extrapolated from existing adjacent data and may not accurately reflect the soils present on site.

N

0 750 1,500 3,000

Feet

Name: 21232 BIO Fig 3 Soils.Mxd
Print Date: 11/19/2020, Author: pcarlos

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5.3 JURISDICTIONAL WETLANDS AND WATERWAYS

The following sections provide context and background by describing soils, vegetation, and hydrological features within the Project Area as they pertain to jurisdictional determination. Chambers Group staff Paul Morrissey, Laurie Gorman, and Heather Madera performed field investigations on May 29 and 30, 2020. On June 19, 2020, Biologists Colin Durkin and Brian Cropper surveyed additional parcels that were added to the Project Area after the initial delineation survey. The Biologists walked transects across the width of the Project Area perpendicular to the flow of the existing streams, documenting the presence or absence of fluvial activity, boundaries of geomorphic units, plant species composition between different geomorphic units, soil types and textures and mapping the watercourse and watercourse boundaries.

The results of the field delineation are presented below. Figure 4 provides jurisdictional waters potentially present in the Project Area as provided by the USFWS NWI. Figure 5 provides the location of water features delineated within the Project Area following the field investigations. Site photographs are included in Attachment A.

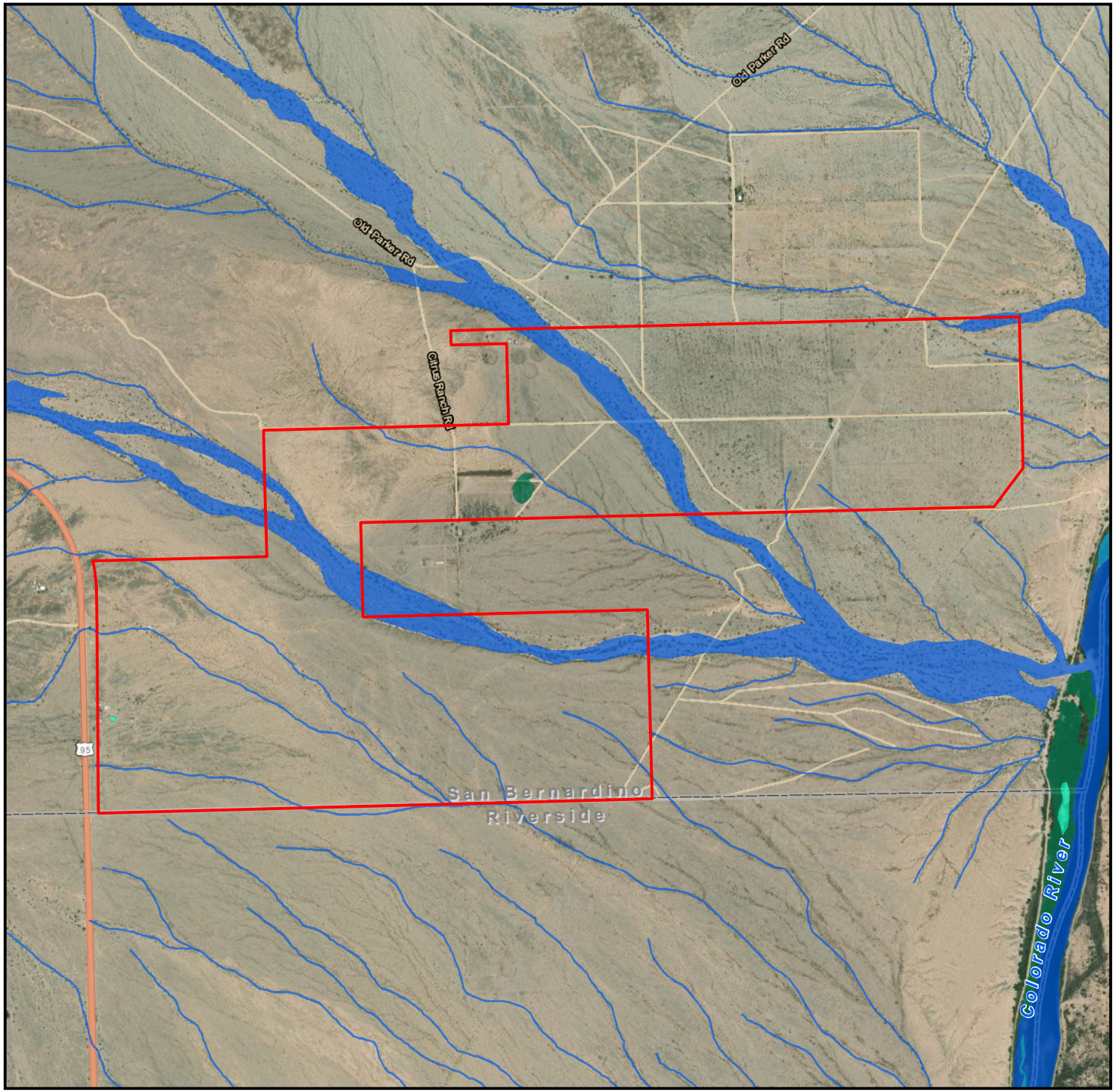

Figure 4
Vidal Energy
Jurisdictional Waters

Project Location

National Wetlands Inventory

- Freshwater Emergent Wetland
- Freshwater Forested/Shrub Wetland
- Freshwater Pond
- Riverine

N

0 1,000 2,000 4,000

Feet

Name: 21232 BIO Fig 4 Jurisdictional Waters.Mxd
Print Date: 11/19/2020, Author: pcarlos

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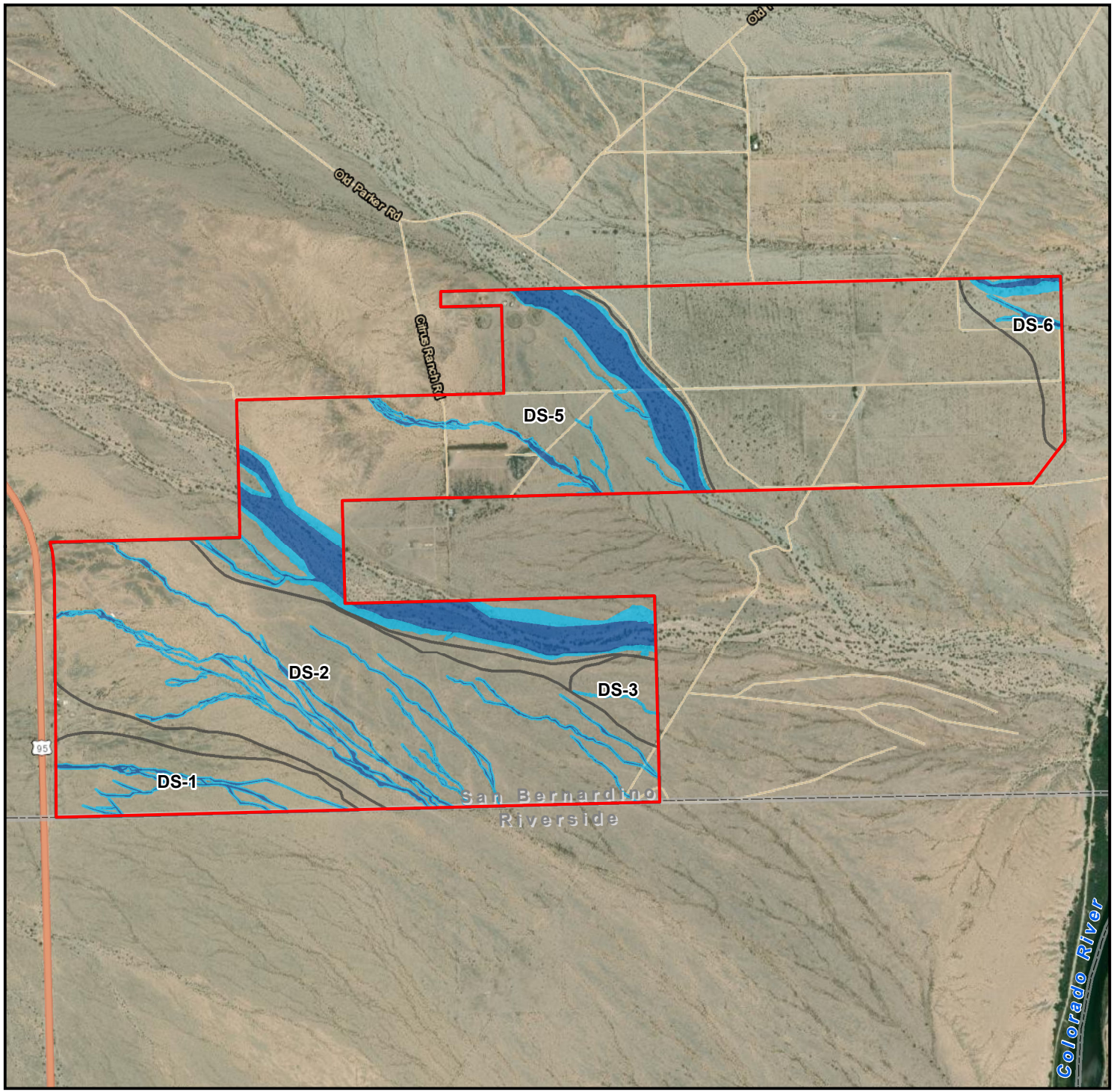

Figure 5
Vidal Energy
Jurisdictional Delineation

- Project Location
- Drainage System
- Ordinary High Water Mark
- Bank to Bank

N

0 1,000 2,000 4,000

Feet

Name: 21232 BIO Fig 5 Jurisdictional Delineation.Mxd
Print Date: 11/19/2020, Author: pcarlos

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5.3.1 Hydrology and Connectivity

The Project is located within the Vidal Wash (Hydrologic Unit Code [HUC] 1503010402) and Upper Parker Valley-Colorado River (HUC 1503010403; USDA 2020) watersheds in San Bernardino County, California (Figure 6). The Vidal Wash Watershed is bounded on the west by the Turtle Mountains, on the north by the Mopah Mountains, and on the south by the Riverside Mountains. The southeastern corner of the Vidal Wash Watershed joins the Colorado River southeast of Vidal (Google Earth 2020). The Upper Parker – Colorado River Watershed is bounded by the Whipple Mountains on the northeast, by the Buckskin Mountains on the East, and by Riverside Mountains on the southwest. Agricultural areas and the Colorado River cut through the southern portion of the Upper Parker – Colorado River Watershed trending northeast to southwest (Google Earth 2020). Ephemeral drainages are the major water source for the Vidal Wash and Upper Parker – Colorado River Watersheds. The headwater region of the Vidal Wash and the unnamed major wash north of Vidal Wash (Figure 5) are located north of Vidal Junction east of the Turtle Mountains and west of the Whipple Mountains. Five distinct ephemeral drainage systems either cross through or originate in the Project Area and terminate at the Colorado River. The Vidal Wash is part of the larger system that merges downstream with Drainage System 5 prior to entering the Colorado River, but for the purposes of this report it is discussed separately as Drainage 4 (Figure 5).

Typical hydrologic indicators identified in the field and as described in the 1987 Wetland Manual and 2008 Arid West Supplement guidelines included gravel sheets, long gravel bars, benches, terraces, drift, exposed root hairs below intact soil layer, change in particle size distribution, desert pavement, and surface relief.

Figure 7 provides the groundwater basins that encompass the Project. Figure 8 provides the location of the 100-year flood zones identified by the Federal Emergency Management Agency (FEMA).

5.3.2 Vegetation

Vegetation communities present in the Project Area are described in Section 5.4 and are included in Figure 9. Vegetation characteristic of Vidal Wash and the unnamed major wash north of Vidal Wash includes Blue Palo Verde- Ironwood Woodland, with banks dominated by blue palo verde, ironwood, and creosote bush. Other minor drainages present in the Project Area were primarily located within Creosote Bush Scrub habitat with bank vegetation typical of this community.

5.3.3 Soils

Soils potentially present in the Project Area are described in Section 5.2. None of the soils potentially occurring within the Project Area are hydric soils. Soils observed on site during the survey efforts did not have characteristics of hydric soils. Soils present in the washes, drainages, and channels surveyed were primarily well-drained to moderately well-drained soil types composed of gravels, coarse sands, fine sands, and, to a lesser extent, silts.

5.3.4 Wetlands

One small Freshwater Forested/Shrub Wetland feature was identified in the center of the Project Area north of Vidal Wash on NWI maps of the area during the literature review; however, no wetlands or wetland features (e.g., wetland vegetation, soils) were identified within the Project Area during the field survey efforts. This area appeared to be previously man-made; a redirection of surface water from a small

tributary to Drainage System 5 that was abandoned. Water no longer flows into this area, and no live vegetation or presence of fluvial activity was present.

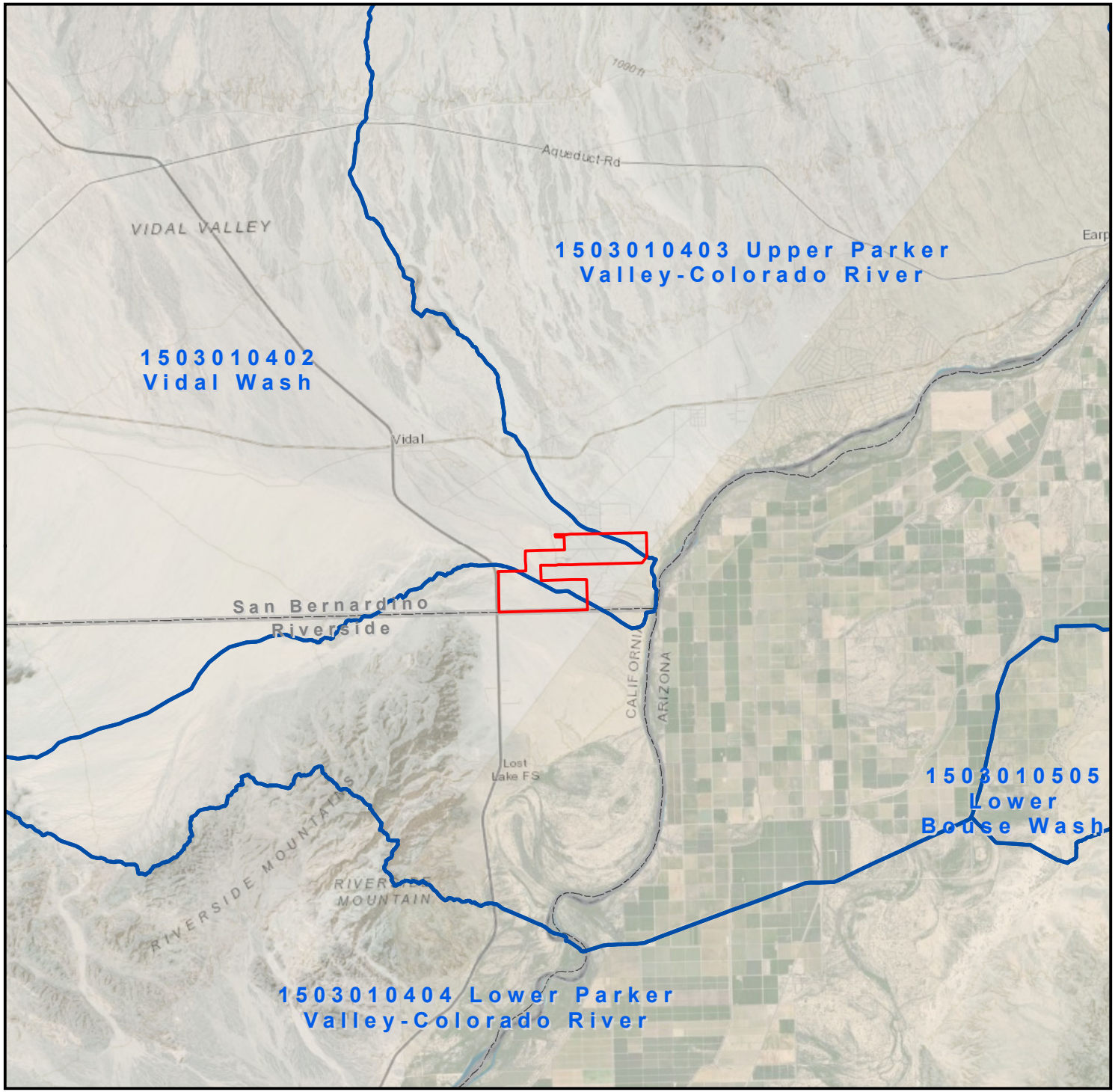

Figure 6
Vidal Energy
Watersheds

Project Location
Watershed Boundary (HUC-10)

N

0 1 2 4
Miles

Name: 21232 BIO Fig 6 Watersheds.Mxd
Print Date: 7/29/2020, Author: pcarlos

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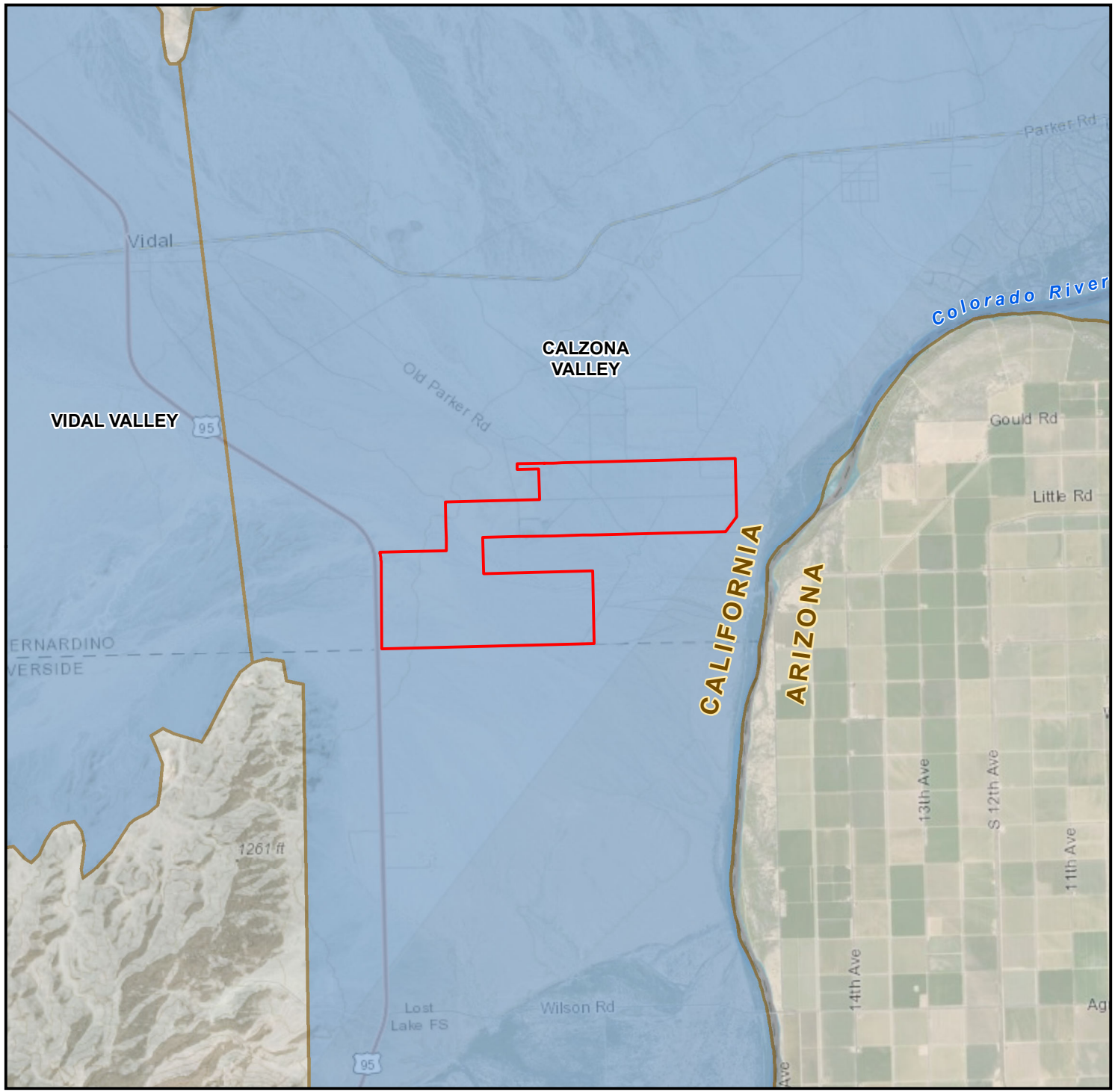

Figure 7
Vidal Energy
Groundwater Basins

Project Location

Groundwater Basins

N

0 0.5 1 2

Miles

Name: 21232 BIO Fig 7 Groundwater Basins.Mxd
Print Date: 7/29/2020, Author: pcarlos

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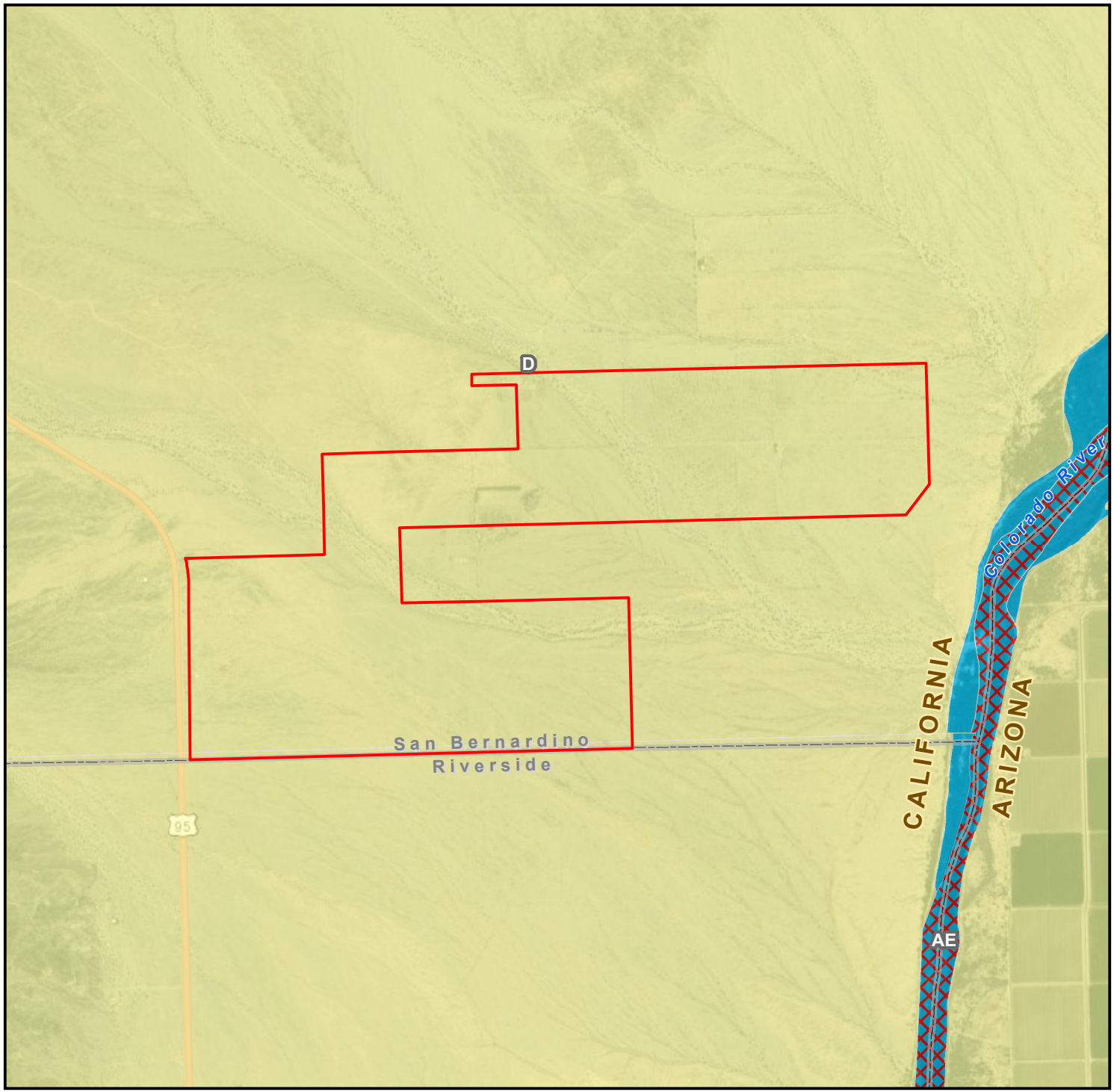

Figure 8
Vidal Energy
FEMA Flood Hazard Zones

Project Location

FEMA Flood Hazard Zones

1% Annual Chance Flood Hazard

Special Floodway

Area of Undetermined Flood Hazard

Flood Zone Designations

Zone AE: Areas with a 1% annual chance of flooding and a 26% chance of flooding over the life of a 30-year mortgage

Zone D: Areas with possible but undetermined flood hazards. No flood hazard analysis has been conducted

N

0 1,250 2,500 5,000

Feet

Name: 21232 BIO Fig 8 FEMA Flood Hazard Zones.Mxd
Print Date: 7/29/2020, Author: pcarlos

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5.3.5 Other Waters

Ephemeral drainages and washes were identified throughout the Project Area. They are characterized as braided ephemeral channel systems that contain multiple channels that divide and rejoin to form a pattern of gently curved channel segments, separated by exposed ephemeral islands or channel bars. These drainages are subject to CDFW jurisdiction. The majority of the drainages and washes feed into the Colorado River which is part of the Colorado River Basin Plan regulated by the Colorado River RWQCB. Therefore, braided channels in the Project Area directly contribute to a TNW and may be subject to USACE and RWQCB jurisdiction. Approximately 14 blue-line (riverine) drainages that either cross through or originate in the Project Area were identified on NWI maps of the site prior to conducting the field investigation. These blue-line drainages were identified and evaluated in the field when a feature was present. During the field investigation, 11 of the 14 blue-line drainages were found to be associated with existing jurisdictional features connecting surface flows downstream of the Project Area. Several additional drainages were identified during the field investigation that were part of wider tributary systems that flow to the blue-line drainages and ultimately to the Colorado River. For simplicity and organization, the drainages on site were divided into five "Drainage Systems" based on where they ultimately enter the Colorado River. These Drainage Systems are described below and are summarized in Table 1.

Drainage System 1

One blue-line drainage was found to be present in the Project Area within this Drainage System during the field investigation. Chambers Group field staff delineated the blue-line drainage and several additional channels that join and meander away from the blue-line drainage and one additional drainage within Drainage System 1. Drainage System 1 is a complex braided system that originates off-site (west) and conveys flows in a generally east-southeast direction (downstream) and off site. Drainage System 1 has mostly defined cut banks with a single flow channel within the banks. Bank heights range from 0.5 foot to 1 foot on average. The combined length of the drainages within Drainage System 1 within the Project Area is approximately 9,689 linear feet. The OHWM widths within Drainage System 1 range from 3 to 8 feet on average, and bank-to-bank widths range from 8 to 10 feet on average. Sinuosity of the drainage system is moderate. The channel bottoms are mostly sparsely vegetated to unvegetated. Creosote Bush Scrub, scattered annuals, and non-native grasses occur along the banks. The drainages do not support any riparian vegetation. The substrates within the channel bottoms are generally loose and unconsolidated and composed mostly of fine to medium coarse sand and scattered gravel with varying particle size from fine to 0.1 to 1.5 inches. The bank substrates are consolidated and composed mostly of silt to gravel, with some cobble and larger rocks.

Drainage System 2

Four blue-line drainages were found to be present in the Project Area within this Drainage System during the field investigation. Chambers Group field staff delineated the four blue-line drainages and several additional channels that join and meander away from the blue-line drainages as well as two additional drainages within Drainage System 2. Drainage System 2 is a complex braided system that originates off site (northwest) and conveys flows in a generally southeast direction (downstream) and off-site. The eastern portion of Drainage System 2 contains several tributaries that originate on site and join the system southeast of the Project Area. Drainage System 2 has mostly defined cut banks with a single flow channel within the banks. Bank heights are shallow, ranging from 1 to 4 inches on average. The combine length of the drainages within Drainage System 2 within the Project Area is approximately 45,140 linear feet.

OHWM widths within Drainage System 2 range from 0.5 to 16 feet on average, and bank-to-bank widths range from 4 to 20 feet on average. Sinuosity of the drainage system is moderate toward the northwest but lessens as the channel moves southeast. The channel bottoms are mostly sparsely vegetated or unvegetated and at least one drainage had approximately 50 percent emergent annual cover in the bed. Creosote Bush Scrub and scattered native annuals and non-native grasses and Sahara mustard (*Brassica tournefortii*) occur along the banks. The drainages do not support any riparian vegetation. The substrate within the channel bottoms is generally loose and unconsolidated and composed mostly of sand and gravel, with varying particle size mostly of silt to very fine sand, with lesser amounts of gravel and cobble. The bank substrates are consolidated and composed mostly of fine to coarse sand to cobble. The westernmost drainage in Drainage System 2 is highly manipulated at the northwest end (just east of Highway 95) where it runs along and crosses a road. Pipes and hoses are also present, suggesting the drainage has been and is used for watering agricultural operations (man-made basins) in the past.

Drainage System 3

No blue-line drainages were found to be present in the Project Area within this drainage system during the field investigation. Chambers Group field staff delineated one drainage that joins the larger drainage system east of the Project Area. Drainage System 3 is a shallow braided system that originates just inside the southeastern boundary of the Project Area and conveys flows in a generally eastward direction (downstream) and off site. The single drainage mapped within Drainage System 3 has defined cut banks with a single flow channel. The bank height is approximately 1 foot deep on average. The length of the drainage within the Project Area is approximately 1,218 linear feet. The OHWM width within this drainage is approximately 0.75 feet, and the bank-to-bank width is approximately 2.5 feet. Sinuosity of the drainage is fairly low. The channel bottom is unvegetated. Creosote Bush Scrub and non-native grasses occur along the banks at up to 80 percent cover. The drainages do not support any riparian vegetation. The substrate within the channel bottom is loose and unconsolidated and is composed mostly of sand with particle size varying from fine sand to gravel. The bank substrate is consolidated and composed of medium to coarse sand with lesser amounts of fine sand and gravel.

Vidal Wash - Drainage 4

Originally, Drainage 4 was mapped as a large wash system south of Drainage 5. However, these two drainages merge to the east and are hereby considered one drainage system, Drainage 5.

Vidal Wash - Drainage System 5

Two blue-line drainages were found to be present in the Project Area within this drainage system during the field investigation. Chambers Group field staff delineated the two blue-line drainages and several tributaries that join the westernmost drainage within this system. Drainage System 5 is a braided system composed of one major wash and a smaller drainage that both originate off site (northwest) and merge with the larger wash and convey flows in a generally southeast direction (downstream) and off site. The Drainage System 5 features join the Vidal Wash southeast of the Project Area. Drainage System 5 has well-defined cut banks, terraces, multiple low flow channels, and large active flood plains. Bank heights range from 1 to 4 feet on average. The combined length of the drainages within Drainage System 5 within the Project Area is approximately 25,836 linear feet. The southern large wash system (previously Drainage 4) has well-defined cut banks, terraces, multiple low flow channels, and large active flood plains. Bank widths range from 365 feet to 700 feet with heights ranging from 7 to 14 feet on average. The length of this portion of Vidal Wash within the Project Area is approximately 5,163 linear feet. OHWM widths

(including low flow and active plain areas) range from 315 to 550 feet. The OHWM widths of the smaller tributary to the north within Drainage System 5 range from 4 to 10 feet on average, and bank-to-bank widths range from 4 to 35 feet. The OHWM widths of the larger wash within Drainage System 5 range from 190 to 460 feet, and bank-to-bank widths range from 260 to 500 feet. Sinuosity of the drainage system is moderate prior to entering the Project Area from the northwest but lessens as the channel moves southeast. The low flow channel bottoms are mostly sparsely vegetated or unvegetated, with Blue Palo Verde – Ironwood Woodland habitat (a desert riparian community) along the active floodplains of the wash and Creosote Bush Scrub habitat along the banks. The drainage does not support any riparian vegetation. The substrate within the channel bottoms is generally loose and unconsolidated and composed mostly of coarse sand and gravel, with particle size varying from fine sand to cobble. The bank substrates are consolidated and composed mostly of silt to fine sand, with lesser amounts of gravel and cobble.

Drainage System 6

Three blue-line drainages were found to be present in the Project Area within this drainage system during the field investigation. Chambers Group field staff delineated the three blue-line drainages. Drainage System 6 is a complex braided system composed of one major wash (at the northeast corner of the Project Area) and two smaller drainages to the south of the wash. The wash originates off site (northwest), while the two drainages originate on site. All three convey flows in a generally southeast direction (downstream) and off site. Drainage System 6 has mostly defined cut banks. Bank heights range from 1 to 10 feet on average. The combined length of the wash and drainages within Drainage System 6 within the Project Area is approximately 2,583 linear feet. The OHWM widths within the larger wash of Drainage System 6 range from 20 to 110 feet, and bank-to-bank widths range from 110 to 200 feet. The OHWM widths within the smaller drainages of Drainage System 6 range from 10 to 65 feet, and bank-to-bank widths range from 30 to 135 feet. Sinuosity of the drainage system is low overall. The channel bottoms are mostly sparsely vegetated or unvegetated, with up to 40 percent annual cover within the active floodplain of the wash and Creosote Bush Scrub with emergent palo verde and ironwood trees along the terraces of the wash. The channels of the drainages have up to 60 percent annual cover with Creosote Bush Scrub and emergent palo verde trees present outside the channels. The substrate within the channel bottoms is generally loose and unconsolidated and composed mostly of sand and gravel, with particle size varying from coarse sand to small cobble. The bank substrates are consolidated and composed mostly of gravel to small cobble, with areas of exposed caliche rock. Substantial amount of debris, cattle watering holes built from cement, downed fences and barbed wire, abandoned structures, and evidence of farming are present within this area.

Table 1: Summary of Jurisdictional Features

Water Resource ID	Waters Entry/Start Location	Waters Exit Location	Estimated amount of aquatic resource in review area			Type of aquatic resource	Jurisdictional authority to which the aquatic resource "may be" subject
			OHWM Width (feet)	BTB Width (feet)	Linear Feet		
Drainage System 1	34.081594, -114.480738	34.079746, -114.470953	3 to 8	8 to 10	9,706.09	Ephemeral drainages	RWQCB CDFW

Water Resource ID	Waters Entry/Start Location	Waters Exit Location	Estimated amount of aquatic resource in review area			Type of aquatic resource	Jurisdictional authority to which the aquatic resource "may be" subject
			OHWM Width (feet)	BTB Width (feet)	Linear Feet		
Drainage System 2	34.08689, -114.480716	34.079746, -114.464923	0.5 to 16	4 to 20	45,147.31	Ephemeral drainages	RWQCB CDFW
Drainage System 3	34.08378, -114.458872	34.082874, -114.455246	0.75	2.5	1,218.69	Ephemeral drainages	RWQCB CDFW
Drainage System 5	Drainages 34.094283, -114.467048 Wash 34.097908, -114.459688	Drainages 34.089467, -114.455224 Wash 34.090622, -114.45325	Drainages 4 to 10 Wash 190 to 460	Drainages 4 to 35 Wash 260 to 500	25,835.74	Ephemeral drainages	RWQCB CDFW
Drainage System 6	Drainage 34.097286, -114.441019 Wash 34.097908, -114.441341	Drainage 34.096166, -114.437801 Wash 34.097801, -114.437822	Drainage 10 to 65 Wash 20 to 110	Drainage 30 to 135 Wash 110 to 200	2,583.82	Ephemeral drainages	RWQCB CDFW

5.4 SUMMARY OF JURISDICTIONAL FINDINGS

All of the identified ephemeral drainages and washes are considered CDFW jurisdictional drainage features. A total of 84,491.65 linear feet (comprising 123.85 acres,) of ephemeral drainages and washes occur within the Project Area and are regulated by CDFW. These drainages and washes flow northwest to southeast and terminate at the Colorado River, are characterized by a low gradient and a braided channel structure, and are composed primarily of desert scrub communities. Soils within the drainages consist of fine to medium coarse sand and scattered gravel with varying particle size, channel bottoms, flood plains, and terraces and eolian soils.

A total of 84,491.65 linear feet (comprising 123.85 acres) within the Project Area are regulated by the RWQCB in addition to CDFW. RWQCB not only takes OHWM, but also considers the bank to bank if it's a better representation of surface waters. Figure 5 shows waters of the State. The acreages of jurisdictional waters identified within each Drainage System by its respective regulatory agency are provided in Table 2.

Table 2: Jurisdictional Waters within Each Drainage System by Regulatory Agency

Feature	USACE		RWQCB		CDFW	
	Area (acres)	Square Feet	Area (acres)	Square Feet	Area (acres)	Square Feet
Drainage System 1	N/A	N/A	3.88	169,094.17	3.88	169,094.17
Drainage System 2	N/A	N/A	13.40	583,583.69	13.40	583,583.69
Drainage System 3	N/A	N/A	0.10	4,565.13	0.10	4,565.13
Drainage System 5	N/A	N/A	100.24	4,366,432.66	100.24	4,366,432.66
Drainage System 6	N/A	N/A	6.22	271,052.58	6.22	271,052.58
Total	N/A	N/A	**123.85**	**5,394,728.23**	**123.85**	**5,394,728.23**

N/A: Ephemeral waters not subject to USACE jurisdiction.

5.4.1 USACE Jurisdiction

The limits of USACE jurisdiction are defined by the OHWM of all jurisdictional features within the Project Area; however, all waters within the Project Area were identified as ephemeral waters and as such, are not subject to USACE jurisdiction per the final Clean Water Rule that became effective on June 22, 2020.

5.4.2 CDFW Jurisdiction

CDFW takes jurisdiction to the top of the bank on either side of a drainage or to the outer edge of all riparian vegetation, whichever measurement is greater. For the purpose of calculating Project impacts to CDFW jurisdictional waters, 99.19 acres considered no impact, 14.45 acres are considered temporary impacts, and 10.21 acres are considered permanent impacts.

5.4.3 RWQCB Jurisdiction

RWQCB jurisdiction includes all CDFW jurisdictional areas in non-Relatively Permanent Waters (RPW), isolated wetlands, and any other features that have an effect on surface or subsurface water quality within California. The limits of RWQCB jurisdiction were defined by the top of the bank on either side of the drainage and surface waterbody features within the Project Area. For the purpose of calculating Project impacts to RWQCB jurisdictional waters, 99.19 acres considered no impact, 14.45 acres are considered temporary impacts, and 10.21 acres are considered permanent impacts.

5.5 HABITATS / VEGETATION COMMUNITIES

Six vegetation communities in addition to Bare Ground and Developed areas were mapped within the Project Area: Blue Palo Verde – Ironwood Woodland, Creosote Bush Scrub, Rigid Spineflower – Hairy Desert Sunflower Desert Pavement Sparsely Vegetated Alliance, Disturbed Creosote Bush Scrub, Disturbed, and Tamarisk Thickets. The dominant vegetation community within the Project Area is Creosote Bush Scrub, with two large washes dominated by Blue Palo Verde – Ironwood Woodland. Photographs of the vegetation in the Project Area can be found in Attachment A, and mapped vegetation communities within the Project Area are depicted in Figure 9. The following sections summarize the

principal characteristics of the vegetation communities and general locations of these communities within the Project site. A list of all plant species observed during the survey efforts is included as Attachment B.

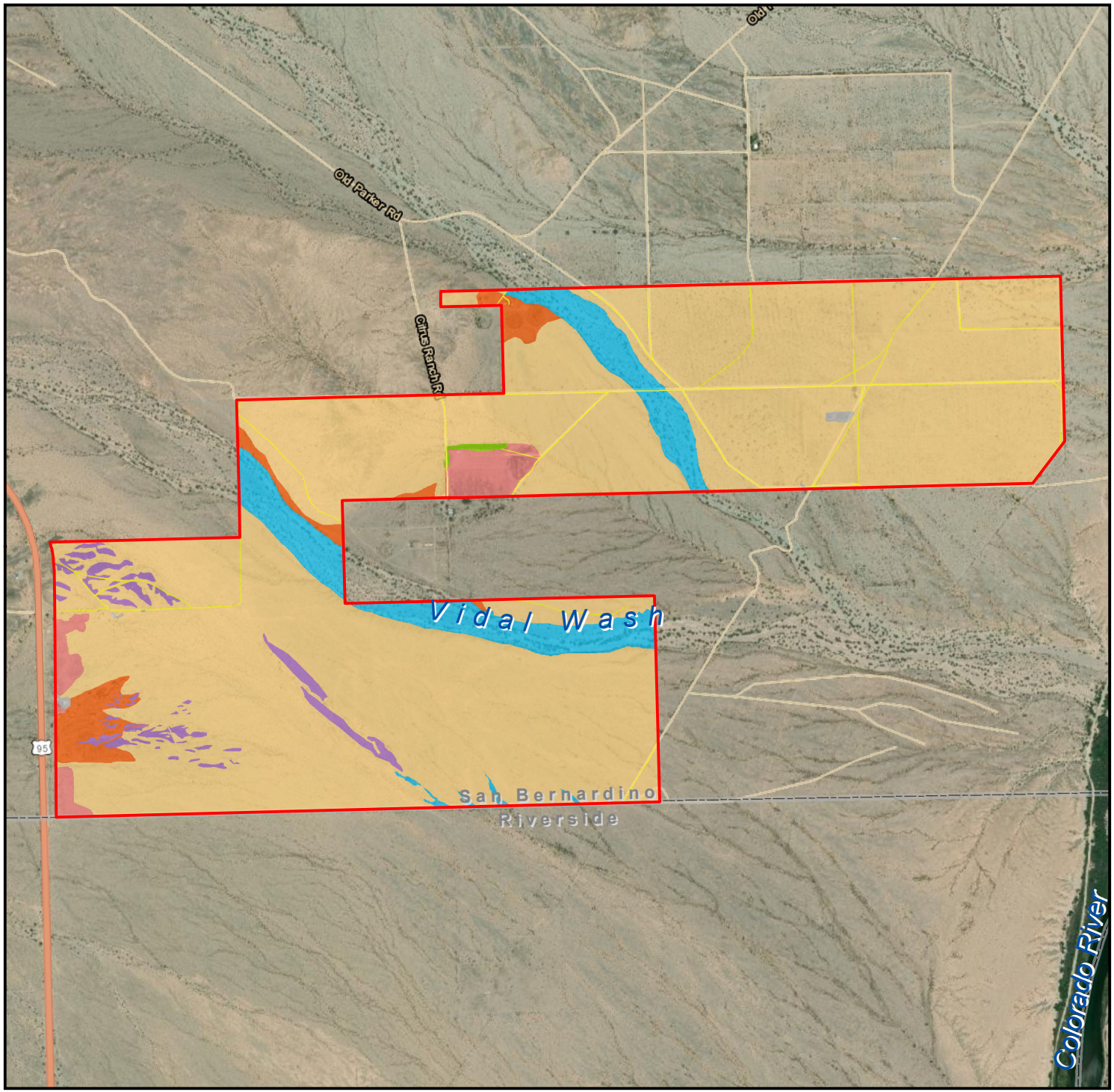

Figure 9
Vidal Energy
Vegetation Communities

Project Location

Vegetation Communities

- Bareground
- Blue Palo Verde - Ironwood Woodland*
- Creosote Bush Scrub
- Disturbed Creosote Bush Scrub
- Rigid Spineflower – Hairy Desert Sunflower Desert Pavement Sparsely Vegetated Alliance
- Developed
- Disturbed/Ruderal
- Tamarisk Thickets

*Habitat with the potential to contain smoke trees, mesquites, palo verdes, and/or any other species covered under the California Desert Native Plants Act. Individual tree count pending.

Vegetation Community	Acres
Bareground	16.56
Blue Palo Verde - Ironwood Woodland	81.43
Creosote Bush Scrub	913.22
Desert Pavement	20.26
Developed	1.79
Disturbed Creosote Bush Scrub	30.74
Disturbed/Ruderal	24.93
Tamarisk Thickets	1.53
Total	**1090.46**

N

0 750 1,500 3,000

Feet

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5.5.1 Blue Palo Verde – Ironwood Woodland

Blue Palo Verde - Ironwood Woodland as described by Sawyer et al. (2009), is dominated by blue palo verde (*Parkinsonia florida*), ironwood, or smoke tree (*Psorothamnus spinosa*) less than 60 feet in height. The tree canopy is continuous to open where shrubs are common, and seasonal annuals are present in the herbaceous layer. Blue Palo Verde – Ironwood Woodland habitat occurs along desert arroyo margins, seasonal watercourses and washes, bottomlands, middle and upper bajadas and alluvial fans, and lower slopes that are occasionally flooded or saturated at elevations between 30 and 1,600 feet above mean sea level (amsl). Blue Palo Verde – Ironwood Woodland is consistent with Desert Dry Wash Woodland as described by Holland (1986).

Blue Palo Verde – Ironwood Woodland is present within the Project site along two large washes that generally flow from west to east in the northern and central portions of the Project Area. In addition, this habitat is associated with a number of smaller drainages along the southern border of the Project Area. Plant species found on the Project site typical of this vegetation community include: white bur-sage (*Ambrosia dumosa*), cheesebush (*Ambrosia salsola* var*. salsola),* sweetbush (*Bebbia juncea* var. *aspera*), silver cholla (*Cylindropuntia echinocarpa*), brittlebush (*Encelia farinosa*), desert lavender (*Condea emoryi*), creosote bush, Anderson's wolfberry (*Lycium andersonii*), and cat's claw (*Senegalia greggii*). There are 81.44 acres of Blue Palo Verde – Ironwood Woodland in the Project Area.

5.5.2 Creosote Bush Scrub

Creosote Bush Scrub as described by Sawyer et al. (2009) consists of widely spaced shrubs less than 10 feet in height dominated by creosote bush or co-dominant with white bur-sage, cheesebush, and/or brittlebush, frequently with bare ground between shrubs. Growth occurs from winter to early spring if rainfall is sufficient. Ephemeral herbs typically flower from late February to March. Creosote Bush Scrub can be found on alluvial fans, bajadas, upland slopes, and minor intermittent washes with well-drained secondary soils and sometimes desert pavement at elevations between 245 and 4,256 feet amsl. Creosote Bush Scrub is consistent with the Sonoran Creosote Bush Scrub and Mojave Creosote Bush Scrub communities as described by Holland (1986).

Creosote Bush Scrub habitat is located in the northeastern portion of the Project Area that was previously used for dry-land and irrigated farming and contains a high amount of non-native species; however, the level of disturbance and non-native species cover does not rise to the level of being considered a disturbed form of this habitat. Plant species found within the Project Area that are typical of this vegetation community include: cheesebush, sweetbush, pencil cholla (*Cylindropuntia ramosissima*), silky dalea (*Dalea mollissima)*, barrel cactus (*Echinocactus polycephalus)*, brittlebush, and bush encelia (*Encelia frutescens*). Emergent trees or tall shrubs may be present at low cover. There are 913.57 acres of Creosote Bush Scrub within the Project Area.

A disturbed form of this habitat is located in proximity to two now-abandoned residential areas. This vegetation type has been disturbed by human activities such as off-road vehicle use, the introduction of non-native species, past development, compaction, and/or littering; and it is considered of lower quality than the Creosote Bush Scrub habitat described above. Non-native, weedy species found in these areas include: Saharan mustard, foxtail brome (*Bromus rubens*), and Mediterranean schismus (*Schismus barbatus*). A total of 30.75 acres of Disturbed Creosote Bush Scrub is located within the Project Area.

5.5.3 Rigid Spineflower – Hairy Desert Sunflower Desert Pavement Sparsely Vegetated Alliance

The Rigid Spineflower – Hairy Desert Sunflower Desert Pavement Sparsely Vegetated Alliance as described by Sawyer et al. (2009) can be found in broad alluvial fans and lower slopes in the desert and are associated with areas of desert pavement. The ground surface is sandy and gravelly mixed alluvium, with various rocks and gravel along with interstitial fine sediments. The herb layer is sparse to intermittent, and the non-vascular (cryptogamic crust) layer is sparse to intermittent. The shrub layer is often sparse or non-existent. Rigid spineflower (*Chorizanthe rigida*) and/or hairy desert sunflower (*Geraea canescens*) is characteristically present in the herbaceous layer. Rigid Spineflower – Hairy Desert Sunflower Desert Pavement Sparsely Vegetated Alliance is consistent with Sonoran Desert Scrub or Mojave Creosote Bush Scrub communities as described by Holland (1986).

Rigid Spineflower – Hairy Desert Sunflower Desert Pavement Sparsely Vegetated Alliance is present within the Project primarily along the western edge of the Project Area and within 0.5 mile of Highway 95. Plant species found on the Project site typical of this vegetation community include: rigid spineflower with lesser amounts of trailing windmills (*Allionia incarnata*), Saharan mustard, foxtail brome, primrose (*Camissonia* spp.), pincushion (*Chaenactis* spp.), spurge (*Euphorbia* spp.), brittle spineflower (*Chorizanthe brevicornu*), cryptantha (*Cryptantha* spp.), and common Mediterranean grass (*Schismus* spp.). Shrub cover is very sparse, if present at all, and when present includes bur-sage, desert holly (*Atriplex hymenelytra*), silver cholla, brittlebush sunflower, white rhatany (*Krameria grayi*), creosote, beavertail cactus (*Opuntia basilaris*), and/or honeysweet (*Tidestromia suffruticosa*). There are 20.26 acres of this vegetation type located within the Project Area.

5.5.4 Tamarisk Thickets

Tamarisk Thickets as described by Sawyer et al. (2009) can be located in a variety of riparian and upland areas and is generally dominated by any number of tamarisk species. Tamarisk are known to be strongly phreatophytic and they often supplant native vegetation following a major disturbance. Soil is usually sandy or gravelly in braided washes or intermittent streams, often in areas where high evaporation increases the stream's salinity. Tamarisk Thickets is consistent with the Tamarisk Scrub community described by Holland (1986).

Tamarisk Scrub is present as a windbreak along the northern and western edges of a former agricultural area in the central portion of the Project Area. Plant species found within the Project Area typical of this vegetation community include a nearly monotypic makeup dominated by Mediterranean tamarisk (*Tamarix ramosissima*) with scattered annual species including schismus, Sahara mustard, and cryptantha along the periphery of the habitat. There are 1.53 acres of Tamarisk Thickets within the Project Area.

5.5.5 Disturbed

Areas classified as Disturbed habitat tend to be dominated by pioneering herbaceous species that readily colonize disturbed ground and that are typically found in temporary, often frequently disturbed habitats (Barbour et al. 1999) and that have a high percentage of non-native weedy species (i.e., greater than 25 percent of the species cover). The soils in Disturbed areas are typically characterized as heavily compacted or frequently disturbed. The vegetation in these areas is adapted to living in compacted soils where water does not readily penetrate the soil. Plant species found within the Project Area typical of this vegetation community include non-native annual species such as Arabian schismus, Mediterranean schismus, sand peppergrass (*Lepidium lasiocarpum* subsp. *lasiocarpum*), and Sahara mustard. This habitat

is associated with areas along the extreme western edge of the Project Area along Highway 95 as well as within a previous agricultural area within the central portions of the Project Area. There are 24.95 acres of Disturbed habitat within the Project Area.

5.5.6 Bare Ground

Bare Ground areas are devoid of vegetation. These areas are generally associated with the existing dirt access roads located throughout the Project Area. A total of 16.61 acres of Bare Ground are located within the Vegetation Survey Area.

5.5.7 Developed

Developed areas are areas that have been altered by humans and now display man-made structures such as houses, paved roads, buildings, parks, and other maintained areas.

Developed areas are present within the Project Area and are associated with existing residential structures located along the western edge and eastern-central portions of the Project Area. There are 1.79 acres of Developed areas within the Project Area.

Table 3 below summarizes the vegetation communities within the Project Area and the acreage of each community.

Table 3: Vegetation Communities within the Project Area

Vegetation Community	Project Area (acres)
Blue Palo Verde – Ironwood Woodland	81.44
Creosote Bush Scrub	913.57
Disturbed Creosote Bush Scrub	30.75
Rigid Spineflower – Hairy Desert Sunflower Desert Pavement Sparsely Vegetated Alliance	20.26
Tamarisk Thickets	1.53
Disturbed	24.95
Total Vegetation Communities	***1,072.50***
Bare Ground	16.61
Developed	1.79
Total	**1,090.90**

5.6 SPECIAL STATUS SPECIES

Several factors are taken into consideration when determining the significance of biological resources (wildlife, plants, habitats, etc.). The factors include the listing status of a species (federal, state) which identifies the weighted legal protection afforded a species, whether critical habitat for a species is present, the regional scarcity of a species, and other legal protections in place for species not formally listed but considered unique or rare, such as those species afforded protection under CEQA or considered species of concern by the CDFW. Plant species in California are also ranked by the California Native Plant Society according to a hierarchy of rarity or threat of extinction. This combined evaluation of factors determines the potential significance of impacts to a species/population. The complete list of abbreviations associated with species occurrence/ranking is described below.

In addition, Table 4 provides the criteria used to determine the likelihood of special status species to potentially occur within the Survey Area and proposed Project site.

The following information is a list of abbreviations used to help determine the significance of biological sensitive resources potentially occurring on the proposed Project site.

Federal

FE	Federally listed; Endangered
FT	Federally listed; Threatened
FC	Federal Candidate for listing

State

ST	State listed; Threatened
SE	State listed; Endangered
RARE	State-listed; Rare (Listed "Rare" animals have been redesignated as Threatened, but Rare plants have retained the Rare designation.)
SSC	State Species of Special Concern
WL	CDFW Watch List

California Rare Plant Rank (CRPR)

List 1A	Plants presumed extinct in California.
List 1B	Plants rare and endangered in California and throughout their range.
List 2	Plants rare, threatened, or endangered in California but more common elsewhere in their range.
List 3	Plants about which we need more information; a review list.
List 4	Plants of limited distribution; a watch list.

CRPR Extensions

0.1	Seriously endangered in California (greater than 80 percent of occurrences threatened/high degree and immediacy of threat).
0.2	Fairly endangered in California (20-80 percent occurrences threatened).
0.3	Not very endangered in California (less than 20 percent of occurrences threatened).

Table 4: Criteria for Evaluating Sensitive Species Potential for Occurrence (PFO)

PFO	Criteria
Absent:	Species is restricted to habitats or environmental conditions that do not occur within the Project Area.
Low:	Historical records for this species do not exist within the immediate vicinity (approximately 5 miles) of the Project Area, and/or habitats or environmental conditions needed to support the species are of poor quality.
Moderate:	Either a historical record exists of the species within the immediate vicinity of the Project Area (approximately 5 miles) and marginal habitat exists within the Project Area, or the habitat requirements or environmental conditions associated with the species occur within the Project Area, but no historical records exist within 5 miles of the Project Area.
High:	Both a historical record exists of the species within the Project Area or its immediate vicinity (approximately 5 miles), and the habitat requirements and environmental conditions associated with the species occur within the Project Area.
Present:	Species was detected within the Project Area at the time of the survey.

5.6.1 Sensitive Plants

Current database searches (CDFW 2020; CNPS 2020) resulted in a list of seven sensitive plant species documented to occur within 5 miles of the Project Area (CNDDB and USFWS data; Figure 2) and within the quadrangles (CNPSEI data) containing and surrounding the Project Area. Factors used to determine the potential for occurrence included the quality of habitat, level of anthropogenic influence, elevation, and soils present. In addition, the location of prior CNDDB records of occurrence were used as additional data, but as the CNDDB is a positive-sighting database, these data were used only in support of the analysis from the previously identified factors. Of the seven special status plant species evaluated for their potential occurrence in the Project Area, no species had a High potential to occur, two species had a Moderate potential to occur, four species had a Low potential to occur, and one species was considered to be Absent from the site. None of the four species evaluated as having potential to occur in the Project Area (chaparral sand-verbena, Alverson's foxtail cactus, Torrey's box-thorn, and Hall's tetracoccus), and that would have been blooming and conspicuous at the time of the focused plant survey, were observed during the survey and are therefore considered Absent on the Project. One additional species, Utah vine milkweed (*Funastrum utahense*; CRPR 4.2), was not identified in the literature searches but was observed in the original Project Area during the focused plant survey; however, after Project design revisions in which the Project area was reduced in size from the northern and western areas, it is now located outside (west) of the Project Area and is therefore considered Absent in Project Area. None of the sensitive plant species with potential to occur are federally or State listed species.

These sensitive plant species, their current status, and potential for occurrence are summarized below. A complete table of sensitive plant species potentially occurring in the Project Area including bloom periods and habitat requirements is included as Attachment C. A list of all plant species observed during the reconnaissance-level and focused plant survey is provided as Attachment B.

The following four species are considered Absent from the Project Area, as they were not observed when the plants would have been in bloom and conspicuous within the Project Area during surveys:

- Alverson's foxtail cactus – CRPR List 4.3
- chaparral sand-verbena – CRPR List 1B.1
- Hall's tetracoccus – CRPR List 4.3
- Torrey's box-thorn – CRPR List 4.2

The following species was observed within the original Project Area during the focused plant survey; however, after Project design revisions, it is now located within the Survey Area 500-foot buffer and is considered Absent in the Project Area:

- Utah vine milkweed – CRPR 4.2

The following species has a Low potential to occur in the Project Area, as the environmental conditions required by the species is of low quality. Furthermore, while this species blooms from March through April, this species, even if not in bloom, would have been conspicuous in early May and no *Johnstonella* species or unidentified *Cryptantha* species were identified; therefore, this species has a Low potential to occur:

- winged cryptantha – CRPR List 4.3

The following two plant species have a Moderate potential to occur in the Project Area, as the environmental conditions needed for the species exist marginally:

- Abrams' spurge – CRPR List 2B.2
- glandular ditaxis – CRPR List 2B.2

All sensitive plant species having a Moderate or higher potential to occur in the Project Area are described below.

Abrams' spurge is a prostrate annual herb in the Euphorbiaceae family that occurs in sandy flats of Mojavean Desert scrub and Sonoran Desert scrub. This species blooms from September to November. It can be found at elevations between -15 and 4,300 feet amsl. Moderate to high-quality Creosote Bush Scrub is present, and this species has been recorded within 3 miles of the site.

Glandular ditaxis is a perennial herb in the Euphorbiaceae family that occurs in sandy soils of Mojavean Desert scrub, Sonoran Desert scrub, and Creosote Bush Scrub. This species typically blooms from October to March. It can be found at elevations between 0 and 1,525 feet amsl. Moderate to high-quality Creosote Bush Scrub is present in the Project Area, and this species has been recorded within 3 miles of the site.

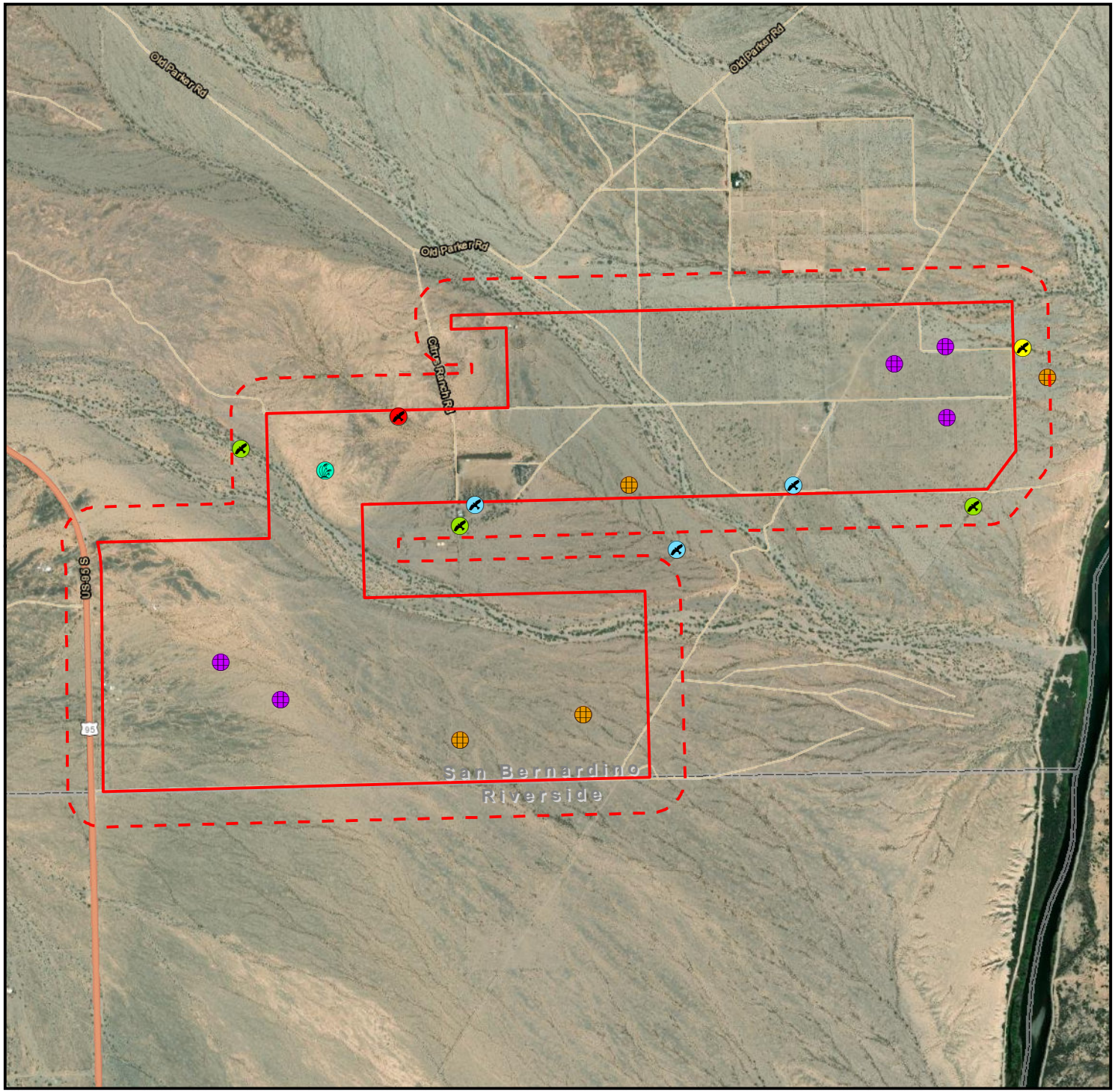

Figure 10
Vidal Energy
Sensitive Species Observations

- Project Location
- Survey Buffer (500 ft)
- Potential Burrowing Owl Burrows w/ Sign
- Kit Fox Burrow/ Burrow Complexes w/ Sign

Plants

- Utah vine milkweed

Animals

- black-tailed gnatcatcher
- loggerhead shrike
- osprey
- yellow warbler

N

0 750 1,500 3,000

Feet

Name: 21232 BIO Fig 10 Sensitive Species Observations.Mxd
Print Date: 10/26/2022, Author: pcarlos

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5.6.2 Sensitive Wildlife

A current database search (CDFW 2020; USFWS 2020) resulted in a list of 22 federally and/or State listed endangered or threatened, SSC, or otherwise sensitive wildlife species documented to occur within the quadrangles containing and surrounding the Project Area (Figure 2). After a literature review, reconnaissance-level survey, and desert tortoise and burrowing owl focused surveys, it was determined that nine sensitive wildlife species are considered Absent, six species have a Low potential to occur, and seven species have a Moderate potential to occur in the Project Area. One species, yellow warbler (*Setophaga petechia*, SSC), was not identified in the literature searches but was observed foraging outside the Project Area boundary but inside the 500-foot buffer during the burrowing owl survey; therefore, this species is considered to have a Moderate potential to occur on the Project for forage (no suitable nesting habitat). Three additional species, loggerhead shrike (*Lanius ludovicianus*; SSC), osprey (*Pandion haliaetus*; WL), and black-tailed gnatcatcher (*Polioptila melanura*; WL), were not identified in the literature searches but were observed or detected in the Project Area during survey efforts; osprey was migrating through the area (no nesting habitat or foraging opportunities on site), and loggerhead shrike and black-tailed gnatcatcher have nesting and foraging habitat on site and are therefore considered Present on the Project.

These sensitive wildlife species, their current status, and potential for occurrence are summarized below. Factors used to determine potential for occurrence included the quality of habitat, the location of prior CNDDB records of occurrence in relation to the Project Area, and connectivity of the Project Area with sensitive species habitat. A complete table of sensitive wildlife species and their potential to occur in the Project Area, including habitat requirements, is included as Attachment D. A list of all wildlife species observed or detected during all survey efforts is provided as Attachment E.

The following nine sensitive wildlife species are considered Absent from the Project Area due to lack of suitable habitat present, because the species falls outside the elevation range, no suitable habitat is present, or no evidence of this species was observed during the survey efforts on the Project Area.

- California black rail (*Laterallus jamaicensis coturniculus*) – ST
- California leaf-nosed bat (*Macrotus californicus*) – SSC
- cave myotis (*Myotis velifer*) – SSC
- desert tortoise (*Gopherus agassizii*) – FT, ST
- long-billed curlew (*Numenius americanus*) - WL
- razorback sucker (*Xyrauchen texanus*) – FE, SE
- Townsend's big-eared bat (*Corynorhinus townsendii*) – SSC
- western yellow-billed cuckoo (*Coccyzus americanus occidentalis*) – FT, SE
- Yuma Ridgway's rail (*Rallus obsoletus yumanensis*) – FE, ST

The following six sensitive wildlife species have a Low potential for occurrence in the Project Area due to low quality and disturbed suitable habitat.

- Arizona Bell's vireo (*Vireo bellii arizonae*) – SE
- Bendire's thrasher (*Toxostoma bendirei*) – SSC
- northern cardinal (*Cardinalis cardinalis*) – WL
- prairie falcon (*Falco mexicanus*) – WL
- southwestern willow flycatcher (*Empidonax traillii extimus*) – FE, SE
- yellow-breasted chat (*Icteria virens*) – SSC

The following seven sensitive wildlife species have a Moderate potential for occurrence in the Project Area due to marginal habitat and environmental and food source conditions.

- American badger (*Taxidea taxus*) – SSC
- burrowing owl (*Athene cunicularia*) – SSC
- Costa's hummingbird (*Calypte costae*)
- crissal thrasher (*Toxostoma crissale*) – SSC
- Le Conte's thrasher (*Toxostoma lecontei*) – SSC
- Gila woodpecker (*Melanerpes uropygialis*) – SE
- yellow warbler – SSC

The following three sensitive wildlife species were detected during survey efforts and are therefore considered Present in the Project Area.

- black-tailed gnatcatcher – WL
- loggerhead shrike – SSC
- osprey (migrating through) – WL

Species determined to have Moderate potential to occur or that are considered present in the Project Area, are described below.

American Badger. The American badger is a California Species of Special Concern. This carnivorous species ranges over most of the western United States and upper midwestern United States south into central Mexico. In California, the badger may occupy a variety of habitats, especially grasslands, savannas, sandy soils, and deserts. It prefers friable soils for burrowing and relatively open, uncultivated ground. Prey items include pocket gophers and ground squirrels (Jameson and Peeters 1988). The American badger may weigh up to 11.4 kilograms or 25 pounds and is easily recognized by its overall silver-gray coloration, white stripe on top of its head, white cheeks, and black feet with noticeably long front claws. It is a heavy-bodied animal that is stout and flattened. The American badger is chiefly nocturnal, but it is often seen by day as well. It gives birth to one to four young from March to April (Jameson and Peeters 1988). Threats to this species include habitat loss due to agriculture, housing and other land conversions, and illegal hunting. Suitable habitat for this species is present throughout the Project Area; therefore, the potential for occurrence is Moderate.

Burrowing Owl. The burrowing owl is a California Species of Special Concern. It is broadly distributed across the western United States, with populations in Florida and Central and South America. The burrowing owl breeds in open plains from western Canada and the western United States, Mexico through Central America and into South America to Argentina (Klute 2003). This species inhabits dry, open, native or non-native grasslands, deserts, and other arid environments with low-growing and low-density vegetation (Ehrlich 1988). It may occupy golf courses, cemeteries, road rights-of way, airstrips, abandoned buildings, irrigation ditches, and vacant lots with holes or cracks suitable for use as burrows (TLMA 2006). Burrowing owls typically use burrows made by mammals such as California ground squirrels (Spermophilus beecheyi), foxes, or badgers (Trulio 1997). When burrows are scarce, the burrowing owl may use man-made structures such as openings beneath cement or asphalt pavement, pipes, culverts, and nest boxes (TLMA 2006). Burrowing owls often are found within, under, or in close proximity to man-made structures. Prey sources for this species include small rodents; arthropods such as spiders, crickets, centipedes, and grasshoppers; smaller birds; amphibians; reptiles; and carrion. Threats to the burrowing owl include loss of nesting burrows, habitat loss, and mortality from motor vehicles.

Costa's hummingbird. Costa's hummingbird is a USFWS bird of conservation concern for nesting. It is most common in Southern California, but also breeds locally along the western edge of the San Joaquin Valley (McCaskie et al. 1979), the eastern edge of the Sierra Nevada north through Inyo County, and is known to occur regularly in Monterey and Siskiyou counties in the spring and summer months (McCaskie et al. 1988). During winter, Costa's hummingbird is largely restricted to the southern coast, but also winters in southern deserts (Garrett and Dunn 1981). Costa's hummingbird is a small hummingbird; the male having iridescent purple crown and flared gorget, and the female having either a small throat patch of metallic purple feathers (Baltosser 1987), or and entirely white throat and underparts (Baltosser 2020). This species primarily occupies desert washes, the edges of desert and valley foothill riparian, coastal and desert scrub, desert succulent shrub, lower-elevation chaparral, and palm oasis habitats (Garrett and Dunn 1981). Costa's hummingbird feeds on a variety of herbaceous and woody plants for flower nectar and will also eat small insects and spiders (Garrett and Dunn 1981). It will nest in wide variety of trees, cacti, shrubs, woody forbs, and sometimes vines (Bent 1940). Alteration of natural habitats is a major concern for this species, and its most serious threat may be the clearing of desert scrub for agriculture and flood control, and the conversion of natural habitats to forage for cattle grazing (Yetman and Burquez 1994). No historical records for this species have been documented within 5 miles of the Project Area; however, this species was found on the USFWS Environmental Conservation Online System. Habitat for this species is found primarily within the larger drainage systems within the Project Area that will be avoided. Therefore, the potential for this species is Moderate.

Crissal Thrasher. The crissal thrasher is a California Species of Concern. It is widely distributed from southeastern California and southwestern Utah to Central America, inhabiting desert washes and riparian thickets in the Colorado River and Rio Grande valleys and their tributaries in southwestern North America. To the south and southeast within its range it can be found on brushy plains, in foothill scrub, or in open piñon-oak-juniper woodlands where there is a shrubby understory. The crissal thrasher is mostly insectivorous but may eat seeds, fruits, and berries (e.g., juniper berries) outside the summer season. It is a relatively large, grayish-brown songbird with a long, graduated tail and a rusty colored crissal (the area surrounding the cloacal opening). It has a long, decurved bill. Loss of habitat to clearing for agriculture or urban and suburban development threatens some populations. Other possible factors affecting this species include grazing of arid lands and off-road vehicle use (Cody 1999). Suitable nesting and foraging habitat for this species is present throughout the desert washes that cross through the Project Area; therefore, the potential for occurrence is Moderate.

Le Conte's thrasher. Le Conte's thrasher is a California Species of Concern and a USFWS bird of conservation concern. It occurs in deserts of the southwest United States, southwestern Utah, southern Arizona, and northwestern Mexico (Weigand and Fitton 2008). The Le Conte's thrasher is a medium-sized songbird with a long dark tail, black decurved bill, and a plain grayish or sandy-colored body. It is distinguished from other thrashers by its unspotted breast, deep buff crissum, dark eye, and dark tail that contrasts sharply with its body. Habitat includes open desert wash, desert scrub, alkali desert scrub, desert succulent shrub habitats, and Joshua tree habitat with scattered shrubs. Le Conte's thrashers forage as generalists on bare ground and in vegetation litter under shrubs by scratching the soil and overturning objects (Weigand and Fitton 2008). In some parts of its range, this thrasher has lost extensive habitat to development and where irrigated lawns, groves, and fields have been created over valuable xeric habitat. Development, wild burros, off-road vehicle recreation, and invasive plant species threaten this species (Weigand and Fitton 2008). Although there are no reported occurrences within 5 miles of the Project Area, suitable habitat is found within and adjacent to the Project Area. In addition, a thrasher species was briefly

observed outside of the eastern Project Area boundary in flight. Therefore, the potential for this species is Moderate.

Gila Woodpecker. The Gila woodpecker is a State listed Endangered species. It is a permanent resident of the lower Colorado River and Imperial Valley of southeastern California, throughout central Arizona and southwestern New Mexico, and south into northeastern Mexico. Physical characteristics include a tan to brown head and underparts, yellow-tinged belly, and black and white bar patterns on the back. The Gila woodpecker inhabits dry subtropical forests, riparian woodlands, and deserts with large cacti or tree species suitable for nesting. Habitats include saguaro desert, desert washes, riparian woodlands, and residential areas, including orchards and vineyards (Bancroft 1929; Price et al. 1995). Near Brawley, California, it is found primarily in date palm groves and ranch yards (Garrett and Dunn 1981). It is omnivorous; and its diet may include insect larvae, insects, cactus fruits, and berries. The disappearance of this species from much of Imperial Valley during the latter half of the twentieth century may have been connected to the clearing of riparian woodlands and to nest-site competition with European starlings (*Sturnus vulgaris*; Edwards and Schnell 2000; Bancroft 1929; Price et al. 1995). Suitable habitat for this species is present throughout the desert washes within the Project Area; therefore, the potential for occurrence is Moderate.

Yellow Warbler. The yellow warbler (nesting) is a California Species of Special Concern. Its breeding range includes most of North America from northern Alaska and northern Canada to the southern United States and Mexico. Wintering birds occur from Mexico to Peru. The plumage includes a yellow breast with varying chestnut streaking in males; crown, back, and wings are yellowish olive green; and the warbler has a faint and indistinct white eye ring. Breeding habitats include wet areas, such as riparian woodlands, orchards, gardens, swamp edges, and willow thickets. Most breeding habitats generally contain medium to high-density tree and shrub species with ample early successional understories. In migration, it may occur in other habitats, including early seral riparian habitats. It is almost entirely insectivorous but also eats a few berries. Populations are in decline in California due to habitat loss, grazing of riparian understories, and brood parasitism by the brown-headed cowbird (*Molothrus ater*; Lowther et al. 1999). This species was observed foraging outside the Project boundary but inside the 500-foot buffer near the eastern edge of the Project during the burrowing owl survey, likely migrating through the area (nesting and forage habitat exists along the Colorado River). As such, this species has Moderate potential to occur in the Project Area for forage.

Black-tailed Gnatcatcher. The black-tailed gnatcatcher is a CDFW Watch List species. It is a permanent resident of low deserts in the southwest United States and northern Mexico (Grinnell and Miller 1944; Bent 1949). Habitats include mixed desert scrub, creosote scrub, mesquite scrub, dry washes, and desert ravines. This small songbird is characterized by its gray coloration along the back, white coloration below, and a black tail with white edges. During the breeding season, males develop black caps. It is an active, insectivorous species that gleans insects and their larvae from twigs and branches. It has also been known to consume spiders and a few seeds. The primary threat to the existence of this species lies in the conversion of its native desert habitats as a result of urban sprawl (Farquhar and Ritchie 2020). This species was detected during the reconnaissance-level survey within the 500-foot survey buffer on the eastern and western ends of the northern portion of the site and at the center of the site near Citrus Ranch Road and is considered Present in the Project Area.

Loggerhead Shrike. The loggerhead shrike (nesting) is a California Species of Special Concern. Its range includes most of the United States from southern Canada to southern Mexico. The U.S. population is largely resident to the south and migratory to the north, but migrants and residents frequently overlap

throughout its range. It is recognized by its black facial mask and overall gray, black, and white color pattern. It has a relatively big head and a hook-tipped bill not unlike that of a small raptor. Habitats may include oak savannas, open chaparral, desert washes, juniper woodlands, Joshua tree woodlands, and other semi-open areas. It can occupy a variety of semi-open habitats with scattered trees, large shrubs, utility poles, and other structures that serve as lookout posts while it searches for potential prey. Loggerhead shrikes prefer dense, thorny shrubs and trees, brush piles, and tumbleweeds for nesting (Seattle Audubon Society 2008). Both adults gather nesting materials, including twigs, grass, hair, feathers, and green vegetation; but only females build the cup-shaped nests. Females lay between five and six eggs, which are incubated for 15 to 17 days; and nestlings will leave the nest after 17 to 20 days but will not fly for another week (Seattle Audubon Society 2020). The loggerhead shrike is a carnivorous species that preys primarily upon insects but also takes lizards, mice, birds, carrion, and other opportunistic prey. This bird has a habit of caching its food for later consumption by impaling its prey on thorns, sharp twigs, or barbed wire; hence the term "butcher bird." Habitat loss and pesticides are the two dominant factors in the decline of this species (Ehrlich et al. 1988; Scott and Morrison 1990). This species was detected during the reconnaissance-level survey along the southern edge of the northern portion of the site, at the center of the site near Citrus Ranch Road, and in the eastern buffer along the southern portion of the site and is considered Present in the Project Area.

Osprey. The osprey (nesting) is a California Watch List species. The species is found on every continent except for Antarctica. Although this species may breed in many areas of its summer range, it breeds primarily from the northern United States up through Canada and into Alaska. Most of the North American population winters south of the United States in Central and South America, as well as along the Pacific and Caribbean coasts of Mexico. Wintering grounds also include coastal California and southeastern California. The osprey is a large raptor with a white belly and chest and black back and wings. Its forehead and crown are white with a thick black eye stripe that extends down onto the back. This raptor species forages primarily on fish and is strongly associated with open water throughout its range. It builds a large nest of twigs, sticks, moss, and other materials high on a tree or artificial structure and may use it for several seasons. Osprey populations have increased greatly since the ban of agricultural DDT, although shooting, electrocution at power lines, and habitat degradation still pose threats to populations (The Cornell Lab of Ornithology 2020). This species was observed during the reconnaissance-level survey near the northwest corner of the Project Area west of Citrus Ranch Road and is considered Present in the Project Area; however, the species is presumed to have been migrating through the area (nesting and forage habitat exists along the Colorado River) as the Project does not support fish, which are a necessary food source for the species.

5.6.3 Desert Tortoise and Burrowing Owl

No live desert tortoises, active desert tortoise burrows, or other desert tortoise sign (i.e., shell, bones, scutes, limbs, scat, pallets, tracks, eggshell fragments, courtship rings, drinking sites, and mineral licks) were identified in the Survey Area during desert tortoise surveys. One potential desert tortoise burrow was observed in the survey buffer near the southwest corner of the Project; however, the burrow was filled with spider webs and appeared to have been in disuse for some time. No live burrowing owls were observed within the Survey Area during the burrowing owl surveys; however, three potential burrowing owl burrows with sign including cough pellets and/or whitewash were observed within the Project Area and one potential burrowing owl burrow and one potential burrowing owl cough pellet were identified within the 500-foot survey buffer near the northeastern portion of the Project Area. This burrow appeared old, and the single sun-bleached pellet found at the burrow entrance did not contain insect fragments typical of burrowing owl pellets, but the size and shape suggested that it may be from a burrowing owl.

Locations of all potential burrowing owl burrows are included in Figure 10.

5.6.4 Nesting Birds

Active avian nests including verdin (*Auriparus flaviceps*), red-tailed hawk (*Buteo jamaicensis*), lesser nighthawk (*Chordeiles acutipennis*), common poorwill (*Phalaenoptilus nuttallii*), white-winged dove (*Zenaida asiatica*), and mourning dove (*Zenaida macroura*) were observed during survey efforts. Lesser nighthawk nests were the most numerous nest type observed, and several were identified as being in the incubation stage with eggs present. One common poorwill nest and one mourning dove nest were observed to have nestlings present. The contents of the other nests could not be seen; however, adults were observed sitting on the nests or remaining in the vicinity of a nest for extended periods of time, indicating either incubation or parental care of nestlings was currently ongoing.

5.7 GENERAL PLANTS

A total of 136 plant species were observed during the reconnaissance-level survey and the focused plant survey. Plant species observed during the survey efforts were representative of the existing site conditions. A solitary Utah vine milkweed (CRPR 4.2) was observed in the northwestern portion of the Project Area during the focused plant survey. No other sensitive plant species or sensitive vegetation communities were observed during the survey efforts. A complete list of plants observed is provided in Attachment B.

5.8 GENERAL WILDLIFE

A total of 47 wildlife species were observed or detected during the reconnaissance-level survey and desert tortoise and burrowing owl surveys. Wildlife species observed or detected during the survey efforts were characteristic of the existing site conditions. Below is a summary of the general wildlife observed on site. These species are non-sensitive and are not state- or federal-protected species. A complete list of wildlife observed is provided in Attachment E.

Mammals observed or detected on site included black-tailed jackrabbits (*Lepus californicus*), desert kit fox, desert woodrats (*Neotoma lepida*), white-tailed antelope ground squirrels (*Ammospermophilus leucurus*), mule deer (*Odocoieus hemionus*), and wild burro (*Equus asinus*). Desert kit fox were not visually observed with in the Project Area, however five active desert kit fox (non-sensitive) burrow/burrow complexes were identified within the Project Area during the desert tortoise and burrowing owl surveys. These burrows had fresh sign including scat, tracks, and/or prey remains (e.g., rodent tails) on the burrow apron or in the vicinity, indicating recent use. The location of all presumed active desert kit fox burrows/burrow complexes are included in Figure 10. Desert woodrats were also not visually observed, however several desert woodrat dens were observed in the Project Area

Birds commonly observed or detected on site included red-tailed hawks, mourning doves, lesser nighthawks, common ravens (*Corvus corax*), verdins, northern mockingbirds (*Mimus polyglottos*), phainopeplas (*Phainopepla nitens*), black-throated sparrows (*Amphispiza bilineata*), house finches (*Haemorhous mexicanus*), and several flycatcher species. One barn owl (*Tyto alba*) and one great horned owl (*Bubo virginianus*) were also observed during survey efforts.

Reptiles commonly observed on site included desert iguanas (*Dipsosaurus dorsalis*), common zebra-tailed lizards (*Callisaurus draconoides*), Great Basin whiptails (*Aspidoscelis tigris tigris*), and rattlesnakes

including Colorado desert sidewinders (*Crotalus cerastes laterorepens*) and Mohave rattlesnakes (*Crotalus scutulatus*).

5.9 OTHER UNIQUE FEATURES / RESOURCES

5.9.1 Critical Habitat

Critical Habitat is defined as areas of land, water, and air space containing the physical and biological features essential for the survival and recovery of endangered and threatened species. Designated Critical Habitat includes sites for breeding and rearing, movement or migration, feeding, roosting, cover, and shelter. Designated Critical Habitats require special management and protection of existing resources, including water quality and quantity, host animals and plants, food availability, pollinators, sunlight, and specific soil types. Designated Critical Habitat delineates all suitable habitat, occupied or not, that is essential to the survival and recovery of the species. According to the USFWS Critical Habitat WebGIS map, the Project Area does not fall within any designated Critical Habitat (USFWS 2020). Critical Habitat for razorback sucker and western yellow-billed cuckoo is present within 0.5 mile of the Project Area to the east, and Critical Habitat for desert tortoise is present within 3 miles of the Project Area to the northeast as depicted in (Figure 11).

5.9.2 Wildlife Movement Corridors

Wildlife corridors are defined as areas that connect suitable habitat in a region otherwise fragmented by rugged terrain, changes in vegetation, or human disturbance. Natural features, such as canyons, drainages, ridgelines, or areas with dense vegetation cover can provide corridors for wildlife travel. Wildlife corridors are important to mobile species because they provide access to individuals to find shelter, mates, food, and water; allow the dispersal of individuals away from high population density areas; and allow immigration and emigration of individuals to other populations, providing for gene flow between populations. Two large washes present on site (Drainages 4 and 5) are wildlife corridors providing a migration pathway for small to large mammal species (e.g., black-tailed jackrabbits, desert kit fox, mule deer, and wild burro) from the surrounding areas including the Turtle Mountains and Whipple Mountains to water sources such as the Colorado River. As an example, potential mule deer scat was found in two locations in the northern wash (Drainage 5) within the Project Area, suggesting that larger mammals utilize the washes for movement corridors. In a conversation that occurred during the survey efforts, the son of the previous landowner indicated that large mammals use the northern wash to access the Colorado River. However, Project facilities and access roads have been designed to avoid these large washes. They will not be impacted and will be left in place to allow surface flow and migration of wildlife through the site.

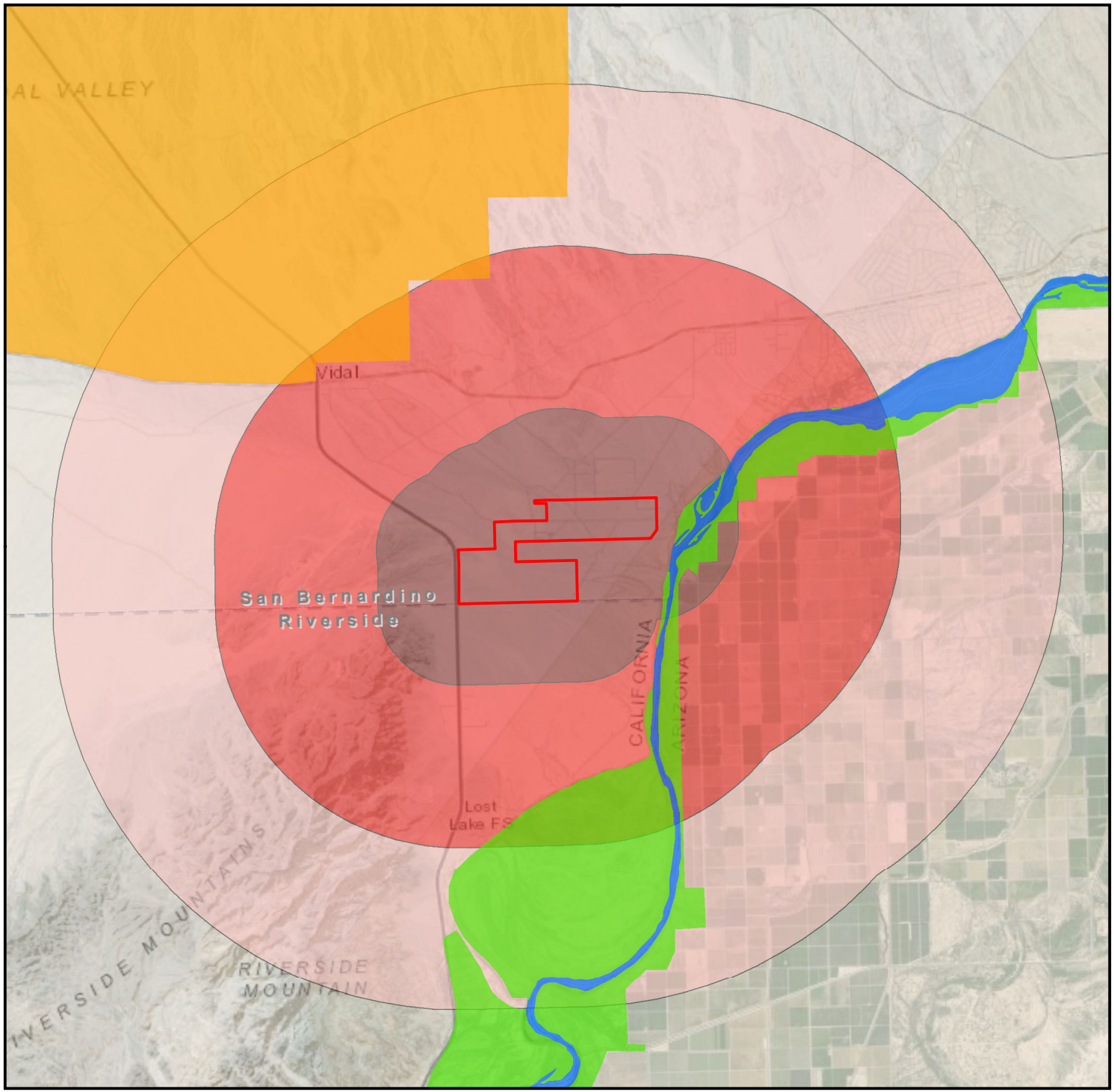

Figure 11
Vidal Energy
USFWS Critical Habitat

Project Location

Distance

1 mi

3 mi

5 mi

USFWS Critical Habitat

desert tortoise

razorback sucker

western yellow-billed cuckoo

N

0 0.75 1.5 3

Miles

Name: 21232 BIO Fig 11 USFWS Critical Habitat.Mxd
Print Date: 7/15/2020, Author: pcarlos

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SECTION 6.0 – PROJECT IMPACTS AND RECOMMENDED MITIGATION

The proposed Project will be in compliance with federal, state, and county ordinances protecting sensitive resources. The following sections provide a summary of the biological surveys, potential impacts based on current design, and recommended protection measures to avoid and minimize potential negative impacts to sensitive resources.

6.1 JURISDICTIONAL WATERS

Several jurisdictional features occur within to the Project Area. Approximately 123.85 acres (84,491.65 linear feet) within the Project Area are considered jurisdictional under CDFW and RWQCB. Approximately 24.66 acres of temporary and permanent impacts are anticipated.

On April 21, 2020, the USEPA and USACE published the Navigable Waters Protection Rule in the Federal Register to finalize a revised definition of "Waters of the United States" under the CWA. This final rule became effective on June 22, 2020. The rule provides clear exclusions for many water features. The final rule specifically clarifies that WOUS do not include the following:

- groundwater, including groundwater drained through subsurface drainage systems
- ephemeral features that flow only in direct response to precipitation, including ephemeral streams, swales, gullies, rills, and pools

The drainages identified on site are considered ephemeral; therefore, based on the definition of WOUS, should not be considered under USACE jurisdiction. Temporary and permanent impacts to jurisdictional waters are provided in Table 5. A map of temporary and permanent impacts to jurisdictional waters is provided as Figure 12.

Table 5: **Temporary and Permanent Impacts to Federal and State Waters**

Agency	Temporary (acres)	Temporary Impacts (square feet)	Permanent Impacts (acres)	Permanent Impacts (square feet)
CDFW	14.45	629,349.03	10.21	444,765.37
RWQCB	14.45	629,349.03	10.21	444,765.37
USACE	N/A	N/A	N/A	N/A

N/A: Ephemeral waters not subject to USACE jurisdiction.

The CDFW and RWQCB jurisdictional waters are regulated by state, and local governments under a no-net-loss policy, and all impacts should be avoided to the greatest extent possible. No impacts to wetlands or playas are anticipated. No drainages under USACE jurisdiction were identified on site. The proposed Project has been designed to minimize impacts to sensitive resources; however, impacts to all waters could not be avoided. Drainages 5 and 6 are the largest washes on site and the Project layout has been designed to avoid these drainages. Total acres of impacts per drainage compared to the total acres of drainages within the Survey Area are provided in Table 6 below.

Table 6: Comparison of Impacted Drainages within the Survey Area

	Total Acres Within Survey Area	Temporary Impacts (acres)	Permanent Impacts (acres)	Total Impacts (acres)
Drainage 1	3.88	2.17 (94,621.95 sq ft)	1.71 (74,288.36 sq ft)	3.88
Drainage 2	13.40	8.13 (353,964.64 sq ft)	5.26 (229,207.28 sq ft)	13.40
Drainage 3	0.10	0.07 (3,236.51 sq ft)	0.03 (1,324.35 sq ft)	0.10
Drainage 5	100.24	4.07 (177,366.30 sq ft)	3.21 (139,945.39 sq ft)	7.28
Drainage 6	6.22	0.0 (159.69 sq ft)	0.0	0.0
Totals	**123.85**	**14.45**	**10.21**	**24.66**

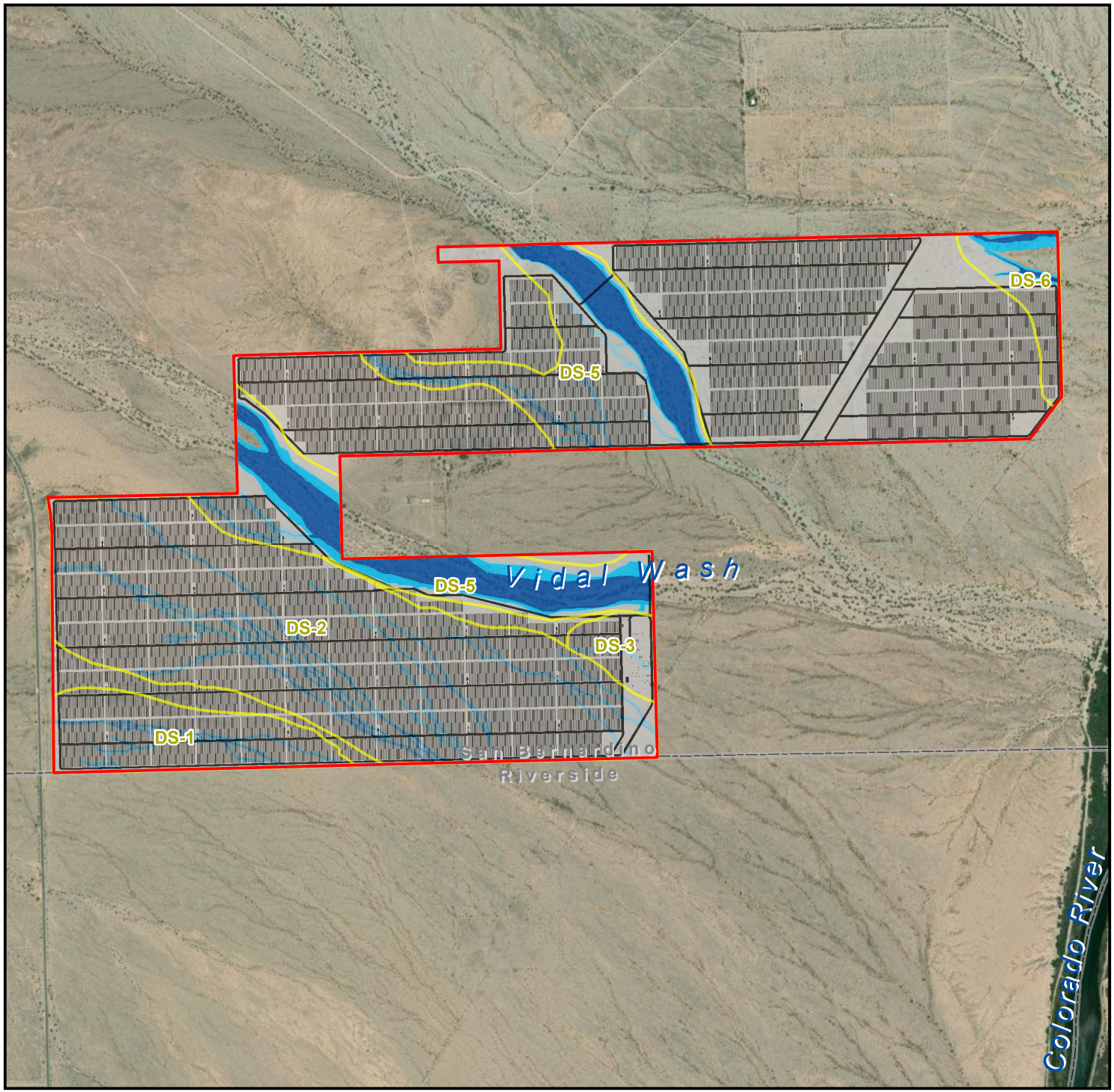

Figure 12

Vidal Energy
Impacts to Jurisdictional Waters

Project Location
Drainage System

Impact

Permenant
Temporary

Jurisdictional Waters

Ordinary High Water Mark
Bank to Bank

N

0 750 1,500 3,000

Feet

Name: 21232 BIO Fig 12 Impacts to Jurisdictional Waters.Mxd
Print Date: 12/4/2020, Author: pcarlos

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Since impacts to jurisdictional waters are not avoidable, the proposed Project will require mitigation through habitat creation, enhancement, or preservation as determined by consultation with the regulatory agencies and the County of San Bernardino during the permitting process. Any impacts to CDFW jurisdictional waters would require a 1602 Streambed Alteration Agreement from the CDFW. Since no Section 404 permit is required, Section 401 of the CWA is not applicable; however, a Waste Discharge Report (WDR), or a waiver to WDRs, may be required by RWQCB. Impacts to jurisdictional waters will result from Project implementation; therefore, mitigation for impacts to jurisdictional resources will be addressed in a mitigation plan to be submitted for approval with the permit application packages.

To minimize additional impacts to drainages, we recommend the following:

- Temporary and permanent impacts to all jurisdictional resources shall be compensated through a combination of habitat creation (i.e., establishment), enhancement, preservation, and/or and restoration at a minimum of a 1:1 ratio or as required by the permitting agencies. Any creation, enhancement, preservation, and/or restoration effort shall be implemented pursuant to a Habitat Restoration Plan, which shall include success criteria and monitoring specifications, and shall be approved by the permitting agencies and County of San Bernardino. A habitat restoration specialist will be designated and approved by the permitting agencies and will determine the most appropriate method of restoration.

- Temporarily impacted drainage features shall be recontoured to pre-construction conditions. Temporary impacts shall be restored sufficient to compensate for the impact to the satisfaction of the permitting agencies (depending on the location of the impact). If restoration of temporary impact areas is not possible to the satisfaction of the appropriate agency, the temporary impact shall be considered a permanent impact and compensated accordingly.

- A biological monitor shall be present prior to initiation of ground disturbing activities to demark limit of disturbance boundaries. Flagging and/or staking will be used to clearly define the work area boundaries and avoid impacts to adjacent drainage features.

- Erosion protection and sediment control BMPs would be implemented in compliance with the General Construction General Permit and the Stormwater Pollution Prevention Plan (SWPPP).

- Graded areas would be stabilized to promote infiltration and reduce run-off potential.

- Any excess soil would be spread on site outside of jurisdictional drainages.

6.1.1 Federal permits

Based on this delineation, no wetlands or WOUS were identified on site; therefore, USACE does not have jurisdiction over the drainages identified within the Project Area and this Project will not require a Section 404 Permit.

6.1.2 State Permits

Based on this delineation, CDFW has jurisdiction over a total of 123.85 acres of waters of the State; 14.45 acres (629,349.09 square feet) may be temporarily impacted by construction activities and 10.21 acres (444,765.37 square feet) may be permanently impacted by construction activities. Desert riparian

vegetation does occur within and adjacent to the major wash systems of Drainage 5 and Drainage 6; however, desert riparian vegetation will be largely avoided by the current Project design. CDFW regulates impacts or alterations to streambeds, including any obstruction or diversion to the natural flow of a stream, substantial change or use of material from a stream, or a deposit or disposal of any debris into a stream as part of Fish and Game Code Sections 1600-02. A Streambed Alteration Agreement (SAA) will be required from CDFW for this Project.

Based on this delineation, RWQCB has jurisdiction over a total of 123.85 acres of waters of the State; 14.45 acres (629,349.09 square feet) may be temporarily impacted by construction activities and 10.21 acres (444,765.37 square feet)may be permanently impacted by construction activities. Since no Section 404 permit is required, Section 401 of the CWA is not applicable; however, a Waste Discharge Report (WDR), or a waiver to WDRs, may be required by RWQCB before beginning discharge to waters of the State associated with construction and/or operation and maintenance of a facility.

6.2 VEGETATION COMMUNITIES

Six vegetation communities are present within the Project Area: Blue Palo Verde – Ironwood Woodland, Creosote Bush Scrub, Disturbed Creosote Bush Scrub, Rigid Spineflower – Hairy Desert Sunflower Desert Pavement Sparsely Vegetated Alliance, Tamarisk Thickets, and Disturbed. Bare ground and developed areas were also identified within the Project Area. Temporary impacts to native vegetation communities are assumed to be due to crushing and not full removal of the plants. If full uprooting of plants is necessary (e.g., due to grading or recontouring) these impacts will be considered permanent and vegetation impacts will be updated accordingly. Temporary and permanent impacts to each vegetation community within the Project Area are provided in Table 7. A map showing impacts to vegetation communities is provided as Figure 13. The total acres of each vegetation community within the Project Area are found in Table 3.

Table 7: Temporary and Permanent Impacts to Vegetation Communities

Vegetation Community	Project Area Temporary Impacts (acres)	Project Area Permanent Impacts (acres)	Project Area Total Impacts (acres)
Blue Palo Verde – Ironwood Woodland	1.29	1.68	2.97
Creosote Bush Scrub	563.64	325.62	889.26
Disturbed Creosote Bush Scrub	18.63	8.92	27.55
Rigid Spineflower – Hairy Desert Sunflower Desert Pavement Sparsely Vegetated Alliance	11.96	8.30	20.26
Tamarisk Thickets	1.10	0.43	1.53
Disturbed	14.73	10.20	24.93
Total Vegetation Communities	***611.35***	***355.15***	***966.50***
Bare Ground	12.40	4.16	16.20
Developed	1.17	0.62	1.79
Total	**624.92**	**359.93**	**984.49**

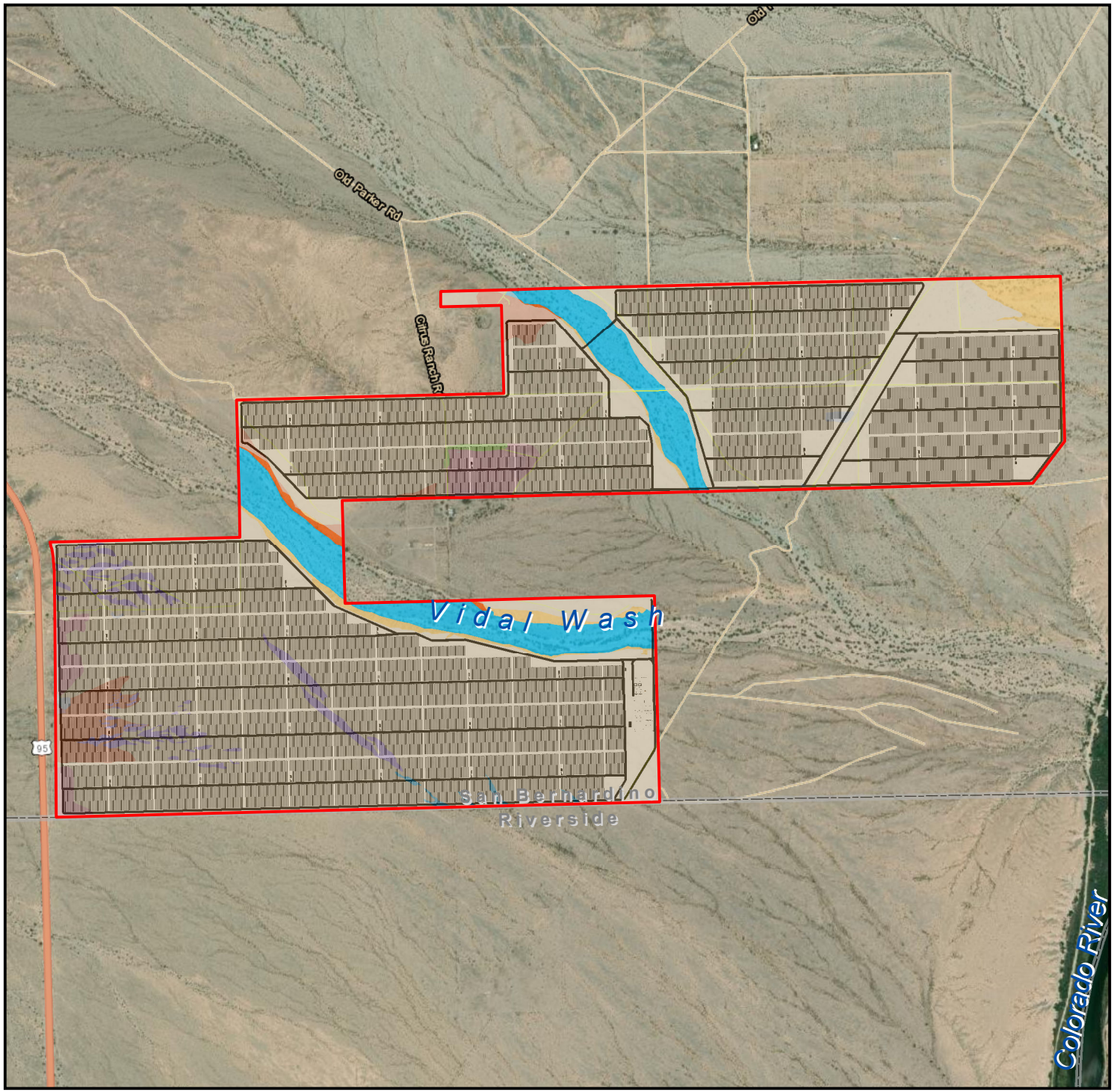

Figure 13

Vidal Energy
Impacts to Vegetation Communities

Project Location

Impact

- Permenant
- Temporary

Vegetation Communities

- Bareground
- Blue Palo Verde - Ironwood Woodland*
- Creosote Bush Scrub
- Disturbed Creosote Bush Scrub
- Rigid Spineflower – Hairy Desert Sunflower Desert Pavement Sparsely Vegetated Alliance
- Developed
- Disturbed/Ruderal
- Tamarisk Thickets

*Habitat with the potential to contain smoke trees, mesquites, palo verdes, and/or any other species covered under the California Desert Native Plants Act. Individual tree count pending.

N

0 750 1,500 3,000

Feet

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Print Date: 12/4/2020, Author: pcarlos

CHAMBERS GROUP

Blue Palo Verde – Ironwood Woodland is generally of moderate to high quality within the major washes of Drainage 4 and Drainage System 5; however, exotic plant species do occur throughout this community. Removal of exotic plant species within this community may be considered suitable on-site, but out-of-kind mitigation. Based on current Project design, approximately 1.29 acres of temporary impacts and 1.68 acres of permanent impacts to this community are anticipated.

Creosote Bush Scrub is generally of moderate to high quality with low plant density overall. Large areas of bare ground separate individual creosote bush shrubs with only limited plant species being located within the bare ground matrix of the habitat. In other areas Creosote Bush Scrub habitat is denser and more diverse. Areas with disturbed creosote scrub have high amounts of non-native, weedy species including: Saharan mustard, foxtail brome, and Mediterranean schismus and are considered low quality habitat. Based on current Project design, approximately 563.64 acres of temporary impacts and 325.62 acres of permanent impacts to Creosote Bush Scrub habitat and approximately 18.63 acres of temporary impacts and 8.92 acres of permanent impacts to Disturbed Creosote Bush Scrub habitat are anticipated.

Rigid Spineflower – Hairy Desert Sunflower Sparsely Vegetated Desert Pavement Alliance habitat areas are associated with locations that appear to experience ephemeral water infiltration and support a higher level of herbaceous species than surrounding areas. A fair amount of invasive and non-native species are present in this habitat and it is therefore considered moderate quality habitat. Invasive Sahara mustard populations can be addressed through targeted hand weeding efforts between when the plant bolts and when it goes to seed. Based on current Project design, approximately 11.96 acres of temporary impacts and 8.30 acres of permanent impacts to this community are anticipated.

Tamarisk Thickets is a non-native community composed primarily of invasive tamarisk species and aside from being potential nesting habitat for some opportunistic bird species, this community does not contribute positively to the overall health and quality of the environment. Tamarisk competes for water in drainage features and changes the natural chemistry of the soil (salt-saturated) that inhibits the survival of native species. The presence of tamarisk decreases the habitat value of area. Enhancement by removal of this species within the Project Area will provide higher biological value and increase the native species composition. Based on current Project design, approximately 1.10 acres of temporary impacts and 0.43 acres of permanent impacts to this community are anticipated.

Disturbed habitat is also present in the Project Area. The soils in Disturbed areas are typically characterized as heavily compacted or frequently disturbed. The vegetation in these areas is adapted to living in compact soils where water does not readily penetrate the soil. Plant species found within the Project Area typical of this vegetation community include non-native annual species such as Arabian schismus (*Schismus arabicus*), Mediterranean schismus, sand peppergrass, and Sahara mustard. Care should be taken when working in disturbed habitats or other weedy areas so as not to spread weeds off site to adjacent native habitats. The presence of Disturbed habitats decreases the habitat value of area. Enhancement by removal of exotic species within the Project Area will provide higher biological value and increase the native species composition. Based on current Project design, approximately 14.73 acres of temporary impacts and 10.20 acres of permanent impacts to this community are anticipated.

None of the vegetation communities present on the Project are considered sensitive vegetation communities; however, several desert shrub and tree species are protected under the San Bernardino County Development Code Desert Native Plant Protection Section 88.01.060. Tree and shrub species present on site that may require a permit for removal include:

- Dalea *spinosa* (smoke tree), all species of the genus *Prosopis* (mesquites) with stems greater than 2 inches in diameter or greater than 6 feet in height.
- Creosote Rings, 10 feet or greater in diameter.
- Any part of any of the following species, whether living or dead: *Olneya tesota* (desert ironwood), all species of the genus *Prosopis* (mesquites), all species of the genus *Cercidium* (synonym: *Parkinsonia*, palo verde).

The majority of individuals of these species exist within the large wash systems of Drainage 5 within Blue Palo Verde – Ironwood Woodland habitat, and Creosote Bush Scrub within Drainage 6 which will be largely avoided by the current Project design. It is recommended that species that may require a County permit for removal be assessed during pre-construction surveys to determine how many will require mitigation prior to the start of construction.

To minimize impacts to native plant communities, we recommend the following measures:

- Prior to construction, a qualified restoration specialist should evaluate the habitats within the areas to be temporarily disturbed/impacted to determine if habitat restoration is possible. Habitat restoration may not be possible given prevailing winds and the potential inoculation of additional invasive species from adjacent areas. If the specialist determines restoration is possible, then a Habitat Restoration Plan (HRP) for the temporarily impacted area should be prepared. The plan should include sufficient detail to address all aspects of the restoration effort (further site evaluation, site preparation, planting, maintenance, and monitoring to determine success (i.e., plant survival, etc.) and additional maintenance needs. In general restoration of temporarily impacted areas involves recontouring the land, decompaction, replacing the topsoil (if collected), planting seed and/or container stock, maintaining (i.e., weeding, replacement planting, supplemental watering, etc.). Monitoring the restored area for a period of up to 5 years and/or until year 5 success criteria are met is normally what is required by the regulatory agency(ies). The Habitat Restoration Plan that shall be subject to approval by the CDFW and County of San Bernardino.

- If restoration and/or enhancement of the proposed Project Area is not feasible, enhancement of habitat within the Project Area (i.e., removal of exotic plant species within Drainages 5 and 6 and within the Project area (Tamarisk Thickets, Disturbed habitat, exotics within native communities) may be considered suitable on-site, but out-of-kind mitigation. Another mitigation option would be off-site acquisition and preservation of the vegetation communities. Mitigation ratios shall be no less than 1:1, and will be determined through consultation with CDFW and County of San Bernardino.

- A biological monitor shall be present prior to initiation of ground disturbing activities to demark limit of disturbance boundaries. Flagging and/or staking will be used to clearly define the work area boundaries and avoid impacts to adjacent native communities.

6.3 SENSITIVE PLANTS

The results of the focused plant survey were negative for the seven rare plant species identified in the literature search as having potential to occur within the Project Area; however, Utah vine milkweed, a species that was not identified in the literature search was observed in the Survey Area buffer but was

not identified in the Project Area during the 2020 effort. The focused plant survey was conducted outside of the blooming period for three of the seven species, glandular ditaxis (typically blooms October through March), Abrams' spurge (typically blooms September through November), and winged cryptantha (typically blooms from March through April). For these species, surveyors focused on identifying vegetative characteristics and any floral remains; however, it is unlikely that any vegetative or floral remains of Abrams' spurge would have been observed due to its late-season bloom period. Due to drought in the spring/summer of 2020, this species is not expected to emerge in fall of 2020. This species was not observed during visits to known populations (reference sites) in the area in October of 2020. Although winged cryptantha blooms from March through April, this species, even if not in bloom, would have been conspicuous in early May. Furthermore, no *Johnstonella* or unidentified *Cryptantha* species were observed during the focused plant survey, and therefore this species is considered to have Low potential to occur in the Project Area. As winged cryptantha is a CRPR 4 species, and has Low potential to occur, no focused survey during its bloom period will be conducted for this species. The following protection measure is recommended to avoid potential impacts to sensitive plant species that may occur within the Project Area:

- A biological monitor will be present prior to initiation of ground disturbing activities to demark limit of disturbance boundaries. Flagging and/or staking will be used to clearly define the work area boundaries and avoid impacts to sensitive plant species with the potential to occur near the proposed Project boundaries.

The following protection measure is recommended in order to comply with San Bernardino County Development Code Desert Native Plant Protection Section 88.01.060:

- Desert trees and shrubs should be avoided to the greatest extent possible including: *Dalea spinosa* (smoke tree), all species of the genus *Prosopis* (mesquites) with stems greater than 2 inches in diameter or greater than 6 feet in height; Creosote Rings, 10 feet or greater in diameter; Any part of any of the following species, whether living or dead: *Olneya tesota* (desert ironwood), all species of the genus *Prosopis* (mesquites), all species of the genus *Cercidium* (synonym: *Parkinsonia*, palo verde). If any of the preceding plants will be unavoidable during construction a permit for removal from the County of San Bernardino shall be obtained prior to removal and all conditions of the permit shall be implemented.

6.4 SENSITIVE WILDLIFE

Of the 22 sensitive wildlife species identified in the literature review as having potential to occur in the Project Area, it was determined that 9 sensitive wildlife species are considered absent from the Project Area, 6 have a low potential to occur, and 7 have a moderate potential to occur within the Project Area. One species, yellow warbler, was not identified in the literature searches but was observed foraging outside the Project Area boundary but inside the 500-foot buffer during the burrowing owl survey; therefore, this species is considered to have a Moderate potential to occur on the Project for forage (no suitable nesting habitat). Three additional species, loggerhead shrike, osprey, and black-tailed gnatcatcher, were not identified in the literature searches but were observed or detected in the Project Area during survey efforts; osprey was migrating through the area (no nesting habitat or foraging opportunities on site), and loggerhead shrike and black-tailed gnatcatcher have nesting and foraging habitat on site and are therefore considered Present on the Project.

Loggerhead Shrike, Black-tailed Gnatcatcher and Osprey (Present)

Habitat and/or foraging requirements exist within the Project Area for loggerhead shrike and black-tailed gnatcatcher; however, no nesting or foraging habitat is present for osprey and its presence on site was likely an incidental observation while the individual was migrating to habitat along the Colorado River. Habitat requirements for loggerhead shrike exist within the Project Area primarily within the Blue Palo Verde – Ironwood Woodland habitat found along Drainage 4 and the major wash within Drainage System 5. However, this species will occupy a variety of semi-open habitats with scattered trees, large shrubs, utility poles, and other structures that serve as lookout posts while searching for potential prey; this is consistent with some of the Creosote Bush Scrub habitat in the northern portion of the Project Area where many emergent palo verde trees are present. Loggerhead shrikes prefer dense, thorny shrubs and trees, brush piles, and tumbleweeds for nesting. Habitat requirements for black-tailed gnatcatcher exist within the Project Area within Creosote Bush Scrub and Blue Palo Verde – Ironwood Woodland habitats. Black-tailed gnatcatchers prefer nesting near the periphery of trees and shrubs with substantial shading and camouflage and plenty of overhanging vegetation (Smith 1967, Thomas 1975).

American Badger, Burrowing Owl, Costa's Hummingbird, Crissal Thrasher, Le Conte's Thrasher, Gila Woodpecker, and Yellow Warbler (Moderate)

Habitat and/or foraging requirements exist within the Project Area for American badger, burrowing owl, Costa's hummingbird, crissal thrasher, Le Conte's thrasher, Gila woodpecker, and yellow warbler and these species were determined to have a Moderate potential to occur in the Project Area. Suitable habitat for American badger exists throughout the Project Area, but specifically in Creosote Bush Scrub habitat. Suitable habitat for burrowing owl exists throughout the Project Area within Creosote Bush Scrub and Disturbed habitats. Suitable habitat for Costa's hummingbird, crissal thrasher, Le Conte's thrasher and Gila woodpecker exits within the Project Area primarily within the Blue Palo Verde – Ironwood Woodland habitat found along Drainage 4 and the major wash within Drainage System 5; both of these drainages will be largely avoided based on current Project design. While habitat exists within the Project Area for these species, historic records of American badger, crissal thrasher, and Gila woodpecker are all more than 30 years old and none of these species were observed during the survey efforts. Therefore, these species are not anticipated to occur within the proposed Project Area. No observations or historic records have been documented for Costa's hummingbird or Le Conte's thrasher within 5 miles of the Project Area, but these species did show as a potential for the general area based on the USFWS Environmental Conservation of Concern database. Therefore, these species could occur within the drainage areas that will be avoided by this Project. Yellow warbler was observed foraging within the Survey Area buffer; however, this species only has moderate potential to occur in the Project Area for foraging as no suitable breeding habitat exists for the species in the Project Area. Potential burrowing owl burrows and sign were observed within the Project Area during the burrowing owl survey, and as such, a Take Avoidance Survey should be conducted for the species prior to construction.

Desert Kit Fox

Although desert kit fox is not considered a sensitive species, desert kit fox were detected in the Project Area during desert tortoise and burrowing owl surveys (several active burrows/burrow complexes and fresh sign including scat, tracks and prey remains), and as such, it is recommended that these burrows/burrow complexes be investigated during pre-construction surveys with a fiber-optic scope

and/or wildlife motion cameras to determine their status. If any burrow/burrow complex is determined to house desert kit fox and the burrow/burrow complex is unavoidable, exclusionary devices (i.e., one-way doors) should be fitted on the active burrow openings, and once the burrow is confirmed vacant, the burrow should be carefully excavated to prevent re-entry/re-use of the burrow. These exclusion/excavation activities should only occur during the non-breeding season (July 2 to January 15). If construction will occur during the breeding season, any active burrow/burrow complex that is unavoidable should be provided a 500-foot no work buffer until the end of breeding season (July 1) or until the burrow has been determined to be inactive (and does not contain pups) by a qualified biologist.

No federally or State listed threatened or endangered species were identified during the biological surveys. Although the black-tailed gnatcatcher and osprey are considered WL species and loggerhead shrike is considered a SSC by CDFW, a WL or SSC designation is an administrative designation and does not carry any formal legal CESA status listing. Mitigation requirements for impacts to these species and their associated habitats should be mitigated at a level "roughly proportional" to the impacts of the proposed project and should not be required to meet the "fully mitigated" standard for State-listed species as required by CESA.

The following protection measures are recommended to avoid and/or minimize potential impacts to these sensitive wildlife species:

- Prior to construction, a burrowing owl Take Avoidance Survey shall be conducted by a qualified biologist. The survey shall be conducted no less than 14 days prior to initiating ground disturbance activities. If burrowing owls are determined to be present where Project activities will occur, minimization and avoidance measures will be required including but not limited to a final survey within 24 hours prior to ground disturbance.

- If any burrow/burrow complex is determined to house desert kit fox and the burrow/burrow complex is unavoidable, exclusionary devices (e.g., one-way doors) should be fitted on the active burrow openings, and once the burrow is confirmed vacant, the burrow should be carefully excavated to prevent re-entry/re-use of the burrow. These exclusion/excavation activities should only occur during the non-breeding season (July 2 to January 15). If construction will occur during the breeding season, any active burrow/burrow complex that is unavoidable should be provided a 500-foot no work buffer until the end of breeding season (July 1) or until the burrow has been determined to be inactive (and does not contain pups) by a qualified biologist.

- Desert riparian vegetation should be avoided to the greatest extent possible within Drainage 4 (Vidal Wash) and Drainage Systems 5 and 6 to preserve habitat for the sensitive species with potential to nest and forage in these areas.

- An environmental training program shall be developed and presented to all crew members prior to the beginning of all project construction. The training shall describe special-status wildlife species and sensitive habitats that could occur within project work areas, protection afforded to these species and habitats, and avoidance and minimization measures required to avoid and/or minimize impacts from the project. The training program will be approved by a qualified biologist. Records of training will be kept onsite.

- Vegetation trimming/crushing should take place outside the general bird breeding season (February 15 to September 15), to the maximum extent practical. If this is not possible, prior to

ground-disturbing activities, a qualified biologist should conduct a nesting bird survey to comply with CDFW Code 3503 and 3503.5 and the Migratory Bird Treaty Act. The survey should occur no more than 30 days prior to initiation of proposed project activities, and any occupied passerine and/or raptor nests occurring within or adjacent to the proposed project area should be delineated. Additional follow-up surveys may be required by the resource agencies and the County of San Bernardino. If an active nest is identified, an avoidance buffer zone around occupied nests (as determined by the avian biologist) shall be maintained during physical ground-disturbing activities. The buffer zone shall be sufficient in size to prevent impacts to the nest. Once nesting has ceased and the fledglings are no longer using the nest area, the buffer may be removed. A nesting bird survey report shall be provided to the County of San Bernardino.

- A biological monitor shall be present prior to initiation of ground disturbing activities to demark limit of disturbance boundaries. Flagging and/or staking will be used to clearly define the work area boundaries and avoid impacts to adjacent native communities. The biological monitor will be present to conduct pre-construction sweeps and inspect compliance with project protection measures. If a sensitive species is found, the species shall be relocated out of harm's way according to the capture/relocation plan. Any mortalities shall be reported to the agencies and County of San Bernardino. A final monitoring report will be submitted to CDFW and County of San Bernardino. The annual report shall include a summary of pre-construction surveys, biological monitoring, avoidance measures implemented, and whether the avoidance measures were effective.

With the implementation of the mitigation measures recommended above, proposed Project impacts are reduced to less than significant.

SECTION 7.0 – REFERENCES

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

Baltosser, W. H.
1987 Age, species, and sex determination of four North American hummingbirds. North American Bird Bander 12:151–166.

Baltosser, W. H. and P. E. Scott
2020 Costa's Hummingbird (Calypte costae), version 1.0. In Birds of the World (A. F. Poole and F. B. Gill, Editors). Cornell Lab of Ornithology, Ithaca, NY, USA. https://doi.org/10.2173/bow.coshum.01

Bancroft, G.
1929 The breeding birds of central lower California. *Condor* 32: 20–49.

Barbour, M.G., J.H. Burk, W.D. Pitts, F.S. Gilliam, and M.W. Schwartz
1999 Terrestrial Plant Ecology, Third Edition. Addison Wesley Longman, Inc. Menlo Park

Bent, A.C.
1940 Life histories of North American cuckoos, goatsuckers, hummingbirds, and their allies. U.S. Natl. Mus. Bull. 176. 506pp.

1949 Life histories of North American thrushes, kinglets, and their allies. United States National Museum Bulletin 196.

California Department of Fish and Wildlife (CDFW)
2000 Guidelines for Assessing the Effects of Proposed Projects on Rare, Threatened, and Endangered Plants and Natural Communities.

2012 Staff Report on Burrowing Owl Mitigation. State of California Natural Resources Agency, Department of Fish and Game. Accessed online at: https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=83843 in May 2020.

2020 California Natural Diversity Database (CNDDB). RareFind Version 5.2.14. Database Query for the *Vidal Junction*, *Parker NW*, *Vidal*, and *Parker SW*, California USGS 7.5-minute quadrangles. Wildlife and Habitat Data Analysis Branch. Accessed May 2020.

California Native Plant Society Electronic Inventory (CNPSEI)
2020 Inventory of Rare and Endangered Plants (online edition). Rare Plant Scientific Advisory Committee, California Native Plant Society, Sacramento, California. Accessed May 2020 from http://www.cnps.org/inventory for the *Vidal Junction*, *Parker NW*, *Vidal*, and *Parker SW*, California USGS 7.5-minute quadrangles.

Cody, M.L.
1999 Crissal Thrasher (*Toxostoma crissale*). The Birds of North America, No. 419 (A. Poole and F. Gill, eds.). The Birds of North America, Inc., Philadelphia, PA.

Cornell Lab of Ornithology, The
2012 All About Birds: Osprey. Accessed at: http://www.allaboutbirds.org/guide/Osprey/lifehistory on June 5, 2020.

Edwards, H.H., and G.D. Schnell
2000 Gila Woodpecker (*Melanerpes uropygialis*). In The Birds of North America, No. 532 (A. Poole and F. Gill, eds.). The Birds of North America, Inc., Philadelphia, PA.

Ehrlich, P.R., D.S. Dobkin, and D. Wheye
1988 *The Birder's Handbook*. Simon and Schuster, New York.

Farquhar, C. C., and K. L. Ritchie
2020 Black-tailed Gnatcatcher (*Polioptila melanura*), version 1.0. In Birds of the World (A. F. Poole and F. B. Gill, Editors). Cornell Lab of Ornithology, Ithaca, NY, USA. Accessed online at https://doi.org/10.2173/bow.bktgna.01 on June 5, 2020.

Garrett, K., and J. Dunn
1981 *Birds of Southern California: Status and Distribution*. Audubon Press, Los Angeles, California.

Google Earth Pro
2020 "Vidal, California." 34.118742°, -114.510270°. Google Earth Pro. June 16, 2017. Accessed June 2, 2020.

Grinnell, J., and A. H. Miller
1944 The distribution of birds of California. Pacific Coast Avifauna 27:1–608.

Holland, R.R.
1986 Preliminary Descriptions of the Terrestrial Natural Communities of California. State of California, Resources Agency, Department of Fish and Wildlife, Sacramento, California.

Jameson, J.R., and H.J. Peeters
1988 California Mammals. University of California Press, Berkeley, California. *Carnivora*: 166-167.

Klute, D. S., L. W. Ayers, M. T. Green, W. H. Howe, S. L. Jones, J. A. Shaffer, S. R. Sheffield, and T. S. Zimmerman
2003 Status Assessment and Conservation Plan for the Western Burrowing Owl in the United States. U.S. Department of Interior, Fish and Wildlife Service, Biological Technical Publication FWS/BTP-R6001-2003, Washington, D.C

Lichvar, R.W., D.L. Banks, W.N. Kirchner, and N.C. Melvin
2016 The National Wetland Plant List: 2016 Wetland Ratings. *Phytoneuron* 2016-30: 1-17. Published 28 April 2016.

Lowther, P.E., C. Celada, N.K. Klein, C.C. Rimmer, and D.A. Spector.
1999 Yellow Warbler (*Dendroica petechia*). The Birds of North America Online (A. Poole, Ed.). Ithaca: Cornell Laboratory of Ornithology. Accessed at http://bna.birds.cornell.edu/BNA/account/Yellow_Warbler/ on June 5, 2020.

McCaskie, G., P. De Benedictis, R. Erickson, and J. Morlan
1979 Birds of northern California, an annotated field list. 2nd ed. Golden Gate Audubon Soc., Berkeley. 84pp.

McCaskie, G., P. De Benedictis, R. Erickson, and J. Morlan
1988 Birds of northern California, an annotated field list. 2nd ed. Golden Gate Audubon Soc., Berkeley. Reprinted with suppl. 108pp.

Munsell Color
2009 Munsell® Soil-Color Charts. Grand Rapids, Michigan.

Price, J., S. Droege, and A. Price
1995 The summer atlas of North American birds. Academic Press, London.

Renewable Energy Action Team
2016 Desert Renewable Energy Conservation Plan. California. Accessed at https://www.drecp.org/finaldrecp/ on June 6, 2020.

Sawyer, J.O., Jr., T. Keeler-Wolf, and J.M. Evens
2009 *A Manual of* California *Vegetation, Second Edition*. California Native Plant Society, Sacramento, California.

Scott, T.A., and M.L. Morrison
1990 Natural history and management of the San Clemente loggerhead shrike. *Proceedings of the Western Foundation of Vertebrate Zoology*. 4: 23-57. Fmerlin.

Seattle Audubon Society
2020 Loggerhead Shrike. BirdWeb: Learn about the Birds of Washington State. Accessed at http://www.seattleaudubon.org/birdweb/bird/loggerhead_shrike on June 5, 2020.

Smith, E. L.
1967 Behavioral adaptations related to water retention in the Black-tailed Gnatcatcher (*Polioptila melanura*). Master's Thesis, Univ. of Arizona, Tucson.

Thomas, K. G.
1975 Foraging and breeding behavior of the Black-tailed Gnatcatcher (*Polioptila melanura*) in southern New Mexico. Master's thesis, New Mexico State Univ., Las Cruces.

Transportation and Land Management Agency (TLMA)
2006 Burrowing Owl Survey Instructions for the Western Riverside Multiple Species Habitat Conservation Plan Area. Riverside, California.

Trulio, Lynne A.

1997 Strategies for Protecting Western Burrowing Owls (*Athene cunicularia hypugaea*) from Human Activities. In: Duncan, James R.; Johnson, David H.; Nicholls, Thomas H., eds. Biology and conservation of owls of the Northern Hemisphere: 2nd International symposium. Gen. Tech. Rep. NC-190. St. Paul, MN: U.S. Dept. of Agriculture, Forest Service, North Central Forest Experiment Station. 461-465.

U.S. Army Corps of Engineers (USACE)

1987 Corps of Engineers Wetlands Delineation Manual. U.S. Army Corps of Engineers Waterways Experiment Station. Vicksburg, MS.

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

U.S. Department of Agriculture (USDA)

2020 Soil Survey Staff, Natural Resources Conservation Service, United States Department of Agriculture. Official Soil Series Descriptions. Accessed at http://websoilsurvey.nrcs.usda.gov/app/ on June 2, 2020.

United States Fish and Wildlife Service (USFWS)

2018 Mojave Desert Tortoise Pre-project Survey Protocol. Preparing for Any Action that May Occur Within the Range of the Mojave Desert Tortoise (*Gopherus agassizii*). Accessed at: https://www.fws.gov/utahfieldoffice/Library/Mojave%20Desert%20Tortoise_Pre-project%20Survey%20Protocol_2019.pdf in May 2020.

2020a National Wetland Inventory (NWI). http://www.fws.gov/wetlands/. Accessed May 2020.

2020b Threatened & Endangered Species Active Critical Habitat Report. Accessed online at: https://www.arcgis.com/home/webmap/viewer.html?url=https://services.arcgis.com/QVENGdaPbd4LUkLV/ArcGIS/rest/services/USFWS_Critical_Habitat/FeatureServer&source=sd in May 2020.

Weather Underground

2020 Weather Underground. KCAPARKE4 weather station. Accessed at https://www.wunderground.com/dashboard/pws/KCAPARKE4 on June 2, 2020.

Weigand, J. and S. Fitton.

2008 Le Conte's Thrasher (*Toxostoma lecontei*). *In The Draft Desert Bird Conservation Plan: a strategy for reversing the decline of desert-associated birds in California*. California Partners in Flight. http://www.prbo.org/calpif/htmldocs/desert.html

Western Regional Climate Center (WRCC)

2020 Western Regional Climate Center. Historic Data. Climate Summaries. Accessed at https://wrcc.dri.edu/summary/Climsmsca.html on June 2, 2020.

Yetman, D. and A. Burquez.
1994 Buffelgrass-Sonoran Desert nightmare. Arizona Riparian Council Newsletter 7 (3):1.

ATTACHMENT A – SITE PHOTOGRAPHS

ATTACHMENT A - SITE PHOTOGRAPHS

Photo 1

Ephemeral drainage within DS1 with a defined channel and surrounded by creosote scrub, ambrosia, non-native grasses, and phacelia. Photo taken on April 23, 2020 facing southeast.

Photo 2

Drainage within DS2 with several small ephemeral channels. This drainage is surrounded by creosote scrub. Photo taken on April 23, 2020 facing northwest.

Photo 3

Ephemeral drainage within DS2 with a substrate composed of sand and gravel. Surrounding drainage has approximately 50 percent annual cover. Photo taken on April 23, 2020, facing west.

Photo 4

Ephemeral drainage (to left of photo) within DS2 within creosote scrub habitat. Drainage bed is dominated by native and non-native annual grasses and forbs. Photo taken on April 23, 2020, facing southeast.

Photo 5

Northwest end of well-defined channel within DS2 (just East of Highway 95) showing human disturbance (irrigation pipes circled in red). Photo taken on April 23, 2020 facing southeast.

Photo 6

Road crossing through the northwest end of DS2 just east of Highway 95. Photo taken on April 23, 2020 facing east.

Photo 7

Ephemeral drainage mapped within DS3 with defined OHWM and lack of vegetation in bed. Bed consists of fine sands. Banks are dominated by Creosote Bush Scrub and non-native grasses. Photo taken on April 23.

Photo 8

Southern edge of terraced Vidal Wash (D4). Vegetation coverage on banks consists of creosote scrub, mesquite, and non-native grasses. Photo taken on April 23, 2020 facing west.

Photo 9

Low-flow section of Vidal Wash (D4) with minimal vegetation. Banks contain annual grasses, creosote scrub, blue palo verde, and ironwood. Photo taken on April 23, 2020 facing northwest.

Photo 10

Northern edge of low-flow/terraced section of Vidal Wash (D4). Vegetation on banks includes creosote scrub, blue palo verde, and ironwood. Photo taken on April 23, 2020 facing northwest

Photo 11

South of the eastern end of Vidal Wash (D4). Habitat consists of creosote scrub. Photo taken on April 23, 2020 facing north.

Photo 12

Southern boundary of flood plain and low flow channel of the Vidal Wash (D4) showing OHV activity (tracks) within D4. Photo taken on April 23, 2020 facing west.

Photo 13

Drainage within DS5 composed of small ephemeral braided channels. Vegetation consists mainly of annuals including mustard and approximately 30 percent Creosote Bush Scrub cover.

Photo 14

Northwest end of unnamed major wash within DS5. Photo taken from the top of the bank facing south on April 23, 2020.

Photo 15

Northeastern edge of low flow/terrace of unnamed major wash within DS5. Photo taken on April 23, 2020 facing northwest.

Photo 16

Small, low flow channel in active floodplain of unnamed major wash within DS5. No vegetation is present within the low flow channel. Banks consist of annual herbaceous cover, Creosote Bush Scrub, and desert trees. Photo taken on April 23, 2020 facing east.

Photo 17

Southwestern edge of a low-flow channel in unnamed major wash within DS5. The active floodplain to the south contains primarily non-native grasses and mustards with creosote, ironwood and blue palo verde throughout. Photo taken on April 23 facing east.

Photo 18

Example of vegetation around drainage within DS5 includes creosote scrub with a few emergent blue palo verde trees. Photo taken on April 23, 2020 facing west.

Photo 19

Drainage within DS6 consists of braided low channels and an active flood plain. Approximately 60 percent of the channel bed is vegetated by annual forbs. Creosote and blue palo verde are also present. Photo taken on April 23, 2020, facing west.

Photo 20

Edge of active floodplain at the east end of the wash within DS6 with approximately 40 percent herbaceous cover surrounded by palo verde trees and Creosote Bush Scrub. Photo taken on April 23, 2020 facing east.

Photo 21

Area where terrace and low flow channel meet at the east end of the wash within DS6. Terrace consists of mesquite, palo verde, and creosote with annual herbaceous plants. Photo taken on April 23, 2020 facing west.

Photo 22

Small drainage located in the southern portion od DS6. This drainage appears to be part of the of the headwaters for the larger DS6 drainage system that flows east outside of the Project Area. Photo taken April 23, 2020 facing north.

Photo 23

A non-jurisdictional man-made basin along the western edge of the Project Area. No wetland plant species were observed. Photo taken on April 23, 2020 facing south.

Photo 24

Example of desert pavement within the southwestern portion of the Project Area near DS1. Photo taken on April 23, 2020 facing east.

Photo 25

Photo of Creosote Bush Scrub and Blue Palo Verde – Ironwood Woodland along with access road within Vidal Wash (D4). Photo taken on April 23, 2020 from 240 ft. above ground level (AGL).

Photo 26

Photos of man-made push piles previously used for agricultural; currently abandoned. Photo taken on April 23, 2020, from 256 feet AGL.

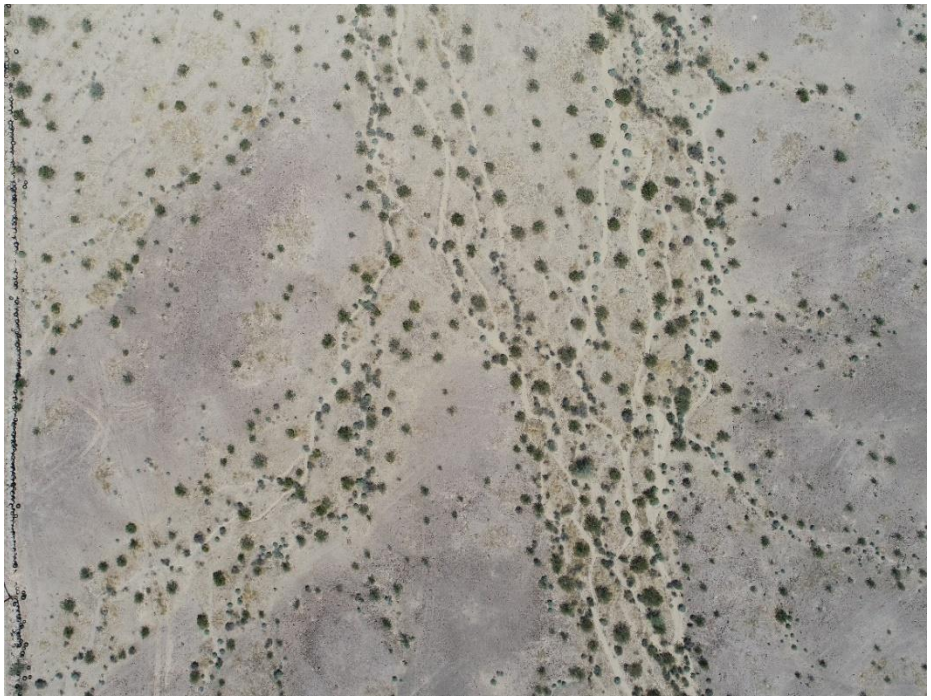

Photo 27

Photo of smaller braided channels within Creosote Bush Scrub and Rigid Spineflower – Hairy Desert Sunflower Desert Pavement Sparsely Vegetated Alliance. Photo taken on April 23, 2020, from 287 feet AGL.

Photo 28

Photo of Vidal Wash (D4) along with access road and Creosote Bush Scrub, and Blue Palo Verde – Ironwood Woodland habitats. Photo taken on April 23, 2020, from 242 feet AGL; view south. Residential buildings are visible in the upper right corner (southwest).

Photo 29

Former agricultural land just south of the Tamarisk Thickets (right side) is considered Disturbed habitat from 287 feet AGL.

Photo 30

Utah vine milkweed observed growing within a creosote bush within the northwestern Survey Area buffer on May 5, 2020, during the focused plant survey. This species was originally observed inside the Project Area but is now located outside of the Project Area after Project design changes.

Photo 31

Potential desert tortoise burrow located in the southwestern corner of the Survey Area buffer. Spiderwebs at entrance to burrow indicate inactivity. Photo taken on May 7, 2020 facing south.

Photo 32

Example of a potential burrowing owl burrow with splash (circled in red), observed on May 11, 2020.

Photo 33

Example of desert kit fox scat (left) compared to a potential burrowing owl cough pellet (right). The three-burrow burrow complex observed on May 13, 2020, had desert kit fox sign with one of the burrows having potential burrowing owl sign (cough pellet and splash).

Photo 34

Example of a large desert kitfox burrow complex with multiple entrances. Scat, rat tails, and fur surround the burrow. Photo taken on May 6, 2020 facing east.

Photo 35

Example of a large desert kit fox burrow complex observed on May 7, 2020, facing south east.

Photo 36

Example of a lesser nighthawk nest observed during the desert tortoise and burrowing owl surveys on May 12, 2020.

Photo 37

Common poorwill nestlings observed during the desert tortoise and burrowing owl surveys on May 11, 2020.

Photo 38

Juvenile red-tailed hawks observed perched by their nest during the desert tortoise and burrowing owl surveys on May 13, 2020.

Photo 39

Great-horned owl observed during focused plant surveys on May 8, 2020. A juvenile was also observed nearby.

Photo 40

Example of a Mojave green rattlesnake observed during desert tortoise and burrowing owl surveys on May 14, 2020.

Photo 41

Example of a sidewinder observed during focused plant surveys on May 6, 2020.

Photo 42

Example of a desert Iguana observed during focused plant surveys on May 8, 2020.

Photo 43

Example of a desert horned lizard observed in the Project Area during survey efforts.

Photo 44

A striated queen observed nectaring on catclaw acacia along Vidal Wash.

Photo 45

Example of potential mule deer scat found both within the Project Area and within the 500-foot buffer during desert tortoise and burrowing owl survey efforts.

ATTACHMENT B – PLANT SPECIES LIST

ATTACHMENT B – PLANT SPECIES OBSERVED

Scientific Name	Common Name
ANGIOSPERMS (EUDICOTS)	
AMARANTHACEAE	**AMARANTH FAMILY**
Amaranthus sp.	pigweed
Tidestromia suffruticosa var. *oblongifolia*	Salton Sea honeysweet
APOCYNACEAE	**DOGBANE FAMILY**
Asclepias subulata	rush milkweed, ajamete
Funastrum utahense	Utah vine milkweed
*Nerium oleander**	oleander
ASTERACEAE	**SUNFLOWER FAMILY**
Ambrosia acanthicarpa	annual bur-sage
Ambrosia dumosa	white bur-sage
Ambrosia salsola var. *salsola*	cheesebush
Bebbia juncea var. *aspera*	sweetbush
Calycoseris wrightii	white tack-stem
Chaenactis carphoclinia var. *carphoclinia*	pebble pincushion
Chaenactis stevioides	desert pincushion
Encelia farinosa	brittlebush
Encelia frutescens	bush encelia
Eriophyllum lanosum	woolly frocks
Eriophyllum wallacei	Wallace's eriophyllum
Geraea canescens	desert sunflower
*Lactuca serriola**	prickly lettuce
Malacothrix glabrata	desert dandelion
Monoptilon bellioides	Mojave desert star
Palafoxia arida var. *arida*	Spanish needles
Pectis papposa var. *papposa*	cinchweed
Perityle emoryi	Emory's rock daisy
Psathyrotes ramosissima	velvet rosettes, turtleback
Rafinesquia neomexicana	desert chicory
*Sonchus oleraceus**	common sow thistle
Stephanomeria exigua subsp. *exigua*	small wreath-plant
Stephanomeria pauciflora	wire lettuce
Stylocline intertexta	tangled nest-straw
Trichoptilium incisum	desert yellow-head
BIGNONIACEAE	**BIGNONIA FAMILY**
Chilopsis linearis subsp. *arcuata*	desert willow
BORAGINACEAE	**BORAGE FAMILY**
Amsinckia tessellata	devil's lettuce
Cryptantha angustifolia	narrowleaf cryptantha
Cryptantha barbigera	bearded cryptantha

ATTACHMENT B – PLANT SPECIES OBSERVED

Scientific Name	Common Name
Cryptantha circumscissa	western cryptantha
Cryptantha maritima	white-hair cryptantha
Cryptantha micrantha	small-flowered cryptantha
Cryptantha nevadensis	cryptantha
Nama hispida	nama
Pectocarya heterocarpa	chuckwalla pectocarya
Pectocarya linearis subsp. *ferocula*	slender pectocarya
Pectocarya platycarpa	broad-fruit pectocarya
Pectocarya recurvata	curvenut combseed
Phacelia campanularia subsp. *campanularia*	desert bluebell
Phacelia crenulata var. *ambigua*	notch-leaf phacelia
Phacelia distans	wild heliotrope
Tiquilia palmeri	Palmer's coldenia
Tiquilia plicata	plicate tiquilia
BRASSICACEAE	**MUSTARD FAMILY**
*Brassica tournefortii**	Sahara mustard
Descurainia pinnata	western tansy-mustard
Lepidium lasiocarpum subsp. *lasiocarpum*	sand peppergrass
*Sisymbrium irio**	London rocket
CACTACEAE	**CACTUS FAMILY**
Carnegiea gigantea	saguaro
Cylindropuntia echinocarpa	golden cholla
Cylindropuntia ramosissima	pencil cholla
Echinocactus polycephalus var. *polycephalus*	barrel cactus
Echinocereus engelmannii	calico cactus
Ferocactus acanthodes	compass barrel cactus
Opuntia basilaris var. *basilaris*	beavertail cactus
CAMPANULACEAE	**BELLFLOWER FAMILY**
Nemacladus orientalis	eastern glandular threadplant
CARYOPHYLLACEAE	**PINK FAMILY**
Achyronychia cooperi	onyx flower
CHENOPODIACEAE	**GOOSEFOOT FAMILY**
*Atriplex rosea**	tumbling oracle
*Chenopodium album**	lamb's quarters
*Chenopodium murale**	nettle-leaved goosefoot
CONVOLVULACEAE	**MORNING-GLORY FAMILY**
Cuscuta denticulata	desert dodder
Brandegea bigelovii	desert star vine
EUPHORBIACEAE	**SPURGE FAMILY**
Ditaxis neomexicana	New Mexico ditaxis

ATTACHMENT B – PLANT SPECIES OBSERVED

Scientific Name	Common Name
Euphorbia micromera	Sonoran sandmat
Euphorbia setiloba	Yuma sandmat
*Ricinus communis**	castor-bean
Stillingia spinulosa	annual stillingia
FABACEAE	**LEGUME FAMILY**
Acacia greggii	catclaw acacia
*Acacia stenophylla**	shoestring acacia
Acmispon strigosus	strigose lotus
Dalea mollissima	soft prairie clover
Lupinus arizonicus	Arizona lupine
Marina parryi	Parry's dalea
Olneya tesota	ironwood
Parkinsonia florida	blue palo verde
Prosopis glandulosa var. *torreyana*	honey mesquite
Psorothamnus spinosus	smoke tree
FOUQUIERIACEAE	**OCOTILLO FAMILY**
Fouquieria splendens subsp. *splendens*	ocotillo
GERANIACEAE	**GERANIUM FAMILY**
Erodium texanum	desert filaree/storksbill
KRAMERIACEAE	**RHATANY FAMILY**
Krameria bicolor	white rhatany
Krameria erecta	Pima rhatany, purple-heather
LAMIACEAE	**MINT FAMILY**
Condea [*Hyptis*] *emoryi*	desert-lavender
Salvia columbariae	chia
LOASACEAE	**LOASA FAMILY**
Mentzelia albicaulis	kuha
Petalonyx thurberi	Thurber's sandpaper plant
MALVACEAE	**MALLOW FAMILY**
Eremalche rotundifolia	desert five-spot
MORINGACEAE	**HORSERADISH FAMILY**
Moringa oleifera	moringa
MYRTACEAE	**MYRTLE FAMILY**
*Eucalyptus microtheca**	coolibah
NYCTAGINACEAE	**FOUR O'CLOCK FAMILY**
Abronia villosa var. *villosa*	desert sand-verbena
Allionia incarnata var. *villosa*	trailing windmills
Mirabilis laevis	wishbone bush
ONAGRACEAE	**EVENING PRIMROSE FAMILY**
Chylismia brevipes	yellow cups

ATTACHMENT B – PLANT SPECIES OBSERVED

Scientific Name	Common Name
Chylismia claviformis subsp. *aurantiaca*	pinnate-leaf primrose
Eremothera boothii subsp. *boothii*	Booth's evening primrose
Eremothera boothii subsp. *desertorum*	desert sun cup
Oenothera deltoides	dune evening primrose
PAPAVERACEAE	**POPPY FAMILY**
Eschscholzia minutiflora	pygmy goldenpoppy
PLANTAGINACEAE	**PLANTAIN FAMILY**
Mohavea confertiflora	ghost flower
Plantago ovata var. *fastigiata*	desert plantain
POLEMONIACEAE	**PHLOX FAMILY**
Gilia stellata	star gilia
Langloisia setosissima subsp. *setosissima*	bristly langloisia
Loeseliastrum schottii	Schott's calico
POLYGONACEAE	**BUCKWHEAT FAMILY**
Chorizanthe brevicornu	brittle spineflower
Chorizanthe corrugata	corrugate spineflower
Chorizanthe rigida	rigid spineflower
Eriogonum deflexum var. *deflexum*	flat-topped buckwheat
Eriogonum thomasii	Thomas eriogonum
Eriogonum trichopes	little trumpet
RESDACEAE	**MIGNONETTE FAMILY**
Oligomeris linifolia	narrow-leaved oligomeris
RUTACEAE	**RUE FAMILY**
Geijera parviflora	Australian willow
*Leucophyllum candidum**	Texas ranger
SOLANACEAE	**NIGHTSHADE FAMILY**
Lycium andersonii	Anderson's wolfberry
Lycium sp.	boxthorn
Nicotiana obtusifolia	desert tobacco
Physalis crassifolia	Greene's ground-cherry
TAMARICACEAE	**TAMARISK FAMILY**
*Tamarix aphylla**	athel
*Tamarix ramosissima**	Mediterranean tamarisk
VISCACEAE	**MISTLETOE FAMILY**
Phoradendron californicum	desert mistletoe
ZYGOPHYLLACEAE	**CALTROP FAMILY**
Fagonia laevis	California fagonia
Larrea tridentata	creosote bush
ANGIOSPERMS (MONOCOTS)	
ASPHODELACEAE	**ASPHODEL FAMILY**

ATTACHMENT B – PLANT SPECIES OBSERVED

Scientific Name	Common Name
*Aloe vera**	medicinal aloe
POACEAE	**GRASS FAMILY**
Aristida adscensionis	six-week's three-awn
Aristida purpurea var. *purpurea*	purple three-awn
*Arundo donax**	giant reed
Bouteloua aristidoides var. *aristidoides*	needle grama
Bouteloua barbata var. *barbata*	six-weeks grama
Distichlis spicata	saltgrass
Hilaria rigida	big galleta
Phragmites australis	common reed
*Schismus arabicus**	Arabian schismus
*Schismus barbatus**	Mediterranean schismus

*Non-Native Species

ATTACHMENT C – SENSITIVE PLANT SPECIES POTENTIALLY OCCURING IN THE PROJECT AREA

ATTACHMENT C – SENSITIVE PLANT SPECIES POTENTIALLY OCCURING IN THE PROJECT AREA

Common Name *Scientific Name*	Status/ Designation	Flowering Season	Habitat and Distribution	Potential to Occur
chaparral sand-verbena *Abronia villosa* var. *aurita*	CRPR List 1B.1	(Jan) Mar - Sep	Annual herb. Occurs in sandy areas of chaparral, coastal scrub and desert dunes at elevations between 245 and 5,250 feet amsl.	**Absent.** Low quality habitat exists for this species in the Project Area; however, no known specific occurrences are reported within the vicinity of the Project site; CNPSEI quad data only. Due to a lack of specific location records, and the species not being observed during the focused plant survey when it would have been in bloom and conspicuous, this species is considered Absent on the Project.
Alverson's foxtail cactus *Coryphantha alversonii*	CRPR List 4.3	Apr - Jun	Perennial stem succulent. Occurs in sandy or rocky alluvium, usually granitic Mojavean desert scrub, Sonoran desert scrub, and creosote-bush scrub at elevations between 245 and 5,005 feet amsl.	**Absent.** Has been recorded within 3 miles of the site. A focused plant survey was done during the bloom period when flowers would have been conspicuous, and none were found.
glandular ditaxis *Ditaxis claryana*	CRPR List 2B.2	Oct - Mar	Perennial herb. Occurs in sandy soils of Mojavean desert scrub, Sonoran desert scrub, and creosote-bush scrub at elevations between 0 and 1,525 feet amsl.	**Moderate.** Moderate to high-quality Creosote Bush Scrub is present, and this species has been recorded within 3 miles of the site.
Abram's spurge *Euphorbia abramsiana*	CRPR List 2B.2	(Aug) Sep - Nov	Annual herb. Occurs in sandy flats of Mojavean desert scrub and Sonoran desert scrub at elevations between -15 and 4,300 feet amsl.	**Moderate.** Moderate to high-quality Creosote Bush Scrub is present, and this species has been recorded within 3 miles of the site.

ATTACHMENT C – SENSITIVE PLANT SPECIES POTENTIALLY OCCURING IN THE PROJECT AREA

Common Name *Scientific Name*	Status/ Designation	Flowering Season	Habitat and Distribution	Potential to Occur
winged cryptantha *Johnstonella holoptera*	CRPR List 4.3	Mar - Apr	Annual herb. Occurs in gravelly to rocky soils, washes, slopes, and ridges of Mojavean desert scrub and Sonoran desert scrub at elevations between 325 and 5,545 feet amsl.	**Low.** Low quality habitat exists for this species in the Project Area; however, no known specific occurrences are reported within the vicinity of the Project site; CNPSEI quad data only. Due to a lack of specific location records, and the species not being observed during the focused plant survey when it still would have been conspicuous, this species is considered to have Low potential to occur on the Project.
Torrey's box-thorn *Lycium torreyi*	CRPR List 4.2	(Jan - Feb) Mar - Jun (Sep - Nov)	Perennial shrub. Occurs in sandy, rocky, washes, streambanks, and desert valleys in Mojavean desert scrub and Sonoran desert scrub, at elevations between 160 to 4,005 feet amsl.	**Absent.** Low quality habitat exists for this species in the Project Area; however, no known specific occurrences are reported within the vicinity of the Project site; CNPSEI quad data only. Due to a lack of specific location records, and the species not being observed during the focused plant survey when it would have been in bloom and conspicuous, this species is considered Absent on the Project.

ATTACHMENT C – SENSITIVE PLANT SPECIES POTENTIALLY OCCURING IN THE PROJECT AREA

Common Name *Scientific Name*	Status/ Designation	Flowering Season	Habitat and Distribution	Potential to Occur
Hall's tetracoccus *Tetracoccus hallii*	CRPR List 4.3	Jan - May	Perennial deciduous shrub. Occurs in rocky slopes and washes in Mojavean desert scrub and Sonoran desert scrub at elevations between 95 and 3,395 feet amsl.	**Absent.** Low quality habitat exists for this species in the Project Area; however, no known specific occurrences are reported within the vicinity of the Project site; CNPSEI quad data only. Due to a lack of specific location records, and the species not being observed during the focused plant survey when it would have been in bloom and conspicuous, this species is considered Absent on the Project.
Utah vine milkweed *Funastrum utahense*	CRPR List 4.3	(Mar) Apr-Jun (Sep-Oct)	Perennial herb. Occurs in sandy or gravelly soils in Mojavean desert scrub and Sonoran desert scrub at elevations between 330 and 4,705 feet amsl.	**Absent.** This species has suitable habitat within the Project Area and was observed within the original Project Area during the focused plant survey; however, after Project design revisions, this observation is now located within the Survey Area 500-foot buffer and is therefore considered Absent on the Project.

Notes: amsl: above mean sea level; CNPSEI: California Native Plant Society Electronic Inventory; CRPR: California Rare Plant Rank

ATTACHMENT D – SENSITIVE WILDLIFE SPECIES POTENTIALLY OCCURING IN THE PROJECT AREA

ATTACHMENT D – SENSITIVE WILDLIFE SPECIES POTENTIALLY OCCURING IN THE PROJECT AREA

Common Name *Scientific Name*	Status/ Designation	Habitat and Distribution	Potential to Occur
CLASS REPTILIA **REPTILES**			
desert tortoise *Gopherus agassizii*	FT, ST	Desert scrub, desert wash, and Joshua tree habitats with friable, sandy, well-drained soil for excavation of nests.	**Absent.** Habitat for the species is present; however, no live desert tortoise, desert tortoise remains, sign, or burrows were identified during desert tortoise surveys. Single historic record is more than 33 years old.
CLASS OSTEICTHYES **BONY FISH**			
razorback sucker *Xyrauchen texanus*	FE, SE	Mainstream channels and backwaters of medium and large streams or rivers with sand, mud or gravel bottoms. These fish can be found migrating through the Colorado River and in Lake Mohave, Arizona.	**Absent.** Species is restricted to habitats or environmental conditions that do not occur within the Project Area.
CLASS AVES **BIRDS**			
burrowing owl *Athene cunicularia*	SSC	This species inhabits dry, open, native or non-native grasslands, deserts, and other arid environments with low-growing and low-density vegetation. It is broadly distributed across the western United States, with populations in Florida and Central and South America. It may occupy golf courses, cemeteries, road rights-of-ways, airstrips, abandoned buildings, irrigation ditches, and vacant lots with holes or cracks suitable for use as burrows.	**Moderate.** Habitat is present for the species; however, no live burrowing owls were observed during the burrowing owl survey. Three burrowing owl burrows and one potential burrowing owl burrow with sign including cough pellets and splash were observed within the Survey Area.
northern cardinal *Cardinalis cardinalis*	WL	In California, this species occurs in dense brush riparian areas and desert scrub along the lower Colorado River. Dense shrubs in riparian areas and desert scrub are required for cover.	**Low.** Habitats or environmental conditions needed to support the species are of poor quality. Single historic record is more than 34 years old.

ATTACHMENT D – SENSITIVE WILDLIFE SPECIES POTENTIALLY OCCURING IN THE PROJECT AREA

Common Name *Scientific Name*	Status/ Designation	Habitat and Distribution	Potential to Occur
western yellow-billed cuckoo *Coccyzus americanus occidentalis*	FT, SE	Valley foothill and desert riparian habitats in scattered locations in California. Densely foliaged, deciduous trees and shrubs, especially willows, required for roosting sites. Breeding habitat restricted to river bottoms and other mesic habitats where humidity is high.	**Absent.** Species is restricted to habitats or environmental conditions that do not occur within the Project Area. Historic records are more than 34 years old, all near Colorado River.
southwestern willow flycatcher *Empidonax traillii extimus*	FE, SE	Dense riparian habitats including cottonwood-willow and tamarisk vegetation. Saturated soils, standing water, or nearby streams, pools, or *cienegas* are a necessary component of nesting habitat.	**Low.** Species has low potential to occur for forage only. Species is considered **Absent** for breeding.
prairie falcon *Falco mexicanus*	WL	Distributed from annual grasslands to alpine meadows but associated primarily with perennial grasslands, savannahs, rangeland, some agricultural fields, and desert scrub areas. Requires sheltered cliff ledges for cover. Usually nests in a scrape on a sheltered ledge of a cliff overlooking a large, open area.	**Low.** Species has low potential to occur for forage only. Species is considered **Absent** for breeding. Historic records are more than 40 years old.
yellow-breasted chat *Icteria virens*	SSC	In southern California, breeds locally on the coast and very locally inland. Requires riparian thickets of willow and other brushy tangles near watercourses for cover. Frequents dense, brushy thickets and tangles near water, and thick understory in riparian woodland.	**Low.** Species has low potential to occur for migration and forage only. Species is considered **Absent** for breeding. Historic records are more than 33 years old.
loggerhead shrike *Lanius ludovicianus*	SSC	Habitats may include oak savannas, open chaparral, desert washes, juniper woodlands, Joshua tree woodlands, and other semi-open areas. It can occupy a variety of semi-open habitats with scattered trees, large shrubs, utility poles, and other structures that serve as lookout posts while searching for potential prey. Dense, thorny shrubs and trees, brush piles, and tumbleweeds are preferred for nesting.	**Present.** This species was observed onsite during the biological Project surveys, and suitable habitat for this species exists on site.

ATTACHMENT D – SENSITIVE WILDLIFE SPECIES POTENTIALLY OCCURING IN THE PROJECT AREA

Common Name *Scientific Name*	Status/ Designation	Habitat and Distribution	Potential to Occur
California black rail *Laterallus jamaicensis coturniculus*	ST	Tidal emergent wetlands dominated by pickleweed or in brackish marshes supporting bulrushes in association with pickleweed. Along Colorado River, prefers dense bulrush stands, shallow water, and gently sloping shorelines.	**Absent.** Species is restricted to habitats or environmental conditions that do not occur within the Project Area.
Gila woodpecker *Melanerpes uropygialis*	SE	Occurs mostly in desert riparian and desert wash habitats but also found in orchard-vineyard and urban habitats, particularly in shade trees and date palm groves. Cottonwoods and other desert riparian trees, shade trees, and date palms supply cover in California. Nests in cavity in riparian tree or saguaro.	**Moderate.** Habitat requirements or environmental conditions associated with the species occur within the Project Area; however, single historic record is more than 34 years old.
osprey *Pandion haliaetus*	WL	This species is strictly associated with large, fish-bearing waters, primarily in ponderosa pine through mixed conifer habitats; however, it is an uncommon breeder along southern Colorado River. Preys mostly on fish but also takes a few mammals, birds, reptiles, amphibians, and invertebrates. Requires open, clear waters for foraging. Large trees, snags, and dead-topped trees in open forest habitats are required for cover and nesting.	**Present.** This species was observed on site during Project surveys, likely migrating through the area. This species is considered **Absent** for breeding and forage due to lack of suitable habitat.
black-tailed gnatcatcher *Polioptila melanura*	WL	A permanent resident of low deserts in the southwest U.S. and northern Mexico, habitats include mixed desert scrub, creosote scrub, mesquite scrub, dry washes, and desert ravines.	**Present.** This species was observed on site during Project surveys, and suitable habitat for this species exists on site.
Yuma Ridgway's rail *Rallus obsoletus yumanensis*	FE, ST	Freshwater marshes that are composed of cattail and bulrush. Typically, emergent vegetation is more than 6 feet in height and water depth around 3.5 feet deep.	**Absent.** Species is restricted to habitats or environmental conditions that do not occur within the Project Area.

ATTACHMENT D – SENSITIVE WILDLIFE SPECIES POTENTIALLY OCCURING IN THE PROJECT AREA

Common Name *Scientific Name*	Status/ Designation	Habitat and Distribution	Potential to Occur
yellow warbler *Setophaga petechia*	SSC	Breeds in riparian woodlands from coastal and desert lowlands up to 8,000 feet in Sierra Nevada. Also breeds in montane chaparral and in open ponderosa pine and mixed conifer habitats with substantial amounts of brush. Winters in Imperial and Colorado river valleys. Frequents open to medium-density woodlands and forests with a heavy brush understory in breeding season. In migration, found in a variety of sparse to dense woodland and forest habitats.	**Moderate.** This species was observed foraging on site just inside the 500-foot buffer along the eastern edge of the Project during the burrowing owl survey and is therefore considered to have moderate potential to occur for forage. This species is considered **Absent** for breeding due to lack of suitable breeding habitat.
crissal thrasher *Toxostoma crissale*	SSC	Range-wide, this species occupies a relatively large variety of desert riparian and scrub habitats from below sea level to over 6,000 ft amsl with dense, low, scrubby vegetation. Typical habitats include mesquite catclaw acacia, ironwood, palo verde willows, sagebrush, desert slmond, desert-thorn, and bitterbrush found in loose sandy soil or alluvium.	**Moderate.** Habitat requirements or environmental conditions associated with the species occur within the Project Area; however, single historic record is more than 34 years old.
Arizona Bell's vireo *Vireo bellii arizonae*	SE	Thickets of willow and other low shrubs afford nesting and roosting cover. Usually found near water but also inhabits thickets along dry, intermittent streams. Typically associated with willow, cottonwood, *Baccharis* sp., wild blackberry, or mesquite in desert localities.	**Low.** Species has low potential to occur for migration and forage only. Species is considered **Absent** for breeding. Historic records are between 25 and 40 years old; all near Colorado River.

ATTACHMENT D – SENSITIVE WILDLIFE SPECIES POTENTIALLY OCCURING IN THE PROJECT AREA

Common Name *Scientific Name*	Status/ Designation	Habitat and Distribution	Potential to Occur
CLASS MAMMALIA **MAMMALS**			
Townsend's big-eared bat *Corynorhinus townsendii*	SSC	This species is found throughout California, but the details of its distribution are not well known. This species is found in all but subalpine and alpine habitats, and may be found at any season throughout its range. It is most abundant in mesic habitats. Requires caves, mines, tunnels, buildings, or other human-made structures for roosting. Maternity roosts are found in caves, tunnels, mines, and buildings. Drinks water so likely needs a water source.	**Absent.** Species is restricted to roosting and forage habitats and environmental conditions that do not occur within the Project Area. Historic records are between 50 and 60 years old.
California leaf-nosed bat *Macrotus californicus*	SSC	Roosts in rocky, rugged terrain with mines and caves. Forages over nearby flats and washes. Day roosts usually are in deep mine tunnels or caves, occasionally in buildings or bridges. The roost must provide shelter from heat and aridity. Preferred roosts have high ceilings and sufficient space for flight. Night roosts may be in buildings, mines, bridges, rock shelters, or other sites with overhead protection.	**Absent.** Species is restricted to roosting and forage habitats and environmental conditions that do not occur within the Project Area.
cave myotis *Myotis velifer*	SSC	A colonial cave-dweller, occurring in colonies of several thousand individuals in most of its range. Mines and buildings also may be used. Hibernation caves have high humidity, often with standing or running water and little air movement. Occasionally other sites, such as bridges, are used. Feeds along riparian vegetation, over water, between patches of riparian vegetation, and to a lesser extent over open areas. A water source is likely habitat requirement.	**Absent.** Species is restricted to roosting and forage habitats and environmental conditions that do not occur within the Project Area. Historic records are between 65 and 80 years old.

ATTACHMENT D – SENSITIVE WILDLIFE SPECIES POTENTIALLY OCCURING IN THE PROJECT AREA

Common Name *Scientific Name*	Status/ Designation	Habitat and Distribution	Potential to Occur
American badger *Taxidea taxus*	SSC	In California, the badger may occupy a variety of open stages of most habitats, especially grasslands, savannas, and deserts, characterized by herbaceous species, shrubs, and dry, friable soils.	**Moderate.** Habitat requirements or environmental conditions associated with the species occur within the Project Area; however, single historic record is more than 85 years old.
Notes: FE: federally listed Endangered; FT: federally listed Threatened; SE: state listed Endangered; ST: state listed Threatened; SSC: state listed Species of Special Concern; WL: state Watch List			

ATTACHMENT E – WILDLIFE SPECIES LIST

ATTACHMENT E – WILDLIFE SPECIES OBSERVED OR DETECTED

Scientific Name	Common Name
CLASS INSECTA	**INSECTS**
HYMENOPTERA	**ANTS, BEES, AND WASPS**
Pepsis grossa	tarantula hawk
NYMPHALIDAE	**BRUSH-FOOTED BUTTERFLIES**
Danaus gilippus	queen
Danaus plexippus	monarch butterfly
CLASS REPTILIA	**REPTILES**
CROTOPHYTIDAE	**COLLARED AND LEOPARD LIZARDS**
Crotaphytus bicinctores	Mojave black-collared lizard
Gambelia wislizenii	longnose leopard lizard
IGUANIDAE	**IGUANAS**
Dipsosaurus dorsalis	desert iguana
PHRYNOSOMATIDAE	**ZEBRA-TAILED, EARLESS, FRINGE-TOED, SPINY, TREE, SIDE-BLOTCHED, AND HORNED LIZARDS**
Callisaurus draconoides	common zebra-tailed lizard
Phrynosoma platyrhinos	desert horned lizard
TEIIDAE	**WHIPTAIL LIZARDS**
Aspidoscelis tigris tigris	Great Basin whiptail
COLUBRIDAE	**COLUBRID SNAKES**
Coluber mormon	western racer
Salvadora hexalepis	desert patchnose snake
CROTALIDAE	**PIT VIPERS**
Crotalus cerastes lateralorepens	Colorado Desert sidewinder
Crotalus scutulatus	Mojave rattlesnake
CLASS AVES	**BIRDS**
ACCIPITRIDAE	**HAWKS, KITES, AND EAGLES**
Buteo jamaicensis	red-tailed hawk
PANDIONIDAE	**OSPREYS**
Pandion haliaetus	osprey
FALCONIDAE	**FALCONS**
Falco sparverius	American kestrel
ODONTOPHORIDAE	**NEW WORLD QUAIL**
Callipepla gambelii	Gambel's quail
COLUMBIDAE	**PIGEONS AND DOVES**
Zenaida asiatica	white-winged Dove
Zenaida macroura	mourning dove
TYTONIDAE	**BARN OWLS**
Tyto alba	barn owl

ATTACHMENT E – WILDLIFE SPECIES OBSERVED OR DETECTED

Scientific Name	Common Name
STRIGIDAE	**TRUE OWLS**
Bubo virginianus	great horned owl
CAPRIMULGIDAE	**NIGHTHAWKS**
Chordeiles acutipennis	lesser nighthawk
Chordeiles minor	common nighthawk
Phalaenoptilus nuttallii	common poorwill
TYRANNIDAE	**TYRANT FLYCATCHERS**
Empidonax difficilis	Pacific-slope flycatcher
Myiarchus cinerascens	ash-throated flycatcher
Sayornis saya	Say's phoebe
Tyrannus verticalis	western kingbird
Tyrannus vociferans	Cassin's kingbird
CORVIDAE	**JAYS AND CROWS**
Corvus corax	common raven
REMIZIDAE	**VERDINS**
Auriparus flaviceps	verdin
POLIOPTILIDAE	**GNATCATCHERS**
Polioptila melanura	black-tailed gnatcatcher
MIMIDAE	**MOCKINGBIRDS AND THRASHERS**
Mimus polyglottos	northern mockingbird
Toxostoma sp.	thrasher
PTILOGONATIDAE	**SILKY-FLYCATCHERS**
Phainopepla nitens	phainopepla
LANIIDAE	**SHRIKES**
Lanius ludovicianus	loggerhead shrike
Setophaga petechia	yellow warbler
ICTERIDAE	**BLACKBIRDS**
Euphagus cyanocephalus	Brewer's blackbird
EMBERIZIDAE	**EMBERIZIDS**
Amphispiza bilineata	black-throated sparrow
CARDINALIDAE	**CARDINALS**
Piranga ludoviciana	western tanager
Haemorhous mexicanus	house finch
CLASS MAMMALIA	**MAMMALS**
LEPORIDAE	**HARES AND RABBITS**
Lepus californicus	black-tailed jackrabbit
SCIURIDAE	**SQUIRRELS**
Ammospermophilus leucurus	white-tailed antelope squirrel

ATTACHMENT E – WILDLIFE SPECIES OBSERVED OR DETECTED

Scientific Name	Common Name
MURIDAE	**MICE, RATS, AND VOLES**
Neotoma lepida	desert woodrat
CANIDAE	**WOLVES AND FOXES**
Vulpes macrotis	kit fox
FELIDAE	**CATS**
Felis catus	domestic cat
EQUIDAE	**HORSES AND BURROS**
Equus asinus	wild burro (feral ass)
CERVIDAE	**DEER**
Odocoileus hemionus	mule deer